United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with Cornell University Agricultural Experiment Station

Soil Survey of Delaware County, New York

How To Use This Soil Survey

General Soil Map

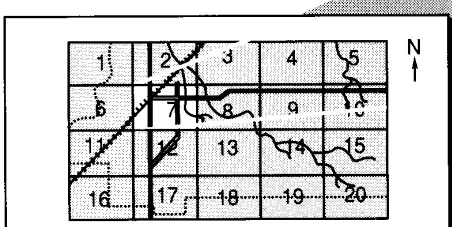
The general soil map, which is a color map, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

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

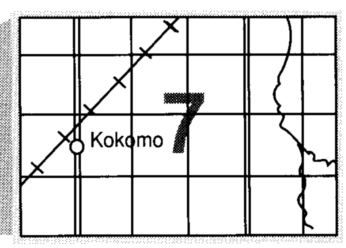
Detailed Soil Maps

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

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

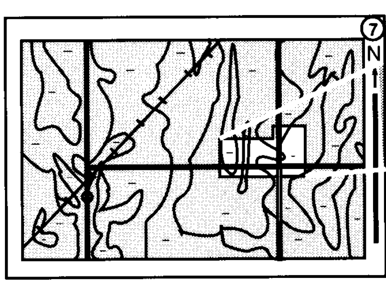


INDEX TO MAP SHEETS

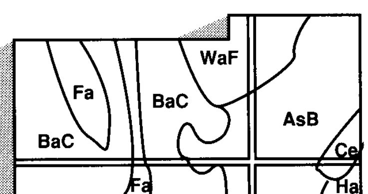


MAP SHEET

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.



MAP SHEET



AREA OF INTEREST

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.

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.

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

Major fieldwork for this soil survey was completed in 1996. Soil names and descriptions were approved in 1999. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1999. This survey was made cooperatively by the Natural Resources Conservation Service and the Cornell University Agricultural Experiment Station. The survey is part of the technical assistance furnished to the Delaware County Soil and Water Conservation District.

Cover: Gently sloping areas of Tunkhannock gravelly loam (center) are among the most suitable soils for agriculture and residential development in the county. On sloping hillsides across the valley, corn and hay crops are commonly grown on Vly and Wellsboro channery silt loams. In the distance, Halcott, Mongaup, and Vly soils dominate the steep and rocky hilltops, which are best suited to woodland and wildlife areas.

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

Contents

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, ranchers, 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. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Ronald R. Alvarado
State Conservationist
Natural Resources Conservation Service

Soil Survey of
Delaware County, New York

By Stefan T. Seifried and Matthew W. Havens

Fieldwork by Laurence Day, Dale Gates, Matthew W. Havens, Edward Stein, and Stefan T. Seifried

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

DELAWARE COUNTY is in the south central part of New York State (fig. 1). The Delaware River separates the county from Pennsylvania to the southwest. Delaware County is bordered by Broome and Chenango counties to the west and Otsego County to the north. The county is bounded by Schoharie County to the northeast, Greene County to the east, and Ulster and Sullivan Counties to the southeast. The total area of Delaware County is 939,900 acres or about 1,468 square miles. Delhi is the county seat. Elevations range from about 820 feet at the edge of the Delaware River next to Sullivan County, to 3,520 feet in the Catskill Mountains on the eastern boundary of the county.

According to the 1980 Forest Statistics Report, about two thirds of Delaware County is commercial forestland. Commercial logging and woodcutting for fuel take place in many parts of the county. Dairy farming is the most important agricultural enterprise in the county.

This soil survey updates the survey of Delaware County, New York published in 1930. It provides additional information and has larger maps, which show the soil in greater detail.

General Nature of the County

This section gives general information about the county. It describes early history, water resources, geology, and climate.

History and Development

Preceding white settlement, the area that is now Delaware County was inhabited by Lenape and Tuscarora American Indians. The first Europeans in the area were fur traders. White settlement began in the early 1700s and the land was divided into patents granted by the British crown. Before the American Revolution there were some settlements at Harpersfield, Middletown, and Sidney Plains. These settlements were abandoned and destroyed during the American Revolution.

After the war, substantial settlement occurred quickly and the county was organized in 1797. Sawmills were built soon after white settlers began developing the county and lumbering became a leading industry. A dairy industry was also an early development. Construction of the Erie Railroad began in 1835 at Deposit and the

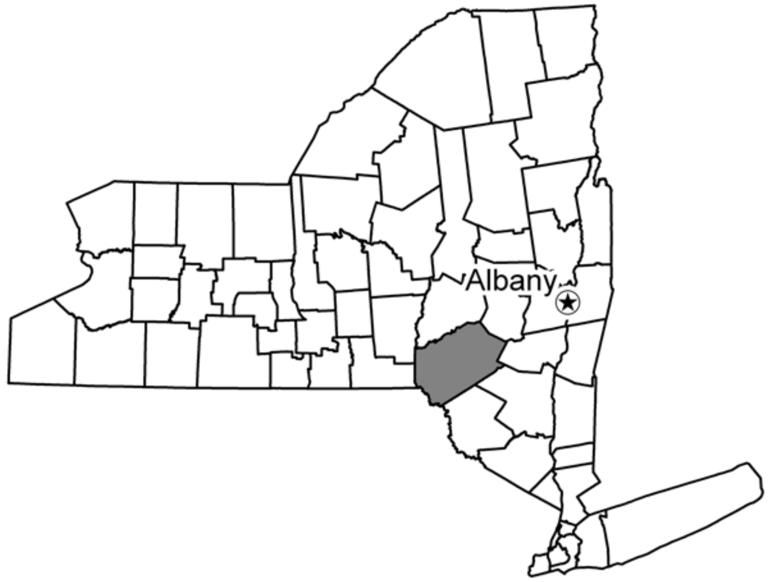


Figure 1.—Location of Delaware County in New York.

railroad was in operation by 1848. The Albany and Susquehanna Railroad (later the Delaware & Hudson) reached Sidney Plains in 1866. Other railroads, including the forerunner of the New York Ontario & Western began operations a short time later.

Farming continued to grow and the 1875 census showed almost half the county as improved farmland. There were more than 5,400 farms in Delaware County at that time.

A chemical wood products industry and quarrying of flagstone also developed in the 1800s. The chemical wood products industry no longer exists, but quarrying is still taking place on a number of sites throughout the county.

At present, dairy farming is still important in the county. Although farming has declined in the county, about 20 percent of the land is still in farms. According to the Census of Agriculture, the value of farm products was over 50 million dollars in 1992. Manufacturing and processing of dairy products takes place at several locations in Delaware County. A recreation and second home industry has also become important in the county.

Physiography and Surface Drainage

Delaware County is in the Allegheny Plateau physiographic province. Most of the central and eastern portions of the county are in the Catskill Mountain section of this province. The region consists of a deeply dissected plateau sloping gently to the southwest.

The topography ranges from nearly level terrain of river valleys to very steep hillsides in the Catskill Mountains. Low elevations in the county are about 820 feet above sea level at the southern edge of the county, near Long Eddy, and 980 feet just west of Sidney. High points in the county include Mount Utsayantha at 3,214 feet above sea level near Stamford, Bearpen Mountain at 3,520 feet above sea level and east of Roxbury, and Dry Brook Ridge at 3,460 feet above sea level and southeast of Margaretville. About 65 percent of the land in the county is above an elevation of 1,750 feet. Soils at or above 1,750 feet in elevation generally have a frigid temperature regime.

The principal surface drainage is by roughly parallel streams that flow towards the southwest. The Susquehanna River, the West Branch and the East Branch of the

Delaware River drain the north, central, and southern portions of the county, respectively. Only a few naturally occurring lakes exist; in most cases these have manmade dams to increase their size. Two major reservoirs, the Pepacton and the Cannonsville, supply drinking water to New York City by gravity flow via underground aqueducts (fig. 2). When full, these two reservoirs inundate some 28 square miles. The watershed contributing to these reservoirs includes about 52 percent of Delaware County.

Hydrogeology

By Laurence Day, Soil and Groundwater Specialist, Delaware County, New York Soil and Water Conservation District

Knowing how water moves through soils is important to the understanding of soil formation, soil suitability for various uses, and groundwater quality and quantity. The occurrence and depth of water tables determines the drainage class of each soil, and thus affects its classification and mapping.

Compared with groundwater, the movements of surface waters are more visible and thus more commonly understood. Groundwater behaves somewhat differently than surface waters depending upon (1) soil and bedrock characteristics such as structure and porosity, and (2) hydraulic gradient, which gives direction to water flow—even upwards against the pull of gravity. In addition, the chemistry of groundwaters can be distinctly different from surface waters.

Once precipitation contacts the soil surface it may evaporate or transpire through plants, run off over the surface, or infiltrate into the soil. Each of these processes

Figure 2.— The Pepacton Reservoir is part of a water supply system that serves approximately 10 million people. Understanding the capabilities and limitations of soils in this and other watersheds is important to maintaining water quality.

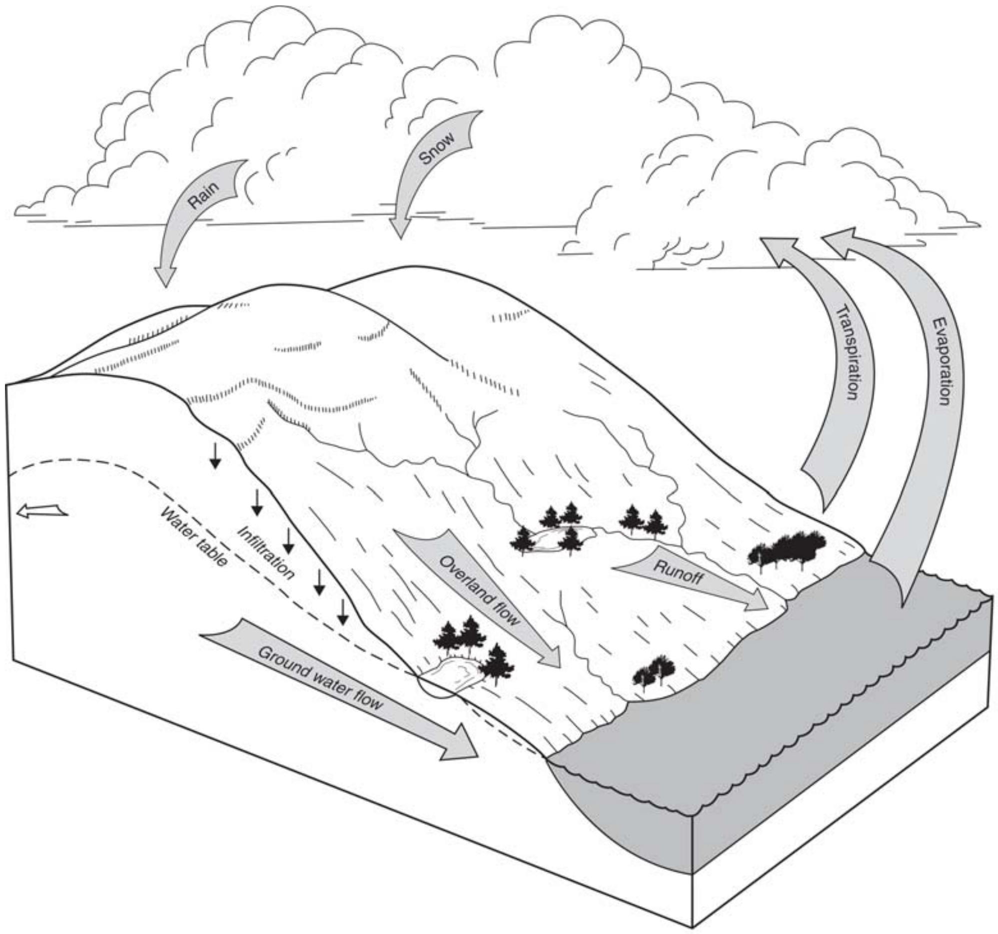


Figure 3.—The Hydrologic Cycle.

affects the moisture content of soils, although each may dominate at different times of the year.

Evaporation and transpiration are most effective during the summer months, and water tables tend to drop noticeably at that time and then rise after forests lose their leaves in autumn (fig. 3). Runoff can occur at any time of year but is most intense when the soil is near saturation from previous precipitation, or when the soil surface is frozen. The hazards of soil erosion are increased as runoff increases, while less recharge or infiltration to groundwater occurs. The proportion of runoff to infiltration is greatly affected by soil characteristics. Each soil type is classified in this soil survey report for its tendency to produce runoff or infiltration by placement into one of four hydrologic soil groups.

Water which infiltrates into the soil surface does not continue to flow downward forever, but rather enters a flow pattern that eventually rejoins surface waters as springs, wet spots, and streams. After infiltrating from the surface, water percolates through unsaturated soil until it arrives at the water table, below which the soil or fractured bedrock is saturated with water. The water table may be fairly flat, but it usually is not level; it slopes in some direction, generally toward the nearest stream, creating the water table gradient. Actually, there can be a number of water tables, separated by layers of unsaturated sediments or rock. For example, a saturated zone only about one foot thick is often perched above slowly permeable subsoil layers, also called fragipan horizons, during the fall, winter, and spring months only. A saturated zone which would be more permanent and useful for a water supply well typically exists at depths many tens or a few hundred feet deeper.

As shown in figure 4, the water table is often a muted reflection of surface topography: its surface elevation is higher beneath hills and lower in valley areas. In terms of groundwater flow, certain parts of the landscape tend to function differently after infiltration occurs. Hilltops and upper hillsides tend to absorb and transmit water downward into the bedrock. This proceeds most rapidly where soils are thin, have no dense and restricting subsoil, and where the bedrock is highly fractured; Halcott, Mongaup, and Vly soils commonly occur in these areas. Soils on hilltops are often well drained or occasionally droughty. These areas provide large contributions to groundwater and are important recharge zones, since they recharge both local and regional water tables.

In uplands where soils are thick and have dense fragipan horizons, infiltrated water is largely prevented from deep percolation into the bedrock. Instead a thin saturation zone is formed just above the fragipan, and this perched water flows downslope. This is common to Wellsboro, Mardin, Willowemoc, and Willdin soils, which comprise much of the county's farmland and building lots. In depressions and level areas, this shallow throughflow may surface as a "seep", causing wetter soils such as Morris, Volusia, Onteora or Ontusia to develop. Where more permeable and gravelly soils occur downslope, such as Maplecrest or Valois, the runoff and throughflow can infiltrate more deeply and recharge local water tables.

Lower hillsides and footslopes tend to have a surplus of water. Soils in these areas receive their share of water from precipitation, plus added water as runoff and shallow throughflow from upslope. In addition, groundwater is discharged by rising upward, pushed by the pressure of water in nearby areas of higher elevation. Hydric soils such as Norchip and Raypol, which are common in wetlands, occur in the lowest parts of the landscape, on toeslopes and in depressions.

The shallow groundwater flow paths described above differs from the portion of infiltrated water that follows much deeper flow paths. The rate and direction of

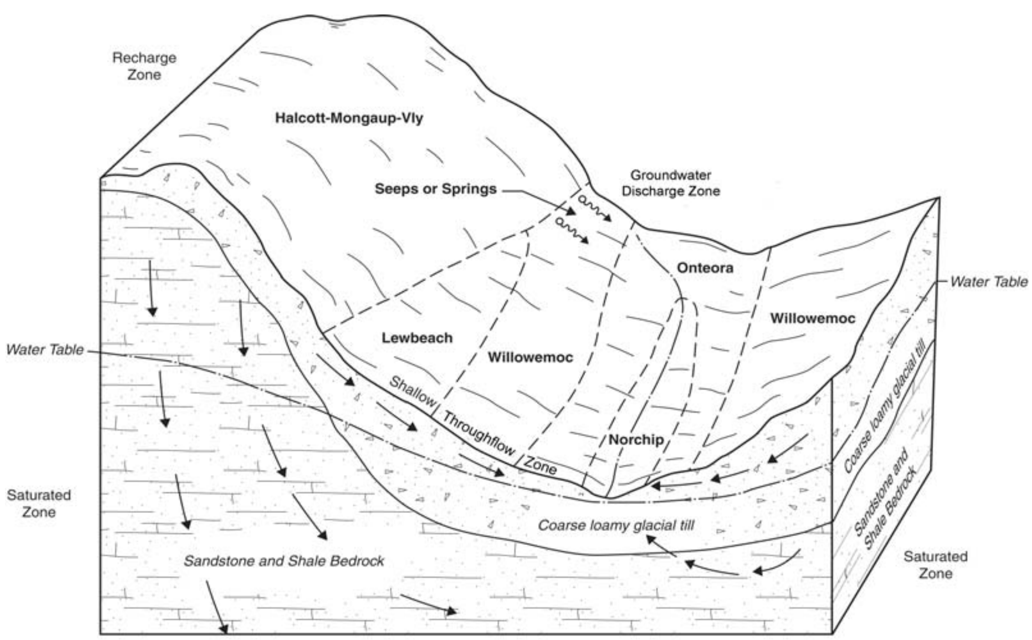


Figure 4.—Typical landscape pattern of upland soils developed in coarse loamy glacial till and ground water flow patterns (arrows show general flow direction).

movement and the chemistry of dissolved minerals in deep flow-path water are often quite different from those of more shallow groundwater.

The local bedrock is not especially porous; however, it tends to have fractures and cracks which give the rock a kind of “secondary” porosity. These cracks tend to be larger and more numerous nearer the surface, and water can travel more rapidly through wider cracks. Faster groundwater movement therefore occurs within these near-surface cracks, while the groundwater hundreds of feet below the surface tends to travel very slowly through the smaller and fewer cracks. Bedrock zones having many water-filled and interconnected cracks are the aquifers usually tapped by wells for domestic drinking water supplies. Yields are variable between wells but typically are only a few (1 to 5) gallons per minute.

Because of its slow movement, this deep groundwater is in contact with the surrounding bedrock for very long time periods and is therefore able to dissolve various minerals from it. The deep wells necessary to reach the bedrock aquifers are usually less subject to contamination from man’s activities at the surface (i.e. harmful bacteria or chemical pollutants) but may have significant levels of undesirable minerals from natural sources. Although not physically harmful, high levels of dissolved iron and manganese are not uncommon and high contents of salt, sulfur, and methane gas can also occur, especially in bedrock wells drilled within larger valleys. In Delaware County the water is usually “soft”, having low to moderate amounts of dissolved calcium and magnesium carbonates. Generally, the bedrock aquifers provide minimally adequate supplies of good-quality water for domestic and light industry use.

Artesian wells are known to occur in both bedrock and sand and gravel aquifers. They result where a well penetrates through a confining layer of soil or bedrock, allowing water under pressure to rise directly to an elevation near or above the land surface. Artesian wells which flowed when first installed often cease flowing after the flow reduces the hydraulic pressure.

Many springs and smaller seeps occur on hillsides across the county. Springs occur where: (1) the water table intersects the land surface, (2) the overlying soil is relatively porous (allowing water to flow freely to the surface), and (3) fractures in the bedrock reach the water table. Springs were a very valuable water source for the early development of Delaware County; and they continue to supply drinking water for private and public use. Individual spring yields are commonly 5 to 10 gallons per minute, although much higher yields are also reported (Soren, 1963). Spring water may be easily contaminated where the water table is close to the land surface in the discharge area and catch basins are not adequately protected.

Ground water discharge contributes not only to springs and seeps on hillsides, but also directly to surface streams. Most streams are therefore “gaining”, their flows increasing with distance downstream. In the summer months, evapotranspiration uses up most of the precipitation, and less runoff contributes to stream flows. Streams then decline to base flow levels, when groundwater discharge creates nearly all the streamflows.

Although most streams gain in flow downstream, an important exception occurs where streams cross alluvial fan deposits. These areas are mapped “Tunkhannock and Chenango soils, fan” in the Delaware County soil survey. Tributary streams which gain flow over their length in the uplands can abruptly lose flow as they travel over the fan deposit. Especially when flows are low, streams may simply dry up, soaking into the gravelly soils before they join the main streams. This steady infiltration of surface water directly recharges local ground water on fan deposits. The large well yields (over 100 gallons per minute) required by municipalities and larger industries have been successfully developed within or close to these deposits.

The location, duration, and type of water table have an important influence on soil development.

For example, the types of plant and animal life that inhabit a soil are related to the soil's drainage class. Decomposition of organic matter is incomplete and rates are slowed where there are saturated soil conditions. Soil horizon formation and color patterns may be subtly or profoundly influenced by the recurring presence of saturated conditions. Prolonged conditions of either soil saturation (low oxygen), or soil drying (oxygen rich) causes the chemical processes of reduction and oxidation to occur, respectively. Over thousands of years these chemical changes become manifested as redoximorphic features which become visible in the soil profile, and are important to the soil classification system used in the soil survey.

Two types of saturated zones are of primary importance in Delaware County soils. Perched water tables occur where downward flow of water is impeded, such as in fragipan soils like Morris or Volusia; the saturated zone is perched above dense, yet unsaturated, subsoil.

Apparent water tables occur in soils that do not have restricting subsoil, such as Red Hook; soil saturation continues with increasing depth below the top of the water table. However, it is important to understand when describing either type of saturated zone within soil profiles that at greater depths, i.e. below 6 or 7 feet, additional saturated zones can occur which may function separately from shallower ones.

Soil classification reflects the depth to and type of water table. For a complete listing of how each soil is classified in Soil Taxonomy see table 26. For example, soils commonly having a water table within their soil profile may be classified in Epiaquic subgroups if they have a perched water table or in Endoaquic subgroups if they have an apparent water table. Table 24 shows the duration and depth of the seasonal high water table for the soils in Delaware County.

Geology

By Laurence Day, Soil and Groundwater Specialist, Delaware County, New York Soil and Water Conservation District

Bedrock History

The bedrock underlying all of Delaware County is of sedimentary origin. The sediments resulted from the erosion of a large mountain range which once existed to the east. Most scientists believe this was 370 million years ago (the upper Devonian Period). Westward flowing rivers deposited layers of sand, silt, and clay, which eventually became the beds of sandstone, siltstone and shale rocks of today.

The regional dip of these otherwise flat lying rock layers is towards the south-southwest at angles less than 10 degrees, although steeply inclined, coarse cross bedding within individual rock units does occur. Rock colors are often shades of red or bluish gray, due to deposition in environments of high oxygen (terrestrial) or low oxygen (tidal or alluvial plain), respectively. Dark gray or black shale beds also occur, especially around Sidney. Across most of the county's bedrock, fossils are typically few, poorly preserved plant fragments, trace fossils, and some marine fauna; the dominance and abundance of each fossil type varies between locations and individual beds. Studies of bedrock types, layer sequences, and fossil records indicate ancient delta-like and shallow marine environments within a tropical climate which was alternately wet and dry.

Eventually, long periods of pressure from overlying sediments and cementation by mineral-carrying waters lithified sands into sandstones (or conglomerate, if gravelly) silts into siltstone and silty clays into shale. The thickest and most uniform beds of certain sandstones are now valuable for local "bluestone" quarries. As one travels from north to south across Delaware County, bedrock outcrops tend to expose progressively younger rocks. The geology map at the end of this soil survey report shows the occurrence of bedrock types in the county.

Important rock groups and some of their component rock formations are, from oldest to youngest: the Genesee Group, which includes the Unadilla and Oneonta formations; the Sonyea Group, which includes the Lower Walton Formation; and the West Falls Group, which includes the Slide Mountain and Upper Walton formations. None of these formations contain beds of limestone, but rather contain much silica; they are therefore considered to be “acidic” rocks.

Long periods of erosion created the stream valleys of today, which probably originated along joints or fractures in the bedrock layers. Thus, the hills of the Catskills were created more directly by forces of erosion than those that build mountains upward. However, the shapes of the landscape have also been significantly remolded by major glacial events.

Glacial History

A number of major glaciations have occurred in North America. Geologic age dating techniques imply that the most recent glaciation to leave this area, the Wisconsin glaciation, did so only some 10 thousand years ago. At its furthest advance, the glacial ice covered the county with moving ice nearly one mile thick, extending hundreds of miles northward. This caused tremendous amounts of erosion from both abrasion and bedrock “plucking”, by pressure melting, and refreezing of the ice as it moved. The rounded and smoothed profile of hills and the U-shaped cross section of larger valleys resulted. The processes of glacial erosion crushed and fragmented rocks into a slurry of boulders, angular stones and gravel, sand, silt, and clay. This mixture was transported beneath, within, and on top of the glacier, sometimes for many miles before being deposited by the ice, or its meltwaters. When deposited in this form, i.e. a random mixture of particle sizes, this material is called glacial till. Most of Delaware County’s uplands are covered with till; therefore, most soils have developed with till as their parent material. Because layers of sandstone and siltstone were continuously ripped up and incorporated into the till, upland soils are commonly stony or very stony throughout their depth. Glacial till was deposited as a relatively thin layer, less than 40 inches thick, on many hilltops and north-facing slopes, and in thicker layers over other areas. Certain south-facing hillsides received unusually thick accumulations of till, over 50 feet thick, if they were on the lee side of hills that obstructed the flow of advancing ice.

After long periods of glaciation when the climate warmed again, the glaciers melted back northward faster than they were flowing southward. This melting created tremendous amounts of sediment-laden water as rivers and lakes. However, tongues or flows of ice tended to remain in the larger valleys long after the uplands were relatively ice-free. Eventually these valley ice masses stopped flowing and melted away, creating landforms and deposits which are distinctly different from those in the uplands. Large amounts of meltwater flowed along the sides of and beneath the stagnant valley ice masses, washing through the rocky and muddy debris. This tended to separate and sort the finer silt and clay from sand and gravel. In locations where washed and sorted debris was deposited (usually the margins of major valleys such as the West and East Branches of the Delaware River), gravelly terraces and kames occur, giving this part of the landscape a somewhat lumpy and bumpy appearance. These deposits are often valuable sources of sand and gravel, although they typically contain more silt and clay than are desirable.

The stagnating remains of the valley glaciers blocked off the outlets of some meltwater streams; this created lakes until the dams of ice could melt, which took many years. In deeper, quiescent lakes, silts and clays settled out and accumulated while in shallower, more agitated lakes, fine sand and silt was deposited. The finest textured (clayey) deposits occur in the Bear Kill Valley around Grand Gorge; coarser lake-laid deposits occur in the West Branch and other valleys, although more recent floodplain deposits often overlie them.

Where relatively fast-flowing tributary streams enter major valleys, they quickly lose velocity as they flow across the flatter river floodplain. This abrupt slowing of the stream's velocity causes it to drop its bedload of sand and gravel on the floodplains as a subtle fan or delta-shaped alluvial fan deposit. This process has been continuing since the waning stages of glaciation, and alluvial fans are commonplace in larger valleys. Because these deposits are fairly level and well drained, they make good farmland and building sites; the center of many villages and hamlets, including Walton and Delhi, are on alluvial fan landforms.

The glacial deposits described above are the parent materials in which the soils of today have developed. The Epoch since the glaciers left their new deposits on the Delaware County landscape is a short period of time in terms of geology and soil formation. Processes of erosion and sediment accumulation continue to affect the landscape, although their rates can be greatly accelerated by man's activities.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Walton, New York in the period 1961 to 1990. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter, the average temperature is 23 degrees F and the average daily minimum temperature is 14 degrees F. The lowest temperature during the period of record is -31 degrees F. In summer, the average temperature is 66 degrees and the average daily maximum temperature is 79 degrees. The highest recorded temperature during the period of record is 98 degrees.

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

The total annual precipitation is about 44 inches. Of this, 20 inches, or 46 percent, usually falls in May through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in May through September is less than 13 inches.

The average seasonal snowfall is about 100 inches. On the average, 101 days of the year have at least 1 inch of snow on the ground. The number of such days varies greatly from year to year.

How This Survey Was Made

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

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

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

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

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

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

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

The descriptions, names, and delineations of the soils in this survey area do not fully agree with those of the soils 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.

General Soil Map Units

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

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

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

All of the counties surrounding Delaware County have completed soil surveys and general soil maps. However, the surveys in Broome, Chenango, Schoharie, and Ulster counties are older surveys that need revisions or recorrelation to meet current standards. Surveys in Greene, Otsego, and Sullivan counties are more recent.

The names of adjoining general soil map units are not the same in all instances because the proportions of major soils differ from one survey to another. Map scales are also different. In the case of Broome, Chenango, Schoharie, and Ulster counties, the names of some soil series are different because of differences in concepts and in the classification system since publication of those surveys.

Soil Descriptions

1. Mardin-Bath-Volusia

Gently sloping to very steep, very deep, well drained to somewhat poorly drained, medium textured soils on uplands below 1,750 feet

This unit makes up about 11 percent of the county. It is in northern and western parts of the county. The unit consists of about 35 percent Mardin, 35 percent Bath, 10 percent Volusia soils, and 20 percent soils of minor extent. Soils in this unit formed in glacial till derived from grayish sandstone, siltstone, and shale. The landscape is characterized by soils with smooth convex and concave slopes on hillsides and hilltops (fig. 5). Slopes range from 0 to 55 percent.

The moderately well drained Mardin soils are gently sloping to moderately steep. They are on hillsides and hilltops. The rate of water movement through the soil is moderate in the surface and upper subsoil layers and slow or very slow in the firm, dense, lower subsoil. Depth to bedrock is more than 60 inches.

The well drained Bath soils are gently sloping to very steep. They are on hillsides and hilltops. The rate of water movement through the soil is moderate in the surface and upper subsoil layers and slow in the dense, firm lower subsoil. Depth to bedrock is more than 60 inches.

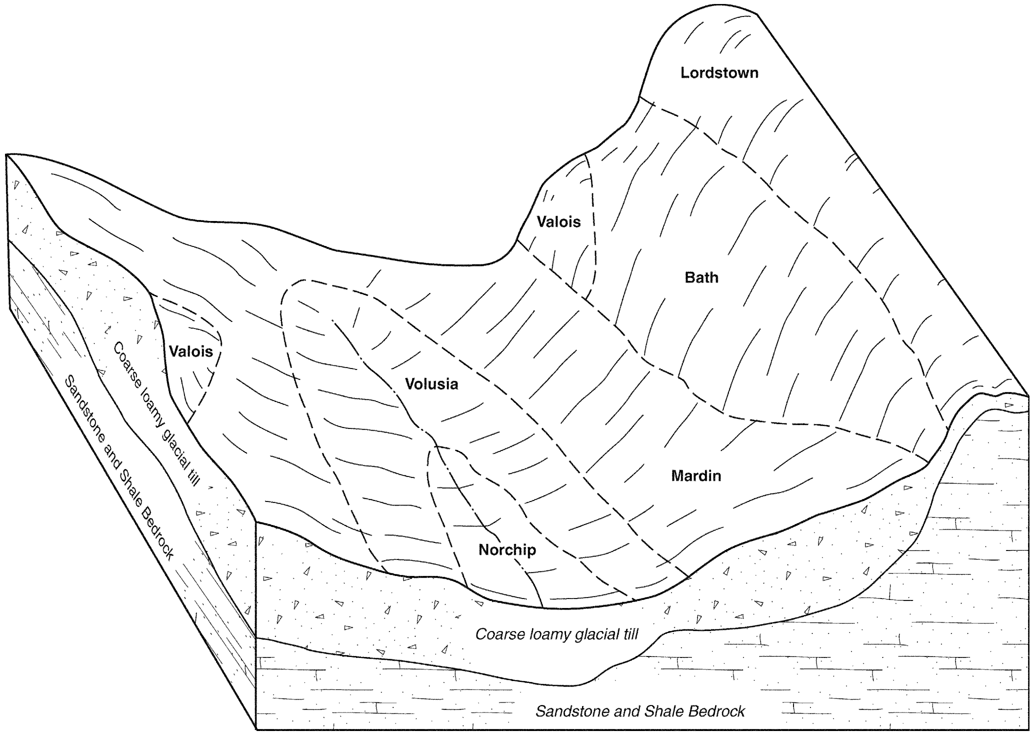


Figure 5.—Typical pattern of the soils and geologic materials in the Mardin-Bath-Volusia general soil map unit.

The somewhat poorly drained Volusia soils are nearly level to strongly sloping. They are on the lower parts of hillsides and along small drainageways. The rate of water movement through the soil is moderate in the surface and upper subsoil and slow or very slow in the dense, firm lower subsoil and substratum. Depth to bedrock is more than 60 inches.

Soils of minor extent in this unit are Valois, Chenango, Philo, Wenonah, Lordstown, Arnot, Deposit, and Norchip. The moderately deep Lordstown and shallow Arnot soils are well drained soils on the upper parts of hillsides and on hilltops. The well drained Valois soils are very deep soils along lower valley sides. Chenango soils are very deep, somewhat excessively drained to well drained soils on terraces, alluvial fans, and along valley sides. The well drained Wenonah and moderately well drained Philo soils are very deep soils on terraces and floodplains along streams. Deposit soils are very deep and moderately well drained. They are on terraces and alluvial fans in valleys. Norchip soils are poorly drained soils in depressional areas of the uplands.

Some areas of this unit are cleared and used for farming, including hay, pasture, and cultivated crops. Some areas are used for community development. Other areas are forested or have a cover of brush and non-woody plants. Seasonal wetness and slope are limitations for much of this unit for farming and community development. The potential productivity of the Mardin and Bath soils for sugar maple is moderate. The potential productivity of the Volusia soil for northern red oak is moderate.

2. Valois-Chenango

Nearly level to very steep, very deep, somewhat excessively drained and well drained, medium textured soils in valleys and along valley sides

This unit makes up about 2 percent of the county. It is mostly in northern and western parts of the survey area. Soils in this unit formed in glacial outwash and glacial till derived from grayish sandstone, siltstone, and shale. The unit consists of about 40 percent Valois soils, 35 percent Chenango soils, and 25 percent soils of minor extent. The landscape is characterized by steep slopes along valley sides and rolling to nearly level areas in mid-valley positions. Slopes range from 0 to 60 percent.

The well drained Valois soils are gently sloping to very steep. They are on lower valley sides. The rate of water movement through the soil is moderate in the surface and subsoil layers. Depth to bedrock is more than 60 inches.

The somewhat excessively drained Chenango soils are nearly level to very steep. They are on hilly or rolling landscapes at the sides of valleys and on nearly level terraces in mid-valley positions. The rate of water movement through the soil is moderate or moderately rapid in surface and subsoil layers and rapid or very rapid in the substratum. Depth to bedrock is more than 60 inches.

Soils of minor extent in this unit are the Unadilla, Wenonah, Philo, Deposit, Riverhead, Red Hook, and Raypol soils. The very deep, well drained, Unadilla and Wenonah soils are on terraces in mid-valley positions and on floodplains along streams. Very deep, moderately well drained Philo and Deposit soils are on floodplains, on low terraces along streams, and on alluvial fans. The very deep, well drained Riverhead soils are along valley sides and on terraces in mid-valley positions. The very deep, somewhat poorly drained Red Hook soils are on nearly level parts of terraces or in small depressions in valleys. The very deep, poorly drained Raypol soils are on parts of terraces or in back water channels in valleys.

Many areas of this unit are cleared and used for farming and for community development. Other areas are forested or have a cover of brush or non-woody plants. Slope is a limitation for parts of this unit for agriculture or community development. Less sloping areas are well suited to a variety of uses. The potential productivity of the Valois and Chenango soils for sugar maple is moderate.

3. Willdin-Lewbath-Mongaup

Gently sloping to very steep, moderately deep and very deep, well drained and moderately well drained, medium textured soils on uplands above 1,750 feet

This unit makes up about 5 percent of the county. It is mostly in the northern and western parts of the survey area. Soils in this unit formed in glacial till derived from grayish sandstone, siltstone, and shale. The unit consists of about 35 percent Willdin soils, 30 percent Lewbath soils, 20 percent Mongaup soils and 15 percent soils of minor extent. The landscape is characterized by gently sloping to very steep hillsides and hilltops. Slopes range from 2 to 55 percent.

The moderately well drained Willdin soils are gently sloping to moderately steep. They are on hillsides and on broad hilltops. The rate of water movement through the soil is moderate in the surface and upper subsoil layers and slow or very slow in the dense, firm, lower subsoil. Depth to bedrock is more than 60 inches.

The well drained Lewbath soils are gently sloping to very steep. They are on the upper parts of hillsides and hilltops. The rate of water movement through the soil is moderate in the surface and upper subsoil layers and slow in the dense, firm, lower subsoil. Depth to bedrock is more than 60 inches.

The well drained Mongaup soils are gently sloping to moderately steep. They are on the upper parts of hillsides and on bedrock controlled hilltops. The rate of water movement through the soil is moderate in the surface and subsoil layers. Depth to bedrock is 20 to 40 inches.

Soils of minor extent in this unit are the Middlebrook, Halcott, and Ontusia soils. The moderately deep, moderately well drained Middlebrook soils and the shallow, well drained Halcott soils are on bedrock controlled hillsides and hilltops. Ontusia soils are somewhat poorly drained, very deep soils on the lower parts of hillsides and along small drainageways.

Some areas of this unit are cleared and used for farming, including the production of hay, pasture, and cultivated crops. Other areas are forested or have a cover of brush and non-woody plants. Slope is a limitation to the use of parts of this unit for farming or community development. The growing season is shorter than it is in valleys. The depth to bedrock for the Mongaup soil and seasonal wetness for the Willdin soil are additional limitations to the use of this unit. The potential productivity of the Willdin, Lewbath and Mongaup soils for sugar maple is moderate.

4. Lackawanna-Wellsboro

Gently sloping to very steep, very deep, well drained and moderately well drained, medium textured soils on uplands below 1,750 feet

This unit makes up about 15 percent of the county. It is mostly in the uplands along the east and west branches of the Delaware River and its tributaries. Soils in this unit formed in glacial till derived from reddish sandstone, siltstone, and shale. The unit consists of about 55 percent Lackawanna soils, 25 percent Wellsboro soils, and 20 percent soils of minor extent. The landscape is characterized by soils with smooth, convex and concave slopes on hillsides and hilltops (fig. 6). Slopes range from 2 to 55 percent.

The well drained Lackawanna soils are gently sloping to very steep. They are on hilltops and hillsides. The rate of water movement through the soil is moderate in the surface and upper subsoil layers and slow in the dense, firm, lower subsoil. Depth to bedrock is more than 60 inches.

The moderately well drained Wellsboro sols are gently sloping to moderately steep. They are on hillsides and hilltops. The rate of water movement through the soil is moderate in the surface and upper subsoil layers and slow in the dense, firm, lower subsoil and substratum. Depth to bedrock is more than 60 inches.

Soils of minor extent in this unit are the Arnot, Oquaga, Maplecrest, Tunkhannock, Morris, and Barbour soils. The shallow Arnot and the moderately deep Oquaga soils are on the upper parts of hillsides and on hilltops. Arnot soils are well drained. Oquaga soils are excessively drained. The well drained Maplecrest soils are very

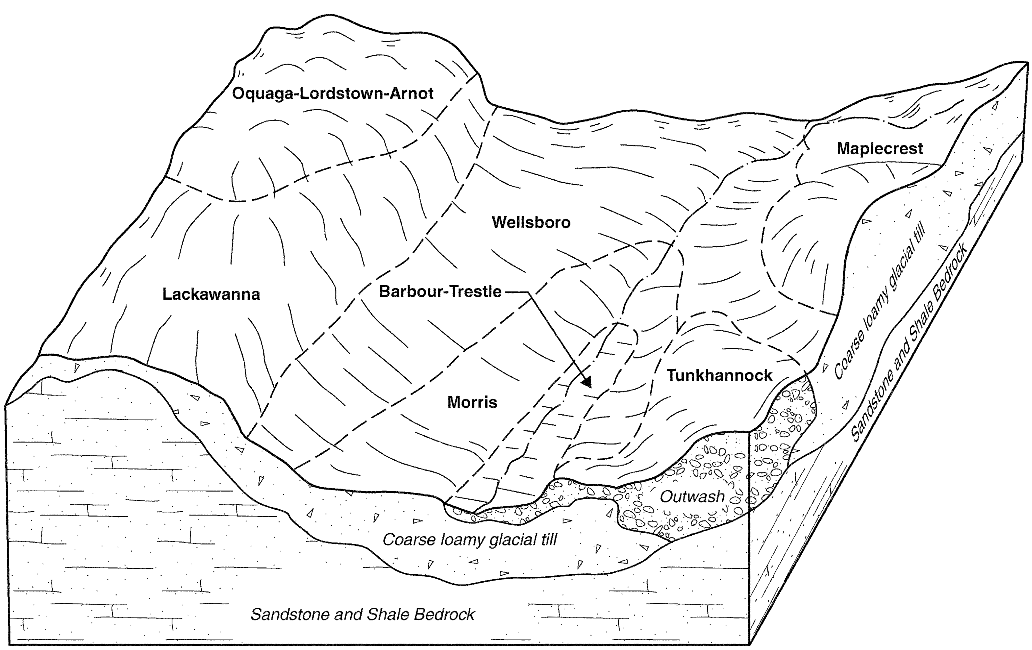


Figure 6.—Typical pattern of the soils and geologic materials in the Lackawanna-Wellsboro, Tunkhannock-Maplecrest-Barbour, and Oquaga-Lordstown-Arnot general soil map units.

deep soils along lower valley sides. Tunkhannock soils are very deep and somewhat excessively drained. They are along lower valley sides, on terraces, and on alluvial fans. Morris soils are very deep, somewhat poorly drained soils on the lower parts of hillsides and along small drainageways. Barbour soils are very deep, well drained soils on terraces and floodplains along streams.

Areas of this unit are cleared and used for farming, including the production of hay, pasture, and cultivated crops. Some cleared areas are used for community development. Other areas are forested or have a cover of brush or non-woody plants. Seasonal wetness and slope are limitations for much of this unit for farming and community development. The potential productivity of this unit for northern red oak is moderately high.

5. Tunkhannock-Maplecrest-Barbour

Nearly level to very steep, very deep, somewhat excessively drained and well drained, medium and moderately coarse textured soils in valleys

This unit makes up about 9 percent of the county. It is extensive along the valleys of the East Branch and West Branch of the Delaware River. Soils in this unit formed in glacial till, outwash, and alluvium derived from reddish sandstone, siltstone, and shale. The unit consists of about 35 percent Tunkhannock soils, 35 percent Maplecrest soils, 15 percent Barbour soils and 15 percent soils of minor extent. The landscape is characterized by steep slopes along valley sides and rolling to nearly level areas in mid-valley positions. Slopes range from 0 to 60 percent.

The somewhat excessively drained Tunkhannock soils are nearly level to very steep. They are on hilly or rolling landscapes at the sides of valleys and on nearly level terraces in mid-valley positions. The rate of water movement through the soil is moderately rapid in the surface and subsoil layers. Depth to bedrock is more than 60 inches.

The well drained Maplecrest soils are gently sloping to very steep. They are on lower valley sides. The rate of water movement through the soil is moderate in surface and subsoil layers. Depth to bedrock is more than 60 inches.

The well drained Barbour soils are nearly level. They are on low terraces and on floodplains along streams. The rate of water movement through the soil is moderate in the surface layer and moderately rapid in the subsoil. Depth to bedrock is more than 60 inches.

Soils of minor extent in this unit are the Unadilla, Basher, Deposit, Red Hook, Raypol, and Fluvaquents-Udifluvents soils. The very deep, well drained Unadilla soils are on terraces in valleys. The very deep, moderately well drained Basher soils are on floodplains along streams. Deposit soils are very deep, moderately well drained soils on low terraces and on alluvial fans.

The very deep, somewhat poorly drained Red Hook soils are on nearly level parts of terraces or in small depressions in valleys. The very deep, poorly drained Raypol soils are on part of terraces or in back water channels in valleys. The Fluvaquents-Udifluvents complex is very deep and excessively drained to very poorly drained. It is along streams in valleys.

Many areas of this general soil map unit are cleared and used for farming or community development. Other areas are forested or have a cover of brush or non-woody plants. Some parts of this unit are well suited to a variety of crops and many uses associated with community development. Slope is a limitation on some parts of this unit for both farming and development. The hazard of flooding is also a limitation in areas of this unit along streams. The potential productivity of the Tunkhannock soil for northern red oak is moderately high. The potential of the Maplecrest and Barbour soils for sugar maple is moderate.

6. Oquaga-Lordstown-Arnot

Gently sloping to very steep, moderately deep and shallow, excessively drained and well drained, medium textured soils on uplands below 1,750 feet

This unit makes up about 9 percent of the county. It is mainly along the western and southern edges of the survey area. Soils in this unit formed in glacial till derived from sandstone, siltstone, and shale. The unit consists of about 30 percent Oquaga soils, 30 percent Lordstown soils, 15 percent Arnot soils, and 25 percent soils of minor extent. The landscape is characterized by steep hillsides and gently sloping to strongly sloping bedrock-controlled hilltops. Slopes range from 2 to 70 percent.

The excessively drained Oquaga soils are gently sloping to very steep. They are on hillsides and hilltops. The rate of water movement through the soil is moderate in the surface and subsoil layers. Depth to bedrock is 20 to 40 inches.

The well drained Lordstown soils are gently sloping to very steep. They are on hillsides and hilltops. The rate of water movement through the soil is moderate in the surface and subsoil layers. Depth to bedrock is 20 to 40 inches.

The well drained Arnot soils are gently sloping to very steep. They are on hillsides and hilltops. The rate of water movement through the soil is moderate in surface and subsoil layers. Depth to bedrock is 10 to 20 inches.

Soils of minor extent in this unit are Cadosia, Lackawanna, Bath, Wellsboro, and Mardin. The very deep, well drained Cadosia soils are on steep hillsides. Very deep, well drained, Lackawanna and Bath soils are on smooth or convex slopes on hillsides and hilltops. Very deep, moderately well drained Wellsboro and Mardin soils are on concave slopes on hillsides or on hilltops.

Some areas of this unit are cleared and used for farming for the production of hay, pasture, or cultivated crops. Most areas are forested or have a cover of brush or non-woody plants. Slope is a limitation for many parts of this unit for farming or other purposes. The depth to bedrock is also a limitation of this unit for many potential uses. The potential productivity of the Oquaga and Lordstown soils is moderate for sugar maple. The potential productivity of the

Arnot soil for northern red oak is moderate.

7. Willowemoc-Lewbeach-Onteora

Dominantly gently sloping to very steep, very deep, well drained to somewhat poorly drained, medium textured soils on uplands above 1,750 feet

This unit makes up about 46 percent of the county. It is most extensive in the central and eastern parts of the survey area. Soils in this unit formed in glacial till derived from reddish sandstone, siltstone, and shale. The unit consists of about 35 percent Willowemoc soils, 30 percent Lewbeach soils, 10 percent Onteora soils, and 25 percent soils of minor extent. The landscape is characterized by strongly sloping to steep hillsides, gently sloping hilltops and gently sloping areas along small drainageways. Slopes range from 0 to 55 percent (fig. 7).

The moderately well drained Willowemoc soils are nearly level to moderately steep. They are on hillsides, hilltops, and along small drainageways. The rate of water movement through the soil is moderate in the surface and upper subsoil layers and slow or very slow in the dense, firm, lower subsoil. Depth to bedrock is more than 60 inches.

The well drained Lewbeach soils are gently sloping to very steep. They are on smooth hillsides and convex hilltops. The rate of water movement through the soil is moderate in surface and upper subsoil layers and slow in the dense, firm, lower subsoil and substratum. Depth to bedrock is more than 60 inches.

The somewhat poorly drained Onteora soils are nearly level to strongly sloping. They are on the lower, concave parts of hillsides and along small drainageways. The

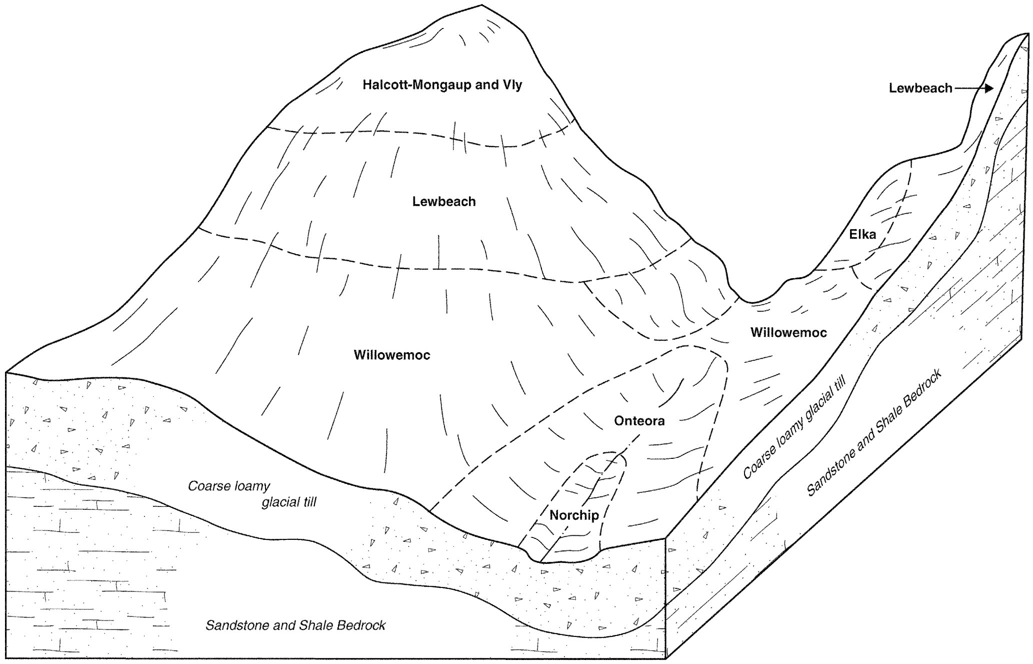


Figure 7.—Typical pattern of the soils and geologic materials in the Willowemoc-Lewbeach-Onteora and the Vly-Halcott-Mongaup general soil map units.

rate of water movement through the soil is moderate in the surface and upper subsoil layers and slow or very slow in the dense, firm, lower subsoil. Depth to bedrock is more than 60 inches.

Soils of minor extent in this unit are Halcott, Vly, Elka, and Norchip soils. The somewhat excessively drained Halcott soils are on steep hillsides and on hilltops. The somewhat excessively drained, moderately deep Vly soils are on hillsides and hilltops. The well drained, very deep Elka soils are on smooth hillsides and on hilltops. The poorly drained, very deep Norchip soils are in depressions and along small drainageways.

Areas of this unit are cleared and used for farming, including the production of hay, pasture and cultivated crops. Other areas are forested or have a cover of brush or non-woody plants. Slope and seasonal wetness are limitations of many parts of this unit for farming or community development. The growing season is a little shorter than in valleys. The potential productivity of the Willowemoc and Lewbeach soils for sugar maple is moderate. The potential productivity of the Onteora soil for red maple is also moderate.

8. Vly-Halcott-Mongaup

Gently sloping to very steep, moderately deep and shallow, somewhat excessively drained and well drained, medium textured soils on uplands above 1,750 feet

This unit makes up about 3 percent of the county. It is along the southern and eastern edges of the survey area. Soils in this unit formed in glacial till derived from sandstone, siltstone, and shale. The unit consists of 35 percent Vly soils, about 18 percent Halcott soils, about 17 percent Mongaup soils, and 30 percent soils of minor extent. The landscape is characterized by steep, bedrock-controlled hillsides and sloping hilltops. Hillsides often have a “stair step” appearance due to bedrock escarpments and benches. Slopes range from 2 to 70 percent.

The somewhat excessively drained Vly soils are gently sloping to very steep. They are on hillsides and hilltops. The rate of water movement through the soil is moderate in the surface and subsoil layers. Depth to bedrock is 20 to 40 inches.

The somewhat excessively drained Halcott soils are gently sloping to very steep. They are on hillsides and hilltops. The rate of water movement through the soil is moderate in the surface and subsoil layers. Depth to bedrock is 10 to 20 inches.

The well drained Mongaup soils are gently sloping to very steep. They are on hillsides and hilltops. The rate of water movement through the soil is moderate in surface and subsoil layers. Depth to bedrock is 20 to 40 inches.

Soils of minor extent in this unit are the Elka, Rockrift, Middlebrook, Lewbeach, Lewbath, Willowemoc, and Willdin soils. The well drained, very deep, Elka soils are on smooth hillsides and sloping hilltops. The well drained, very deep Rockrift soils are on hillsides. The moderately well drained, moderately deep Middlebrook soils are on gently sloping and strongly sloping parts of hilltops. Well drained, very deep Lewbeach and Lewbath soils are on smooth or convex hillsides and hilltops. Moderately well drained, very deep Willowemoc and Willdin soils are on concave parts of hillsides and on gently sloping hilltops.

Some areas of this unit are cleared and used for farming for the production of hay, pasture, and cultivated crops. Most areas are forested or have a cover of brush or non-woody plants. Slope is a limitation of much of this unit for farming or other purposes. The depth to bedrock is also a limitation for farming and many other potential uses. The potential productivity of the Vly and Mongaup soils for sugar maple is moderate. The potential productivity of the Halcott soils for northern red oak is also moderate.

Detailed Soil Map Units

The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

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

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

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

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

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

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Bath channery silt loam, 3 to 8 percent slopes is a phase of the Bath series.

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

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Elka-Vly channery silt loams, 5 to 15 percent slopes is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Lewbeach and Lewbath soils, 15 to 35 percent slopes, very stony is an undifferentiated group in this survey area.

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

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

The detailed soil maps of Delaware County join with soil survey maps of seven adjacent New York Counties. Delaware County also borders Wayne County, Pennsylvania, but is separated from that survey area by the Delaware River.

Soil Surveys in Broome, Schoharie, and Ulster counties frequently do not match with Delaware County maps because of differences in series names, legend design, and map scales. Surveys in these counties are older publications and need some recorrelation or revision to be able to match current surveys. Soil lines and general kinds of soil map units match whenever possible.

Delaware County soil map unit boundaries and names join with those of Greene and Otsego counties. Some map units have slight differences in characteristics like slope phase, texture, or rock outcrop class. Delaware County soil map unit boundaries and names join with the same soil or a very similar soil in Chenango County and Sullivan County. Some slight differences occur in map unit properties like slope, surface texture, or rock outcrop class. Other differences occur in naming map units that are undifferentiated units or complexes because of differences in proportions of major soils in Chenango and Sullivan counties.

Soil Descriptions

Bc—Barbour loam

This soil is nearly level, very deep, and well drained. Areas of this soil occupy flood plains and low terraces along streams and are subject to flooding. Areas are long and narrow to broad and irregular in shape and range from about 5 to 50 acres. Slope is 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 6 inches, dark reddish brown loam

Subsoil: 6 to 18 inches, reddish brown silt loam
18 to 26 inches, reddish brown gravelly loam

Substratum: 26 to 72 inches, reddish brown very gravelly loamy sand

Included with this soil in mapping are spots of a sandy, excessively drained soil, well drained gravelly Barbour soils, and moderately well drained Basher soils. Next to adjacent higher terraces, strips of poorly drained Raypol soils are included. Along streams, strips of somewhat excessively drained to very poorly drained Fluvaquents-Udifluvents soils are common. Included areas range up to 5 acres each and make up about 15 percent of the map unit.

Soil Properties

Water table: within a depth of 3 to 6 feet
Permeability: moderate in the surface layer, moderately rapid in the subsoil, and rapid in the substratum
Average available water capacity: moderate
Soil reaction: very strongly acid to moderately acid in surface and subsoil layers and very strongly acid to slightly acid in the substratum
Surface runoff: slow
Depth to bedrock: more than 60 inches

Soil Use and Management

Most areas of this soil are cleared and used for farming. Some smaller areas are in woodland or have a cover of brush or other native plants. This soil is among those soils in the county best suited to the production of food or fiber.

Suitability for Farming

This soil is very well suited for farming and can be cultivated intensively. The soil is subject to occasional brief flooding but usually not during the growing season. The soil is easy to cultivate and is well suited to common field crops and also truck crops. Minimum tillage, incorporating crop residues in the soil, and use of cover crops are practices that help maintain good tilth and reduce surface crusting.

This soil is well suited to pasture. Applying proper stocking rates and limiting grazing during wet periods will help maintain better quality pasture and reduce surface compaction.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. There are few or no limitations in using this soil for wood production or growing trees.

Suitability for Building Sites

Occasional flooding limits the use of this soil as a site for dwellings with basements. A more suitable site on a nearby soil should be selected.

The substratum in this soil has a poor filtering capacity for septic tank effluent, which can result in contamination of ground water. Flooding and depth to the saturated zone also limit this soil as a site for septic tank absorption fields. A more suitable site on a nearby soil should be selected.

Occasional flooding and frost action also limits the use of this soil for roads and streets. Constructing roads on raised fill material and using a coarse-grained subgrade or base material can help overcome these limitations.

Suitability for Recreation

Flooding limits the use of this soil as a site for camp areas. There are few or no limitations in using this soil for most other recreational purposes.

The capability class is 1.

Bg—Barbour-Trestle complex

This map unit consists of nearly level, very deep, well drained Barbour and Trestle soils on low terraces along small, high gradient streams. The soils of this unit are subject to flooding. The unit consists of about 40 percent Barbour soils, 35 percent Trestle soils, and 25 percent inclusions of other soils. These soils are mapped together because they occur in such an intricate pattern that they cannot be separated at the existing map scale. Slopes range from 0 to 3 percent. Mapped areas are mostly long and narrow and range from about 5 to 35 acres.

The typical sequence, depth, and composition of the layers of the Barbour soil are as follows—

Surface layer: surface to 6 inches, dark reddish brown gravelly loam

Subsoil: 6 to 18 inches, reddish brown gravelly silt loam
18 to 26 inches, reddish brown gravelly loam

Substratum: 26 to 72 inches, reddish brown very gravelly loamy sand

The typical sequence, depth, and composition of the layers of the Trestle soil are as follows—

Surface layer: surface to 9 inches, dark reddish brown silt loam

Subsoil: 9 to 20 inches, brown very gravelly loam

Substratum: 20 to 72 inches or more, dark brown very gravelly silt loam

Included with this unit in mapping are spots of a sandy or very gravelly, excessively drained soil, well drained to somewhat excessively drained Tunkhannock soil, and moderately well drained Basher soil. Next to adjacent terraces at the edges of valley bottoms, strips of poorly drained Raypol soil may be included. Along streams, strips of somewhat excessively drained to very poorly drained Fluvaquents-Udifluvents soils are common. Included areas range up to 5 acres each and make up about 25 percent of the map unit.

Soil Properties of the Barbour soil

Water table: within a depth of 3 to 6 feet
Permeability: moderate in the surface layer, moderately rapid in the subsoil, and rapid in the substratum
Average available water capacity: moderate
Soil reaction: very strongly acid to moderately acid in surface and subsoil layers and very strongly acid to slightly acid in the substratum
Surface runoff: slow
Depth to bedrock: more than 60 inches

Soil Properties of the Trestle soil

Water table: within a depth of 3 to 6 feet
Permeability: moderate in the surface layer, moderate and moderately rapid in the subsoil, and rapid in the substratum
Average available water capacity: moderate
Soil reaction: strongly acid to moderately acid in the surface and moderately acid or slightly acid in the subsoil
Surface runoff: slow
Depth to bedrock: more than 60 inches

Soil Use and Management

Most areas of this unit are cleared and used for farming. Some smaller areas are in woodland or have a cover of brush or other native plants. The soils of this unit are among those soils in the county best suited to the production of food or fiber.

Suitability for Farming

This unit is very well suited for farming and can be cultivated intensively. The unit is subject to occasional brief flooding but usually not during the growing season. The unit is easy to cultivate and is well suited to common field crops. Very gravelly spots may hinder some farming operations. The unit is also suited to truck crops, but gravel and small stones may interfere with tillage operations. Minimum tillage, incorporating crop residues in the soil, and using cover crops are practices that help maintain good tilth.

This unit is well suited to pasture. Proper stocking rates and limiting grazing during wet periods will help maintain better quality pasture and reduce surface compaction.

Suitability for Trees

The potential productivity of the Barbour soil for sugar maple is moderate. The potential productivity of the Trestle soil for red oak is moderate. There are few or no limitations in using these soils for wood production or growing trees.

Suitability for Building Sites

Rare flooding limits the use of this unit as a site for dwellings with basements. A more suitable site on a nearby soil should be selected.

Poor filtering capacity for septic tank effluent is a limitation in Trestle soils and in the lower part of Barber soils. The rapid permeability in the substratum of these soils can result in contamination of groundwater. Flooding and depth to the saturated zone also limit this unit as a site for septic tank absorption fields. A more suitable site on a nearby soil should be selected.

Rare flooding and frost action also limits use of this soil for roads and streets. Constructing roads on raised fill material and using a coarse-grained subgrade or base material can help overcome this limitation.

Suitability for Recreation

Flooding limits the use of this unit as a site for camp areas. Gravel content limits the use of this unit as a site for playgrounds and picnic areas. There are few or no limitations in using this unit for paths and trails.

The capability class is 1.

Bs—Basher silt loam

This soil is nearly level, very deep, and moderately well drained. Areas of this soil occupy flood plains and low terraces along streams. These areas are subject to flooding. Soil areas are mostly long and narrow in shape and range from about 5 to 15 acres. Slope is 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 8 inches, dark reddish brown silt loam

Subsoil: 8 to 13 inches, reddish brown silt loam
13 to 23 inches, reddish brown silt loam with reddish gray and reddish brown mottles

Substratum: 23 to 35 inches, dark brown silt loam with brown mottles
35 to 72 inches, dark gray loam with thin layers of fine sandy loam

Included with this soil in mapping are spots of well drained Barbour soils on slightly higher areas. Somewhat poorly drained soils and small areas of poorly drained Raypol soils or somewhat poorly drained to very poorly drained Fluvaquents soils are included in depressions. Udifluvents soils and areas that are very gravelly or sandy are also common inclusions. Included areas are as much as 5 acres each. Soils that have limitations different from the Basher soil make up about 20 percent of the map unit.

Soil Properties

Seasonal water table: 1.5 to 2.0 feet from December through May
Permeability: moderate in the surface and subsoil layers, and moderately slow to moderately rapid in the substratum layers
Average available water capacity: high
Soil reaction: extremely acid to moderately acid in the surface and subsoil layers and very strongly acid to slightly acid in the substratum
Surface runoff: slow
Depth to bedrock: more than 60 inches

Soil Use and Management

Many areas of this soil are cleared and used for farming. Some areas are forested or have a cover of brush or other non-woody plants. This soil is among those soils in the county best suited to the production of food or fiber.

Suitability for Farming

This soil is well suited for cultivated crops and hay and can be cultivated intensively. This soil is easy to till and irrigate. Wetness and flooding may hinder or delay farming operations, especially in the early spring. Crops tolerant of some seasonal wetness are best adapted to this soil. The use of cover crops and sod crops in the cropping system and incorporating crop residue into the soil will help to maintain good tilth.

This soil is well suited to pasture; however, plants tolerant of some seasonal wetness are best adapted. Applying proper stocking rates and deferring grazing during wet periods will help prevent destruction of the sod cover and maintain higher quality and quantity of forage.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Flooding and depth to the saturated zone limit the use of this soil as a site for dwellings with basements. A more suitable site on a nearby soil should be selected. Flooding and depth to the saturated zone also limit the use of this soil as a site for septic tank absorption fields. A better-drained nearby soil should be selected for this use.

Flooding, the depth to the saturated zone, and high potential frost action all limit the use of this soil as a site for roads and streets. Constructing roads on raised fill and using a coarse-grained subgrade or base material are methods to help overcome these limitations.

Suitability for Recreation

Flooding and depth to the saturated zone can limit this soil as a site for most recreational development.

The capability class is 2w.

BtB—Bath channery silt loam, 3 to 8 percent slopes

This very deep, gently sloping, and well drained soil occupies hilltops and plateaus in the uplands. Individual areas are irregular in shape and range from 5 to 20 acres.

The typical sequence, depth, and composition of the layers of this soil are—
Surface layer: surface to 9 inches, dark grayish brown channery silt loam

Subsoil: 9 to 20 inches, yellowish brown channery silt loam
20 to 26 inches, brown channery loam

Lower subsoil (fragipan): 26 to 72 inches, dense, brown very channery silt loam

Included with this soil in mapping are small areas of moderately deep, well drained Lordstown soils. In lower, depressional parts of the landscape inclusions of very deep, moderately well drained Mardin soils, or somewhat poorly drained Volusia soils occur. The redder Lackawanna soils are often included where red soil materials are intermingled with the browner soil materials in which Bath soils formed. Stony or very stony or bouldery spots are also common inclusions. Included areas are as large as 5 acres each. Soils that have limitations different from those of the Bath soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.3 to 2.0 feet in winter and early spring
Permeability: moderate in the surface and upper subsoil layers, slow in the dense lower subsoil (fragipan) and substratum layers
Average available water capacity: moderate
Soil reaction: very strongly acid to moderately acid in the surface and upper subsoil; very strongly acid to slightly acid in the lower subsoil
Surface runoff: slow
Depth to bedrock and to dense subsoil: more than 60 inches to bedrock and 26 to 38 inches to the dense subsoil

Soil Use and Management

Many areas of this soil are used for corn or hay production. Other areas are forested or have a cover of brush or native plants. This soil is among those soils in the county best suited to the production of food or fiber.

Suitability for Farming

This soil is well suited to cultivated crops and hay. Erosion may be a hazard on long slopes. The dense subsoil restricts the rooting depth of deep rooted plants. Cover crops, conservation tillage or contour tillage may be needed to help control erosion.

This soil is well suited for pasture. Limiting stocking rates will help prevent overgrazing, maintain a higher quantity of forage, and reduce the likelihood of erosion.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone is a limitation if this soil is used as a site for dwellings with basements. Methods of overcoming this limitation include installing footing drains, sealing the foundation, and shaping or grading the land to divert water away from the building.

Restricted permeability in the subsoil, depth to the saturated zone, and depth to the fragipan limits this soil as a site for septic tank absorption fields. Special designs, such as an enlarged absorption field with a surrounding drainage system, will help overcome these limitations.

Depth to the saturated zone and potential frost action limits this soil as a site for roads and streets. Installing a drainage system and providing a coarse-grained subgrade or base material to frost depth will help overcome these limitations.

Suitability for Recreation

Depth to the saturated zone and depth to the fragipan can limit most recreational uses of this soil. Slope and gravel content are additional limitations if this soil is used as a site for playgrounds.

The capability subclass is 2e.

BtC—Bath channery silt loam, 8 to 15 percent slopes

This very deep, strongly sloping, and well drained soil occupies hillsides in the uplands. Individual areas are irregular or elongated in shape and range from 5 to 30 acres.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 9 inches, dark grayish brown channery silt loam

Subsoil: 9 to 20 inches, yellowish brown channery silt loam
20 to 26 inches, brown channery loam

Lower subsoil (fragipan): 26 to 72 inches, dense, brown very channery silt loam

Included with this soil in mapping are small areas of moderately deep, well drained Lordstown soils. In lower, gently sloping parts of the landscape, inclusions of moderately well drained Mardin soils occur. The redder Lackawanna soils are often included where red soil materials are intermingled with the browner soil materials in which Bath soils formed. Stony or very stony or bouldery spots are also common inclusions. Included areas are as large as 5 acres each. Soils that have limitations different from those of the Bath soils make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.3 to 2.0 feet in winter and early spring.
Permeability: moderate in the surface and upper subsoil layers, slow in the dense lower subsoil (fragipan) and substratum layers
Average available water capacity: moderate
Soil reaction: very strongly acid to moderately acid in surface and upper subsoil; very strongly acid to slightly acid in the lower subsoil
Surface runoff: medium in the dense subsoil

Soil Use and Management

Many areas of this soil are used for corn or hay production. Other areas are forested or have a cover of brush or native plants.

Suitability for Farming

This soil is moderately suited to cultivated crops and hay, but slope may interfere with tillage operations. Erosion is a hazard, especially on long slopes. The dense subsoil restricts the rooting depth of deep rooted plants. Growing cover crops and applying conservation practices such as conservation tillage or contour tillage are often needed to help control erosion.

This soil is well suited to pasture but limiting stocking rates will help prevent overgrazing, maintain a higher quality of forage, and reduce the likelihood of erosion.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone and slope are limitations if this soil is used as a site for dwellings with basements. Methods of overcoming the depth to the saturated zone limitation include installing footing drains, sealing the foundation, and shaping or grading the land to divert water away from the building. Designing buildings to conform to the natural slope and landshaping will help overcome the slope limitations.

Restricted permeability in the subsoil, slope, depth to the fragipan, and depth to the saturated zone limit this soil as a site for septic tank absorption fields. Special designs, such as an enlarged absorption field with a surrounding drainage system, will help overcome the limitations of depth to the saturated zone and restricted permeability. Land shaping and installing tile lines on the contour or on a flatter area can overcome the limitation due to slope.

Slope, depth to the saturated zone, and potential frost action limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse-grained subgrade or base material to frost depth will help prevent frost damage and overcome the limitation due to depth to the saturated zone. Constructing roads on the contour and landshaping or grading are methods of overcoming the slope limitation.

Suitability for Recreation

Slope, depth to the saturated zone, and depth to the fragipan can limit most recreational uses of this soil. Gravel content is an additional limitation for playgrounds.

The capability subclass is 3e.

BtD—Bath channery silt loam, 15 to 25 percent slopes

This very deep, moderately steep, and well drained soil occupies hillsides in the uplands. Individual areas are irregular or elongated in shape and range from about 5 to 30 acres.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 9 inches, dark grayish brown channery silt loam

Subsoil: 9 to 20 inches, yellowish brown channery silt loam
20 to 26 inches, brown channery loam

Lower subsoil (fragipan): 26 to 72 inches, dense, brown channery silt loam

Included with this soil in mapping are small areas of moderately deep, well drained Lordstown soils. In lower or less steep parts of the landscape, inclusions of moderately well drained Mardin soils occur. The redder Lackawanna soils are often included where red soil materials are intermingled with the browner soil materials in which Bath soils formed. Along valley sides, Valois soils are commonly included. Stony or very stony or bouldery spots are also common inclusions. Included areas are as large as 5 acres each. Soils that have limitations different from those of the Bath soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.3 to 2.0 feet in winter and early spring
Permeability: moderate in surface and upper subsoil layers, slow in dense lower subsoil (fragipan) and substratum layers
Average available water capacity: moderate
Soil reaction: very strongly acid to moderately acid in surface and upper subsoil; very strongly acid to slightly acid in the lower subsoil
Surface runoff: rapid
Depth to bedrock and to dense subsoil: more than 60 inches to bedrock and 26 to 38 inches to the dense subsoil (fragipan)

Soil Use and Management

Some areas of this soil are cleared and used for pasture or hay production. Other areas are forested or have a cover of brush or native plants.

Suitability for Farming

This soil is poorly suited to cultivated crops and hay because of slope. Slope interferes with many farming operations. Erosion is a hazard whenever the soil is disturbed. The dense subsoil restricts the rooting depth of deep rooted plants. The use of cover crops, more sod crops in rotation, and conservation practices such as no-till stripcropping or contour tillage are needed to help control erosion.

This soil is moderately suited to pasture but slope interferes with maintenance and fertilization. Limiting stocking rates will help prevent overgrazing, reduce the erosion hazard, and maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. Slope limits the use of equipment. Laying out access roads on the contour will reduce the hazard of erosion.

Suitability for Building Sites

Depth to the saturated zone and slope are limitations if this soil is used as a site for dwellings with basements. Methods of overcoming the depth to saturated zone limitation include installing footing drains, sealing the foundation, and land shaping or grading to divert water away from the building. Designing buildings to conform to the natural slope and landshaping will help overcome slope limitations.

Slope, restricted permeability in the subsoil, and depth to the saturated zone and depth to the fragipan, limit this soil as a site for septic tank absorption fields. Special designs, such as an enlarged absorption field with a surrounding drainage system, will help overcome the limitations of the restricted permeability, dense fragipan, and depth to saturated zone. Landshaping, installing tile lines on the contour, or constructing the field on a flatter included area can help overcome the limitation of slope.

Slope, depth to the saturated zone and potential frost action limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse-grained subgrade or base material to frost depth will help prevent frost damage and overcome the limitation due to the depth to the saturated zone. Constructing roads on the contour and landshaping or grading are methods of overcoming the slope limitation.

Suitability for Recreation

Slope, depth to the saturated zone, and the depth to the fragipan are limitations for most recreational uses of this soil. Gravel content is an additional limitation for playgrounds.

The capability subclass is 4e.

BtE—Bath channery silt loam, 25 to 35 percent slopes

This very deep, steep, and well drained soil occupies hillsides in the uplands. Individual areas are irregular or elongated in shape and range from about 5 to 30 acres.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 9 inches, dark grayish brown channery silt loam

20 to 26 inches, brown channery loam

Lower subsoil (fragipan): 26 to 72 inches, dense, brown channery silt loam

Included with this soil in mapping are small areas of moderately deep, well drained Lordstown soils. In lower or less steep parts of the landscape inclusions of moderately well drained Mardin soils occur. The redder Lackawanna soils are often included where red soil materials are intermingled with the browner soil materials in which Bath soils formed. Along valley sides, spots of Valois soils are commonly included. Stony or very stony or bouldery spots are also common inclusions. Included areas are as large as 5 acres each. Soils that have limitations different from those of the Bath soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.3 to 2.0 feet in winter and early spring
Permeability: moderate in the surface and upper subsoil layers, slow in the dense lower subsoil (fragipan) and substratum layers
Average available water capacity: moderate
Soil reaction: very strongly acid to moderately acid in surface and upper subsoil; very strongly acid to slightly acid in the lower subsoil
Surface runoff: very rapid
Depth to bedrock and to dense subsoil: more than 60 inches to bedrock and 26 to 38 inches to the dense subsoil (fragipan)

Soil Use and Management

Some areas of this soil are cleared and used for pasture or hay production. Other areas are forested or have a cover of brush or native plants.

Suitability for Farming

This soil is generally unsuited to cultivation because of slope. Slope interferes with most farming operations. Erosion is a hazard whenever the soil is disturbed. The dense subsoil restricts the rooting depth of deep-rooted plants.

This soil is poorly suited to pasture. It can provide limited pasture but slope interferes with maintenance and fertilization. Limiting stocking rates will help prevent overgrazing, reduce the erosion hazard, and maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. Slope limits the use of equipment. Laying out access roads on the contour will reduce the hazard of erosion.

Suitability for Building Sites

Slope and depth to the saturated zone are limitations to using this soil as a site for dwellings with basements. Designing buildings to conform to the natural slope and landshaping will help overcome slope limitations. Methods of overcoming the depth to saturated zone limitation include installing footing drains, sealing the foundation, shaping or grading the land to divert water away from the building.

Slope, restricted permeability in the subsoil, depth to the saturated zone, and depth to the fragipan limit this soil as a site for septic tank absorption fields. Landshaping, installing tile lines on the contour or constructing the field on a flatter included area can help overcome the limitations of slope. Special designs, such as an enlarged absorption field with a surrounding drainage system, will help overcome the limitations of restricted permeability of the soil, depth to the fragipan and depth to the saturated zone.

Slope, depth to the saturated zone, and potential frost action limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse-grained subgrade or base material to frost depth will help prevent frost damage and overcome the limitation due to depth to the saturated zone. Constructing roads on the contour or on flatter included soils and landshaping or grading are methods of overcoming the slope limitation.

Suitability for Recreation

Slope, depth to the fragipan, and depth to the saturated zone are limitations for most recreational uses of this soil.

The capability subclass is 6e.

Bw—Bucksport and Wonsqueak soils

This map unit consists of level or nearly level, very deep, very poorly drained Bucksport or Wonsqueak soils. This unit is on small flat areas or in depressions in higher parts of the uplands where the growing season is shorter than it is in valleys. Individual areas of this unit consist of Bucksport or Wonsqueak soils or may contain both soils. The total acreage of this unit is about 40 percent Bucksport soils, 40 percent Wonsqueak soils, and 20 percent inclusions of other soils. These soils were mapped together because they have few or no differences in use and management. Individual areas are round or irregular and range from about 5 to 15 acres. Slopes range from 0 to about 1 percent.

The typical sequence, depth, and composition of the Bucksport soil are—
Surface layer: surface to 12 inches, very dark gray muck

Subsurface and bottom layers: 12 to 30 inches, very dark gray muck
30 to 50 inches, dark brown muck
50 to 75 inches, dark brown muck

The typical sequence, depth, and composition of the Wonsqueak soil are—
Surface layer: surface to 10 inches, very dark grayish brown muck

Subsurface and bottom layers: 10 to 24 inches, very dark gray and brown muck
24 to 36 inches, dark reddish brown muck
36 to 42 inches, dark grayish brown muck

Substratum: 42 to 72 inches, dark reddish gray gravelly loam

Included with this unit in mapping are spots of Onteora, Ontusia, Norchip, or other mineral soils, especially around the edges of the depression. Soils that have mucky peat surface or subsurface layers are also common inclusions. A few included spots have bedrock at depths of less than 60 inches. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Bucksport or Wonsqueak soils make up about 20 percent of the map unit.

Soil Properties

Seasonal water table: ranges from ponded above the surface to a depth of 1 foot below the surface for both soils from September through July
Permeability: moderately slow to moderately rapid for both soils
Average available water capacity: high for both soils
Soil reaction: ranges from extremely acid to strongly acid in the surface layer and extremely acid to moderately acid in subsurface layers of the Bucksport soil, extremely acid to slightly acid in the surface layer and very strongly acid to slightly acid in subsurface layers of the Wonsqueak soil
Surface runoff: very slow to ponded for both soils
Depth to bedrock: more than 60 inches for both soils

Soil Use and Management

Areas of this unit are forested or have a cover of brush or other native plants.

Suitability for Farming

Areas of this unit are not suited for farming because of prolonged seasonal wetness and ponding. The operation of machinery on the soils of this unit is very difficult. The growing season is several weeks shorter than in valley areas.

This unit is poorly suited to pasture. Wetness and ponding limit the growth of most forage plants and makes maintenance very difficult. The hoofs of grazing animals easily damage the sod cover and soft surface layer.

Suitability for Trees

The potential productivity of the soils of this unit for red maple is moderate. There is a severe equipment limitation, seedling mortality, and windthrow hazard because of wetness.

Suitability for Building Sites

Depth to the saturated zone, ponding, low soil strength, and settlement of the organic layers all limit this unit as a site for dwellings with basements. Selecting a better drained nearby soil will avoid these limitations.

Depth to the saturated zone and ponding limit this unit as a site for septic tank absorption fields. Selecting a better drained, more suitable nearby soil will avoid the limitations.

Depth to the saturated zone, ponding, and frost action are major limitations if this unit is used as a site for roads and streets. Construction on raised fill and replacing organic layers with coarse-grained mineral fill material are ways of overcoming the limitations.

Suitability for Recreation

Depth to the saturated zone or ponding and the high organic matter content limit the use of this soil for most recreational purposes.

The capability subclass is 5w.

CaE—Cadosia extremely channery loam, 15 to 35 percent slopes, very bouldery

This soil is moderately steep to steep, very deep, and well drained. Areas of this unit are on moderately steep and steep hillsides in the uplands below 1,750 feet. Boulders larger than 24 inches long occupy 3 to 15 percent of the surface and are about 3 to 25 feet apart. Areas are irregular or elongated strips and range from about 10 to 50 acres.

The typical sequence, depth, and composition of the layers of the Cadosia soil are as follows—

Surface layer: 0 to 6 inches; black extremely channery loam

Subsoil: 6 to 32 inches; brown and yellowish brown very channery loam

Lower Subsoil: 32 to 58 inches; brown very channery loam

Substratum: 58 to 72 inches; dark brown and brown extremely gravelly sandy loam

Included with this soil in mapping are spots of Arnot, Lordstown, or Oquaga soils, usually on the upper parts of hillsides, and Lackawanna and Bath soils on the lower parts of hillsides. Soils that have less than 35 percent rock fragments in the soil profile are common inclusions at the base of hillsides in larger valleys. Areas that are just stony or bouldery and spots that are extremely bouldery are also common inclusions. Included areas range up to 5 acres each. Soils with limitations different from those of the Cadosia soil make up about 25 percent of the unit.

Soil Properties

Water table: below 6 feet
Permeability: moderate in the surface, subsoil, and substratum layers
Average available water capacity: moderate
Soil reaction: very strongly acid to moderately acid throughout the profile
Surface runoff: rapid to very rapid
Depth to bedrock: more than 60 inches

Soil Use and Management

Areas of this soil are forested or have a cover of brush or other native vegetation.

Suitability for Farming

This soil is not suited for farming because of steep slopes and many large boulders, which severely limit equipment operation. Erosion is a hazard whenever the soil is disturbed.

This soil is unsuited to pasture because of steep slopes and boulders.

Suitability for Trees

The potential productivity of the Cadosia soil for sugar maple is moderate. This soil has severe equipment limitations for wood production because of steep slopes. Machine planting of seedlings is not practical due to excessive surface boulders and steep slopes. There is a moderate erosion hazard.

Suitability for Building Sites

Steep slopes limit this soil as a site for dwellings with basements. Selecting a flatter adjacent or included soil can help overcome the slope limitation for dwellings. Designing buildings to conform to the natural slope and landshaping will also help to overcome the limitation. Maintaining vegetative cover adjacent to the building site will help reduce the erosion hazard during construction.

Limitations of this soil for septic tank absorption fields are boulders and steep slopes. Constructing the field on a flatter included area with fewer surface boulders on an adjacent soil can help overcome the limitation of slope and boulders for septic tank absorption fields.

Steep slopes and frost action are the main limitations if this soil is used as a site for roads and streets. Constructing roads on the contour and landshaping or grading are methods of overcoming the slope limitations. Using a coarse-grained subgrade or base material when constructing roads will reduce the frost damage. Erosion is a severe hazard whenever the natural cover of this soil is disturbed.

Suitability for Recreation

Steep slopes, surface boulders, and gravel content limit the use of this soil as a site for most recreation purposes.

The capability subclass is 7s.

CaF—Cadosia extremely channery loam, 35 to 70 percent slopes, very bouldery

This soil is very steep, very deep, and well drained. Areas of this unit are on steep hillsides in the uplands below 1,750 feet. Boulders larger than 24 inches long occupy 3 to 15 percent of the surface and are about 3 to 25 feet apart. Areas are irregular or elongated strips and range from about 10 to 50 acres.

The typical sequence, depth, and composition of the layers of the Cadosia soil are as follows—

Surface layer: 0 to 6 inches; black extremely channery loam

Subsoil: 6 to 32 inches; brown and yellowish brown very channery loam

Lower Subsoil: 32 to 58 inches; brown very channery loam

Substratum: 58 to 72 inches; dark brown and brown extremely gravelly sandy loam

Included with this soil in mapping are spots of Arnot, Lordstown, or Oquaga soils, usually on the upper parts of hillsides, and Lackawanna and Bath soils on the lower parts of hillsides. Soils that have less than 35 percent rock fragments in the soil profile are common inclusions at the base of hillsides in larger valleys. Areas that are just stony or bouldery and spots that are extremely bouldery are common inclusions. Included areas range up to 5 acres each. Soils with limitations different from those of the Cadosia soil make up about 25 percent of the unit.

Soil Properties

Water table: below 6 feet
Permeability: moderate in the surface, subsoil, and substratum layers
Average available water capacity: moderate
Soil reaction: very strongly acid to moderately acid throughout the profile
Surface runoff: very rapid
Depth to bedrock: more than 60 inches

Soil Use and Management

Areas of this soil are forested or have a cover of brush or other native vegetation.

Suitability for Farming

This soil is not suited for farming because of very steep slopes and many large boulders, which severely limit equipment operation. Erosion is a hazard whenever the soil is disturbed.

This soil is unsuited to pasture because of very steep slopes and boulders.

Suitability for Trees

The potential productivity of the Cadosia soil for sugar maple is moderate. This soil has severe equipment limitations for wood production because of very steep slopes. Machine planting of seedlings is not practical due to excessive surface boulders and very steep slopes. There is a severe erosion hazard.

Suitability for Building Sites

Very steep slopes limit this soil as a site for dwellings with basements. Selecting a flatter adjacent or included soil can help overcome the slope limitation for dwellings. Maintaining vegetative cover adjacent to the building site will help reduce the erosion hazard during construction.

Limitations of this soil for septic tank absorption fields are boulders and very steep slopes. Selecting a flatter included or nearby soil with less surface boulders will avoid the limitation of very steep slopes and overcome the limitation due to the surface boulders.

Very steep slopes and frost action are the main limitations if this soil is used as a site for roads and streets. A flatter adjacent or included soil should be selected for the location of roads and streets. Using a coarse-grained subgrade or base material will help reduce frost damage. Erosion is a severe hazard whenever the natural cover of this soil is disturbed.

Suitability for Recreation

Very steep slopes, surface boulders, and gravel content limit the use of this soil as a site for most recreation purposes.

The capability subclass is 7s.

Ce—Carlisle and Palms Soils

This map unit consists of level or nearly level, very deep, and very poorly drained Carlisle and Palms soils. It is on flat or slightly depressed areas in the uplands and on outwash plains or in larger valleys. Individual areas of this unit consist of Carlisle or Palms soils or may contain both soils. The total acreage of this unit is about 45 percent Carlisle and 40 percent Palms soils.

These soils were mapped together because they have few or no differences in use and management. Soil areas are round or irregular in shape and range from about 5 to 15 acres. Slopes range from 0 to about 2 percent.

The typical sequence, depth, and composition of the layers of the Carlisle soil are as follows—

Surface layer: surface to 8 inches, black muck

Subsurface layers: 8 to 42 inches, very dark grayish brown muck
42 to 65 inches, black muck

Bottom layer: 65 to 72 inches, dark reddish brown muck

The typical sequence, depth, and composition of the layers of the Palms soil are—

Surface layer: surface to 6 inches, black muck

Subsurface layer: 6 to 22 inches, dark reddish brown muck

Bottom layer: 22 to 36 inches, very dark gray muck

Substratum: 36 to 72 inches, dark gray and greenish gray gravelly sandy loam

Included with this unit in mapping are spots of Norchip and Red Hook soils and other mineral soils that occur around the edges of the unit. Included areas range up to 5 acres each. Soils that have limitations different from the Carlisle and Palms soils make up about 15 percent of the map unit.

Soil Properties

Seasonal water table: ponded 0.5 feet above the surface to 1.0 feet below for both soils
Permeability: moderately slow to moderately rapid throughout for the Carlisle soil and moderately slow to moderately rapid in organic layers and moderately slow to moderate in mineral layers for the Palms soil
Average available water capacity: high for both soils
Soil reaction: very strongly acid to neutral in the surface and middle layers for the Carlisle soil and strongly acid to neutral in organic layers for Palms soil
Surface runoff: very slow to ponded for both soils
Depth to bedrock: more than 60 inches for both soils

Soil Use and Management

Most areas of this unit are forested or have a cover of brush or other native plants. A few areas are used for unimproved pasture.

Suitability for Farming

The soils of this unit are unsuited to farming because of prolonged seasonal wetness and ponding. Most farming operations are difficult or impossible during much of the year because prolonged seasonal wetness and ponding severely limits the use of equipment and machinery.

The soils of this unit are poorly suited to pasture. Wetness limits plant growth and the choice of crops, and interferes with farming operations. The hoofs of grazing animals easily damage the soft surface layer and sod cover.

Suitability for Trees

The potential productivity of this unit for red maple is moderate. There is a severe equipment limitation, seedling mortality, and windthrow hazard because of wetness.

Suitability for Building Sites

Depth to the saturated zone, ponding and settlement of the organic layers limit the soils of this unit as a site for dwellings with basements. A better drained nearby soil should be selected.

Depth to the saturated zone or ponding and settlement of the organic layers limit this unit as a site for septic tank absorption fields. A better drained or more suitable nearby soil should be selected.

Depth to the saturated zone, ponding, settlement of the organic layers and high potential frost action limit the soils of this unit as a site for roads and streets. Construction on raised fill and replacing organic layers with coarse-grained mineral fill material are methods of overcoming these limitations.

Suitability for Recreation

Depth to the saturated zone or ponding and the high organic matter content limits the use of this unit for most recreational development.

The capability subclass is 5w.

ChA—Chenango gravelly silt loam, 0 to 3 percent slopes

This soil is nearly level, very deep, and somewhat excessively drained. Areas of this soil occupy terraces and outwash plains. Areas are irregular and range from about 5 to 15 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 10 inches, dark brown gravelly silt loam

Subsoil: 10 to 21 inches, yellowish brown very gravelly silt loam
21 to 25 inches, yellowish brown very gravelly sandy loam

Substratum: 25 to 72 inches, brown and dark yellowish brown very gravelly loamy sand and dark brown very gravelly loamy coarse sand

Included with this soil in mapping are spots of sandier Riverhead soils and spots of moderately well drained Deposit soils and poorly drained Raypol soils in slight depressions close to streams. Somewhat poorly drained soils are also included in depressional areas. Where streams cross this soil, strips of wetter soils are also common inclusions.

Included areas range up to 5 acres each and make up about 15 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderate to moderately rapid in surface and subsoil layers; rapid in the substratum
Average available water capacity: moderate
Soil reaction: very strongly acid or strongly acid in the surface layer and very strongly acid to moderately acid in the subsoil and strongly acid to slightly alkaline in the substratum
Surface runoff: slow
Depth to bedrock: more than 60 inches

Soil Use and Management

Most areas of this unit are cleared and used for farming, or community development, or mined for sand and gravel (fig. 8). Some areas are in woodland or are covered with brush. This soil is among the soils in the county best suited for food and fiber production.

Suitability for Farming

This soil is well suited for farming and can be cultivated intensively. The soil warms up quickly and can be worked early in the spring. Droughtiness limits the growth of most crops during dry periods of midsummer to late summer. Gravel and small stones may hinder some tillage operations and cause abnormal wear of machinery. Deep rooted crops and plants tolerant of some droughtiness are best adapted to this soil. Supplemental irrigation during dry periods may be needed to insure establishment of new seedlings or maintain productivity of crops not tolerant of droughtiness. This nearly level soil is well suited to irrigation.

This soil is well suited to pasture and can be grazed early in the spring. Overgrazing or grazing during dry periods is a concern for pasture management. Rotational grazing and proper stocking rates will help maintain better quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. There are few or no limitations to using this soil for growing trees. Planting early in the spring will reduce the hazard of summer droughtiness.

Suitability for Building Sites

This soil has few or no limitations as a site for dwellings with basements.

Figure 8.—Chenango and Tunkhannock soils are potential sources of sand and gravel.

The substratum in this soil has a poor filtering capacity for septic tank effluent and the rapid permeability can result in contamination of ground water.

Frost action is a limitation if this soil is used as a site for roads and streets. Using a coarser subgrade or base material can overcome this limitation.

Suitability for Recreation

Gravel content limits the use of this soil as a site for playgrounds. This soil has few limitations for most other recreational uses.

The capability subclass is 2s.

ChB—Chenango gravelly silt loam, 3 to 8 percent slopes

This soil is gently sloping, very deep, and somewhat excessively drained. Areas of this soil occupy terraces and outwash plains. Areas are irregular and range from about 5 to 15 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 10 inches, dark brown gravelly silt loam

Subsoil: 10 to 21 inches, yellowish brown very gravelly silt loam
21 to 25 inches, yellowish brown very gravelly sandy loam

Substratum: 25 to 72 inches, brown and dark yellowish brown very gravelly loamy sand and dark brown very gravelly loamy coarse sand

Included with this soil in mapping are spots of more sandy Riverhead soils and spots of moderately well drained Deposit soils and poorly drained Raypol soils in slight depressions near streams. Somewhat poorly soils are included in depressional areas. Where streams cross this soil, strips of wetter soils are also common inclusions. Included areas range up to 5 acres each and make up about 15 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderate to moderately rapid in the surface and subsoil layers; rapid in the substratum
Average available water capacity: moderate
Soil reaction: very strongly acid or strongly acid in the surface layer and very strongly acid to moderately acid in the subsoil and strongly acid to slightly alkaline in the substratum
Surface runoff: slow
Depth to bedrock: more than 60 inches

Soil Use and Management

Most areas of this soil are cleared and used for farming or community development, or are mined for sand and gravel. Some areas are in woodland or are covered with brush. This soil is among those soils in the county that are best suited for food and fiber production.

Suitability for Farming

This soil is well suited for farming and can be cultivated intensively. The soil warms up quickly and can be worked early in the spring. Droughtiness limits the growth of most crops during dry periods of midsummer to late summer. Gravel and small stones may hinder some tillage operations and cause abnormal wear of machinery. Deep rooted crops and plants tolerant of some droughtiness are best adapted to this soil.

Supplemental irrigation during dry periods may be needed to insure establishment of new seedlings or maintain productivity of crops not tolerant of droughtiness.

This soil is well suited to pasture and can be grazed early in the spring. Overgrazing or grazing during dry periods is a concern of pasture management. Rotational grazing and proper stocking rates will help maintain better quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. There are few or no limitations to using this soil for growing trees. Planting early in the spring will reduce the hazard of summer droughtiness.

Suitability for Building Sites

This soil has few or no limitations as a site for dwellings with basements.

The substratum in this soil has a poor filtering capacity for septic tank effluent and the rapid permeability can result in contamination of ground water.

Frost action is a limitation if this soil is used as a site for roads and streets. Using a coarser subgrade or base material can overcome this limitation.

Suitability for Recreation

Gravel content and slope limit the use of this soil as a site for playgrounds. There are few limitations for most other recreational uses.

The capability subclass is 2s.

ChC—Chenango gravelly silt loam, 8 to 15 percent slopes

This soil is strongly sloping, very deep, and somewhat excessively drained. Areas of this soil occupy the sides of terraces and lower valley sides. Areas are irregular and range from about 5 to 20 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 10 inches, dark brown gravelly silt loam

Subsoil: 10 to 21 inches, yellowish very brown gravelly silt loam
21 to 25 inches, yellowish brown very gravelly sandy loam

Substratum: 25 to 72 inches, brown and dark yellowish brown very gravelly loamy sand and dark brown very gravelly loamy coarse sand

Included with this soil in mapping are spots of more sandy Riverhead soils, less gravelly Valois soils, and spots of moderately well drained soils on gently sloping areas. Included areas range up to 5 acres each and make up about 15 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderate to moderately rapid in the surface and subsoil layers; rapid in the substratum
Average available water capacity: moderate
Soil reaction: very strongly acid or strongly acid in the surface layer, very strongly acid to moderately acid in the subsoil, and strongly acid to slightly alkaline in the substratum
Surface runoff: medium
Depth to bedrock: more than 60 inches

Soil Use and Management

Most areas of this soil are cleared and used for farming, for community development, or mined for sand and gravel. Some areas are in woodland or are covered with brush.

Suitability for Farming

This soil is moderately suited to cultivated crops and hay. Erosion is a hazard and slope can interfere with some farming operations. The soil warms up quickly and can be worked early in the spring. Droughtiness limits the growth of most crops during dry periods of midsummer to late summer. Gravel and small stones may hinder some tillage operations and cause abnormal wear of machinery. Deep rooted crops and plants tolerant of some droughtiness are best adapted to this soil. Supplemental irrigation during dry periods may be needed to insure establishment of new seedlings or maintain productivity of crops not tolerant of droughtiness. No-till or minimum tillage, stripcropping or contour farming, and the use of sod crops in rotation are practices important on this soil to limit or reduce the loss of soil and plant nutrients due to erosion.

This soil is well suited to pasture and can be grazed early in the spring. Overgrazing or grazing during dry periods is a concern of pasture management. Rotational grazing and proper stocking rates will help maintain better quantity and quality of forage and reduce the hazard of erosion.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. There are few or no limitations to using this soil for growing trees. Planting early in the spring will reduce the hazard of summer droughtiness.

Suitability for Building Sites

Slope limits the use of this soil as a site for dwellings with basements. Land shaping and designing structures to conform to the natural slope are practices that help overcome the slope limitation.

The substratum in this soil has a poor filtering capacity for septic tank effluent and the rapid permeability can result in contamination of ground water. Slope is a moderate limitation if this soil is used as a site for septic tank absorption fields. The slope limitation can be overcome by laying out tile lines on the contour.

Frost action and slope are limitations if this soil is used as a site for roads and streets. The use of a coarser subgrade or base material can overcome the limitation of frost heaving. Constructing roads and streets on the contour can minimize or overcome the slope limitation.

Suitability for Recreation

Slope and gravel content limits the use of this soil as a site for playgrounds. Slope is also a limitation for camp and picnic areas.

The capability subclass is 3e.

ChD—Chenango gravelly silt loam, 15 to 25 percent slopes

This soil is moderately steep, very deep, and somewhat excessively drained. Areas of this soil occupy the sides of terraces and lower valley sides. Areas are irregular in shape and range from about 5 to 20 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 10 inches, dark brown gravelly silt loam

Subsoil: 10 to 21 inches, yellowish brown very gravelly silt loam
21 to 25 inches, yellowish brown very gravelly sandy loam

Substratum: 25 to 72 inches, brown and dark yellowish brown very gravelly loamy sand and dark brown very gravelly loamy coarse sand

Included with this soil in mapping are spots of more sandy Riverhead soils, less gravelly Valois soils, and spots of moderately well drained soils on strongly sloping areas. Included areas range up to 5 acres each and make up about 15 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderate to moderately rapid in surface and subsoil layers; rapid in the substratum
Average available water capacity: moderate
Soil reaction: very strongly acid or strongly acid in the surface layer; very strongly acid to moderately acid in the subsoil; and strongly acid to slightly alkaline in the substratum
Surface runoff: rapid
Depth to bedrock: more than 60 inches

Soil Use and Management

Some areas of this soil are cleared and used for farming, for community development, or are mined for sand and gravel. Other areas are in woodland or are covered with brush.

Suitability for Farming

This soil is poorly suited to cultivated crops. Erosion is a hazard and the moderately steep slope interferes with most farming operations. The soil warms up quickly and can be worked early in the spring. Droughtiness limits the growth of most crops during dry periods of midsummer to late summer. Gravel and small stones also hinder some tillage operations and cause abnormal wear of machinery. Deep rooted crops and plants tolerant of some droughtiness are best adapted to this soil. Supplemental irrigation during dry periods may be needed to insure establishment of new seedlings or maintain productivity of crops not tolerant of droughtiness. No-till or minimum tillage, stripcropping or contour farming, and the use of a high proportion of sod crops in rotation are practices important on this soil to limit or reduce the loss of soil and plant nutrients due to erosion.

This soil is moderately suited to pasture and can be grazed early in the spring. Overgrazing or grazing during dry periods is a concern of pasture management. Rotational grazing and proper stocking rates will help maintain better quantity and quality of forage and reduce the hazard of erosion.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. Establishing access roads on the contour will reduce the hazard of erosion. Planting early in the spring will reduce the hazard of summer droughtiness. Slope limits the use of equipment on this soil.

Suitability for Building Sites

Slope limits the use of this soil as a site for dwellings with basements. Land shaping and designing structures to conform to the natural slope are practices that help overcome the slope limitation.

The substratum in this soil has a poor filtering capacity for septic tank effluent and the rapid permeability can result in contamination of ground water. Slope also limits this soil for septic tank absorption fields. Special design, laying out tile lines on the contour, and selecting a flatter included area can overcome the slope limitation.

Frost action and slope are limitations if this soil is used as a site for roads and streets. The use of a coarser subgrade or base material can overcome the limitation of frost action. Constructing roads and streets on the contour can minimize or overcome the slope limitation.

Suitability for Recreation

Slope and gravel content limit the use of this soil as a site for playgrounds. Slope limits the use of this soil as a site for most other recreational uses.

The capability subclass is 4e.

ChE—Chenango gravelly silt loam, 25 to 50 percent slopes

This soil is very steep, very deep, and somewhat excessively drained. Areas of this soil occupy the sides of terraces and lower valley sides. Areas are irregular in shape and range from about 5 to 20 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 10 inches, dark brown gravelly silt loam

Subsoil: 10 to 21 inches, yellowish brown very gravelly silt loam
21 to 25 inches, yellowish brown very gravelly sandy loam

Substratum: 25 to 72 inches, brown and dark yellowish brown very gravelly loamy sand and dark brown very gravelly loamy coarse sand

Included with this soil in mapping are spots of more sandy Riverhead soils, less gravelly Valois soils, and spots of moderately well drained soils on strongly sloping areas. Included areas range up to 5 acres each. Soils that have limitations different from those of the Chenango soil make up about 15 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderate to moderately rapid in surface and subsoil layers; rapid in the substratum
Average available water capacity: moderate
Soil reaction: very strongly acid or strongly acid in the surface layer; very strongly acid to moderately acid in the subsoil; and strongly acid to slightly alkaline in the substratum
Surface runoff: very rapid
Depth to bedrock: more than 60 inches

Soil Use and Management

Some areas of this soil are used for pasture, or are mined for sand and gravel. Other areas are in woodland or are covered with brush.

Suitability for Farming

This soil is generally unsuited to cultivated crops. Erosion is a severe hazard. The steep slope limits most farming operations and makes operating equipment extremely difficult and hazardous. Droughtiness limits the growth of most plants during dry periods of midsummer to late summer.

This soil is poorly suited to pasture, but can provide some limited pasture, especially early in the spring. Controlling stocking rates and preventing overgrazing will help maintain better sod cover and reduce the hazard of severe erosion. The steep slope limits the operation of farm machinery and makes pasture maintenance very difficult.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. Establishing access roads on the contour will reduce the hazard of erosion. Planting early in the spring will reduce the hazard of summer droughtiness. Slope limits the use of equipment on this soil.

Suitability for Building Sites

Slope limits the use of this soil as a site for dwellings with basements. Extensive land shaping and designing structures to conform to the natural slope are practices that help overcome the slope limitation.

The substratum in this soil has a poor filtering capacity for septic tank effluent and the rapid permeability can result in contamination of ground water. Slope also limits this soil for septic tank absorption fields. Special design, laying out tile lines on the contour, and selecting a flatter included area can overcome the limitation due to slope.

Frost action and slope are moderate limitations if this soil is used as a site for roads and streets. The use of a coarser subgrade or base material can help overcome the limitation of frost action. Constructing roads and streets on the contour and designing the road to conform to the natural slope of the land can minimize or overcome the slope limitation.

Suitability for Recreation

Slope and gravel content limit the use of this soil as a site for playgrounds. Slope limits the use of this soil as a site for most other recreational uses.

The capability subclass is 6e.

CoB—Collamer silt loam, 3 to 8 percent slopes

This gently sloping, very deep, and moderately well drained soil is on terraces or parts of old Lake Plains in valleys. Soil areas are elongated or irregular in shape and range from about 5 to 20 acres.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 7 inches, brown silt loam

Subsoil: 7 to 14 inches, brown and light brown silt loam

14 to 21 inches, reddish brown silty clay loam with strong brown and gray mottles

21 to 26 inches, reddish brown silty clay loam and pale brown silt loam with light brownish gray mottles

Substratum: 26 to 72 inches, reddish brown silty clay loam and brown silt loam

Included with this soil in mapping are spots of gravelly or sandy Chenango or Tunkhannock soils along valley sides or on slightly higher parts of the landscape. Channery Wellsboro soils that have firmer subsoil are common inclusions. Steeper, well drained soils are also included. Somewhat poorly drained soils are included in slight depressions. Included areas are as much as 5 acres each. Soils that have interpretations different from those of the Collamer soil make up about 15 percent of the unit.

Soil Properties

Water table: at a depth of 1.2 to 1.8 feet from March to May

Permeability: moderate in surface and upper subsoil layers, moderately slow in the lower subsoil and substratum

Average available water capacity: high

Soil reaction: moderately acid to neutral in the surface and subsoil layers and slightly acid to neutral in the substratum

Surface runoff: slow
Depth to bedrock: more than 60 inches

Soil Use and Management

Some areas of this soil are cleared and used for farming or community development. Other areas are forested or have a cover of brush or other native vegetation. This soil is among those soils in the county best suited to the production of food or fiber.

Suitability for Farming

This soil is well suited for farming and can be cultivated intensively. It is easy to cultivate and is well suited to field or truck crops common to the area. Seasonal wetness may delay fieldwork in the spring. Drainage of wet spots and diversions to keep runoff from higher areas off of this soil will allow more timely cultivation. Erosion is a hazard on longer slopes or intensively cultivated areas. The use of cover crops, minimum tillage, and incorporating crop residues into the soil will help to maintain good tilth and reduce surface crusting.

This soil is well suited to pasture. Controlling stocking rates and limiting grazing during wet periods will reduce surface compaction and help to maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone is a limitation if this soil is used as a site for dwellings with basements. Installing foundation drains, sealing foundations, and constructing diversions so that water moves away from the building will help to overcome the depth to the saturated zone limitation.

Depth to the saturated zone and restricted permeability in the subsoil limit this soil as a site for septic tank absorption fields. Special designs such as enlarging the absorption field and installing a drainage system around the field will help overcome these limitations.

High potential frost action and depth to the saturated zone limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse-grained subgrade or base material to frost depth will help prevent frost damage and overcome the limitation due to the depth to the saturated zone.

Suitability for Recreation

Depth to the saturated zone and slope are limitations if this soil is used as a site for playgrounds. Depth to the saturated zone can also limit this soil as a site for most other recreational uses.

The capability subclass is 2e.

CoC—Collamer silt loam, 8 to 15 percent slopes

This strongly sloping, very deep, and moderately well drained soil is on the sides of terraces or parts of old lake plains in valleys. Soil areas are elongated or irregular in shape and range from about 5 to 20 acres.

The typical sequence, depth, and composition of the layers of this soil are—
Surface layer: surface to 7 inches, brown silt loam

Subsoil: 7 to 14 inches, brown and light brown silt loam
14 to 21 inches, reddish brown silty clay loam with strong brown and gray mottles

21 to 26 inches, reddish brown silty clay loam and pale brown silt loam with light brownish gray mottles

Substratum: 26 to 72 inches, reddish brown silty clay loam and brown silt loam

Included with this soil in mapping are spots of gravelly or sandy Chenango, or Riverhead soils or silty Unadilla soils along valley sides or on slightly higher parts of the landscape. Soils that have a firm subsoil are common inclusions. Moderately steep silty or clayey soils are also included. Somewhat poorly drained soils are included in flatter areas. Included areas are as much as 5 acres each. Soils that have interpretations different from those of the Collamer soil make up about 15 percent of the unit.

Soil Properties

Water table: at a depth of 1.2 to 1.8 feet during March to May
Permeability: moderate in surface and upper subsoil layers, moderately slow in the lower subsoil and substratum
Average available water capacity: high
Soil reaction: moderately acid to neutral in the surface and subsoil layers and slightly acid to neutral in the substratum
Surface runoff: medium
Depth to bedrock: more than 60 inches

Soil Use and Management

Some areas of this soil are cleared and used for farming or community development. Other areas are forested or have a cover of brush or other native vegetation.

Suitability for Farming

This soil is moderately suited for farming but slope and the hazard of erosion limit intensive cultivation. This soil is easy to cultivate and is suited to most crops common to the area. Seasonal wetness may delay fieldwork in the spring. Diversions to keep runoff from higher areas off of this soil will allow more timely cultivation and help control erosion. Erosion is a hazard whenever the vegetative cover is disturbed. The using cover crops, minimizing tillage, increasing the use of sod crops in rotation, and incorporating crop residues into the soil will all help to maintain good tilth, reduce the hazard of erosion, and reduce surface crusting.

This soil is well suited to pasture. Controlling stocking rates and limiting grazing during wet periods will reduce surface compaction and help to maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. Erosion is a limitation to using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone and slope limit this soil as a site for dwellings with basements. Installing foundation drains, sealing foundations, and constructing diversions so that water moves away from the building will help to overcome the depth to the saturated zone limitation. Designing buildings to conform to the natural slope and land shaping or grading will help to overcome the slope limitation and help to control erosion.

Depth to the saturated zone, restricted permeability in the subsoil, and slope limit this soil as a site for septic tank absorption fields. Special designs such as enlarging the absorption field and installing a drainage system that conforms to the slope will help overcome these limitations.

Frost action, depth to the saturated zone, and slope are limitations if this soil is used as a site for roads and streets. Installing a drainage system and providing a coarse-grained subgrade or base material to frost depth will help prevent frost damage and overcome the limitation due to depth to the saturated zone. Constructing roads on the contour and land shaping or grading are methods that help overcome the slope limitation and help reduce the hazard of erosion.

Suitability for Recreation

Depth to the saturated zone and slope can limit this soil as a site for most recreational uses.

The capability subclass is 3e.

De—Deposit gravelly silt loam

This soil is nearly level, very deep, and moderately well drained. Areas of this soil are on low terraces in valleys or on flat parts of alluvial fans. This soil is subject to flooding during periods of very high rainfall or rapid snowmelt. Areas are irregular or elongated in shape and range from about 5 to 15 acres. Slope is 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 12 inches, dark brown gravelly silt loam

Subsoil: 12 to 18 inches, brown gravelly very fine sandy loam with brown and strong brown mottles

18 to 24 inches, dark brown very gravelly fine sandy loam with brown mottles

Substratum: 24 to 72 inches, brown very gravelly loamy sand and brown extremely gravelly loamy sand with strong brown mottles

Included with this soil in mapping are spots of well drained Chenango soils and sandier Riverhead soils. Spots of Raypol or other wetter soils are common inclusions in slight depressions. Fluvaquents-Udifluvents soils that are subject to frequent flooding are also common inclusions along streams. Included areas are as large as 5 acres each. Soils that have limitations different from those of the Deposit soil make up about 20 percent of the map unit.

Soil Properties

Seasonal water table: at a depth of 1.0 to 1.6 feet from mid-winter to early spring

Permeability: moderate to moderately rapid in the surface layer, moderately rapid in the subsoil, and rapid or very rapid in the substratum.

Average available water capacity: moderate

Soil reaction: unlimed, strongly acid to moderately acid in the surface and subsoil and strongly acid to slightly acid in the substratum

Surface runoff: slow

Depth to bedrock: more than 60 inches

Soil Use and Management

Most areas of this soil are cleared and used for farming. A few areas are wooded or have a cover of brush or other native plants. This soil is among the soils in the county best suited for food and fiber production.

Suitability for Farming

This soil is well suited for farming and can be cultivated intensively. Seasonal wetness may hinder farming operations in the early spring. Gravel and small stones may also hinder some tillage operations. Droughtiness is a concern during midsummer or late summer and supplemental irrigation during dry periods may be needed to maintain maximum crop growth. This nearly level soil is well suited to irrigation.

This soil is well suited to pasture but grazing in the early spring will cause soil compaction and loss of desirable forage plants. Overgrazing during dry periods is also a concern of pasture management.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. There are few or no limitations to using this soil for growing trees.

Suitability for Building Sites

Flooding and depth to the saturated zone are limitations of this soil as a site for dwellings with basements. Locating the site on an adjacent higher area, or building on raised fill material will help overcome the limitation due to flooding. Methods of overcoming the depth to the saturated zone limitation include the installing footing drains and sealing the foundation.

Depth to the saturated zone and poor filtering capacity in the substratum are limitations if this soil is used as a site for septic tank absorption fields. There is a hazard of possible contamination of ground water. Flooding is also a limitation for septic tank absorption fields. Selecting a more suitable included or nearby soil will avoid these limitations.

Frost action and depth to the saturated zone limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse-grained subgrade or base material to frost depth will help prevent frost damage and overcome these limitations.

Suitability for Recreation

Gravel content and depth to the saturated zone limit the use of this soil for playgrounds. Flooding and depth to the saturated zone limit the use of this soil for camp areas. Depth to the saturated zone limits this soil for most other recreational uses.

The capability subclass is 2w.

EdC—Elka channery silt loam, 8 to 15 percent slopes

This soil is strongly sloping, very deep, and well drained. Areas of this soil are found on strongly sloping hillsides in the uplands above elevations of 1,750 feet where the growing season is several weeks shorter than in major valleys. Areas are oval or irregular in shape and range from about 5 to 25 acres.

The typical depth and composition of the layers of the Elka soil are as follows—
Surface layers: 0 to 1 inch, black moderately decomposed plant material
1 to 6 inches; dark reddish brown channery silt loam

Upper subsoil: 6 to 36 inches; reddish brown channery silt loam and very channery loam

Lower subsoil: 36 to 55 inches; reddish brown very channery silt loam

Substratum: 55 to 72 inches; reddish brown very channery loam

Included with this unit in mapping are spots of moderately deep Vly soils, especially on higher parts of the landscape. Small spots of moderately well drained, moderately deep Middlebrook soils are included in flatter areas. The very deep Lewbeach soils are common inclusions along with a well drained soil that is 40 to 60 inches deep to bedrock. Also included in mapping are a few stony or bouldery spots. Included areas range up to 5 acres each. Soils with limitations different from the Elka soils make up about 20 percent of the unit.

Soil Properties

Water table: below 6 feet
Permeability: moderate throughout the profile
Average available water capacity: high
Soil reaction: very strongly acid to moderately acid throughout the profile
Surface runoff: slow to medium
Depth to bedrock: greater than 60 inches

Soil Use and Management

Areas of this soil are used for pasture and hay. A few areas are forested or have a cover of brush or other native vegetation.

Suitability for Farming

This soil is moderately suited to farming but slope may interfere with equipment operations. Erosion is a hazard. The growing season is several weeks shorter than it is for lower valley areas. Early maturing crops are best adapted to this soil. Using sod and cover crops in rotation and incorporating crop residues into the soil will help improve the available water holding capacity and help control erosion. Other practices such as no-till or minimum tillage, and strip cropping or contour farming are also important measures in controlling erosion and maintaining productivity of this soil.

This soil is well suited for pasture. Applying proper stocking rates and preventing overgrazing, especially during dry periods, are practices that will help maintain more desirable forage plants and prevent erosion.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. There are few or no limitations to using this soil for wood production.

Suitability for Building Sites

Slope limits this soil as a site for dwellings with basements and septic tank absorption fields. Selecting a flatter part of the map unit is a way to overcome the limitation of slope for dwellings with basements and septic tank absorption fields.

Slope and frost action are limitations for roads and streets. Adapting designs to the slope, constructing roads and streets on the contour, and land shaping and grading can help overcome the limitations due to slope and reduce the hazard of erosion. Using a coarse-grained subgrade or base material during road construction can minimize frost damage.

Suitability for Recreation

Slope limits the use of this soil for most recreational uses.

The capability subclass is 3e.

EdD—Elka channery silt loam, 15 to 25 percent slopes

This soil is moderately steep, very deep, and well drained. Areas of this soil are found on smooth hillsides in the uplands above elevations of 1,750 feet where the growing season is several weeks shorter than in major valleys. Areas are oval or irregular in shape and range from about 5 to 35 acres.

The typical depth and composition of the layers of the Elka soil are as follows—
Surface layer: 0 to 1 inch, black moderately decomposed plant material
1 to 6 inches, dark reddish brown channery silt loam

Upper subsoil: 6 to 36 inches; reddish brown channery silt loam and very channery loam

Lower subsoil: 36 to 55 inches; reddish brown very channery silt loam

Substratum: 55 to 72 inches; reddish brown very channery loam

Included with this unit in mapping are spots of moderately deep Vly soils, especially on higher parts of the landscape. Small spots of moderately well drained, moderately deep Middlebrook soils are included in flatter areas. The very deep Lewbeach soils are common inclusions along with a well drained soil that is 40 to 60 inches deep to bedrock. Also included in mapping are a few stony or bouldery spots. Included areas range up to 5 acres each. Soils with limitations different from the Elka soils make up about 20 percent of the unit.

Soil Properties

Water table: below 6 feet
Permeability: moderate throughout the profile
Average available water capacity: high
Soil reaction: very strongly acid to moderately acid throughout the profile
Surface runoff: rapid
Depth to bedrock: greater than 60 inches

Soil Use and Management

Areas of this soil are used for pasture and hay or are forested or have a cover of brush or other native vegetation.

Suitability for Farming

This soil is poorly suited to cultivated crops. Slope interferes with equipment operations. Erosion is a significant hazard. The growing season is several weeks shorter than it is for lower valley areas. Early maturing crops are best adapted to this soil. Using more sod and cover crops in rotation and incorporating crop residues into the soil will help improve the available water holding capacity and also control erosion. Other practices such as no-till or minimum tillage, and strip cropping or contour farming are also important measures in controlling erosion and maintaining productivity of this soil.

This soil is moderately suited for pasture but slope hinders maintenance operations. Applying proper stocking rates and preventing overgrazing, especially during dry periods, are practices that will help maintain more desirable forage plants and prevent erosion.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. There are few or no limitations to using this soil for wood production.

Suitability for Building Sites

Slope limits this soil as a site for septic tank absorption fields and dwellings with basements. Selecting a flatter part of the map unit is a way to overcome the limitation of slope for septic tank absorption fields and dwellings with basements. Slope and frost action are limitations for roads and streets. Adapting road designs to the slope, constructing roads and streets on the contour, land shaping and grading, and using a coarse-grained subgrade or base material can help overcome the limitations due to slope and frost action and also reduce the hazard of erosion.

Suitability for Recreation

Slope can limit the use of this soil for most recreational purposes.

The capability subclass is 4e.

EdE—Elka channery silt loam, 25 to 35 percent slopes

This soil is steep, very deep, and well drained. Areas of this soil are found on smooth hillsides in the uplands above elevations of 1750 feet where the growing season is several weeks shorter than in major valleys. Areas are oval or irregular and range from about 5 to 35 acres.

The typical depth and composition of the layers of the Elka soil are as follows—
Surface layers: 0 to 1 inch, black moderately decomposed plant material
1 to 6 inches, dark reddish brown channery silt loam

Upper subsoil: 6 to 36 inches; reddish brown channery silt loam and very channery loam

Lower subsoil: 36 to 55 inches; reddish brown very channery silt loam

Substratum: 55 to 72 inches; reddish brown very channery loam

Included with this unit in mapping are spots of moderately deep Vly soils, especially on higher parts of the landscape. Small spots of moderately well drained, moderately deep Middlebrook soils are included in flatter areas. The very deep Lewbeach soils are common inclusions along with a well drained soil that is 40 to 60 inches deep to bedrock. Also included in mapping are a few stony or bouldery spots. Included areas range up to 5 acres each. Soils with limitations different from the Elka soils make up about 20 percent of the unit.

Soil Properties

Water table: below 6 feet
Permeability: moderate throughout the profile
Average available water capacity: high
Soil reaction: very strongly acid to moderately acid throughout the profile
Surface runoff: rapid
Depth to bedrock: greater than 60 inches

Soil Use and Management

Areas of this soil are used for pasture and hay or are forested or have a cover of brush or other native vegetation.

Suitability for Farming

This soil is generally unsuited to cultivation. Slope makes the operation of equipment difficult and hazardous. Erosion is a significant hazard. The growing season is several weeks shorter than it is for lower valley areas.

This soil is poorly suited to pasture. Slope makes pasture management difficult. Applying proper stocking rates and preventing overgrazing, especially during dry periods, are practices that will help maintain more desirable forage plants and prevent erosion.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. Slope limits the use of equipment. Laying out access roads on the contour will reduce the hazard of erosion.

Suitability for Building Sites

Slope limits this soil as a site for dwellings with basements and for septic tank absorption fields. Selecting a flatter part of the map unit is a way to overcome the limitation of slope for dwellings with basements and for septic tank absorption fields. Slope and frost action limit the use of this soil for roads and streets. Adapting designs to the slope, constructing roads and streets on the contour, extensive land shaping and grading and using a coarse-grained subgrade or base material can help overcome the limitations due to slope and frost action and also reduce the hazard of erosion.

Suitability for Recreation

Slope limits the use of this soil for most recreational purposes.

The capability subclass is 6e.

EkC—Elka-Vly channery silt loams, 5 to 15 percent slopes

This unit consists of very deep, well drained Elka soils, and moderately deep, somewhat excessively drained Vly soils. Areas of this unit are found on gently to strongly sloping hillsides in the uplands above 1,750 feet elevation where the growing season is several weeks shorter than in major valleys. The unit consists of about 40 percent Elka soils, 35 percent Vly soils, and 25 percent inclusions of other soils. These soils are mapped together because they occur in such an intricate pattern that they cannot be separated at the mapping scale. Slopes range from 5 to 15 percent. Areas are oval or irregular in shape and range in size from 5 to 25 acres.

The typical depth and composition of the layers of the Elka soil are as follows—

Surface layers: 0 to 1 inch, black moderately decomposed plant material
1 to 6 inches; dark reddish brown channery silt loam

Upper subsoil: 6 to 36 inches; reddish brown channery silt loam and very channery loam

Lower subsoil: 36 to 55 inches; reddish brown very channery silt loam

Substratum: 55 to 72 inches; reddish brown very channery loam

The typical sequence, depth, and composition of the layers of the Vly soil are as follows—

Surface layer: surface to 6 inches; dark reddish brown channery silt loam

Upper subsoil: 6 to 18 inches; dark reddish brown very channery silt loam

Lower subsoil: 18 to 24 inches; dark reddish brown very channery silt loam

Substratum: 24 to 31 inches; dark reddish brown extremely channery silt loam

Bedrock: 31 inches; reddish brown shale

Included with this unit in mapping are spots of the shallow Halcott soils, especially on higher parts of the landscape. Small spots of the moderately well drained, moderately deep Middlebrook soils are included in flatter areas. The very deep Lewbeach soils may be included on adjacent smooth slopes, along with a well drained soil that is 40 to 60 inches to bedrock. Also included in mapping are a few stony or bouldery spots. Included areas range up to 5 acres each. Soils with limitations different from the Elka or Vly soils make up about 25 percent of the unit.

Soil Properties of the Elka soil

Water table: below 6 feet
Permeability: moderate throughout the profile
Average available water capacity: high
Soil reaction: very strongly acid to moderately acid throughout the profile
Surface runoff: slow to medium
Depth to bedrock: greater than 60 inches

Soil Properties of the Vly soil

Water table: below 6 feet

Permeability: moderate throughout the profile
Average available water capacity: low
Soil reaction: very strongly acid or strongly acid in the surface and subsoil layers
Surface runoff: slow to medium
Depth to bedrock: 20 to 40 inches

Soil Use and Management

Areas of this unit are used for pasture and hay. A few areas are forested or have a cover of brush or other native vegetation.

Suitability for Farming

This unit is moderately suited to cultivated crops but slope and small stones may interfere with tillage operations. Erosion is a hazard. The growing season is several weeks shorter than it is for valley areas. Droughtiness, especially on the Vly soils of this unit, limits the growth of most crops during dry periods of mid to late summer. Early maturing crops or plant varieties tolerant of some droughtiness are best adapted to this soil. Using sod and cover crops in a rotation and incorporating crop residues into the soil will help improve the available water holding capacity and help control erosion. Other practices such as no-till or minimum tillage and strip cropping or contour farming are also important measures in controlling erosion and maintaining productivity of the soils of this unit.

This unit is well suited for pasture but droughtiness, especially during mid to late summer, limits forage production. Plants tolerant of some moisture stress are best adapted to this unit. Proper stocking rates and preventing overgrazing, especially during dry periods, are practices that will help maintain more desirable forage plants and prevent erosion.

Suitability for Trees

The potential productivity of the soils of this unit for sugar maple is moderate. Droughtiness is a hazard for young seedlings, but early planting can help overcome this limitation.

Suitability for Building Sites

Slope and the moderate depth to bedrock in places limits this unit as a site for dwellings with basements and septic tank absorption fields. Selecting a flatter and/or deeper Elka part of the unit is a way to overcome the limitation of slope and moderate depth to bedrock for dwellings with basements and septic tank absorption fields.

Slope, frost action, and the moderate depth to bedrock are limitations for roads and streets. Adapting road designs to the slope, constructing roads and streets on the contour, land shaping and grading, and using a coarse-grained subgrade or base material can help overcome the limitations due to slope and frost action, as well as reduce the hazard of erosion. Selecting the deeper Elka part of the unit will help overcome limitations due to the moderate depth to bedrock.

Suitability for Recreation

Gravel content and slope can limit the soils of this unit for most other recreational uses.

The capability subclass is 3e.

EkD—Elka-Vly channery silt loams, 15 to 25 percent slopes

This unit consists of very deep, well drained Elka soils, and moderately deep, somewhat excessively drained Vly soils. Areas of this unit are found on moderately steep hillsides in the uplands above 1,750 feet elevation where the growing season is several weeks shorter than in major valleys. The unit consists of about 40 percent Elka soils, 35 percent Vly soils, and 25 percent inclusions of other soils. These soils are mapped together because they occur in such an intricate pattern that they cannot be separated at the mapping scale. Slopes range from 15 to 25 percent. Areas are oval or irregular in shape and range in size from 5 to 25 acres.

The typical depth and composition of the layers of the Elka soil are as follows—
Surface layers: 0 to 1 inches; black moderately decomposed plant material
1 to 6 inches; dark reddish brown channery silt loam

Upper subsoil: 6 to 36 inches; reddish brown channery silt loam and very channery loam

Lower subsoil: 36 to 55 inches; reddish brown very channery silt loam

Substratum: 55 to 72 inches; reddish brown very channery loam

The typical sequence, depth, and composition of the layers of the Vly soil are as follows—
Surface layer: surface to 6 inches; dark reddish brown channery silt loam

Upper subsoil: 6 to 18 inches; dark reddish brown very channery silt loam

Lower subsoil: 18 to 24 inches; dark reddish brown very channery silt loam

Substratum: 24 to 31 inches; dark reddish brown extremely channery silt loam

Bedrock: 31 inches; reddish brown shale

Included with this unit in mapping are spots of the shallow Halcott soils, especially on higher parts of the landscape. Small spots of the moderately well drained, moderately deep Middlebrook soils are included in flatter areas. The very deep Lewbeach soils may be included on adjacent smooth slopes, along with a well drained soil that is 40 to 60 inches to bedrock. Also included in mapping are a few stony or bouldery spots. Included areas range up to 5 acres each. Soils with limitations different from the Elka or Vly soils make up about 25 percent of the unit.

Soil Properties of the Elka soil

Water table: below 6 feet
Permeability: moderate throughout the profile
Average available water capacity: high
Soil reaction: very strongly acid to moderately acid throughout the profile
Surface runoff: rapid
Depth to bedrock: greater than 60 inches

Soil Properties of the Vly soil

Water table: below 6 feet
Permeability: moderate throughout the profile
Average available water capacity: Low
Soil reaction: very strongly acid or strongly acid in the surface and subsoil layers
Surface runoff: rapid
Depth to bedrock: 20 to 40 inches

Soil Use and Management

Areas of this unit are used for pasture and hay. A few areas are forested or have a cover of brush or other native vegetation.

Suitability for Farming

This unit is poorly suited to cultivated crops. Slope interferes with tillage operations.

Erosion is a hazard whenever surface cover is disturbed. The growing season is several weeks shorter than it is for valley areas. Droughtiness, especially on the Vly soils of this unit, limits the growth of most crops during dry periods of mid to late summer. Early maturing crops or plant varieties tolerant of some droughtiness are best adapted to this soil. Using more sod and cover crops in a rotation and incorporating crop residues into the soil will help improve the available water holding capacity and help control erosion. Other practices such as no-till or minimum tillage, and strip cropping or contour farming are also important measures in controlling erosion and maintaining productivity of the soils of this unit.

This unit is moderately suited for pasture but droughtiness, especially during mid to late summer, limits forage production. Slope hinders pasture maintenance operations. Plants tolerant of some moisture stress are best adapted to this unit. Proper stocking rates and preventing overgrazing, especially during dry periods, are practices that will help maintain more desirable forage plants and prevent erosion.

Suitability for Trees

The potential productivity of the soils of this unit for sugar maple is moderate. Droughtiness is a hazard for young seedlings, but early planting can help overcome this limitation.

Suitability for Building Sites

Slope and the moderate depth to bedrock in places limits this unit as a site for dwellings with basements and septic tank absorption fields. Selecting a flatter and/or deeper Elka part of the unit is a way to overcome the limitation of slope and moderate depth to bedrock for dwellings with basements and septic tank absorption fields.

Slope, frost action and the moderate depth to bedrock are limitations for roads and streets. Adapting designs to the slope, constructing roads and streets on the contour, land shaping and grading, and using a coarse-grained subgrade or base material can help overcome the limitations due to slope and frost action, as well as reduce the hazard of erosion. Selecting the deeper Elka part of the unit can overcome limitations due to moderate depth to bedrock.

Suitability for Recreation

Slope, or slope and gravel content limit the soils of this unit for most recreational uses.

The capability subclass is 4e.

ElC—Elka-Vly channery silt loams, 3 to 15 percent slopes, very stony

This unit consists of very deep, well drained Elka soils, and moderately deep, somewhat excessively drained Vly soils. Areas of this unit are found on gently to strongly sloping hillsides in the uplands above 1,750 feet elevation where the growing season is several weeks shorter than in major valleys. Large stones cover 0.1 to 3.0 percent of the surface and are about 3 to 25 feet apart. The unit consists of about 40 percent Elka soils, 35 percent Vly soils, and 25 percent inclusions of other soils. These soils are mapped together because they occur in such an intricate pattern that they cannot be separated at the mapping scale. Slopes range from 3 to 15 percent. Areas are long and narrow or irregular in shape and range in size from 5 to 40 acres.

The typical depth and composition of the layers of the Elka soil are as follows—
Surface layers: surface to 1 inches; black moderately decomposed plant material
1 to 6 inches; dark reddish brown channery silt loam

Upper subsoil: 6 to 36 inches; reddish brown channery silt loam and very channery loam

Lower subsoil: 36 to 55 inches; reddish brown very channery silt loam

Substratum: 55 to 72 inches; reddish brown very channery loam

The typical sequence, depth, and composition of the layers of the Vly soil are as follows—

Surface layer: surface to 6 inches; dark reddish brown channery silt loam

Upper subsoil: 6 to 18 inches; dark reddish brown very channery silt loam

Lower subsoil: 18 to 24 inches; dark reddish brown very channery silt loam

Substratum: 24 to 31 inches; dark reddish brown extremely channery silt loam

Bedrock: 31 inches; reddish brown shale bedrock

Included with this unit in mapping are spots of the shallow Halcott soils, especially on higher parts of the landscape. Small spots of the moderately well drained, moderately deep Middlebrook soils are included in flatter areas. The very deep Lewbeach soils may be included on adjacent smooth slopes, along with a well drained soil that is 40 to 60 inches to bedrock. Also included in mapping are stony, bouldery and very bouldery spots. Included areas range up to 5 acres each. Soils with limitations different from the Elka or Vly soils make up about 25 percent of the unit.

Soil Properties of the Elka soil

Water table: below 6 feet
Permeability: moderate throughout the profile
Average available water capacity: high
Soil reaction: very strongly acid to moderately acid throughout the profile
Surface runoff: slow to medium
Depth to bedrock: greater than 60 inches

Soil Properties of the Vly soil

Water table: below 6 feet
Permeability: moderate throughout the profile
Average available water capacity: Low
Soil reaction: very strongly acid or strongly acid in the surface and subsoil layers
Surface runoff: slow to medium
Depth to bedrock: 20 to 40 inches

Soil Use and Management

A few areas of this unit are used for pasture. Most areas are forested or have a cover of brush or other native vegetation.

Suitability for Farming

The soils of this unit are generally unsuited to cultivated crops or hay. Large surface stones severely limit equipment operation. This unit is poorly suited to pasture. Large stones make pasture management extremely difficult. Proper stocking rates will help avoid overgrazing, reduce the erosion hazard, and maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity of the soils of this unit for sugar maple is moderate. There are slight equipment limitations for wood production due to excessive surface stones. Droughtiness is a hazard for young seedlings, but early planting can help overcome this limitation.

Suitability for Building Sites

Slope and the moderate depth to bedrock in places limits this unit as a site for dwellings with basements and septic tank absorption fields. Selecting a flatter and/or deeper Elka part of the unit is a way to overcome the slope limitation and the moderate depth to bedrock.

Slope, frost action, and the moderate depth to bedrock are limitations for roads and streets. Adapting road designs to the slope, constructing roads and streets on the contour, and land shaping and grading can help overcome the limitations due to slope and reduce the hazard of erosion. Constructing roads using a coarse-grained subgrade or base material can prevent frost damage. Selecting the deeper Elka part of the unit can overcome limitations due to the moderate depth to bedrock.

Suitability for Recreation

Excessive surface stones and slope can limit the soils of this unit for most recreational uses.

The capability subclass is 6s.

ElE—Elka-Vly channery silt loams, 15 to 35 percent slopes, very stony

This unit consists of very deep, well drained Elka soils, and moderately deep, somewhat excessively drained to well drained Vly soils. Areas of this unit are found on moderately steep to steep hillsides in the uplands above 1,750 feet elevation. Large stones cover 0.1 to 3.0 percent of the surface and are about 3 to 25 feet apart. The unit consists of about 40 percent Elka soils, 35 percent Vly soils, and 25 percent inclusions of other soils. These soils are mapped together because they occur in such an intricate pattern that they cannot be separated at the mapping scale. Slopes range from 15 to 35 percent. Areas are long and narrow or irregular in shape and range in size from 5 to 60 acres.

The typical depth and composition of the layers of the Elka soil are as follows—
Surface layers: surface to 1 inch; black moderately decomposed plant material
1 to 6 inches; dark reddish brown channery silt loam

Upper subsoil: 6 to 36 inches; reddish brown channery silt loam and very channery loam

Lower subsoil: 36 to 55 inches; reddish brown very channery silt loam

Substratum: 55 to 72 inches; reddish brown very channery loam

The typical sequence, depth, and composition of the layers of the Vly soil are as follows—
Surface layer: surface to 6 inches; dark reddish brown channery silt loam

Upper subsoil: 6 to 18 inches; dark reddish brown very channery silt loam

Lower subsoil: 18 to 24 inches; dark reddish brown very channery silt loam

Substratum: 24 to 31 inches; dark reddish brown extremely channery silt loam

Bedrock: 31 inches; reddish brown shale bedrock

Included with this unit in mapping are spots of the shallow Halcott soils, especially on higher parts of the landscape. Small spots of the moderately well drained, moderately deep Middlebrook soils are included in gently sloping areas. The very deep Lewbeach soils may be included on adjacent smooth slopes, along with a well drained soil that is 40 to 60 inches to bedrock. Also included in mapping are stony, bouldery, and very bouldery spots. Included areas range up to 5 acres each. Soils with limitations different from the Elka or Vly soils make up about 25 percent of the unit.

Soil Properties of the Elka soil

Water table: below 6 feet
Permeability: moderate throughout the profile
Average available water capacity: high
Soil reaction: very strongly acid to moderately acid throughout the profile
Surface runoff: rapid to very rapid
Depth to bedrock: greater than 60 inches

Soil Properties of the Vly soil

Water table: below 6 feet
Permeability: moderate throughout the profile
Average available water capacity: Low
Soil reaction: very strongly acid or strongly acid in the surface and subsoil layers
Surface runoff: rapid to very rapid
Depth to bedrock: 20 to 40 inches

Soil Use and Management

A few areas of this unit are used for limited pasture. Most areas are forested or have a cover of brush or other native vegetation.

Suitability for Farming

The soils of this unit are unsuited to cultivation. Steep slopes and the many large stones, which cover the surface severely limit equipment operation. Erosion is a severe hazard when the soils are disturbed.

The soils in this unit are generally unsuited to pasture. Steep slopes and large surface stones make pasture management extremely difficult

Suitability for Trees

The potential productivity of the soils of this unit for sugar maple is moderate. There are moderate equipment limitations for wood production due to excessive surface stones and steep slopes. Droughtiness is a hazard for young seedlings, but early planting can help overcome this limitation. Constructing access roads on the contour will help reduce the hazard of erosion.

Suitability for Building Sites

The soils of this unit are very limited for building site development. Steep slopes and the moderate depth to bedrock in places limit this unit as a site for dwellings with basements and for septic tank absorption fields. Selecting a flatter adjacent area can overcome the slope limitation. Selecting the deeper Elka part of the unit on a flatter slope can overcome the limitation of the moderate depth to bedrock.

Slope, frost action, and the moderate depth to bedrock are also limitations for roads and streets. Adapting road designs to the slope, constructing on the contour, and extensive land shaping and grading can help overcome the limitation due to slope and reduce the hazard of erosion. Using a coarse-grained subgrade or base material during road construction can prevent frost damage. Selecting the deeper Elka part of the unit can help overcome the limitation of the moderate depth to bedrock.

Suitability for Recreation

Excessive surface stones and steep slopes make the soils of this unit very limited for most recreational uses.

The capability subclass is 7s.

ElF—Elka-Vly channery silt loams, 35 to 70 percent slopes, very stony

This unit consists of very deep, well drained Elka soils, and moderately deep, somewhat excessively drained to well drained Vly soils. Areas of this unit are found on very steep hillsides in the uplands above 1,750 feet elevation. Large stones cover 0.1 to 3.0 percent of the surface and are about 3 to 25 feet apart. The unit consists of about 40 percent Elka soils, 35 percent Vly soils and 25 percent inclusions of other soils. These soils are mapped together because they occur in such an intricate pattern that they cannot be separated at the mapping scale. The slope ranges from 35 to 70 percent. Areas are long and narrow or irregular in shape and range in size from 5 to 50 acres.

The typical depth and composition of the layers of the Elka soil are as follows—
Surface layers: surface to 1 inch; black moderately decomposed plant material
1 to 6 inches; dark reddish brown channery silt loam

Upper subsoil: 6 to 36 inches; reddish brown channery silt loam and very channery loam

Lower subsoil: 36 to 55 inches; reddish brown very channery silt loam

Substratum: 55 to 72 inches; reddish brown very channery loam

The typical sequence, depth, and composition of the layers of the Vly soil are as follows—
Surface layer: surface to 6 inches; dark reddish brown channery silt loam

Upper subsoil: 6 to 18 inches; dark reddish brown very channery silt loam

Lower subsoil: 18 to 24 inches; dark reddish brown very channery silt loam

Substratum: 24 to 31 inches; dark reddish brown extremely channery silt loam

Bedrock: 31 inches; reddish brown shale bedrock

Included with this unit in mapping are spots of the shallow Halcott soils, especially on higher parts of the landscape. The very deep Lewbeach soils may be included on adjacent smooth slopes, along with a well drained soil that is 40 to 60 inches to bedrock. Also included in mapping are Rockrift soils or other stony, bouldery, and very bouldery spots. Included areas range up to 5 acres each. Soils with limitations different from the Elka or Vly soils make up about 25 percent of the unit.

Soil Properties of the Elka soil

Water table: below 6 feet
Permeability: moderate throughout the profile
Average available water capacity: high
Soil reaction: very strongly acid to moderately acid throughout the profile
Surface runoff: very rapid
Depth to bedrock: greater than 60 inches

Soil Properties of the Vly soil

Water table: below 6 feet
Permeability: moderate throughout the profile
Average available water capacity: Low
Soil reaction: very strongly acid or strongly acid in the surface and subsoil layers
Surface runoff: very rapid

Soil Use and Management

Most areas of this unit are forested or have a cover of brush or other native vegetation.

Suitability for Farming

The soils of this unit are unsuited to cultivated crops and pasture. Very steep slopes and the many large surface stones make equipment operation extremely hazardous or impossible. Erosion is a severe hazard when the soils are disturbed.

Suitability for Trees

The potential productivity for growing sugar maple on this soil is moderate. There are severe equipment limitations for wood production due to excessive surface stones and very steep slopes. Because of its susceptibility to erosion, this soil should be disturbed as little as possible.

Suitability for Building Sites

The soils of this unit are very limited for building site development. Very steep slopes and the moderate depth to bedrock in places limit this unit as a site for dwellings with basements and for septic tank absorption fields. Costly excavations or special designs are needed for dwelling construction, building roads and streets, and septic tank absorption fields.

Suitability for Recreation

The soils of this unit are very limited for most recreational uses due to the very steep slopes and excessive surface stones.

The capability subclass is 7s.

Ff—Fluvaquents-Udifluvents complex, flooded

This unit consists of very deep, somewhat excessively drained to very poorly drained, nearly level soils that formed in recent alluvial deposits. It is subject to frequent flooding, which results in stream scour, lateral erosion, and shifting of soil from place to place. The map unit consists of about 45 percent Fluvaquents, 35 percent Udifluvents, and 20 percent other soils. Soil characteristics, including texture, gravel content, and drainage are so variable within short distances that mapping individual soil series was not practical. The Fluvaquents and Udifluvents are in such an intricate pattern that they were not separated in mapping. Slopes range from 0 to 3 percent. Areas are mostly long and narrow in shape and adjacent to streams. Individual areas commonly range from 5 to 50 acres.

The typical sequence, depth, and composition of layers of the Fluvaquents soils are as follows—

Surface layer: surface to 8 inches, dark brown or dark gray very gravelly sand to silty clay loam

Substratum: 8 to 72 inches or more, mottled gray or dark brown coarse sandy loam to silty clay and their gravelly analogs

The typical sequence, depth, and composition of layers of the Udifluvents soils are as follows—

Surface layer: surface to 8 inches, dark reddish brown or dark brown very gravelly sand to silt loam

Substratum: 12 to 72 inches or more, reddish brown, yellowish brown, or olive brown gravelly coarse sand to gravelly loam. Some layers are very gravelly

Included with this unit in mapping are spots of Tunkhannock or Chenango soils along valley sides and areas of Barbour and Basher soils in valley bottoms. Where

Fluvaquents-Udifluvents soils occur along small streams in the uplands, soils with firm subsoil layers are common inclusions. Fluvaquents-Udifluvents map units along the Beaverkill and lower East Branch of the Delaware River include a greater proportion of Udifluvents or other more sandy soils. Included areas range up to 5 acres each and make up about 20 percent of the map unit.

Soil Properties (vary over short distances)

Water table: ranges from the surface to a depth of 1.0 feet for the Fluvaquents soils and from 2.0 to 6.0 feet for the Udifluvents soil
Permeability: ranges from slow to very rapid
Available water capacity: ranges from low to high
Soil reaction: ranges from very strongly acid to neutral
Surface runoff: very slow or slow
Depth to bedrock: more than 60 inches

Soil Use and Management

Most areas of this unit are wooded or are covered by brush or other native plants. A few small areas are used for pasture.

Suitability for Farming

Frequent flooding and wetness are major limitations if this soil is used for farming. Scouring and cutting of stream banks and the shifting of soil materials from place to place also hinders farming operations. Some areas may provide limited pasture, but flooding and wetness restrict forage production.

Suitability for Trees

The potential productivity of this unit for timber is generally low. Frequent flooding and wetness limit tree growth and make operation of equipment difficult.

Suitability for Building Sites

Flooding, ponding and depth to the saturated zone limit use of this unit as a site for dwellings or other community facilities. Frost action is an additional limitation for local roads and streets. A more suitable site on nearby soils should be selected.

Suitability for Recreation

Flooding, depth to the saturated zone, and ponding can limit this unit for most recreational uses. An on-site investigation should be made to determine suitability for a specific purpose.

The capability subclass is 5w.

HcC—Halcott, Mongaup, and Vly soils, 2 to 15 percent slopes, very rocky

Individual areas of this unit consist of Halcott, Mongaup, or Vly soils. Areas contain one or two of the soils and some areas contain all three. The soils are strongly sloping. The total acreage of the unit is about 25 percent Halcott soils, 25 percent Mongaup soils, 25 percent Vly soils, and 25 percent inclusions of other soils. Halcott soils are shallow and somewhat excessively drained. Mongaup soils are moderately deep and well drained. Vly soils are moderately deep and somewhat excessively drained. These soils are on hilltops and hillsides in higher parts of the uplands where the growing season is several weeks shorter than it is in larger valleys. Surface textures are channery loam or channery silt loam. Bedrock outcrops occupy 0.1 to 10 percent of the area. Individual areas are irregular in shape and range from about 10 to 100 acres. These soils were mapped together because of similar use and management.

The typical sequence, depth, and composition of the Halcott soil are as follows—
Surface layer: surface to 3 inches, dark reddish brown channery loam

Subsoil: 3 to 11 inches, brown very channery silt loam 11 to 18 inches, brown very channery silt loam

Bedrock: 18 inches, grayish brown sandstone bedrock

The typical sequence, depth, and composition of the layers of the Mongaup soil are as follows—
Surface layer: surface to 5 inches, dark brown channery loam

Subsoil: 5 to 12 inches, yellowish red channery silt loam
12 to 20 inches, dark brown channery silt loam
20 to 28 inches, dark yellowish brown very channery silt loam

Bedrock: 28 inches, gray sandstone bedrock

The typical sequence, depth, and composition of the layers of the Vly soil are as follows—
Surface layer: surface to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 18 inches, dark reddish brown very channery silt loam
18 to 24 inches, dark reddish brown very channery silt loam

Substratum: 24 to 31 inches, dark reddish brown extremely channery silt loam

Bedrock: 31 inches, reddish brown shale bedrock

Included with this unit in mapping are spots of very shallow soils adjacent to areas of rock outcrop. Areas with no rock outcrop, spots of Middlebrook soils, and soils that are somewhat poorly drained, and areas that are stony or bouldery are also common inclusions. Included areas range up to 5 acres. Soils that have limitations different from the Halcott, Mongaup, or Vly soils make up about 25 percent of the map unit.

Soil Properties

Water table: below 6 feet
Permeability: moderate in surface and subsoil layers
Average available water capacity: very low for Halcott; moderate for Mongaup; low for Vly
Soil reaction: very strongly acid or strongly acid in the surface and subsoil layers for Halcott and Vly soils; extremely acid to strongly acid in surface and subsoil layers for the Mongaup soil
Surface runoff: medium
Depth to bedrock: 10 to 20 inches for the Halcott soil; 20 to 40 inches for Mongaup and Vly soils

Soil Use and Management

Most areas of this unit are forested or have a cover of brush or other native plants. A few small areas are cleared and used for pasture.

Suitability for Farming

The unit is generally unsuited to cultivation. Areas of shallow soils, bedrock outcrops, and small stones in the soil limit or interfere with tillage operations. Areas with restricted rooting depths and droughty soil conditions limit crop growth during dry periods. The growing season is several weeks shorter than it is for valley areas.

This unit is poorly suited to pasture. Some limited pasture may be obtained from this unit, but bedrock outcrops interfere with the operation of machinery and droughtiness and restricted rooting depth limit forage production.

Suitability for Trees

The potential productivity of the Halcott soil for northern red oak is moderate. The potential productivity for growing sugar maple is moderate for Mongaup and Vly soils. Droughtiness is a hazard for new plantings. Planting early in the spring can help overcome this limitation. There is a moderate windthrow hazard on the shallow Halcott soils.

Suitability for Building Sites

Depth to bedrock and occasional bedrock outcrops limit this unit as a site for dwellings with basements and septic tank absorption fields. Careful onsite investigation and selection of a deeper included or adjacent soil can overcome this limitation.

Depth to bedrock and occasional bedrock outcrops limit this unit as a site for roads and streets. Careful onsite investigation and planning road grades and locations to avoid removal of rock can reduce or eliminate the need for blasting. Frost action can limit the soils of this unit as a site for roads and streets. Using a coarser subgrade or base material can overcome the limitation of frost action.

Suitability for Recreation

Slope, occasional bedrock outcrops, and surface stones can limit this unit for most recreational uses. Depth to bedrock on the Halcott soil is a limitation if this unit is used as a site for camp and picnic areas, and playgrounds.

The capability subclass is 6s.

HcE—Halcott, Mongaup, and Vly soils, 15 to 35 percent slopes, very rocky

Individual areas of this unit consist of Halcott, Mongaup, or Vly soils. Areas contain one or two of the soils and some areas contain all three. The soils are steeply sloping. The total acreage of the unit is about 25 percent Halcott soils, 25 percent Mongaup soils, 25 percent Vly soils, and 25 percent inclusions of other soils. Halcott soils are shallow and somewhat excessively drained. Mongaup soils are moderately deep and well drained. Vly soils are moderately deep and somewhat excessively drained. These soils are on hillsides in higher parts of the uplands where the growing season is several weeks shorter than it is in larger valleys. Surface textures are channery loam or channery silt loam. Bedrock outcrops occupy 0.1 to 10 percent of the area. Individual areas are irregular in shape and range from about 10 to 100 acres. These soils are mapped together because of similar use and management.

The typical sequence, depth, and composition of the Halcott soil are as follows—

Surface layer: surface to 3 inches, dark reddish brown channery loam

Subsoil: 3 to 11 inches, brown very channery silt loam
11 to 18 inches, brown very channery silt loam

Bedrock: 18 inches, grayish brown sandstone bedrock

The typical sequence, depth, and composition of the layers of the Mongaup soil are as follows—

Surface layer: surface to 5 inches, dark brown channery loam

Subsoil: 5 to 12 inches, yellowish red channery silt loam
12 to 20 inches, dark brown channery silt loam
20 to 28 inches, dark yellowish brown very channery silt loam

Bedrock: 28 inches, gray sandstone bedrock

The typical sequence, depth, and composition of the layers of the Vly soil are as follows—

Surface layer: surface to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 18 inches, dark reddish brown very channery silt loam
18 to 24 inches, dark reddish brown very channery silt loam

Substratum: 24 to 31 inches, dark reddish brown extremely channery silt loam

Included with this unit in mapping are spots of very shallow soils adjacent to areas of rock outcrop. Spots of Elka or Rockrift soils are common inclusions, especially on the lower parts of hillsides. Areas with no rock outcrop, spots that are moderately well drained, and areas that are stony or bouldery are also common inclusions. Included areas range up to 5 acres each. Soils that have limitations different from those of the Halcott, Mongaup, or Vly soils make up about 25 percent of the map unit.

Soil Properties

Water table: below 6 feet
Permeability: moderate in surface and subsoil layers
Average available water capacity: very low for Halcott; moderate for Mongaup; and low for Vly
Soil reaction: very strongly acid or strongly acid in the surface and subsoil layers for Halcott and Vly soils; extremely acid to strongly acid in surface and subsoil layers for the Mongaup soil
Surface runoff: rapid
Depth to bedrock: 10 to 20 inches for the Halcott soil; 20 to 40 inches for Mongaup and Vly soils

Soil Use and Management

Most areas of this unit are forested or have a cover of brush or other native plants. A few small areas are used for pasture.

Suitability for Farming

The unit is unsuited to cultivated crops and hay. Areas of shallow soils, bedrock outcrops, and small stones in the soil make tillage operations impractical or impossible. Erosion is a hazard if areas are disturbed.

This unit is generally unsuited to pasture. Steep slopes and bedrock outcrops interfere with the operation of machinery and droughtiness and restricted rooting limit forage production.

Suitability for Trees

The potential productivity for growing northern red oak is moderate for the Halcott soil. Mongaup and Vly soils have moderate potential productivity for growing sugar maple. Droughtiness is a hazard for new plantings. Planting early in the spring can help overcome this limitation. There is a moderate windthrow hazard on the shallow Halcott soils. Contructing access roads along the contour will reduce the erosion hazard. Steep slopes restrict the use of equipment on this unit.

Suitability for Building Sites

Steep slopes, depth to bedrock, and occasional bedrock outcrops limit this unit as a site for dwellings with basements and septic tank absorption fields. A deeper, less steep adjacent soil should be selected.

Steep slopes, depth to bedrock, and occasional bedrock outcrops limit this unit as a site for roads and streets (fig. 9). A deeper, less steeply sloping adjacent soil should be selected.

Figure 9.—Bedrock and steep slopes are significant limitations for building sites and local roads and streets.

Suitability for Recreation

Steep slopes, occasional bedrock outcrops, surface stones, and depth to bedrock can limit this unit as a site for most recreational uses.

The capability subclass is 7s.

HcF—Halcott, Mongaup, and Vly soils, 35 to 70 percent slopes, very rocky

Individual areas of this unit consist of Halcott, Mongaup, or Vly soils. Areas contain one or two of the soils and some areas contain all three. The soils are very steeply sloping. The total acreage of the unit is about 25 percent Halcott soils, 25 percent Mongaup soils, 25 percent Vly soils, and 25 percent inclusions of other soils. Halcott soils are shallow and somewhat excessively drained. Mongaup soils are moderately deep and well drained. Vly soils are moderately deep and somewhat excessively drained. These soils are on hillsides in higher parts of the uplands where the growing season is several weeks shorter than it is in larger valleys. Surface textures are channery loam or channery silt loam. Bedrock outcrops occupy 0.1 to 10 percent of the area. Individual areas are irregular in shape and range from about 10 to 100 acres.

The typical sequence, depth, and composition of the Halcott soil are as follows—

Surface layer: surface to 3 inches, dark reddish brown channery loam

Subsoil: 3 to 11 inches, brown very channery silt loam
11 to 18 inches, brown very channery silt loam

Bedrock: 18 inches, grayish brown sandstone bedrock

The typical sequence, depth, and composition of the layers of the Mongaup soil are as follows—

Surface layer: surface to 5 inches, dark brown channery loam

Subsoil: 5 to 12 inches, yellowish red channery silt loam
12 to 20 inches, dark brown channery silt loam
20 to 28 inches, dark yellowish brown very channery silt loam

Bedrock: 28 inches, gray sandstone bedrock

The typical sequence, depth, and composition of the layers of the Vly soil are as follows—

Surface layer: surface to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 18 inches, dark reddish brown very channery silt loam
18 to 24 inches, dark reddish brown very channery silt loam

Substratum: 24 to 31 inches, dark reddish brown extremely channery silt loam

Bedrock: 31 inches, reddish brown shale bedrock

Included with this unit in mapping are spots of very shallow soils adjacent to areas of rock outcrop. Spots of Elka or Rockrift soils are common inclusions, especially on the lower parts of hillsides. Areas with no rock outcrop and areas that are stony or bouldery are also common inclusions. Included areas range up to 5 acres each. Soils that have limitations different from the Halcott, Mongaup, and Vly soils make up about 25 percent of the map unit.

Soil Properties

Water table: below 6 feet
Permeability: moderate in surface and subsoil layers
Average available water capacity: very low for Halcott; moderate for Mongaup; low for Vly
Soil reaction: very strongly acid or strongly acid in the surface and subsoil layers for Halcott and Vly soils; extremely acid to strongly acid in surface and subsoil layers for the Mongaup soil
Surface runoff: very rapid
Depth to bedrock: 10 to 20 inches for the Halcott soil; 20 to 40 inches for Mongaup and Vly soils

Soil Use and Management

Areas of this unit are forested or have a cover of brush or other native plants.

Suitability for Farming

The unit is unsuited to cultivated crops and pasture. Areas of shallow soils, bedrock outcrops, and small stones in the soil severely limit or interfere with farming operations. Erosion is a severe hazard if areas are disturbed. Very steep slopes make operation of equipment extremely difficult and hazardous.

Suitability for Trees

The potential productivity for growing northern red oak on the Halcott soil is moderate. Mongaup and Vly soils have moderate potential productivity for growing sugar maple. Droughtiness is a hazard for new plantings. Planting early in the spring can help overcome this limitation. There is a moderate windthrow hazard on the shallow Halcott soils. Erosion is a severe hazard if areas are disturbed. Very steep slopes restrict the use of equipment on this unit.

Suitability for Building Sites

Very steep slopes, depth to bedrock, and occasional bedrock outcrops limit this unit as a site for dwellings with basements and septic tank absorption fields. A deeper less steep adjacent soil should be selected. Very steep slopes, depth to bedrock, and occasional bedrock outcrops limit this unit as a site for roads and streets. A deeper, less steeply sloping adjacent soil should be selected.

Suitability for Recreation

Very steep slopes, occasional bedrock outcrops, surface stones and depth to bedrock can limit this unit as a site for most recreational uses.

The capability subclass is 7s.

LaB—Lackawanna flaggy silt loam, 3 to 8 percent slopes

This soil is very deep, gently sloping, and well drained. It occupies hilltops and plateaus in uplands. Individual areas are irregular in shape and range from 5 to 40 acres in size.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 7 inches, dark brown flaggy silt loam

Subsoil: 7 to 18 inches, dark reddish brown flaggy silt loam
18 to 28 inches, reddish brown flaggy silt loam

Lower subsoil (fragipan): 28 to 48 inches, dense, reddish brown flaggy silt loam

Substratum: 48 to 72 inches, weak red flaggy loam

Included with this soil in mapping are small areas of moderately deep, somewhat excessively drained Oquaga soils where bedrock is closer to the surface. In lower, depressional parts of the landscape inclusions of very deep, moderately well drained Wellsboro soils occur. The browner Bath soils are often included where brown parent materials are intermingled with the redder parent materials in which Lackawanna soils are formed. Stony or very stony spots are also common inclusions. Included areas are as large as five acres each. Soils that have limitations different from those of the Lackawanna soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.5 to 2.2 feet in winter and early spring; otherwise, at more than 6 feet
Permeability: moderate in surface and upper subsoil layers, slow in dense lower subsoil (fragipan) and substratum layers
Average available water capacity: moderate
Soil reaction: very strongly acid or strongly acid above the lower subsoil; very strongly acid to moderately acid in the lower subsoil and substratum
Surface runoff: slow
Depth to bedrock and to dense subsoil: more than 60 inches to bedrock, and 20 to 36 inches to the dense subsoil (fragipan)

Soil Use and Management

Many areas of this soil are used for corn, or small grain, or hay production. Other areas are forested or have a cover of brush or native plants. This soil is among those soils in the county best suited to the production of food or fiber.

Suitability for Farming

This soil is well suited to cultivated crops and hay. Growing cover crops and practices such as conservation tillage or contour tillage may be needed to help control erosion.

This soil is well suited to pasture. Limiting stocking rates will help prevent overgrazing and the likelihood of erosion.

Suitability for Trees

The potential productivity for growing northern red oak on this soil is moderately high. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone is a limitation if this soil is used as a site for dwellings with basements.

Restricted permeability in the subsoil, seasonal depth to the saturated zone, and depth to the fragipan limits this soil as a site for septic tank absorption fields. Special designs, such as an enlarged absorption field with a surrounding drainage system, will help overcome these limitations.

The potential for frost action and the depth to the saturated zone limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse grained subgrade or base material will help prevent frost damage and overcome the limitation due to depth to the saturated zone.

Suitability for Recreation

Slope and gravel content limit this soil as a site for playgrounds. Depth to the saturated zone and depth to the fragipan can cause limitations for most other recreational uses of this soil.

The capability subclass is 2e.

LaC—Lackawanna flaggy silt loam, 8 to 15 percent slopes

This soil is very deep, strongly sloping, and well drained. It occupies hilltops and plateaus in uplands. Individual areas are of irregular in shape and range from 5 to 40 acres in size.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 7 inches, dark brown flaggy silt loam

Subsoil: 7 to 18 inches, dark reddish brown flaggy silt loam
18 to 28 inches, reddish brown flaggy silt loam

Lower subsoil (fragipan): 28 to 48 inches, dense, reddish brown flaggy silt loam

Substratum: 48 to 72 inches, weak red flaggy loam

Included with this soil in mapping are small areas of moderately deep, somewhat excessively drained Oquaga soils where bedrock is closer to the surface. In lower, depressional parts of the landscape, inclusions of very deep, moderately well drained Wellsboro soils occur. The browner Bath soils are often included where brown parent materials are intermingled with the redder parent materials in which Lackawanna soils formed. Stony or very stony spots are also common inclusions. Included areas are as large as five acres each. Soils that have limitations different from those of the Lackawanna soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.5 to 2.2 feet in winter and early spring; otherwise more than 6 feet
Permeability: moderate in the surface and upper subsoil layers, slow in the dense lower subsoil (fragipan) and substratum layers
Average available water capacity: moderate
Soil reaction: very strongly acid or strongly acid above the lower subsoil; very strongly acid to medium acid in the lower subsoil and substratum

Surface runoff: medium
Depth to bedrock and to dense subsoil: more than 60 inches to bedrock, and 20 to 36 inches to the fragipan

Soil Use and Management

Many areas of this soil are used for corn, or small grain, or hay production. Other areas are forested or have a cover of brush or native plants.

Suitability for Farming

This soil is moderately suited to cultivated crops, but slope may interfere with tillage operations. Erosion is a hazard, especially on long slopes. Growing cover crops and applying practices such as conservation tillage or contour tillage may be needed to help control erosion.

This soil is well suited to pasture. Limiting stocking rates will help prevent overgrazing and the likelihood of erosion.

Suitability for Trees

The potential productivity for growing northern red oak on this soil is moderately high. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone and slope limitations exists for dwellings with basements. Methods for overcoming the depth to the saturated zone limitation include installing footing drains, sealing the foundation, and land shaping or grading to divert water away from the building. Designing buildings to conform to the natural slope and land shaping will help overcome the slope limitations.

Restricted permeability in the subsoil, depth to the saturated zone, depth to the fragipan, and slope limits this soil as a site for septic tank absorption fields. Special designs, such as an enlarged absorption field with a surrounding drainage system and laying out the tile lines on the contour, will help overcome these limitations.

Moderate potential frost action, slope, and depth to the saturated zone limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse grained subgrade or base material to frost depth will help overcome the depth to the saturated zone limitation and prevent frost damage. Constructing roads on the contour and land shaping or grading are methods of overcoming the slope limitation.

Suitability for Recreation

Slope and gravel content limit this soil as a site for playgrounds. Depth to the saturated zone and depth to the fragipan can cause limitations for most other recreational uses of this soil.

The capability subclass is 3e.

LaD—Lackawanna flaggy silt loam, 15 to 25 percent slopes

This very deep, moderately steep, and well drained soil occupies hillsides in uplands. Individual areas are irregular in shape and range from 5 to 40 acres in size.

The typical sequence, depth, and composition of the layers of this soil are—
Surface layer: surface to 7 inches, dark brown flaggy silt loam

Subsoil: 7 to 18 inches, dark reddish brown flaggy silt loam
18 to 28 inches, reddish brown flaggy silt loam

Lower subsoil (fragipan): 28 to 48 inches, dense, reddish brown flaggy silt loam

Substratum: 48 to 72 inches, weak red flaggy loam

Included with this soil in mapping are small areas of moderately deep, well drained Oquaga soils where bedrock is closer to the surface. In lower, depressional parts of the landscape inclusions of very deep, moderately well drained Wellsboro soils occur. The browner Bath soils are often included where brown parent materials are located intermingled with the redder parent materials in which Lackawanna soils formed. Stony or very stony spots are also common inclusions. Included areas are as large as five acres each. Soils that have limitations different from those of the Lackawanna soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.5 to 2.2 feet in winter and early spring; otherwise at more than 6 feet
Permeability: moderate in surface and upper subsoil layers, slow in dense lower subsoil (fragipan) and substratum layers
Average available water capacity: moderate
Soil reaction: very strongly acid or strongly acid above the lower subsoil; very strongly acid to medium acid in the lower subsoil and substratum
Surface runoff: rapid
Depth to bedrock and to dense subsoil: more than 60 inches to bedrock, and 20 to 36 inches to the dense subsoil (fragipan)

Soil Use and Management

Many areas of this soil are used for hay production or pasture. Other areas are forested or have a cover of brush or native plants.

Suitability for Farming

This soil is poorly suited to cultivated crops. Slope hinders the operation of tillage equipment. Erosion is a hazard. Growing cover crops and applying practices such as conservation tillage are needed to help control erosion. This soil is marginally suited for hay production. Slope can limit fertilization and harvesting operations.

This soil is moderately suited for pasture. Operation of maintenance equipment may be hindered by slope.

Suitability for Trees

The potential productivity of this soil for northern red oak is moderately high. There are moderate equipment and erosion limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone and slope are limitations for dwellings with basements. Methods for overcoming the depth to the saturated zone limitation include installing footing drains, sealing the foundation, and land shaping or grading to divert water away from the building. Designing buildings to conform to the natural slope and land shaping will help to overcome the slope limitations.

Restricted permeability in the subsoil, depth to the saturated zone, depth to the fragipan, and slope limit this soil as a site for septic tank absorption fields. Special designs, such as a surrounding drainage system, an enlarged absorption field, and installing lines on the contour, will help overcome these limitations.

Slope, frost action, and depth to the saturated zone limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse grained subgrade or base material to frost depth will help overcome the depth to the saturated zone and prevent frost damage. Constructing roads on the contour and land shaping or grading are methods of overcoming the slope limitation.

Suitability for Recreation

Slope, depth to the saturated zone, and gravel content can cause severe limitations for most recreational uses on this soil.

The capability subclass is 4e.

LaE—Lackawanna flaggy silt loam, 25 to 40 percent slopes

This very deep, steep, and well drained soil occupies hillsides in uplands. Individual areas are irregular in shape and range from 5 to 30 acres in size.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 7 inches, dark brown flaggy silt loam

Subsoil: 7 to 18 inches, dark reddish brown flaggy silt loam
18 to 28 inches, reddish brown flaggy silt loam

Lower subsoil (fragipan): 28 to 48 inches, dense, reddish brown flaggy silt loam

Substratum: 48 to 72 inches, weak red flaggy loam

Included with this soil in mapping are small areas of moderately deep, somewhat excessively drained Oquaga soils where the bedrock is closer to the surface. In lower, depressional parts of the landscape inclusions of very deep, moderately well drained Wellsboro soils occur. The browner Bath soils are often included where brown parent materials are located and intermingled with the redder parent materials in which Lackawanna soils formed. Stony or very stony spots are also common inclusions. Included areas are as large as five acres each. Soils that have limitations different from those of the Lackawanna soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.5 to 2.2 feet in winter and early spring; otherwise at more than 6 feet
Permeability: moderate in the surface and upper subsoil layers, slow in the dense lower subsoil (fragipan) and substratum layers
Average available water capacity: moderate
Soil reaction: very strongly acid or strongly acid above the lower subsoil; very strongly acid to medium acid in the lower subsoil and substratum
Surface runoff: very rapid
Depth to bedrock and to dense subsoil: more than 60 inches to bedrock, and 20 to 36 inches to the fragipan

Soil Use and Management

Some areas of this soil are used for hay production or pasture. Other areas are forested or have a cover of brush or native plants.

Suitability for Farming

This soil is generally unsuited to cultivated crops. Slope makes the operation of tillage equipment hazardous. Erosion is also a severe hazard whenever this soil is disturbed.

This soil is poorly suited to pasture. Operation of maintenance equipment is hindered by slope.

Suitability for Trees

The potential productivity for growing northern red oak is moderately high on this soil. There are severe equipment and erosion limitations in using this soil for wood production.

Suitability for Building Sites

Slope and depth to the saturated zone limitations exist for dwellings with basements. Selecting a flatter included soil or designing buildings to conform to the natural slope and land shaping will help overcome slope limitations. Installing drainage around the footings of the building, sealing the foundation, and land shaping or grading to direct surface water away from the dwelling, can overcome the depth to the saturated zone limitation.

Restricted permeability in the subsoil, depth to the saturated zone, depth to the fragipan, and slope limit this soil as a site for septic tank absorption fields. Selecting a flatter nearby or included soil, installing a surrounding drainage system, and the use of special designs, such as an enlarged absorption field and installing lines on the contour, will help overcome these limitations.

Slope, frost action, and depth to the saturated zone limit this soil as a site for roads and streets. Constructing roads on the contour and land shaping or grading are methods of overcoming the slope limitation. Installing a drainage system and providing a coarse grained subgrade or base material to frost depth will help overcome the depth to the saturated zone and prevent frost damage.

Suitability for Recreation

Slope, depth to the saturated zone, depth to the fragipan, and gravel content can cause limitations for most recreational uses of this soil.

The capability subclass is 6e.

LcD—Lackawanna-Morris flaggy silt loams 15 to 35 percent slopes, very stony

This unit consists of moderately steep to steep, very deep, well drained and somewhat poorly drained soils on hillsides. Large stones cover 0.1 to 3.0 percent of the surface and are about 3 to 25 feet apart. Areas are elongated or irregular in shape and range from about 10 to 50 acres.

This unit consists of about 60 percent Lackawanna soils, 20 percent Morris soils, and 20 percent other soils. The Morris soils commonly occur as narrow strips in less sloping areas along small drainageways that run down the hillside. The Lackawanna and Morris soils are in such an intricate pattern that they could not be mapped separately.

The typical sequence, depth, and composition of the layers of the Lackawanna soil are—

Surface layer: surface to 7 inches, dark brown flaggy silt loam

Subsoil: 7 to 18 inches, dark reddish brown flaggy silt loam
18 to 28 inches, reddish brown flaggy silt loam

Lower subsoil (fragipan): 28 to 48 inches, dense, reddish brown flaggy silt loam

Substratum: 48 to 72 inches, weak red flaggy loam

The typical sequence, depth, and composition of the layers of the Morris soil are as follows—

Surface layer: surface to 8 inches, dark reddish brown flaggy silt loam

Subsurface layer: 8 to 14 inches, reddish brown channery silt loam with strong brown mottles

Subsoil (fragipan): 14 to 26 inches, firm, dense, dark reddish brown channery silt loam with strong brown mottles
26 to 72 inches, firm, dense, dark reddish brown flaggy silt loam with gray and reddish brown mottles

Included with this unit in mapping are a few spots of moderately deep Oquaga soils near the upper parts of hillsides. Areas of moderately well drained Wellsboro soils are common next to the strips of Morris soils or in flatter parts of the hillside. Soils that are not stony or soils that are bouldery or very bouldery are also common inclusions. Areas of included soils range up to 5 acres each. Soils that have limitations different from the Lackawanna or Morris soils make up about 20 percent of the unit.

Soil Properties of the Lackawanna soil

Water table: perched at 1.5 to 2.2 feet in winter and early spring; otherwise, at more than 6 feet
Permeability: moderate in surface and upper subsoil layers, slow in dense lower subsoil (fragipan) and substratum layers
Average available water capacity: moderate
Soil reaction: very strongly acid or strongly acid above the lower subsoil and very strongly acid to moderately acid in the lower subsoil and substratum
Surface runoff: rapid
Depth to bedrock and to dense subsoil: more than 60 inches to bedrock, and 20 to 36 inches to the dense subsoil (fragipan)

Soil Properties of the Morris soil

Water table: perched at 0.5 to 1.0 feet from late fall to mid spring
Permeability: moderate in the surface and subsurface layers and slow or very slow in the subsoil (fragipan)
Available water capacity: low
Soil reaction: very strongly acid to moderately acid in the surface and upper subsoil layers and strongly acid to slightly acid in the lower subsoil layer
Surface runoff: medium
Depth to bedrock and dense layer: more than 60 inches to bedrock and 10 to 20 inches to the dense layer (fragipan)

Soil Use and Management

Some areas of this unit are cleared and used for pasture. Other areas are forested or have a cover of brush or other native vegetation.

Suitability for Farming

The soils of this unit are unsuited to hay or cultivated crops because of slope and large surface stones. Erosion is a hazard whenever the surface cover is disturbed. Wet strips or spots also hinder the operation of machinery and limit the choice of crops that can be grown.

This unit is unsuited to pasture. Slope, surface stoniness, and wet spots hinder pasture management.

Suitability for Trees

The potential productivity for growing northern red oak is moderately high on the Lackawanna soil and moderate on the Morris soil. Slope and seasonal wetness limit the use of equipment on this unit. On the Morris soil there is a moderate seedling mortality and windthrow hazard because of wetness. Laying out access roads on the contour will reduce the hazard of erosion.

Suitability for Building Sites

Slope and depth to the saturated zone limit this unit as a site for dwellings with basements. Designing buildings to conform to the natural slope and land shaping will help to overcome slope limitations. Methods of overcoming the depth to the saturated zone limitation include installing footing drains, sealing the foundation, and land shaping or grading to divert water away from the building.

Depth to the saturated zone, depth to the fragipan, restricted permeability of the subsoil, and slope are major limitations if this unit is used as a site for septic tank absorption fields. Special designs, such as an enlarged absorption field with a surrounding drainage system, will help overcome the limitations of the depth to the saturated zone, depth to fragipan, and restricted permeability. Land shaping, installing tile lines on the contour, or constructing the absorption field on a flatter included area can help overcome the slope limitation.

Potential frost action, depth to the saturated zone, and slope limit this unit as a site for roads and streets. Installing a drainage system and providing a coarse grained subgrade or base material to frost depth will overcome the depth to the saturated zone and help prevent frost damage. Constructing roads on the contour and land shaping or grading are methods of overcoming the slope limitations.

Suitability for Recreation

Slope, depth to the saturated zone, and surface stones can limit this soil for most recreational uses.

The capability subclass is 7s for the Lackawanna soil and 6s for the Morris soil.

LdC—Lackawanna and Bath soils, 3 to 15 percent slopes, very stony

This unit consists of Lackawanna or Bath soils or it may contain both soils in varying proportions. The soils are gently to strongly sloping, very deep, and well drained. The map unit is on hillsides and hilltops in the uplands. Large stones cover 0.1 to 3.0 percent of the surface and are about 3 to 25 feet apart. Lackawanna soils have a flaggy silt loam surface. Bath soils have a channery silt loam surface. The total acreage of this map unit is about 50 percent Lackawanna soils and 30 percent Bath soils. These soils were mapped together because there are few or no difference in use and management. Individual areas are irregular or roughly oval and range from about 5 to 30 acres.

The typical sequence, depth, and composition of the layers of the Lackawanna soil are—

Surface layer: surface to 7 inches, dark brown flaggy silt loam

Subsoil: 7 to 18 inches, dark reddish brown flaggy silt loam
18 to 28 inches, reddish brown flaggy silt loam

Lower subsoil (fragipan): 28 to 48 inches, dense, reddish brown flaggy silt loam

Substratum: 48 to 72 inches, weak red flaggy loam

The typical sequence, depth, and composition of the layers of the Bath soil are—

Surface layer: surface to 9 inches, dark grayish brown channery silt loam

Subsoil: 9 to 20 inches, yellowish brown channery silt loam
20 to 26 inches, brown channery loam

Lower subsoil (fragipan): 26 to 72 inches, dense, brown channery silt loam

Included with this unit in mapping are spots of moderately well drained Mardin or Wellsboro soils or somewhat poorly drained Morris or Volusia soils in flatter areas or depressions. Soils that are not stony or that are bouldery or very bouldery are common inclusions. Spots of moderately deep Lordstown or Oquaga soils are also included. Areas of included soils range up to five acres each. Soils that have limitations different from the Lackawanna or Bath soils make up about 20 percent of the map unit.

Soil properties

Water table: perched at 1.5 to 2.2 feet for the Lackawanna soils; at 1.3 to 2.0 feet for the Bath soil in winter and early spring for both soils
Permeability: moderate in the surface and upper subsoil layers, slow in the dense lower subsoil (fragipan) and substratum for both soils
Average available water capacity: moderate for Lackawanna, low for Bath
Soil reaction: very strongly acid or strongly acid in surface and upper subsoil layers, very strongly acid to moderately acid in lower subsoil (fragipan) for the Lackawanna soil; very strongly acid to moderately acid in surface and upper subsoil; very strongly acid to slightly acid in the lower subsoil (fragipan) for the Bath soil
Surface runoff: medium for both soils
Depth to bedrock and to the dense subsoil: more than 60 inches to bedrock for both soils; 20 to 36 inches to the dense subsoil for the Lackawanna soil, 26 to 38 inches to the dense subsoil for the Bath soil

Soil Use and Management

Most areas of this unit are wooded or have a cover of brush or other native plants. A few areas are cleared or used for pasture.

Suitability for Farming

The soils of this unit are generally unsuited to cultivated crops or hay because of large surface stones. Erosion is a hazard, especially on strongly sloping areas.

This unit is poorly suited to pasture. Large surface stones interfere with most pasture management practices.

Suitability for Trees

The potential productivity for growing northern red oak is moderately high on the Lackawanna soil. The potential productivity for growing sugar maple is moderate on the Bath soil. There are few or no limitations in using this unit for wood production.

Suitability for Building Sites

Depth to the saturated zone and slope are limitations if this unit is used as a site for dwellings with basements. Methods of overcoming the depth to the saturated zone limitation include installing footing drains, sealing the foundation, and land shaping or grading to divert water away from the site. Designing buildings to conform to the natural slope and land shaping will help to overcome slope limitation.

Depth to the saturated zone, depth to the fragipan, and restricted permeability in the subsoil are major limitations if this soil used as a site for septic tank absorption fields. Special designs, such as an enlarged absorption field with a surrounding drainage system, will help overcome these limitations.

Potential frost action, slope, and a seasonal depth to the saturated zone limit this unit as a site for roads and streets. Installing a drainage system and providing a coarse-grained subgrade or base material to frost depth will help overcome the depth to the saturated zone and prevent frost damage. Constructing roads on the contour and land shaping or grading are methods of overcoming the slope limitations.

Suitability for Recreation

Surface stones, depth to the saturated zone, depth to the fragipan, and slope can limit this unit for most recreational uses.

The capability subclass is 6s.

LdE—Lackawanna and Bath soils, 15 to 35 percent slopes, very stony

This unit consists of Lackawanna or Bath soils or it may contain both soils in varying proportions. The soils are moderately steep to steep, very deep, and well drained. The map unit is on hillsides in the uplands. Large stones cover 0.1 to 3.0 percent of the surface and are about 3 to 25 feet apart. Lackawanna soils have a flaggy silt loam surface. Bath soils have a channery silt loam surface. The total acreage of this map unit is about 50 percent Lackawanna soils, 30 percent Bath soils, and 20 percent inclusions of other soils. These soils were mapped together because there are few or no difference in the use and management. Individual areas are irregular in shape or roughly oval and range from about 10 to 50 acres.

The typical sequence, depth, and composition of the layers of the Lackawanna soil are—

Surface layer: surface to 7 inches, dark brown flaggy silt loam

Subsoil: 7 to 18 inches, dark reddish brown flaggy silt loam

18 to 28 inches, reddish brown flaggy silt loam

Lower subsoil (fragipan): 28 to 48 inches, dense, reddish brown flaggy silt loam

Substratum: 48 to 72 inches, weak red flaggy loam

The typical sequence, depth, and composition of the layers of the Bath soil are—

Surface layer: surface to 9 inches, dark grayish brown channery silt loam

Subsoil: 9 to 20 inches, yellowish brown channery silt loam
20 to 26 inches, brown channery loam

Lower subsoil (fragipan): 26 to 72 inches, dense, brown channery silt loam

Included with this unit in mapping are spots of moderately well drained Mardin or Wellsboro soils in flatter areas. Soils that are not stony or that are bouldery or very bouldery are common inclusions. Spots of moderately deep Lordstown or Oquaga soils are also included, especially on the upper parts of hillsides. Areas of included soils range up to five acres each. Soils that have limitations different from the Lackawanna or Bath soils make up about 20 percent of the map unit.

Soil properties

Water table: perched at 1.5 to 2.2 feet for the Lackawanna soils; at 1.3 to 2.0 feet for the Bath soil in winter to early spring, for both soils

Permeability: moderate in surface and upper subsoil layers, slow in dense lower subsoil (fragipan) and substratum for both soils

Average available water capacity: moderate for Lackawanna; low for Bath

Soil reaction: very strongly acid or strongly acid in surface and upper subsoil layers, very strongly acid to moderately acid in lower subsoil (fragipan) for the Lackawanna soil; very strongly acid to moderately acid in surface and upper subsoil; very strongly acid to slightly acid in the lower subsoil (fragipan) for the Bath soil

Surface runoff: rapid for both soils

Depth to bedrock and to dense subsoil: more than 60 inches to bedrock for both soils; 20 to 36 inches to the dense subsoil for Lackawanna, 26 to 38 inches to the dense subsoil for the Bath soil

Soil Use and Management

Most areas of this unit are wooded or have a cover of brush or other native plants. A few areas are cleared and used for pasture.

Suitability for Farming

The soils of this unit are not suited to cultivated crops or hay because of slope and large surface stones. Erosion is a hazard whenever the surface cover is disturbed.

This unit is unsuited to pasture. Steep slopes and surface stones interfere with most pasture management practices.

Suitability for Trees

The potential productivity for growing northern red oak is moderately high on the Lackawanna soil. The potential productivity for growing sugar maple is moderate on the Bath soil.

Slope limits the use of equipment on this unit. Laying out access roads on the contour will reduce the hazard of erosion.

Suitability for Building Sites

Slope and depth to the saturated zone are major limitations if this unit is used as a site for dwellings with basements. Designing buildings to conform to the natural slope and land shaping will help to overcome the slope limitation. Installing footing drains, sealing the foundation and land shaping to divert surface water away from the site can help overcome the limitations due to the depth to the saturated zone.

Depth to the saturated zone, depth to the fragipan, slope, and slow permeability in the subsoil are major limitations if this soil is used as a site for septic tank absorption fields. Special designs, such as an enlarged absorption field with a surrounding drainage system, will help overcome the limitations of slow permeability, depth to the saturated zone and depth to the fragipan. Landshaping, installing tile lines on the contour or constructing the field on a flatter included area can help overcome the slope limitation.

Moderate potential frost action, seasonal depth to the saturated zone, and slope limit this unit as a site for roads and streets. Installing a drainage system and providing a coarse grained subgrade or base material to frost depth will help prevent frost damage and overcome the limitation due to the depth to the saturated zone. Constructing roads on the contour and land shaping or grading are methods of overcoming the slope limitation.

Suitability for Recreation

Slope, surface stones, depth to the saturated zone, and depth to the fragipan are limitations of this unit for most recreational uses.

The capability subclass is 7s.

LdF—Lackawanna and Bath soils, 35 to 55 percent slopes, very stony

This unit consists of Lackawanna or Bath soils or it may contain both soils in varying proportions. The soils are very steep, very deep, and well drained. The map unit is on hillsides in the uplands. Large stones cover 0.1 to 3.0 percent of the surface and are about 3 to 25 feet apart. Lackawanna soils have a flaggy silt loam surface. Bath soils have a channery silt loam surface. The total acreage of this map unit is about 50 percent Lackawanna soils, 30 percent Bath soils, and 20 percent inclusions of other soils. These soils were mapped together because there are few or no difference in use and management. Individual areas are irregular in shape or roughly oval and range from about 10 to 50 acres in size.

The typical sequence, depth, and composition of the layers of the Lackawanna soil are—

Surface layer: surface to 7 inches, dark brown flaggy silt loam

Subsoil: 7 to 18 inches, dark reddish brown flaggy silt loam
18 to 28 inches, reddish brown flaggy silt loam

Lower subsoil (fragipan): 28 to 48 inches, dense, reddish brown flaggy silt loam

Substratum: 48 to 72 inches, weak red flaggy loam

The typical sequence, depth, and composition of the layers of the Bath soil are—
Surface layer: surface to 9 inches, dark grayish brown channery silt loam

Subsoil: 9 to 20 inches, yellowish brown channery silt loam
20 to 26 inches, brown channery loam

Lower subsoil (fragipan): 26 to 72 inches, dense, brown channery silt loam

Included with this unit in mapping are Cadosia or Valois soils, or soils that are not stony or that are bouldery or very bouldery. Spots of moderately deep Lordstown or Oquaga soils are also included, especially on the upper parts of hillsides. Areas of included soils range up to five acres each. Soils that have limitations different from the Lackawanna or Bath soils make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.5 to 2.2 feet for the Lackawanna soils; at 1.3 to 2.0 feet for the Bath soil, in winter to early spring for both soils
Permeability: moderate in surface and upper subsoil layers, slow in dense lower subsoil (fragipan) and substratum for both soils
Average available water capacity: moderate for Lackawanna, low for Bath
Soil reaction: very strongly acid or strongly acid in the surface and upper subsoil layers, very strongly acid to moderately acid in lower subsoil (fragipan) for the Lackawanna soil; very strongly acid to moderately acid in surface and upper subsoil; very strongly acid to slightly acid in the lower subsoil (fragipan) for the Bath soil
Surface runoff: very rapid for both soils
Depth to bedrock and to dense subsoil: more than 60 inches to bedrock for both soils; 20 to 36 inches to the dense subsoil for Lackawanna, 26 to 38 inches to the dense subsoil for the Bath soil

Soil Use and Management

Areas of this unit are wooded or have a cover of brush or other native plants.

Suitability for Farming
The soils of this unit are not suited to cultivated crops, hay, or, pasture because of very steep slopes and large surface stones. Erosion is a hazard, whenever the surface cover is disturbed.

Suitability for Trees
The potential productivity for growing northern red oak is moderately high on the Lackawanna soil. The potential productivity for growing sugar maple is moderate on the Bath soil. Slope is a major limitation when using equipment on this soil. Erosion is a severe hazard whenever soils of this unit are disturbed.

Suitability for Building Sites
Slope and depth to the saturated zone are major limitations if this unit is used as a site for dwellings with basements. Selecting a flatter included or nearby soil will avoid the limitations of very steep slopes. Installing drainage around the footings of the structure, sealing the foundation, and land shaping or grading to divert surface water away from the site can help overcome the limitation due to the depth to the saturated zone.

Very steep slopes, depth to the fragipan, depth to the saturated zone, and restricted permeability in the subsoil limit this unit as a site for septic tank absorption fields. Special designs, such as an enlarged absorption field with a surrounding drainage system, will help overcome the limitations of slow permeability, depth to the saturated zone, and depth to the fragipan. Land shaping, installing tile lines on the contour or constructing the field on a flatter included area can help overcome the limitations of slope.

Slope and potential frost action limit this unit as a site for roads and streets. Selecting a flatter included or nearby soil will avoid the limitations of slope. Constructing roads and streets using a coarse-grained subgrade or base material will help minimize frost damage.

Suitability for Recreation

Slope is the main limitation of this unit is used for most recreational uses. Depth to the saturated zone, depth to the fragipan, and surface stones are also limitations.

The capability subclass is 7s.

LeB—Lewbath flaggy loam, 3 to 8 percent slopes

This soil is very deep, gently sloping, and well drained. It occupies hilltops and plateaus above approximately 1,750 feet elevation. Individual areas are irregular in shape and range from 5 to 25 acres in size.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 4 inches, very dark grayish brown flaggy loam

Subsoil: 4 to 22 inches, yellowish brown flaggy silt loam
22 to 31 inches, brown flaggy silt loam
31 to 33 inches, light brownish gray channery loam with strong brown mottles

Lower subsoil (fragipan): 33 to 72 inches, dense, brown flaggy silt loam with strong brown, light brownish gray, and pinkish gray mottles

Included with this soil in mapping are small areas of moderately deep, well drained Mongaup soils. In lower, depressional parts of the landscape inclusions of very deep, moderately well drained Willdin soils occur. The redder Lewbeach soils are often included where red parent materials are intermingled with the browner parent materials in which Lewbath soils formed. Stony or very stony spots are also common inclusions. Included areas are as large as 5 acres each. Soils that have limitations different from those of the Lewbath soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.5 to 2.2 feet in winter and early spring; otherwise at more than 6 feet
Permeability: moderate in surface and upper subsoil layers, slow in dense lower subsoil (fragipan) and substratum layers
Average available water capacity: moderate
Soil reaction: very strongly acid to moderately acid above the lower subsoil; very strongly acid to slightly acid in the lower subsoil
Surface runoff: slow
Depth to bedrock and to dense subsoil: more than 60 inches to bedrock and 20 to 38 inches to the dense subsoil (fragipan)

Soil Use and Management

Many areas of this soil are used for corn, or small grain, or hay production. Other areas are forested or have a cover of brush or native plants. This soil is among those soils in the county best suited to the production of food or fiber.

Suitability for Farming

This soil is well suited to cultivated crops, although the growing season is several weeks shorter than it is for valley areas. Early maturing crop varieties are best adapted to this soil. Growing cover crops and applying practices such as conservation tillage or contour tillage may be needed to help control erosion.

This soil is well suited to pasture. Limiting stocking rates will help prevent overgrazing and the likelihood of erosion.

Suitability for Trees

The potential productivity for growing sugar maple is moderate on this soil. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone is a limitation if this soil is used as a site for dwellings with basements. Methods of overcoming this limitation include installing footing drains, sealing the foundation, and land shaping or grading to divert water away from the site.

Depth to the fragipan, depth to the saturated zone, and restricted permeability in the subsoil limit this soil as a site for septic tank absorption fields. Special designs, such as an enlarged absorption field with a surrounding drainage system, will help overcome these limitations.

Moderate potential frost action and depth to the saturated zone limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse grained subgrade or base material to frost depth will help prevent frost damage and overcome the limitation of depth to the saturated zone.

Suitability for Recreation

Depth to the saturated zone and depth to the fragipan can cause limitations for most recreational uses of this soil. Slope and gravel content are additional limitations for playgrounds.

The capability subclass is 2e.

LeC—Lewbath flaggy loam, 8 to 15 percent slopes

This soil is very deep, strongly sloping, and well drained. It occupies hillsides in higher parts of the uplands where the growing season is several weeks shorter than in major valleys. Individual areas are irregular in shape and range from 5 to 25 acres in size.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 4 inches, very dark grayish brown flaggy loam

Subsoil: 4 to 22 inches, yellowish brown flaggy silt loam
22 to 31 inches, brown flaggy silt loam
31 to 33 inches, light brownish gray channery loam with strong brown mottles

Lower subsoil (fragipan): 33 to 72 inches, dense, brown flaggy silt loam with strong brown, light brownish gray, and pinkish gray mottles

Included with this soil in mapping are small areas of moderately deep, well drained Mongaup soils. In lower, gently sloping parts of the landscape inclusions of very deep, moderately well drained Willdin soils occur. The redder Lewbeach soils are often included where red parent materials are intermingled with the browner parent materials in which Lewbath soils formed.

Stony or very stony spots are also common inclusions. Included areas are as large as 5 acres each. Soils that have limitations different from those of the Lewbath soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.5 to 2.2 feet in winter and early spring; otherwise at more than 6 feet

Permeability: moderate in surface and upper subsoil layers, slow in dense lower subsoil (fragipan) and substratum layers
Average available water capacity: moderate
Soil reaction: very strongly acid to moderately acid above the lower subsoil; very strongly acid to slightly acid in lower subsoil
Surface runoff: medium
Depth to bedrock and to dense subsoil: more than 60 inches to bedrock and 20 to 38 inches to the dense subsoil (fragipan)

Soil Use and Management

Some areas of this soil are used for corn, or for small grain or hay production. Other areas are forested or have a cover of brush or native plants.

Suitability for Farming

This soil is moderately suited to cultivated crops, although the growing season is several weeks shorter than it is for valley areas. Early maturing crop varieties are best adapted to this soil. Erosion is a hazard and slope may interfere with tillage operations. Growing cover crops and applying practices such as conservation tillage or contour tillage may be needed to help control erosion.

This soil is well suited to pasture. Limiting stocking rates will help prevent overgrazing and the likelihood of erosion.

Suitability for Trees

The potential productivity for growing sugar maple on this soil is moderate. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone and slope limitations exist for dwellings with basements. Methods for overcoming the depth to the saturated zone limitation include installing footing drains, sealing the foundation, and land shaping or grading to divert water away from the building. Designing buildings to conform to the natural slope and land shaping will help overcome the slope limitations.

Depth to the fragipan, depth to the saturated zone, slope, and restricted permeability in the subsoil limit this soil as a site for septic tank absorption fields. Special designs, such as an enlarged absorption field with a surrounding drainage system, will help overcome these limitations. Selecting a flatter included area or laying out tile lines on the contour will help overcome the slope limitation.

Slope, depth to the saturated zone, and potential frost action limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse grained subgrade or base material to frost depth will help overcome the limitation due to the depth to the saturated zone and prevent frost damage.

Suitability for Recreation

Slope, depth to the saturated zone, and depth to the fragipan can cause limitations for most recreational uses of this soil. Gravel content is an additional limitation for playgrounds.

The capability subclass is 3e.

LeD—Lewbath flaggy loam, 15 to 25 percent slopes

This soil is very deep, moderately steep, and well drained. It occupies hillsides in higher parts of the uplands where the growing season is several weeks shorter than in major valleys. Individual areas are mostly long and relatively narrow in shape and range from 5 to 25 acres in size.

The typical sequence, depth, and composition of the layers of the Lewbath soil are—

Surface layer: surface to 4 inches, very dark grayish brown flaggy loam

Subsoil: 4 to 22 inches, yellowish brown flaggy silt loam
22 to 31 inches, brown flaggy silt loam
31 to 33 inches, light brownish gray channery loam with strong brown mottles

Lower subsoil (fragipan): 33 to 72 inches, dense, brown flaggy silt loam with strong brown, light brownish gray, and pinkish gray mottles

Included with this soil in mapping are small areas of moderately deep, well drained Mongaup soils. In more gently sloping parts of the landscape inclusions of very deep, moderately well drained Willdin soils occur. The redder Lewbeach soils are often included where red parent materials are intermingled with the browner parent materials in which Lewbath soils formed. Stony or very stony spots are also common inclusions. Springs or seep spots commonly occur in areas where this unit lies below steeper soils that have bedrock at relatively shallow depths. Included areas are as large as 5 acres each. Soils that have limitations different from those of the Lewbath soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.5 to 2.2 feet in winter and early spring; otherwise at more than 6 feet
Permeability: moderate in the surface and upper subsoil layers, slow in dense lower subsoil (fragipan) and substratum layers
Average available water capacity: moderate
Soil reaction: very strongly acid to moderately acid above the lower subsoil; very strongly acid to slightly acid in the lower subsoil
Surface runoff: rapid
Depth to bedrock and to dense subsoil: more than 60 inches to bedrock and 20 to 38 inches to the dense layer (fragipan)

Soil Use and Management

Some areas of this soil are used for hay production or pasture.
Most areas are forested or have a cover of brush or native plants.

Suitability for Farming

This soil is poorly suited to cultivated crops. Slope hinders the operation of tillage equipment. Erosion is a hazard. The growing season is several weeks shorter than in major valley areas. Growing cover crops and applying conservation practices such as conservation tillage are needed to help control erosion. This soil is marginally suited for hay production. Slope can limit fertilization and harvesting operations. This soil is moderately suited for pasture. Operating maintenance equipment may be hindered by slope.

Suitability for Trees

The potential productivity for growing sugar maple on this soil is moderate. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone and slope are limitations if this soil is used as a site for dwellings with basements. Methods for overcoming the depth to the saturated zone limitation include installing footing drains, sealing the foundations, and land shaping or grading to divert water away from the building. Designing buildings to conform to the natural slope and land shaping will help overcome slope limitations.

Slope, depth to the saturated zone, depth to the fragipan, and restricted permeability in the subsoil also limit the use of this soil as a site for septic tank absorption fields. Special designs for septic systems, such as an enlarged absorption field with a surrounding drainage system and installing lines on the contour, may be necessary to overcome these limitations.

Frost action, depth to the saturated zone, and slope limit this soil as a site for roads and streets. Installing drainage and use of a coarse subgrade or base material can overcome the limitations of seasonal depth to the saturated zone and frost action. Adapting designs to the slope, constructing roads on the contour, and land shaping and grading can help overcome the slope limitation.

Suitability for Recreation

Slope, depth to the saturated zone, and depth to the fragipan can cause limitations for most recreational uses of this soil. Gravel content is an additional limitation for playgrounds.

The capability subclass is 4e.

LeE—Lewbath flaggy loam, 25 to 35 percent slopes

This soil is very deep, steep, and well drained. It occupies hillsides in higher parts of the uplands where the growing season is several weeks shorter than in major valleys. Individual areas are of irregular in shape and range from 5 to 20 acres in size.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 4 inches, very dark grayish brown flaggy loam

Subsoil: 4 to 22 inches, yellowish brown flaggy silt loam
22 to 31 inches, brown flaggy silt loam
31 to 33 inches, light brownish gray channery loam with strong brown mottles

Lower subsoil (fragipan): 33 to 72 inches, dense, brown flaggy silt loam with strong brown, light brownish gray and pinkish gray mottles

The redder Lewbeach soils are often included where red parent materials are intermingled with the browner parent materials in which Lewbath soils formed. Spots of moderately deep, well drained Mongaup soils are included near hilltops. Stony or very stony spots are also common inclusions. Included areas are as large as 5 acres each. Soils that have limitations different from those of the Lewbath soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.5 to 2.2 feet in winter and early spring; otherwise at more than 6 feet
Permeability: moderate in surface and upper subsoil layers, slow in dense lower subsoil (fragipan) and substratum layers
Average available water capacity: moderate
Soil reaction: very strongly acid to moderately acid above the lower subsoil; very strongly acid to slightly acid in the lower subsoil
Surface runoff: very rapid
Depth to bedrock and to dense subsoil: more than 60 inches to bedrock and 26 to 36 inches to the dense subsoil (fragipan)

Soil Use and Management

Areas of this soil are generally forested. A few areas have been cleared for pasture or are growing brush or native plants.

Suitability for Farming

This soil is generally unsuited to cultivation. Steep slope severely limits farming operations by making equipment operation extremely difficult. Erosion is a severe hazard.

This soil is poorly suited to pasture. Maintenance is very difficult due to the steep slope.

Suitability for Trees

The potential productivity for growing sugar maple on this soil is moderate. Laying out access roads on the contour will help reduce the hazard of erosion. Slope limits the use of equipment on this soil.

Suitability for Building Sites

Slope and depth to the saturated zone are the main limitations if this soil is used as a site for dwellings with basements. Selecting a flatter, nearby or included soil or designing buildings to conform to the natural slope and land shaping will help overcome slope limitations. Installing drainage around the footings, sealing the foundation and land shaping or grading to divert water away from the site will help overcome the limitation due to seasonal depth to the saturated zone.

Slope, restricted permeability in the subsoil, depth to the fragipan, and depth to the saturated zone limit this soil as a site for septic tank absorption fields. Special designs, land shaping, installing a drainage system surrounding the absorption field, installing tile lines on the contour, or constructing the field on a flatter, included soil, are methods that can help overcome these limitations.

Steep slope is the major limitation if this soil is used as a site for streets and roads. Constructing roads on the contour or on a flatter included soil and land shaping and grading are methods of overcoming the slope limitation.

Suitability for Recreation

Slope is a major limitation for most recreational uses on this soil. Depth to the saturated zone and depth to the fragipan are other limitations of this soil.

The capability subclass is 6e.

LhB—Lewbeach channery loam, 3 to 8 percent slopes

This very deep, gently sloping, and well drained soil occupies hilltops and plateaus above approximately 1,750 feet elevation.

Individual areas are irregular in shape and range from 5 to 25 acres in size.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 9 inches, brown channery loam

Subsoil: 9 to 17 inches, reddish brown channery loam
17 to 20 inches, reddish brown gravelly loam

Lower subsoil (fragipan): 20 to 61 inches, dense, reddish brown channery loam with yellowish red mottles

Substratum: 61 to 72 inches, reddish brown channery loam

Included with this soil in mapping are small areas of moderately deep, somewhat excessively drained Vly soils. In lower, depressional parts of the landscape inclusions of very deep, moderately well drained Willowemoc soils occur. The browner Lewbath soils are often included, especially in northern and western parts of the county. Stony or very stony spots are also common inclusions. Included areas are as large as 5 acres each. Soils that have limitations different from those of the Lewbeach soil make up about 20 percent of the map unit.

Soil Properties

Water table: at 1.3 to 1.7 feet in winter and early spring; otherwise at more than 6 feet
Permeability: moderate in surface and upper sub soil layers, slow in dense lower subsoil (fragipan) and substratum layers
Average available water capacity: very low
Soil reaction: very strongly acid or strongly acid it the surface and upper subsoil and strongly acid to slightly acid in the substratum
Surface runoff: slow
Depth to bedrock and to dense subsoil: more than 60 inches to bedrock and 18 to 36 inches the dense layer (fragipan)

Soil Use and Management

Some areas of this soil are used for corn, or small grain, or hay production. Other areas are forested or have a cover of brush or native plants. This soil is among those soils in the county best suited to the production of food or fiber.

Suitability for Farming

This soil is well suited to cultivated crops and hay, although the growing season is several weeks shorter than it is for valley areas. Early maturing crop varieties are best adapted to this soil. Erosion can be a hazard, especially on long slopes. Growing cover crops and applying practices such as conservation tillage or contour tillage may be needed to help control erosion.

This soil is well suited to pasture. Limiting stocking rates will help prevent overgrazing and the likelihood of erosion.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone is a limitation if this soil is used as a site for dwellings with basements. Installing foundation drains, sealing the foundation, and land shaping will help overcome the depth to the saturated zone problems.

Depth to the saturated zone and depth to the fragipan limit this soil as a site for septic tank absorption fields. Special designs, such as an enlarged absorption field with a surrounding drainage system, will help overcome these limitations.

Moderate potential frost action and depth to the saturated zone limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse grained subgrade or base material to frost depth will help prevent frost damage and overcome the limitation due to seasonal depth to the saturated zone.

Suitability for Recreation

Depth to the fragipan, depth to the saturated zone, and gravel content can limit this soil for most uses. Slope is an additional limitation for playgrounds.

The capability subclass is 2e.

LhC—Lewbeach channery loam, 8 to 15 percent slopes

This very deep, strongly sloping, and well drained soil occupies hillsides in higher parts of uplands above an elevation of 1,750 feet where the growing season is several weeks shorter than in major valleys. Individual areas are irregular shape and range from 5 to 25 acres in size.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 9 inches, brown channery loam

Subsoil: 9 to 17 inches, reddish brown channery loam
17 to 20 inches, reddish brown gravelly loam

Lower subsoil (fragipan): 20 to 61 inches, dense, reddish brown channery loam, with yellowish red mottles

Substratum: 61 to 72 inches, reddish brown channery loam

Included with this soil in mapping are small areas of moderately deep, somewhat excessively drained Vly soils. In lower, gently sloping parts of the landscape, inclusions of very deep, moderately well drained Willowemoc soils occur. The browner Lewbath soils are often included, especially in northern and western parts of the county. Stony or very stony spots are also common inclusions. Included areas are as large as 5 acres each. Soils that have limitations different from those of the Lewbeach soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.3 to 1.7 feet in winter and early spring; otherwise at more than 6 feet
Permeability: moderate in surface and upper sub soil layers, slow in dense lower subsoil (fragipan) and substratum layers
Average available water capacity: very low
Soil reaction: very strongly acid or strongly acid it the surface and upper subsoil and strongly acid to slightly acid in the substratum
Surface runoff: medium
Depth to bedrock and to dense subsoil: more than 60 inches to bed rock and 18 to 36 inches to the dense layer (fragipan)

Soil Use and Management

Some areas of this soil are used for corn, or small grain, or hay production. Other areas are forested or have a cover of brush or native plants.

Suitability for Farming

This soil is moderately suited to cultivated crops, although the growing season is several weeks shorter than it is for valley areas. Early maturing crop varieties are best adapted to this soil. Erosion is a hazard and slope may interfere with tillage operations. Growing cover crops and applying practices such as conservation tillage or contour tillage may be needed to help control erosion (fig. 10). This soil is well suited to pasture. Limiting stocking rates will help prevent overgrazing and the likelihood of erosion.

Suitability for Trees

The potential productivity for growing sugar maple on this soil is moderate. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone and slope are limitations if this soil is used as a site for dwellings with basements. Methods of overcoming the depth to the saturated zone limitation include installing footing drains, sealing the foundation, and land shaping or grading to divert water away from the building. Designing buildings to conform to the natural contour and land shaping will help overcome the slope limitation.

Figure 10.—Contour stripcropping is a common practice on sloping upland soils, such as Lewbeach and Willowemoc shown here. Stripcropping helps to control soil erosion, maintain soil productivity, and protect water quality.

Depth to the saturated zone and depth to the cemented pan limits this soil as a site for septic tank absorption fields. Special designs, such as an enlarged absorption field with a surrounding drainage system, will help overcome these limitations. Slope is also a limitation and can be overcome by selecting a flatter included area or by laying out tile lines on the contour.

Slope, depth to the saturated zone, and moderate potential frost action limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse grained subgrade or base material to frost depth will help prevent frost damage and overcome the limitation due to the depth to the saturated zone. Adapting designs to the slope, constructing roads on the contour, and land shaping and grading can overcome the slope limitation.

Suitability for Recreation

Slope, depth to the saturated zone, depth to the fragipan and gravel content can limit this soil for most recreational uses.

The capability subclass is 3e.

LhD—Lewbeach channery loam, 15 to 25 percent slopes

This very deep, moderately steep, and well drained soil occupies hillsides in higher parts of uplands above an elevation of 1,750 feet where the growing season is several weeks shorter than in the major valleys. Individual areas are mostly long and relatively narrow in shape and range from 5 to 25 acres in size.

The typical sequence, depth, and composition of the layers of this soil are—
Surface layer: surface to 9 inches, brown channery loam

Subsoil: 9 to 17 inches, reddish brown channery loam
17 to 20 inches, reddish brown gravelly loam

Lower subsoil (fragipan): 20 to 61 inches, dense, reddish brown channery loam, with yellowish red mottles

Substratum: 61 to 72 inches, reddish brown channery loam

Included with this soil in mapping are small areas of moderately deep, somewhat excessively drained Vly soils. In more gently sloping parts of the landscape, inclusions of very deep, moderately well drained Willowemoc soils occur. The browner Lewbath soils are often included, especially in northern and western parts of the county. Stony or very stony spots are also common inclusions. Springs or seep spots commonly occur in areas where this unit lies below steeper soils that have bedrock at relatively shallow depths. Included areas are as large as 5 acres each. Soils that have limitations different from those of the Lewbeach soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.3 to 1.7 feet in winter and early spring; otherwise at more than 6 feet
Permeability: moderate in surface and upper subsoil layers, slow in dense lower subsoil (fragipan) and substratum layers
Average available water capacity: very low
Soil reaction: very strongly acid or strongly acid it the surface and upper subsoil and strongly acid to slightly acid in the substratum
Surface runoff: rapid
Depth to bedrock and to dense subsoil: more than 60 inches to bedrock and 18 to 36 inches to the dense layer (fragipan)

Soil Use and Management

Some areas of this soil are used for hay production or pasture. Most areas are forested or have a cover of brush or native plants.

Suitability for Farming
This soil is poorly suited to cultivated crops. Slope hinders the use of tillage equipment. Erosion is a hazard. The growing season is several weeks shorter than in major valley areas. Growing cover crops and applying practices such as conservation tillage are needed to help control erosion. This soil is marginally suited for hay production. Slope can limit fertilization and harvesting operations. This soil is moderately suited to pasture. Operation of maintenance equipment may be hindered by slope.

Suitability for Trees
The potential productivity for growing sugar maple is moderate on this soil. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites
Slope and depth to the saturated zone limit the use of this soil as a site for dwellings with basements and for septic tank absorption fields. Designing dwellings and septic tank absorption fields to conform to the natural slope, land shaping, and installing a drainage system to intercept lateral water movement will help overcome the limitation for dwellings.

Special designs for septic systems, such as an enlarged absorption field, installing a surrounding drainage system, and installing lines on the contour may be necessary to overcome the depth to the saturated zone, depth to the fragipan, and slope limitations.

Frost action, depth to the saturated zone, and slope limit this soil as a site for roads and streets. Installing a drainage system and using a coarse subgrade or base material can overcome the limitations of frost action and the seasonal depth to the saturated zone. Adapting designs to the slope, constructing roads on the contour, and land shaping and grading can overcome the limitation of slope.

Suitability for Recreation

Slope, depth to the fragipan, depth to the saturated zone, and gravel content can limit most recreational uses of this soil.

The capability subclass is 4e.

LhE—Lewbeach channery loam, 25 to 40 percent slopes

This very deep, steep, and well drained soil occupies hillsides in higher parts of uplands above an elevation of 1,750 feet where the growing season is several weeks shorter than in major valleys. Individual areas are mostly long and narrow in shape and range from 5 to 20 acres in size.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 9 inches, brown channery loam

Subsoil: 9 to 17 inches, reddish brown channery loam
17 to 20 inches, reddish brown gravelly loam

Lower subsoil (fragipan): 20 to 61 inches, dense, reddish brown channery loam with yellowish red mottles

Substratum: 61 to 72 inches, reddish brown channery loam

Included with this soil in mapping are small areas of moderately deep, somewhat excessively drained Vly soils. Spots of moderately well drained Willowemoc soils occur in flatter areas. The browner Lewbath soils are often included, especially in northern and western parts of the county.

Stony or very stony spots are also common inclusions. Included areas are as large as 5 acres each. Soils that have limitations different from those of the Lewbeach soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.3 to 1.7 feet in winter and early spring; otherwise at more than 6 feet
Permeability: moderate in surface and upper subsoil layers, slow in dense lower subsoil (fragipan) and substratum layers
Average available water capacity: very low
Soil reaction: very strongly acid or strongly acid it the surface and upper subsoil and strongly acid to slightly acid in the substratum
Surface runoff: very rapid
Depth to bedrock and to dense subsoil: more than 60 inches to bedrock and 18 to 36 inches to the dense layer (fragipan)

Soil Use and Management

Areas of this soil are generally forested. A few areas have been cleared for pasture or are growing brush or native plants.

Suitability for Farming

This soil is generally unsuited to cultivation. Steep slope severely limits farming operations by making equipment operation extremely difficult. Erosion is a severe hazard.

This soil is poorly suited to pasture. Pasture maintenance is very difficult due to the steep slope.

Suitability for Trees

The potential productivity for growing sugar maple is moderate on this soil. Laying out access roads on the contour will help reduce the hazard of erosion. Slope limits the use of equipment on this soil.

Suitability for Building Sites

Slope and depth to the saturated zone also limit the use of this soil as a site for dwellings with basements and for septic tank absorption fields. Depth to the fragipan also is a limitation for septic tank absorption fields. Designs that conform to the natural slope, land shaping, and installing a drainage system to intercept lateral water movement will help overcome the limitation for dwellings. Special designs for septic systems, such as an enlarged absorption field and installing lines on the contour, may be necessary to overcome depth to the saturated zone and slope limitations. Erosion is a hazard whenever this soil is disturbed. Selecting a flatter included soil or nearby area will also overcome the limitation of steep slopes.

Slope, potential frost action, and seasonal depth to the saturated zone limit this soil as a site for roads and streets. Installing drainage and using a coarse subgrade or base material can overcome the limitations of frost action and depth to the saturated zone. Adapting designs to the slope, constructing roads on the contour or on a flatter included soils, and land shaping and grading can overcome the limitation of slope.

Suitability for Recreation

Slope, depth to the fragipan and depth to the saturated zone can severely limit most recreational uses of this soil.

The capability subclass is 6e.

LkC—Lewbeach and Lewbath soils, 3 to 15 percent slopes, very stony

This unit consists of Lewbeach soils or Lewbath soils or both in varying proportion. These soils are very deep, gently to strongly sloping, and well drained. Large stones cover 0.1 to 3.0 percent of the surface and are between 3 and 25 feet apart. This unit occupies hilltops and plateaus in the higher uplands above 1,750 feet where the growing season is several weeks shorter than in major valley areas. The total acreage of this unit is about 50 percent Lewbeach soils, 30 percent Lewbath soils, and 20 percent inclusions of other soils. These soils were mapped together because there are few or no differences in use and management between them. Individual areas are irregularly shaped and range from 5 to 30 acres in size.

The typical sequence, depth, and composition of the layers of the Lewbeach soil are—

Surface layer: surface to 9 inches, brown channery loam

Subsoil: 9 to 17 inches, reddish brown channery loam
17 to 20 inches, reddish brown gravelly loam

Lower subsoil (fragipan): 20 to 61 inches, dense, reddish brown channery loam, with yellowish red mottles

Substratum: 61 to 72 inches, reddish brown channery loam

The typical sequence, depth, and composition of the layers of the Lewbath soil are—

Surface layer: surface to 4 inches, very dark grayish brown flaggy loam

Subsoil: 4 to 22 inches, yellowish brown flaggy silt loam
22 to 31 inches, brown flaggy silt loam
31 to 33 inches, light brownish gray channery loam with strong brown mottles

Lower subsoil (fragipan): 33 to 72 inches, dense brown flaggy silt loam with strong brown, light brownish gray, and pinkish gray mottles

Included with this soil in mapping are small areas of very deep, well drained Elka soils and moderately deep, somewhat excessively drained Vly soils. In lower, depressional parts of the landscape inclusions of very deep, moderately well drained Willowemoc or Willdin soils occur. Soils that are non-stony, stony, or are bouldery or very bouldery are also common inclusions. Included areas are as large as 5 acres each. Soils that have limitations different from those of the Lewbeach or Lewbath soils make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.3 to 1.7 feet in the Lewbeach soil and at 1.5 to 2.2 feet in the Lewbath soil in winter and early spring, otherwise at more than 6 feet for both soils
Permeability: moderate in surface and upper subsoil layers, slow in dense lower subsoil (fragipan) and substratum layers for both soils
Average available water capacity: very low for Lewbeach soil and moderate for Lewbath soil
Soil reaction: very strongly acid to moderately acid throughout both soils in the surface and subsoil
Surface runoff: medium for both soils
Depth to bedrock and to dense subsoil: more than 60 inches to bedrock and 18 to 36 inches to the dense layer (fragipan) in both soils

Soil Use and Management

Areas of this unit are mostly wooded or have a cover of brush or other native vegetation. Some areas are cleared and used for pasture. Pasture management can be difficult due to excessive surface stones.

Suitability for Farming

The soils of this unit are generally unsuited to cultivated crops and hay because of the many large surface stones, which interfere with cultivation and hinder other farming operations. In addition, erosion is a moderate hazard.

This unit is poorly suited to pasture. Large surface stones make pasture maintenance difficult. Proper stocking rates will help avoid overgrazing, reduce the erosion hazard, and maintain better forage quality and quantity.

Suitability for Trees

The potential productivity for growing sugar maple is moderate on this soil. There are few or no limitations to using this unit for wood production. Machine plantings of seedlings may be hindered due to excessive surface stones.

Suitability for Building Sites

This unit has moderate limitations for dwellings with basements due to depth to the saturated zone and slope. Installing foundation drains and applying a protective coating to basement walls will help to prevent wet basements. Maintaining vegetative cover adjacent to the building site will help reduce the erosion hazard during construction.

The main limitations if this unit is used as a site for septic tank absorption fields are depth to the fragipan and seasonal depth to the saturated zone. Installing drainage around the absorption field, enlarging the absorption field or the trenches below the distribution lines will help overcome these limitations.

The main limitations for local roads and streets are frost action and depth to the saturated zone. Installing drainage and providing a coarse grained subgrade or base material will overcome the depth to the saturated zone limitation and reduce the limitation of frost action.

Suitability for Recreation

Excessive surface stones, depth to the fragipan, and depth to the saturated zone can severely limit this unit for most recreational uses.

The capability subclass is 6s.

LkE—Lewbeach and Lewbath soils, 15 to 35 percent slopes, very stony

This unit consists of Lewbeach soils or Lewbath soils or both in varying proportion. These soils are very deep, moderately steep to steep, and well drained. Large stones cover 0.1 to 3.0 percent of the surface and are between 3 and 25 feet apart. This unit occupies hillsides in the higher uplands above 1,750 feet where the growing season is several weeks shorter than in major valley areas. The total acreage of this unit is about 50 percent Lewbeach soils, 30 percent Lewbath soils, and 20 percent inclusions of other soils. These soils were mapped together because there were few or no differences in use and management between them. Individual areas are commonly long and narrow and range from 5 to 75 acres.

The typical sequence, depth, and composition of the layers of the Lewbeach soil are—

Surface layer: surface to 9 inches, brown channery loam

Subsoil: 9 to 17 inches, reddish brown channery loam
17 to 20 inches, reddish brown gravelly loam

Lower subsoil (fragipan): 20 to 61 inches, dense, reddish brown channery loam with yellowish red mottles

Substratum: 61 to 72 inches, reddish brown channery loam

The typical sequence, depth, and composition of the layers of the Lewbath soil are—

Surface layer: surface to 4 inches, very dark grayish brown flaggy loam

Subsoil: 4 to 22 inches, yellowish brown flaggy silt loam
22 to 31 inches, brown flaggy silt loam
31 to 33 inches, light brownish gray channery loam with strong brown mottles

Lower subsoil (fragipan): 33 to 72 inches, dense, brown flaggy silt loam with strong brown, light brownish gray, and pinkish gray mottles

Included with this unit in mapping are small areas of very deep, well drained Elka and Rockrift soils, and moderately deep, well drained Mongaup and somewhat excessively drained Vly soils. Soils that are non-stony or are stony or bouldery are also common inclusions. Included areas are as large as 5 acres each. Soils that have limitations different from those of the Lewbeach or Lewbath soils make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.3 to 1.7 feet in Lewbeach soil and at 1.5 to 2.2 feet in Lewbath soil in winter and early spring, otherwise at more than 6 feet for both soils
Permeability: moderate in surface and upper subsoil layers, slow in dense lower subsoil (fragipan) and substratum layers for both soils
Average available water capacity: very low for Lewbeach, moderate for Lewbath
Soil reaction: very strongly acid to moderately acid throughout both soils in the surface and subsoil layers
Surface runoff: rapid to very rapid for both soils
Depth to bedrock and to dense subsoil: more than 60 inches to bedrock and 18 to 36 inches to the dense layer (fragipan) in both soils

Soil Use and Management

Areas of this unit are mostly wooded or have a cover of brush or other native vegetation. A few areas are cleared and used for pasture.

Suitability for Farming

This unit is unsuited to cultivated crops and hay because of steep slopes and the many large surface stones, which severely limit equipment operations. Erosion is a severe hazard when this soil is disturbed.

The unit is unsuited to pasture. Steep slopes and large surface stones make pasture maintenance extremely difficult.

Suitability for Trees

The potential productivity for growing sugar maple is moderate on this unit. There are moderate limitations to using the soils of this unit for wood production. Machine planting of seedlings is not practical due to excessive surface stones and steep slopes. Laying out access roads on the contour will reduce the hazard of erosion.

Suitability for Building Sites

Steep slopes and depth to the saturated zone limit the use of this unit for dwellings with basements. Adapting designs to the slope, and extensive land shaping and grading can help overcome the limitation due to slope. Installing drainage around the footings and sealing the foundation can overcome the limitation due to seasonal depth to the saturated zone. Maintaining vegetative cover adjacent to the building site will help reduce the erosion hazard during construction.

The main limitations if this unit is used as a site for septic tank absorption fields are depth to the fragipan, depth to the saturated zone, and slope. Installing drainage around the absorption field and enlarging the absorption field or the trenches below the distribution lines will help overcome the limitation due to depth to the fragipan and seasonal depth to the saturated zone. Land shaping, installing lines on the contour, or constructing the field on a flatter included or adjacent soil can overcome the limitation due to slope.

Potential frost action, depth to the saturated zone, and slope limit this unit as a site for roads and streets. Installing a drainage system and providing a coarse grained subgrade or base material to frost depth will help overcome the depth to the saturated zone limitation and prevent frost damage. Constructing roads on the contour and land shaping or grading are methods of overcoming the slope limitation.

Suitability for Recreation

Excessive surface stones, steep slope, depth to the fragipan, and depth to the saturated zone can severely limit this unit for most recreational uses.

The capability subclass is 7s.

LkF—Lewbeach and Lewbath soils, 35 to 55 percent slopes, very stony

This unit consists of Lewbeach or Lewbath soils or both in varying proportions. These soils are very deep, very steep, and well drained. Large stones cover 0.1 to 3.0 percent of the surface and are between 3 and 25 feet apart. This unit occupies hillsides in the higher uplands above 1,750 feet where the growing season is several weeks shorter than in major valley areas. The total acreage of this unit is about 50 percent Lewbeach soils, 30 percent Lewbath soils, and 20 percent inclusions of other soils. These soils were mapped together because there are few or no differences between them. Individual areas are commonly long and narrow and range from 5 to 75 acres.

The typical sequence, depth, and composition of the layers of the Lewbeach soil are—

Surface layer: surface to 9 inches, brown channery loam

Subsoil: 9 to 17 inches, reddish brown channery loam
17 to 20 inches, reddish brown gravelly loam

Lower subsoil (fragipan): 20 to 61 inches, dense, reddish brown channery loam, with yellowish red mottles

Substratum: 61 to 72 inches, reddish brown channery loam

The typical sequence, depth, and composition of the layers of the Lewbath soil are—

Surface layer: surface to 4 inches, very dark grayish brown flaggy loam

Subsoil: 4 to 22 inches, yellowish brown flaggy silt loam
22 to 31 inches, brown flaggy silt loam
31 to 33 inches, light brownish gray channery loam with strong brown mottles

Lower subsoil (fragipan): 33 to 72 inches, dense brown flaggy silt loam with strong brown, light brownish gray, and pinkish gray mottles

Included with this unit in mapping are small areas of very deep Elka and Rockrift soils; moderately deep, well drained Mongaup soils; and somewhat excessively drained Vly soils. Soils that are non-stony or are stony or bouldery are also common inclusions. Included areas are as large as 5 acres each. Soils that have limitations different from those of the Lewbeach or Lewbath soils make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.3 to 1.7 feet in the Lewbeach soil and at 1.5 to 2.2 feet in the Lewbath soil in winter and early spring, otherwise at more than 6 feet for both soils

Permeability: moderate in surface layer and upper subsoil layers, slow in dense lower subsoil (fragipan) and substratum layers

Average available water capacity: very low for the Lewbeach soil and moderate for Lewbath soil

Soil reaction: very strongly acid to moderately acid throughout both soils in the surface and substratum

Surface runoff: very rapid for both soils

Depth to bedrock and to dense subsoil: more than 60 inches to bedrock and 18 to 36 inches to the dense layer (fragipan)in both soils

Soil Use and Management

Areas of this unit are wooded or have a cover of brush or other native vegetation.

Suitability for Farming

This unit is unsuited to cultivated crops, hay and pasture because of very steep slopes and the many large surface stones, which make equipment operations extremely hazardous or impossible. Erosion is a severe hazard whenever these soils are disturbed.

Suitability for Trees

The potential productivity for growing sugar maple on this unit is moderate. There are severe equipment limitations due to the very steep slopes. Because of the susceptibility to erosion, soils of this unit should be disturbed as little as possible.

Suitability for Building Sites

This unit is very limited for building site development due to slope and depth to the saturated zone. Costly excavations or special designs are needed for dwelling construction.

The installation and use of septic tank absorption fields is severely limited due to depth to the fragipan, depth to the saturated zone, and slope. A more suitable adjacent or included soil should be selected for location of the absorption field.

The construction of roads or streets is also very limited because of very steep slopes. Flatter included or adjacent soils should be selected for building site development.

Suitability for Recreation

This unit is very limited for recreational uses due to slope, depth to the saturated zone, depth to the fragipan, and excessive surface stones.

The capability subclass is 7s.

LoB—Lordstown channery silt loam, 2 to 8 percent slopes

This soil is gently sloping, moderately deep, and well drained. Areas of this soil are on benches or on hilltops in uplands below 1,750 feet. Soil areas are oval or irregular in shape and range from about 5 to 20 acres.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 3 inches, black channery silt loam

Subsoil: 3 to 6 inches, dark brown channery silt loam
6 to 19 inches, dark yellowish brown channery silt loam
19 to 27 inches, yellowish brown channery loam

Substratum: 27 to 32 inches, grayish brown gravelly loam

Bedrock: 32 inches, gray sandstone bedrock

Included with this soil in mapping are spots of Arnot soils, especially on higher parts of the landscape. Somewhat poorly drained, shallow to deep soils are included in nearly level areas. Spots of Oquaga soils, very stony areas, and soils that are more than 40 inches deep to bedrock are also common inclusions. Included areas range up to 5 acres each. Soils with limitations different from those of the Lordstown soil make up about 20 percent of the map unit.

Soil Properties

Water table: below 6 feet normally; water may be perched above the bedrock for brief periods
Permeability: moderate in surface and subsoil layers
Average available water capacity: moderate
Soil reaction: very strongly acid to slightly acid in the surface; very strongly acid to moderately acid in the subsoil; strongly acid or moderately acid in the substratum

Surface runoff: slow
Depth to bedrock: 20 to 40 inches

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants. This soil is among those soils in the county best suited to the production of food or fiber.

Suitability for Farming

This soil is well suited to cultivated crops and hay but erosion is a hazard, especially on long slopes. Using sod and cover crops in a rotation and practices such as no-till or minimum tillage, stripcropping, and contour tillage are important measures that help to control erosion and maintain productivity.

This soil is well suited to pasture. Proper stocking rates and preventing overgrazing will help maintain more desirable forage plants and reduce the erosion hazard.

Suitability for Trees

The potential productivity for growing sugar maple is moderate on this soil. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

The moderate depth to bedrock limits this soil as a site for dwellings with basements and for septic tank absorption fields. Careful site investigation and selection of a deeper included or adjacent soil can overcome this limitation.

Frost action and depth to bedrock limit this soil as a site for roads and streets. Using a coarser subgrade or base material can overcome the limitation of frost action. Site investigation and careful planning of road locations can minimize the limitation of depth to bedrock and reduce or eliminate the need for blasting.

Suitability for Recreation

Slope, depth to bedrock, and gravel content limit the use of this soil as a site for playgrounds. There are few limitations in using this soil for most other recreational purposes.

The capability subclass is 2e.

LoC—Lordstown channery silt loam, 8 to 15 percent slopes

This soil is strongly sloping, moderately deep, and well drained. Areas of this soil are on the sides of benches or on hillsides in uplands below 1,750 feet. Soil areas are oval or irregular in shape and range from about 5 to 25 acres in size.

The typical sequence, depth, and composition of the layers of this soil are—
Surface layer: surface to 3 inches, black channery silt loam

Subsoil: 3 to 6 inches, dark brown channery silt loam
6 to 19 inches, dark yellowish brown channery silt loam
19 to 27 inches, yellowish brown channery loam

Substratum: 27 to 32 inches, grayish brown gravelly loam

Bedrock: 32 inches, gray sandstone bedrock

Included with this soil in mapping are spots of Arnot soils, especially on higher or steeper parts of the landscape. Somewhat poorly drained, shallow to deep soils are included in gently sloping areas. Spots of Oquaga soils, very stony areas, and soils that are more than 40 inches deep to bedrock are also common inclusions. Included areas range up to 5 acres each. Soils with limitations different from those of the Lordstown soil make up about 20 percent of the map unit.

Soil Properties

Water table: below 6 feet normally; water may be perched above the bedrock for brief periods
Permeability: moderate in surface and subsoil layers
Average available water capacity: moderate
Soil reaction: very strongly acid to slightly acid in the surface; very strongly acid to moderately acid in the subsoil; strongly acid or moderately acid in the substratum
Surface runoff: medium
Depth to bedrock: 20 to 40 inches

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is moderately suited to cultivated crops. Erosion is a hazard, especially on long slopes. Using mostly sod and cover crops in a rotation and practices such as no-till or minimum tillage, stripcropping, and contour tillage are important measures that help to control erosion and maintain productivity.

This soil is well suited to pasture. Maintaining proper stocking rates and preventing overgrazing will help maintain more desirable forage plants and reduce the erosion hazard.

Suitability for Trees

The potential productivity for growing sugar maple on this soil is moderate. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Slope and the moderate depth to bedrock limits this soil as a site for dwellings with basements and for septic tank absorption fields. Careful site investigation and selection of a deeper and flatter included or adjacent soil can overcome these limitations.

Frost action, depth to bedrock, and slope limit this soil as a site for roads and streets. Using a coarser subgrade or base material can overcome the limitation of frost action. Site investigation and careful planning of road locations can minimize the limitation of depth to bedrock and reduce or eliminate the need for blasting. Adapting road designs to the slope, land shaping, and constructing on the contour are measures to help overcome the limitation of slope for roads and streets.

Suitability for Recreation

Slope, gravel content, and depth to bedrock limit the use of this soil as a site for playgrounds. Slope can be a limitation of this soil for most other recreational uses.

The capability subclass is 3e.

LoD—Lordstown channery silt loam, 15 to 25 percent slopes

This soil is moderately steep, moderately deep, and well drained. Areas of this soil are on the sides of benches or on hillsides in uplands above 1,750 feet. Soil areas are oval or irregular in shape and range from about 10 to 35 acres.

The typical sequence, depth, and composition of the layers of this soil are—
Surface layer: surface to 3 inches, black channery silt loam

Subsoil: 3 to 6 inches, dark brown channery silt loam
6 to 19 inches, dark yellowish brown channery silt loam
19 to 27 inches, yellowish brown channery loam

Substratum: 27 to 32 inches, grayish brown gravelly loam

Bedrock: 32 inches, gray sandstone bedrock

Included with this soil in mapping are spots of Arnot soils, especially on higher or steeper parts of the landscape. Moderately well drained, shallow to deep soils are included in flatter areas. Spots of Oquaga soils, very stony areas, and soils that are more than 40 inches deep to bedrock are also common inclusions. Included areas range up to 5 acres each. Soils with limitations different from those of the Lordstown soil make up about 20 percent of the map unit.

Soil Properties

Water table: below 6 feet normally; water may be perched above the bedrock for brief periods
Permeability: moderate in surface and subsoil layers
Average available water capacity: moderate
Soil reaction: very strongly acid to slightly acid in the surface; very strongly acid to moderately acid in the subsoil; strongly acid or moderately acid in the substratum
Surface runoff: rapid
Depth to bedrock: 20 to 40 inches

Soil Use and Management

A few areas of this soil are cleared and used for farming. Most areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is poorly suited to cultivated crops. Erosion is a hazard and the moderately steep slope hinders most farming operations. Using a high proportion of sod crops in a rotation and practices such as no-till or minimum tillage, stripcropping, and contour tillage are important measures in controlling erosion and maintaining productivity.

This soil is moderately suited to pasture. Assuring proper stocking rates and preventing overgrazing will help maintain more desirable forage plants and reduce the erosion hazard.

Suitability for Trees

The potential productivity for growing sugar maple is moderate on this soil. Establishing access roads on the contour will help reduce the erosion hazard. Slope limits the use of equipment on this soil.

Suitability for Building Sites

Slope and the moderate depth to bedrock limit this soil as a site for dwellings with basements and for septic tank absorption fields. Careful site investigation and selection of a deeper included or adjacent soil can overcome the limitation of depth to bedrock. Designing dwellings to conform to the slope and land shaping can overcome the slope limitation for homesites. Careful design, land shaping, and constructing tile lines on the contour or on a flatter included soil help overcome the slope limitations for septic tank absorption fields.

Frost action, slope, and depth to bedrock limit this soil as a site for roads and streets. Using a coarser subgrade or base material can overcome the limitation of frost action. Site investigation and careful planning of road locations can minimize the limitation of depth to bedrock and reduce or eliminate the need for blasting. Adapting road designs to the slope, land shaping, and constructing roads on the contour are measures to help overcome the limitation of slope for roads and streets.

Suitability for Recreation

Slope, gravel content, and depth to bedrock limit the use of this soil as a site for playgrounds. Slope is a limitation of this soil for most other recreational uses.

The capability subclass is 4e.

LoE—Lordstown channery silt loam, 25 to 40 percent slopes

This soil is steep, moderately deep, and well drained. Areas of this soil are on hillsides on bedrock controlled uplands below 1,750 feet. Areas are long and narrow or irregular in shape and range from about 10 to 50 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 3 inches, black channery silt loam
3 to 6 inches, dark brown channery silt loam
6 to 19 inches, dark yellowish brown channery silt loam
19 to 27 inches, yellowish brown channery loam

Substratum: 27 to 32 inches, grayish brown gravelly loam

Bedrock: 32 inches, gray sandstone bedrock

Included with this soil in mapping are spots of Arnot soils, very shallow soils and occasional bedrock outcrops, especially near hilltops. Deep or very deep soils are common inclusions at the lower edges of slopes. Spots of very stony or bouldery soils are also common. Oquaga soils are common inclusions in many parts of the county. Included areas range up to 5 acres each. Soils with limitations different from those of the Lordstown soil make up about 20 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderate in surface and subsoil layers
Average available water capacity: moderate
Soil reaction: very strongly acid to slightly acid in the surface; very strongly acid to moderately acid in the subsoil; strongly acid or moderately acid in the substratum
Surface runoff: very rapid
Depth to bedrock: 20 to 40 inches

Soil Use and Management

Most areas of this soil are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is generally unsuited to cultivated crops and hay. The steep slope makes the operation of farm machinery extremely difficult and hazardous. Erosion is a hazard whenever the soil is disturbed.

This soil is poorly suited to pasture. Slope makes pasture maintenance very difficult. Controlling stocking rates and preventing overgrazing, especially during dry weather, will help maintain a better sod cover and reduce the hazard of erosion.

Suitability for Trees

The potential productivity for growing sugar maple is moderate on this soil. Laying out access roads on the contour will reduce the hazard of erosion. Slope limits the use of equipment on this soil.

Suitability for Building Sites

Slope and the moderate depth to bedrock limit this soil as a site for dwellings with basements and for septic tank absorption fields. Careful site investigation and selection of a deeper included or adjacent soil can overcome the limitation of depth to bedrock. Designing building sites to conform with the natural slope, extensive land shaping, or selecting a flatter adjacent soil are ways that can help overcome the slope limitation. Extensive land shaping or constructing the septic tand absorption field on a flatter included area or adjacent soil can help overcome the limitation of slope.

Depth to bedrock, frost action, and slope limit the use of this soil as a site for roads and streets. Using a coarser subgrade or base material can overcome the limitation of frost action. Constructing roads and streets on the contour, extensive land shaping and grading, and careful design will help overcome the limitation of slope for roads and streets. Planning road locations to avoid areas of shallow soil can reduce or eliminate the need for blasting bedrock. Erosion is a severe hazard whenever the natural cover of this soil is disturbed.

Suitability for Recreation

Slope limits the use of this soil as a site for most recreation purposes. Gravel content and depth to bedrock are additional limitations for playground sites.

The capability subclass is 6e.

MaB—Maplecrest gravelly silt loam, 3 to 8 percent slopes

This soil is gently sloping, very deep, and well drained. Areas of this soil are on rolling land in valleys and along the sides of valleys. Areas are irregular and range from about 5 to 15 acres.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 3 inches, dark reddish brown gravelly silt loam

Subsurface layer: 3 to 6 inches, yellowish red gravelly silt loam

Subsoil: 6 to 18 inches, yellowish red gravelly silt loam
18 to 36 inches, reddish brown gravelly very fine sandy loam

Substratum: 36 to 46 inches, reddish brown gravelly loam
46 to 72 inches, reddish brown gravelly fine sandy loam

Included with this soil is mapping are spots of Tunkhannock or Riverhead soils in valleys. Areas of Lackawanna soils are included along valley sides. Moderately well drained or somewhat poorly drained soils are common inclusions in flatter areas or depressions. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Maplecrest soil make up about 20 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderate in surface and subsoil layers and moderate or moderately rapid in the substratum
Average available water capacity: high
Soil reaction: very strongly acid to moderately acid in the surface and upper subsoil; strongly acid to slightly acid in the lower subsoil; strongly acid to moderately acid in the substratum
Surface runoff: slow
Depth to bedrock: more than 60 inches

Soil Use and Management

Some areas of this soil are forested or have a cover of brush or other native plants. Other areas are cleared and used for farming or community development. This soil is among those soils in the county best suited to the production of food or fiber.

Suitability for Farming

This soil is well suited to farming and to the production of a variety of cultivated crops and forage. Erosion is a hazard, especially on long slopes. Practices such as minimum tillage, stripcropping, or contour tillage help control erosion and maintain soil productivity.

This soil is well suited to pasture. Rotational grazing and proper stocking rates will help to maintain a better quantity and quality of forage and prevent erosion.

Suitability for Trees

The potential productivity for growing sugar maple is moderate on this soil. There are few or no limitations to using this soil for wood production.

Suitability for Building Sites

This soil has few or no limitations as a site for dwellings with basements or for septic tank absorption fields.

Potential frost action limits this soil as a site for roads and streets. Using a coarser subgrade or base material to frost depth can overcome this limitation.

Suitability for Recreation

Gravel content and slope limit use of this soil as a site for playgrounds. There are few or no limitations of this soil for other recreational uses.

The capability subclass is 2e.

MaC—Maplecrest gravelly silt loam, 8 to 15 percent slopes

This soil is strongly sloping, very deep, and well drained. Areas of this soil are on rolling land in valleys and along the sides of valleys. Areas are irregular in shape and range from about 5 to 20 acres.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 3 inches, dark reddish brown gravelly silt loam

Subsurface layer: 3 to 6 inches, yellowish red gravelly silt loam

Subsoil: 6 to 18 inches, yellowish red gravelly silt loam
18 to 36 inches, reddish brown gravelly very fine sandy loam

Substratum: 36 to 46 inches, reddish brown gravelly loam
46 to 72 inches, reddish brown gravelly fine sandy loam

Included with this soil is mapping are spots of Tunkhannock or Riverhead soils in valleys. Areas of Lackawanna soils are included along valley sides. Moderately well drained or somewhat poorly drained soils are common inclusions in flatter areas. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Maplecrest soil make up about 20 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderate in surface and subsoil layers and moderate or moderately rapid in the substratum
Average available water capacity: high

Soil reaction: very strongly acid to moderately acid in the surface and upper subsoil; strongly acid to slightly acid in the lower subsoil; strongly acid to moderately acid in the substratum
Surface runoff: medium
Depth to bedrock: more than 60 inches

Soil Use and Management

Some areas of this soil are forested or have a cover of brush or other native plants. Other areas are cleared and used for farming or community development.

Suitability for Farming

This soil is moderately suited to farming and to the production of a variety of cultivated crops and forage. Erosion is a hazard. Practices such as minimum tillage, stripcropping, greater use of sod crops in rotation, or contour tillage help control erosion and maintain soil productivity.

This soil is well suited to pasture. Rotational grazing and proper stocking rates will help to maintain a better quantity and quality of forage and prevent erosion.

Suitability for Trees

The potential productivity for growing sugar maple is moderate on this soil. There are few or no limitations to using this soil for wood production.

Suitability for Building Sites

Slope limits the use of this soil as a site for dwellings with basements and for septic tank absorption fields. Design buildings to conform to the natural slope and landshaping can help overcome the limitation for dwellings. Landshaping, installing lines on the contour, or constructing the field on a flatter included area can overcome the limitation for absorption fields.

Frost action and slope limit this soil as a site for roads and streets. Use of a coarser subgrade or base material can overcome the limitation of frost action. Adapting designs to the slope, constructing roads on the contour, and landshaping and grading can overcome the limitation of slope.

Suitability for Recreation

Gravel content and slope limit the use of this soil as a site for playgrounds. Slope limits the use of this soil for most other recreational uses.

The land capability classification is 3e.

MaD—Maplecrest gravelly silt loam, 15 to 25 percent slopes

This soil is moderately steep, very deep, and well drained. Areas of this soil are on hilly land in valleys and along the sides of valleys. Areas are irregular or elongated and range from about 5 to 25 acres.

The typical sequence, depth, and composition of the layers of this soil are—
Surface layer: surface to 3 inches, dark reddish brown gravelly silt loam

Subsurface layer: 3 to 6 inches, yellowish red gravelly silt loam

Subsoil: 6 to 18 inches, yellowish red gravelly silt loam
18 to 36 inches, reddish brown gravelly very fine sandy loam

Substratum: 36 to 46 inches, reddish brown gravelly loam
46 to 72 inches, reddish brown gravelly fine sandy loam

Included with this soil is mapping are spots of Tunkhannock or Riverhead soils in valleys. Areas of Lackawanna soils are included along valley sides. Moderately well drained soils are common inclusions in flatter areas. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Maplecrest soil make up about 20 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderate in surface and subsoil layers and moderate or moderately rapid in the substratum
Average available water capacity: high
Soil reaction: very strongly acid to moderately acid in the surface and upper subsoil; strongly acid to slightly acid in the lower subsoil; strongly acid to moderately acid in the substratum
Surface runoff: rapid
Depth to bedrock: more than 60 inches

Soil Use and Management

Some areas of this soil are forested or have a cover of brush or other native plants. Other areas are cleared and used for farming or community development.

Suitability for Farming

This soil is poorly suited to farming. Slope limits most farming operations and operation of equipment. Erosion is a hazard whenever the ground cover is disturbed. Practices such as minimum tillage, the use of mainly sod crops in rotation, or no-till help control erosion and maintain soil productivity.

This soil is moderately suited to pasture. Slope interferes with pasture maintenance. Rotational grazing and proper stocking rates will help to maintain a better quantity and quality of forage and prevent erosion.

Suitability for Trees

The potential productivity for growing for sugar maple is moderate on this soil. Laying out access roads on the contour will reduce the hazard of erosion. Slope limits the use of equipment on this soil.

Suitability for Building Sites

Slope is the main limitation if this soil is used as a site for dwellings with basements. Designing buildings to conform to the natural slope and landshaping are ways of overcoming this limitation.

Slope also limits use of this soil as a site for septic tank absorption fields. Landshaping, installing lines on the contour, or constructing the field on a flatter included area can overcome the limitation for absorption fields.

Frost action and slope limit this soil as a site for roads and streets. Use of a coarser subgrade or base material can overcome the limitation of frost action. Adapting designs to the slope, constructing roads on the contour, and landshaping and grading can overcome the limitation of slope.

Suitability for Recreation

Gravel content and slope limit the use of this soil as a site for playgrounds. Slope limits use of this soil for most other recreational uses.

The land capability classification is 4e.

MaE—Maplecrest gravelly silt loam, 25 to 60 percent slopes

This soil is steep, very deep, and well drained. Areas of this soil are along the sides of valleys. Areas are long and narrow and range from about 10 to 30 acres.

The typical sequence, depth, and composition of the layers of this soil are—
Surface layer: surface to 3 inches, dark reddish brown gravelly silt loam

Subsurface layer: 3 to 6 inches, yellowish red gravelly silt loam

Subsoil: 6 to 18 inches, yellowish red gravelly silt loam
18 to 36 inches, reddish brown gravelly very fine sandy loam

Substratum: 36 to 46 inches, reddish brown gravelly loam
46 to 72 inches, reddish brown gravelly fine sandy loam

Included with this soil in mapping are spots of Tunkhannock or Riverhead soils in valleys. Areas of Lackawanna soils are included along valley sides. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Maplecrest soil make up about 15 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderate in surface and subsoil layers and moderate or moderately rapid in the substratum
Average available water capacity: high
Soil reaction: very strongly acid to moderately acid in the surface and upper subsoil; strongly acid to slightly acid in the lower subsoil; strongly acid to moderately acid in the substratum
Surface runoff: rapid
Depth to bedrock: more than 60 inches

Soil Use and Management

Most areas of this soil are forested or have a cover of brush or other native plants. A few areas are cleared and used for pasture.

Suitability for Farming

This soil is generally unsuited to cultivated crops and hay. Erosion is a severe hazard whenever the surface is disturbed. Slope makes the operation of machinery extremely difficult.

This soil is poorly suited to pasture. Slope makes pasture management difficult. Applying proper stocking rates and preventing overgrazing will help to control erosion and maintain desirable pasture plants.

Suitability for Trees

The potential productivity for growing sugar maple is moderate on this soil. Slope limits the use of equipment. Laying out access roads on the contour will reduce the hazard of erosion.

Suitability for Building Sites

Slope is a major limitation if this soil is used as a site for dwellings. Selecting a flatter adjacent or included soil or designing the structures to conform to the natural slope and extensive landshaping can help overcome the limitation.

Slope is the main limitation if this soil is used as a site for septic tank absorption fields. Constructing the field on a flatter included or adjacent soil or special designs and extensive landshaping can overcome the limitation.

Slope and frost action are limitations if this soil is used as a site for roads and streets. Constructing roads on a flatter included or adjacent soil or adapting designs to the slope and extensive landshaping and grading can help overcome the slope limitation. Using a coarse-grained subgrade or base material when constructing roads and streets can help minimize frost damage.

Suitability for Recreation

Slope is the main limitation of this soil for most recreational uses. Gravel content is an additional limitation for playgrounds.

The land capability classification is 6e.

MdB—Mardin channery silt loam, 3 to 8 percent slopes

This soil is gently sloping, very deep, and moderately well drained. Areas of this soil occupy hilltops or the lower parts of hillsides in uplands below 1,750 feet. Soil areas are oval or irregular in shape and range from about 5 to 10 acres.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 5 inches, dark brown channery silt loam

Subsoil: 5 to 14 inches, brown channery silt loam

14 to 23 inches, dark yellowish brown channery silt loam with strong brown and light yellowish brown mottles

23 to 26 inches, yellowish brown channery loam and pockets of fine sandy loam with brown, grayish brown, and strong brown mottles

26 to 52 inches (fragipan), dense, firm, brown very channery loam with dark yellowish brown mottles

52 to 72 inches (fragipan), dense, firm, grayish brown very channery loam with light olive brown mottles

Included with this soil in mapping are spots of better drained Bath soils on slightly higher or more sloping parts of the landscape. Spots of of wetter Volusia soils are common in slight depressions. Stony or very stony or bouldery areas are also common inclusions. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Mardin soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.0 to 1.6 feet in winter and early spring

Permeability: moderate in the surface and upper subsoil layers, slow or very slow in the lower subsoil layers (fragipan)

Average available water capacity: moderate

Soil reaction: extremely acid to moderately acid in the surface and upper subsoil layers and very strongly acid to slightly acid in the lower subsoil layers

Surface runoff: very slow

Depth to bedrock and dense layer: more than 60 inches deep to bedrock and 15 to 26 inches to the dense subsoil (fragipan)

Soil Use and Management

Most areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is well suited to cultivated crops and hay. Wetness, especially in the early spring, hinders farming operations. Crop varieties tolerant of some wetness are best adapted to this soil. Drainage practices such as subsurface drains and diversions to keep water from higher areas off this soil will improve crop response and reduce the delay in farming operations.

This soil is well suited to pasture but forage crops tolerant of some wetness will be the most productive. Proper stocking rates and deferred grazing during wet periods will help prevent destruction of the sod cover and maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity for growing sugar maple is moderate on this soil. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone is a limitation if this soil is used as a site for dwellings with basements. Installing foundation drains, sealing foundations, and constructing diversions so that water moves away from the building will help overcome the depth to the saturated zone limitation.

Depth to the saturated zone and depth to the fragipan limit this soil as a site for septic tank absorption fields. Special designs such as enlarging the absorption field and installing a drainage system around it will help overcome these limitations.

Potential frost action and depth to the saturated zone limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse grained subgrade or base material to frost depth will help prevent frost damage and overcome the limitation due to seasonal depth to the saturated zone.

Suitability for Recreation

Depth to the saturated zone and depth to fragipan limits this soil as a site for most recreational uses. Slope and gravel content are additional limitations for playgrounds.

The land capability classification is 2w.

MdC—Mardin channery silt loam, 8 to 15 percent slopes

This soil is strongly sloping, very deep, and moderately well drained. Areas of this soil occupy hillsides in uplands below 1,750 feet. Soil areas are elongated or irregular in shape and range from about 5 to 25 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 5 inches, dark brown channery silt loam

Subsoil: 5 to 14 inches, brown channery silt loam
14 to 23 inches, dark yellowish brown channery silt loam with strong brown and light yellowish brown mottles
23 to 26 inches, yellowish brown channery loam and pockets of fine sandy loam with brown, grayish brown, and strong brown mottles
26 to 52 inches (fragipan), dense, firm, brown very channery loam with dark yellowish brown mottles
52 to 72 inches (fragipan), dense, firm, grayish brown very channery loam with light olive brown mottles

Included with this soil in mapping are spots of better drained Bath soils on slightly higher or more sloping parts of the landscape. Spots of wetter Volusia soils are common in flatter areas. Stony or very stony or bouldery areas are also common inclusions. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Mardin soil make up about 20 percent of the map unit.

Soil Properties

Water table: Perched at 1.0 to 1.6 feet from winter to early spring
Permeability: moderate in surface and upper subsoil layers, slow or very slow in the lower subsoil layers (fragipan)
Average available water capacity: moderate
Soil reaction: extremely acid to moderately acid in the surface and upper subsoil layers and very strongly acid to slightly acid in the lower subsoil layers
Surface runoff: medium

Depth to bedrock and dense layer: more than 60 inches deep to bedrock and 15 to 26 inches to the dense subsoil (fragipan)

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is moderately suited to cultivated crops and hay. Wetness, especially in the early spring, hinders farming operations. Slope also interferes with some farming operations and erosion is a hazard, especially on long slopes. Crop varieties tolerant of some wetness are best adapted to this soil. Drainage practices such as subsurface drains and diversions to keep water from higher areas off this soil will improve crop response and reduce the delay in farming operations. No-till or minimum tillage, stripcropping and contour tillage, and the use of more sod crops in rotation will help control erosion and maintain productivity.

This soil is well suited to pasture but forage crops tolerant of some wetness will be the most productive. Proper stocking rates and deferring grazing during wet periods will help prevent destruction of the sod cover, reduce the erosion hazard, and maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity for growing sugar maple is moderate on this soil. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone and slope are limitations if this soil is used as a site for dwellings with basements. Installing foundation drains, sealing foundations, and constructing diversions so that water moves away from the building will help overcome the depth to the saturated zone limitation. Designing buildings to conform to the natural slope and landshaping or grading will help overcome the limitation of slope.

Depth to the saturated zone and depth to the fragipan are the main limitations of this soil is used as a site for septic tank absorption fields. Special designs such as enlarging the absorption field and installing a drainage system around it will help overcome these limitations. Slope is also a limitation and can be overcome by selecting a flatter included or adjacent site, and by laying out tile lines on the contour.

Potential frost action, depth to the saturated zone, and slope limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse-grained subgrade or base material to frost depth will help prevent frost damage and overcome the limitation due to depth to the saturated zone. Constructing roads on the contour and landshaping or grading are methods that can help overcome slope limitations.

Suitability for Recreation

Depth to the saturated zone, depth to the fragipan, and slope limit this soil as a site for most recreational uses.

The land capability classification is 3e.

MdD—Mardin channery silt loam, 15 to 25 percent slopes

This soil is moderately steep, very deep, and moderately well drained. Areas of this soil occupy hillsides in uplands below 1,750 feet. Soil areas are oval or irregular in shape and range from about 5 to 20 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 5 inches, dark brown channery silt loam

Subsoil: 5 to 14 inches, brown channery silt loam
14 to 23 inches, dark yellowish brown channery silt loam with strong brown and light yellowish brown mottles
23 to 26 inches, yellowish brown channery loam and pockets of fine sandy loam with brown, grayish brown, and strong brown mottles
26 to 52 inches (fragipan), dense firm brown very channery loam with dark yellowish brown mottles
52 to 72 inches (fragipan), dense, firm, grayish brown very channery loam with light olive brown mottles

Included with this soil in mapping are spots of better drained Bath soils on slightly higher or steeper parts of the landscape. Spots of wetter Volusia soils occur in strongly sloping areas. Bouldery or very stony spots are also common inclusions. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Mardin soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.0 to 1.6 feet from winter to early spring
Permeability: moderate in surface and upper subsoil layers, slow or very slow in the lower subsoil layer (fragipan)
Average available water capacity: moderate
Soil reaction: extremely acid to moderately acid in the surface and upper subsoil layers and very strongly acid to slightly acid in the lower subsoil layers.
Surface runoff: rapid
Depth to bedrock and dense layer: more than 60 inches deep to bedrock and 15 to 26 inches to the dense subsoil (fragipan)

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is poorly suited to cultivated crops and hay. Slope and the hazard of erosion limit intensive cultivation. Wetness, especially in the early spring, also hinders farming operations. Crops tolerant of some wetness are best adapted to this soil. Drainage practices such as subsurface drains and diversions to keep water from higher areas off this soil will improve crop response and reduce the delay in farming operations. No-till or minimal tillage, stripcropping and contour tillage, and the use of mostly sod crops in rotation help control erosion and prevent loss of topsoil and fertility.

This soil is moderately suited to pasture but forage crops tolerant of some wetness will be the most productive. Maintaining proper stocking rates and deferring grazing during wet periods will help prevent destruction of the sod, reduce the hazard of erosion, and maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity for growing sugar maple on this soil is moderate. Slope limits the use of equipment on this soil. Laying out access roads on the contour will reduce the hazard of erosion.

Suitability for Building Sites

Depth to the saturated zone and slope are limitations if this soil is used as a site for dwellings with basements. Installing foundation drains, sealing foundations, and constructing diversions so that water moves away from the building will help overcome the depth to the saturated zone limitation. Designing buildings to conform to the natural slope and landshaping help overcome the limitation of slope for dwellings.

Depth to the saturated zone, slope, and depth to the fragipan limit this soil as a site for septic tank absorption fields. Special designs such as enlarging the absorption field and installing a drainage system around it will help overcome the limitations of depth to the saturated zone and slow permeability. Landshaping, installing tile lines on the contour or constructing the field on a flatter included area can help overcome the limitation of slope.

Slope, depth to the saturated zone, and potential frost action limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse grained subgrade or base material to frost depth will help overcome the limitation due to depth to the saturated zone and also prevent frost damage. Adapting designs to the slope, constructing roads on the contour, and landshaping and grading can overcome the limitation of slope.

Suitability for Recreation

Slope, depth to the saturated zone, and depth to the fragipan limit this soil as a site for most recreational uses.

The land capability classification is 4e.

MkB—Middlebrook-Mongaup Complex, 2 to 8 percent slopes

This unit consists of moderately deep, moderately well drained Middlebrook soils and moderately deep, well drained Mongaup soils. Areas of this unit are found on gently sloping benches or other parts of bedrock controlled uplands above 1,750 feet elevation where the growing season is several weeks shorter than it is in larger valleys. The unit consists of about 45 percent Middlebrook soils, 35 percent Mongaup soils and 20 percent inclusions of other soils. These soils are mapped together because they occur in such an intricate pattern that they cannot be separated at the mapping scale. Areas are mostly oval or irregular in shape and range from about 5 to 50 acres.

The typical sequence, depth, and composition of the layers of the Middlebrook soil are as follows—

Surface layer: surface to 6 inches, dark brown channery silt loam

Subsoil: 6 to 17 inches, yellowish brown and olive brown channery silt loam with light yellowish brown and pale brown mottles

Substratum: 17 to 35 inches, firm, brown and pale brown very channery loam with light gray and yellowish red mottles.

Bedrock: 35 inches, light brownish gray (10YR 6/2) sandstone bedrock

The typical sequence, depth, and composition of the layers of the Mongaup soil are as follows—

Surface layer: surface to 5 inches, dark brown channery loam

Subsoil: 5 to 12 inches, yellowish red channery silt loam
12 to 20 inches, dark brown channery silt loam
20 to 28 inches, dark yellowish brown very channery silt loam

Bedrock: 28 inches, gray (10YR 5/1) sandstone bedrock

Included with this unit in mapping are spots of a deep, moderately well drained soil with a fragipan and the very deep Willdin soils, both of which occur in lower areas and on smoother slopes of broad hilltops and saddle positions. Where slight depressions occur, spots of the moderately deep, somewhat poorly drained Gretor soils are common inclusions. Along steeper slopes near the edges of the unit the shallow Halcott soils may occur. Also included in mapping are stony, very stony, and bouldery spots. Included areas range up to 5 acres each. Soils with limitations different from those of the Middlebrook or Mongaup soils make up about 20 percent of the map unit.

Soil Properties of the Middlebrook soil

Water table: at 1.0 to 1.5 feet in winter to early spring
Permeability: moderate in the surface and upper subsoil layers, slow in the dense lower subsoil layers
Average available water capacity: moderate
Soil reaction: very strongly acid to moderately acid in the surface and subsoil layers
Surface runoff: slow
Depth to bedrock: 20 to 40 inches

Soil Properties of the Mongaup soil

Water table: below 6 feet, however, water may be perched above the bedrock for brief periods
Permeability: moderate in surface and subsoil layers
Average available water capacity: moderate
Soil reaction: extremely acid to strongly acid in surface and upper subsoil layers
Surface runoff: slow
Depth to bedrock: 20 to 40 inches

Soil Use and Management

Some areas of this unit are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants. The soils of this unit are among those soils in the county best suited to the production of food or fiber.

Suitability for Farming

The soils of this unit are well suited for cultivated crops and hay but wetness, especially in the early spring, hinders farming operations. Erosion is a hazard on long slopes. The growing season is several weeks shorter than it is for valley areas. Early maturing crop varieties and crops tolerant of some wetness are best adapted to the soils of this unit. Drainage practices such as subsurface drains and diversions to keep water from higher areas off the soils of this unit will improve crop response and reduce delay in farming operations. Suitable drainage outlets may be difficult to find on the nearly level areas of this unit. The depth to bedrock may limit the installation of some drainage practices. Using more sod and cover crops in a rotation and practices such as no-till or minimum tillage, stripcropping, and contour tillage are also important measures to control erosion and maintain productivity.

The soils of this unit are well suited to pasture, but forage crops tolerant of some wetness will be the most productive. Applying proper stocking rates and deferring grazing during wet periods along with preventing overgrazing will help prevent destruction of the sod cover and maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity for growing sugar maple on the soils of this unit is moderate. There are few or no limitations in using this unit for wood production.

Suitability for Building Sites

Moderate depth to bedrock and depth to the saturated zone limit the soils of this unit as a site for dwellings with basements. Careful site investigation and selection of a deeper included or adjacent soil can overcome this limitation.

Depth to the saturated zone, restricted permeability in the subsoil, and depth to bedrock limit the soils of this unit for septic tank absorption fields. Selection of a deeper included or adjacent soil or special designs such as enlarging the absorption field and installing a drainage system around it will help overcome these limitations.

Frost action, depth to the saturated zone, and depth to bedrock limit this soil as a site for roads and streets. Installing a drainage system and the use of a coarser subgrade or base material can overcome the limitation due to depth to the saturated zone and help prevent frost damage. Site investigation and careful planning of road locations can minimize the limitation of depth to bedrock and reduce or eliminate the need for blasting.

Suitability for Recreation

Depth to the saturated zone limits this soil as a site for most recreation uses. Gravel content and slope are additional limitations for playground areas.

The land capability classification is 2w for the Middlebrook soil and 2e for the Mongaup soil.

MkC—Middlebrook-Mongaup Complex, 8 to 15 percent slopes

This unit consists of moderately deep, moderately well drained Middlebrook soils and moderately deep, well drained Mongaup soils. Areas of this unit are found on strongly sloping areas such as the sides of benches or on bedrock-controlled uplands above 1,750 feet elevation where the growing season is several weeks shorter than it is in larger valleys. The unit consists of about 45 percent Middlebrook soils, 35 percent Mongaup soils, and 20 percent inclusions of other soils. These soils are mapped together because they occur in such an intricate patterns that they cannot be separated at the mapping scale. Areas are mostly oval or irregular in shape and range from about 5 to 50 acres.

The typical sequence, depth, and composition of the layers of the Middlebrook soil are as follows—

Surface layer: surface to 6 inches, dark brown channery silt loam

Subsoil: 6 to 17 inches, yellowish brown and olive brown channery silt loam with light yellowish brown and pale brown mottles

Substratum: 17 to 35 inches, firm, brown and pale brown very channery loam with light gray and yellowish red mottles

Bedrock: 35 inches, light brownish gray (10YR 6/2) sandstone bedrock

The typical sequence, depth, and composition of the layers of the Mongaup soil are as follows—

Surface layer: surface to 5 inches, dark brown channery loam

Subsoil: 5 to 12 inches, yellowish red channery silt loam
12 to 20 inches, dark brown channery silt loam
20 to 28 inches, dark yellowish brown very channery silt loam

Bedrock: 28 inches, gray sandstone (10YR 5/1) bedrock

Included with this unit in mapping are spots of a deep, moderately well drained soil with a fragipan and the very deep Willdin soil, both of which occur in lower areas and on smoother slopes of broad hilltops and saddle positions. Where slight depressions occur, spots of the moderately deep, somewhat poorly drained Gretor soils are common inclusions. Along steeper slopes near the edges of the unit the shallow Halcott soils may occur. Also included in mapping are stony, very stony, and bouldery spots. Included areas range up to 5 acres each. Soils with limitations different from those of the Middlebrook or Mongaup soils make up about 20 percent of the map unit.

Soil Properties of the Middlebrook soil

Water table: at 1.0 to 1.5 feet in winter to early spring
Permeability: moderate in the surface and upper subsoil layers, slow in the dense lower subsoil layers
Average available water capacity: moderate
Soil reaction: very strongly acid to moderately acid in surface and subsoil layers
Surface runoff: medium
Depth to bedrock: 20 to 40 inches

Soil Properties of the Mongaup soil

Water table: below 6 feet, however, water may be perched above the bedrock for brief periods
Permeability: moderate in surface and subsoil layers
Available water capacity: moderate
Soil reaction: extremely acid to strongly acid in surface and subsoil layers
Surface runoff: medium
Depth to bedrock: 20 to 40 inches

Soil Use and Management

Some areas of this unit are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

The soils of this unit are moderately suited for cultivated crops and hay. Wetness, especially in the early spring, hinders farming operations. Slope also interferes with some farming operations and erosion is a hazard on long slopes. The growing season is several weeks shorter than it is for valley areas. Early maturing crop varieties and crops tolerant of some wetness are best adapted to the soils of this unit. Drainage practices such as subsurface drains and diversions to keep water from higher areas off of the soils in this unit will improve crop response and reduce delay in farming operations. The depth to bedrock may limit the installation of some drainage practices. Using more sod and cover crops in a rotation and practices such as no-till or minimum tillage, stripcropping, and contour tillage are also important measures to control erosion and maintain productivity.

The soils of this unit are well suited to pasture, but forage crops tolerant of some wetness will be the most productive. Applying proper stocking rates and deferring grazing during wet periods along with preventing overgrazing will help maintain more desirable forage plants and reduce the erosion hazard.

Suitability for Trees

The potential productivity for growing sugar maple on the soils of this unit is moderate. There are few or no limitations in using this unit for wood production.

Suitability for Building Sites

Slope, moderate depth to bedrock, and depth to the saturated zone limit the soils of this unit as a site for dwellings with basements. Careful site investigation and selection of a deeper included or adjacent soil can overcome this limitation. Designing dwellings to conform to the slope and landshaping can overcome the slope limitation for homesites.

Seasonal depth to the saturated zone, slope, and depth to bedrock limit the soils of this unit as a site for septic tank absorption fields. Selection of a deeper included or adjacent soil or special designs such as enlarging the absorption field and installing a drainage system around it will help overcome these limitations. The limitation due to slope can be overcome by selecting a flatter included soil or by laying out tile lines on the contour.

Frost action, slope, seasonal depth to the saturated zone, and depth to bedrock limit this soil as a site for roads and streets. Installing a drainage system and the use of a coarser subgrade or base material can overcome the seasonal depth to the saturated zone and the limitation of frost action. Site investigation and careful planning of road locations can minimize the limitation of depth to bedrock and reduce or eliminate the need for blasting. Adapting design to the slope, landshaping and constructing roads on the contour are measures to help overcome the limitation of slope for roads and streets.

Suitability for Recreation

Depth to the saturated zone, slope, and gravel content limit the soils of this unit as a site for most recreation uses.

The land capability classification is 3e.

MnB—Mongaup channery loam, 2 to 8 percent slopes

This soil is gently sloping, moderately deep, and well drained. Areas of this soil are on benches or on hilltops in higher parts of the uplands where the growing season is several weeks shorter than it is in larger valleys. Soil areas are oval or irregular in shape and range from about 5 to 20 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 5 inches, dark brown channery loam

Subsoil: 5 to 12 inches, yellowish red channery silt loam
12 to 20 inches, dark brown channery silt loam
20 to 28 inches, dark yellowish brown very channery silt loam

Bedrock: 28 inches, gray (10YR 5/1) sandstone bedrock

Included with this soil in mapping are spots of Halcott soils, especially on higher parts of the landscape. Somewhat poorly drained, moderately deep Gretor soils and moderately well drained, moderately deep Middlebrook soils are included in nearly level areas. Spots of Vly soils and very stony areas are also common inclusions. Included areas range up to 5 acres each. Soils with limitations different from those of the Mongaup soil make up about 20 percent of the map unit.

Soil Properties

Water table: below 6 feet normally, water may be perched above the bedrock for brief periods
Permeability: moderate in surface and subsoil layers
Average available water capacity: moderate
Soil reaction: extremely acid to strongly acid in surface and subsoil layers
Surface runoff: slow
Depth to bedrock: 20 to 40 inches

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is well suited to cultivated crops and hay. Erosion is a hazard, especially on long slopes. The growing season is several weeks shorter than it is for valley areas. Early maturing crops are best adapted to this soil. Using sod and cover crops in a rotation and practices such as no-till or minimum tillage, stripcropping and contour tillage are also important measures to control erosion and maintain productivity.

This soil is well suited to pasture. Proper stocking rates and preventing overgrazing will help maintain more desirable forage plants and reduce the erosion hazard.

Suitability for Trees

The potential productivity for growing sugar maple is moderate on this soil. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

The moderate depth to bedrock limits this soil as a site for dwellings with basements and for septic tank absorption fields. Careful site investigation and selection of a deeper included or adjacent soil can overcome this limitation. Frost action and depth to bedrock limit this soil as a site for roads and streets. Use of a coarser subgrade or base material can overcome the limitation of frost action. Site investigation and careful planning of road locations can minimize the limitation of depth to bedrock and reduce or eliminate the need for blasting.

Suitability for Recreation

Gravel content limits the use of this soil as a site for playgrounds. There are few or no limitations in using this soil for most other recreational purposes.

The land capability classification is 2e.

MnC—Mongaup channery loam, 8 to 15 percent slopes

This soil is strongly sloping, moderately deep, and well drained. Areas of this soil are on the sides of benches or on hillsides in higher parts of uplands where the growing season is several weeks shorter than it is in larger valleys. Soil areas are irregular in shape and range from about 5 to 25 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 5 inches, dark brown channery loam

Subsoil: 5 to 12 inches, yellowish red channery silt loam
12 to 20 inches, dark brown channery silt loam
20 to 28 inches, dark yellowish brown very channery silt loam

Bedrock: 28 inches, gray (10YR 5/1) sandstone bedrock

Included with this soil in mapping are spots of Halcott soils, especially on higher parts of the landscape. Somewhat poorly drained, moderately deep Gretor soils and moderately well drained, moderately deep Middlebrook are included in gently sloping areas. Spots of Vly soils, as well as very stony areas, are also common inclusions. Included areas range up to 5 acres each. Soils with limitations different from those of Mongaup soil make up about 20 percent of the map unit.

Soil Properties

Water table: below 6 feet
Permeability: moderate in surface and subsoil layers
Average available water capacity: moderate
Soil reaction: extremely acid to strongly acid in surface and subsoil layers

Surface runoff: medium
Depth to bedrock: 20 to 40 inches

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is moderately suited to cultivated crops and hay. Erosion is a hazard and slope hinders some farming operations. The growing season is several weeks shorter than it is for valley areas. Early maturing crops are best adapted to this soil. Using more sod and cover crops in a rotation and practices such as no-till or minimum tillage, stripcropping, and contour tillage are also important measures to control erosion and maintain productivity.

This soil is well suited to pasture. Proper stocking rates and preventing overgrazing will help maintain more desirable forage plants and reduce the erosion hazard.

Suitability for Trees

The potential productivity for growing sugar maple on this soil is moderate. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Slope and the moderate depth to bedrock limit this soil as a site for dwellings with basements and for septic tank absorption fields. Careful site investigation and selection of a deeper included or adjacent soil can overcome the limitation of depth to bedrock. Designing dwellings to conform to the slope and landshaping can overcome the slope limitation for homesites. Careful design, landshaping, and constructing tile lines on the contour help to overcome slope limitations for septic tank absorption fields.

Frost action, slope and depth to bedrock limit this soil as a site for roads and streets. Use of a coarser subgrade or base material can overcome the limitation of frost action. Site investigation and careful planning of road locations can minimize the limitation of depth to bedrock and reduce or eliminate the need for blasting. Adapting design to the slope, landshaping, and constructing roads on the contour are measures to help overcome the limitation of slope for roads and streets.

Suitability for Recreation

Gravel content and slope limit the use of this soil as a site for playgrounds and can limit most other recreational uses.

The land capability classification is 3e.

MnD—Mongaup channery loam, 15 to 25 percent slopes

This soil is moderately steep, moderately deep, and well drained. Areas of this soil are on the sides of benches or on hillsides in higher parts of uplands where the growing season is several weeks shorter than it is in larger valleys. Soil areas are irregular in shape and range from about 5 to 25 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 5 inches, dark brown channery loam

Subsoil: 5 to 12 inches, yellowish red channery silt loam
12 to 20 inches, dark brown channery silt loam
20 to 28 inches, dark yellowish brown very channery silt loam

Bedrock: 28 inches gray (10YR 5/1) sandstone bedrock

Included with this soil in mapping are spots of Halcott soils, especially on higher parts of the landscape. Moderately well drained, moderately deep Middlebrook soils are included in strongly sloping areas. Spots of Vly soils, Rockrift soils, and very stony areas, are also common inclusions. Included areas range up to 5 acres each. Soils that have limitations different than Mongaup soils make up about 20 percent of the map unit.

Soil Properties

Water table: below 6 feet
Permeability: moderate in surface and subsoil layers
Average available water capacity: moderate
Soil reaction: extremely acid to strongly acid in surface and subsoil layers
Surface runoff: rapid
Depth to bedrock: 20 to 40 inches

Soil Use and Management

A few areas of this soil are cleared and used for farming. Most areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is poorly suited to cultivated crops and hay. Erosion is a hazard and the moderately steep slope hinders most farming operations. The growing season is several weeks shorter than it is for valley areas. Early maturing crops are best adapted to this soil. Using a high proportion of sod crops in a rotation and practices such as no-till or minimum tillage, stripcropping, and contour tillage are important measures in controlling erosion and maintaining productivity.

This soil is moderately suited to pasture. Applying proper stocking rates and preventing overgrazing will help maintain more desirable forage plants and reduce the erosion hazard.

Suitability for Trees

The potential productivity for growing sugar maple is moderate on this soil. Establishing access roads on the contour will help reduce the erosion hazard. Slope limits the use of equipment on this soil.

Suitability for Building Sites

Slope and the moderate depth to bedrock limit this soil as a site for dwellings with basements and for septic tank absorption fields. Careful site investigation and selection of a deeper included or adjacent soil can overcome the limitation of depth to bedrock. Designing dwellings to conform to the slope and landshaping can overcome the slope limitation for homesites.

Careful design, landshaping, and constructing tile lines on the contour or on a flatter included soils help overcome slope limitations for septic tank absorption fields.

Frost action, slope, and depth to bedrock limit this soil as a site for roads and streets. Use of a coarser subgrade or base material can overcome the limitation of frost action. Site investigation and careful planning of road locations can minimize the limitation of depth to bedrock and reduce or eliminate the need for blasting. Adapting design to the slope, landshaping, and constructing roads on the contour are measures to help overcome the limitation of slope for roads and streets.

Suitability for Recreation

Gravel content and slope limit the use of this soil as a site for playgrounds. Slope is a limitation of this soil for most other recreational uses.

The land capability classification is 4e.

MrA—Morris flaggy silt loam, 0 to 3 percent slopes

This soil is nearly level, very deep, and somewhat poorly drained. Areas of this soil are along small drainage ways and on flat or slightly depressed part of the uplands. Soil areas are elongated or oval to irregular in shape and range from about 5 to 10 acres.

The typical sequence, depth, and composition of the layers of the Morris soil are as follows—

Surface layer: surface to 8 inches, dark reddish brown flaggy silt loam

Subsurface layer: 8 to 14 inches, dark reddish gray channery silt loam with strong brown mottles

Subsoil (fragipan): 14 to 26 inches, firm, dense, dark reddish brown channery silt loam with strong brown mottles

26 to 72 inches, firm, dense, dark reddish brown flaggy silt loam with gray and reddish brown mottles

Included with this soil in mapping are spots of Norchip soils in depressions or along drainage ways. Spots of Fluvaquents-Udifluvents soils may also be included along small streams. Areas of Wellsboro soils are common inclusions on slightly higher or more sloping parts of the landscape. Very stony or bouldery soils may also be included. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Morris soil make up about 15 percent of the map unit.

Soil Properties

Water table: perched at 0.5 to 1.5 feet from mid fall to mid spring

Permeability: moderate in the surface and subsurface layers and slow or very slow in the subsoil (fragipan)

Average available water capacity: very low

Soil reaction: very strongly acid to moderately acid in the surface and upper subsoil layers and strongly acid to slightly acid in the lower subsoil layer

Surface runoff: very slow

Depth to bedrock and to dense layer: more than 60 inches to bedrock and 10 to 20 inches to the firm dense layer (fragipan)

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native vegetation.

Suitability for Farming

This soil is suited to cultivated crops and hay. Seasonal wetness limits the choice of crops and restricts plant growth and productivity. Wetness also interferes with and delays farming operations. The dense subsoil limits rooting depth. Drainage measures, especially diversions to keep water from higher areas off of this soil, will improve crop productivity and allow more timely farming operations. Suitable outlets may be difficult to establish on this nearly level soil. Plant varieties tolerant of seasonal wetness are best adapted to this soil.

This soil is well suited for pasture but prolonged seasonal wetness limits the choice of forage plants. Limiting grazing during wet periods will help prevent destruction of the sod cover and maintain better quality pasture.

Suitability for Trees

The potential productivity for growing northern red oak is moderate on this soil. Seasonal wetness causes a moderate equipment limitation and seedling mortality and windthrow hazard.

Suitability for Building Sites

Depth to the saturated zone limits this soil as a site for dwellings with basements. A better drained, included or adjacent soil should be selected.

Depth to the saturated zone and depth to the fragipan limit this soil as a site for septic tank absorption fields. A better suited included or adjacent soil may be selected or a specially designed or alternate system may be used to overcome the limitations.

Depth to the saturated zone and high potential frost action limit this soil as a site for roads and streets. Methods of overcoming these limitations include construction on raised fill material, installing a drainage system, and providing a coarser grained subgrade or base material.

Suitability for Recreation

Depth to the saturated zone and the depth to the fragipan can limit this soil for most recreational uses. Large stones and gravel content are additional limitations for playgrounds.

The land capability classification is 3w.

MrB—Morris flaggy silt loam, 3 to 8 percent slopes

This soil is gently sloping, very deep, and somewhat poorly drained. Areas of this soil are along small drainage ways and lower parts of hillsides in uplands. Soil areas are elongated or oval to irregular in shape and range from about 10 to 20 acres.

The typical sequence, depth, and composition of the layers of the Morris soil are as follows—

Surface layer: surface to 8 inches, dark reddish brown flaggy silt loam

Subsurface layer: 8 to 14 inches, dark reddish gray channery silt loam with strong brown mottles

Subsoil (fragipan): 14 to 26 inches, firm, dense, dark reddish brown channery silt loam with strong brown mottles
26 to 72 inches, firm, dense, dark reddish brown flaggy silt loam with gray and reddish brown mottles

Included with this soil in mapping are spots of Norchip soils in depressions or along drainage ways. Spots of Fluvaquents-Udifluvents soils may also be included along small streams. Areas of Wellsboro soil are common inclusions on slightly higher or more sloping parts of the landscape. Very stony or bouldery soils may also be included. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Morris soil make up about 15 percent of the map unit.

Soil Properties

Water table: perched at 0.5 to 1.0 feet from mid fall to mid spring
Permeability: moderate in the surface and subsurface layers and slow or very slow in the subsoil (fragipan)

Average available water capacity: very low

Soil reaction: very strongly acid to moderately acid in the surface and upper subsoil layers and strongly acid to slightly acid in the lower subsoil layer

Surface runoff: slow

Depth to bedrock and to dense layer: more than 60 inches to bedrock and 10 to 20 inches to the firm dense layer (fragipan)

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native vegetation.

Suitability for Farming

This soil is moderately suited to cultivated crops and hay. Seasonal wetness limits the choice of crops and restricts plant growth and productivity. Wetness also interferes with and delays farming operations. The dense subsoil limits rooting depth. Drainage measures, especially diversions to keep water from higher areas off of this soil, will improve crop productivity and allow more timely farming operations. Plant varieties tolerant of seasonal wetness are best adapted to this soil.

This soil is well suited for pasture but wetness limits the choice of forage plants. Limiting grazing during wet periods will help prevent destruction of the sod cover and maintain better quality pasture.

Suitability for Trees

The potential productivity for growing northern red oak is moderate on this soil. Seasonal wetness causes a moderate equipment limitation and seedling mortality and windthrow hazard.

Suitability for Building Sites

Depth to the saturated zone limits this soil as a site for dwellings with basements. A better drained, included or adjacent soil should be selected.

Depth to the saturated zone and depth to the fragipan limit this soil as a site for septic tank absorption fields. A better suited included or adjacent soil may be selected or a specially designed or alternate system may be used to overcome the limitations.

Depth to the saturated zone and high potential frost action limit this soil as a site for roads and streets. Methods of overcoming these limitations include construction on raised fill material, installing a drainage system, and providing a coarser grained subgrade or base material.

Suitability for Recreation

Depth to the saturated zone and depth to the fragipan limit this soil for most recreational uses. Gravel content, large stones, and slope are additional limitations if this soil is used as a site for playgrounds.

The land capability classification is 3w.

MrC—Morris flaggy silt loam, 8 to 15 percent slopes

This soil is strongly sloping, very deep, and somewhat poorly drained. Areas of this soil are on lower parts of hillsides in uplands. Soil areas are elongated or oval to irregular in shape and range from about 10 to 20 acres.

The typical sequence, depth, and composition of the layers of the Morris soil are as follows—

Surface layer: surface to 8 inches, dark reddish brown flaggy silt loam

Subsurface layer: 8 to 14 inches, dark reddish gray channery silt loam with strong brown mottles

Subsoil (fragipan): 14 to 26 inches, firm, dense, dark reddish brown channery silt loam with strong brown mottles
26 to 72 inches, firm, dense, dark reddish brown flaggy silt loam with gray and reddish brown mottles

Included with this soil in mapping are spots of Norchip soils in flatter areas or along drainage ways. Areas of Wellsboro or Lackawanna soils are common inclusions on slightly higher or more sloping parts of the landscape. Very stony or bouldery soils may also be included. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Morris soil make up about 15 percent of the map unit.

Soil Properties

Water table: perched at 0.5 to 1.0 feet from mid fall to mid spring
Permeability: moderate in the surface and subsurface layers and slow or very slow in the subsoil (fragipan)
Average available water capacity: very low
Soil reaction: very strongly acid to moderately acid in the surface and upper subsoil layers and strongly acid to slightly acid in the lower subsoil layer
Surface runoff: medium
Depth to bedrock and to dense layer: more than 60 inches to bedrock and 10 to 20 inches to the firm dense layer (fragipan)

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native vegetation.

Suitability for Farming

This soil is moderately suited for cultivated crops and hay. Seasonal wetness limits the choice of crops and restricts plant growth and productivity. Slope hinders farming operations and there is a hazard of erosion, particularly on long slopes. Wetness also interferes with and delays farming operations. The dense subsoil limits rooting depth. Drainage measures, especially diversions to keep water from higher areas off of this soil, will improve crop productivity and allow more timely farming operations. Plant varieties tolerant of seasonal wetness are best adapted to this soil. Minimum tillage, stripcropping or contour tillage, and the use of a high proportion of sod crops in rotations will help control erosion.

This soil is well suited for pasture but wetness limits the choice of forage plants. Applying proper stocking rates and limiting grazing during wet periods will help prevent destruction of the sod cover, reduce the erosion hazard, and maintain better quality pasture.

Suitability for Trees

The potential productivity for growing northern red oak is moderate on this soil. Seasonal wetness causes a moderate equipment limitation and seedling mortality and windthrow hazard.

Suitability for Building Sites

Depth to the saturated zone limits this soil as a site for dwellings with basements. A better drained included, or adjacent soil should be selected.

Depth to the saturated zone and depth to the fragipan limits this soil as a site for septic tank absorption fields. A better-suited included or adjacent soil may be selected or a specially designed or alternate system may be used to overcome these limitations. Slope is a limitation that can be overcome by selecting a flatter included or adjacent site, or by laying out tile lines on the contour.

Depth to the saturated zone and high potential frost action and slope limit this soil as a site for roads and streets. Methods of overcoming these limitations include construction on raised fill material, installing a drainage system, and providing a coarser grained subgrade or base material. Adapting the design to the slope, landshaping, and constructing roads on the contour will help overcome the limitation due to slope.

Suitability for Recreation

Depth to the saturated zone and depth to the fragipan limit this soil for most recreational uses. Slope, gravel content, and large stones are additional limitations if this soil is used as a site for playgrounds.

The land capability classification is 3e.

MsB—Morris and Volusia soils, 2 to 10 percent slopes, very stony

This unit consists of Morris or Volusia soils or it may contain both soils in varying proportions. The soils are gently sloping to strongly sloping, very deep, and somewhat poorly drained. The unit is on small upland plains and the lower parts of hillsides. Large stones cover 0.1 to 3.0 percent of the surface and are about 3 to 25 feet apart. Morris soils have a flaggy silt loam surface while Volusia soils have a channery silt loam surface. The total acreage of this unit is about 50 percent Morris soils, 30 percent Volusia soils, and 20 percent inclusions of other soils. These soils were mapped together because there are few or no differences in use and management of the two soil types. Individual areas are irregular or roughly oval in shape and range from about 5 to 30 acres.

The typical sequence, depth, and composition of the layers of the Morris soil are as follows—

Surface layer: surface to 8 inches, dark reddish brown flaggy silt loam

Subsurface layer: 8 to 14 inches, dark reddish gray channery silt loam with strong brown mottles channery silt loam with strong brown mottles

26 to 72 inches, dark reddish brown flaggy silt loam with gray and reddish brown mottles

The typical sequence, depth, and composition of the layers of the Volusia soil are as follows—

Surface layer: 0 to 8 inches, dark grayish brown channery silt loam

Subsoil: 8 to 15 inches, brown channery silt loam with yellowish brown mottles

15 to 22 inches, light brownish gray channery silt loam with brown and strong brown mottles

22 to 52 inches (fragipan), dense brown channery silt loam with light brownish gray and yellowish brown mottles

Substratum: 52 to 72 inches, brown and grayish brown very channery silt loam with yellowish brown and gray mottles

Included with this unit in mapping are areas of poorly drained to very poorly drained Norchip soils in depressions and along drainageways. Also included are moderately well drained Wellsboro or Mardin soils on slightly higher parts of landscapes and on steeper slopes. A few spots of moderately deep, somewhat poorly drained and poorly drained Gretor soils are also included. Soils that are not stony or that are bouldery or very bouldery are common inclusions. Areas of included soils range up to 5 acres each. Soils that have limitations different from the Morris or Volusia soils make up about 20 percent of this map unit.

Soil Properties

Water table: perched at 0.5 to 1.5 feet from mid fall to mid spring for both soils

Permeability: moderate in the surface and subsurface layers and slow or very slow in the subsoil (fragipan) for both soils

Average available water capacity: very low for Morris; low for Volusia

Soil reaction: very strongly acid to moderately acid in the surface and upper subsoil layers strongly acid to slightly acid in the lower subsoil layer in the Morris soil; very strongly acid to slightly acid in surface and upper subsoil layers; strongly acid to slightly acid in the lower subsoil layers of the Volusia soil

Surface runoff: medium

Depth to bedrock and depth to dense subsoil: more than 60 inches deep to bedrock for both soils, and 12 to 22 inches to the dense subsoil (fragipan) layer in the Morris soil, 10 to 22 inches to the dense subsoil (fragipan) in the Volusia soil

Soil Use and Management

Areas of this unit are mostly wooded or have a cover of brush or other native vegetation. Some areas are cleared and used for pasture.

Suitability for Farming

This unit is generally unsuited to cultivated crops or hay because of wetness and many large surface stones. Slope also hinders some farming operations.

This unit is poorly suited to pasture. Prolonged seasonal wetness is a significant limitation of springtime grazing and large stones make proper pasture maintenance difficult. Allowing animals to graze when the soil is too wet will cause compaction of the soil surface and damage the sod cover. Overgrazing will also reduce the quantity and quality of forage. Rotational grazing, proper stocking rates, and restricted grazing during wet periods will help maintain desirable pasture plants.

Suitability for Trees

The potential productivity of both soils for growing northern red oak is moderate. Because of the seasonal high water table, the soil surface is soft in spring and fall and unable to support heavy harvesting equipment. Root growth is also restricted by the seasonal high water table and dense subsoil, which results in moderate windthrow hazard and seedling mortality.

Suitability for Building Sites

The main limitation if this unit is used as a site for dwellings with basements is depth to the saturated zone. Installing foundation drains and applying protective coatings to basement walls will help to prevent wet basements. Diversions and interceptor drains placed upslope from buildings will help divert runoff away from the site.

The main limitations if this unit is used as a site for septic tank absorption fields are the seasonal high water table and depth to the fragipan. A drainage system around the absorption field and diversions to intercept runoff from higher areas will help overcome the limitation of depth to the saturated zone. Enlarging the absorption field or the trench below distribution lines will help overcome the limitation of depth to the fragipan.

The main limitations for local roads and streets on this unit are depth to the saturated zone and frost action. Providing a coarser grained subgrade or base material and providing surface or subsurface drainage will reduce the frost action potential and help overcome the limitation of seasonal depth to the saturated zone.

Suitability for Recreation

Depth to the fragipan, large surface stones, and depth to the saturated zone limit this soil for most recreational purposes.

The land capability classification is 6s.

No—Norchip silt loam

This soil is nearly level, very deep, and poorly drained. This soil occupies flat areas along drainage ways or depressions in uplands.

Individual areas are irregular or roughly oval in shape and range from about 5 to 20 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of this soil is as follows—

Surface layer: surface to 2 inches, dark gray silt loam

Subsurface layers: 2 to 7 inches, light brownish gray silt loam with brownish yellow and yellowish brown mottles

7 to 11 inches, light olive gray silt loam with brownish yellow and reddish brown mottles

Subsoil (fragipan): 11 to 25 inches, reddish brown channery loam with strong brown mottles
25 to 52 inches, reddish brown channery loam with yellowish red and strong brown mottles

Substratum: 52 to 72 inches, reddish brown and brown very gravelly silt loam

Included with this soil in mapping are spots of Bucksport or Wonsqueak or Carlisle or Palms soils in depressions. Small areas of Onteora or Ontusia soils or Morris or Volusia soils are common inclusions on slightly higher or more sloping landscapes. Very stony or bouldery areas and spots with more silt and less gravelly subsoil are also included. Included areas range up to 5 acres each. Soils that have limitations different from the Norchip soils make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 0 to 0.1 feet from mid fall to late spring
Permeability: moderate in surface and upper subsoil layers; slow or very slow in the lower subsoil (fragipan) and substratum
Average available water capacity: very low
Soil reaction: very strongly acid to slightly acid in the surface layer; strongly acid to slightly acid in the upper subsoil layer; moderately acid to neutral in the lower subsoil.
Surface runoff: very slow
Depth to bedrock and depth to dense subsoil: more than 60 inches to bedrock and 10 to 20 inches to the dense subsoil (fragipan)

Soil Use and Management

Areas of this soil are mainly forested or have a cover of brush or other native plants. A few acres are cleared and used for pasture.

Suitability for Farming

This soil is poorly suited for farming. Prolonged seasonal wetness makes operation of farm machinery difficult or impossible during much of the year. Wetness and a shortened growing season limit plant growth and the choice of crops. Drainage will improve plant productivity but drainage outlets are often difficult to establish because of the low-lying position of this soil. Land use regulations may limit or restrict draining of this soil. The dense subsoil restricts rooting depth of plants.

Some limited pasture can be obtained but wetness limits plant productivity and interferes with farming operations. Limiting grazing when these soils are wet will help to maintain higher quality pasture.

Suitability for Trees

The potential productivity for growing red maple is moderate on this soil.

There is a severe equipment limitation, seedling mortality and windthrow hazard because of wetness. The dense subsoil limits rooting depth.

Suitability for Building Sites

Depth to the saturated zone limits this soil as a site for dwellings with basements. A better drained included or nearby soil should be selected.

Depth to the saturated zone and depth to the fragipan limit this soil as a site for septic tank absorption fields. A better drained included or nearby soil should be selected.

Depth to the saturated zone and high frost action potential limit this soil as a site for roads and streets. Methods of overcoming these limitations include constructing the system on raised fill, installing a drainage system, and providing a coarser grained subgrade or base material to frost depth.

Suitability for Recreation

Depth to the saturated zone and depth to the fragipan are limitations of this soil for recreational development.

The land capability classification is 4w.

Nr—Norchip silt loam, very stony

Areas of this soil consist of nearly level, very deep, poorly drained Norchip soils. They are on flat areas, along drainage ways or in depressions in uplands. Large stones cover 0.1 to 3.0 percent of the surface and are about 3 to 25 feet apart. Individual areas are irregular or roughly oval and range from about 5 to 20 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the Norchip soil is as follows—

Surface layer: surface to 2 inches, dark gray silt loam

Subsurface layers: 2 to 7 inches, light brownish gray silt loam with brownish yellow and yellowish brown mottles

7 to 11 inches, light olive gray silt loam with brownish yellow and reddish brown mottles

Subsoil (fragipan): 11 to 25 inches, reddish brown channery loam with strong brown mottles

25 to 52 inches, reddish brown channery loam with yellowish red and strong brown mottles

Substratum: 52 to 72 inches, reddish brown and brown very gravelly silt loam

Included with this soil in mapping are spots of Carlisle and Palms or Bucksport and Wonsqueak soils in depressions. Small areas of Morris or Volusia or Onteora or Ontusia soils are common inclusions on slightly higher or more sloping landscapes. Non-stony or bouldery or very bouldery areas are also included. Included areas range up to 5 acres each. Soils that have limitations different from the Norchip soils make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 0 to 0.1 feet from mid fall to late spring

Permeability: moderate in surface and upper subsoil layers; slow or very slow in the lower subsoil (fragipan) and substratum

Average available water capacity: very low

Soil reaction: very strongly acid to slightly acid in the surface layer; strongly acid to slightly acid in the upper subsoil; moderately acid to neutral in the lower subsoil

Surface runoff: very slow

Depth to bedrock and depth to dense subsoil: more than 60 inches to bedrock and 10 to 20 inches to the dense subsoil (fragipan)

Soil Use and Management

Areas of this soil are mainly forested or have a cover of brush or other native plants. A few acres are cleared and used for pasture.

Suitability for Farming

This soil is unsuited to cultivated crops and hay. Prolonged seasonal wetness makes operation of farm machinery difficult or impossible during much of the year. Large stones also interfere with most farming operations. Wetness limits plant growth and the choice of crops. The dense subsoil restricts rooting depth of plants.

This soil is unsuited to pasture. Prolonged seasonal wetness and large stones makes pasture maintenance impractical or impossible.

Suitability for Trees

The potential productivity of the Norchip soil for red maple is moderate. There is a severe equipment limitation, seedling mortality and windthrow hazard because of wetness. Rooting depth is limited by the dense subsoil in both soils.

Suitability for Building Sites

Depth to the saturated zone limits this soil as a site for dwellings with basements. A better drained included or nearby soil should be selected.

Depth to the saturated zone and depth to the fragipan limit this soil as a site for septic tank absorption fields. A better drained included or nearby soil should be selected.

Depth to the saturated zone and high frost action potential limit this soil as a site for roads and streets. Methods of overcoming these limitations include constructing the roads on raised fill, installing a drainage system, and providing a coarser grained subgrade or base material to frost depth.

Suitability for Recreation

Depth to the saturated zone, large stones, and depth to the fragipan are all limitations of this soil for recreational development.

The land capability classification is 7s.

OeA—Onteora channery silt loam, 0 to 3 percent slopes

This soil is nearly level, very deep, and somewhat poorly drained. Areas of this soil occupy small drainage ways and flat or slightly depressed areas in uplands higher than approximately 1,750 feet. Soil areas are elongated to oval or irregular in shape and range from about 5 to 10 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: 0 to 6 inches, dark brown channery silt loam

Subsoil: 6 to 13 inches, mixed reddish brown and yellowish red channery silt loam, with strong brown and light reddish brown mottles
13 to 33 inches (fragipan), dense, reddish brown, gravelly loam with brown and strong brown mottles
33 to 46 inches, reddish brown gravelly loam with reddish brown mottles

Substratum: 46 to 72 inches, reddish brown gravelly loam

Included with this soil in mapping are small areas of Norchip soils in depressions and areas of Willowemoc soils on higher or gently sloping areas. Very stony or bouldery soils may also be included. Included areas are each less than 5 acres. Soils that have limitations different from those of the Onteora soils make up about 15 percent of the map unit.

Soil Properties

Water table: perched at 0.5 to 1.0 feet from mid fall to mid spring
Permeability: moderate in the surface and upper subsoil layers, and slow or very slow in the lower subsoil (fragipan) and substratum
Average available water capacity: very low
Soil reaction: extremely acid to moderately acid in surface layers, and strongly acid to moderately acid in subsoil and substratum layers
Surface runoff: very slow

Depth to bedrock and to dense layer: more than 60 inches to bedrock, and 10 to 25 inches to the firm dense layer (fragipan)

Soil Use and Management

Some areas of the soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is moderately suited for cultivated crops and hay. Seasonal wetness and a shortened growing season limit the choice of crops and restrict plant growth and productivity. Wetness also interferes with mechanical farming operations. The dense subsoil limits crop rooting depth. Drainage measures, especially diversions to keep water from higher areas off of this soil, will improve crop productivity and allow more timely farming operations. Suitable drainage outlets may be difficult to establish on this nearly level soil. Plant varieties tolerant of seasonal wetness and a shortened growing season are best adapted to this soil.

This soil is well suited for pasture but wetness limits the choice of forage plants. Limiting grazing during wet periods will help prevent destruction of the sod cover and maintain better quality pasture.

Suitability for Trees

The potential productivity for growing red maple on this soil is moderate. Seasonal wetness causes a moderate equipment limitation and moderate seedling mortality and windthrow hazards.

Suitability for Building Sites

Prolonged seasonal depth to the saturated zone limits this soil as a site for dwellings with basements. A better drained, included or adjacent soil should be selected.

Depth to the saturated zone and depth to the fragipan limit this soil as a site for septic tank absorption fields. A better suited included or adjacent soil may be selected or a specially designed or alternate system may be used to overcome the limitations.

Depth to the saturated zone and high potential frost action limit this soil as a site for roads and streets. Methods of overcoming these limitations include constructing roads on raised fill material, installing a drainage system, and providing a coarser grained subgrade or base material.

Suitability for Recreation

Depth to the saturated zone and the depth to the fragipan limit this soil for most recreational uses. Gravel content is an additional limitation for playground areas.

The land capability classification is 3w.

OeB—Onteora channery silt loam, 3 to 8 percent slopes

This soil is gently sloping, very deep, and somewhat poorly drained. Areas of this soil occupy small drainage ways and lower parts of hillsides in uplands higher than approximately 1,750 feet. Soil areas are elongated to oval or irregular in shape and range from about 5 to 15 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: 0 to 6 inches, dark brown channery silt loam

Subsoil: 6 to 13 inches, mixed reddish brown and yellowish red channery silt loam, with strong brown and light reddish brown mottles

13 to 33 inches (fragipan), dense, reddish brown, gravelly loam with brown and strong brown mottles

33 to 46 inches, reddish brown gravelly loam with reddish brown mottles

Substratum: 46 to 72 inches, reddish brown gravelly loam

Included with this soil in mapping are small areas of Norchip soils in depressions, and areas of Willowemoc soils on higher or strongly sloping areas. Very stony or bouldery soils may also be included. Included areas are each less than 5 acres. Soils that have limitations different from those of the Onteora soils make up about 15 percent of the map unit.

Soil Properties

Water table: perched at 0.5 to 1.0 feet from mid fall to mid spring and upper subsoil layers, and slow or very slow in the lower subsoil (fragipan) and substratum
Average available water capacity: very low layers, and strongly acid to moderately acid in subsoil and substratum layers
Surface runoff: slow
Depth to bedrock and to dense layer: more than 60 inches to bedrock, and 10 to 25 inches to the firm dense layer (fragipan)

Soil Use and Management

Some areas of the soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is moderately suited cultivated crops. Seasonal wetness and a shortened growing season limit the choice of crops and restrict plant growth and productivity. Wetness also interferes with mechanical farming operations. The dense subsoil limits crop rooting depth. Drainage measures, especially diversions to keep water from higher areas off of this soil, will improve crop productivity and allow more timely farming operations. Plant varieties tolerant of seasonal wetness and a shortened growing season are best adapted to this soil.

This soil is well suited for pasture but wetness limits the choice of forage plants. Limiting grazing during wet periods will help prevent destruction of the sod cover and maintain better quality pasture.

Suitability for Trees

The potential productivity for growing red maple is moderate on this soil. Seasonal wetness causes a moderate equipment limitation and moderate seedling mortality and windthrow hazards.

Suitability for Building Sites

Prolonged seasonal depth to the saturated zone limits this soil as a site for dwellings with basements. A better drained, included or adjacent soil should be selected.

Depth to the saturated zone and depth to the fragipan limit this soil as a site for septic tank absorption fields. A better suited included or adjacent soil may be selected or a specially designed or alternate system may be used to overcome the limitations.

Depth to the saturated zone and high potential frost action limit this soil as a site for roads and streets. Methods of overcoming these limitations include construction on raised fill material, installing a drainage system, and providing a coarser grained subgrade or base material.

Suitability for Recreation

Depth to the saturated zone and the depth to the fragipan limit this soil for most recreational uses. Slope and gravel content further limit this soils suitability for playgrounds.

The land capability classification is 3w.

OeC—Onteora channery silt loam, 8 to 15 percent slopes

This soil is strongly sloping, very deep, and somewhat poorly drained. Areas of this soil occupy side slopes and lower parts of hillsides in uplands higher than approximately 1,750 feet. Soil areas are elongated to oval or irregular in shape and range from about 5 to 35 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: 0 to 6 inches, dark brown channery silt loam

Subsoil: 6 to 13 inches, mixed reddish brown and yellowish red channery silt loam, with strong brown and light reddish brown mottles

13 to 33 inches (fragipan), dense, reddish brown, gravelly loam with brown and strong brown mottles

33 to 46 inches, reddish brown gravelly loam with reddish brown mottles

Substratum: 46 to 72 inches, reddish brown gravelly loam

Included with this soil in mapping are small areas of Norchip soils in depressions, and areas of Willowemoc soils on higher or moderately steep areas. Very stony or bouldery soils may also be included. Included areas are each less than 5 acres. Soils that have limitations different from those of the Onteora soils make up about 15 percent of the map unit.

Soil Properties

Water table: perched at 0.5 to 1.0 feet from mid fall to mid spring

Permeability: moderate in the surface and upper subsoil layers, and slow or very slow in the lower subsoil (fragipan) and substratum

Average available water capacity: very low

Soil reaction: extremely acid to moderately acid in surface layers, and strongly acid to moderately acid in subsoil and substratum layers

Surface runoff: medium

Depth to bedrock and to dense layer: more than 60 inches to bedrock, and 10 to 25 inches to the firm dense layer (fragipan)

Soil Use and Management

Some areas of the soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is moderately suited for cultivated crops and hay. Slope, erosion hazard, seasonal wetness, and a shortened growing season limit intensive cultivation. The dense subsoil limits crop rooting depth. Drainage measures, especially diversions to keep water from higher areas off of this soil, will improve crop productivity and allow more timely farming operations. Minimum tillage, stripcropping and contour tillage, and the use of more sod crops in rotations will help control erosion.

This soil is well suited for pasture but wetness limits the choice of forage plants. Limiting grazing during wet periods will help prevent destruction of the sod cover and maintain better quality pasture.

Suitability for Trees

The potential productivity of this soil for red maple is moderate. Seasonal wetness causes a moderate equipment limitation and moderate seedling mortality and windthrow hazards.

Suitability for Building Sites

Depth to the saturated zone limits this soil as a site for dwellings with basements. A better drained, included or adjacent soil should be selected.

Depth to the saturated zone and depth to the fragipan limit this soil as a site for septic tank absorption fields. A better suited included or adjacent soil may be selected or a specially designed or alternate system may be used to overcome the limitations. Slope is a limitation and can be overcome by selecting a flatter included or adjacent site, or by laying out tile lines on the contour.

Depth to the saturated zone and high potential frost action limit this soil as a site for roads and streets. Methods of overcoming these limitations include constructing roads on raised fill material, installing a drainage system, and providing a coarser grained subgrade or base material. Slope is a moderate limitation for roads and streets and can be overcome by adapting the design to the slope, landshaping, and constructing roads on the contour.

Suitability for Recreation

Depth to the saturated zone, slope, and the depth to the fragipan limit this soil for most recreational uses. Gravel content further limits this soil's suitability for playgrounds.

The land capability classification is 3e.

OfB—Onteora and Ontusia silt loams, 2 to 10 percent slopes, very stony

This unit consists of Onteora or Ontusia soils or both soils in varying proportions. These soils are gently sloping to strongly sloping, very deep, and somewhat poorly drained. The unit is on small flat areas and on the lower parts of hillsides in higher uplands above 1,750 feet where the growing season is several weeks shorter than it is in larger valleys. Large stones cover 0.1 to 3.0 percent of the surface and are about 3 to 25 feet apart. The total acreage of this unit is about 50 percent Onteora soils, 30 percent Ontusia soils, and 20 percent inclusions of other soils. These soils were mapped together because there are few or no differences in use and management between them. Individual areas are irregular or oval in shape and range from about 5 to 30 acres.

The typical sequence, depth, and composition of the layers of the Onteora soil are as follows—

Surface layer: 0 to 6 inches, dark brown channery silt loam

Subsoil: 6 to 13 inches, mixed reddish brown and yellowish red channery silt loam, with strong brown and light reddish brown mottles

13 to 33 inches (fragipan), dense, reddish brown, gravelly loam with brown and strong brown mottles

33 to 46 inches, reddish brown gravelly loam with reddish brown mottles

Substratum: 46 to 72 inches, reddish brown gravelly loam

The typical sequence, depth, and composition of the layers of the Ontusia soil are as follows—

Surface layer: 0 to 8 inches, dark grayish brown channery silt loam

Subsoil: 8 to 12 inches, dark yellowish brown silt loam with brown and grayish brown mottles

12 to 16 inches, grayish brown silt loam with brown, strong brown and light brownish gray mottles

Lower Subsoil (fragipan): 16 to 25 inches, dense brown channery silt loam with brown and gray mottles

25 to 36 inches, dense grayish brown channery silt loam with brown, strong brown and dark reddish brown mottles

36 to 57 inches, dense grayish brown and yellowish brown channery loam with strong brown and grayish brown mottles

Substratum: 57 to 72 inches, brown to yellowish brown very channery loam with yellowish brown mottles

Included with this unit in mapping are spots of poorly drained Norchip soils in depressions and along drainage ways. Moderately well drained Willowemoc or Willdin soils are included on slightly higher or steeper parts of the landscape. A few spots of Gretor soils are also included. Soils that are not stony or that are bouldery or very bouldery are also common inclusions. Areas of included soils are as much as 5 acres each. Soils that have limitations different from the Onteora or Ontusia soils make up about 20 percent of the unit.

Soil Properties

Water table: perched at 0.5 to 1.0 feet for both soils from mid fall to mid spring
Permeability: moderate in the surface and upper subsoil layers and slow or very slow in the lower subsoil (fragipan) and substratum for both soils
Average available water capacity: very low for both soils
Soil reaction: extremely acid to moderately acid in surface layers, and strongly acid to moderately acid in subsoil and substratum layers for the Onteora soil; very strongly acid to slightly acid in surface and subsoil layers and strongly acid to slightly acid in the substratum layers for the Ontusia soil
Surface runoff: medium for both soils
Depth to bedrock and to dense layer: more than 60 inches to bedrock for both soils, and 10 to 25 inches to the dense layer (fragipan) for the Onteora soil and 10 to 20 inches to the dense layer (fragipan) for the Ontusia soil

Soil Use and Management

Areas of this unit are mostly wooded or have a cover of brush or other native vegetation. Some areas are cleared and used for pasture.

Suitability for Farming

This unit is generally unsuited to cultivated crops or hay because of wetness and many large surface stones. Slope also hinders some farming operations.

This unit is poorly suited to pasture, but wetness is a significant limitation of springtime grazing. Large stones make proper pasture maintenance difficult. Allowing animals to graze when the soil is too wet will cause compaction of the soil surface and damage the sod cover. Overgrazing will also reduce the quantity and quality of forage. Rotational grazing, proper stocking rates, and restricted grazing during wet periods will help maintain desirable pasture plants.

Suitability for Trees

The potential productivity of Ontusia for red maple is moderate. The potential productivity of the Onteora soil for black cherry is moderate. Because of the seasonal high water table, the soil surface is soft in spring and fall and is unable to support heavy harvesting equipment. Root growth is also restricted by the seasonal high water table and dense subsoil, resulting in moderate windthrow hazard and seedling mortality.

Suitability for Building Sites

The main limitation of this unit is used for dwellings with basements is depth to the saturated zone. Installing foundation drains and applying protective coatings to basement walls will help to prevent wet basements. Diversions and interceptor drains placed upslope from buildings will help divert runoff away from the site.

The main limitations if this unit is used as a site for septic tank absorption fields are the depth to the saturated zone and depth to the fragipan. A drainage system around the absorption field and diversions to intercept runoff from higher areas will overcome the limitation of depth to the saturated zone. Enlarging the absorption field or the trench below distribution lines will help overcome the limitation depth to the fragipan.

The main limitations if this unit is used as a site for local roads and streets are depth to the saturated zone and frost action. Providing a coarser grained subgrade or base material and providing surface or subsurface drainage will reduce the frost action potential and help overcome the limitation of depth to the saturated zone.

Suitability for Recreation

Depth to the saturated zone, large stones, and depth to the fragipan limit this soil for most recreational purposes. Slope is an additional limitation for playground areas.

The land capability classification is 6s.

OnA—Ontusia channery silt loam, 0 to 3 percent slopes

This soil is nearly level, very deep, and somewhat poorly drained. Areas of this soil occupy small drainage ways and flat or depressional areas on the landscape on uplands above 1,750 feet. Soil areas are elongated to oval or irregular in shape and range from about 5 to 10 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: 0 to 8 inches, dark grayish brown channery silt loam

Subsoil: 8 to 12 inches, dark yellowish brown silt loam, with brown and grayish brown mottles

12 to 16 inches, grayish brown silt loam with brown, strong brown, and gray mottles

16 to 25 inches, dense, brown, channery silt loam with brown and gray mottles

Lower Subsoil (fragipan): 25 to 36 inches, dense, grayish brown channery silt loam with brown and strong brown mottles

36 to 57 inches, dense, grayish brown and yellowish brown channery loam with strong brown and grayish brown mottles

Substratum: 57 to 72 inches, brown and yellowish brown very channery loam with yellowish brown mottles

Included with this soil in mapping are small areas of poorly drained Norchip soils in depressions and areas of Willdin soils on higher or gently sloping areas. Very stony or bouldery soils may also be included. Included areas are each less than 5 acres. Soils that have limitations different from those of the Ontusia soils make up about 15 percent of the map unit.

Soil Properties

Water table: perched at 0.5 to 0.9 feet mid fall to mid spring

Permeability: moderate in the surface and upper subsoil layers, and slow or very slow in the lower subsoil (fragipan) and substratum

Average available water capacity: very low

Soil reaction: very strongly acid to slightly acid in the surface and subsoil layers, and strongly acid to slightly acid in substratum

Surface runoff: very slow

Depth to bedrock and to dense layer: more than 60 inches to bedrock, and 10 to 20 inches to firm dense layer (fragipan)

Soil Use and Management

Some areas of the soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is moderately suited for cultivated crops. Seasonal wetness and a shortened growing season limit the choice of crops and restrict plant growth and productivity. Wetness also interferes with mechanical farming operations. The dense subsoil limits crop rooting depth. Drainage measures, especially diversions to keep water from higher areas off of this soil, will improve crop productivity and allow more timely farming operations. Suitable drainage outlets may be difficult to establish on this nearly level soil. Plant varieties tolerant of seasonal wetness and a shortened growing season are best adapted to this soil.

This soil is well suited for pasture but wetness limits the choice of forage plants. Limiting grazing during wet periods will help prevent destruction of the sod cover and maintain better quality pasture.

Suitability for Trees

The potential productivity of this soil for black cherry is moderate. Seasonal wetness causes a moderate equipment limitation and moderate seedling mortality and windthrow hazards.

Suitability for Building Sites

Depth to the saturated zone limits this soil as a site for dwellings with basements. A better drained, included or adjacent soil should be selected.

Depth to the saturated zone and depth to the fragipan limit this soil as a site for septic tank absorption fields. A better suited included or adjacent soil may be selected or a specially designed or alternate system may be used to overcome the limitations.

Depth to the saturated zone and high potential frost action limit this soil as a site for roads and streets. Methods of overcoming these limitations include construction on raised fill material, installing a drainage system, and providing a coarser grained subgrade or base material.

Suitability for Recreation

Depth to the saturated zone and the depth to the fragipan limit this soil for most recreational uses. Gravel content further limits the use of this soil for playgrounds.

The land capability classification is 3w.

OnB—Ontusia channery silt loam, 3 to 8 percent slopes

This soil is gently sloping, very deep, and somewhat poorly drained. Areas of this soil occupy small drainage ways and the lower parts of hillsides in higher parts of uplands above 1,750 feet. Soil areas are elongated to oval or irregular in shape and range from about 10 to 20 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: 0 to 8 inches, dark grayish brown channery silt loam

Subsoil: 8 to 12 inches, dark yellowish brown silt loam, with brown and grayish brown mottles

12 to 16 inches, grayish brown silt loam with brown, strong brown, and gray mottles

Lower Subsoil (fragipan): 16 to 25 inches, dense, brown, channery silt loam with brown and gray mottles

25 to 36 inches, dense grayish brown channery silt loam with brown and strong brown mottles

36 to 57 inches, dense grayish brown and yellowish brown channery loam with strong brown and grayish brown mottles

Substratum: 57 to 72 inches, brown and yellowish brown very channery loam with yellowish brown mottles

Included with this soil in mapping are small areas of poorly drained Norchip soils in depressions, and areas of Willdin soils on higher or gently sloping areas. Very stony or bouldery soils may also be included. Included areas are each less than 5 acres. Soils that have limitations different from those of the Ontusia soils make up about 15 percent of the map unit.

Soil Properties

Water table: perched at 0.5 to 0.9 feet from mid fall to mid spring
Permeability: moderate in the surface and upper subsoil layers, and slow or very slow in the lower subsoil (fragipan) and substratum
Average available water capacity: low
Soil reaction: very strongly acid to slightly acid in the surface and subsoil layers, and strongly acid to slightly acid in substratum
Surface runoff: slow
Depth to bedrock and to dense layer: more than 60 inches to bedrock, and 10 to 20 inches to the dense layer (fragipan)

Soil Use and Management

Some areas of the soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is moderately suited for farming but seasonal wetness and a shortened growing season limit the choice of crops and restrict plant growth and productivity. Wetness also interferes with mechanical farming operations. The dense subsoil limits crop rooting depth. Drainage measures, especially diversions to keep water from higher areas off of this soil, will improve crop productivity and allow more timely farming operations. Plant varieties tolerant of seasonal wetness and a shortened growing season are best adapted to this soil.

This soil is well suited for pasture but wetness limits the choice of forage plants. Limiting grazing during wet periods will help prevent destruction of the sod cover and maintain better quality pasture.

Suitability for Trees

The potential productivity of this soil for black cherry is moderate. Seasonal wetness causes a moderate equipment limitation and moderate seedling mortality and windthrow hazards.

Suitability for Building Sites

Depth to the saturated zone limits this soil as a site for dwellings with basements. A better drained, included or adjacent soil should be selected.

Depth to the saturated zone and depth to the fragipan limit this soil as a site for septic tank absorption fields. A better suited included or adjacent soil may be selected or a specially designed or alternate system may be used to overcome the limitations.

Depth to the saturated zone and high potential frost action limit this soil as a site for roads and streets. Methods of overcoming these limitations include constructing roadson raised fill material, installing a drainage system, and providing a coarser grained subgrade or base material.

Suitability for Recreation

Depth to the saturated zone and the depth to the fragipan limit this soil for most recreational uses. Gravel content and slope are additional limitations if this soil is used as a site for playgrounds.

The land capability classification is 3w.

OnC—Ontusia channery silt loam, 8 to 15 percent slopes

This soil is strongly sloping, very deep, and somewhat poorly drained. Areas of this soil occupy sideslopes and the lower parts of hillsides in the uplands above 1,750 feet. Soil areas are elongated to oval or irregular in shape and range from about 5 to 35 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: 0 to 8 inches, dark grayish brown channery silt loam

Subsoil: 8 to 12 inches, dark yellowish brown silt loam with brown and grayish brown mottles

12 to 16 inches, grayish brown silt loam with brown, strong brown, and gray mottles

Lower Subsoil (fragipan): 16 to 25 inches, dense brown channery silt loam with brown and strong brown mottles

25 to 36 inches, dense grayish brown channery silt loam with brown and strong brown mottles

36 to 57 inches, dense grayish brown and yellowish brown channery loam with strong brown and grayish brown mottles

Substratum: 57 to 72 inches, brown to yellowish brown very channery loam with yellowish brown mottles

Included with this soil in mapping are spots of Norchip soils in depressions and spots of Willdin or Lewbath soils on higher or moderately steep areas. Very stony or bouldery soils are also included. In central parts of the county, Onteora or Willowemoc soils may be inclusions. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Ontusia soil make up about 15 percent of the map unit.

Soil Properties

Water table: perched at 0.5 to 0.9 feet from mid fall to mid spring

Permeability: moderate in the surface and upper subsoil layers and slow or very slow in the lower subsoil (fragipan) and substratum

Average available water capacity: very low

Soil reaction: very strongly acid to slightly acid in the surface and subsoil layers, and strongly acid to slightly acid in substratum

Surface runoff: medium

Depth to bedrock and to dense layer: more than 60 inches to bedrock and 10 to 20 inches to the dense layer (fragipan)

Soil Use and Management

Some areas of the soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is moderately suited cultivated crops and hay. Slope, erosion hazard, seasonal wetness, and a shortened growing season limit the choice of crops and restrict plant growth and productivity. Wetness also interferes with and delays farming operations. The dense subsoil limits rooting depth. Drainage measures, especially diversions to keep water from higher areas off of this soil, will improve crop productivity and allow more timely farming operations. Plant varieties tolerant of seasonal wetness and a shorter growing season are best adapted to this soil. Minimum tillage, stripcropping and contour tillage, and the use of more sod crops in rotations will help control erosion.

This soil is well suited for pasture but wetness limits the choice of forage plants. Limiting grazing during wet periods will help prevent destruction of the sod cover and maintain better quality pasture.

Suitability for Trees

The potential productivity for growing black cherry on this soil is moderate. Seasonal wetness causes a moderate equipment limitation and moderate seedling mortality and windthrow hazard.

Suitability for Building Sites

Depth to the saturated zone limits this soil as a site for dwellings with basements. A better drained, included or adjacent soil should be selected.

Depth to the saturated zone and depth to the fragipan limit this soil as a site for septic tank absorption fields. A better suited included or adjacent soil may be selected or a specially designed or alternate system may be used to overcome the limitations. Slope is an additional limitation and may be overcome by laying out tile lines on the contour.

Depth to the saturated zone, slope, and high potential frost action limit this soil as a site for roads and streets. Methods of overcoming the limitations due to depth to the saturated zone and frost action include constructing roads on raised fill material, installing a drainage system, and providing a coarser grained subgrade or base material. Adapting the design to the slope, landshaping, and building roads on the contour can help overcome the limitation due to slope.

Suitability for Recreation

Depth to the saturated zone, slope and the depth to the fragipan limit this soil for most recreational uses. Gravel content further limits this soil’s suitability for playgrounds.

The land capability classification is 3e.

OpB—Oquaga channery silt loam, 2 to 8 percent slopes

This soil is gently sloping, moderately deep, and somewhat excessively drained. Areas of this soil are on hilltops or benches in uplands below 1,750 feet. Areas are oval or irregular in shape and range from about 5 to 30 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 24 inches, reddish brown very channery silt loam

Bedrock: 24 inches, dark reddish brown sandstone bedrock

Included with this soil in mapping are spots of Arnot soil where the depth to bedrock is less than 20 inches. Some soils with bedrock at greater than 40 inches are included. Lackawanna soils occur where depth to bedrock is greater than 60 inches. These included soils may range up to 5 acres each. Soils that have limitations different from Oquaga soils make up about 20 percent of the map unit.

Soil Properties

Water table: normally below 6 feet; may be perched at bedrock contact for brief periods

Permeability: moderate throughout the profile
Average available water capacity: very low
Soil reaction: extremely acid to moderately acid throughout the soil
Surface runoff: slow
Depth to bedrock: 20 to 40 inches

Soil Use and Management

Most areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is well suited for cultivated crops and hay and can be worked early in the spring. Erosion is a hazard, especially on longer slopes. Droughtiness may limit the growth of most crops during dry periods of mid to late summer. Early maturing crops or plant varieties tolerant of some droughtiness are best adapted to this soil. Using sod and cover crops in a rotation and incorporating crop residues into the soil will help improve the available water holding capacity and help control erosion. Other practices such as no-till or minimum tillage, stripcropping or contour farming are also important measures in controlling erosion and maintaining productivity.

This soil is well suited to pasture and can provide grazing early in the spring. Proper stocking rates and preventing overgrazing, especially during dry periods, are practices that will help maintain more desirable forage plants and prevent erosion. Droughtiness, especially during mid to late summer, limits forage production. Plants tolerant of some moisture stress are better adapted to this soil.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. Droughtiness is a hazard for young seedlings but early planting can help overcome this limitation.

Suitability for Building Sites

The moderate depth to bedrock limits this soil as a site for dwellings with basements and for septic tank absorption fields. Careful site investigation and selection of a deeper included or adjacent soil will overcome this limitation.

Frost action and depth to bedrock limit this soil as a site for roads and streets. Use of a coarser subgrade or base material can overcome the limitation of frost action. Careful site evaluation and planning road grades and locations to avoid removal of bedrock can reduce or eliminate the need for blasting.

Suitability for Recreation

Gravel content can limit the use of this soil for most recreational uses. Slope is and additional limitation for playground areas.

The land capability classification is 2e.

OpC—Oquaga channery silt loam, 8 to 15 percent slopes

This soil is strongly sloping, moderately deep, and somewhat excessively drained. Areas of this soil are on hillsides or benches in uplands below 1,750 feet. Areas are oval or irregular in shape and range from about 5 to 30 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 24 inches, reddish brown very channery silt loam

Bedrock: 24 inches, dark reddish brown sandstone bedrock

Included with this soil in mapping are spots of Arnot soil where the depth to bedrock is less than 20 inches. Some soils with bedrock at greater than 40 inches are included. Lackawanna soils occur where depth to bedrock is greater than 60 inches. These included soils may range up to 5 acres each. Soils that have limitations different from Oquaga soils make up about 20 percent of the map unit.

Soil Properties

Water table: normally below 6 feet; may be perched at bedrock contact for brief periods
Permeability: moderate throughout the profile
Average available water capacity: very low
Soil reaction: extremely acid to moderately acid throughout the soil
Surface runoff: medium
Depth to bedrock: 20 to 40 inches

Soil Use and Management

Most areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is moderately suited for cultivated crops and hay, but slope may interfere with tillage operations. Erosion is a hazard. Droughtiness limits the growth of most crops during dry periods of mid to late summer. Early maturing crops or plant varieties tolerant of some droughtiness are best adapted to this soil. Using sod and cover crops in a rotation and incorporating crop residues into the soil will help improve the available water holding capacity and help control erosion. Other practices such as no-till or minimum tillage, stripcropping or contour farming are also important measures in controlling erosion and maintaining productivity.

This soil is well suited for pasture but erosion is a hazard especially on long slopes. Droughtiness, especially during mid to late summer, limits forage production. Plants tolerant of some moisture stress are better adapted to this soil. Applying proper stocking rates and preventing overgrazing, especially during dry periods, are practices that will help maintain more desirable forage plants and prevent erosion.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. Droughtiness is a hazard for young seedlings but early planting can help overcome this limitation.

Suitability for Building Sites

The moderate depth to bedrock limits this soil as a site for dwellings with basements and for septic tank absorption fields. Careful site investigation and selection of a deeper included or adjacent soil will overcome this limitation. Slope is a moderate limitation for septic tank absorption fields and can be overcome by selecting a flatter included or adjacent site or by laying the tile lines out on the contour.

Frost action, slope, and depth to bedrock limit this soil as a site for roads and streets. Use of a coarser subgrade or base material can overcome the limitation of frost action. Constructing roads and streets on the contour, landshaping, and grading will help overcome the limitation of slope. Careful site evaluation and planning road grades and locations to avoid removal of bedrock can reduce or eliminate the need for blasting.

Suitability for Recreation

Slope and gravel content limit this soil as a site for playgrounds. There are few or no limitations of this soil for most other recreational uses.

The land capability classification is 3e.

OpD—Oquaga channery silt loam, 15 to 25 percent slopes

This soil is moderately steep, moderately deep, and somewhat excessively drained. Areas of this soil are on hillsides in uplands below 1,750 feet. Areas are oval or irregular in shape and range from about 5 to 30 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 24 inches, reddish brown very channery silt loam

Bedrock: 24 inches, dark reddish brown sandstone bedrock

Included with this soil in mapping are spots of Arnot soil where the depth to bedrock is less than 20 inches. Some soils with bedrock at greater than 40 inches are included. Lackawanna or Cadosia soils occur where depth to bedrock is greater than 60 inches. These included soils may range up to 5 acres each. Soils that have limitations different from Oquaga soils make up about 20 percent of the map unit.

Soil Properties

Water table: normally below 6 feet; may be perched at bedrock contact for brief periods
Permeability: moderate throughout the profile
Average available water capacity: very low
Soil reaction: extremely acid to moderately acid throughout the soil
Surface runoff: rapid
Depth to bedrock: 20 to 40 inches

Soil Use and Management

Some areas of this soil are cleared and used for farming. Most areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is poorly suited to cultivated crops. Slope hinders the operation of farm machinery. Erosion is a hazard. Droughtiness limits the growth of most crops during dry periods of mid to late summer. Early maturing crops or plant varieties tolerant of some droughtiness are best adapted to this soil. Using sod and cover crops in a rotation and incorporating crop residues into the soil will help improve the available water holding capacity and help control erosion. Other practices such as no-till or minimum tillage, stripcropping, or contour farming are also important measures in controlling erosion and maintaining productivity.

This soil is moderately suited for pasture but erosion is a hazard if adequate cover is not maintained. Droughtiness, especially during mid to late summer, limits forage production. Plants tolerant of some moisture stress are better adapted to this soil. Proper stocking rates and preventing overgrazing, especially during dry periods, are practices that will help maintain more desirable forage plants and prevent erosion.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. Droughtiness is a hazard for young seedlings but early planting can help overcome this limitation. Laying out access roads on the contour will reduce the erosion hazard. Slope limits the use of equipment on this soil.

Suitability for Building Sites

Slope and the moderate depth to bedrock limits this soil as a site for dwellings with basements and for septic tank absorption fields.

Careful site investigation and selection of a deeper included or adjacent soil can overcome the limitation of depth to rock. Designing the structure to conform to the natural slope and landshaping can help overcome the limitation of slope for dwellings. Landshaping, installing tile lines on the contour, or constructing the field on a flatter included area can help overcome the limitation of slope for septic absorption fields. Selecting a deeper included or adjacent soil can overcome the limitation of depth to bedrock.

Frost action, depth to bedrock, and slope limit the use of this soil as a site for roads and streets. Use of a coarser subgrade or base material can overcome the limitation of frost action. Constructing roads and streets on the contour, landshaping, and grading will help overcome the limitation of slope for roads and streets. Careful site evaluation and planning road grades and locations to avoid removal of bedrock can reduce or eliminate the need for blasting.

Suitability for Recreation

Slope and gravel content can limit the use of this soil as a site for most recreational uses.

The land capability classification is 4e.

OpE—Oquaga channery silt loam, 25 to 35 percent slopes

This soil is steep, moderately deep, and somewhat excessively drained. Areas of this soil are on hillsides in uplands below 1,750 feet. Areas are oval or irregular in shape and range from about 5 to 40 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 24 inches, reddish brown very channery silt loam

Bedrock: 24 inches, dark reddish brown sandstone bedrock

Included with this soil in mapping are spots of Arnot soil where the depth to bedrock is less than 20 inches. Some soils with bedrock at greater than 40 inches are included. Lackawanna or Cadosia soils occur where depth to bedrock is greater than 60 inches. These included soils may range up to 5 acres each. Soils that have limitations different from Oquaga soils make up about 20 percent of the map unit.

Soil Properties

Water table: below 6 feet
Permeability: moderate throughout the profile
Average available water capacity: very low
Soil reaction: extremely acid to moderately acid throughout the soil
Surface runoff: very rapid
Depth to bedrock: 20 to 40 inches

Soil Use and Management

A few areas of this soil are used for pasture. Most areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is generally unsuited to cultivated crops and hay. Slope makes the operation of farm machinery extremely difficult and hazardous. Erosion is a severe hazard whenever this soil is disturbed. Droughtiness limits the growth of most crops during dry periods of mid to late summer.

This soil is poorly suited to pasture. It can provide some limited pasture but droughtiness, especially during mid to late summer, limits forage production. Plants tolerant of some moisture stress are better adapted to this soil. Proper stocking rates and preventing overgrazing, especially during dry periods, are practices that will help maintain more desirable forage plants and prevent erosion. Slope makes pasture maintenance very difficult and hazardous.

Suitability for Trees

The potential productivity for growing sugar maple on this soil is moderate. Droughtiness is a hazard for young seedlings but early planting can help overcome this limitation. Laying out access roads on the contour will reduce the erosion hazard. Slope limits use of equipment on this soil.

Suitability for Building Sites

Slope and the moderate depth to bedrock limit this soil as a site for dwellings with basements and for septic tank absorption fields. Careful site investigation and selection of a deeper included or adjacent soil can overcome the limitation of depth to bedrock. Designing the structures to conform to the natural slope, landshaping, or selecting a flatter adjacent soil can help overcome the limitation of slope for dwellings. Landshaping or constructing the field on a flatter included area can help overcome the limitation of slope for septic absorption fields.

Frost action, depth to bedrock, and slope limit the use of this soil as a site for roads and streets. Use of a coarser subgrade or base material can overcome the limitation of frost action. Constructing roads and streets on the contour, landshaping and grading, and careful design will help overcome the limitation of slope for roads and streets. Erosion is a severe hazard whenever the natural cover of this soil is disturbed. Careful site evaluation and planning road grades and locations to avoid removal of bedrock can reduce or eliminate the need for blasting.

Suitability for Recreation

Slope and gravel content can limit the use of this soil as a site for most recreational uses.

The capability subclass is 6e.

OpF—Oquaga channery silt loam, 35 to 50 percent slopes

This soil is very steep, moderately deep, and somewhat excessively drained. Areas of this soil are on hillsides in uplands below 1,750 feet. Areas are oval or irregular in shape and range from about 5 to 50 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 24 inches, reddish brown very channery silt loam

Bedrock: 24 inches dark reddish brown sandstone bedrock

Included with this soil in mapping are spots of Arnot soil where the depth to bedrock is less than 20 inches. Some soils with bedrock at greater than 40 inches are included. Cadosia or Maplecrest soils occur where the depth to bedrock is greater than 60 inches. These included soils may range up to 5 acres each. Soils that have limitations different from Oquaga soils make up about 20 percent of the map unit.

Soil Properties

Water table: below 6 feet
Permeability: moderate throughout the profile

Average available water capacity: very low
Soil reaction: extremely acid to moderately acid throughout the soil
Surface runoff: very rapid
Depth to bedrock: 20 to 40 inches

Soil Use and Management

Areas of this unit are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is unsuited to farming. Slope makes the operation of farm machinery extremely difficult and hazardous. Erosion is a severe hazard whenever this soil is disturbed.

This soil is generally unsuited to pasture. The very steep slope makes pasture maintenance impractical or impossible.

Suitability for Trees

The potential productivity for growing sugar maple on this soil is moderate. There is a moderate windthrow hazard due to slope and the limited rooting depth.

Droughtiness is a hazard for young seedlings but early planting can help overcome this limitation. Laying out access roads on the contour will reduce the erosion hazard. Very steep slopes limit the use of equipment on this soil.

Suitability for Building Sites

Slope and the moderate depth to bedrock limit this soil as a site for dwellings with basements and for septic tank absorption fields. A deeper, less steep, adjacent soil should be selected.

Slope and the moderate depth to bedrock also limit this soil as a site for roads and streets. A deeper, less steep, adjacent soil should be selected.

Suitability for Recreation

Very steep slopes limit this soil for most recreational uses.

The capability subclass is 7e.

OrC—Oquaga, Lordstown and Arnot soils, 2 to 15 percent slopes, very rocky

Individual areas of this unit consist of Oquaga, Lordstown, or Arnot soils. All areas contain one or two of the soils and some areas contain all three. The soils are strongly sloping. The total acreage of the unit is about 25 percent Oquaga soils, 25 percent Lordstown soils, 25 percent Arnot soils, and 25 percent inclusions of other soils. Oquaga soils are moderately deep and somewhat excessively drained. Lordstown soils are moderately deep and well drained. Arnot soils are shallow and well drained. These soils are on hilltops and hillsides in the uplands at elevations below about 1,750 feet. Surface textures are channery loam or channery silt loam. Bedrock outcrops occupy 0.1 to 10 percent of the area. Individual areas are irregular in shape and range from about 10 to 75 acres. These soils were mapped together because of similar use and management.

The typical sequence, depth, and composition of the layers of the Oquaga soil are as follows—

Surface layer: surface to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 24 inches, reddish brown very channery silt loam

Bedrock: 24 inches, dark reddish brown sandstone bedrock

The typical sequence, depth, and composition of the layers of the Lordstown soil are as follows—

Surface layer: surface to 3 inches, black channery silt loam

Subsoil: 3 to 6 inches, dark brown channery silt loam
6 to 19 inches, dark yellowish brown channery silt loam
19 to 27 inches, yellowish brown channery loam

Substratum: 27 to 32 inches, grayish brown gravelly loam

Bedrock: 32 inches, gray sandstone bedrock

The typical sequence, depth, and composition of the layers of the Arnot soil are as follows—
Surface layer: surface to 2 inches, black channery loam

Subsoil: 2 to 8 inches, yellowish brown channery silt loam
8 to 17 inches, yellowish brown very channery silt loam

Bedrock: 17 inches, dark gray sandstone bedrock

Included with this unit in mapping are spots of very shallow soils next to areas of rock outcrop. Spots of deep or very deep soils are common inclusions, especially on the lower parts of hillsides. Small spots of wetter soils are common in flat areas. Stony or bouldery areas are also common. Included areas range up to 5 acres each. Soils with limitations different from the Oquaga, Lordstown, or Arnot soils make up about 25 percent of the map unit.

Soil Properties

Water table: below 6 feet for all soils
Permeability: moderate in the surface and subsoil layers of all soils
Average available water capacity: very low for the Oquaga soil, moderate for the Lordstown soil, and very low for the Arnot soil
Soil reaction: extremely acid to moderately acid for the Oquaga soil; very strongly acid to moderately acid for the Lordstown soil; and extremely acid to moderately acid in the surface and subsoil layers for the Arnot soil
Surface runoff: medium
Depth to bedrock: 20 to 40 inches for the Oquaga and Lordstown soils; 10 to 20 inches for the Arnot soil

Soil Use and Management

Most areas of this unit are forested or have a cover of brush or other native plants. A few small areas are cleared and used for pasture.

Suitability for Farming

The unit is generally unsuited to cultivated crops and hay. Areas of shallow soils, bedrock outcrops, and small stones in the soil, limit or interfere with tillage operations. Areas with restricted rooting depths and droughty soil conditions limit crop growth during dry periods.

This unit is poorly suited to pasture. Some limited pasture or hay may be obtained from this unit, but bedrock outcrops interfere with the operation of machinery and droughtiness and restricted rooting limit forage production.

Suitability for Trees

The potential productivity of the Oquaga and Lordstown soils for sugar maple is moderate. The potential productivity of the Arnot soil for northern red oak is also moderate. Droughtiness is a hazard for new plantings. Planting early in the spring can overcome this limitation. There is a moderate windthrow hazard on the shallow Arnot soil.

Suitability for Building Sites

Depth to bedrock and occasional bedrock outcrops limit this unit as a site for dwellings with basements and septic tank absorption fields. Careful site investigation and selection of a deeper included or adjacent soil can overcome this limitation.

Depth to bedrock, slope, frost action, and occasional bedrock outcrops limit this unit as a site for roads and streets. Careful site investigation and planning road grades and locations to avoid removal of rock can reduce or eliminate the need for blasting. Use of a coarser subgrade or base material can overcome the limitation of frost action. Careful planning when laying out roads and constructing roads on the contour can overcome the limitation due to slope.

Suitability for Recreation

Slope, occasional bedrock outcrops, surface stones, and the depth to bedrock can limit this unit as a site for most recreational uses.

The land capability classification is 6s.

OrE—Oquaga, Lordstown, and Arnot soils, 15 to 35 percent slopes, very rocky

Individual areas of this unit consist of Oquaga, Lordstown, or Arnot soils. All areas contain one or two of the soils and some areas contain all three. The soils are moderately steep and steep. The total acreage of the unit is about 25 percent Oquaga soils, 25 percent Lordstown soils, 25 percent Arnot soils, and 25 percent inclusions of other soils. Oquaga soils are moderately deep and somewhat excessively drained. Lordstown soils are moderately deep and well drained. Arnot soils are shallow and well drained. These soils are on hilltops and hillsides in the uplands at elevations below about 1,750 feet. Surface textures are channery loam, or channery silt loam. Bedrock outcrops occupy 0.1 to 10 percent of the area. Individual areas are irregular in shape and range from about 10 to 100 acres in size. These soils were mapped together because of similar use and management.

The typical sequence, depth, and composition of the layers of the Oquaga soil are as follows—

Surface layer: surface to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 24 inches, reddish brown very channery silt loam

Bedrock: 24 inches, dark reddish brown sandstone bedrock

The typical sequence, depth, and composition of the layers of the Lordstown soil are as follows—

Surface layer: surface to 3 inches, black channery silt loam

Subsoil: 3 to 6 inches, dark brown channery silt loam
6 to 19 inches, dark yellowish brown channery silt loam
19 to 27 inches, yellowish brown channery loam

Substratum: 27 to 32 inches, grayish brown gravelly loam

Bedrock: 32 inches, gray sandstone bedrock

The typical sequence, depth, and composition of the layers of the Arnot soil are as follows—

Surface layer: surface to 2 inches, black channery loam

Subsoil: 2 to 8 inches, yellowish brown channery silt loam
8 to 17 inches, yellowish brown very channery silt loam

Bedrock: 17 inches, dark gray sandstone bedrock

Included with this unit in mapping are spots of very shallow soils next to areas of rock outcrop. Spots of deep soils or the very deep Cadosia soils are common inclusions, especially on the lower parts of hillsides. Small spots of wetter soils occur in flatter areas. Stony or bouldery areas are also common. Included areas range up to 5 acres each. Soils with limitations different from the Oquaga, Lordstown, or Arnot soils make up about 25 percent of the map unit.

Soil Properties

Water table: below 6 feet for all soils
Permeability: moderate in the surface and subsoil layers of all soils
Average available water capacity: very low for the Oquaga soil, moderate for the Lordstown soil, and very low for the Arnot soil
Soil reaction: extremely acid to moderately acid for the Oquaga soil; very strongly acid to moderately acid for the Lordstown soil; and extremely acid to moderately acid in surface and subsoil layers for the Arnot soil
Surface runoff: rapid
Depth to bedrock: 20 to 40 inches for the Oquaga and Lordstown soils; 10 to 20 inches for the Arnot soil

Soil Use and Management

Most areas of this unit are forested or have a cover of brush or other native plants.

Suitability for Farming

The unit is unsuited to cultivated crops and hay. Areas of shallow soils, bedrock outcrops, and small stones in the soil limit or interfere with tillage operations. Erosion is a hazard if areas are disturbed. Steep slopes make operation of machinery difficult. Areas with restricted rooting depths and droughty soil conditions limit crop growth during dry periods.

This unit is unsuited to pasture. Steep slopes and bedrock outcrops interfere with the operation of machinery and droughtiness and restricted rooting limit forage production.

Suitability for Trees

Oquaga and Lordstown soils have moderate potential productivity for growing sugar maple. The potential productivity of the Arnot soils for growing northern red oak is also moderate. Droughtiness is a hazard for new plantings. Planting early in the spring can overcome this limitation. There is a moderate windthrow hazard on the shallow Arnot soil. Laying out access roads along the contour will reduce the erosion hazard. Steep slopes restrict the use of equipment on this unit.

Suitability for Building Sites

Steep slopes, depth to bedrock, and occasional bedrock outcrops limit this unit as a site for dwellings with basements and for septic tank absorption fields (fig. 11). Careful site investigation and selection of a deeper and less steep included or adjacent soil can overcome this limitation.

Steep slopes, depth to bedrock, and occasional bedrock outcrops limit this unit as a site for roads and streets. Careful site investigation and planning road grades and locations to avoid removal of rock can reduce or eliminate the need for blasting. Selecting less steep adjacent or included soils can overcome the limitation of slope. Frost action on these soils also limits the unit as a site for roads and streets. Use of a coarser subgrade or base material can overcome the limitation of frost action.

Suitability for Recreation

Steep slopes, occasional bedrock outcrops, surface stones, and depth to bedrock can limit this unit as a site for most recreational use.

The land capability classification is 7s.

Figure 11.—Rock outcrops and shallow soils (shown here in the Oquaga, Lordstown, and Arnot soils, 15 to 35 percent slopes, very rocky) have significant limitations for building site development.

OrF—Oquaga, Lordstown, and Arnot soils, 35 to 70 percent slopes, very rocky

Individual areas of this unit consist of Oquaga, Lordstown, or Arnot soils. All areas contain one or two of the soils and some areas contain all three. The total acreage of the unit consists of about 25 percent Oquaga soils, 25 percent Lordstown soils, 25 percent Arnot soils, and 25 percent inclusions of other soils. The soils are very steep. Oquaga soils are moderately deep and somewhat excessively drained. Lordstown soils are moderately deep and well drained. Arnot soils are shallow and well drained. These soils are on hilltops and hillsides in the uplands at elevations below about 1,750 feet. Surface textures are channery loam, or channery silt loam. Bedrock outcrops occupy 0.1 to 10 percent of the area. Individual areas are irregular in shape and range from about 10 to 100 acres in size. These soils were mapped together because of similar use and management.

The typical sequence, depth, and composition of the layers of the Oquaga soil are as follows—

Surface layer: surface to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 24 inches, reddish brown very channery silt loam

Bedrock: 24 inches, dark reddish brown sandstone bedrock

The typical sequence, depth, and composition of the layers of the Lordstown soil are as follows—

Surface layer: surface to 3 inches, black channery silt loam

Subsoil: 3 to 6 inches, dark brown channery silt loam
6 to 19 inches, dark yellowish brown channery silt loam
19 to 27 inches, yellowish brown channery loam

Substratum: 27 to 32 inches, grayish brown gravelly loam

Bedrock: 32 inches, gray sandstone bedrock

The typical sequence, depth, and composition of the layers of the Arnot soil are as follows—
Surface layer: surface to 2 inches, black channery loam

Subsoil: 2 to 8 inches, yellowish brown channery silt loam
8 to 17 inches, yellowish brown very channery silt loam

Bedrock: 17 inches, dark gray sandstone bedrock

Included with this unit in mapping are spots of very shallow soils next to areas of rock outcrop. Spots of deep soils or the very deep Cadosia soils are common inclusions, especially on the lower parts of hillsides. Stony or bouldery areas are also common. Included areas range up to 5 acres each. Soils with limitations different from the Oquaga, Lordstown, or Arnot soils make up about 25 percent of the map unit.

Soil Properties

Water table: below 6 feet for all soils
Permeability: moderate in the surface and subsoil layers of all soils
Average available water capacity: very low for the Oquaga soil, moderate for the Lordstown soil, and very low for the Arnot soil
Soil reaction: extremely acid to moderately acid for the Oquaga soil, very strongly acid to moderately acid for the Lordstown soil, and extremely acid to moderately acid in surface and subsoil layers for the Arnot soils
Surface runoff: very rapid
Depth to bedrock: 20 to 40 inches for the Oquaga and Lordstown soils; 10 to 20 inches for the Arnot soil

Soil Use and Management

Most areas of this unit are forested or have a cover of brush or other native plants.

Suitability for Farming

The unit is unsuited to cultivated crops, hay, and pasture. Areas of shallow soils, bedrock outcrops, and small stones in the soil limit or interfere with tillage operations. Erosion is a hazard if areas are disturbed. Very steep slopes make operation of machinery very difficult and hazardous. Areas with restricted rooting depths and droughty soil conditions limit plant growth during dry periods.

Suitability for Trees

Oquaga and Lordstown soils have moderate potential productivity for growing sugar maple. The potential productivity for growing northern red oak is moderate on the Arnot soil. Droughtiness is a hazard for new plantings. Planting early in the spring can overcome this limitation. There is a moderate windthrow hazard on the shallow Arnot soil. Erosion is a severe hazard if areas are disturbed. Very steep slopes restrict the use of equipment on this unit.

Suitability for Building Sites

Steep slopes, depth to bedrock, and occasional bedrock outcrops limit this unit as a site for dwellings with basements and for septic tank absorption fields. Careful site investigation and selection of a deeper and less steep included or adjacent soil can overcome this limitation.

Very steep slopes, depth to bedrock, and occasional bedrock outcrops limit this unit as a site for roads and streets. A deeper, less steep adjacent soil should be selected.

Suitability for Recreation

Very steep slopes, occasional bedrock outcrops, surface stones, and depth to bedrock can limit this unit as a site for most recreational uses.

The land capability classification is 7s.

Pc—Philo silt loam

This soil is nearly level, very deep, and moderately well drained. Areas of this soil occupy flood plains along streams. They are subject to flooding. Soil areas are mostly long and narrow and range from 5 to 20 acres in size. Slope is 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 12 inches, dark grayish brown silt loam

Subsoil: 12 to 19 inches, olive brown silt loam
19 to 31 inches, olive brown very fine sandy loam with olive gray mottles
31 to 39 inches, grayish brown and brown very fine sandy loam with yellowish brown mottles

Substratum: 39 to 44 inches, gray and olive silt loam with strong brown mottles loamy sand

Included with this soil in mapping are spots of well drained Wenonah soils on slightly higher areas. Spots of Raypol soils or Fluvaquents-Udifluvents soils are included in depressions or immediately adjacent to streams. Along valley sides, small spots of Chenango soils may also be included. Soils that have limitations different from the Philo soil make up about 20 percent of the map unit.

Soil Properties

Water table: 1.2 to 1.9 feet from winter to mid spring
Permeability: moderately slow or moderate in the surface and subsoil layers
Average available water capacity: high
Soil reaction: very strongly acid to moderately acid in the surface and subsoil layers
Surface runoff: slow
Depth to bedrock: more than 60 inches

Soil Use and Management

Most areas of this soil are cleared and used for farming. Some areas are forested or have a cover of brush or non-woody plants. This soil is among those soils in the county best suited to the production of food or fiber.

Suitability for Farming

This soil is well suited for farming and can be cultivated intensively. This soil is easy to till. Irrigation systems are easy to manage on this soil. Wetness and flooding may hinder or delay farming operations, especially in the early spring. Crops tolerant of some seasonal wetness are best adapted to this soil. The using cover crops and sod crops in the cropping system and incorporating crop residue into the soil will help to maintain good tilth and reduce surface crusting.

This soil is well suited to pasture but plants tolerant of some seasonal wetness are best adapted. Applying proper stocking rates and deferring grazing during wet periods will help prevent destruction of the sod cover and maintain higher quality and quantity of forage.

Suitability for Trees

The potential productivity for growing northern red oak is moderate on this soil. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Flooding and depth to the saturated zone limit the use of this soil as a site for dwellings with basements. A more suitable site on a nearby soil should be selected.

Flooding, depth to the saturated zone, and a poor filtering capacity, limit the use of this soil as a site for septic tank absorption fields. A better drained nearby soil should be selected for this use.

Flooding, depth to the saturated zone, and high potential frost action all limit use of this soil as a site for roads and streets. Constructing roads on raised fill and using a coarse-grained subgrade or base material are methods to help overcome these limitations.

Suitability for Recreation

Flooding and depth to the saturated zone can limit this soil as a site for most recreational development.

The land capability classification is 2w.

Pg—Pits, Gravel

This unit consists of areas that have been excavated for sand and gravel. The areas are irregular in shape and are from 5 to 50 acres in size. Many of the pits have short steep slopes along the edges.

The rate of water movement through the material (permeability) is rapid or very rapid. In some areas the water table is at or near the surface most of the year. A few areas are adjacent to streams and are subject to periodic flooding.

Included with this unit in mapping are small areas of undisturbed soils. These soils include the somewhat excessively drained Chenango and Tunkhannock soils. Small spots of wetter Deposit soils occur in some areas. Also included are areas of spoil consisting of sandy or gravelly overburden, areas of exposed bedrock, and a few small ponds. Included soils and other areas make up about 15 percent of the map unit.

A few abandoned pits, gravel, are used for community development. Onsite investigation of areas is needed to determine the feasibility for most uses.

This unit is not assigned to a land capability class.

Ph—Pits, Quarry

This map unit consists mostly of exposed bedrock in an area partially quarried for rock material. Many of these pits have uneven, step-like or hilly surfaces, and steep or very steep slopes along the edges. Areas of this map unit are irregularly shaped and range from 5 to 40 acres in size.

Because of the variability of this map unit, a typical profile description is not provided.

Included with this unit in mapping are small areas of Arnot, Oquaga, Lordstown, Halcott, or Vly soils where the overlying soil material is undisturbed. Areas of disturbed soils or soil material are common inclusions. Also included are small spots of poorly drained areas and ponded areas. Included soils or other areas make up about 15 percent of the unit.

Surface runoff ranges from slow to very rapid. Other soil properties vary greatly and can be determined only by an onsite investigation.

Onsite investigation is needed to determine the feasibility of this map unit for most uses.

A land capability classification has not been assigned for this unit.

Rb—Raypol silt loam

This soil is nearly level, very deep, and poorly drained. Areas of this soil are on low terraces and along the back edges of floodplains in old meander scars and channels. They are subject to rare flooding. Some areas may also be subject to ponding due to upslope runoff. Soil areas are mostly long and narrow in shape and range from 5 to 15 acres. Slopes are 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 5 inches, dark brown silt loam

Subsoil: 5 to 10 inches, reddish gray silt loam with yellowish red mottles
10 to 13 inches, strong brown and brown very fine sandy loam with red mottles
13 to 21 inches, reddish brown loam with yellowish red mottles

Substratum: 21 to 27 inches, reddish brown loamy fine sand with strong brown and reddish gray mottles
27 to 72 inches, dark reddish brown very gravelly loamy fine sand, loamy fine sand, and very gravelly sand

Included with this soil in mapping are spots of moderately well drained Basher and Philo soils on slightly higher areas. Areas of somewhat poorly drained soils and areas of very poorly drained soils may also be included in this map unit, as well as small areas of Saprists and Aquents in ponded areas. Included areas are as much as 5 acres each. Soils that have limitations different from the Raypol soil make up about 20 percent of the map unit.

Soil Properties

Water table: 0 to 1.0 feet from fall through spring
Permeability: moderate in the surface and subsoil layers, and rapid in the substratum layers
Average available water capacity: high
Soil reaction: strongly acid to very strongly acid in the surface and subsoil layers; strongly acid to slightly acid in the substratum.
Surface runoff: slow or very slow
Depth to bedrock: more than 60 inches

Soil Use and Management

Most areas of this soil have a cover of brush or other native plants. A few areas are cleared and used for farming.

Suitability for Farming

This soil is poorly suited for farming because of prolonged seasonal wetness and ponding. Most farming operations are difficult or impossible during much of the year unless the soil can be drained. The low-lying position of this soil makes it difficult to establish suitable drainage outlets. Land use regulations may prohibit draining this soil. Wetness severely limits plant growth and the choice of crops.

This soil is poorly suited to pasture. Wetness limits plant growth and choice of crops, and interferes with farming operations. The hooves of grazing animals easily damage the soft surface layer and sod cover.

Suitability for Trees

The potential productivity for growing red maple on this soil is moderate. There is a severe equipment limitation and seedling mortality and windthrow hazard because of wetness.

Suitability for Building Sites

Depth to the saturated zone, ponding, and flooding are limitations if this soil is used as a site for dwellings with basements. A better drained included or adjacent soil should be selected.

Depth to the saturated zone, poor filtering capacity, and ponding limit this soil as a site for septic tank absorption fields. A better drained or more suitable nearby soil should be selected.

Depth to the saturated zone, high potential frost action, ponding and flooding limit this soil as a site for roads and streets. Construction on raised fill material, installing a drainage system, and providing a coarser grained subgrade or base material are methods which may help overcome these limitations.

Suitability for Recreation

Depth to the saturated zone, ponding, and flooding limits the use of this soil for most recreational development.

The capability subclass is 4w.

Re—Red Hook gravelly silt loam

This soil is nearly level, very deep, and somewhat poorly drained. Areas of this soil are on outwash terraces, old stream terraces, and at the sides of valleys. Areas are irregular or elongated and range from about 5 to 15 acres. Slopes are 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 8 inches, dark brown gravelly silt loam

Subsoil: 8 to 17 inches, dark brown gravelly silt loam with gray and yellowish brown mottles

17 to 25 inches, brown and yellowish brown gravelly silt loam with yellowish brown and gray mottles

25 to 38 inches, light olive brown gravelly very fine sandy loam with strong brown and gray mottles

Substratum: 38 to 72 inches, grayish brown very gravelly very fine sandy loam with brown and yellowish brown mottles

Included with this soil in mapping are spots of well drained Chenango soils and moderately well drained Deposit and poorly drained Raypol soils near streams. Spots of other poorly drained or very poorly drained soils are in low areas and depressions. Fluvaquents-Udifluvents soils are also common inclusions along streams. Included areas are as large as 5 acres each. Soils that have limitations different from those of Red Hook soils make up about 20 percent of the map unit.

Soil Properties

Water table: at a depth of 0.5 to 1.5 feet from winter to mid spring

Permeability: moderate in the surface and subsoil

Average available water capacity: moderate

Soil reaction: Unlimed, strongly to slightly acid in the surface and subsurface; and moderately acid to neutral in the substratum

Surface runoff: slow or very slow

Depth to bedrock: more than 60 inches

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native vegetation. If drained, this soil is among those soils in the county best suited to the production of food or fiber.

Suitability for Farming

This soil is moderately suited for farming but seasonal wetness limits the choice of crops and restricts plant growth and productivity. Wetness also interferes with and delays farming operations. Drainage measures will improve crop productivity and allow for more timely farming operations. Suitable outlets may be difficult to establish on this nearly level soil. Plant varieties tolerant of seasonal wetness are best adapted to this soil.

This soil is well suited for pasture but wetness limits the choice of forage plants. Limiting grazing during wet periods will help prevent the destruction of the sod cover and compaction of the surface layer, allowing for better quality pasture.

Suitability for Trees

The potential productivity of this soil for Red Maple is moderate and is very high for Eastern White Pine. Seasonal wetness causes a moderate equipment limitation, seedling mortality and windthrow hazard.

Suitability for Building Sites

Depth to the saturated zone is a limitation if this soil is used as a site for dwellings with basements. A better drained included or adjacent soil should be selected.

Depth to the saturated zone and moderate permeability in the subsoil limit this soil as a site for septic tank absorption fields. A better suited included or adjacent soil may be selected or a specially designed or alternate system may be used to overcome the limitations.

High potential frost action and depth to the saturated zone limit this soil as a site for roads and streets. Methods of overcoming these limitations include construction on raised fill material, installing a drainage system, and providing a coarser grained subgrade or base material.

Suitability for Recreation

Depth to the saturated zone and gravel content can limit this soil for most recreational uses.

The capability subclass is 3w.

RhA—Riverhead loam, 0 to 3 percent slopes

This soil is nearly level, very deep, and well drained. Areas of this soil occupy terraces and outwash plains. Areas are irregular in shape and range from 5 to 15 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 7 inches, very dark grayish brown loam

Subsoil: 7 to 22 inches, yellowish brown fine sandy loam
22 to 28 inches, yellowish brown loamy fine sand

Substratum: 28 to 72 inches, brown and dark brown sand

Included with this soil in mapping are spots of silty Unadilla soils or more gravelly, somewhat excessively drained Chenango soils. Spots of wetter Deposit soils are included near streams. Included areas range up to 5 acres each and make up about 15 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderately rapid in the surface and subsoil layers and very rapid in the substratum
Average available water capacity: moderate
Soil reaction: unless limed, extremely acid to moderately acid in the surface and subsoil layers; strongly acid to neutral in the substratum
Surface runoff: slow
Depth to bedrock: more than 60 inches

Soil Use and Management

Most areas of this soil are cleared and used for farming or for community development. A few areas are wooded or have a cover of brush or other native plants. This soil is among those soils in the county best suited to the production of food and fiber.

Suitability for Farming

This soil is well suited for farming, both for growing common field crops and also for truck crops. The soil is easy to till and can be cultivated intensively. The soil warms up quickly and can be worked early in the spring. Droughtiness may limit the growth of some crops during dry periods of mid to late summer. Incorporating crop residues and other organic materials into the soil will increase the water holding capacity. Providing supplemental irrigation will help to insure the establishment of new seedings and maintain productivity of crops not tolerant of some droughtiness. This nearly level soil is well suited to irrigation.

This soil is well suited to pasture. It can provide pasture early in the spring, but droughtiness will limit productivity in midsummer. Deep rooted forage plant varieties are better adapted to this soil. Rotational grazing and proper stocking rates will help maintain productivity and limit the loss of desirable plants during dry weather.

Suitability for Trees

The potential productivity of this soil for growing sugar maple is moderate. There are few or no limitations to using this soil for wood production. Planting tree seedlings early in the spring will reduce the hazard of summer droughtiness.

Suitability for Building Sites

This soil has few or no limitations as a site for dwellings with basements. Shallow excavations, however, are subject to bank caving. Shoring or supporting cut banks will reduce the hazard of caving.

The substratum in this soil has a poor filtering capacity for septic tank effluent and the rapid permeability can result in contamination of ground water.

Frost action is a limitation if this soil is used as a site for roads and streets. Replacing surface and upper subsoil layers with coarser material can overcome the limitation.

Suitability for Recreation

This soil has few or no limitations for most recreational purposes.

The capability subclass is 2s.

RhB—Riverhead loam, 3 to 8 percent slopes

This soil is gently sloping, very deep, and well drained. Areas of this soil occupy terraces and outwash plains. Areas are irregular and range from 5 to 20 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 7 inches, very dark grayish brown loam

Subsoil: 7 to 22 inches, yellowish brown fine sandy loam
22 to 28 inches, yellowish brown loamy fine sand

Substratum: 28 to 72 inches, brown and dark brown sand

Included with this soil in mapping are spots of silty Unadilla soils or more gravelly, somewhat excessively drained Chenango soils. Spots of wetter Deposit soils are included near streams. Included areas range up to 5 acres each and make up about 15 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderately rapid in the surface and subsoil layers and very rapid in the substratum
Average available water capacity: moderate
Soil reaction: unless limed; extremely acid to moderately acid in the surface and subsoil layers; strongly acid to neutral in the substratum.
Surface runoff: slow
Depth to bedrock: more than 60 inches

Soil Use and Management

Most areas of this soil are cleared and used for farming or for community development. A few areas are wooded or have a cover of brush or other native plants. This soil is among those in the county that are best suited for food and fiber production.

Suitability for Farming

This soil is well suited for farming, both for growing common field crops and also for truck crops. The soil is easy to till and can be cultivated intensively. The soil warms up quickly and can be worked early in the spring. Droughtiness may limit the growth of some crops during dry periods of mid to late summer. Incorporating crop residues and other organic materials into the soil will increase water holding capacity. Providing supplemental irrigation will help to insure establishment of new seedings and maintain productivity of crops not tolerant of some droughtiness.

This soil is well suited to pasture. It can provide pasture early in the spring, but droughtiness will limit productivity in midsummer. Deep rooted forage plant varieties are better adapted to this soil. Rotational grazing and proper stocking rates will help maintain productivity and limit loss of desirable plants during dry weather.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. There are few or no limitations to using this soil for wood production. Planting tree seedlings early in the spring will reduce the hazard of summer droughtiness.

Suitability for Building Sites

This soil has few or no limitations as a site for dwellings with basements. Shallow excavations; however, are subject to bank caving. Shoring or supporting cut banks will reduce the hazard of the soil caving.

The substratum in this soil has a poor filtering capacity for septic tank effluent and the rapid permeability can result in contamination of ground water.

Frost action is a moderate limitation if this soil is used as a site for roads and streets. Replacing surface and upper subsoil layers with coarser material can overcome the limitation.

Suitability for Recreation

Slope limits the use of this soil as a site for playgrounds. This soil has few or no limitations for most other recreational purposes.

The capability subclass is 2e.

RhC—Riverhead loam, 8 to 15 percent slopes

This soil is strongly sloping, very deep, and well drained. Areas of this soil occupy the sides of terraces and small hills at the edges of valleys. Areas are irregular in shape and range from 5 to 20 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 7 inches, very dark grayish brown loam

Subsoil: 7 to 22 inches, yellowish brown fine sandy loam
22 to 28 inches, yellowish brown loamy fine sand

Substratum: 28 to 72 inches, brown and dark brown sand

Included with this soil in mapping are spots of silty Unadilla soils or more gravelly, somewhat excessively drained Chenango soils. Spots of wetter Deposit soils are included near streams. Included areas range up to 5 acres each. Soils that have limitations different from the Riverhead soil make up about 15 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderately rapid in the surface and subsoil layers and very rapid in the substratum
Average available water capacity: moderate
Soil reaction: unless limed; extremely acid to moderately acid in the surface and subsoil layers; strongly acid to neutral in the substratum
Surface runoff: slow
Depth to bedrock: more than 60 inches

Soil Use and Management

Most areas of this soil are cleared and used for farming or for community development. A few areas are wooded or have a cover of brush or other native plants.

Suitability for Farming

This soil is moderately suited for farming, but slope and the hazard of erosion limit intensive cultivation. The soil is easy to till, warms up quickly, and can be worked early in the spring. Droughtiness may limit the growth of some crops during dry periods of mid to late summer. Incorporating crop residues and other organic materials into the soil will increase the water holding capacity. Providing supplemental irrigation will help to insure establishment of new seedings and maintain productivity of crops not tolerant of some droughtiness. No-till or minimum tillage, stripcropping, or contour farming, and using sod crops in rotation are practices important on this soil to limit or reduce the loss of soil and plant nutrients due to erosion.

This soil is well suited to pasture. It can provide pasture early in the spring, but droughtiness will limit productivity in midsummer. Deep rooted forage plant varieties are better adapted to this soil. Rotational grazing and proper stocking rates will help maintain productivity, control erosion, and limit loss of desirable plants during dry weather.

Suitability for Trees

The potential productivity for growing sugar maple on this soil is moderate. There are few or no limitations to using this soil for wood production. Planting tree seedlings early in the spring will reduce the hazard of summer droughtiness.

Suitability for Building Sites

Slope limits this soil as a site for dwellings with basements. Landshaping and designing structures to conform to the natural slope are practices that help overcome the limitation. Shallow excavations are subject to bank caving. Shoring or supporting cut banks will reduce the hazard of caving.

The substratum in this soil has a poor filtering capacity for septic tank effluent and the rapid permeability can result in contamination of ground water.

Frost action and slope are limitations if this soil is used as a site for roads and streets. Replacing surface and upper subsoil layers with coarser material can overcome the limitation of frost action. Constructing roads and streets on the contour and adapting the design to the slope can minimize or overcome the slope limitation.

Suitability for Recreation

Slope limits use of this soil as a site for most recreational uses.

The capability subclass is 3e.

RhD—Riverhead loam, 15 to 25 percent slopes

This soil is moderately steep, very deep, and well drained. Areas of this soil occupy the sides of terraces and small hills at the edges of valleys. Areas are irregular in shape and range from 5 to 15 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 7 inches, very dark grayish brown loam

Subsoil: 7 to 22 inches, yellowish brown fine sandy loam
22 to 28 inches, yellowish brown loamy fine sand

Substratum: 28 to 72 inches, brown and dark brown sand

Included with this soil in mapping are spots of silty Unadilla soils or more gravelly, somewhat excessively drained Chenango soils. Spots of wetter soils are in less steeply sloping areas or adjacent to streams. Included areas range up to 5 acres each. Soils with interpretations different from those of the Riverhead soil make up about 15 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderately rapid in the surface and subsoil layers and very rapid in the substratum
Average available water capacity: moderate
Soil reaction: unless limed, extremely acid to moderately acid in the surface and subsoil layers; and strongly acid to neutral in the substratum
Surface runoff: rapid
Depth to bedrock: more than 60 inches

Soil Use and Management

Some areas of this soil are cleared and used for farming or for community development. Other areas are wooded or have a cover of brush or other native plants.

Suitability for Farming

This soil is poorly suited to cultivated crops and hay. Slope and the hazard of erosion limit cultivation and hinder operation of equipment. The soil warms up quickly in the spring, but droughtiness may limit the growth of some crops during dry periods of mid to late summer. No-till or minimum tillage and the use of dominantly sod crops in rotation are practices important on this soil to limit or reduce the loss of soil and plant nutrients due to erosion.

This soil is moderately suited to pasture. It can provide pasture early in the spring, but droughtiness will limit productivity in midsummer. Slope makes pasture maintenance difficult. Deep rooted forage plant varieties are better adapted to this soil. Rotational grazing and proper stocking rates will help maintain productivity, control erosion, and limit the loss of desirable plants during dry weather.

Suitability for Trees

The potential productivity for growing sugar maple on this soil is moderate. Establishing access roads on the contour will reduce the hazard of erosion. Planting tree seedlings early in the spring will reduce the hazard of summer droughtiness. Slope limits the use of equipment on this soil.

Suitability for Building Sites

Slope limits this soil as a site for dwellings. Landshaping and designing structures to conform to the natural slope are practices that help overcome the limitation. Shallow excavations are subject to bank caving. Shoring or supporting cut banks will reduce the hazard of the soil caving.

This soil has a poor filtering capacity of septic tank effluent. The rapid permeability of the substratum can result in contamination of groundwater.

Frost action and slope are limitations if this soil is used as a site for roads and streets. Replacing surface and upper subsoil layers with coarser material can overcome the limitation of frost action. Constructing roads and streets on the contour or on a flatter included soil and adapting the design to the slope can minimize or overcome the slope limitation.

Suitability for Recreation

Slope limits the use of this soil as a site for most other recreation uses.

The capability subclass is 4e.

RrE—Rockrift channery loam, 15 to 35 percent slopes, very bouldery

This unit consists of very deep, well drained Rockrift soils. Areas of this unit are on moderately steep and steep hillsides in the uplands above 1,750 feet where the growing season is several weeks shorter than in major valleys. Boulders larger than 24 inches long occupy 3 to 15 percent of the surface and are about 3 to 25 feet apart. Areas are irregular or elongated strips and range from about 10 to 50 acres.

The typical sequence, depth, and composition of the layers of the Rockrift soil are as follows—

Surface layer: surface to 2 inches black organic material

Subsurface layer: 2 to 4 inches, brown channery loam

Subsoil: 4 to 49 inches, strong brown and yellowish brown very channery loam
Substratum: 49 to 72 inches; brown and yellowish brown very flaggy sandy loam

Included with this soil in mapping are spots of Halcott, Mongaup, or Vly soils, usually on the upper parts of hillsides, and Lewbath soils on the lower parts of hillsides. Elka soils are common inclusions where the rock fragment content is lower. Areas that are just stony or bouldery are also common inclusions. Included areas range up to 5 acres each. Soils with limitations different from those of the Rockrift soils make up about 25 percent of the unit.

Soil Properties of the Rockrift soil

Water table: below 6 feet
Permeability: moderate in the surface, subsoil, and substratum layers
Average available water capacity: moderate
Soil reaction: very strongly acid to moderately acid throughout the profile
Surface runoff: rapid to very rapid
Depth to bedrock: more than 60 inches
Surface runoff: rapid to very rapid
Depth to bedrock: more than 60 inches

Soil Use and Management

Areas of this soil are forested or have a cover of brush or other native vegetation.

Suitability for Farming

This soil is not suited for cultivated crops, hay, or pasture because of steep slopes and many large boulders, both of which severely limit equipment operation. Erosion is a hazard whenever the soil is disturbed.

Suitability for Trees

The potential productivity for growing sugar maple on the Rockrift soil is moderate. This soil has severe equipment limitations for wood production because of very steep slopes. Machine planting of seedlings is not practical due to excessive surface boulders and steep slopes. There is a moderate erosion hazard.

Suitability for Building Sites

Steep slopes limit this soil as a site for dwellings with basements. Selecting a flatter adjacent or included soil can help overcome the limitation of slope for dwellings. Designing buildings to conform to the natural slope and landshaping will also help to overcome the limitation. Maintaining vegetative cover adjacent to the building site will help reduce the erosion hazard during construction.

Restricted permeability in the substratum, boulders, and steep slopes are limitations if this soil is used as a site for septic tank absorption fields. Enlarging the absorption field or the trenches below the distribution lines will help overcome the limitations due to restricted permeability. Constructing the field on a flatter included area or adjacent soil can help overcome the limitation of slope for septic tank absorption fields.

Steep slopes, frost action, and boulders are the main limitations if this soil is used as a site for roads and streets. Constructing roads on the contour and landshaping or grading are methods of overcoming the slope limitations. Constructing roads and streets using a coarse-grained subgrade or base material can reduce frost damage. Erosion is a severe hazard whenever the natural cover of this soil is disturbed.

Suitability for Recreation

Steep slopes and surface boulders limit the use of this soil as a site for most recreation purposes.

The capability subclass is 7s.

RrF—Rockrift channery loam, 35 to 70 percent slopes, very bouldery

This unit consists of very deep, well drained Rockrift soils. Areas of this soil are on very steep hillsides in the uplands above 1,750 feet where the growing season is several weeks shorter than in major valleys. Boulders larger than 24 inches long occupy 3 to 15 percent of the surface and are about 3 to 25 feet apart. Areas are irregular or elongated strips and range from about 10 to 60 acres.

The typical sequence, depth, and composition of the layers of the Rockrift soil are as follows—

Surface layer: surface to 2 inches, black organic material

Subsurface layer: 2 to 4 inches, brown channery loam very channery loam

Substratum: 49 to 72 inches; brown and yellowish brown very flaggy sandy loam

Included with this soil in mapping are spots of Halcott, Mongaup, or Vly soils, usually on the upper parts of hillsides, and Lewbath soils on the lower parts of hillsides. Elka soils are included where the rock fragment content is lower. Areas that are just stony or bouldery are also common inclusions. Included areas range up to 5 acres each. Soils with limitations different from those of the Rockrift soils make up about 25 percent of the unit.

Properties of the Rockrift soil

Water table: below 6 feet
Permeability: moderate in the surface, subsoil, and substratum layers
Average available water capacity: moderate
Soil reaction: very strongly acid to moderately acid throughout the profile
Surface runoff: very rapid
Depth to bedrock: more than 60 inches

Soil Use and Management

Areas of this soil are forested or have a cover of brush or other native vegetation.

Suitability for Farming

This soil is not suited for cultivated crops, hay, or pasture because of very steep slopes and many large boulders, both of which severely limit equipment operation. Erosion is a hazard whenever the soil is disturbed.

Suitability for Trees

The potential productivity of the Rockrift soil for sugar maple is moderate. This unit has severe equipment limitations for wood production because of very steep slopes. Machine planting of seedlings is not practical due to excessive surface boulders and steep slopes. There is a moderate erosion hazard.

Suitability for Building Sites

Very steep slopes limit this soil as a site for dwellings with basements. Selecting a flatter, adjacent or included soil can help overcome the limitation of slope for dwellings. Maintaining vegetative cover adjacent to the building site will help reduce the erosion hazard during construction.

Limitations of this soil for septic tank absorption fields are boulders and very steep slopes. Selecting a flatter included or nearby soil will avoid the limitation of very steep slopes and boulders.

Very steep slopes, frost action, and boulders are the main limitations if this soil is used as a site for roads and streets. A flatter adjacent or included soil should be selected for the location of roads and streets. Constructing roads and streets using a coarse-grained subgrade or base material can help reduce frost damage. Erosion is a severe hazard whenever the natural cover of this soil is disturbed.

Suitability for Recreation

Very steep slopes and surface boulders limit the use of this soil as a site for most recreation purposes.

The capability subclass is 7s.

Sa—Saprists and Aquents, ponded

Individual areas of this unit consist of level, very deep, very poorly drained Saprists or Aquents or may contain both soils. Areas are in depressions or low spots bordering lakes or streams and are ponded for most or all of the year. Beavers cause many of these ponded areas by constructing dams. The total acreage of this unit is about 50 percent Saprists, 30 percent Aquents, and 20 percent inclusions of other soils. These soils were mapped together because of the ponded surface condition and similar use and management of the two soils. Individual areas of this unit are rounded or irregular in shape and range from about 5 to 10 acres in size. Slopes are 0 to 1 percent.

A common sequence, depth, and composition of layers of the Saprists soil is as follows—

Surface layer: surface to 10 inches, black or very dark gray muck

Subsurface layers: 10 to 60 inches or more, black to dark brown muck

A common sequence, depth, and composition of layers of Aquents soils is as follows—

Surface layer: Surface to 10 inches, black mucky silt loam

Substratum: 10 to 60 inches or more, gray or grayish brown sandy loam, loam or silt loam

Included with Saprists and Aquents in mapping are spots of Bucksport and Wonsqueak soils, Carlisle, and Palms soils, as well as Norchip soils in slightly higher areas. Included areas range up to 5 acres each. Soils with limitations different from the Saprists or Aquents soils make up about 20 percent of the unit.

Soil Properties

Soil properites are variable and must be determined by on-site investigation.

Soil Use and Management

Areas of this unit are fresh water marsh and support water tolerant, non-woody plants along with shrubs and a few trees.

Suitability for Farming

This unit is unsuited for farming because of the ponded condition which usually lasts year-round.

Suitability for Trees

Because of ponding, this unit supports mostly non-woody, water tolerant plants. Some woody shrubs and small trees may grow around the edges of the marsh (fig. 12).

Suitability for Building Sites

Ponding, subsidence, depth to the saturated zone, frost action, and variable soil conditions are major limitations if this unit is used as a site for dwellings, septic tank

Figure 12.—Wetlands preserve with Saprists and Aquent soils, ponded.

absorption fields, or roads and streets. A better drained nearby soil should be selected for these uses.

Suitability for Recreation

Ponding, depth to the saturated zone, and the high amount of organic matter limits the use of this unit for most recreational development. There is a good potential for wetland wildlife habitat.

The capability subclass is 8w.

TeB—Torull-Gretor complex, 0 to 6 percent slopes

This unit consists of nearly level to gently sloping, shallow, and moderately deep, poorly drained and somewhat poorly drained soils in uplands above elevations of 1,750 feet. Areas are irregular in shape and range from about 5 to 15 acres in size. This unit consists of about 40 percent Torull soils, 40 percent Gretor soils, and 20 percent other soils. The Torull and Gretor soils are in such an intricate pattern that they could not be mapped separately.

The typical sequence, depth, and composition of the layers of the Torull soil are—

Surface layer: surface to 3 inches, dark reddish brown partially decomposed organic material

Subsurface layers: 3 to 5 inches, dark gray silt loam
5 to 8 inches, brown silt loam with strong brown and yellowish red mottles

Subsoil: 8 to 13 inches, dark brown channery silt loam with brownish yellow and grayish brown mottles

13 to 18 inches, grayish brown and brown channery very fine sandy loam with yellowish brown and strong brown mottles

Bedrock: 18 inches, grayish brown sandstone bedrock

The typical sequence, depth, and composition of the layers of the Gretor soil are—
Surface layer: 0 to 7 inches, very dark grayish brown silt loam

Subsoil: 7 to 16 inches, gray and olive gray channery very fine sandy loam with strong brown mottles
16 to 26 inches, brown, strong brown, and brown channery clay loam with gray mottles

Bedrock: 26 inches, grayish brown sandstone bedrock

Included with this unit in mapping are spots of Halcott, Mongaup, and Vly soils on higher parts of the landscape. Spots of deep or very poorly drained soils are also included. Small very stony or bouldery areas or spots of very shallow soil or rock outcrops are also common inclusions. Soils that have limitations different from those of the Torull or Gretor soils make up about 20 percent of the map unit.

Soil Properties

Water table: at 0.3 to 0.8 feet for the Torull soil and 0.5 to 1.0 feet for the Gretor soil, from mid fall to late spring in both soils
Permeability: moderate in the surface layer and moderately slow or slow in the subsoil for the Torull soil, moderate in the surface and upper subsoil layers and moderately slow in the lower subsoil layer in the Gretor soil
Average available water capacity: very low for the Torull soil, moderate for the Gretor soil
Soil reaction: very strongly acid or strongly acid throughout for the Torull soil and very strongly acid to moderately acid throughout for the Gretor soil
Surface runoff: very slow to slow for both soils
Depth to bedrock: 10 to 20 inches for the Torull soil, 20 to 40 for the Gretor soil

Soil Use and Management

Most areas of this unit are forested or have a cover of brush or other native plants. A few small areas are cleared and used for pasture or hay.

Suitability for Farming

This unit is poorly suited for farming. Wetness makes cultivation and other farming operations very difficult. The shallow depth to bedrock restricts rooting on the Torull soil. The choice of crops is limited to plants tolerant of prolonged seasonal wetness and the growing season is several weeks shorter than in valley areas.

Some limited pasture or hay can be obtained from this unit but wetness limits the choice of crops and hinders machinery operation. Restricting grazing during wet periods will help prevent destruction of the sod cover and maintain better quality pasture.

Suitability for Trees

The potential productivity of both soils for growing red maple is moderate. There is a severe equipment limitation and seedling mortality and windthrow hazard because of wetness. Rooting is restricted by the shallow depth to bedrock of the Torull soil.

Suitability for Building Sites

Depth to the saturated zone and depth to bedrock limit this unit as a site for dwellings with basements. Selecting a deeper and better drained included or nearby soil for a homesite will avoid these limitations.

Depth to the saturated zone, depth to bedrock and restricted permeability in the subsoil limit this unit as a site for septic tank absorption fields. A better suited included or nearby soil may be selected or a specially designed alternate system may be used to overcome these limitations.

Depth to the saturated zone, depth to bedrock, and high potential frost action limit this unit as a site for local roads and streets. Methods of overcoming these limitations include construction on raised fill material, installing a drainage system and providing a coarser grained subgrade or base material. Careful site investigation will help to avoid areas of very shallow soil and reduce the need for blasting.

Suitability for Recreation

Depth to the saturated zone and the shallow depth to bedrock can limit this unit for most recreational uses.

The capability subclass is 4w for the Torull soil and 3w for the Gretor soil.

TkA—Tunkhannock gravelly loam, 0 to 3 percent slopes

This soil is nearly level, very deep, and somewhat excessively drained. Areas of this soil are on terraces or small outwash plains. Soil areas are elongated or irregular in shape and range from about 5 to 15 acres in size.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 6 inches, reddish brown gravelly loam

Subsoil: 6 to 8 inches, red gravelly loam
8 to 18 inches, yellowish red very gravelly loam
18 to 25 inches, reddish brown very gravelly sandy loam

Substratum: 25 to 72 inches, reddish brown very gravelly loamy coarse sand with thin layers of gravelly loamy sand

Included with this soil in mapping are spots of Deposit or Red Hook soils in depressions. Soils that are cobbly or sandy rather than gravelly are also common inclusions. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Tunkhannock soil make up about 15 percent of the map unit.

Soil Properties

High water table: at a depth of more than 6 feet
Permeability: moderately rapid in the surface and subsoil layers and to rapid in the substratum
Average available water capacity: moderate
Soil reaction: extremely acid to moderately acid throughout
Surface runoff: slow
Depth to bedrock: more than 60 inches

Soil Use and Management

Most of this soil is cleared and used for farming or community development. Some areas are forested or are mined for sand and gravel. This soil is among those soils in the county best suited to the production of food or fiber.

Suitability for Farming

This soil is well suited for farming and can be cultivated intensively. The soil warms up quickly and can be worked early in the spring. Droughtiness limits the growth of most crops during dry periods of mid to late summer. Gravel and small stones may hinder some tillage operations and cause abnormal wear of machinery. Deep rooted crops and plants tolerant of some droughtiness are best adapted to this soil. Supplemental irrigation during dry periods may be needed to insure establishment of new seedings or maintain productivity of crops not tolerant of droughtiness. This nearly level soil is well suited to irrigation.

This soil is well suited to pasture and can be grazed early in the spring. Overgrazing or grazing during dry periods is a concern of pasture management. Rotational grazing and proper stocking rates will help maintain better quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for northern red oak is moderately high. There are few or no limitations to using this soil for growing trees. Planting early in the spring will reduce the hazard of summer droughtiness.

Suitability for Building Sites

This soil has few or no limitations as a site for dwellings with basements. Stones in the soil profile hinder some construction activities.

The substratum in this soil has a poor filtering capacity for septic tank effluent and the rapid permeability can result in contamination of ground water.

There are few or no limitations affecting use of this soil for roads and streets.

Suitability for Recreation

Gravel content in the surface layer can limit the use of this soil for some recreational purposes.

The capability subclass is 2s.

TkB—Tunkhannock gravelly loam, 3 to 8 percent slopes

This soil is gently sloping, very deep, and somewhat excessively drained. Areas of this soil are on terraces or rolling parts of outwash plains. Soil areas are elongated or irregular in shape and range from about 5 to 20 acres in size.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 6 inches, reddish brown gravelly loam

Subsoil: 6 to 8 inches, red gravelly loam
8 to 18 inches, yellowish red very gravelly loam
18 to 25 inches, reddish brown very gravelly sandy loam

Substratum: 25 to 72 inches, reddish brown very gravelly loamy coarse sand with thin layers of gravelly loamy sand

Included with this soil in mapping are spots of moderately well drained soils or somewhat poorly drained Red Hook soils in flat areas or depressions. Soils that are cobbly or sandy rather than gravelly are also common inclusions. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Tunkhannock soil make up about 15 percent of the map unit.

Soil Properties

High water table: at a depth of more than 6 feet
Permeability: moderately rapid in the surface and subsoil layers and rapid in the substratum
Average available water capacity: moderate
Soil reaction: extremely acid to moderately acid throughout
Surface runoff: slow
Depth to bedrock: more than 60 inches

Soil Use and Management

Most areas of this soil is cleared and used for farming or community development. Some areas are forested or are mined for sand and gravel.

This soil is among those soils in the county best suited to the production of food or fiber.

Suitability for Farming

This soil is well suited for farming and can be cultivated intensively. The soil warms up quickly and can be worked early in the spring. Droughtiness limits the growth of most crops during dry periods of mid to late summer. Gravel and small stones may hinder some tillage operations and cause abnormal wear of machinery. Deep rooted crops and plants tolerant of some droughtiness are best adapted to this soil. Supplemental irrigation during dry periods may be needed to insure establishment of new seedings or maintain productivity of crops not tolerant of droughtiness.

This soil is well suited to pasture and can be grazed early in the spring. Overgrazing or grazing during dry periods is a concern of pasture management. Rotational grazing and proper stocking rates will help maintain better quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for northern red oak is moderately high. There are few or no limitations to using this soil for growing trees. Planting early in the spring will reduce the hazard of summer droughtiness.

Suitability for Building Sites

This soil has few or no limitations as a site for dwellings with basements.

The substratum in this soil has a poor filtering capacity for septic tank effluent and the rapid permeability can result in contamination of ground water.

There are few or no limitations that affect the use of this soil for streets and roads.

Suitability for Recreation

Gravel content in the surface layer can limit the use of this soil for most recreational purposes. Slope is an additional limitation for playground areas.

The capability subclass is 2s.

TkC—Tunkhannock gravelly loam, 8 to 15 percent slopes

This soil is strongly sloping, very deep, and somewhat excessively drained. Areas of this soil are on the sides of terraces and hummocky areas at the sides of valleys. Soil areas are elongated or irregular in shape and range from about 5 to 20 acres.

The typical sequence, depth, and composition of the layers of this soil are—
Surface layer: surface to 6 inches, reddish brown gravelly loam

Subsoil: 6 to 8 inches, red gravelly loam
8 to 18 inches, yellowish red very gravelly loam
18 to 25 inches, reddish brown very gravelly sandy loam

Substratum: 25 to 72 inches, reddish brown very gravelly loamy coarse sand with

Included with this soil in mapping are spots of the browner Chenango and Riverhead soils along with the less gravelly Maplecrest soils. Spots of moderately well drained soils on gently sloping areas are also included. Included are areas as much as 5 acres each. Soils that have limitations different from those of the Tunkhannock soil make up about 15 percent of the map unit.

Soil Properties

High water table: at a depth of more than 6 feet
Permeability: moderately rapid in the surface and subsoil layers and rapid in the substratum
Average available water capacity: moderate
Soil reaction: extremely acid to moderately acid throughout
Surface runoff: medium
Depth to bedrock: more than 60 inches

Soil Use and Management

Most of this soil is cleared and used for farming or community development. Some areas are forested or are mined for sand and gravel.

Suitability for Farming

This soil is moderately suited to farming. Erosion is a hazard and slopes interfere with some farming operations. The soil warms up quickly and can be worked early in the spring. Droughtiness limits the growth of most crops during dry periods of mid to late summer. Gravel and small stones may hinder some tillage operations and cause abnormal wear of machinery. Deep rooted crops and plants tolerant of some droughtiness are best adapted to this soil. Supplemental irrigation during dry periods may be needed to insure establishment of new seedings or maintain productivity of crops not tolerant of droughtiness. No-till or minimum tillage, stripcropping, or contour farming, and the use of sod crops in rotation are practices important on this soil to limit or reduce the loss of soil and plant nutrients due to erosion.

This soil is well suited to pasture and can be grazed early in the spring. Overgrazing or grazing during dry periods is a concern of pasture management. Rotational grazing and proper stocking rates will help maintain better quantity and quality of forage and reduce the hazard of erosion.

Suitability for Trees

The potential productivity of this soil for northern red oak is moderately high. There are few or no limitations to using this soil for growing trees. Planting early in the spring will reduce the hazard of summer droughtiness.

Suitability for Building Sites

Slope is a limitation if this soil is used as a site for dwellings with basements. Landshaping and designing structures to conform to the natural slope are practices that help overcome the limitation of slope.

The substratum in this soil has a poor filtering capacity for septic tank effluent and the rapid permeability can result in contamination of ground water.

Slope is a limitation if this soil is used as a site for roads and streets. Constructing roads and streets on the contour and adapting the design to the slope can overcome or minimize the limitation.

Suitability for Recreation

Slope and gravel content can limit the use of this soil for some recreational purposes.

The capability subclass is 3e.

TkD—Tunkhannock gravelly loam, 15 to 25 percent slopes

This soil is moderately steep, very deep, and somewhat excessively drained. It occupies hilly areas of gravel terraces in main valleys. These areas are irregular in shape and range from 5 to about 50 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 6 inches, reddish brown gravelly loam

Subsoil: 6 to 8 inches, red gravelly loam
8 to 18 inches, yellowish red very gravelly loam
18 to 25 inches, reddish brown very gravelly sandy loam

Substratum: 25 to 72 inches, reddish brown very gravelly loamy coarse sand with thin layers of gravelly loamy sand

Included with this soil in mapping are the browner Chenango and Riverhead soils. Inclusions of the less gravelly Maplecrest soils are common. Spots of moderately well drained soils may occur in depressional areas. Included areas range up to 5 acres each. Soils that have limitations different from the Tunkhannock soils make up about 15 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderately rapid in surface and subsoil layers, and rapid in the substratum
Average available water capacity: moderate
Soil reaction: extremely acid to moderately acid throughout
Surface runoff: medium
Depth to bedrock: more than 60 inches

Soil Use and Management

Areas of this soil are usually cleared of forest cover and used for hayland, pasture, some row crops, or have a cover of brush or other native plants. Sand and gravel pits are commonly located on this soil.

Suitability for Farming

This soil is poorly suited to row crops. Erosion is a hazard. Slope limits most farming operations and machinery uses. Droughtiness limits crop productivity. Practices such as minimum tillage and greater use of sod crops in rotations help control erosion and maintain productivity.

This soil is moderately suited to pasture and forage production but slope hinders the operation of most farm machinery. Rotational grazing and proper stocking rates will help reduce erosion and maintain forage productivity and quality.

Suitability for Trees

The potential productivity of this soil for northern red oak is moderately high. Laying out access roads on the contour will reduce the hazard of erosion. Slope creates a moderate equipment limitation.

Suitability for Building Sites

Slope limits the use of this soil for residential development. Extensive landshaping and grading are required for this unit is used as a site for dwellings with basements. Selecting a flatter adjacent soil can help overcome this limitation.

Poor filtering capacity of the coarse-textured substratum and slope limit the suitability of this soil for septic tank absorption fields. Selecting a flatter included soil and using an alternate or specially designed system can overcome these limitations.

Slope severely limits this soil for local roads and streets. Constructing roads on the contour or on a flatter included soil and adapting the design to the slope can help overcome the limitation.

Suitability for Recreation

Slope and gravel content limits the use of this soil for most recreational uses.

The capability subclass is 4e.

TkE—Tunkhannock gravelly loam, 25 to 50 percent slopes

This steep to very steep, very deep, and somewhat excessively drained soil occupies the sides of gravel terraces in main valleys. These areas are irregular in shape and range from 5 to about 50 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 6 inches, reddish brown gravelly loam

Subsoil: 6 to 8 inches, red gravelly loam
8 to 18 inches, yellowish red very gravelly loam
18 to 25 inches, reddish brown very gravelly sandy loam

Substratum: 25 to 72 inches, reddish brown very gravelly loamy coarse sand with thin layers of gravelly loamy sand

Included with this soil in mapping are the browner Chenango and Riverhead soils. Less gravelly Maplecrest soils are common inclusions. Included areas range up to 5 acres each. Soils that have limitations different from the Tunkhannock soil make up about 15 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderately rapid in surface and subsoil layers, and rapid in the substratum
Average available water capacity: moderate
Soil reaction: extremely acid to moderately acid throughout
Surface runoff: rapid
Depth to bedrock: more than 60 inches

Soil Use and Management

Areas of this soil have sometimes been cleared of forest cover and used for pasture, or have a cover of brush or other native plants. Sand and gravel pits are commonly located on this soil.

Suitability for Farming

This soil is generally unsuited to cultivated crops and hay. Erosion is a severe hazard. Slope limits farming operations and machinery use. Droughtiness limits crop productivity.

This soil is poorly suited to pasture. Steep slopes hinder pasture maintenance. Rotational grazing and proper stocking rates will help reduce erosion and maintain forage productivity and quality.

Suitability for Trees

The potential productivity of this soil for growing northern red oak is moderately high. Laying out access roads on the contour will reduce the hazard of erosion. Slope creates a moderate equipment limitation.

Suitability for Building Sites

Slope limits the use of this soil for dwellings with basements. Selecting a flatter included or adjacent soil will overcome the limitation of slope.

Poor filtering capacity of the coarse-textured substratum and slope limit the suitability of this soil for septic tank absorption fields. Selecting a more favorable included or adjacent soil will help overcome the limitations.

Slope limits the use of this soil for local roads and streets. Selecting a flatter included or adjacent soil can help overcome this limitation. Erosion is a hazard whenever this soil is disturbed.

Suitability for Recreation

Slope and gravel content limit the use of this soil for recreational uses.

TtA—Tunkhannock and Chenango soils, fan, 0 to 3 percent slopes

This unit consists of Tunkhannock and Chenango soils, or it may contain both in varying proportions. These soils are nearly level, very deep, and somewhat excessively drained. The soils are located on alluvial fans where narrow side streams enter main valleys. They are subject to rare flooding. They are fan-like or irregular in shape and range from about 5 to 50 acres in size. The total acreage of this unit is about 50 percent Tunkhannock soils, 30 percent Chenango soils, and 20 percent inclusions of other soils. These soils are mapped together because there are few or no differences in use and management between them.

The typical sequence, depth, and composition of the layers of the Tunkhannock soil are as follows—

Surface layer: surface to 6 inches, reddish brown gravelly loam

Upper subsoil: 6 to 8 inches, red gravelly loam

Lower subsoil: 8 to 18 inches, yellowish red very gravelly loam
18 to 25 inches, reddish brown very gravelly sandy loam

Substratum: 25 to 72 inches, reddish brown very gravelly loamy coarse sand with thin layers of gravelly loamy sand

The typical sequence, depth, and composition of the layers of the Chenango soil are as follows—

Surface layer: surface to 10 inches, dark brown gravelly silt loam

Subsoil: 10 to 21 inches, yellowish brown very gravelly silt loam
21 to 25 inches, yellowish brown very gravelly sandy loam

Substratum: 25 to 43 inches, brown and dark yellowish brown very gravelly loamy sand
43 to 72 inches, dark brown very gravelly loamy coarse sand

Included with this unit in mapping are depressional areas of moderately well drained Deposit and somewhat poorly drained Red Hook soils. Some areas are predominantly cobbly rather than gravelly. Floodplain soils, such as Fluvaquents-Udifluvents and the Wenonah soil may also occur along the lower edges of the unit. Included areas range up to 5 acres each. Soils that have limitations different from those of the Tunkhannock and Chenango soils make up about 20 percent of the map unit.

Soil Properties

Water table: normally at a depth of 6 feet or more; may be considerably less than 6 feet or at the surface under prolonged conditions of heavy rainfall or snowmelt, especially in late winter and early spring

Permeability: moderately rapid in the surface and subsoil layers and to rapid for the Tunkhannock soil; moderate or moderately rapid in the surface and subsoil layers; rapid in the substratum for the Chenango soil

Average available water capacity: moderate for both soils

Soil reaction: extremely acid to moderately acid throughout in the Tunkhannock soil, very strongly acid to moderately acid in the surface and subsoil layers, and strongly acid to slightly alkaline in the substratum in the Chenango soil

Surface runoff: slow
Depth to bedrock: more than 60 inches
Flooding: rare (one to five percent chance)

Soil Use and Management

Most areas of the unit are cleared of forest cover and used as cropland. Many villages are located partly on this unit. The soils that compose this unit are among those soils of the county best suited to the production of food of fiber.

Suitability for Farming

The soils of this unit are well suited to most crops grown in the area. They are capable of intensive cultivation and are easy to irrigate. Droughtiness and occurrence of cobbly or very gravelly areas are limiting factors. Cultural practices which increase soil organic matter content, such as minimum tillage, growing cover crops, and adding organic residues, will help reduce droughtiness.

The soils of this unit are well suited to pasture and forage production.

Suitability for Trees

The potential productivity of the Tunkhannock soil for growing northern red oak is moderately high. The potential productivity of the Chenango soil for growing sugar maple is moderate. There are few or no limitations to using this soil for wood production. Planting seedlings in early spring when the soil is moist will help increase the survival rate.

Suitability for Building Sites

Potential flooding, although of rare occurrence, can create severe limitations for dwellings with basements.

As a site for septic tank absorption fields, this unit has severe limitations due to the depth to the saturated zone during periods of unusually high rainfall and the poor filtering capacity of the coarse- textured substratum. Selecting an included or nearby soil that is better suited will avoid these limitations.

Rare, brief flooding can limit use of this unit as a site for roads and streets. Constructing roads on raised fill can help overcome this limitation.

Suitability for Recreation

Gravel content can limit the use of this unit for most recreational uses. Flooding is an additional limitation of this soil for camp areas.

The capability subclass is 2s.

TtB—Tunkhannock and Chenango soils, fan, 3 to 8 percent slopes

This unit consists of Tunkhannock and Chenango soils, or it may contain both in varying proportions. These soils are gently sloping, very deep, and somewhat excessively drained. The soils are located on alluvial fans where narrow side streams enter main valleys. They are subject to rare flooding. They are fan-like or irregular in shape and range from about 5 to 50 acres in size. The total acreage of the unit is about 50 percent Tunkhannock soils, 30 percent Chenango soils, and 20 percent inclusions of other soils. These soils were mapped together because there are few or no differences in use and management between them.

The typical sequence, depth, and composition of the layers of the Tunkhannock soil are as follows—
Surface layer: surface to 6 inches, reddish brown gravelly loam

Upper subsoil: 6 to 8 inches, red gravelly loam

Lower subsoil: 8 to 18 inches, yellowish red very gravelly loam
18 to 25 inches, reddish brown very gravelly sandy loam

Substratum: 25 to 72 inches, reddish brown very gravelly loamy coarse sand with thin layers of gravelly loamy sand

The typical sequence, depth and composition of the layers of the Chenango soil are as follows—
Surface layer: surface to 10 inches, dark brown gravelly silt loam

Subsoil: 10 to 21 inches, yellowish brown very gravelly silt loam
21 to 25 inches, yellowish brown very gravelly sandy loam

Substratum: 25 to 43 inches, brown and dark yellowish brown very gravelly loamy sand
43 to 72 inches, dark brown very gravelly loamy coarse sand

Included with this unit in mapping are depressional areas of moderately well drained Deposit and somewhat poorly drained Red Hook soils. Some areas are predominantly cobbly rather than gravelly. Floodplain soils, such as Fluvaquents-Udifluvents and the Wenonah soil may also occur along the lower edges of the unit. Included areas range up to 5 acres each. Soils that have limitations different from those of the Tunkhannock and Chenango soils make up about 20 percent of the map unit.

Soil Properties

Water table: normally at a depth of 6 feet or more; may be considerably less than 6 feet or at the surface under prolonged conditions of heavy rainfall or snowmelt, especially in late winter and early spring
Permeability: moderately rapid in the surface and subsoil layers and to rapid for the Tunkhannock soil; moderate to moderately rapid in surface and subsoil layers; rapid in the substratum for the Chenango soil
Average available water capacity: moderate for both soils
Soil reaction: extremely acid to moderately acid throughout in the Tunkhannock soil, very strongly acid to moderately acid in the surface and subsoil layers, and strongly acid to slightly alkaline in the substratum in the Chenango soil
Surface runoff: slow
Depth to bedrock: more than 60 inches
Flooding: rare (one to five percent chance)

Soil Use and Management

Most areas of the unit are cleared of forest cover and used as cropland. Many villages are located partly on this unit. The soils that compose this unit are among those soils of the county best suited to the production of food of fiber.

Suitability for Farming

The soils of this unit are well suited to most crops grown in the area. They are capable of intensive cultivation and are easy to irrigate. Droughtiness and occurrence of cobbly or very gravelly areas are limiting factors. Cultural practices which increase soil organic matter content, such as minimum tillage, growing cover crops, and adding organic residues, will help reduce droughtiness. Contour of minimum tillage and stripcropping will help to control erosion.

The soils of this unit are well suited to pasture and forage production.

Suitability for Trees

The potential productivity of the Tunkhannock soil for northern red oak is moderately high. The potential productivity of the Chenango soil for sugar maple is moderate. There are few or no limitations to using this soil for wood production. Planting seedlings in early spring when the soil is moist will help increase the survival rate.

Suitability for Building Sites

Potential flooding, although of rare occurrence, is a limitation for dwellings with basements.

As a site for septic tank absorption fields, this unit has limitations due to depth to the saturated zone during periods of unusually high rainfall and poor filtering capacity of the coarse textured substratum. Selecting an included or nearby soil that is better suited will avoid these limitations.

Rare, brief flooding limits this unit for roads and streets. Constructing roads on raised fill can help to overcome this limitation.

Suitability for Recreation

Gravel content limits the use of this unit for most recreational uses. Slope is an additional limitation for playgrounds, and flooding is an additional limitation of this unit for camp areas.

The capability subclass is 2s.

Ud—Udorthents, graded

This unit consists of very deep, excessively drained to somewhat poorly drained soil areas that have been altered by cutting and filling. Areas are commonly rectangular in shape and range from 5 to 50 acres in size. Areas have been smoothed and are nearly level to gently sloping but cutbanks have slopes that range up to 45 percent. Compacted earthen dams which may have very steep sideslopes and rock riprap facing or concrete spillways are also mapped as Udorthents, graded.

Because of the variability of this unit, a typical pedon is not described. Fill material is often greater than 20 inches thick over the original soil surface and ranges from silt loam to sand in texture. Rock fragment content ranges from 0 to 60 percent.

Included with this unit in mapping are small areas of Urban land, rock outcrop, and areas of soil that have not been cut or filled. These included areas are 2 to 3 acres each and make up about 20 percent of the map unit.

The properties and characteristics of this unit are so variable that onsite investigation and evaluation is required to determine suitability and limitations of any proposed use.

This unit is not assigned to a capability subclass.

Uf—Udorthents, refuse substratum

This map unit consists of nearly level to steep areas of sanitary landfills on sandy and loamy soils. The landfills have been reworked by earth moving and grading equipment to cover trash and other refuse. Often the refuse is partly covered or mixed with fill material. The sides of most areas are steep, while the tops are nearly level or gently sloping. Areas are mostly rectangular or irregular in shape and range from 15 to 100 acres in size. Slopes range from 0 to 35 percent and are smooth and convex. Commonly the upper 2 to 3 feet of the soil consists of mixed layers of loamy and sandy fill material. This material overlies the layers of garbage and refuse, which ranges in thickness from 2 to 10 feet or more. Where the soil material is used mainly for daily cover, it is likely to be thinner than typical. Some areas of this map unit were formerly sand and gravel pits, and others have been excavated and filled using the original soil material. Spots of urban land and spots where bedrock outcrops are included in some areas. Included areas make up 20 percent of the unit.

The remaining active landfills generally lack vegetative cover.
Older or abandoned landfills are vegetated with various grasses, weeds, and shrubs.
The soils of this site are so variable that predictions about behavior for a particular use cannot be made. Onsite investigations are needed to properly assess these areas.
This unit is not assigned a capability subclass.

Un—Unadilla silt loam

This soil is nearly level, very deep, and well drained. It is on terraces in valleys. A few areas are subject to rare, very brief flooding. Soil areas are elongated or broad and irregular in shape and range from about 10 to 40 acres in size. Slopes range from 0 to 3 percent.
The typical sequence, depth, and composition of the layers of this soil are—
Surface layers: surface to 15 inches, reddish brown silt loam

Subsoil: 15 to 34 inches, reddish brown silt loam
34 to 39 inches, reddish brown very fine sandy loam
39 to 50 inches, reddish brown silt loam

Substratum: 50 to 72 inches, brown loamy sand

Included with this soil in mapping are spots of gravelly or sandy Chenango, Tunkhannock or Riverhead soils along valley sides or on slightly higher parts of the landscape. Barbour soils are common inclusions along streams. Moderately well drained soils are included in slight depressions. Included areas are as much as 5 acres each. Some areas are subject to flooding during periods of very high rainfall. Soils that have interpretations different from those of the Unadilla soil make up about 20 percent of the unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderate in surface and subsoil layers, moderately rapid to rapid in the substratum
Average available water capacity: high
Soil reaction: unlimed, very strongly acid to moderately acid in the surface and subsoil and strongly acid to slightly acid in the substratum
Surface runoff: slow
Depth to bedrock: more than 60 inches

Soil Use and Management

Most areas of this soil are cleared and used for farming or community development. A few areas are forested. This soil is among those soils in the county best suited to the production of food or fiber.

Suitability for Farming

This soil is very well suited for farming and can be cultivated intensively. It is easy to cultivate and irrigate and is well suited to field or truck crops common to the area. The use of cover crops, minimum tillage, and incorporating crop residues into the soil will help to maintain good tilth and reduce surface crusting.
This soil is well suited to pasture. Controlling stocking rates and limiting grazing during wet periods will reduce surface compaction and help to maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for growing sugar maple is moderate. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

This soil has few limitations for dwelling with basements but shallow excavations are subject to bank caving. Shoring or supporting cut banks will reduce the hazard of caving.

This soil has a poor filtering capacity of septic tank effluent. A better nearby soil should be selected.

Streets and roads are subject to high potential frost action. Providing a coarse-grained subgrade or base material to frost depth will help overcome the limitation.

Suitability for Recreation

This soil has few or no limitations for most recreation purposes (fig. 13).

The capability class is 1.

Ur—Urban Land

This unit has 80 percent of the surface covered with buildings, asphalt, concrete, or other impervious surfaces. These areas are throughout the survey area, but the largest are in the Towns of Delhi, Sidney, and Walton. Identification of the soils in these areas is not feasible because they have been greatly altered in various ways by construction. The areas generally range from 5 to more than 50 acres in size. Slopes range from 0 to 8 percent.

Included in mapping are areas that are mostly miscellaneous artificial fill and Udorthents, graded. Included areas make up about 15 percent of this map unit.

Figure 13.—A municipal park on nearly level, well drained Unadilla soils.

Development on these areas includes factories, shopping centers, warehouses, railroad yards, and parking lots. Also included are a few strongly sloping and steep areas.

Runoff of rainwater is high and often flows into storm drainage systems. If improperly channeled, the increased runoff from nearby areas may cause severe erosion. Vegetation is generally in narrow strips along sidewalks, between roadways, and in isolated islands. Vegetated areas total less than 10 percent of the map unit. Onsite investigation is essential to properly evaluate the potential and plan development for specific purposes.

This map unit is not assigned to a capability subclass.

VaB—Valois very fine sandy loam, 3 to 8 percent slopes

This soil is gently sloping, very deep, and well drained. Areas of this soil occupy rolling land in valleys and lower valley sides. Soil areas are irregular in shape and range from about 5 to 15 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 4 inches, very dark brown very fine sandy loam

Subsurface layer: 4 to 5 inches, brown very fine sandy loam

Subsoil: 5 to 15 inches, strong brown gravelly silt loam
15 to 31 inches, dark yellowish brown gravelly silt loam

Substratum: 31 to 72 inches, pale brown very gravelly fine sandy loam

Included with this soil in mapping are spots of Tunkhannock, Riverhead, or Chenango soils in valleys. Spots of Bath soils are included along valley sides. Moderately well drained or somewhat poorly drained soils are common inclusions in flatter areas or depressions. Maplecrest soils are common inclusions, especially in central and eastern parts of the county. Included areas range up to 5 acres each. Soils that have limitations different from Valois soils make up about 20 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderate in surface and subsoil layers and moderate to moderately rapid in the substratum
Average available water capacity: moderate
Soil reaction: extremely acid to moderately acid in surface and subsoil layers and very strongly acid to neutral in the substratum
Surface runoff: slow
Depth to bedrock: more than 60 inches

Soil Use and Management

Areas of this soil are mostly forested or have a cover of brush or other native plants. Some areas are cleared and used for farming or community development.

Suitability for Farming

This soil is well suited to farming and to production of a variety of cultivated crops and forage. Erosion is a hazard, especially on long slopes. Practices such as minimum tillage, stripcropping, or contour tillage help control erosion and maintain soil productivity.

This soil is well suited to pasture and forage production. Rotational grazing and proper stocking rates will help to maintain a better quantity and quality of forage and prevent erosion.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. There are few or no limitations to using this soil for wood production.

Suitability for Building Sites

This soil has few limitations as a site for dwellings with basements or septic tank absorption fields.

Frost action limits this soil as a site for roads and streets. Use of a coarser subgrade or base material can overcome this limitation.

Suitability for Recreation

Slope limits the use of this soil as a site for playgrounds. There are few or no limitations of this soil for other recreational uses.

The capability subclass is 2e.

VaC—Valois very fine sandy loam, 8 to 15 percent slopes

This soil is strongly sloping, very deep, and well drained. Areas of this soil occupy lower valley sides. Soil areas are irregular in shape and range from about 5 to 20 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 4 inches, very dark brown very fine sandy loam

Subsurface layer: 4 to 5 inches, brown very fine sandy loam

Subsoil: 5 to 15 inches, strong brown gravelly silt loam
15 to 31 inches, dark yellowish brown gravelly silt loam

Substratum: 31 to 72 inches, pale brown very gravelly fine sandy loam

Included with this soil in mapping are spots of Tunkhannock, Riverhead, or Chenango soils in valleys. Spots of Bath soils are included along valley sides. Moderately well drained or somewhat poorly drained soils are common inclusions in gently sloping areas. Included areas range up to 5 acres each. Soils that have limitations different from Valois soils make up about 20 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderate in surface and subsoil layers and moderate to moderately rapid in the substratum
Average available water capacity: moderate
Soil reaction: extremely acid to moderately acid in surface and subsoil layers and very strongly acid to neutral in the substratum
Surface runoff: medium
Depth to bedrock: more than 60 inches

Soil Use and Management

Areas of this soil are mostly forested or have a cover of brush or other native plants. Some areas are cleared and used for farming or community development.

Suitability for Farming

This soil is moderately suited to farming and to production of a variety of cultivated crops and forage. Erosion is a hazard. Slope limits some farming operations and use of equipment. Practices such as minimum tillage, stripcropping, greater use of sod crops in rotation, or contour tillage help control erosion and maintain soil productivity.

This soil is well suited to pasture and forage production but slope hinders the operation of some machinery. Rotational grazing and proper stocking rates will help to maintain a better quantity and quality of forage and prevent erosion.

Suitability for Trees

The potential productivity of this soil for growing sugar maple is moderate. There are few or no limitations to using this soil for wood production.

Suitability for Building Sites

Slope limits the use of this soil as a site for dwellings with basements and for septic tank absorption fields. Designing the structure to conform to the natural slope and landshaping can help overcome the limitation for dwellings. Landshaping, installing lines on the contour, or constructing the field on a flatter included area can overcome the limitation for absorption fields.

Frost action and slope limit this soil as a site for roads and streets. Use of a coarser subgrade or base material can overcome the limitation of frost action. Adapting designs to the slope, constructing roads on the contour, and landshaping and grading can overcome the limitation of slope.

Suitability for Recreation

Slope can limit the use of this for most recreational uses.

The capability subclass is 3e.

VaD—Valois very fine sandy loam, 15 to 25 percent slopes

This soil is moderately steep, very deep, and well drained. Areas of this soil occupy lower valley sides. Soil areas are irregular in shape and range from about 5 to 25 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 4 inches, very dark brown very fine sandy loam

Subsurface layer: 4 to 5 inches, brown very fine sandy loam

Subsoil: 5 to 15 inches, strong brown gravelly silt loam
15 to 31 inches, dark yellowish brown gravelly silt loam

Substratum: 31 to 72 inches, pale brown very gravelly fine sandy loam

Included with this soil in mapping are spots of Tunkhannock, Riverhead, or Chenango soils in valleys. Spots of Bath soils are included along valley sides. Moderately well drained soils are common inclusions in strongly sloping areas. Included areas range up to 5 acres each. Soils that have limitations different from the Valois soil make up about 15 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderate in surface and subsoil layers and moderate to moderately rapid in the substratum
Average available water capacity: moderate
Soil reaction: extremely acid to moderately acid in surface and subsoil layers and very strongly acid to neutral in the substratum
Surface runoff: rapid
Depth to bedrock: more than 60 inches

Soil Use and Management

Most areas of this soil are forested or have a cover of brush or other native plants. A few areas are cleared and used for farming.

Suitability for Farming

This soil is poorly suited to cultivated crops. Erosion is a hazard. Slope limits most farming operations and makes operation of equipment hazardous. Practices such as minimum tillage, stripcropping, greater use of sod crops in rotation, or contour tillage help control erosion and maintain soil productivity.

This soil is moderately suited to pasture and forage production but slope hinders the operation of most farm machinery. Rotational grazing and proper stocking rates will help to maintain a better quantity and quality of forage and prevent erosion.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. Laying out access roads on the contour will reduce the hazard of erosion. Slope limits the use of equipment on this soil.

Suitability for Building Sites

Slope limits the use of this soil as a site for dwellings with basements and for septic tank absorption fields. Designing the structure to conform to the natural slope and landshaping can help overcome the limitation for dwellings. Landshaping, installing lines on the contour, or constructing the field on a flatter included area can overcome the limitation of this soil for septic tank absorption fields.

Frost action and slope limit this soil as a site for roads and streets. Using a coarser subgrade or base material can overcome the limitation of frost action. Adapting designs to the slope, constructing roads on the contour, and landshaping and grading can overcome the limitation of slope.

Suitability for Recreation

Slope limits the use of this soil for most recreational uses.

The capability subclass is 4e.

VaE—Valois very fine sandy loam, 25 to 60 percent slopes

This soil is steep, very deep, and well drained. Areas of this soil occupy lower valley sides. Soil areas are irregular in shape and range from about 5 to 20 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 4 inches, very dark brown very fine sandy loam

Subsurface layer: 4 to 5 inches, brown very fine sandy loam

Subsoil: 5 to 15 inches, strong brown gravelly silt loam
15 to 31 inches, dark yellowish brown gravelly silt loam

Substratum: 31 to 72 inches, pale brown very gravelly fine sandy loam

Included with this soil in mapping are spots of Tunkhannock, Riverhead, or Chenango soils in valleys. Spots of Bath soils are included along valley sides. Moderately well drained soils are included in strongly sloping areas. Soils with reddish brown colors are included in mapping, especially in central and eastern parts of the county. Included areas range up to 5 acres each. Soils with limitations that are different from those of the Valois soil make up about 20 percent of the map unit.

Soil Properties

Water table: at a depth of more than 6 feet
Permeability: moderate in surface and subsoil layers and moderate to moderately rapid in the substratum
Average available water capacity: moderate
Soil reaction: extremely acid to moderately acid in the surface and subsoil layers and very strongly acid to neutral in the substratum
Surface runoff: very rapid
Depth to bedrock: more than 60 inches

Soil Use and Management

Most areas of this soil are forested or have a cover of brush or other native plants. A few areas are used for pasture.

Suitability for Farming

This soil is generally unsuited to cultivated crops and hay. Erosion is a severe hazard. Slope limits farming operations and makes operation of equipment extremely difficult and hazardous.

This soil is poorly suited to pasture. Slope limits operation of farm machinery and makes pasture maintenance very difficult.

Suitability for Trees

The potential productivity of this soil for growing sugar maple is moderate. Laying out access roads on the contour will reduce the hazard of erosion. Slope limits the use of equipment on this soil.

Suitability for Building Sites

Slope limits the use of this soil as a site for dwellings with basements and for septic tank absorption fields. Designing the structure to conform to the natural slope and extensive landshaping can help overcome the limitation for dwellings. Landshaping, installing lines on the contour, or constructing the field on a flatter included or adjacent soil can overcome the limitation if this soil is used as a site for absorption fields.

Frost action and slope limit this soil as a site for roads and streets. Using a coarser subgrade or base material can overcome the limitation of frost action. Adapting designs to the slope, constructing roads on the contour, and extensive landshaping and grading help overcome the limitation of slope. Erosion is a severe hazard whenever this soil is disturbed.

Suitability for Recreation

Slope limits the use of this soil for most other recreational uses.

The capability subclass is 6e.

VlB—Vly channery silt loam, 2 to 8 percent slopes

This soil is gently sloping, moderately deep, and somewhat excessively drained. Areas of this soil are on hilltops or benches in higher parts of uplands where the growing season is several weeks shorter than in major valleys. Areas are oval or irregular in shape and range from about 5 to 20 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 18 inches, dark reddish brown very channery silt loam
18 to 24 inches, dark reddish brown very channery silt loam

Substratum: 24 to 31 inches, dark reddish brown extremely channery silt loam

Bedrock: 31 inches, reddish brown shale bedrock

Included with this soil in mapping are spots of Halcott soils, especially on higher parts of the landscape. Middlebrook soils or other moderately well drained soils are included in nearly level areas. Spots of Elka soils, Mongaup soils, very stony areas, and soils that are more than 40 inches deep to bedrock are also common inclusions. Included areas range up to 5 acres each and make up about 20 percent of the map unit.

Soil Properties

Water table: below 6 feet
Permeability: moderate throughout the profile
Average available water capacity: low
Soil reaction: very strongly acid or strongly acid throughout
Surface runoff: slow
Depth to bedrock: 20 to 40 inches

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is well suited for farming. Small stones may interfere with tillage operations. Erosion is a hazard, especially on longer slopes. The growing season is several weeks shorter than it is for valley areas. Droughtiness limits the growth of most crops during dry periods of mid to late summer. Early maturing crops or plant varieties tolerant of some droughtiness are best adapted to this soil. Using sod and cover crops in a rotation and incorporating crop residues into the soil will help improve the available water holding capacity and help control erosion. Other practices such as no-till or minimum tillage, stripcropping or contour farming are also important measures in controlling erosion and maintaining productivity.

This soil is well suited for pasture but droughtiness, especially during mid to late summer, limits forage production. Plants tolerant of some moisture stress are better adapted to this soil. Proper stocking rates and preventing overgrazing, especially during dry periods, are practices that will help maintain more desirable forage plants and prevent erosion.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. Droughtiness is a hazard for young seedlings but early planting can help overcome this limitation.

Suitability for Building Sites

The moderate depth to bedrock limits this soil as a site for dwellings with basements and for septic tank absorption fields. Careful site investigation and selection of a deeper included or adjacent soil will overcome this limitation.

Frost action and depth to bedrock limit this soil as a site for roads and streets. Use of a coarser subgrade or base material can overcome the limitation of frost action. Careful site investigation and selection of a deeper included or adjacent soil will overcome the limitation of depth to bedrock.

Suitability for Recreation

Gravel content limits the use of this soil for most recreational uses. Slope is an additional limitation for playgrounds.

The capability subclass is 2e.

VIC—Vly channery silt loam, 8 to 15 percent slopes

This soil is strongly sloping, moderately deep, and somewhat excessively drained. Areas of this soil are on hillsides in higher parts of uplands where the growing season is several weeks shorter than in major valleys. Areas are oval or irregular in shape and range from about 5 to 25 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 18 inches, dark reddish brown very channery silt loam
18 to 24 inches, dark reddish brown very channery silt loam

Substratum: 24 to 31 inches, dark reddish brown extremely channery silt loam

Bedrock: 31 inches, reddish brown shale bedrock

Included with this soil in mapping are spots of Halcott soils, especially on higher parts of the landscape. Middlebrook soils or similar moderately well drained soils are included in gently sloping areas. Spots of Elka soils, Mongaup soils, very stony areas, and soils that are 40 to 60 inches deep to bedrock are also common inclusions. Included areas range up to 5 acres each.

Soils that have limitations different from the Vly soil and make up about 20 percent of the map unit.

Soil Properties

Water table: below 6 feet
Permeability: moderate throughout the profile
Average available water capacity: low
Soil reaction: very strongly acid or strongly acid throughout
Surface runoff: medium
Depth to bedrock: 20 to 40 inches

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is moderately suited for farming. Slope and small stones may interfere with tillage operations. Erosion is a hazard. The growing season is several weeks shorter than it is for valley areas. Droughtiness limits the growth of most crops during dry periods of mid to late summer. Early maturing crops or plant varieties tolerant of some droughtiness are best adapted to this soil. Using sod and cover crops in a rotation and incorporating crop residues into the soil will help improve the available water holding capacity and help control erosion. Other practices such as no-till or minimum tillage, and stripcropping or contour farming are also important measures in controlling erosion and maintaining productivity of this soil.

This soil is well suited for pasture but droughtiness, especially during mid to late summer, limits forage production. Plants tolerant of some moisture stress are better adapted to this soil. Proper stocking rates and preventing overgrazing, especially during dry periods, are practices that will help maintain more desirable forage plants and prevent erosion.

Suitability for Trees

The potential productivity of this soil for growing sugar maple is moderate. Droughtiness is a hazard for young seedlings but early planting can help overcome this limitation.

Suitability for Building Sites

Slope and the moderate depth to bedrock limits this soil as a site for dwellings with basements and for septic tank absorption fields. Careful site investigation and selection of a deeper included or adjacent soil will overcome this limitation.

Frost action, depth to bedrock, and slope limit the use of this soil as a site for roads and streets. Use of a coarser subgrade or base material can overcome the limitation of frost action. Constructing roads and streets on the contour, landshaping and grading and careful design will help overcome the limitation of slope. Careful site investigation and selection of a deeper included or adjacent soil will overcome the limitation due to depth to bedrock and may eliminate the need for blasting.

Suitability for Recreation

Gravel content and slope limit the use of this soil as a site for playgrounds. Slope is a limitation if this soil is used for most other recreational uses.

The capability subclass is 3e.

VlD—Vly channery silt loam, 15 to 25 percent slopes

This soil is moderately steep, moderately deep, and somewhat excessively drained. Areas of this soil are on hillsides in higher parts of uplands where the growing season is several weeks shorter than in major valleys. Areas are long and narrow or irregular in shape and range from about 5 to 35 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 18 inches, dark reddish brown very channery silt loam
18 to 24 inches, dark reddish brown very channery silt loam

Substratum: 24 to 31 inches, dark reddish brown extremely channery silt loam

Bedrock: 31 inches, reddish brown shale bedrock

Included with this soil in mapping are spots of Halcott soils, especially on higher parts of the landscape. Small spots of Middlebrook or similar moderately well drained soils are included in strongly sloping areas. Spots of Elka soils, Mongaup soils, very stony areas, and soils that are 40 to 60 inches deep to bedrock are also common inclusions. Included areas range up to 5 acres each. Soils with limitations different from those of the Vly soil make up about 20 percent of the map unit.

Soil Properties

Water table: below 6 feet
Permeability: moderate throughout the profile
Average available water capacity: low
Soil reaction: very strongly acid or strongly acid throughout the soil
Surface runoff: rapid
Depth to bedrock: 20 to 40 inches

Soil Use and Management

A few areas of this soil are cleared and used for farming. Most areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is poorly suited to cultivated crops. Slope hinders the operation of farm machinery. Small stones interfere with tillage operations. Erosion is a hazard. The growing season is several weeks shorter than it is for valley areas. Droughtiness limits the growth of most crops during dry periods of mid to late summer. Early maturing crops or plant varieties tolerant of some droughtiness are best adapted to this soil. Using mostly sod crops in a rotation and incorporating crop residues into the soil will help improve the available water holding capacity and help control erosion. Other practices such as no-till or minimum tillage, and stripcropping or contour farming are also important measures in controlling erosion and maintaining productivity of this soil.

This soil is moderately suited for pasture but droughtiness, especially during mid to late summer, limits forage production. Plants tolerant of some moisture stress are better adapted to this soil. Proper stocking rates and preventing overgrazing, especially during dry periods, are practices that will help maintain more desirable forage plants and prevent erosion.

Suitability for Trees

The potential productivity of this soil for growing sugar maple is moderate. Droughtiness is a hazard for young seedlings but early planting can help overcome this limitation. Laying out access roads along the contour will reduce the erosion hazard. Slope limits use of equipment on this soil.

Suitability for Building Sites

Slope and the moderate depth to bedrock limits this soil as a site for dwellings with basements and for septic tank absorption fields. Careful site investigation and selection of a deeper included or adjacent soil can overcome the limitation of depth to rock. Design to conform to the natural slope and landshaping can help overcome the limitation of slope for dwellings. Landshaping, installing tile lines on the contour, or constructing the field on a flatter included area can help overcome the limitation of slope for septic absorption fields.

Frost action, slope, and depth to bedrock limit the use of this soil as a site for roads and streets. Use of a coarser subgrade or base material can overcome the limitation of frost action. Constructing roads and streets on the contour, landshaping, and grading and careful design will help overcome the limitation of slope for roads and streets. Careful site investigation and the selection of a deeper included or adjacent soil will help overcome the limitation due to depth to bedrock and may eliminate the need for blasting.

Suitability for Recreation

Slope and gravel content can limit the use of this soil as a site for most recreational uses.

The capability subclass is 4e.

VlE—Vly channery silt loam, 25 to 40 percent slopes

This soil is steep, moderately deep, and somewhat excessively drained. Areas of this soil are on hillsides in higher parts of uplands where the growing season is several weeks shorter than in major valleys. Areas are long and narrow or irregular in shape and range from about 5 to 35 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 18 inches, dark reddish brown very channery silt loam
18 to 24 inches, dark reddish brown very channery silt loam

Substratum: 24 to 31 inches, dark reddish brown extremely channery silt loam

Bedrock: 31 inches, reddish brown shale bedrock

Included with this soil in mapping are spots of Halcott soils, especially on higher parts of the landscape. Spots of Elka soils, Mongaup soils, very stony areas, and soils that are 40 to 60 inches deep to bedrock are also common inclusions. Included areas range up to 5 acres each. Soils that have limitations different from the Vly soils make up about 20 percent of the map unit.

Soil Properties

Water table: below 6 feet
Permeability: moderate throughout the profile
Average available water capacity: low
Soil reaction: very strongly acid or strongly acid throughout the soil
Surface runoff: very rapid
Depth to bedrock: 20 to 40 inches

Soil Use and Management

A few areas of this soil are used for pasture. Most areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is generally unsuited to cultivated crops and hay. Slope makes the operation of farm machinery extremely difficult and hazardous. Erosion is a hazard whenever the soil is disturbed. The growing season is several weeks shorter than it is for valley areas. Droughtiness limits the growth of most plants during dry periods of mid to late summer.

This soil is poorly suited to pasture. Droughtiness, especially during mid to late summer, limits forage production. Slope makes pasture maintenance very difficult and hazardous.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. Droughtiness is a hazard for young seedlings but early planting can help overcome this limitation. Laying out access roads along the contour will reduce the erosion hazard. Slope limits the use of equipment on this soil.

Suitability for Building Sites

Slope and the moderate depth to bedrock limit this soil as a site for dwellings with basements and for septic tank absorption fields. Careful site investigation and selection of a deeper included or adjacent soil can overcome the limitation of depth to rock. Designing the structure to conform to the natural slope, landshaping, or selecting a flatter adjacent soil are ways that can help overcome the limitation of slope for dwellings. Landshaping or constructing the field on a flatter included area or adjacent soil can help overcome the limitation of slope for septic tank absorption fields.

Frost action, slope, and depth to hard bedrock limit the use of this soil as a site for roads and streets. Use of a coarser subgrade or base material can overcome the limitation of frost action. Constructing roads and streets on the contour, landshaping and grading, and careful design will help overcome the limitation of slope for roads and streets. Careful site investigation and selection of a deeper included or adjacent soil will overcome the limitation of depth to bedrock and may eliminate the need for blasting. Erosion is a severe hazard whenever the natural cover of this soil is disturbed.

Suitability for Recreation

Slope and gravel content can limit the use of this soil as a site for most recreational uses.

The capability subclass is 6e.

VoA—Volusia channery silt loam, 0 to 3 percent slopes

This soil is nearly level, very deep, and somewhat poorly drained. Areas of this soil occupy small drainage ways and flat or slightly depressed areas in the uplands. Soil areas are elongated to oval or irregular in shape and range from about 5 to 10 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: 0 to 8 inches, dark grayish brown channery silt loam

Subsoil: 8 to 15 inches, brown channery silt loam with yellowish brown mottles
15 to 22 inches, light brownish gray channery silt loam with brown and strong brown mottles
22 to 52 inches (fragipan), dense brown channery silt loam with light brownish gray and yellowish brown mottles

Substratum: 52 to 72 inches, brown and grayish brown very channery silt loam with yellowish brown and gray mottles

Included with this soil in mapping are spots of Norchip soils in depressions and spots of Mardin soils on higher or more sloping areas. Very stony or bouldery soils are also included. In central parts of the county, Morris soils may be inclusions. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Volusia soil make up about 15 percent of the map unit.

Soil Properties

Water table: perched at 0.5 to 1.0 feet from mid fall to mid spring
Permeability: moderate in the surface and upper subsoil layers and slow or very slow in the lower subsoil (fragipan) and substratum
Average available water capacity: low
Soil reaction: very strongly acid to slightly acid in the surface and upper subsoil layers; strongly acid to slightly acid in the lower subsoil layers; moderately acid to slightly alkaline in the substratum
Surface runoff: very slow
Depth to bedrock and to the dense layer: more than 60 inches to bedrock and 10 to 22 inches to the dense layer (fragipan)

Soil Use and Management

Some areas of the soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is moderately suited for farming but seasonal wetness limits the choice of crops and restricts plant growth and productivity. Wetness also interferes with and delays farming operations. The dense subsoil limits rooting depth. Drainage measures, especially diversions to keep water from higher areas off this soil, will improve crop productivity and allow more timely farming operations. Suitable outlets may be difficult to establish on this nearly level soil. Plant varieties tolerant of seasonal wetness are best adapted to this soil.

This soil is well suited for pasture but wetness limits the choice of forage plants. Limiting grazing during wet periods will help prevent destruction of the sod cover and maintain better quality pasture.

Suitability for Trees

The potential productivity of this soil for northern red oak is moderate. Seasonal wetness causes a moderate equipment limitation and seedling mortality and windthrow hazard.

Suitability for Building Sites

Depth to the saturated zone limits this soil as a site for dwellings with basements. A better drained, included or adjacent soil should be selected.

Depth to the saturated zone and depth to the fragipan limit this soil as a site for septic tank absorption fields. A better suited included or adjacent soil may be selected or a specially designed or alternate system may be used to overcome the limitations.

Depth to the saturated zone and potential frost action limit this soil as a site for roads and streets. Methods of overcoming these limitations include construction on raised fill material, installing a drainage system, and providing a coarser grained subgrade or base material.

Suitability for Recreation

Depth to the saturated zone and the gravel content limit this soil for playgrounds. Depth to the saturated zone and depth to the fragipan limit this soil for most other recreational uses.

The capability subclass is 3w.

VoB—Volusia channery silt loam, 3 to 8 percent slopes

This soil is gently sloping, very deep, and somewhat poorly drained. Areas of this soil occupy small drainage ways and the lower parts of hillsides in the uplands. Soil areas are elongated to oval or irregular in shape and range from about 5 to 15 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: 0 to 8 inches, dark grayish brown channery silt loam

Subsoil: 8 to 15 inches, brown channery silt loam with yellowish brown mottles
15 to 22 inches, light brownish gray channery silt loam with brown and strong brown mottles
22 to 52 inches (fragipan), dense brown channery silt loam with light brownish gray and yellowish brown mottles

Substratum: 52 to 72 inches, brown and grayish brown very channery silt loam with yellowish brown and gray mottles

Included with this soil in mapping are spots of Norchip soils in depressions and spots of Mardin soils on higher or strongly sloping areas. Very stony or bouldery soils are also included. In central parts of the county, Morris soils may be inclusions. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Volusia soil make up about 15 percent of the map unit.

Soil Properties

Water table: perched at 0.5 to 1.0 feet from mid fall to mid spring
Permeability: moderate in the surface and upper subsoil layers and slow or very slow in the lower subsoil (fragipan) and substratum
Available water capacity: low
Soil reaction: very strongly acid to slightly acid in the surface and upper subsoil layers; strongly acid to slightly acid in the lower subsoil layers
Surface runoff: slow

Depth to bedrock and to the dense layer: more than 60 inches to bedrock and 10 to 22 inches to the dense layer (fragipan)

Soil Use and Management

Some areas of the soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is moderately suited for farming but seasonal wetness limits the choice of crops and restricts plant growth and productivity. Wetness also interferes with and delays farming operations. Rooting depth is limited by the dense subsoil. Drainage measures, especially diversions to keep water from higher areas off this soil, will improve crop productivity and allow more timely farming operations. Plant varieties tolerant of seasonal wetness are best adapted to this soil.

This soil is well suited for pasture but wetness limits the choice of forage plants. Limiting grazing during wet periods will help prevent destruction of the sod cover and maintain better quality pasture.

Suitability for Trees

The potential productivity of this soil for northern red oak is moderate. Seasonal wetness causes a moderate equipment limitation and seedling mortality and windthrow hazard.

Suitability for Building Sites

Depth to the saturated zone limits this soil as a site for dwellings with basements. A better drained, included or adjacent soil should be selected.

Depth to the saturated zone and depth to the fragipan limit this soil as a site for septic tank absorption fields. A better suited included or adjacent soil may be selected or a specially designed or alternate system may be used to overcome the limitations.

Depth to the saturated zone and a high potential frost action limit this soil as a site for roads and streets. Methods of overcoming these limitations include construction on raised fill material, installing a drainage system, and providing a coarser grained subgrade or base material.

Suitability for Recreation

Depth to the saturated zone, slope, depth to the fragipan and gravel content can limit this soil as a site for playgrounds. Depth to the saturated zone and depth to the fragipan limit this soil for most recreational uses.

The capability subclass is 3w.

VoC—Volusia channery silt loam, 8 to 15 percent slopes

This soil is strongly sloping, very deep, and somewhat poorly drained. Areas of this soil occupy sideslopes and the lower parts of hillsides in the uplands. Soil areas are elongated to oval or irregular in shape and range from about 5 to 35 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: 0 to 8 inches, dark grayish brown channery silt loam

Subsoil: 8 to 15 inches, brown channery silt loam with yellowish brown mottles

15 to 22 inches, light brownish gray channery silt loam with brown and strong brown mottles

22 to 52 inches (fragipan), dense brown channery silt loam with light brownish gray and yellowish brown mottles

Substratum: 52 to 72 inches, brown and grayish brown very channery silt loam with yellowish brown and gray mottles

Included with this soil in mapping are spots of Norchip soils in flatter areas and spots of Mardin soils on higher or moderately steep areas. Very stony or bouldery soils are also included. In central parts of the county, Morris soils may be inclusions. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Volusia soil make up about 15 percent of the map unit.

Soil Properties

Water table: perched at 0.5 to 1.0 feet from mid fall to mid spring
Permeability: moderate in the surface and upper subsoil layers and slow or very slow in the lower subsoil (fragipan) and substratum
Average available water capacity: low
Soil reaction: very strongly acid to slightly acid in the surface and upper subsoil layers; strongly acid to slightly acid in the lower subsoil layers
Surface runoff: medium
Depth to bedrock and to the dense layer: more than 60 inches to bedrock and 10 to 22 inches to the dense layer (fragipan)

Soil Use and Management

Some areas of the soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is moderately suited for farming but slope, erosion hazard, and seasonal wetness limit intensive cultivation. Wetness also interferes with and delays farming operations. Rooting depth is limited by the dense subsoil. Drainage measures, especially diversions to keep water from higher areas off of this soil, will improve crop productivity and allow more timely farming operations. Plant varieties tolerant of seasonal wetness are best adapted to this soil. Minimum tillage, stripcropping and contour tillage, and the use of more sod crops in rotations will help control erosion.

This soil is well suited for pasture but wetness limits the choice of forage plants. Limiting grazing during wet periods will help prevent destruction of the sod cover and maintain better quality pasture.

Suitability for Trees

The potential productivity of this soil for growing northern red oak is moderate. Seasonal wetness causes a moderate equipment limitation and moderate seedling mortality and windthrow hazard.

Suitability for Building Sites

Depth to the saturated zone limits this soil as a site for dwellings with basements. A better drained, included or adjacent soil should be selected.

Depth to the saturated zone and depth to the fragipan limit this soil as a site for septic tank absorption fields. A better suited included or adjacent soil may be selected or a specially designed or alternate system may be used to overcome the limitations.

Depth to the saturated zone and high potential frost action and slope limit this soil as a site for roads and streets. Methods of overcoming these limitations include construction on raised fill material, installing a drainage system, and providing a coarser grained subgrade or base material. Adapting designs to slope, constructing roads on the contour, and landshaping and grading can overcome the limitation of slope.

Suitability for Recreation

Depth to the saturated zone, depth to the fragipan, slope and gravel content can limit this soil for most recreational uses.

The capability subclass is 3e.

WeB—Wellsboro channery silt loam, 2 to 8 percent slopes

This soil is gently sloping, very deep, and moderately well drained. Areas of this soil occupy the lower parts of hillsides in the uplands. Soil areas are oval or irregular and range from about 5 to 20 acres. The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: 0 to 8 inches, dark reddish brown channery silt loam

Subsoil: 8 to 18 inches, reddish brown channery silt loam
18 to 25 inches, brown and light reddish brown channery silt loam with yellowish red mottles

Lower Subsoil (fragipan): 25 to 38 inches, dense reddish brown to dark reddish brown channery silt loam
38 to 52 inches, dense dusky red and dark reddish gray channery loam
52 to 62 inches, dense dusky red and dark reddish gray very channery loam

Substratum: 62 to 75 inches, weak red very channery loam

Included with this soil in mapping are spots of better drained Lackawanna soils on slightly higher or strongly sloping parts of the landscape. Spots of wetter Morris soils are common in nearly level areas or slight depressions. In northern and western parts of the county browner Mardin soils are included. Stony or very stony spots are also common inclusions. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Wellsboro soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 0.9 to 1.6 feet late fall to early spring
Permeability: moderate in surface and upper subsoil layers, slow in the lower subsoil layer (fragipan)
Average available water capacity: low
Soil reaction: very strongly acid to moderately acid throughout the profile
Surface runoff: slow
Depth to bedrock and dense layer: more than 60 inches deep to bedrock and 15 to 26 inches to the dense subsoil (fragipan)

Soil Use and Management

Many areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is well suited to farming but wetness, especially in the early spring, hinders farming operations. Erosion is a potential hazard on longer slopes. Crops tolerant of some wetness are best adapted to this soil. Drainage practices such as subsurface drains and diversions to keep water from higher areas off this soil will improve crop response and reduce the delay in farming operations.

This soil is well suited to pasture but forage crops tolerant of some wetness will be the most productive. Proper stocking rates and deferring grazing during wet periods will help prevent destruction of the sod and maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for northern red oak is moderately high. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone is a limitation if this soil is used as a site for dwellings with basements. Installing foundation drains, sealing foundations, and constructing diversions so that water moves away from the building will help overcome the depth to the saturated zone limitation.

Depth to the saturated zone and depth to the fragipan limit this soil as a site for septic tank absorption fields. Special designs such as enlarging the absorption field and installing a drainage system around it will help overcome these limitations.

High potential frost action and depth to the saturated zone limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse-grained subgrade or base material to frost depth will help prevent frost damage and overcome the depth to the saturated zone limitation.

Suitability for Recreation

Depth to the saturated zone and the depth to the fragipan can limit this soil as a site for most recreational uses. Slope and gravel content are additional limitations for playground sites.

The capability subclass is 2w.

WeC—Wellsboro channery silt loam, 8 to 15 percent slopes

This soil is strongly sloping, very deep, and moderately well drained. Areas of this soil occupy hillsides in the uplands. Soil areas are oval or irregular in shape and range from about 5 to 40 acres in size.

The typical sequence, depth, and composition of the layers of this soil are—
Surface layer: 0 to 8 inches, dark reddish brown channery silt loam

Subsoil: 8 to 18 inches, reddish brown channery silt loam
18 to 25 inches, brown and light reddish brown channery silt loam with yellowish red mottles

Lower Subsoil (fragipan): 25 to 38 inches, dense reddish brown to dark reddish brown channery silt loam
38 to 52 inches, dense dusky red and dark reddish gray channery loam
52 to 62 inches, dense dusky red and dark reddish gray very channery loam

Substratum: 62 to 75 inches, weak red very channery loam

Included with this soil in mapping are spots of better drained Lackawanna soils on slightly higher or moderately steep parts of the landscape. Spots of wetter Morris soils are common in gently slopingareas. In northern and western parts of the county browner Mardin soils are included. Stony or very stony spots are also common inclusions. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Wellsboro soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 0.9 to 1.6 feet from late fall to early spring
Permeability: moderate in surface and upper subsoil layers, slow in the lower subsoil layer (fragipan)
Average available water capacity: low
Soil reaction: very strongly acid to moderately acid throughout the profile
Surface runoff: medium
Depth to bedrock and dense layer: more than 60 inches deep to bedrock and 15 to 26 inches to the dense subsoil (fragipan)

Soil Use and Management

Many areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is moderately suited to farming but slope and the hazard of erosion limit intensive cultivation. Wetness, especially in the early spring, also hinders farming operations. Corps tolerant of some wetness are best adapted to this soil. Drainage practices such as subsurface drains and diversions to keep water from higher areas off this soil will improve crop response and reduce the delay in farming operations. No-till or minimal tillage, stripcropping and contour tillage, and the use of more sod crops in rotation help control erosion and prevent the loss of topsoil and fertility.

This soil is well suited to pasture but forage crops tolerant of some wetness will be the most productive. Proper stocking rates and deferring grazing during wet periods will help prevent destruction of the sod, reduce the hazard of erosion, and maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for growing northern red oak is moderately high. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone and slope are limitations if this soil is used as a site for dwellings with basements. Installing foundation drains, sealing foundations, and constructing diversions so that water moves away from the building will help overcome the depth to the saturated zone limitation. Designing the structure to conform to the natural slope and landshaping help overcome the limitation of slope for dwellings.

Depth to the saturated zone, slope, and depth to the fragipan limit this soil as a site for septic tank absorption fields. Special designs such as enlarging the absorption field and installing a drainage system around it will help overcome the limitations of depth to the saturated zone and slow permeability. Landshaping, installing tile lines on the contour, or constructing the field on a flatter included area can help overcome the limitation of slope.

Slope, depth to the saturated zone, and the high potential frost action limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse grained subgrade or base material to frost depth will help prevent frost damage and overcome the depth to the saturated zone limitation. Adapting designs to the slope, constructing roads on the contour, and landshaping and grading can overcome the limitation of slope.

Suitability for Recreation

Depth to the saturated zone, slope and the depth to the fragipan limit this soil as a site for most recreational uses.

The capability subclass is 3e.

WeD—Wellsboro channery silt loam, 15 to 25 percent slopes

This soil is moderately steep, very deep, and moderately well drained. Areas of this soil occupy hillsides in the uplands. Soil areas are oval or irregular and range from about 5 to 40 acres.

The typical sequence, depth, and composition of the layers of this soil are—
Surface layer: 0 to 8 inches, dark reddish brown channery silt loam

Subsoil: 8 to 18 inches, reddish brown channery silt loam

18 to 25 inches, brown and light reddish brown channery silt loam with yellowish red mottles

Lower Subsoil (fragipan): 25 to 38 inches, dense reddish brown to dark reddish brown channery silt loam
38 to 52 inches, dense dusky red and dark reddish gray channery loam
52 to 62 inches, dense dusky red and dark reddish gray very channery loam

Substratum: 62 to 75 inches, weak red very channery loam

Included with this soil in mapping are spots of better drained Lackawanna soils on slightly higher or steeper parts of the landscape. Spots of wetter Morris soils are common in strongly sloping areas. In northern and western parts of the county browner Mardin soils are included. Stony or very stony spots are also common inclusions. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Wellsboro soil make up about 20 percent of the map unit.

Soil Properties

Water table: at 0.9 to 1.6 feet
Permeability: moderate in surface and upper subsoil layers, slow in the lower subsoil layer (fragipan)
Average available water capacity: low
Soil reaction: very strongly acid to moderately acid throughout the profile
Surface runoff: rapid
Depth to bedrock and dense layer: more than 60 inches deep to bedrock and 15 to 26 inches to the dense subsoil (fragipan)

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is poorly suited to farming. Slope and the hazard of erosion limit intensive cultivation. Wetness, especially in the early spring, also hinders farming operations. Corps tolerant of some wetness are best adapted to this soil. Drainage practices such as subsurface drains and diversions to keep water from higher areas off this soil will improve crop response and reduce the delay in farming operations. No-till or minimal tillage, stripcropping and contour tillage, and the use of more sod crops in rotation help control erosion and prevent loss of topsoil and fertility.

This soil is moderately suited to pasture but forage crops tolerant of some wetness will be the most productive. Applying proper stocking rates and deferring grazing during wet periods will help prevent destruction of the sod, reduce the hazard of erosion, and maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for northern red oak is moderately high. Slope limits the use of equipment on this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone and slope are limitations if this soil is used as a site for dwellings with basements. Installing foundation drains, sealing foundations, and constructing diversions so that water moves away from the building will help overcome the depth to the saturated zone limitation. Designing the structure to conform to the natural slope and landshaping will help overcome the limitation of slope for dwellings.

Depth to the saturated zone, slope, and depth to the fragipan limit this soil as a site for septic tank absorption fields. Special designs such as enlarging the absorption field and installing a drainage system around it will help overcome the limitations of depth to the saturated zone and slow permeability. Landshaping, installing tile lines on the contour or constructing the field on a flatter included area can help overcome the limitation of slope.

Slope, high potential frost action, and depth to the saturated zone limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse-grained subgrade or base material to frost depth will help prevent frost damage and overcome the limitation due to the depth to the saturated zone. Adapting designs to the slope, constructing roads on the contour, and landshaping and grading can overcome the limitation of slope.

Suitability for Recreation

Depth to the saturated zone, slope, and the depth to the fragipan can limit this soil as a site for most recreational uses.

The capability subclass is 4e.

WfC—Wellsboro and Mardin soils, 2 to 15 percent slopes, very stony

This unit consists of Wellsboro soils or Mardin soils or both soils in varying proportion. These soils are gently sloping to strongly sloping, very deep, and moderately well drained. The unit is on the lower parts of hillsides in uplands. Large stones cover 0.1 to 3.0 percent of the surface and are about 3 to 25 feet apart. The total acreage of this unit is about 50 percent Wellsboro soils, 30 percent Mardin soils, and 20 percent inclusions of other soils. These soils were mapped together because there are few or no differences in use and management between them. Individual areas are irregular in shape and range from about 5 to 75 acres in size.

The typical sequence, depth, and composition of the layers of the Wellsboro soil are as follows—

Surface layer: surface to 8 inches, dark reddish brown channery silt loam

Subsoil: 8 to 18 inches, reddish brown channery silt loam
18 to 25 inches, brown and light reddish brown channery silt loam with yellowish red mottles

Lower Subsoil (fragipan): 25 to 38 inches, dense, reddish brown to dark reddish brown channery silt loam
38 to 52 inches, dense, dusky red and dark reddish gray channery loam
52 to 62 inches, dense, dusky red and dark reddish gray very channery loam

Substratum: 62 to 75 inches: weak red very channery loam

The typical sequence, depth, and composition of the layers of the Mardin soil are—

Surface layer: surface to 5 inches, dark brown channery silt loam

Subsoil: 5 to 14 inches, brown channery silt loam
14 to 23 inches, dark yellowish brown channery silt loam with strong brown and light yellowish brown mottles
23 to 26 inches, yellowish brown channery loam with pockets of fine sandy loam with grayish brown, brown, and strong brown mottles

Lower Subsoil: (fragipan): 26 to 52 inches, dense, firm, brown very channery loam with dark yellowish brown mottles
52 to 72 inches, dense, firm, grayish brown very channery loam with light olive brown mottles

Included with this unit in mapping are spots of better drained Lackawanna or Bath soils on slightly higher or more sloping parts of the landscape. Spots of wetter Morris or Volusia soils are common in slight depressions or along drainageways. Soils that are not stony or that are bouldery or very bouldery are also common inclusions. Included areas are up to 5 acres in size. Soils that have limitations different from the Wellsboro or Mardin soils make up about 20 percent of the unit.

Soil Properties

Water table: perched at 0.9 to 1.6 feet in the Wellsboro soil and at 1.0 to 1.6 feet in the Mardin soil from late fall to early spring for both soils
Permeability: moderate in surface and upper subsoil layers and slow in the lower subsoil (fragipan) and substratum for both soils
Average available water capacity: low for the Wellsboro soil and moderate for the Mardin soil
Soil reaction: very strongly acid to moderately acid throughout for the Wellsboro soil and extremely acid to moderately acid in the surface and subsoil layers of the Mardin soil
Surface runoff: medium for both soils
Depth to bedrock and dense layer: more than 60 inches deep to bedrock and 15 to 26 inches to the dense subsoil (fragipan) for both soils

Soil Use and Management

Most areas of this unit are wooded or have a cover of brush or other native vegetation. A few areas are cleared and used for pasture.

Suitability for Farming

Soils of this unit are generally unsuited to cultivated crops or hay. Large surface stones limit the operation of most farm equipment.

This unit is poorly suited to pasture. Stones on the surface make pasture maintenance difficult. Forage plants tolerant of some wetness are best adapted to the soils of this unit. Applying proper stocking rates and deferring grazing during wet periods will help prevent destruction of the sod cover and maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity of the Wellsboro soil for northern red oak is moderately high. The potential productivity of the Mardin soil for sugar maple is moderate. There are few or no limitations to using the soils of this unit for wood production.

Suitability for Building Sites

Depth to the saturated zone and slope are limitations if this unit is used as a site for dwellings with basements. Installing foundation drains, sealing foundations, and constructing diversions so that water moves away from the building will help overcome the depth to the saturated zone limitation. Designing the structure to conform to the natural slope and landshaping or grading will help overcome the limitation of slope.

Depth to the saturated zone and depth to the fragipan are the main limitations if this unit is used as a site for septic tank absorption fields. Special designs such as enlarging the absorption field and installing a drainage system around it will help overcome these limitations.

High potential frost action, depth to the saturated zone, and slope limit the soils of this unit as a site for roads and streets. Installing a drainage system and providing a coarse-grained subgrade or base material to frost depth will help prevent frost damage and overcome the limitation due to the depth to the saturated zone.

Constructing roads on the contour and landshaping or grading are methods that can help overcome slope limitations.

Suitability for Recreation

Depth to the saturated zone, depth to the fragipan, slope, and large stones can limit this unit as a site for most recreational uses.

The capability subclass is 6s.

Wg—Wenonah silt loam

This soil is nearly level, very deep, and well drained. It is on flood plains and low terraces along streams and is subject to flooding.

Soil areas are long and narrow to broad and irregular in shape and range from about 5 to 50 acres. Slopes are 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are—

Surface layer: surface to 10 inches, dark grayish brown silt loam

Subsoil: 10 to 20 inches, brown and yellowish brown silt loam
20 to 32 inches, yellowish brown very fine sandy loam

Substratum: 32 to 60 inches, brown fine sandy loam with lenses of silt loam 60 to 72 inches, brown very fine sandy loam with brown and grayish brown mottles

Included with this soil in mapping are spots of sandy, excessively drained soils and spots of very gravelly soils on slightly higher areas. Moderately well drained Philo soils are common inclusions along with small strips of poorly drained Raypol soils or very poorly drained Fluvaquents-Udifluvents soils close to streams or in depressions. Included areas are as much as 5 acres each. Soils that have interpretations different from those of the Wenonah soil make up about 15 percent of the unit.

Soil Properties

Water table: within a depth of 3 to 6 feet
Permeability: moderate in the surface layer, and moderate or moderately rapid in the subsoil
Average available water capacity: high
Soil reaction: reaction ranges from very strongly acid to moderately acid in surface and subsoil layers
Surface runoff: slow
Depth to bedrock: more than 60 inches

Soil Use and Management

Most areas of this soil are cleared and used for farming. A few areas are forested or have a cover of brush or other native plants. This soil is among those soils in the county best suited to the production of food or fiber.

Suitability for Farming

This soil is very well suited for farming and can be cultivated intensively. This soil is subject to occasional, brief flooding but usually not during the growing season. This soil is easy to cultivate and irrigate and is well suited to field or truck crops common to the area.

The use of cover crops, minimum tillage, and incorporating crop residues into the soil will help to maintain good tilth and reduce surface crusting.

This soil is well suited to pasture. Controlling stocking rates and limiting grazing during wet periods will reduce surface compaction and help to maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for growing northern red oak is moderately high. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Occasional flooding limits the use of this soil as a site for dwellings with basements. Selecting a more suitable site on a higher, nearby soil will avoid the flooding hazard. Flooding and depth to the saturated zone are limitations if this soil is used as a site for septic tank absorption fields. Selecting a higher, nearby soil as an alternate site will avoid these limitations.

Flooding and potential frost action limit this soil as a site for roads and streets. Constructing roads on raised fill and providing a coarse-grained subgrade or base material to frost depth are ways of overcoming the limitations.

Suitability for Recreation

Flooding is a limitation if this soil is used as a site for camp areas. There are few or no limitations for using this soil as a site for most other recreational uses.

The capability class is 1.

WhB—Willdin channery silt loam, 2 to 8 percent slopes

This soil is gently sloping, very deep, and moderately well drained. Areas of this soil occupy hilltops or lower hillsides in higher uplands above 1,750 feet where the growing season is several weeks shorter than it is in larger valleys. Soil areas are oval or irregular in shape and range from about 5 to 15 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 5 inches, dark brown channery silt loam

Subsoil: 5 to 18 inches, yellowish brown channery silt loam
18 to 23 inches, brown channery silt loam with strong brown and grayish brown mottles

Lower Subsoil (fragipan): 23 to 40 inches, dense, firm brown gravelly silt loam with yellowish red and pinkish gray mottles
40 to 72 inches, dense firm brown gravelly silt loam with strong brown and pinkish gray mottles

Included with this soil in mapping are spots of better drained Lewbath soils on slightly higher or more sloping parts of the landscape. Small areas of Middlebrook soils occur where bedrock is shallower than 40 inches. Spots of wetter Ontusia soils are common in flatter areas. Stony or very stony or bouldery areas are also common inclusions. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Willdin soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.0 to 1.8 feet late fall to early spring
Permeability: moderate in surface and upper subsoil layers, slow or very slow in the lower subsoil (fragipan) layers
Average available water capacity: low
Soil reaction: very strongly acid to moderately acid in surface and very strongly to slightly acid in the subsoil layers
Surface runoff: slow
Depth to bedrock and dense layer: more than 60 inches deep to bedrock and 16 to 26 inches to the dense subsoil (fragipan)

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is well suited to farming but wetness, especially in the early spring, hinders farming operations. Erosion is a potential hazard on long slopes. The growing season is several weeks shorter than it is for valley areas. Early maturing crop varieties and crops tolerant of some wetness are best adapted to this soil. Drainage practices such as subsurface drains and diversions to keep water from higher areas off this soil will improve crop response and reduce the delay in farming operations.

This soil is well suited to pasture but forage crops tolerant of some wetness will be the most productive (fig. 14). Proper stocking rates and deferring grazing during wet periods will help prevent destruction of the sod cover and maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for growing sugar maple is moderate. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone is a limitation if this soil is used as a site for dwellings with basements. Installing foundation drains, sealing foundations, and constructing diversions so that water moves away from the building will help overcome the depth to the saturated zone limitation.

Depth to the saturated zone and depth to the fragipan limit this soil as a site for septic tank absorption fields. Special designs such as enlarging the absorption field and installing a drainage system around it will help overcome these limitations.

High potential frost action and depth to the saturated zone limits this soil as a site for roads and streets. Installing a drainage system and providing a coarse grained

Figure 14.—Many forage crops are well adapted to upland soils such as Willdin.

subgrade or base material to frost depth will help prevent frost damage and help overcome the limitation due to depth to the saturated zone.

Suitability for Recreation

Depth to the saturated zone and depth to the fragipan can limit this soil as a site for most recreational uses. Gravel content and slope are additional limitations for playgrounds.

The capability subclass is 2w.

WhC—Willdin channery silt loam, 8 to 15 percent slopes

This soil is strongly sloping, very deep, and moderately well drained. Areas of this soil occupy hillsides in higher uplands above 1,750 feet where the growing season is several weeks shorter than it is in larger valleys. Soil areas are elongated or irregular in shape and range from about 5 to 25 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 5 inches, dark brown channery silt loam

Subsoil: 5 to 18 inches, yellowish brown channery silt loam
18 to 23 inches, brown channery silt loam with strong brown and grayish brown mottles

Lower Subsoil (fragipan): 23 to 40 inches, dense, firm, brown gravelly silt loam with yellowish red and pinkish gray mottles
40 to 72 inches, dense firm brown gravelly silt loam with strong brown and pinkish gray mottles

Included with this soil in mapping are spots of better drained Lewbath soils on slightly higher or more sloping parts of the landscape. Small areas of Middlebrook soils occur in areas where the bedrock is shallower than 40 inches. Spots of wetter Ontusia soils are common in flatter areas. Stony or very stony or bouldery areas are also common inclusions. Included areas are as much as 5 acres each.

Soils that have limitations different from those of the Willdin soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.0 to 1.8 feet from late fall to early spring
Permeability: moderate in surface and upper subsoil layers, slow or very slow in the lower subsoil layers (fragipan)
Average available water capacity: low
Soil reaction: very strongly acid to moderately acid in surface and very strongly acid to slightly acid in the subsoil layers
Surface runoff: medium
Depth to bedrock and dense layer: more than 60 inches deep to bedrock and 16 to 26 inches to the dense subsoil

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is moderately suited to farming but wetness, especially in the early spring, hinders farming operations. Slope also interferes with some farming operations and erosion is a hazard, especially on long slopes. The growing season is several weeks shorter than it is for valley areas. Early maturing crop varieties and crops tolerant of some wetness are best adapted to this soil. Drainage practices such as subsurface drains and diversions to keep water from higher areas off this soil will improve crop response and reduce the delay in farming operations. No-till or minimum tillage, stripcropping and contour tillage, and the use of more sod crops in rotation will help control erosion and maintain productivity.

This soil is well suited to pasture but forage crops tolerant of some wetness will be the most productive. Applying proper stocking rates and deferring grazing during wet periods will help prevent destruction of the sod cover, reduce the erosion hazard, and maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for growing sugar maple is moderate. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone and slope are limitations if this soil is used as a site for dwellings with basements. Installing foundation drains, sealing foundations, and constructing diversions so that water moves away from the building will help overcome the depth to the saturated zone limitation. Designing the structure to conform to the natural slope and landshaping or grading will help overcome the limitation of slope.

Depth to the saturated zone and depth to the fragipan are the main limitations if this soil is used as a site for septic tank absorption fields. Special designs such as enlarging the absorption field and installing a drainage system around it will help overcome these limitations.

High potential frost action, depth to the saturated zone, and slope limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse-grained subgrade or base material to frost depth will help prevent frost damage and help to overcome the limitation due to depth to the saturated zone. Constructing roads on the contour and landshaping or grading are methods that can help overcome slope limitations.

Suitability for Recreation

Depth to the saturated zone, depth to the fragipan, slope, and gravel content can limit this soil as a site for most recreational uses.

The capability subclass is 3e.

WhD—Willdin channery silt loam, 15 to 25 percent slopes

This soil is moderately steep, very deep, and moderately well drained. Areas of this soil occupy hillsides in higher uplands above 1,70 feet where the growing season is several weeks shorter than it is in larger valleys. Soil areas are elongated or irregular in shape and range from about 5 to 15 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: surface to 5 inches, dark brown channery silt loam

Subsoil: 5 to 18 inches, yellowish brown channery silt loam strong brown and grayish brown mottles

Lower Subsoil (fragipan): 23 to 40 inches, dense, firm brown gravelly silt loam with yellowish red and pinkish gray mottles

40 to 72 inches, dense firm brown gravelly silt loam with strong brown and pinkish gray mottles

Included with this soil in mapping are spots of better drained Lewbath soils on slightly higher or more sloping parts of the landscape. Small spots of Middlebrook soils occur on strongly sloping areas where bedrock is moderately deep. A few spots of wetter Ontusia soils occur in flatter areas. Stony or very stony or bouldery areas are also common inclusions. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Willdin soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.0 to 1.8 feet from late fall to early spring
Permeability: moderate in surface and upper subsoil layers, slow or very slow in the lower subsoil layers (fragipan)
Average available water capacity: low
Soil reaction: very strongly acid to moderately acid in surface and very strongly to slightly acid in the subsoil layers
Surface runoff: rapid
Depth to bedrock and dense layer: more than 60 inches deep to bedrock and 16 to 26 inches to the dense subsoil

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is poorly suited to farming. Slope and the hazard of erosion limit intensive cultivation. Wetness, especially in the early spring, also hinders farming operations. The growing season is several weeks shorter than it is for valley areas. Early maturing crop varieties and crops tolerant of some wetness are best adapted to this soil. Drainage practices such as subsurface drains and diversions to keep water from higher areas off this soil will improve crop response and reduce the delay in farming operations. No-till or minimal tillage and the use of mostly sod crops in rotation help control erosion and prevent loss of topsoil and fertility.

This soil is moderately suited to pasture but forage crops tolerant of some wetness will be the most productive. Proper stocking rates and deferring grazing during wet periods will help prevent destruction of the sod, reduce the hazard of erosion, and maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for growing sugar maple is moderate. Slope limits the use of equipment on this soil. Laying out access roads on the contour will reduce the hazard of erosion.

Suitability for Building Sites

Depth to the saturated zone and slope are limitations if this soil is used as a site for dwellings with basements. Installing foundation drains, sealing foundations, and constructing diversions so that water moves away from the building will help overcome the depth to the saturated zone limitation. Designing the structure to conform to the natural slope and landshaping help overcome the limitation of slope for dwellings.

Depth to the saturated zone, slope, and depth to the fragipan limit this soil as a site for septic tank absorption fields. Special designs such as enlarging the absorption field and installing a drainage system around it will help overcome the limitations of depth to the saturated zone and depth to the fragipan. Landshaping, installing tile lines on the contour, or constructing the field on a flatter included area can help overcome the limitation of slope.

Slope, high potential frost action, and depth to the saturated zone limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse-grained subgrade or base material to frost depth will help prevent frost damage and overcome the depth to the saturated zone limitation. Adapting designs to the slope, constructing roads on the contour, and landshaping and grading can overcome the limitation of slope.

Suitability for Recreation

Depth to the saturated zone, depth to the fragipan, slope and gravel content can limit this soil as a site for most recreational uses.

The capability subclass is 4e.

WmA—Willowemoc channery silt loam, 0 to 3 percent slopes

This soil is nearly level, very deep, and moderately well drained. Areas of this soil occupy small till plains in higher parts of the uplands above 1,750 feet where the growing season is several weeks shorter than it is in larger valleys. Soil areas are oval or irregular in shape and range from about 5 to 10 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: 0 to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 18 inches, reddish brown channery silt loam

18 to 22 inches, reddish brown channery loam with pinkish gray, light reddish brown and yellowish red mottles

22 to 72 inches (fragipan), dense reddish brown channery loam with light reddish brown and yellowish red mottles

Included with this soil in mapping are spots of better drained Lewbeach soils on slightly higher or gently sloping parts of the landscape. Spots of wetter Onteora soils are common in slight depressions. In northern and western parts of the county browner Willdin soils are included. Stony or very stony spots are also common inclusions. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Willowemoc soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.0 to 1.8 feet from late fall to early spring

Permeability: moderate in surface and upper subsoil layers, slow or very slow in the lower subsoil layer (fragipan)

Average available water capacity: low

Soil reaction: extremely acid to strongly acid in surface and subsoil layers

Surface runoff: very slow

Depth to bedrock and dense layer: more than 60 inches deep to bedrock and 17 to 26 inches to the dense subsoil (fragipan)

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is well suited to farming but wetness, especially in the early spring, hinders farming operations. The growing season is several weeks shorter than it is for valley areas. Early maturing crop varieties and crops tolerant of some wetness are best adapted to this soil. Drainage practices such as subsurface drains and diversions to keep water from higher areas off this soil will improve crop response and reduce the delay in farming operations.

This soil is well suited to pasture but forage crops tolerant of some wetness will be the most productive. Applying proper stocking rates and deferring grazing during wet periods will help prevent destruction of the sod and maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for growing sugar maple is moderate. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone is a limitation if this soil is used as a site for dwellings with basements. Installing foundation drains, sealing foundations, and constructing diversions so that water moves away from the building will help overcome the depth to the saturated zone limitation.

Depth to the saturated zone and depth to the fragipan limit this soil as a site for septic tank absorption fields. Special designs such as enlarging the absorption field and installing a drainage system around it will help overcome these limitations.

High potential frost action and depth to the saturated zone limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse-grained subgrade or base material to frost depth will help prevent frost damage and overcome the limitation due to depth to the saturated zone.

Suitability for Recreation

Depth to the saturated zone, gravel content and depth to the fragipan can limit this soil as a site for most recreational uses.

The capability subclass is 2w.

WmB—Willowemoc channery silt loam, 3 to 8 percent slopes

This soil is gently sloping, very deep, and moderately well drained. Areas of this soil occupy the lower parts of hillsides in higher parts of the uplands above 1,750 feet where the growing season is several weeks shorter than it is in larger valleys. Soil areas are oval or irregular in shape and range from about 5 to 20 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: 0 to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 18 inches, reddish brown channery silt loam
18 to 22 inches, reddish brown channery loam with pinkish gray, light reddish brown and yellowish red mottles
22 to 72 inches (fragipan), dense, reddish brown channery loam with light reddish brown and yellowish red mottles

Included with this soil in mapping are spots of better drained Lewbeach soils on slightly higher or strongly sloping parts of the landscape. Spots of wetter Onteora soils are common in nearly level areas of slight depressions. In northern and western parts of the county browner Willdin soils are included. Stony or very stony spots are also common inclusions. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Willowemoc soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.0 to 1.8 feet from late fall to early spring
Permeability: moderate in surface and upper subsoil layers, slow or very slow in the lower subsoil layer (fragipan)
Average available water capacity: low
Soil reaction: extremely acid to strongly acid in surface and subsoil layers
Surface runoff: slow
Depth to bedrock and dense layer: more than 60 inches deep to bedrock and 17 to 26 inches to the dense subsoil (fragipan)

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is well suited to farming but wetness, especially in the early spring, hinders farming operations. Erosion is a potential hazard on longer slopes. The growing season is several weeks shorter than it is for valley areas. Early maturing crop varieties and crops tolerant of some wetness are best adapted to this soil. Drainage practices such as subsurface drains and diversions to keep water from higher areas off this soil will improve crop response and reduce the delay in farming operations.

This soil is well suited to pasture but forage crops tolerant of some wetness will be the most productive. Applying proper stocking rates and deferring grazing during wet periods will help prevent destruction of the sod and maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for growing sugar maple is moderate. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone is a limitation if this soil is used as a site for dwellings with basements. Installing foundation drains, sealing foundations, and constructing diversions so that water moves away from the building will help overcome the depth to the saturated zone limitation.

Depth to the saturated zone and depth to the fragipan limit this soil as a site for septic tank absorption fields. Special designs such as enlarging the absorption field and installing a drainage system around it will help overcome these limitations.

High potential frost action and depth to the saturated zone limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse grained subgrade or base material to frost depth will help prevent frost damage and overcome the limitation due to depth to the saturated zone.

Suitability for Recreation

Depth to the saturated zone, depth to the fragipan, and gravel content can limit this soil as a site for most recreational uses. Slope is an additional limitation of this soil for playgrounds.

The capability subclass is 2w.

WmC—Willowemoc channery silt loam, 8 to 15 percent slopes

This soil is strongly sloping, very deep, and moderately well drained. Areas of this soil occupy hillsides in higher parts of the uplands above 1,750 feet where the growing season is several weeks shorter than it is in larger valleys. Soil areas are oval or irregular in shape and range from about 5 to 30 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: 0 to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 18 inches, reddish brown channery silt loam
18 to 22 inches, reddish brown channery loam with pinkish gray, light reddish brown and yellowish red mottles
22 to 72 inches (fragipan), dense, reddish brown channery loam with light reddish brown and yellowish red mottles

Included with this soil in mapping are spots of better drained Lewbeach soils on slightly higher or moderately steep parts of the landscape. Spots of wetter Onteora soils are common in gently sloping areas. In northern and western parts of the county browner Willdin soils are included. Bouldery or very stony spots are also common inclusions. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Willowemoc soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.0 to 1.8 feet from late fall to early spring
Permeability: moderate in surface and upper subsoil layers, slow or very slow in the lower subsoil layer (fragipan)
Average available water capacity: low
Soil reaction: extremely acid to strongly acid in the surface and subsoil layers
Surface runoff: medium
Depth to bedrock and dense layer: more than 60 inches deep to bedrock and 17 to 26 inches to the dense subsoil (fragipan)

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is moderately suited to farming but slope and the hazard of erosion limit intensive cultivation. Wetness, especially in the early spring, also hinders farming operations. The growing season is several weeks shorter than it is for valley areas. Early maturing crop varieties and crops tolerant of some wetness are best adapted to this soil. Drainage practices such as subsurface drains and diversions to keep water from higher areas off this soil will improve crop response and reduce the delay in farming operations. No-till or minimal tillage, stripcropping and contour tillage, and the use of more sod crops in rotation help control erosion and prevent loss of topsoil and fertility.

This soil is well suited to pasture but forage crops tolerant of some wetness will be the most productive. Applying proper stocking rates and deferring grazing during wet periods will help prevent destruction of the sod, reduce the hazard of erosion, and maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for sugar maple is moderate. There are few or no limitations in using this soil for wood production.

Suitability for Building Sites

Depth to the saturated zone and slope are limitations if this soil is used as a site for dwellings with basements. Installing foundation drains, sealing foundations, and constructing diversions so that water moves away from the building will help overcome the depth to the saturated zone limitation. Designing structure to conform to the natural slope and landshaping help overcome the limitation of slope.

Depth to the saturated zone, slope, and depth to the fragipan limit this soil as a site for septic tank absorption fields. Special designs such as enlarging the absorption field and installing a drainage system around it will help overcome the limitations of depth to the saturated zone and depth to the fragipan. Landshaping, installing tile lines on the contour, or constructing the field on a flatter included area can help overcome the limitation of slope.

Slope, high potential frost action, and depth to the saturated zone limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse grained subgrade or base material to frost depth will help prevent frost damage and overcome the depth to the saturated zone limitation. Adapting designs to the slope, constructing roads on the contour, and landshaping and grading can overcome the limitation of slope.

Suitability for Recreation

Depth to the saturated zone, depth to the fragipan, slope, and gravel content can limit this soil as a site for most recreational uses.

The capability subclass is 3e.

WmD—Willowemoc channery silt loam, 15 to 25 percent slopes

This soil is moderately steep, very deep, and moderately well drained. Areas of this soil occupy hillsides in higher parts of the uplands above 1,750 feet where the growing season is several weeks shorter than it is in larger valleys. Soil areas are oval or irregular in shape and range from about 5 to 20 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer: 0 to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 18 inches, reddish brown channery silt loam
18 to 22 inches, reddish brown channery loam with pinkish gray, light reddish brown and yellowish red mottles
22 to 72 inches (fragipan), dense, reddish brown channery loam with light reddish brown and yellowish red mottles

Included with this soil in mapping are spots of better drained Lewbeach soils on slightly higher or steep parts of the landscape. Spots of wetter Onteora soils occur in strongly sloping areas. In northern and western parts of the county browner Willdin soils are included. Bouldery or very stony spots are also common inclusions. Included areas are as much as 5 acres each. Soils that have limitations different from those of the Willowemoc soil make up about 20 percent of the map unit.

Soil Properties

Water table: perched at 1.0 to 1.8 feet from late fall to early spring
Permeability: moderate in surface and upper subsoil layers, slow or very slow in the lower subsoil layer (fragipan)
Average available water capacity: low
Soil reaction: extremely acid to strongly acid in surface and subsoil layers
Surface runoff: rapid
Depth to bedrock and dense layer: more than 60 inches deep to bedrock and 17 to 26 inches to the dense subsoil (fragipan)

Soil Use and Management

Some areas of this soil are cleared and used for farming. Other areas are forested or have a cover of brush or other native plants.

Suitability for Farming

This soil is poorly suited to farming. Slope and the hazard of erosion limit intensive cultivation. Wetness, especially in the early spring, also hinders farming operations. The growing season is several weeks shorter than it is for valley areas. Early maturing crop varieties and crops tolerant of some wetness are best adapted to this soil. Drainage practices such as subsurface drains and diversions to keep water from higher areas off this soil will improve crop response and reduce the delay in farming operations. No-till or minimal tillage, stripcropping and contour tillage, and the use of mostly sod crops in rotation help control erosion and prevent loss of topsoil and fertility.

This soil is moderately suited to pasture but forage crops tolerant of some wetness will be the most productive. Applying proper stocking rates and deferring grazing during wet periods will help prevent destruction of the sod, reduce the hazard of erosion and maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity of this soil for growing sugar maple is moderate. Slope limits the use of equipment on this soil. Laying out access roads on the contour will reduce the hazard of erosion.

Suitability for Building Sites

Depth to the saturated zone and slope are limitations if this soil is used as a site for dwellings with basements. Installing foundation drains, sealing foundations, and constructing diversions so that water moves away from the building will help overcome the depth to the saturated zone limitation. Designing structures to conform to the natural slope and landshaping help overcome the limitation of slope for dwelling.

Depth to the saturated zone, slope, and depth to the fragipan limit this soil as a site for septic tank absorption fields. Special designs such as enlarging the absorption field and installing a drainage system around it will help overcome the limitations of depth to the saturated zone and depth to the fragipan. Landshaping, installing tile lines on the contour, or constructing the field on a flatter included area can help overcome the limitation of slope.

Slope, the high potential frost action, and depth to the saturated zone limit this soil as a site for roads and streets. Installing a drainage system and providing a coarse-grained subgrade or base material to frost depth will help prevent frost damage and overcome the limitation due to depth to the saturated zone. Adapting designs to the slope, constructing roads on the contour and landshaping and grading can overcome the limitation of slope.

Suitability for Recreation

Depth to the saturated zone, depth to the fragipan, slope and gravel content can limit this soil as a site for most recreational uses.

The capability subclass is 4e.

WnC—Willowemoc and Willdin soils, 2 to 15 percent slopes, very stony

This unit consists of Willowemoc soils or Willdin soils or both soils in varying proportion. These soils are gently sloping to strongly sloping, very deep, and moderately well drained. The unit is on the lower parts of hillsides in uplands above 1,750 feet elevation. Large stones cover 0.1 to 3.0 percent of the surface and are about 3 to 25 feet apart. The total acreage of this unit is about 50 percent Willowemoc soils, 30 percent Willdin soils, and 20 percent inclusions of other soils. These soils were mapped together because there are few or no differences in use and management between them. Individual areas are irregular in shape and range from about 5 to 50 acres in size.

The typical sequence, depth, and composition of the layers of the Willowemoc soil are as follows—

Surface layer: surface to 6 inches, dark reddish brown channery silt loam

Subsoil: 6 to 18 inches, reddish brown channery silt loam
18 to 22 inches, reddish brown channery loam with pinkish gray, light reddish brown and yellowish red mottles
22 to 72 inches (fragipan), dense, reddish brown channery loam with light reddish brown and yellowish red mottles

The typical sequence, depth, and composition of the layers of the Willdin soil are—

Surface layer: surface to 5 inches, dark brown channery silt loam

Subsoil: 5 to 18 inches, yellowish brown channery silt loam
18 to 23 inches, brown channery silt loam with strong brown and grayish brown mottles

Lower Subsoil (fragipan): 23 to 40 inches, dense, firm, brown gravelly silt loam with yellowish red and pinkish gray mottles
40 to 72 inches, dense, firm, gravelly silt loam with strong brown and pinkish gray mottles

Included with this unit in mapping are spots of better drained Lewbeach or Lewbath soils on slightly higher or more sloping parts of the landscape. Spots of wetter Onteora or Ontusia soils are common in slight depressions or along drainageways. Soils that are not stony or that are bouldery or very bouldery are also common inclusions. Included areas are up to 5 acres in size. Soils that have limitations different from the Willowemoc or Willdin soils make up about 20 percent of the unit.

Soil Properties

Water table: perched at 1.0 to 1.8 feet from late fall to early spring for both soils
Permeability: moderate in surface and upper subsoil layers and slow or very slow in the lower subsoil (fragipan) and substratum for both soils
Average available water capacity: low for both soils
Soil reaction: extremely acid to strongly acid in surface and subsoil layers for the Willowemoc soil and very strongly acid to moderately acid in the same layers of the Willdin soil
Surface runoff: medium for both soils
Depth to bedrock and dense layer: more than 60 inches deep to bedrock and 16 to 26 inches to the dense subsoil (fragipan) for both soils

Soil Use and Management

Most areas of this unit are wooded or have a cover of brush or other native vegetation. A few areas are cleared and used for pasture.

Suitability for Farming

Soils of this unit are generally unsuited to cultivated crops or hay. Large surface stones limit the operation of most farm equipment.

This unit is poorly suited to pasture. Large stones on the surface make pasture maintenance difficult. Forage plants tolerant of some depth to the saturated zone are best adapted to the soils of this unit. The growing season is several weeks shorter than it is in valley areas. Proper stocking rates and deferring grazing during wet periods will help prevent destruction of the sod cover and maintain a higher quantity and quality of forage.

Suitability for Trees

The potential productivity of the Willowemoc and Willdin soils for growing sugar maple is moderate. There are few or no limitations to using the soils of this unit for wood production.

Suitability for Building Sites

Depth to the saturated zone and slope are limitations if this unit is used as a site for dwellings with basements. Installing foundation drains, sealing foundations, and constructing diversions so that water moves away from the building will help overcome the depth to the saturated zone limitation. Designing the structure to conform to the natural slope and landshaping or grading will help overcome the limitation of slope.

Depth to the saturated zone and depth to the fragipan are the main limitations of this unit is used as a site for septic tank absorption fields. Special designs such as enlarging the absorption field and installing a drainage system around it will help overcome these limitations.

High potential frost action, depth to the saturated zone, and slope limit the soils of this unit as a site for roads and streets. Installing a drainage system and providing a coarse-grained subgrade or base material to frost depth will help prevent frost damage and overcome the limitation due to depth to the saturated zone. Constructing roads on the contour and landshaping or grading are methods which can help overcome the slope limitations.

Suitability for Recreation

Depth to the saturated zone, depth to the fragipan, slope, and gravel content can limit this unit as a site for most recreational uses. Large stones on the soil surface can also a limit the soils of this unit for some recreational uses.

The capability subclass is 6s.

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in table 5. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units."

About 52,500 acres in the survey area, just over 5 percent of the land area of the county, meets the requirements for prime farmland. While small spots of prime farmland are scattered throughout most of the survey area, the most extensive acreage is concentrated in valleys, especially along the Susquehanna River and West Branch of the Delaware River. Other valleys with sizeable areas of prime farmland include the East Branch of the Delaware River, the Ouleaout Creek, and the Charlotte Creek. Crops grown on this prime farmland are mostly corn and hay in upland areas, and corn, hay, and some vegetable crops in valleys.

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

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

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

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

Interpretive Ratings

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

Rating Class Terms

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

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland is described.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading “Detailed Soil Map Units.” Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Land in farms totaled 192,116 acres in Delaware County in 1992. Cropland acres totaled 96,680, according to the 1992 Census of Agriculture.

The potential for increased crop production is good in most valley areas such as the Susquehanna and Delaware Rivers, as well as along the Charlotte Creek valley. Some upland soils, mostly in the central, northern, and western parts of the survey area, also have potential for increased crop production.

Soil erosion due to rainfall and runoff is a major concern on about 392,000 acres in the county. The hazard of erosion is related to the length and steepness of slope, the erodibility of the soil, the amount and intensity of rainfall, and the kind and amount of plant cover. Accelerated erosion reduces soil fertility by removing organic matter and finer soil particles from surface layers where nutrients are concentrated. Soil tilth is adversely affected along with water holding capacity. The decrease in water holding capacity is most critical on droughty soils like Chenango or Tunkhannock. Erosion tends to increase runoff, causing harmful sedimentation and impairing water quality. Gullies may form that can interfere with farming operations. Soils that have a root restricting layer, such as Lackawanna, Wellsboro, or Willowemoc soils, are especially susceptible to damage from erosion. Silty soils with few or no rock fragments, like Collamer or Unadilla, are the most easily eroded.

Controlling erosion will reduce runoff, increase infiltration, and help maintain soil tilth and fertility. Many tillage and conservation practices can be used to help prevent erosion.

Minimum tillage, no-till, cover cropping, leaving crop residues on the surface, and using a cropping system with a high proportion of sod crops are practices effective in controlling erosion, especially on soils with short or complex slopes, like Tunkhannock, Maplecrest, or Valois.

Contour tillage, strip cropping, and installing terraces or diversions are other erosion control practices that are especially effective and useful on soils with long uniform slopes like Lackawanna, Mardin, or Willowemoc.

Soils with slopes greater than 3 percent generally need conservation practices to control erosion if the soil is cultivated or otherwise disturbed.

The effectiveness of particular combinations of conservation practices varies with different soils. Different combinations can be equally effective on the same soils. A local representative of the Natural Resources Conservation Service can assist in planning an effective combination of conservation practices to help control erosion.

Seasonal wetness is a management concern on about 79,000 acres of potential cropland in the survey area. A seasonal high water table delays planting, slows seed germination and seedling growth, and may interfere with harvesting operations. The choice of crops to plant may be limited.

Some well drained and moderately well drained soils, such as Lewbeach and Wellsboro, include small areas of wetter soils. Random subsurface drains in these wet spots allow more uniform management of fields. Drainage of some moderately well drained and somewhat poorly drained soils, such as Willowemoc and Onteora, can best be improved with diversions or interceptor drains that divert surface runoff coming from higher areas.

Nearly level, poorly drained and very poorly drained soils, such as Norchip and Raypol, have prolonged seasonal wetness and, without drainage, are unsuited to common crops or improved pasture. Draining these areas is often difficult or impractical since these soils occupy the lowest positions in the landscape. Moreover, most poorly drained and very poorly drained soils are hydric soils and have the hydrology and vegetation that qualify them as wetlands, protected by law.

Surface stones, boulders, and rock outcrops limit the use of soils for cropland or hayland in many parts of the county. Elka-Vly silt loams, very stony, and Oquaga, Lordstown, and Arnot soils, very rocky, are two map units that have limitations because of rock fragments or outcrops. About 471,000 acres of land in the county are very stony, very bouldery, or very rocky. Surface rock fragments and rock outcrops limit the use of equipment, especially tillage implements. Pasture management practices, such as fertilizing, mowing, or reseeding, are also limited.

On soils where other conditions are favorable to crop production, it may be feasible to remove surface stones or boulders. Overcoming limitations on very rocky soils is generally not practical.

A low available water holding capacity is another management concern. Soils that have sandy or very gravelly textures have low water holding capacities and tend to be droughty. Soils that are shallow, like Halcott, or that have a root restricting layer, like Volusia, may also be droughty due to a low water holding capacity.

Increasing the organic matter content and improving soil structure will help to increase the water holding capacity of the soil. Using more green manure crops, cover crops, and additions of animal manure improves organic matter content and soil structure.

Soil tilth is the physical condition of the soil that is related to ease of tillage, seedbed preparation, seedling emergence, and root penetration. A soil with good tilth will be porous with a granular structure.

Soil tilth is adversely affected by excessive cultivation, especially when the soil is wet. Silty soils like Collamer and Unadilla are most susceptible to damage and loss of tilth if they are cultivated when wet. Coarser textured, well drained soils like Riverhead or Tunkhannock can be cultivated more intensively with little or no adverse affect on tilth.

Practices that help maintain good tilth include using sod crops, green manure and cover crops, returning crop residues to the soil, and tilling at the proper moisture levels.

Soil fertility is another important consideration in crop production. Applications of both lime and fertilizer are needed on all soils in the county for optimum crop yields. The amount of lime and fertilizer needed will depend on the natural or existing levels of soil pH and fertility, the type of crops that will be grown, and the desired yields.

Nitrogen is an especially critical plant nutrient and must be added to soils to ensure favorable yields of most crops. Increasing the organic matter content can increase the amount of nitrogen that is present in the soil. Using green manure crops and cover crops, and returning crop residues to the soil will help maintain or increase the organic matter content.

Soils at higher elevations that are also wooded, like Halcott, have surface layers that are quite high in organic matter. Somewhat poorly drained soils, like Volusia, or poorly drained soils, like Norchip, also tend to have surface layers fairly high in organic matter. Organic matter contents of soils in the county range from about 4 to 10 percent or more, depending on elevation, cover, and drainage class.

While nitrogen is released from organic matter, much of it is in complex forms not immediately available to plants. Timely additions of nitrogen fertilizer are needed for optimum crop growth and maximum yields.

The amount of phosphorus in Delaware County soils is generally low. In coarse textured soils like Tunkhannock or Chenango, it is very low. Additions of phosphate fertilizers are essential for optimum yields of most crops. In areas of livestock operations, however, soil phosphorus levels may become quite high. Consideration must be given to disposal of animal wastes in an environmentally and agronomically acceptable manner to avoid excessive soil phosphorus.

The potassium supplying capability of soils in the survey area is low to medium. Collamer soils, with a more clayey subsoil, have higher amounts of potassium available. Potassium fertilizers need to be added to most soils for optimum yields.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 6. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

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

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

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

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 table 6 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.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit.

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

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

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

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

The capability classification of map units in this survey area is given in the section “Detailed Soil Map Units” and in the yields table.

Forest Productivity and Management

The tables in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forest management.

Forest Productivity

In table 7, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Forest Management

In tables 8, 9, and 10, interpretive ratings are given for various aspects of forest management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified forest management practice. *Well suited* indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified practice. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified practice or that extreme measures are needed to overcome the undesirable soil properties.

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

The paragraphs that follow indicate the soil properties considered in rating the soils for forest management practices. More detailed information about the criteria used in the ratings is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or on the Internet (http://nsscnt.nssc.nrcs.usda.gov/nfm/).

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance; and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Recreation

The soils of the survey area are rated in tables 11 and 12 according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in tables 11 and 12 can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Wildlife Habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 13, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

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

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

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are fescue, lovegrass, bromegrass, clover, and alfalfa.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, wheatgrass, and grama.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, sweetgum, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are Russian-olive, autumn-olive, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, spruce, fir, cedar, and juniper.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, wildrice, saltgrass, cordgrass, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include bobwhite quail, pheasant, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, deer, and bear.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading “Soil Properties.”

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite *investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.*

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

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

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

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 14 and 15 show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Tables 16 and 17 show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through perforated pipe or similar devices. Only that part of the soil between depths of 12 and 48 inches is evaluated. In addition, the bottom layer of soil is evaluated for risk of seepage. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a fragipan, and flooding affect absorption of the effluent. Stones and boulders, and bedrock or a fragipan interfere with installation. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Table 18 gives information about the soils as potential sources of gravel and sand.

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 18, 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 *probable* or *improbable* as sources of sand and gravel. A rating of *probable* indicates the probability of finding the material in suitable quantity 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 to 0.004 indicates that the layer is an improbable source. These will show on the table as 0.00 since the table only shows values to the hundredth decimal place. A number between 0.005 and 1.00 indicates that the layer is a probable source. A number between 0.005 and 1.00 indicates the relative degree to which the layer is a likely source.

Water Management

Table 19 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 tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in the tables . They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 20 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical Properties

Table 21 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 21, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^{1}/_{3}$- or $^{1}/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (K_{sat}) refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 21, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in table 21 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.

Chemical Properties

Table 22 shows estimates of soil reaction. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Soil Features

Table 23 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Water Features

Table 24 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. Table 24 indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 24 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1998 and 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 26 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 Inceptisol.

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 Udept (*Ud*, meaning humid, plus *ept*, from inceptisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Fragiudepts (*Fragi*, meaning fragipan, plus *udept*, the suborder of the inceptisols that has a udic moisture regime).

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

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 coarse-loamy, mixed, active, mesic Typic Fragiudepts.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff, 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff, 1998). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

Aquents

Aquents consist of very deep, very poorly drained soils in flat areas or depressions in uplands or lowlands. They formed in ice or water deposited sand, silt, and clay. Aquents are geographically associated with Saprists, Bucksport, Carlisle, Wonsqueak, Palms, and Norchip soils. Aquents are mineral soils while the Saprists, Bucksport, Carlisle, Wonsqueak and Palms soils formed in organic materials. Aquents do not have the firm subsoil or horizon development that Norchip soils have. Slopes are 0 to 1 percent.

A typical pedon of Aquents is not provided because they are so variable. Aquents may have mineral layers that are high in organic matter content. Depth to bedrock is more than 60 inches. Rock fragment content, by volume, ranges from 0 to 30 percent.

The surface layer is neutral or has hue of 5YR to 2.5Y, value of 2 or 3, and chroma of 0 to 2. The material is sapric or may have texture in the fine earth fraction ranging from sand to silty clay. Reaction ranges from strongly acid to neutral.

The substratum is neutral or has hue of 5YR to 2.5Y, value of 3 to 5 and chroma of 1 or 2. Texture of the fine earth fraction ranges from sand to silty clay. Reaction ranges from strongly acid to neutral.

Arnot Series

The Arnot series consists of shallow, well drained soils on bedrock-controlled uplands. These soils formed in a thin layer of glacial till over sandstone, siltstone, or shale bedrock. Slope ranges from 2 to 70 percent.

Arnot soils are geographically associated with the moderately deep Lordstown and Oquaga soils and also associated with the shallow, somewhat poorly drained or poorly drained Torull and Gretor soils.

Typical pedon of Arnot channery loam, from an area of Oquaga, Lordstown, and Arnot soils, 2 to 15 percent slopes, very rocky, in the Town of Deposit, Delaware County, NY; 200 yards west-southwest of the intersection of Columbia Lake and McCabe Hollow Roads, elevation 1,640 feet, lat. 42 degrees 03 minutes 26 seconds N. and long. 75 degrees 23 minutes 49 seconds W.; in Deposit, NY 7.5 minute Quad, NAD 1927:

A—0 to 2 inches; black (N 2/0) channery loam, dark gray (7.5YR 4/1) dry; moderate fine granular structure; very friable; many fine and medium roots; 20 percent rock fragments; very strongly acid; abrupt smooth boundary.

Bw1—2 to 8 inches; yellowish brown (10YR 5/6) channery silt loam, moderate fine and medium subangular blocky structure; friable; common fine and medium, few coarse roots; 35 percent rock fragments; very strongly acid; gradual wavy boundary.

Bw2—8 to 17 inches; yellowish brown (10YR 5/6) very channery silt loam; weak medium subangular blocky structure; friable; common fine and medium, few coarse roots; 40 percent rock fragments; strongly acid; abrupt smooth boundary.

2R—17 inches; dark gray (7.5YR 4/1) sandstone bedrock.

The thickness of the solum and depth to bedrock range from 10 to 20 inches. Rock fragment content ranges from 20 to 70 percent by volume in the A and B horizons.

The A horizon has hue of 5YR to 2.5Y, or is neutral, value of 2 to 4 and chroma of 0 to 3. Texture of the fine earth fraction is loam or silt loam. Reaction is extremely acid to moderately acid.

The B horizon has hue of 2.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6. Texture of the fine earth fraction is loam or silt loam. Reaction is extremely acid to moderately acid.

Barbour Series

The Barbour series consists of very deep, well drained soils on flood plains and low terraces. These soils formed in recent alluvial materials over-lying sand and gravel. Slopes range from 0 to 3 percent. Barbour soils are geographically associated with the moderately well drained Basher soils, the poorly drained Raypol soils, and poorly drained to very poorly drained Fluvaquents soils. The well drained to somewhat excessively drained Tunkhannock soils are on adjacent terraces.

Typical pedon of Barbour loam, 0 to 3 percent slopes, in the Town of Walton, 3/4 mile north-northeast of Beerston between the West Branch of the Delaware River and the abandoned NY O & W Railroad, elevation 1,173 feet, lat. 42 degrees 08 minutes 12 seconds N. and long. 75 degrees 09 minutes 30 seconds W.; in Walton West, NY 7.5 minute Quad, NAD 1927:

Ap—0 to 6 inches; dark reddish brown (5YR 3/2) loam, pinkish gray (5YR 5/2) dry; weak fine granular structure; very friable; many roots; strongly acid; abrupt smooth boundary.

Bw1—6 to 18 inches; reddish brown (5YR 4/3) silt loam; weak coarse prismatic parting to weak medium, fine, and very fine subangular blocky structure; friable; common roots; common fine pores; ped faces are dark reddish brown (5YR 3/3); strongly acid; clear wavy boundary.

Bw2—18 to 26 inches; reddish brown (5YR 4/3) gravelly loam; very weak fine subangular blocky structure; friable; common roots; few fine pores; 20 percent gravel; strongly acid; clear wavy boundary.

2C—26 to 72 inches; reddish brown (5YR 4/4) very gravelly loamy sand; single grain; loose; 50 percent rock fragments; strongly acid.

The thickness of the solum ranges from 18 to 40 inches. Depth to bedrock is more than 60 inches. Rock fragment content ranges from 0 to 35 percent in horizons above the 2C and from 0 to 60 percent in the substratum.

The Ap horizon has hue of 2.5YR to 7.5YR, value of 3 or 4, and chroma of 2 to 4. Dry colors have value of 5 or 6 and chroma of 2 or 3. Texture of the fine earth fraction ranges from fine sandy loam to silt loam. Reaction ranges from very strongly acid to moderately acid.

The Bw horizon has hue of 2.5YR to 7.5YR, value of 3 to 5, and chroma of 3 to 6. Texture of the fine earth fraction ranges from fine sandy loam to silt loam. Reaction ranges from very strongly acid to moderately acid.

The 2C horizon has hue of 2.5YR to 7.5YR, value of 3 or 4, and chroma of 2 to 4. Texture of the fine earth fraction ranges from sand to loamy fine sand. Reaction ranges from very strongly acid to slightly acid.

Basher Series

The Basher series consists of very deep, moderately well drained soils on floodplains. These soils formed in recent alluvial material derived from sandstone and shale. Slopes range from 0 to 3 percent.

Basher soils are geographically associated with the well drained Barbour and Trestle soils, the moderately well drained Deposit soils, poorly drained Raypol soils, and the poorly drained to very poorly drained Fluvaquents soils. Basher soils are less gravelly than Deposit soils. Basher soils are also associated with the somewhat excessively drained, very gravelly Tunkhannock soils that are along valley sides.

Typical pedon of Basher silt loam, located in the town of Walton along River Road, about .75 miles east of its' intersection with NY 206, elevation 1,220 feet, lat. 42 degrees 09 minutes 11 seconds N. and long. 75 degrees 06 minutes 17 seconds W.; Walton East, NY 7.5 minute Quad, NAD 1927:

Ap—0 to 8 inches, dark reddish brown (5YR 3/3) silt loam, light reddish brown (5YR 6/3) dry; moderate fine and medium granular structure; friable; many fine roots; moderately acid; abrupt smooth boundary.

Bw1—8 to 13 inches, reddish brown (5YR 4/3) silt loam; weak medium subangular blocky structure; friable; common roots; strongly acid; clear smooth boundary.

Bw2—13 to 23 inches, reddish brown (5YR 4/3) silt loam; common medium distinct reddish gray (5YR 5/2) iron depletions and faint reddish brown (5YR 4/4) iron concentrations; weak coarse subangular blocky structure; friable; strongly acid; clear smooth boundary.

C1—23 to 35 inches, dark brown (7.5YR 3/2) silt loam; few faint fine brown (7.5YR 5/4) iron concentrations; massive; friable; moderately acid; clear smooth boundary.

C2—35 to 72 inches, dark gray (5YR 4/1) loam, with thin strata of fine sandy loam; massive; friable; moderately acid.

The thickness of the solum ranges from 16 to 40 inches. Depth to bedrock is more than 60 inches. Rock fragments range from 0 to 20 percent above a depth of 40 inches and 0 to 60 percent, by volume, below 40 inches.

The Ap horizon has hue of 2.5YR to 7.5YR, value of 3 or 4, and chroma of 2 to 4. Dry colors have value of 5 or 6 and chroma of 2 to 4. Texture of the fine earth fraction ranges from sandy loam to silt loam. Reaction ranges from extremely acid to moderately acid.

The Bw horizons have hue of 2.5YR or 5YR, value of 3 to 5, and chroma of 3 to 6. Texture of the fine earth fraction ranges from sandy loam to silt loam. Reaction ranges from extremely acid to moderately acid.

The C horizons have hue of 5YR or 7.5YR, value of 3 to 5, and chroma of 1 to 4. Texture of the fine earth fraction ranges from sandy loam to silt loam. Reaction ranges from very strongly acid to slightly acid.

Bath Series

The Bath series consists of very deep, well drained soils on hillsides and hilltops in the uplands. These soils formed in glacial till derived from sandstone, siltstone, and shale. Slopes range from 3 to 55 percent.

Bath soils are geographically associated with to moderately well drained Mardin, somewhat poorly drained Volusia, and poorly drained Norchip soils. Bath soils are associated with Lordstown soils but are deeper to bedrock. Along the sides of valleys, Bath soils also occur near Valois soils. Bath soils have a more firm and dense subsoil than Valois soils.

Typical pedon of Bath channery silt loam, 8 to 15 percent slopes, located in the Town of Sidney, 75 feet west of Road 13; 1,000 feet south of the junction of Road 13 and Parker Hollow Road, Delaware Co., NY, elevation 1,320 feet, lat. 42 degrees 17 minutes 44 seconds N., long. 75 degrees 19 minutes 09 seconds W.; Unadilla, NY 7.5 minute Quad, NAD 1927:

Ap—0 to 9 inches, dark grayish brown (10YR 3/2) channery silt loam, pale brown (10YR 6/3) dry; strong medium and fine granular structure; friable; many very fine roots and common medium roots; many fine and medium vesicular and many medium tubular pores; 15 percent rock fragments; strongly acid; abrupt smooth boundary.

Bw1—9 to 14 inches, yellowish brown (10YR 5/6) channery silt loam; moderate medium subangular blocky structure parting to weak fine granular structure; friable; common very fine and many fine, and a few medium roots; common fine and medium vesicular and common fine tubular pores; 15 percent rock fragments; moderately acid; clear wavy boundary.

Bw2—14 to 20 inches, yellowish brown (10YR 5/4) channery silt loam; moderate medium and fine subangular blocky structure; friable; few very fine and common fine roots; common fine and medium vesicular and common fine tubular pores; 25 percent rock fragments, 5 percent 3 to 10 inches in size; moderately acid; clear wavy boundary.

E/B—20 to 26 inches, brown (10YR 5/3 -60 percent) and brown (7.5YR 4/4 -40 percent) channery loam; moderate medium platy structure friable; few fine roots; common medium tubular and many very fine and common fine vesicular pores; thin discontinuous silt coats in some pores and on some peds; 25 percent rock fragments, 3 percent 3 to 10 inches in size; moderately acid; clear wavy boundary.

Bx1—26 to 36 inches, brown (7.5YR 4/3) channery silt loam; moderate very coarse prismatic structure; massive within prisms; prisms separated by streaks about 1 inch wide, 10 to 30 inches apart with a pale brown (10YR 6/3) interior and a strong brown (7.5YR 5/6) border; slightly firm and brittle; common medium distinct strong brown (7.5YR 5/6) iron concentrations surrounding common medium distinct pale brown (10YR 6/3) iron depletions; many medium and fine vesicular pores; 30 percent rock fragments, 5 percent 3 to 10 inches in size; moderately acid; gradual wavy boundary.

Bx2—36 to 72 inches, brown (7.5YR 4/3) very channery silt loam; moderate very coarse prismatic structure, massive within prisms; prisms separated by streaks about 1 inch wide, 10 to 30 inches apart with a pale brown (10YR 6/3) interior and strong brown (7.5YR 5/8) border; firm and brittle; common medium distinct light brown (7.5YR 6/3) iron depletions and a few medium distinct dark reddish brown (5YR 2.5/2) soft manganese concretions; a few coarse vesicular pores; 45 percent rock fragments, 10 percent 3 to 10 inches in size, 2 percent greater than 10 inches; moderately acid.

The thickness of the solum ranges from 40 to 80 inches. Depth to the fragipan ranges from 26 to 38 inches. Depth to bedrock is more than 60 inches. Rock fragment content by volume ranges from 10 to 35 percent in the A and Bw The Ap horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 2 to 4. Dry colors have value of 5 or 6 and chroma of 2 to 4. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to moderately acid.

The Bw horizons have hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to moderately acid.

The E horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 or 3. Texture of the fine earth fraction is fine sandy loam, loam, or silt loam. Reaction ranges from very strongly acid to moderately acid.

The Bx horizons have hue of 7.5YR to 2.5Y, value of 3 to 5, chroma of 3 to 6. Texture of the fine earth fraction is fine sandy loam, loam, or silt loam. Reaction ranges from very strongly acid to slightly acid.

The C horizon, where present, has hue of 7.5YR to 2.5Y, value of 3 to 5, and chroma of 3 to 6. Texture of the fine earth fraction is fine sandy loam, loam, or silt loam. Reaction ranges from strongly acid to neutral.

Bucksport Series

The Bucksport series consists of very deep, very poorly drained soils in upland depressions. These soils formed in organic materials derived from woody or herbaceous plants.

Bucksport soils are geographically associated with Wonsqueak soils and poorly drained or very poorly drained mineral soils. Bucksport soils have a thicker layer of organic material than the other soils. Slopes are 0 to 1 percent.

Typical pedon of Bucksport muck, in an area of Bucksport and Wonsqueak soils in the Town of Meredith, 0.5 mile south of the Catskill Turnpike and 500 feet east of NY Route 28, elevation 2,055 feet, lat. 42 degrees 21 minutes 13 seconds N. and long. 74 degrees 56 minutes 06 seconds W.; Delhi, NY 7.5 minute Quad, NAD 1927:

Oa1—0 to 12 inches, very dark gray (10YR 3/1) broken and rubbed, sapric material; about 10 percent fiber undisturbed, less than 5 percent rubbed; moderate medium subangular blocky structure; very friable; common very fine and few medium roots; strongly acid in 0.015M CaCl2; abrupt smooth boundary.

Oa2—12 to 30 inches, very dark gray (10YR 3/1) broken, very dark grayish brown (10YR 3/2) rubbed, sapric material; about 50 percent fiber undisturbed, about 15 percent rubbed; weak coarse and medium subangular blocky structure; very friable; strongly acid in 0.015M CaCl2; clear smooth boundary.

Oa3—30 to 50 inches, dark brown (7.5YR 3/2) broken and rubbed, sapric material; about 60 percent fiber undisturbed, about 5 percent rubbed; 20 percent woody fragments; massive; very friable; strongly acid in 0.015M CaCl2; clear smooth boundary.

Oa4—50 to 75 inches, dark brown (7.5YR 3/2) broken, very dark grayish brown (10YR 3/2) rubbed, sapric material; about 15 percent fiber undisturbed, less than 5 percent rubbed; 20 percent woody fragments; massive; very friable; moderately acid in 0.015M CaCl2.

The thickness of the organic deposits is more than 51 inches. Depth to bedrock is more than 60 inches. The content of wood fragments ranges from 0 to 20 percent throughout the soil.

The surface tier is neutral or has hue of 2.5YR to 10YR, value of 2, 3, or 4, and chroma of 0 to 2. It is dominantly sapric material but hemic or fibric materials also occur in some pedons. Reaction in 0.01 M calcium chloride ranges from extremely acid to strongly acid.

The subsurface and bottom tiers have hue of 2.5YR to 10YR, value of 2, 3, or 4, and chroma of 1 to 3. Materials are usually sapric but thin layers of hemic or fibric materials may be present in some pedons. Reaction in 0.01 M calcium chloride ranges from extremely acid to moderately acid.

Cadosia Series

The Cadosia series consists of deep and very deep, well drained soils formed in glacial till and local colluvium derived from sandstone, siltstone and shale. These soils are on glaciated uplands at elevations below 1,750 feet. Slopes range from 15 to 70 percent.

Cadosia soils are geographically associated with Lackawanna, Bath, Arnot, Lordstown, and Oquaga soils. Lackawanna and Bath soils have fragipans and average less than 35 percent rock fragments in the solum. Arnot soils are shallow to bedrock. Lordstown and Oquaga soils are moderately deep. Valois and Maplecrest soils are also near the Cadosia soils on the lower part of the hillsides. Valois and Maplecrest soils average less than 35 percent rock fragments in the control section.

Typical pedon of Cadosia extremely channery loam, very bouldery, 35 to 70 percent slopes, in the Town of Deposit, 200 feet East of N.Y. Route 17, 0.75 miles northwest of the Hamlet of Hale Eddy, elevation 1,140 feet, lat. 42 degrees 0 minutes 45 seconds N. and long. 75 degrees 23 minutes 48 seconds W.; Deposit, NY 7.5 minute Quad, NAD 1927:

A—0 to 6 inches; black (N 2.5/0) extremely channery loam, dark gray (7.5YR 4/1) dry; weak very fine granular structure; very friable; many fine and medium roots; 75 percent rock fragments (10 percent 3 to 10 inches, 3 percent greater.

Bw1—6 to 8 inches; yellowish brown (10YR 5/4) very channery loam; weak fine subangular blocky structure; very friable; many fine and medium roots; 40 percent rock fragments (2 percent 3 to 10 inches and 1 percent greater than 10 inches); strongly acid; abrupt discontinuous boundary.

Bw2—8 to 23 inches; yellowish brown (10YR 5/6) very channery loam; weak fine and medium subangular blocky structure; friable; many medium and few coarse roots; common very fine and fine tubular pores and common fine vesicular pores; 35 percent rock fragments (5 percent 3 to 10 inches and 5 percent greater than 10 inches); strongly acid; clear wavy boundary.

Bw3—23 to 32 inches; brown (10YR 5/3) very channery loam; moderate medium subangular blocky structure; friable; common very fine roots, few medium and coarse roots; common fine and medium vesicular pores; 40 percent rock fragments (5 percent 3 to 10 inches and 2 percent greater than 10 inches); strongly acid; clear wavy boundary.

BC—32 to 58 inches; brown (10YR 5/3 (70 percent), 10YR 4/3 (30 percent)) very channery loam; massive; friable; few fine roots; few fine tubular and vesicular pores; 60 percent rock fragments (10 percent 3 to 10 inches, 5 percent greater than 10 inches); moderately acid; clear wavy boundary.

C—58 to 72 inches; dark brown (10YR 3/3 (60 percent) and brown (10YR 4/3 (40 percent)) extremely gravelly sandy loam; massive; slightly firm; 65 percent rock fragments (8 percent 3 to 10 inches and 5 percent greater than 10 inches in size); moderately acid.

The thickness of the solum ranges from 25 to 55 inches. Depth to bedrock is more than 60 inches. Rock fragments range from 20 to 75 percent in the solum and substratum, with greater than 35 percent weighted average between a depth of 10 and 40 inches. Rock fragments are dominantly sandstone but include siltstone and shale also. Reaction ranges from moderately acid to very strongly acid throughout.

The A horizon has hue of 5YR, 7.5YR, and 10YR, or is neutral and has value of 2 or 4 and chroma of 0 through 4. Dry colors have value of 4 or 5 and chroma of 1 to 4. Texture is silt loam, loam or sandy loam in the fine earth fraction. Most pedons have a thin organic surface layer.

The E horizon, where present, has hue of 5YR, 7.5YR or 10YR, value of 4 to 6, and chroma of 2 or 3. Texture in the fine earth fraction is silt loam, loam, or sandy loam.

The Bw horizon has hue of 5YR, 7.5YR or 10YR, value of 4 to 6, and chroma of 3 through 6. Texture is silt loam, loam, sandy loam, or fine sandy loam in the fine earth fraction. Structure is weak or moderate, fine to coarse subangular blocky or granular. Consistence is very friable or friable.

The BC horizon, where present, has hue, value, and chroma similar to the B horizon. Texture in the fine earth fraction is silt loam, loam, or sandy loam. Structure is weak fine to coarse subangular blocky or platy, or is massive. Consistence is friable or firm.

The C horizon has hue of 7.5YR, 10YR or 2.5Y, value of 3 to 5 and chroma of 2 to 4. Texture is loam or sandy loam in the fine earth fraction. Consistence is friable or firm. Some pedons have a 2Cr horizon above the bedrock that is deeper than 60 inches.

Carlisle Series

The Carlisle series consists of very deep, very poorly drained soils in lowlands or in upland depressions. These soils formed in organic materials derived mainly from woody plants.

Carlisle soils are geographically associated with the Palms and Norchip soils. Carlisle soils have thicker layers of organic materials than the Palms or Norchip soils. Slopes range from 0 to 2 percent.

Typical pedon of Carlisle muck, 0 to 2 percent slopes, in an area of Carlisle and Palms soils in the Town of Hancock, 375 feet east of John Milk road, 1,000 feet north of the intersection of John Milk and Anderson roads, elevation 1,565 feet, lat. 41 degrees 54 minutes 05 seconds N. and long. 75 degrees 05 minutes 46 seconds W.; Horton, NY 7.5 minute Quad, NAD 1927:

Oa1—0 to 8 inches, black (10YR 2/1) broken and rubbed sapric material; about 30 percent fibers, about 15 percent rubbed; weak fine and medium granular structure; very friable; many very fine and fine, common medium, and a few coarse roots; moderately acid (pH 5.8 in water); clear wavy boundary.

Oa2—8 to 42 inches, very dark grayish brown (10YR 3/2) broken and very dark brown (10YR 2/2) rubbed; sapric material; about 35 percent fibers, about 12 percent rubbed; weak coarse subangular blocky structure; very friable; few fine and medium roots; about 15 percent woody fragments; moderately acid (pH 5.8 in water) gradual wavy boundary.

Oa3—42 to 65 inches, black (10YR 2/1) broken and rubbed sapric material, about 15 percent fibers, about 8 percent rubbed; massive; very friable; about 5 percent woody fragments; moderately acid (pH 5.6 in water); clear wavy boundary.

Oe—65 to 72 inches, dark reddish brown (5YR 3/3) broken and black (5YR 2.5/1) rubbed; hemic material; about 45 percent fibers, about 20 percent rubbed; massive; very friable; moderately acid (pH 5.6 in water).

The thickness of the organic deposits is more than 51 inches. Depth to bedrock is more than 60 inches. There are about 10 to 25 percent by volume of mostly woody plant remains throughout the profile.

The surface tier has hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 or 2. It is dominantly sapric material but some pedons have various proportions of both sapric and hemic material. Reaction ranges from very strongly acid to neutral.

The subsurface tiers have hue of 5YR to 10YR, value of 2 to 4, and chroma of 0 to 3. Materials are dominantly sapric with a rubbed fiber content of less than 16 percent of the organic volume. Reaction ranges from very strongly acid to neutral.

The bottom tier has hue of 5YR to 10YR, value of 2 to 4, and chroma of 0 to 3. It is dominantly sapric material. Reaction ranges from moderately acid to neutral.

Chenango Series

The Chenango series consists of very deep, somewhat excessively drained soils on outwash plains, terraces, and kames. These soils formed in gravelly glacial outwash overlying stratified sands and gravels. Slopes range from 0 to 50 percent.

Chenango soils are geographically associated with the well drained, sandy Riverhead soils and the moderately well drained, gravelly Deposit soils. Chenango soils are also associated the somewhat poorly drained Red Hook and poorly drained Raypol soils in valleys. At the sides of valleys, Chenango soils are nearby the less gravelly, well drained Valois soils.

Typical pedon of Chenango gravelly silt loam, 3 to 8 percent slopes, in the Town of Davenport, Delaware County, 0.3 miles northeast of the intersection of Brickhouse Hill Road and NY Route 23, elevation 1,245 feet, lat. 42 degrees 28 minutes 11 seconds N. and long. 74 degrees 51 minutes 10 seconds W.; Davenport, NY 7.5 minute Quad, NAD 1927:

Ap—0 to 10 inches, dark brown (7.5YR 3/2) gravelly silt loam, pinkish gray (7.5YR 6/2) dry; weak medium subangular blocky structure parting to fine granular structure; friable; common fine and medium roots; 15 percent gravel; slightly acid (limed); abrupt smooth boundary.

Bw1—10 to 21 inches, yellowish brown (10YR 5/4) very gravelly silt loam; weak medium subangular blocky structure parting to weak fine subangular blocky structure; friable; common fine and medium and few coarse roots; 35 percent gravel; moderately acid; clear wavy boundary.

Bw2—21 to 25 inches, yellowish brown (10YR 5/4) very gravelly sandy loam; weak coarse subangular blocky structure; friable; few fine and medium roots; 45 percent gravel; moderately acid; abrubt wavy boundary.

2C1—25 to 43 inches, brown and dark yellowish brown (10YR 4/3 and 10YR 4/4) very gravelly loamy sand; single grained; loose; 60 percent gravel; moderately acid; clear wavy boundary.

2C2—43 to 72 inches, dark brown (10YR 3/2) very gravelly loamy coarse sand; single grain; loose; 55 percent gravel; moderately acid.

The thickness of the solum ranges from 24 to 50 inches. Depth to bedrock is greater than 60 inches. Rock fragment content ranges from 10 to 50 percent by volume in the A horizon, 15 to 60 percent in the B horizon, and 30 to 70 percent in the C horizon.

The Ap horizon has hue of 7.5YR to 2.5Y, value of 3 to 5, and chroma of 2 or 3. Dry colors have value of 5 or 6 and value of 2 or 3. Texture of the fine earth fraction ranges from sandy loam to silt loam. Reaction is very strongly acid or strongly acid.

The B horizon has hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6. The 7.5YR hue is restricted to the upper part of the horizon. Texture of the fine earth fraction ranges from sandy loam to silt loam. Reaction is very strongly acid, strongly acid, or moderately acid.

The C horizon has hue of 10YR to 2.5Y, value of 3 to 5, and chroma of 2 to 4. Texture of the fine earth fraction is sand or loamy fine sand. Reaction ranges from strongly acid to slightly alkaline.

Collamer Series

The Collamer series consists of very deep, moderately well drained soils in valleys formerly occupied by glacial lakes. These soils developed in lacustrine silts, clays, and fine sands. Collamer soils are geographically associated with the more gravelly or sandy Chenango, Riverhead, or Tunkhannock soils and also associated with silty Unadilla soils. Collamer soils have finer textures than any of the other soils above. Slopes range from 3 to 15 percent.

A typical pedon of Collamer silt loam, 3 to 8 percent slopes, in the Town of Roxbury, 400 feet south of Cattone Road and 500 feet west of NY Route 23, lat. 42 degrees 20 minutes 53 seconds N. and long. 74 degrees 28 minutes 06 seconds W.; Prattsville, NY 7.5 minute Quad, NAD 1927:

Ap—0 to 7 inches, brown (7.5YR 4/2) silt loam, brown (7.5YR 5/2) dry; weak medium and coarse subangular blocky structure parting to moderate fine and medium granular structure; friable; many fine, a few medium and coarse roots; 2 percent rock fragments; slightly acid; abrupt smooth boundary.

B/E—7 to 14 inches, 70 percent brown (7.5YR 5/4) silt loam;(B material); moderate medium and coarse subangular blocky and angular blocky structure; friable; 30 percent light brown (7.5YR 6/3) silt loam; (E material) around and between most peds; common fine and medium roots; common fine pores; 1 percent rock fragments; common fine distinct strong brown (7.5YR 5/6) soft masses of iron accumulation; moderately acid; gradual wavy boundary.

Bt—14 to 21 inches, reddish brown (5YR 4/3) silty clay loam, ped faces are pink (5YR 7/3); moderate coarse prisms parting to moderate medium and coarse angular blocky structure; firm; few fine, medium, and coarse roots; common fine and a few medium pores; continuous coatings of clay in most pores;common medium distinct strong brown (7.5YR 4/6) soft iron masses and a few fine faint light gray (10YR 7/2) iron depletions; moderately acid; clear wavy boundary.

BC—21 to 26 inches, reddish brown (2.5YR 5/4) silty clay loam (70 percent) and pale brown (10YR 6/3) silt loam (30 percent); weak coarse prismatic structure parting to moderate thin platy structure; prism faces are light olive brown to light yellowish brown (2.5Y 5/3, 6/3) with a discontinuous rind of yellowish brown (10YR 5/6); firm; few fine roots along prism faces; common fine pores; common medium distinct light brownish gray (10YR 6/2) irregularly shaped friable iron depletions with clear boundaries; common medium distinct dark reddish brown (5YR 2.5/2) manganese concretions; neutral; clear wavy boundary.

C—26 to 72 inches, reddish brown (2.5YR 4/4) silty clay loam (70 percent) and brown (10YR 5/6) silt loam (30 percent); strong medium and thin platy structure neutral.

The thickness of the solum ranges from 24 to 48 inches. Depth to bedrock is more than 60 inches. Rock fragment content ranges from 0 to 5 percent throughout the soil. Reaction ranges from moderately acid to neutral in the solum and is slightly acid or neutral in the substratum.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 to 5, and chroma or 2 or 3. Dry colors have value of 5 or 6, and chroma of 2 or 3. Texture ranges from fine sandy loam to silt loam.

The E horizon or the E part of the B/E horizon has hue of 5YR to 2.5Y, value of 5 or 6, and chroma of 2, 3, or 4. Texture ranges from fine sandy loam to silt loam.

The Bt horizon or B part of the B/E horizon has hue of 5YR to 2.5Y, value of 4 or 5, and chroma of 3 or 4 above 30 inches. Below 30 inches chroma is 2, 3, or 4. Redoximorphic features are present. Texture is silt loam or silty clay loam with thin subhorizons ranging from sandy loam to silty clay.

The BC and C horizons have hue of 2.5YR to 10YR, value of 4 or 5, and chroma of 2, 3, or 4. Texture ranges from stratified very fine sand and silt to silty clay loam.

Deposit Series

The Deposit series consists of very deep, moderately well drained soils formed in glacio-fluvial material derived from sandstone, siltstone, and shale. These soils are in valleys along high gradient streams. Slopes range from 0 to 3 percent.

Deposit soils are geographically associated with the more silty Wenonah and Philo soils and the poorly drained Raypol soils on floodplains. Deposit soils are also associated with the better drained Chenango, Riverhead, and Valois soils along valley sides.

Typical pedon of Deposit gravelly silt loam, on a 0 to 3 percent slope, in a cornfield in the Town of Deposit, 0.5 miles south of Steam Mill Road, 550 feet east of Route 8, elevation 1,330 feet, lat. 42 degrees 09 minutes 17 seconds N., and long. 75 degrees 21 minutes 13 seconds W.; Trout Creek, NY 7.5 minute Quad, NAD 1927:

Ap—0 to 12 inches,dark brown (7.5YR 4/2) pale brown (10YR 6/3 dry) gravelly silt loam; strong medium granular structure; friable; common fine and few medium roots; few fine and common medium tubular pores; 15 percent rock fragments, 3 percent rock fragments greater than 3 inches; slightly acid(limed); abrupt smooth boundary boundary.

Bw—12 to 18 inches, brown (7.5YR 4/4) gravelly very fine sandy loam; moderate fine and medium subangular blocky structure; friable; common fine and a few medium roots; common fine and medium and a few coarse tubular pores; 20 percent rock fragments; common medium faint brown (7.5YR 5/2) iron depletions and common medium distinct strong brown (7.5YR 5/6) iron concentrations; moderately acid; clear wavy boundary.

BC—18 to 24 inches, dark brown (7.5YR 4/4) very gravelly fine sandy loam; weak coarse subangular blocky structure; friable; few fine roots; common medium and a few coarse tubular pores; common medium vesicular pores; 40 gravel; few medium faint brown (7.5YR 5/2) iron depletions; moderately acid; clear wavy boundary.

2C1—24 to 40 inches, brown (10YR 4/3) very gravelly loamy sand; single grained; loose; 55 percent rock fragments (5 percent > 3 inches); moderately acid; gradual wavy boundary.

2C2—40 to 72 inches, brown (10YR 4/3) extremely gravelly loamy sand; single grained; loose; 65 percent rock fragments (2 percent > 3 inches); few fine faint strong brown (7.5YR 5/6) iron concentrations; moderately acid.

The thickness of the solum ranges from 16 to 42 inches. Depth to bedrock is more than 60 inches. Rock fragment content ranges from 10 to 35 percent by volume in the A horizon, 15 to 60 percent in the B horizon, and 35 to 70 percent in the C horizon.

The A horizon has hue of 7.5YR, 10YR, or 2.5Y, value of 3 or 4, and chroma of 2 or 3. Dry colors have value or 5 or 6 and chroma of 2 or 3. Texture is loam or silt loam in the fine earth fraction. Structure is weak or moderate granular or subangular blocky. Consistence is friable or very friable. Reaction ranges from strongly acid or moderately acid unless limed.

The B horizon has hue of 7.5YR, 10YR, or 2.5Y, value of 3, 4, or 5, chroma of 3 or 4, and has low chroma redoximorphic features. Texture of the fine earth fraction ranges from sandy loam to silt loam. Structure is weak and moderate subangular blocky. Consistence is friable or very friable. Reaction ranges from strongly acid to moderately acid.

The C horizon has hue of 5YR to 2.5Y, value of 3, 4 or 5, and chroma of 1 to 4. Texture of the fine earth fraction ranges from loamy sand to loam. Consistence is loose or very friable. Reaction ranges from strongly acid to slightly acid.

Elka Series

The Elka series consists of very deep, well drained soils on gently sloping to very steep mountainous uplands. These soils formed in reddish, acid glacial till derived from sandstone, siltstone, and shale. Slopes range from 8 to 70 percent.

Elka soils are geographically associated with the shallower Vly soils as well as the Halcott and Mongaup soils in very rocky areas. Elka soils are also geographically associated with Rockrift soils on the upper parts of hillsides and next to Lewbeach and Willowemoc soils along lower valley sides. Elka soils are deeper than the Vly, Mongaup, and Halcott soils, are redder in color than the Mongaup and Halcott soils, and have less rock fragments than the Vly, Halcott, and Rockrift soils. Elka soils have a more friable subsoil than Lewbeach and Willowemoc soils.

Typical pedon of Elka channery silt loam in an area of Elka-Vly channery silt loams, 15 to 35 percent slopes, very stony, in the Town of Bovina, 1 1/10 miles along Brush Hollow Road from Pink Street in the southwest facing bank of roadcut, in a cul-de-sac, elevation 2,240 feet, lat. 42 degrees 17 minutes 21 seconds N. and long. 74 degrees 45 minutes 46 seconds W.; Bloomville, NY 7.5 minute Quad, NAD 1927:

Oe—0 to 1 inches; black (5YR 2.5/1) partly decomposed hemic material; moderate medium and fine granular structure; very friable; many fine and common medium live roots; very strongly acid; abrupt wavy boundary.

A—1 to 6 inches; dark reddish brown (5YR 3/3) channery silt loam, light very friable;

many fine, common medium, and few coarse roots; few medium tubular pores; 15 percent rock fragments; very strongly acid; clear wavy boundary.

Bw1—6 to 21 inches; reddish brown (5YR 5/4) channery silt loam; weak medium subangular blocky structure; friable; common fine roots, few medium and coarse roots; few fine and medium tubular pores, common medium vesicular pores; 25 percent rock fragments; very strongly acid; clear wavy boundary.

Bw2—21 to 36 inches; reddish brown (5YR 4/4) very channery loam; weak medium subangular blocky structure parting to weak medium granular structure; friable; few fine and medium roots; common medium vesicular pores; 35 percent rock fragments; strongly acid; abrubt wavy boundary.

BC—36 to 55 inches; reddish brown (70% 5YR 5/3 and 30% 5YR 5/4) very channery silt loam; moderate fine and medium subangular blocky structure; friable; few fine roots; common fine and medium tubular pores, common medium and few large vesicular pores; 45 percent rock fragments; strongly acid; gradual wavy boundary.

C—55 to 72 inches; reddish brown (80 percent 5YR 4/3 and 20 percent 5YR 4/4) very channery loam; massive; firm; common medium vesicular pores; few thin discontinuous clay coatings in pores; 50 percent rock fragments; strongly acid.

The thickness of the solum ranges from 35 to 58 inches. Depth to bedrock is more than 60 inches. Rock fragment ranges from 10 to 40 percent in the A and B horizons and from 25 to 55 percent in BC and C horizons.

The A horizon has hue of 2.5YR to 7.5YR with value and chroma of 2 to 4. Dry colors have value of 5 or 6 and chroma of 2 to 4. Texture of the fine earth fraction is loam, silt loam, or fine sandy loam. Reaction ranges from very strongly acid to moderately acid.

The B, BC, and C horizons have hue of 2.5YR to 7.5YR, value of 3 to 5 and chroma of 3 to 6. The texture of the fine earth fraction is loam, silt loam, very fine sandy loam or sandy loam. Reaction ranges from very strongly acid to moderately acid.

Fluvaquents

The Fluvaquents soils consist of very deep, somewhat poorly to very poorly drained soils on flood plains. These soils formed in recent alluvial deposits and have variable textures. These soils are adjacent to streams and are subject to frequent flooding. Slopes range from 0 to 3 percent.

Fluvaquents are near Barbour, Basher or Wenonah, Philo, or Udifluvents soils along streams in valley bottoms. Where Fluvaquents soils are mapped along small streams in the uplands, they are often next to Morris or Volusia soils. Fluvaquents occur wherever streams cut or scour streambanks and shift soil materials from place to place.

Since Fluvaquents are highly variable, no typical pedon description is provided. The solum is just the A horizon and ranges from about 3 to 15 inches in thickness. The depth to bedrock is more than 60 inches. The rock fragment content ranges from 0 to 80 percent by volume throughout the profile. Organic matter content decreases irregularly with depth.

The A horizon has hue of 2.5YR to 2.5Y, value of 2 to 6, and chroma of 0 to 6. Textures of the fine earth fraction range from sand to silty clay loam. Reaction ranges from very strongly acid to neutral.

The C horizon has hue of 2.5YR to 2.5Y, value of 2 to 5, and chroma of 0 to 2. The horizon is commonly mottled. Some subhorizons have chroma of 3 or 4. Textures of the fine earth fraction range from coarse sandy loam to silty clay. Reaction ranges from very strongly acid to neutral.

Gretor Series

The Gretor series consists of moderately deep, somewhat poorly drained soils on bedrock-controlled uplands above 1,750 feet. These soils formed in glacial till derived from sandstone, siltstone, and shale. Slopes range from 0 to 6 percent.

Gretor soils are geographically associated with Halcott, Mongaup, Torull, and Vly soils. Gretor soils are also associated with Onteora and Ontusia soils. Gretor soils are wetter than the Halcott, Mongaup, and Vly soils; deeper than Torull and Halcott; and shallower than Onteora and Ontusia soils.

Typical pedon of Gretor silt loam, in an area of Torull-Gretor complex, 0 to 6 percent slopes, in the Town of Sidney, 100 yards southeast of the Masonville-Sidney Center Road, 800 yards north of Roof Road, elevation 1,870 feet, lat. 42 degrees 15 minutes 22 seconds N. and long. 75 degrees 17 minutes 00 seconds W.; Unadilla, NY 7.5 minute Quad, NAD 1927:

A—0 to 7 inches, very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; common fine distinct dark red (2.5 YR 3/6) organic stains; weak coarse subangular blocky structure parting to moderate medium and fine granular structure; friable; many fine roots, common medium and coarse roots; 10 percent rock fragments; strongly acid; abrupt smooth boundary.

Eg—7 to 16 inches, gray and olive gray (5Y 5/1 and 5/2) channery very fine sandy loam; weak medium platy structure parting to moderate fine subangular blocky structure; few fine tubular and few fine and medium vesicular pores; 20 percent rock fragments; common medium distinct strong brown (7.5YR 5/6) iron concentrations; very strongly acid; clear wavy boundary.

Bg—16 to 26 inches, brown (7.5YR 5/2) on most ped faces (80 percent) strong brown and brown (7.5 YR 5/6 & 5/4) (40 percent) and dark brown (7.5YR 4/2) (30 percent) ped interiors; channery clay loam; weak coarse subangular blocky structure; friable; few fine roots; few fine and medium tubular and vesicular pores; common medium distinct gray (10YR 5/1) iron depletions and many (25 percent) coarse prominent dark reddish brown (2.5YR 2.5/2) Mn stains; 20 percent rock fragments; moderately acid; abrupt smooth boundary.

2R—26 inches, grayish brown (10YR 5/2) sandstone bedrock.

The thickness of the solum and depth to bedrock range from 20 to 40 inches. Rock fragment content ranges from 5 to 35 percent throughout the soil.

The Ap horizon has hue of 7.5YR or 10 YR, value of 2 to 4, and chroma of 1, 2 or 3. Dry colors have value of 5 or 6 and chroma of 2 to 4. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to moderately acid.

The Eg horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 1, 2, or 3. Texture of the fine earth fraction ranges from very fine sandy loam to silt loam. Reaction ranges from very strongly acid to moderately acid.

The B horizons have hue of 5YR to 10 YR, value of 3 to 6, and chroma of 1, 2, or 3. Texture of the fine earth fraction ranges from loam to silty clay loam. Reaction is strongly acid or moderately acid.

Halcott Series

The Halcott series consists of shallow, somewhat excessively drained soils on bedrock-controlled uplands. These soils formed in a thin layer of glacial till over sandstone, siltstone, or shale bedrock. Slopes range from 2 to 70 percent.

Halcott soils are geographically associated with the moderately deep Mongaup and Vly soils and also associated with the Lewbeach, Lewbath, and Willowemoc soils. The Halcott soils are shallower than any of these other soils.

Typical pedon of Halcott channery loam in an area of Halcott, Mongaup, and Vly soils, 2 to 15 percent slopes, very rocky, in the Town of Roxbury, 100 yards south of the intersection of the boundaries of the Towns of Roxbury, Bovina, and Stamford, elevation 3,120 feet, lat. 42 degrees 17 minutes 44 seconds N., long. 74 degrees 39 minutes 28 seconds W.; Hobart, NY 7.5 minute Quad, NAD 1927:

A—0 to 3 inches, dark reddish brown (5YR 3/3) channery loam; reddish brown (5YR 5/3) dry; weak fine granular structure; very friable; many fine and medium roots; 25 percent sandstone, siltstone, and shale rock fragments; very strongly acid; clear smooth boundary.

Bw—3 to 11 inches, brown (7.5YR 4/4) very channery silt loam; weak fine subangular blocky structure; very friable; slightly smeary; common fine and medium roots; few fine tubular and common fine vesicular pores; 40 percent sandstone, siltstone, and shale rock fragments; strongly acid; clear wavy boundary.

BC—11 to 18 inches, brown (10 YR 4/3) very channery silt loam; very weak fine and medium subangular blocky structure, very friable; common fine and few medium roots; common fine vesicular and tubular pores; 50 percent sandstone, siltstone, and shale rock fragments; strongly acid; abrupt smooth boundary.

2R—18 inches, hard gray-brown sandstone bedrock.

The thickness of the solum and depth to bedrock ranges from 10 to 20 inches. Rock fragment content ranges from 15 to 50 percent by volume in the A horizon and from 20 to 70 percent in the B horizons.

The A horizon has hue of 2.5YR to 10YR, value of 3 or 4, and chroma of 2 to 4. Dry colors have value of 5 or 6, and chroma of 2 to 4. Texture of the fine earth fraction is fine sandy loam, loam, or silt loam. Reaction is very strongly acid or strongly acid. The B horizons have hue of 2.5YR to 10YR, value of 3 or 4 and chroma of 3 to 8. Texture of the fine earth fraction is fine sandy loam, loam, or silt loam. Reaction is very strongly acid or strongly acid.

Some pedons have a BC horizon with colors and textures similar to those of the B horizon.

Lackawanna Series

The Lackawanna series consists of very deep, well drained soils on hilltops and hillsides in uplands. These soils formed in glacial till derived from red sandstone, siltstone, and shale. Slopes range from 3 to 55 percent.

Lackawanna soils are geographically associated with Wellsboro and Morris soils and also associated with Oquaga soils. Lackawanna soils are better drained than Wellsboro and Morris soils, and deeper to bedrock than Oquaga soils.

Typical pedon of Lackawanna flaggy silt loam, 8 to 15 percent slopes, located in the Town of Walton, on County Route 23 about .3 mile northwest of the junction with Johnson Hill Road, Delaware County, NY, elevation 1,620 feet, lat. 42 degrees 13 minutes 57 seconds N., and long. 75 degrees 09 minutes 23 seconds W.; Walton West, NY 7.5 minute Quad, NAD 1927:

Ap—0 to 7 inches; dark brown (7.5YR 3/2) flaggy silt loam; pinkish gray (7.5YR 6/2) dry; moderate fine granular structure; friable; many fine roots; 25 percent rock fragments; strongly acid; abrupt smooth boundary.

Bw1—7 to 18 inches, dark reddish brown (5YR 3/4) flaggy silt loam; weak medium granular structure; friable; many fine roots; 20 percent rock fragments; strongly acid; clear wavy boundary.

Bw2—18 to 28 inches, reddish brown (5YR 4/4) flaggy silt loam; weak fine subangular blocky structure; friable; common fine roots; 20 percent rock fragments; strongly acid; clear wavy boundary.

Bx—28 to 48 inches; reddish brown (5YR 5/3) flaggy silt loam; weak, very coarse prismatic parting to weak thick platy structure; very firm; brittle; no roots; 25 percent rock fragments; strongly acid; gradual smooth boundary.

Cd—48 to 72 inches; (2.5YR 4/2) weak red; flaggy loam; massive; firm; 25 percent rock fragments; strongly acid.

The thickness of the solum ranges from 40 to 75 inches or more. Depth to bedrock is 60 inches or more. Depth to fragipan ranges from 20 to 36 inches.

Rock fragments, mainly flags or channers, range from 10 to 40 percent by volume in horizons above the fragipan, and from 15 to 65 percent in the fragipan and C horizons. Reaction is very strongly acid or strongly acid above the fragipan, and very strongly acid to moderately acid in the fragipan and C horizons.

The Ap horizon has hue of 5YR to 7.5YR, value of 3 to 5, and chroma of 2 to 4. Dry colors have value of 5 or 6 and chroma of 2 to 4. In undisturbed areas thin E horizons may exists, with 5YR 3/2 to 4/3 colors. Structure is weak or moderate fine granular. Consistence is friable or very friable. Texture is loam, silt loam, or fine sandy loam in the fine-earth fraction.

The E horizon, where present, has a hue of 2.5YR or 5YR, value of 4, and chroma of 2 or 3. It is silt loam, loam, or fine sandy loam texture. Structure is weak very fine to medium granular.

The Bw horizon ranges in hue from 5YR to 10YR, value of 4 or 5, and chroma of 3 to 6. It is silt loam or loam in the fine earth fraction.

Structure is weak or moderate fine to coarse subangular blocky, which may part to weak or moderate very fine or fine granular.

The lower E horizon, where present, has a hue of 2.5 YR to 7.5YR, value of 4 or 5, and chroma of 2 to 4. Texture is silt loam to sandy loam in the fine earth fraction. Structure is weak fine to coarse platy, which may part to weak fine or medium subangular blocky.

The Bx horizon has hue of 2.5YR or 5YR, value of 3 to 5, and chroma of 2 to 4. Some pedons are mottled and have faces of prisms with hue of 2.5YR to 7.5YR, value of 5 to 7, and chroma of 2 to 4. Texture is sandy loam, loam, or silt loam in the fine earth fraction. The interiors of very coarse prisms are typically massive, but may be platy or blocky in some pedons.

Color and texture of the C horizon is similar to the Bx horizon.

Lewbath Series

The Lewbath series consists of very deep, well drained soils in uplands higher than approximately 1,750 feet. These soils formed in glacial till derived from sandstone, siltstone, and shale. Slopes range from 3 to 55 percent.

Lewbath soils are geographically associated with Willdin and Ontusia soils and also associated with Mongaup soils. Lewbath soils are better drained than Willdin and Ontusia soils and are deeper than Mongaup soils. Typical pedon of Lewbath flaggy loam, 3 to 8 percent slopes, in the Town of Franklin, at end of new driveway, 0.8 mile south of Snake Hill Road, elevation 1,930 feet, lat. 42 degrees 17 minutes 05 seconds N., long. 75 degrees 03 minutes 56 seconds W.; Treadwell, NY 7.5 minute Quad, NAD 1927:

A—0 to 4 inches, very dark grayish brown (10YR 3/2) flaggy loam; light brownish gray (10YR6/2) dry; moderate fine granular structure, very friable; many fine, common medium roots; 20 percent rock fragments; very strongly acid; abrupt wavy boundary.

Bw1—4 to 11 inches, yellowish brown (10YR 5/6 & 5/4) flaggy silt loam; weak medium and fine subangular blocky structure; friable; common fine and medium roots; common fine and medium vesicular pores, few medium tubular pores; 25 percent rock fragments; strongly acid; abrupt wavy boundary.

Bw2—11 to 22 inches, yellowish brown (10YR 5/4) flaggy silt loam; weak coarse subangular blocky structure; friable; common fine and medium roots; common medium vesicular pores, few fine and medium tubular pores; 30 percent rock fragments; moderately acid; clear wavy boundary.

Bw3—22 to 31 inches, brown (10YR 5/3) flaggy silt loam; weak coarse subangular blocky structure; friable; few fine roots; common medium vesicular pores and few fine and medium tubular pores; 30 percent rock fragments; moderately acid; abrupt wavy boundary.

E—31 to 33 inches, light brownish gray (10YR 6/2) channery loam; weak medium platy structure; friable; few fine and medium tubular pores; 30 percent rock fragments; common medium distinct strong brown (7.5YR 5/6) iron concentrations; moderately acid; clear wavy boundary.

Bx1—33 to 45 inches; brown (7.5YR 5/4) with spots of reddish brown (5YR 5/4) flaggy silt loam; moderate coarse prismatic structure parting to weak coarse subangular blocky structure; very firm and brittle; prism faces of light brownish gray (10YR 6/2) with strong brown (7.5YR 5/6) rinds; common fine and medium tubular pores; clay linings in pores; 30 percent rock fragments; few medium distinct strong brown (7.5YR 5/6) iron concentrations and common coarse distinct light brownish gray (10YR 6/2) iron depletions; moderately acid; clear wavy boundary.

Bx2—45 to 72 inches; brown (7.5YR 5/4) flaggy silt loam; moderate coarse prismatic structure parting to weak coarse subangular blocky structure; firm and slightly brittle; prism faces of light brownish gray (10YR 6\2) with strong brown (7.5YR 5/6) rinds; common fine and medium tubular pores; 30 percent rock fragments; few medium distinct strong brown (7.5YR 5/6) iron concentrations and pinkish gray (7.5YR 6/2) iron depletions; moderately acid.

The thickness of the solum ranges from 40 to 75 inches. Depth to bedrock is more than 60 inches. Depth to the fragipan ranges from 20 to 38 inches. Rock fragment content ranges from 10 to 35 percent by volume in the A and Bw horizons, from 15 to 50 percent in the Bx horizon, and 15 to 60 percent in the C horizon.

The A horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 2 to 4. Dry colors have value of 5 or 6 and chroma of 2 to 4. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to moderately acid.

The Bw horizons have hue of 7.5YR to 2.5Y, value of 3 to 5, and chroma of 3 to 6. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to moderately acid.

The E horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 or 3. Texture of the fine earth fraction is fine sandy loam or loam. Reaction ranges from very strongly acid to moderately acid.

The Bx horizons have hue of 7.5YR to 2.5Y, value of 3 to 5, and chroma of 3 to 6. Texture of the fine earth fraction ranges from sandy loam to silt loam. Reaction ranges from very strongly acid to moderately acid. The Cd horizon, where present within a depth of 75 inches, has hue of 7.5YR to 5Y, value of 3 to 5, and chroma of 2, to 4. Texture is silt loam or loam in the fine earth fraction. Reaction ranges from very strongly acid to slightly acid.

Lewbeach Series

The Lewbeach series consists of very deep, well drained soils on hilltops and hillsides in uplands above 1,750 feet. These soils formed in glacial till derived from sandstone, siltstone, and shale. Slopes range from 3 to 55 percent.

Lewbeach soils are geographically associated with Willowemoc and Onteora soils and also associated with Vly, Mongaup, and Halcott soils. Lewbeach soils are better drained than Willowemoc or Onteora soils, and deeper to bedrock than Vly, Mongaup, or Halcott soils.

Typical pedon of Lewbeach channery loam (limed), 3 to 8 percent slopes, in the Town of Stamford, 1,800 feet north of the intersection of State Route 23 and Tower Mountain Road, elevation 1,980 feet, lat. 42 degrees 24 minutes 45 seconds N., long. 74 degrees 36 minutes 36 seconds W.; Stamford, NY 7.5 minute Quad, NAD 1927:

Ap—0 to 9 inches, brown (7.5YR 4/3) channery loam, brown (7.5YR 5/3) dry; some reddish brown (5YR 5/4) material from Bw mixed in; moderate fine subangular blocky structure, parting to weak fine granular structure; friable; common fine and medium roots; 20 percent rock fragments; neutral (limed); abrupt smooth boundary.

Bw—9 to 17 inches, reddish brown (2.5-5YR 5/4) channery loam; weak medium subangular blocky structure; friable; common fine, few medium roots; few very fine and medium tubular pores; thin coatings of brown Ap material in pores and on some peds; 20 percent rock fragments, 3 percent greater than 3 inches; neutral (limed); clear wavy boundary.

E—17 to 20 inches; reddish brown (5YR 5/3) gravelly loam; strong medium platy structure; friable; few fine roots; common medium vesicular pores; common stripped sand grains and thin lenses of stripped sand grains; 25 percent rock fragments; moderately acid; clear irregular boundary.

Bx1—20 to 42 inches, reddish brown (2.5YR 4/4) channery loam; moderate very coarse prismatic structure with moderate coarse subangular blocky structure within prisms; very firm and brittle; light reddish brown (5YR 6/3-6/4) prism faces; common fine and medium tubular pores; thin patchy clay coatings in pores; 30 percent rock fragments; very strongly acid; diffuse wavy boundary.

Bx2—42 to 61 inches, reddish brown (2.5YR 5/4) channery loam, few medium distinct yellowish red (5YR 5/8) iron concentrations; weak very coarse prismatic structure with weak medium and coarse subangular blocky structure within prisms; very firm and brittle; prism faces of reddish gray (5YR 5/2) 1/4 inch wide, about 1 inch wide at top of horizon; common fine and medium tubular pores; patchy clay coatings in pores; 30 percent rock fragments; moderately acid; clear wavy boundary.

Cd—61 to 72 inches, reddish brown (5YR 5/3) channery loam; massive; firm; common fine and medium tubular pores; thin patchy reddish brown (5YR 5/4) clay coatings in pores; 25 percent rock fragments; moderately acid.

The thickness of the solum ranges from 40 to 72 inches or more. Depth to bedrock is greater than 60 inches. Depth to the fragipan ranges from 18 to 36 inches. Rock fragment content ranges from 5 to 35 percent by volume in the A, E, and Bw horizons, and from 15 to 50 percent in the Bx and C horizons. Reaction, where unlimed, is very strongly acid or strongly acid above the fragipan, very strongly acid to moderately acid in the Bx, and strongly acid to slightly acid in the C horizon.

The A horizon has hue of 5YR to 10YR, value of 2 to 4, and chroma of 2 or 3. Dry colors have value of 5 or 6 and chroma of 2 to 4. Texture is silt loam, loam, or fine sandy loam in the fine earth fractions. Structure is weak or moderate granular. Consistence is friable or very friable.

The E horizon has hue of 5YR or 7.5YR, value of 4 to 6, and chroma of 2 or 3. Texture is silt loam, loam, or fine sandy loam in the fine earth fraction. Structure is granular, platy or subangular blocky and consistence is friable or very friable.

The Bw horizon has hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 3 to 6. Texture is loam to sandy loam in the fine earth fraction. Structure is weak or moderate, medium, or fine subangular blocky.

The E horizon has hue of 5YR or 7.5YR, value of 3 to 6, and chroma of 2 or 3. Redoximorphic features may be lacking. Texture is sandy loam or fine sandy loam in the fine earth fraction.

The Bx horizon has hue of 2.5YR to 7.5YR, value of 3 to 5, and chroma of 2 to 4. Texture is sandy loam, fine sandy loam, loam or silt loam in the fine earth fraction. Gray or brown mottles may be present. Prism face colors range from weak red (2.5YR 5/2) to light brown (7.5YR 6/4). It has very coarse prismatic structure with platy, blocky, or massive interiors.

The C horizon, where present, has hue of 2.5YR to 7.5YR, value of 3 to 5, and chroma of 2, 3, or 4. Texture of the fine earth fraction ranges from sandy loam to silt loam.

Lordstown Series

The Lordstown series consists of moderately deep, well drained soils on hilltops and hillsides in uplands below 1,750 feet. These soils formed in glacial till derived from sandstone, siltstone, and shale. Slopes range from 2 to 70 percent.

Lordstown soils are geographically associated with the shallow Arnot soils and somewhat poorly drained or poorly drained soils in flatter or depressional areas underlain by bedrock. Lordstown soils are also associated with Bath and Mardin soils. Lordstown soils are deeper than Arnot soils but are not as deep as Bath and Mardin soils.

Typical pedon of Lordstown channery silt loam, 15 to 25 percent slopes, in the Town of Masonville, Beech Hill State Forest, 1,500 feet south-southwest of a 90 degree bend in Getter Hill Road and 500 feet from the northern border of the state land, Delaware County, NY; elevation 1,590 feet, lat. 42 degrees 14 minutes 08 seconds N. and long. 75 degrees 23 minutes 24 seconds W.; North Sanford, NY 7.5 minute Quad, NAD 1927:

A—0 to 3 inches, black (10YR 2/1) channery silt loam, dark grayish brown (10YR 4/2) dry; moderate fine granular structure; very friable; common fine and medium roots, few coarse roots; common medium vesicular pores, few fine tubular pores; 10 percent sandstone and siltstone rock fragments; strongly acid; abrupt smooth boundary.

Bw1—3 to 6 inches, dark brown (10YR 4/3) channery silt loam; moderate medium subangular blocky structure parting to moderate medium and fine granular structure; friable; common fine and medium roots, few coarse roots; common medium vesicular pores, a few fine tubular pores; 20 percent sandstone and siltstone rock fragments; strongly acid; abrupt wavy boundary.

Bw2—6 to 19 inches; dark yellowish brown (10YR 4/6) channery silt loam; moderate medium subangular blocky structure; friable; few fine and common medium roots; many fine vesicular pores and a few fine tubular pores; 20 percent sandstone and siltstone rock fragments (1 percent > 3 inches); strongly acid; clear wavy boundary.

BC—19 to 27 inches, yellowish brown (10YR 5/4) channery loam; weak medium subangular blocky structure; friable; few fine and medium roots; common medium vesicular pores and a few fine tubular pores; 30 percent sandstone and siltstone rock fragments (3 percent > 3 inches); strongly acid; clear wavy boundary.

C—27 to 32 inches, grayish brown (2.5Y 5/3 gravelly loam; massive friable; few medium roots; 30 percent sandstone and siltstone rock fragments (2 percent > 3 inches); strongly acid; abrupt smooth boundary.

2R—32 inches; gray (10 YR 5/1) sandstone bedrock.

The thickness of the solum ranges from 20 to 40 inches and corresponds with the depth to bedrock. Rock fragments, mainly flat and angular, sandstone, siltstone, or shale, occupy 10 to 35 percent by volume of the Ap horizon and 20 to 60 percent of the B and C horizon.

The Ap or A horizons have hue of 7.5YR to 2.5Y, value of 2 to 4, and chroma of 1 to 3. Dry colors have value of 4 to 6 and chroma of 2 to 4. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to slightly acid.

The B horizons have hue of 7.5 YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to moderately acid.

The C horizon has hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 4. Texture of the fine earth fraction ranges from fine sandy loam to silt loam. Reaction is strongly acid or moderately acid.

Maplecrest Series

Maplecrest series consists of very deep, well drained soils along lower valley sides. These soils formed in reddish glacial till derived from sandstone, siltstone, and shale. Slopes range from 3 to 60 percent.

Maplecrest soils are geographically associated with Tunkhannock soils in valleys and are also associated with Lackawanna and Wellsboro soils along valley sides. Maplecrest soils are not as gravelly as Tunkhannock soils. Maplecrest soils have a less dense subsoil than the Lackawanna and Wellsboro soils and are also better drained than Wellsboro soils.

Typical pedon of Maplecrest gravelly silt loam, 8 to 15 percent slopes, in the Town of Meredith, 100 feet west of Houghtaling Hollow Road, 0.4 mile northeast of Route 28, elevation 1,680 feet, lat. 42 degrees 22 minutes 51 seconds N. and long. 74 degrees 59 minutes 32 seconds W.; West Davenport, NY 7.5 minute Quad, NAD 1927:

A—0 to 3 inches, dark reddish brown (5YR 3/2) gravelly silt loam, reddish gray (5YR 5/2) dry; weak fine granular structure; very friable; common fine and medium, a few coarse roots; 15 percent rock fragments; very strongly acid; abrupt wavy boundary.

BA—3 to 6 inches, yellowish red (5YR 4/6) gravelly silt loam; moderate fine and medium subangular blocky structure; friable; common fine and medium, a few coarse roots; common fine and medium vesicular pores, few medium tubular pores; 15 percent rock fragments; very strongly acid; clear wavy boundary.

Bw1—6 to 18 inches, yellowish red (5YR 5/6) gravelly silt loam; weak fine and medium subangular blocky structure; friable; common fine and medium, a few coarse roots; common fine vesicular and a few medium tubular pores; 20 percent rock fragments; strongly acid; abrupt wavy boundary.

Bw2—18 to 36 inches, reddish brown (5YR 5/4) gravelly very fine sandy loam; weak coarse subangular blocky structure parts to moderate fine subangular blocky structure; friable; few fine and medium roots; common medium vesicular pores, few fine and medium tubular pores; 25 percent rock fragments; strongly acid; clear wavy boundary.

C1—36 to 46 inches, reddish brown (5YR 4/3) gravelly loam; massive, firm; 35 percent rock fragments; moderately acid; clear wavy boundary.

C2—46 to 72 inches, reddish brown (5YR 4/3) gravelly fine sandy loam; massive, friable; 25 percent rock fragments; strongly acid.

The thickness of the solum ranges from 35 to 55 inches. Depth to bedrock is more than 60 inches. Rock fragment content by volume ranges from 5 to 35 percent in the A and B horizons and from 20 to 70 percent in the C horizon.

The A horizon has hue of 5YR or 7.5YR, value of 3 or 4, and chroma of 2 to 4. Dry colors have value or 5 or 6 and chroma of 2 to 4. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to moderately acid.

The BA horizon has hue of 5YR or 7.5YR, value of 3 to 5, and chroma of 3 to 6. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to moderately acid.

The B horizons have hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 3 to 6. Texture of the fine earth fraction is loam, silt loam, or very fine sandy loam. Reaction ranges from strongly acid to slightly acid.

The C horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 3 or 4. Texture of the fine earth fraction is sandy loam, fine sandy loam, or loam. Reaction ranges from strongly acid to moderately acid.

Mardin Series

The Mardin series consists of very deep, moderately well drained soils on hilltops and hillsides in uplands below 1,750 feet. These soils formed in glacial till derived from sandstone, siltstone, and shale. Slopes range from 2 to 25 percent.

Mardin soils are geographically associated with Bath, Volusia, and Norchip soils. These soils are also associated near the Lordstown and Valois soils. Mardin soils are better drained than Volusia and Norchip soils but are wetter than Bath, Lordstown and Valois soils. Mardin soils are also deeper than Lordstown soils and have a more firm and dense substratum than Valois soils.

Typical pedon of Mardin channery silt loam, 3 to 8 percent slopes, in the Town of Davenport, 3/4 mile east of Davenport Center, 600 feet south of State Route 23, elevation 1,320 feet, lat. 42 degrees 26 minutes 53 seconds N., long. 74 degrees 54 minutes 14 seconds W.; West Davenport, NY 7.5 minute Quad, NAD 1927:

A—0 to 5 inches, dark brown (10YR 3/3) channery silt loam, light yellowish brown (10YR 6/4) dry; weak fine granular structure; very friable; many fine and very fine roots; 20 percent rock fragments, 5 percent greater than 3 inches; very strongly acid; abrupt wavy boundary.

Bw1—5 to 14 inches, brown (7.5YR 4/4) channery silt loam; weak fine and medium subangular blocky structure; thin discontinuous brown (10YR 5/3) silt coats on horizontal faces of some peds; very friable; common fine roots; many fine, common medium tubular pores; some brown (10YR 4/3) fillings in pores; 20 percent rock fragments; very strongly acid; clear smooth boundary.

Bw2—14 to 23 inches, dark yellowish brown (10YR 4/4) channery silt loam; weak medium subangular blocky structure parting to moderate fine granular structure; friable; common fine and few medium roots; common very fine and fine, few medium tubular pores; 30 percent rock fragments; few fine faint strong brown (7.5YR 5/6) iron concentrations; few medium distinct light yellowish brown (10YR 6/4) iron depleted areas; strongly acid; abrupt wavy boundary.

E—23 to 26 inches, yellowish brown (10YR 5/4) channery loam with pockets of fine sandy loam; moderate medium platy structure parting to weak fine subangular blocky structure; friable; few fine roots; few fine tubular pores, common fine and medium vesicular pores; 30 percent rock fragments; many (30 percent) medium distinct grayish brown (10YR 5/2) and common medium distinct brown (10YR 5/3) iron depletions and common medium strong brown (7.5YR 5/6) iron concentrations; strongly acid; abrupt wavy boundary.

Bx1—26 to 52 inches, brown (10YR 5/3 – 50 percent and 4/3 – 50 percent) very channery loam; strong very coarse prismatic structure; very firm and brittle; prism faces of gray (5Y 6/1) with continuous dark yellowish brown (10YR 4/6) rind; few fine roots in upper part of horizon; common fine vesicular and few fine and medium tubular pores; common distinct patchy clay coatings in pores; 40 percent rock fragments, 5 percent greater than 3 inches; few fine faint dark iron depletions; strongly acid; gradual wavy boundary.

Bx2—52 to 72 inches, grayish brown (2.5Y 5/2) very channery loam; moderate very coarse prismatic structure; very firm and brittle prism faces of gray (10YR 6/1) with discontinuous yellowish brown (10YR 5/6) rinds; common fine vesicular and tubular pores; common distinct patchy clay coatings in pores; 50 percent rock fragments; 15 percent greater than 3 inches; few fine faint light olive brown (2.5Y 5/4) iron concentrations; strongly acid.

The thickness of the solum ranges from 40 to 75 inches. Depth to bedrock is more than 60 inches and depth to the top of the fragipan ranges from 15 to 26 inches. Rock fragment content ranges from 5 to 35 percent by volume above the fragipan and from 15 to 60 percent in the Bx horizons.

The A horizon has hue of 7.5YR to 2.5Y, value of 3 or 4, and chroma of 2 to 4. Dry colors have value of 5 or 6 with chroma of 2 to 4. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from extremely acid to moderately acid.

The Bw horizons have hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 8. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from extremely acid to moderately acid.

The E horizon has hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 2 or 3. Texture of the fine earth fraction is fine sandy loam, loam, or silt loam. Reaction ranges from extremely acid to moderately acid.

The Bx horizons have hue of 7.5YR to 2.5Y, value of 3 to 5, and chroma of 2 to 4. The fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to slightly acid.

Middlebrook Series

The Middlebrook Series consists of moderately deep, moderately well drained soils on bedrock-controlled uplands above 1,750 feet. These soils formed in glacial till over sandstone, or interbedded sandstone, siltstone and shale bedrock. Slopes range from 2 to 15 percent.

Middlebrook soils are geographically associated with Gretor, Torull, Mongaup and Halcott soils, and are also associated with Lewbath and Willdin soils. Middlebrook soils are better drained than Gretor and Torull soils, and wetter than Mongaup and Halcott soils. Middlebrook soils are deeper than Torull and Halcott soils, but not as deep as Lewbath or Willdin soils.

Typical pedon of Middlebrook channery silt loam, 2 to 8 percent slope, in a hayfield, in the Town of Davenport, 500 feet west of Diddish Hill Road, 0.5 miles north of VanDuesen Road, elevation 1,900 feet, lat. 42 degrees 28 minutes 55 seconds N. and long. 74 degrees 43 minutes 10 seconds W.; Davenport, NY 7.5 minute Quad, NAD 1927:

Ap—0 to 6 inches; dark brown (10YR 3/3) channery silt loam, pale brown (10YR 6/3) dry; moderate medium and fine granular structure; friable; many fine and few medium roots; 15 percent rock fragments; strongly acid; abrupt wavy boundary.

Bw1—6 to 12 inches; yellowish brown (10YR 5/6) channery silt loam; weak medium and fine subangular blocky structure parting to weak fine granular structure; very friable; many fine roots; few fine tubular and many fine vesicular pores; 25 percent rock fragments; moderately acid; clear wavy boundary.

Bw2—12 to 17 inches; olive brown (2.5Y 4/4) channery silt loam; moderate medium and fine subangular blocky structure parting to moderate fine granular structure; friable; common fine roots; common fine tubular and many fine vesicular pores; 30 percent rock fragments; few fine faint light yellowish brown (2.5Y 6/4) iron concentrations and pale brown (10YR 6/3) iron depletions moderately acid; abrupt wavy boundary.

CB—17 to 35 inches; brown and pale brown (10YR 5/3 and 10YR 6/3) very channery loam; very weak medium and fine subangular blocky structure; firm; common medium tubular and few medium vesicular pores; 35 percent rock fragments; many medium faint light gray (10YR 7/1) iron depletions with yellowish red (5YR 5/8) rinds surrounding some depletions; moderately acid; abrupt smooth boundary.

2R—35 inches; light brownish gray (10YR 6/2) sandstone bedrock.

The thickness of the solum ranges from 15 to 35 inches and depth to bedrock ranges from 20 to 40 inches. Rock fragment content ranges from 10 to 40 percent in the solum and from 25 to 50 percent in the C horizon.

The A or Ap horizons have hue of 7.5YR to 2.5Y, value of 2 to 4, and chroma of 1 to 4. Dry colors have value of 5 or 6 and chroma of 2 to 4. Texture is sandy loam to silt loam in the fine earth fraction. The O or E horizon may be present in some pedons. Reaction, where the soil is unlimed, is very strongly acid to moderately acid.

The Bw horizons have hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 6 with faint, distinct, or prominent mottles. The B horizons are sandy loam to silt loam in the fine earth fraction. Reaction is very strongly acid to moderately acid where the soil is unlimed.

The C, CB, or Cd horizons have hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 4. Texture of the fine earth fraction is sandy loam or loam. Reaction, where the soil is unlimed, is very strongly acid to moderately acid.

Mongaup Series

The Mongaup series consists of moderately deep, well drained soils on bedrock-controlled uplands. These soils formed in glacial till over sandstone, siltstone, or shale bedrock. Slopes range from 2 to 70 percent.

Mongaup soils are geographically associated with Halcott and Vly soils and are also associated with Lewbeach, Lewbath, Rockrift, Willowemoc, or Willdin soils. Mongaup soils are deeper than Halcott soils but not as deep as Lewbeach, Lewbath, Rockrift, Willowemoc or Willdin soils. Mongaup soils have fewer rock fragments than Vly, Halcott, or Rockrift soils.

Typical pedon of Mongaup channery loam, 15 to 25 percent slopes, in the Town of Franklin, on the Blackman Farm, elevation 2,150 feet, lat. 42 degrees, 17 minutes, 31 seconds N. and long. 75 degrees, 02 minutes, 51 seconds W.; Treadwell, NY 7.5 minute Quad, NAD 1927:

Ap—0 to 5 inches, dark brown (7.5YR 3/4) channery loam, brown (7.5YR 5/4) dry; weak medium subangular blocky structure parting to moderate fine granular structure; very friable; few fine roots; 20 percent rock fragments; moderately acid (limed); abrupt wavy boundary.

Bw1—5 to 12 inches, yellowish red (5YR 4/6) channery silt loam; moderate fine and medium subangular blocky structure; friable; few fine roots; 15 percent rock fragments; strongly acid; clear smooth boundary.

Bw2—12 to 20 inches, dark brown (7.5YR 4/4) channery silt loam; moderate fine and medium subangular blocky structure; friable; few fine roots; 25 percent rock fragments; moderately acid; clear wavy boundary.

BC—20 to 28 inches, dark yellowish brown (10YR 4/4) very channery silt loam; weak medium subangular blocky structure; friable; few fine roots; 40 percent rock fragments; moderately acid; abrupt smooth boundary.

2R—28 inches, gray (7.5YR 5/1) sandstone bedrock.

The thickness of the solum and depth to bedrock ranges from 20 to 40 inches. Rock fragment content ranges from 5 to 35 percent by volume in the A and upper B horizons and from 15 to 50 percent in the lower B and C horizons.

The A horizon has hue of 5YR to 10YR, value of 2 to 4, and chroma of 0 to 4. Dry colors have value of 5 or 6 and chroma of 1 to 4. Texture of the fine earth fraction ranges from sandy loam to silt loam. Reaction, where the soil is unlimed, is extremely acid or strongly acid.

The Bw and BC horizons have hue of 2.5YR to 10YR with value of 3 to 5 and chroma of 2 to 6. Texture of the fine earth fraction ranges from sandy loam to silt loam. Reaction, where the soil is unlimed, is extremely acid to strongly acid.

Morris Series

The Morris series consists of very deep, somewhat poorly drained soils on uplands. These soils formed in glacial till derived from sandstone, siltstone, and shale. Slopes range from 0 to 25 percent.

Morris soils are geographically associated with Lackawanna, Wellsboro, and Norchip soils. In small valleys, Morris soils also are associated with Fluvaquents soils. Morris soils are wetter than Lackawanna and Wellsboro soils but are better drained than Norchip soils. Morris soils have a fragipan that is not present in the Fluvaquents soils and not subject to flooding as the Fluvaquents.

Typical pedon of Morris flaggy silt loam, in an area of Morris and Volusia soils, 2 to 10 percent slopes, very stony, 200 feet southwest of County Road 21 and 450 feet north of Hodge Spur Road, elevation 1,260 feet, lat. 42 degrees, 19 minutes, 26 seconds N. and long. 75 degrees, 10 minutes, 07 seconds W.; Franklin, NY 7.5 minute Quad, NAD 1927:

A—0 to 8 inches, dark reddish brown (5YR 3/2) flaggy silt loam, light reddish brown (5YR 6/3) dry; weak medium granular structure; very friable; many fine and medium roots; 25 percent rock fragments; moderately acid; clear wavy boundary.

Bg—8 to 14 inches, dark reddish gray (5YR 4/2) channery silt loam; moderate fine subangular blocky structure; friable common fine and a few medium roots; few fine tubular pores; 20 percent rock fragments; common medium distinct strong brown (7.5YR 5/8) soft masses of iron concentrations; strongly acid; abrupt irregular boundary.

Bx1—14 to 26 inches, dark reddish brown (2.5YR 4/4) channery silt loam; moderate very coarse prismatic structure; pinkish gray (5YR 6/2) ped faces; very firm and brittle; few fine roots along prism faces in upper part of horizon; 20 percent rock fragments; common medium distinct strong brown (7.5YR 5/6) masses of iron concentrations; strongly acid; clear smooth boundary.

Bx2—26 to 72 inches, dark reddish brown (2.5YR 3/4) flaggy silt loam; weak very coarse prismatic structure; weak coarse platy structure within prisms; gray (5YR 6/1) ped faces; firm and brittle; 25 percent rock fragments; common medium distinct reddish brown (5YR 5/4) masses of iron concentrations and gray (5YR 5/1) iron depletions; strongly acid.

The thickness of the solum ranges from 30 to 75 inches. Depth to the fragipan ranges from 10 to 20 inches. Depth to bedrock is more than 60 inches. Rock fragment content, mainly flat angular stones, range from 10 to 40 percent in layers above the fragipan and from 15 to 50 percent in the fragipan and substratum.

The A horizon has hue of 7.5YR or 5YR, value of 3 to 5, and chroma of 1 to 4. Dry colors have value of 5 or 6 with chroma of 2 to 4. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to moderately acid. The thin E horizon may be present below an A horizon.

The Bw horizon has hue of 5YR or 7.5YR, with values of 3 to 6 and chroma of 1 to 6. Texture of the fine earth fraction is loam or silt loam. These layers have common to many redoximorphic features. Reaction ranges from very strongly acid to moderately acid.

The Bx horizon has hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 2 to 6. Texture of the fine earth fraction is loam, silt loam, or silty clay loam. Reaction ranges from strongly acid to slightly acid.

The C or Cd horizon with colors and textures similar to those of the B horizon may be present in some pedons.

Norchip Series

The Norchip series consists of very deep, poorly drained soils on uplands. These soils formed in glacial till derived from sandstone, siltstone, and shale. Norchip soils are geographically associated with Onteora, Willowemoc, or Ontusia and Willdin soils. Norchip soils are wetter and have grayer colors than any of these other soils. Slopes range from 0 to 3 percent.

Typical pedon of Norchip silt loam, 0 to 3 percent slopes, in the Town of Meredith, 700 feet southwest of the intersection of Rathbun Hill Road and County Route 10, elevation 2,160 feet, lat. 42 degrees, 23 minutes, 57 seconds N. and long 74 degrees, 55 minutes, 31 seconds West, West Davenport, NY, 7.5 minute Quad, NAD 1927:

A—0 to 2 inches, dark gray (10YR 4/1) silt loam, light brownish gray (10YR 6/2) dry; moderate medium and coarse subangular blocky structure separates to weak fine granular structure; very friable; many fine, few medium roots; common fine strong brown (7.5YR 5/6) root stains; very strongly acid; clear smooth boundary.

Eg1—2 to 7 inches, light brownish gray (2.5YR 6/2) silt loam; weak coarse angular blocky structure; friable; common fine roots; common fine vesicular and tubular pores; few patches of reddish brown (5YR 4/3) stripped sand grains; 2 percent rock fragments; common medium and coarse prominent yellowish brown (10YR 5/6) and few coarse prominent brownish yellow (10YR 6/8) iron concentrations; strongly acid; clear smooth boundary.

Eg2—7 to 11 inches, light olive gray (5Y 6/2) silt loam; many (20 percent) reddish brown (5YR 4/3) patches; weak coarse angular blocky structure; friable; few fine roots; common fine vesicular and tubular pores; 10 percent rock fragments; common medium and coarse prominent brownish yellow (10YR 6/6) mottles, strongly acid; clear irregular boundary.

2Bx1—11 to 25 inches, reddish brown (5YR 4/4) channery loam; moderate very coarse prismatic structure; firm and brittle; prism face is reddish gray (5YR 5/2); few fine roots along prism faces; common fine vesicular and few fine tubular pores; common thin clay films in pores; 20 percent rock fragments; common medium distinct strong brown (7.5YR 5/6) iron concentrations; moderately acid; clear wavy boundary.

2Bx2—25 to 52 inches, reddish brown (5YR 5/4) channery loam; moderate very coarse prismatic structure; weak thin and medium platy structure within prisms; firm and brittle; prism face is reddish brown (5YR 5/3) with strong brown (7.5YR 5/6) rind; common fine vesicular and a few fine tubular pores; common thin clay films in pores; 30 percent rock fragments; few medium distinct yellowish red (5YR 5/8) and few coarse distinct strong brown (7.5YR 5/8) iron concentrations; neutral; clear smooth boundary.

2Cd—52 to 72 inches, reddish brown (5YR 5/4 – 90 percent) with spots of brown (7.5YR 5/4 – 10 percent); very gravelly silt loam; weak thin and medium platy structure; firm; 40 percent rock fragments; common coarse distinct very dark gray (5YR 3/1) Mn stains or patches; weakly effervescent at 60 inch depth; neutral.

The thickness of the solum ranges from 36 to 72 inches. Depth to the fragipan ranges from 10 to 20 inches. Depth to bedrock is more than 60 inches. Rock fragment content ranges from 0 to 20 percent by volume above the fragipan and from 15 to 50 percent in the Bx and C horizons.

The A horizon has hue of 7.5YR and 10YR, value of 2, 3, or 4, and chroma of 1 or 2. Dry colors have value of 5 or 6 and chroma of 1 to 3. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to slightly acid.

The E horizon has hue of 7.5YR to 5Y, value of 4 to 6, and chroma of 1 or 2. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from strongly acid to slightly acid. The Bx horizon has hue of 5YR to 10YR, value of 4 or 5, and chroma of 1 to 4. Texture of the fine earth fraction ranges from fine sandy loam to silt loam. Reaction ranges from moderately acid to neutral.

The C horizon has hue of 5YR to 10YR, value of 4 or 5, and chroma of 1 to 4. Texture of the fine earth fraction ranges from fine sandy loam to silt loam. Reaction is slightly acid or neutral.

Onteora Series

The Onteora series consists of very deep, somewhat poorly drained soils in uplands higher than approximately 1,750 feet. These soils formed in glacial till derived from sandstone, siltstone, and shale. Onteora soils are geographically associated with Willowemoc and Lewbeach soils, which are better drained. Onteora soils are also associated with the poorly drained Norchip soils. Slopes range from 0 to 15 percent.

Typical pedon of Onteora channery silt loam, 0 to 3 percent slopes, in the Town of Meredith, 0.9 miles south of intersection of Palmer Hill and Houghtaling Hollow Roads, elevation 2,070 feet, lat. 42 degrees, 23 minutes, 00 seconds N., long. 74 degrees, 57 minutes, 58 seconds W.; West Davenport, NY 7.5 minute Quad, NAD 1927:

Ap—0 to 6 inches, dark brown (7.5YR 3/2) channery silt loam, pinkish gray (7.5YR 6/2) dry; weak medium subangular blocky structure, parting to weak medium granular structure; very friable; many very fine and fine, common medium roots; 15 percent rock fragments; very strongly acid; abrupt wavy boundary.

Bw—6 to 13 inches, mixed reddish brown and yellowish red (5YR 5/4 and 5/6) channery silt loam; moderate medium and fine subangular blocky structure; very friable; many fine and very fine, few medium roots; 30 percent rock fragments; few medium distinct light reddish brown (5YR 6/3) and strong brown (7.5YR 5/4) iron concentrations; strongly acid; clear wavy boundary.

Bx—13 to 33 inches, reddish brown (2.5YR 4/4) gravelly loam; weak very coarse prismatic structure, parting to moderate fine and medium subangular blocky structure; firm and slightly brittle; few very fine roots; common fine and medium tubular and common fine vesicular pores; 20 percent rock fragments; many coarse distinct brown (7.5YR 5/2) iron depletions and a few medium distinct strong brown (7.5YR 5/6) iron concentrations; strongly acid; gradual wavy boundary.

BC—33 to 46 inches, reddish brown (2.5YR 4/4) gravelly loam; moderate medium and fine subangular blocky structure; firm; many medium vesicular and tubular pores; 30 percent rock fragments; few coarse distinct reddish brown (5YR 5/4) iron concentrations; strongly acid; clear wavy boundary.

C—46 to 72 inches, reddish brown (5YR 4/3) gravelly loam; massive; firm; 30 percent rock fragments; moderately acid.

The thickness of the solum ranges from 25 to 60 inches. Depth to bedrock is more than 60 inches. Depth to the fragipan ranges from 10 to 25 inches. Rock fragment ranges from 5 to 35 percent by volume in the A and upper B horizons and from 15 to 50 percent in the Bx and C horizons. Reaction ranges from extremely acid to moderately acid in the A horizon, and E horizon if present, and from very strongly acid to moderately acid below.

The A horizon has hue of 5YR to 10YR, value of 2 to 4, and chroma of 2 or 3. Dry colors have value of 5 or 6 with chroma of 2 to 4. Texture of the fine earth fraction is silt loam to fine sandy loam.

The E horizon, if present, has hue of 5YR to 10YR, value of 4 to 6, and chroma of 2 or 3. Texture is loam to sandy loam in the fine earth fraction.

The Bw horizon has hue of 5YR to 10YR, value of 4 or 5, and chroma of 3 to 6. Mottles of gray, brown, or yellowish red are present. Texture is silt loam to sandy loam in the fine earth fraction.

The Bx horizon has hue of 2.5YR or 5YR, value of 4 to 6, and chroma of 2 to 4. Redoximorphic features of gray, brown, or yellowish red may occur. Texture is silt loam to sandy loam in the fine earth fraction. Prism interiors have platy or blocky structure or they are massive. Consistence is firm or very firm and brittle.

The BC horizon (where present) and the C horizon have colors and textures similar to those of the Bx horizon but they lack the very coarse prismatic structure and are not brittle.

Ontusia Series

The Ontusia series consists of very deep, somewhat poorly drained soils on uplands above 1,750 feet. These soils formed in glacial till derived from sandstone, siltstone, and shale. Ontusia soils are geographically associated with Lewbath, Willdin, and Norchip soils. Ontusia soils are wetter then Lewbath and Willdin but are better drained than Norchip soils. Slopes range from 0 to 15 percent.

Typical pedon of Ontusia channery silt loam, 3 to 8 percent slopes, in the Town of Sidney, 2,000 feet northeast on County Route 35 from the intersection with Roof Road, 1,100 feet east of County Road 35 in a hayfield, elevation 1,900 feet, lat. 42 degrees, 16 minutes, 04 seconds N. and long. 75 degrees, 17 minutes, 07 seconds W.; Unadilla, NY 7.5 minute Quad, NAD 1927:

Ap—0 to 8 inches, dark grayish brown (10YR 4/2) channery silt loam, light brownish gray (10YR 6/2) dry; moderate medium and coarse subangular blocky structure parting to moderate fine and medium granular structure; very friable; many fine roots; 15 percent rock fragments, 2 percent greater than 3 inches; strongly acid; abrupt smooth boundary.

Bw—8 to 12 inches, dark yellowish brown (10YR 4/6) silt loam; weak medium subangular blocky structure; very friable; common fine roots; many very fine and medium tubular pores; 10 percent rock fragments, 2 percent greater than 3 inches; few medium distinct brown and grayish brown (10YR 5/3 and 5/2) iron depletions; strongly acid; clear smooth boundary.

Eg—12 to 16 inches, grayish brown (2.5Y 5/2) silt loam; moderate medium platy structure; friable; few fine roots; common fine and few medium tubular pores; 10 percent rock fragments; many (40 percent) medium distinct brown and strong brown (7.5YR 4/4 and 5/6) iron concentrations and few medium faint light brownish gray (2.5Y 6/2) iron depletions; strongly acid; clear wavy boundary.

Bx1—16 to 25 inches, brown (10YR 4/3) channery silt loam; strong coarse and very coarse prismatic structure parting to weak coarse subangular blocky structure; firm and slightly brittle; prism faces of light olive gray (5Y 6/2) ¼ to ½ inches wide with strong brown (7.5YR 5/6) rinds $^{1}/_{16}$ to ¼ inch wide; few fine roots along prism faces; common fine tubular and vesicular pores; common distinct continuous clay flows within pores; 20 percent rock fragments, 2 percent greater than 3 inches; common fine and medium faint brown (7.5YR 4/4) iron concentrations and common fine distinct gray (10YR 6/1) iron depletions; strongly acid; gradual wavy boundary.

Bx2—25 to 36 inches, grayish brown (10YR 5/2) channery silt loam; strong very coarse prismatic structure; very firm and brittle; prism faces are greenish gray

(5GY 6/1); common fine and few medium tubular pores; thin patchy dark grayish brown (2.5Y 4/2) clay coatings in pores and on rock fragments; 25 percent rock fragments, 2 percent > 3 inches; common coarse distinct brown and strong brown (7.5YR 5/4 and 5/6) iron concentrations and dark reddish brown (5YR 3/2) iron stains; moderately acid; clear wavy boundary.

Bx3—36 to 57 inches, grayish brown and yellowish brown (10YR 5/2 and 5/4) channery loam; moderate very coarse prismatic structure parting to weak medium platy structure; firm; prism faces are pale olive (5Y 6/4) with dark reddish brown (5YR 3/2) iron stains; few fine and medium vesicular pores; 25 percent rock fragments, 5 percent greater than 6 inches long; common medium distinct strong brown (7.5YR 5/6) iron concentrations and grayish brown (2.5Y 5/2) iron depletions; slightly acid; gradual wavy boundary.

Cd—57 to 72 inches, brown and yellowish brown (10YR 5/3 and 5/4) very channery loam; weak very coarse prismatic structure parting to weak medium platy structure; firm; prism faces are gray (5Y 6/1) with dark brown (7.5YR 3/2) iron stains; few fine vesicular pores; 35 percent rock fragments, 10 percent greater than 6 inches long; common fine faint yellowish brown (10YR 5/6) iron concentrations; slightly acid.

The thickness of the solum ranges from 40 to 72 inches. Depth to bedrock is more than 60 inches. Depth to the fragipan ranges from 10 to 20 inches. Rock fragment content ranges from 10 to 35 percent above the fragipan, 15 to 50 percent in the fragipan, and 15 to 60 percent in the substratum.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 2 or 3. Dry colors have value of 5 or 6 with chroma of 2 to 4. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to slightly acid.

The Bw horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 6. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to slightly acid.

The E horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 or 3. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to slightly acid.

The Bx horizons have hue of 10YR to 5Y, value of 3 to 5, and chroma of 2, 3 or 4. Texture of the fine earth fraction ranges from loam to silty clay loam. Reaction ranges from very strongly acid to slightly acid.

The C horizon has hue of 10YR to 5Y, value of 3 to 5, and chroma of 2, 3, or 4. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from strongly to slightly acid.

Oquaga Series

The Oquaga series consists of moderately deep, somewhat excessively drained soils on bedrock-controlled hilltops and side slopes below 1,750 feet. These soils formed in glacial till derived from sandstone, siltstone, and shale. Slopes range from 2 to 70 percent.

Oquaga soils are geographically associated with Arnot and Lordstown soils. Oquaga soils have redder hues and more rock fragments in the subsoil than Lordstown soils and are deeper than Arnot soils. Oquaga soils are also associated with Lackawanna, Wellsboro, and Morris soils, which all are deeper to bedrock than the Oquaga soils. Wellsboro and Morris soils are also wetter than Oquaga.

Typical pedon of Oquaga channery silt loam, 8 to 15 percent slopes, located in the Town of Hancock, 200 yards west of Abe Lord Creek Road, 500 yards south of Route 97, elevation 1,720 feet, lat. 41 degrees, 55 minutes, 01 seconds N. and long. 75 degrees, 12 minutes, 01 second W.; Fishs Eddy, NY 7.5 minute Quad, NAD 1927:

Ap—0 to 6 inches, dark reddish brown (5YR 3/3) channery silt loam; light reddish brown (5YR 6/3) dry; moderate medium and fine granular structure; friable; many fine, common medium and few coarse roots; 30 percent rock fragments; moderately acid; abrupt wavy boundary.

Bw—6 to 14 inches, reddish brown (5YR 5/4) very channery silt loam; weak coarse and medium subangular blocky structure parting to moderate medium granular structure; friable; common fine and medium, few coarse roots; many medium vesicular pores; 45 percent rock fragments; moderately acid; clear wavy boundary.

BC—14 to 24 inches, reddish brown (2.5YR 4/4) very channery silt loam; weak fine and medium platy structure; friable; few fine and medium roots; 60 percent rock fragments; moderately acid; abrupt smooth boundary.

2R—24 inches, dark reddish brown (2.5YR 3/4 and 2/4) sandstone bedrock.

The thickness of the solum and depth to bedrock range from 20 to 40 inches. Rock fragment content by volume ranges from 15 to 60 percent in surface horizons, and from 25 to 85 percent in the subsurface horizons. Unless the soil is limed, the reaction ranges from extremely acid to moderately acid throughout the soil.

The Ap horizon has hue of 2.5YR to 10YR, value of 3 to 5, and chroma of 2 to 4. Dry colors have value of 5 or 6 with chroma of 2 to 4. Texture of the fine earth fraction is silt loam, loam, or sandy loam.

The Bw horizons have hue of 2.5YR to 7.5YR, value of 3 to 6, and chroma of 3 to 8. The fine earth fraction is silt loam or loam.

The C horizon, if present, has hue of 2.5YR to 10YR, value of 3 to 5, and chroma of 2 to 4. The fine earth fraction is silt loam, loam, or sandy loam. Few or common, faint or distinct redoximorphic features are just above the bedrock in some pedons.

Palms Series

The Palms series consists of very deep, very poorly drained soils in upland depressions or in valleys. These soils formed in organic materials underlain by a loamy mineral substratum.

Palms soils are geographically associated with Carlisle or Norchip soils. Palms soils have a thinner layer of organic materials than do the Carlisle soils. The organic layer in Palms is much thicker than in the Norchip soils. Slopes range from 0 to about 2 percent.

Typical pedon of Palms muck, 0 to 2 percent slopes, in an area of Carlisle and Palms soils in the Town of Hancock, 100 yards east of John Milk Road, 0.2 mile north of the intersection of John Milk and Anderson Roads, elevation 1,565 feet, lat. 41 degrees 54 feet 06 seconds N., and long. 75 degrees 05 feet 46 seconds W.; Horton, NY 7.5 minute Quad, NAD 1927.

Oa1—0 to 6 inches, black (5YR 2.5/1) broken and rubbed, sapric material; about 25 percent fibers; about 10 percent rubbed; weak medium granular structure; very friable; many fine and medium roots, common coarse roots; moderately acid; clear wavy boundary.

Oa2—6 to 22 inches, dark reddish brown (5YR 3/3) broken and rubbed (5YR 3/2) sapric material about 20 percent fibers; about 10 percent rubbed; weak coarse subangular blocky structure parting to weak medium and coarse granular structure; very friable; common fine and medium roots; 2 percent wood fragments 1/2 to 1 inch in diameter; moderately acid; clear wavy boundary.

Oa3—22 to 36 inches, very dark gray (10YR 3/1) broken and black (10YR 2/1) rubbed; sapric material; about 15 percent fibers, about 5 percent rubbed; massive; very friable; 3 percent wood fragments 1/2 to 1 inch in diameter; moderately acid, abrupt wavy boundary.

Cg—36 to 72 inches, dark gray (10YR 4/1) and greenish gray (5G 6/1) gravelly sandy loam; massive; firm; 25 percent rock fragments; moderately acid.

The thickness of the organic material ranges from 16 to 50 inches. Depth to bedrock is more than 60 inches. The content of woody fragments in the organic layers ranges from 0 to 15 percent by volume. Rock fragment content ranges from 0 to 25 percent by volume in the C horizon.

The surface tier has hue of 5YR to 10YR with value of 2 or 3 and chroma of 1 or 2. The material is dominantly sapric material but some pedons include various amounts of both sapric and hemic material. Reaction ranges from strongly acid to neutral.

The middle tier has hue of 5YR to 10YR, value of 2 or 3, and chroma of 0 to 3. The material is dominantly sapric but thin layers of hemic or fibric material may be included. Reaction ranges from strongly acid to neutral.

The bottom tier has hue of 5YR to 10YR, value of 2 or 3, and chroma of 0 to 3. The material is dominantly sapric but thin layers of hemic or fibric material may be included. Reaction ranges from strongly acid to neutral.

The C horizon has hue of 10YR or 2.5Y, value of 4 and chroma of 1 or 2. Texture of the fine earth fraction ranges from sandy loam to clay loam. Reaction ranges from moderately acid to neutral.

Philo Series

The Philo series consists of very deep, moderately well drained soils on floodplains. These soils formed in recent alluvial material derived from sandstone and shale. Slopes range from 0 to 3 percent. Philo soils are geographically associated with the well drained Wenonah soils, the poorly drained Raypol soils, and the Fluvaquents-Udifluvents soils on floodplains. Philo soils are also associated with the better drained, gravelly Chenango and Riverhead soils at the sides of valleys.

Typical pedon of Philo silt loam, in the Town of Harpersfield, on the southeast bank of the Charlotte Creek, 0.5 mile east of Simpsonville, elevation 1,340 feet, lat. 42 degrees, 30 minutes, 17 seconds N. and long. 74 degrees 46 minutes, 23 seconds West; Schenevus, NY 7.5 minute Quad, NAD 1927.

Ap—0 to 12 inches, dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; strong medium granular structure; friable; many fine, common medium roots; common medium and coarse tubular pores; moderately acid; abrupt smooth boundary.

Bw1—12 to 19 inches, olive brown (2.5Y 4/4) silt loam, moderate medium subangular blocky structure parting to a moderate medium granular structure; friable; common fine roots; common fine and medium and a few large tubular pores; moderately acid; clear wavy boundary.

Bw2—19 to 31 inches, olive brown (2.5Y 4/4) very fine sandy loam; weak medium and coarse subangular blocky structure; friable; common fine roots; common fine and medium tubular pores; common medium distinct olive gray (5Y 5/2) iron depletions and a few fine distinct yellowish brown (10YR 5/6) root stains; moderately acid; clear wavy boundary.

BC—31 to 39 inches, grayish brown (2.5Y 5/2) (60%) and brown (10YR 5/3) (40%) very fine sandy loam; weak coarse subangular blocky structure; very friable; few fine roots; few fine, common medium tubular pores; common medium distinct yellowish brown (10YR 5/6) iron concentrations; moderately acid; clear wavy boundary.

C—39 to 44 inches, gray (10YR 5/1 – 60 percent) and olive (5Y 5/3 – 40 percent) silt loam; massive; very friable; common tubular pores; many (20%) strong brown (7.5YR 5/6) iron concentrations; moderately acid; abrupt wavy boundary.

2C—44 to 72 inches, gray (10YR 5/1) and olive (5Y 5/3) very gravelly loamy sand; single grained; loose; 40 percent gravel; moderately acid.

The thickness of the solum ranges from 20 to 48 inches. Depth to bedrock is more than 60 inches. Rock fragment content ranges from 0 to 20 percent, by volume, in the A, B and C horizons and 0 to 40 percent in the 2C horizon.

The Ap horizon has hue of 7.5 YR or 10YR, value of 3 or 4, and chroma of 2 or 3. Dry colors have value of 5 or 6 with chroma of 2 to 4. Texture of the fine earth fraction ranges from fine sandy loam to silt loam. Reaction ranges from very strongly acid to moderately acid.

The Bw horizon has hue of 7.5YR to 2.5Y with value and chroma of 3 to 6. Texture of the fine earth fraction ranges from fine sandy loam to silt loam. Reaction ranges from very strongly acid to moderately acid.

The BC horizon has hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 2 to 4. Texture of the fine earth fraction ranges from sandy loam to silt loam. Reaction is strongly acid or moderately acid.

The C horizon has hue of 7.5YR to 5Y or is neutral with value of 4 to 6 and chroma of 0 to 4. Texture of the fine earth fraction ranges from sand to silt loam. Reaction is strongly acid or moderately acid.

Raypol Series

The Raypol series consists of very deep, poorly drained soils on parts of floodplains or low terraces. These soils formed in silty deposits over sand and gravel. Slopes are 0 to 3 percent.

Raypol soils are geographically associated with the moderately well drained Basher and Philo soils, and associated with the well drained Barbour and Wenonah soils on floodplains. These soils may also be nearby the Maplecrest and Tunkhannock soils at the sides of valleys. Raypol soils are wetter than Barbour, Wenonah, Basher, and Philo soils and have a more gravelly substratum than Basher, Philo or Wenonah soils.

Typical pedon of Raypol silt loam, 0 to 3 percent slopes, in the Town of Delhi, Delaware County, on the Robert Daniel property, 400 feet east of NY Route 10, 0.5 miles south from the junction of Route 10 and Hamden Hill Road, elevation 1,300 feet, lat. 42 degrees, 14 minutes, 07 seconds N. and long. 74 degrees, 58 minutes, 07 seconds W.; Hamden, NY 7.5 minute Quad, NAD 1927:

Ap—0 to 5 inches, dark brown (7.5YR 3/2) silt loam, brown (7.5YR 5/3) dry; moderate fine and medium granular structure; friable; non-sticky, non-plastic; many fine roots; very strongly acid.

BA—5 to 10 inches, reddish gray (5YR 5/2) silt loam, brown (7.5YR 4/2) ped faces; moderate medium and coarse subangular blocky structure parting to weak fine granular structure; friable; non-sticky, non-plastic; common fine roots; common fine vesicular pores; common medium distinct yellowish red (5YR 5/6) iron concentrations and 5 percent gray (5YR 7/1) remnants of an Eg layer; strongly acid; clear wavy boundary.

Bw1—10 to 13 inches, strong brown (7.5YR 5/4) and brown (7.5YR 4/3) very fine sandy loam, reddish gray (5YR 5/2) ped faces; moderate medium and coarse subangular blocky structure; friable; non-sticky, non-plastic; few fine roots; common fine vesicular and tubular pores; common fine prominent red (2.5YR 4/6) iron concentrations; very strongly acid; gradual wavy boundary.

Bw2—13 to 21 inches, reddish brown (5YR 5/4) loam, reddish brown (5YR 5/3) ped faces; weak medium and coarse subangular blocky structure; friable; non-sticky, non-plastic; few fine roots; common fine vesicular and tubular pores; common medium distinct yellowish red (5YR 5/8) iron concentrations; very strongly acid; abrupt wavy boundary.

2C1—21 to 27 inches, reddish brown (5YR 4/3) loamy fine sand with lenses of fine sandy loam; single grained; loose; 5 percent rock fragments; few fine distinct strong brown (7.5YR 5/6) iron concentrations and few fine distinct reddish gray (5YR 5/2) iron depletions; very strongly acid; clear wavy boundary.

2C2—27 to 32 inches, dark reddish brown (5YR 3/3) loamy fine sand; single grained; loose; 5 percent rock fragments; very strongly acid; clear wavy boundary.

2C3—32 to 40 inches, dark reddish brown (5YR 3/3) very gravelly loamy fine sand; single grained; loose; 40 percent rock fragments; very strongly acid; clear wavy boundary.

2C4—40 to 72 inches, dark reddish brown (5YR 3/2) very gravelly sand; single grained; loose; 50 percent rock fragments; very strongly acid.

The thickness of the solum ranges from 18 to 36 inches. Depth to sand or gravel ranges from 18 to 40 inches. Depth to bedrock is more than 60 inches. Rock fragment content ranges from 0 to 10 percent in the solum and from 0 to 60 percent in the C horizon.

The Ap horizon has hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 1 or 2. Dry colors have value of 5 or 6 with chroma of 2 to 4. Texture of the fine earth fraction ranges from very fine sandy loam to silt loam. Reaction ranges from strongly acid to very strongly acid.

The Bw horizon has hue of 5YR to 2.5Y, value of 4 to 6, and chroma of 1 to 6. In the fine earth fraction, the texture ranges from very fine sandy loam to silt loam. Reaction ranges from strongly acid to very strongly acid.

The C horizon has hue of 5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 4. The 2C horizons are gravelly or very gravelly loamy fine sand, sand, or stratified sand and gravel. Reaction is slightly acid to very strongly acid below 40 inches.

Red Hook Series

The Red Hook series consists of very deep, somewhat poorly drained soils on outwash terraces, older stream terraces and morains. These soils formed in gravelly glacio-fluvial material. Slopes are 0 to 3 percent.

Red Hook soils are geographically associated with the moderately well drained Deposit soils, the well drained Riverhead soils, and the somewhat excessively drained Chenango and Tunkhannock soils. Wenonah, Philo and Barbour, Basher, and Raypol soils are on nearby floodplains. Red Hook soils are wetter than Wenonah, Philo, Barbour, and Basher soils but not as wet as Raypol soils. Raypol soils contain more rock fragments than Riverhead soils.

Typical pedon of a Red Hook gravelly silt loam, 0 to 3 percent slopes, in a cornfield in the town of Harpersfield, Delaware County, 200 feet northeast of Middlebrook Hill Road and 200 feet northwest of Middle Brook, elevation 1,465 feet, lat. 42 degrees 27 minutes 33 seconds N. and long. 75 degrees 44 minutes 34 seconds W.; Harpersfield, NY 7.5 minute Quad, NAD 1927:

Ap—0 to 8 inches, dark brown (10YR 3/3) gravelly silt loam, pale brown (10YR 6/3) dry; weak coarse subangular blocky structure parting to moderate medium granular structure; friable; few fine and medium roots; few fine and medium tubular pores; 30 percent rock fragments; slightly acid; abrupt smooth boundary.

BA—8 to 17 inches, dark brown (10YR 3/3) gravelly silt loam; moderate medium subangular blocky structure; friable; few fine and medium roots; common medium and fine tubular pores; 20 percent rock fragment; common coarse distinct gray (10YR 5/1) iron depletions and common coarse distinct yellowish brown (10YR 5/8) iron concentrations; moderately acid; abrupt wavy boundary.

Bw1—17 to 25 inches, brown (10YR 5/3) and yellowish brown (10YR 5/4) gravelly silt loam, ped faces are grayish brown (10YR 5/2); moderate fine subangular blocky structure; friable; few fine and medium roots; few fine, medium and coarse tubular pores; 20 percent rock fragments; few fine distinct gray (10YR 5/1) iron depletions and common fine distinct yellowish brown (10YR 5/8) iron concentrations; moderately acid; clear smooth boundary.

Bw2—25 to 38 inches, light olive brown (2.5Y 5/4) gravelly very fine sandy loam, with grayish brown (10YR 5/2) ped faces; moderate medium platy structure; firm; few fine roots; few fine and medium tubular pores; 15 percent rock fragments; few medium distinct gray (10YR 5/1) iron depletions and common coarse distinct strong brown (7.5YR 5/8) iron concentrations; moderately acid; abrupt wavy boundary.

2Cg—38 to 72 inches, grayish brown (10YR 5/2) very gravelly very fine sandy loam; single grained; loose; 45 percent rock fragments; common coarse distinct brown (10YR 5/3) and few coarse distinct yellowish brown (10YR 5/6) iron concentrations; moderately acid.

The thickness of the solum ranges from 20 to 40 inches. Depth to bedrock is more than 60 inches. Rock fragment content ranges from 5 to 35 percent by volume in the A horizon, 10 to 60 percent in the B subhorizons, and 10 to 65 percent in the C horizon, averaging less than 35 percent above 40 inches.

The Ap horizon has a hue of 10YR or 2.5Y, value of 2 to 5, and chroma of 2 or 3. Dry colors have value of 5 or 6 and chroma of 3 or 4. Texture of the fine earth fraction ranges from fine sandy loam to silt loam. Reaction, unless limed, ranges from strongly acid to slightly acid.

The BA horizon has hue of 7.5YR to 2.5Y, value of 3 or 4, and chroma of 3 or 4. Texture of the fine earth fraction ranges from fine sandy loam to silt loam. Reaction ranges from strongly acid to slightly acid.

The Bw horizon has hue of 7.5YR to 5Y, value of 4 to 6, and chroma of 1 to 4 and has redoximorphic features. The fine earth fraction ranges in texture from sandy loam to loam and silt loam. Reaction ranges from moderately acid to slightly acid.

The C horizon has hue of 7.5YR to 5Y, value of 3 to 5, and chroma of 1 to 3. Texture is sandy loam to silt loam in the fine earth fraction or is stratified coarser or finer textured material. Reaction ranges from moderately acid to neutral.

Riverhead Series

The Riverhead series consists of very deep, well drained soils on outwash plains and stream terraces. These soils formed in water-sorted sandy loam materials over sand and gravel deposits. Slopes range from 0 to 25 percent. Riverhead soils are geographically associated with the more gravelly, well drained to somewhat excessively drained Chenango soils and the moderately well drained Deposit soils.

Typical pedon of Riverhead loam, 3 to 8 percent slopes, in the Town of Sidney between the Wells Bridge-Otego Road and the Susquehanna River, 2 miles east of Wells Bridge. This pedon was taken from a limed field. Elevation is 1,080 feet, lat. degrees, 22 minutes, 13 seconds N. and long. 75 degrees, 12 minutes, 26 seconds W.; Franklin, NY 7.5 minute Quad, NAD 1927:

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

Bw—7 to 22 inches, yellowish brown (10YR 5/6) fine sandy loam; weak fine subangular blocky structure; friable; common fine roots; 5 percent gravel, neutral (limed); clear wavy boundary.

BC—22 to 28 inches yellowish brown (10YR 5/4) loamy fine sand; massive, friable, 5 percent gravel, slightly acid (limed); gradual wavy boundary.

2C—28 to 72 inches, brown (10YR 4/3) and dark brown (10YR 3/3) sand; single grain; loose; 10 percent gravel; slightly acid.

The thickness of the solum and depth to sand and gravel ranges from 20 to 40 inches. Depth to bedrock is more than 60 inches. Rock fragment content (mainly gravel) ranges from 0 to 35 percent in the A horizon and from 5 to 35 percent in the B horizon and 5 to 40 percent in the C horizon.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 or 3. Dry colors have value of 5 or 6 and chroma of 3 or 4. Texture of the fine earth fraction is sandy loam, fine sandy loam, or loam. Reaction, unless limed, ranges from extremely acid to moderately acid.

The Bw horizon has hue of 7.5YR, 10YR or 2.5Y, with value and chroma of 4 to 6. Texture of the fine earth fraction is sandy loam or fine sandy loam. Reaction, unless limed, ranges from extremely acid to moderately acid.

The BC horizon has hue of 7.5YR, 10YR, or 2.5Y, with value and chroma of 4 to 6. Texture of the fine earth fraction ranges from loamy sand to sandy loam. Reaction, unless the soil is limed, ranges from extremely acid to moderately acid.

The C horizon has hue of 7.5YR, 10YR, or 2.5Y, value of 4 to 7, and chroma of 3 to 6. Texture of the fine earth fraction is coarse sand, sand, or loamy sand. Reaction ranges from very strongly acid to neutral.

Rockrift Series

The Rockrift series consists of very deep, well drained soils on uplands above 1,750 feet. These soils formed in glacial till and local colluvium derived from sandstone, siltstone, and shale. Slopes range from 15 to 70 percent.

Rockrift soils are geographically associated with to Halcott, Mongaup, Vly, and Elka soils. Rockrift soils are also associated with Lewbath and Willdin soils. Rockrift soils have a higher rock fragment content than Mongaup, Elka, Lewbath, or Willdin soils. Rockrift soils are deeper than Halcott, Mongaup, or Vly soils.

Typical pedon of Rockrift channery loam, 35 to 70 percent slope in an area of mixed hardwoods, Town of Tompkins, edge of a logging road 1,500 feet west-southwest of Pines Lookout Tower and 3,000 feet north-northeast of the junction of Apex Road and NY Route 10, elevation 1,900 feet, lat. 42 degrees, 06 minutes, 01 seconds N. and long. 75 degrees, 13 minutes, 51 seconds W.; Readburn, NY 7.5 minute Quad; NAD 1927:

Oa—0 to 2 inches; black (5YR 2.5/1) sapric material, dark reddish gray (5YR 4/2) dry; weak very fine granular structure; very friable; many fine, few medium and coarse roots; 30 percent rock fragments; abrubt wavy boundary; very strongly acid.

E—2 to 4 inches, brown (7.5YR 5/2 and 5/3) channery loam; weak very fine and fine granular structure; very friable; many fine and very fine roots, common medium roots and few coarse roots; 20 percent rock fragments; clear wavy boundary; strongly acid.

Bw1—4 to 15 inches; strong brown (7.5YR 5/6 and 4/6) very channery loam; very weak fine and medium subangular blocky structure parting to weak fine granular structure; very friable; common fine roots, few medium and coarse roots; 35 percent rock fragments; gradual wavy boundary; strongly acid.

Bw2—15 to 35 inches; yellowish brown (10YR 5/4) very channery loam; weak medium subangular blocky structure parting to weak fine subangular structure; very friable; common fine and few medium roots; 45 percent rock fragments; gradual wavy boundary; moderately acid.

BC—35 to 49 inches; yellowish brown (10YR 5/4) very channery loam with yellowish brown (10YR 5/6) stains; weak medium and fine subangular blocky structure;

friable, slightly firm in place; few fine roots; 45 percent rock fragments; gradual wavy boundary; strongly acid.

C—49 to 72 inches; brown (10YR 5/3), yellowish brown (10YR 5/4) and 10 percent dark brown (10YR 4/3) very flaggy sandy loam; massive; friable; few fine roots; 60 percent rock fragments; strongly acid.

The thickness of the solum ranges from 30 to 50 inches. Depth to bedrock is more than 40 inches. Rock fragments range from 15 to 45 percent in the upper part of the solum and 25 to 70 percent in the lower part of the solum and substratum, with greater than 35 percent weighted average between a depth of 10 and 40 inches. Reaction ranges from moderately acid to very strongly acid throughout.

The Oa horizon, where present, has hue of 5YR or 7.5YR, value of 2.5 or 3, and chroma of 1 or 2. Dry colors have value of 4 or 5 and chroma of 2 or 3. It is sapric material.

The A horizon, where present, has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 1 to 4. Texture is silt loam, loam, or sandy loam in the fine earth fraction.

The E horizon has hue of 5YR, or 7.5YR, value of 4 to 6, and chroma of 2 or 3. Texture in the fine earth fraction is silt loam, loam, or sandy loam.

The Bw horizon has hue of 7.5 YR, 10YR, or 2.5Y, value of 4 to 6, and chroma of 3 to 6. Texture is silt loam, loam, or sandy loam in the fine earth fraction.

The BC horizon, where present, has hue, value, and chroma similar to the B horizon. Texture in the fine earth fraction is silt loam, loam, or sandy loam. Structure is weak fine to coarse subangular blocky or platy.

The C horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 2 to 4. Texture is loam or sandy loam in the fine earth fraction. Some pedons have a 2Cr horizon above the bedrock that is deeper than 40 inches.

Saprists

Saprists consist of very deep, very poorly drained soils in depressions in lowlands and uplands. These soils formed in black, well decomposed organic materials derived from woody or herbaceous plants. Saprists are geographically associated with Aquents, Bucksport, Carlisle, Palms, Wonsqueak, and Norchip soils. Saprists are organic soils while the Aquents and Norchip soils formed in mineral materials. Saprists have a wider range of thickness of organic materials and have a wider range of temperature then do Bucksport, Carlisle, Palms, or Wonsqueak soils. Slopes are 0 to 1 percent.

A typical pedon of Saprists is not provided because they are so variable. Saprists consist of organic material more than 16 inches thick that overlies mineral soil deposits or bedrock. Depth to bedrock is more than 60 inches. Woody fragments can make up as much as 10 percent, by volume, of the lower layers.

The organic soil material is neutral or has hue of 10YR to 5YR, value of 2 or 3, and chroma of 0 to 2. The material is well decomposed to at least a depth of 10 inches with less than 15 percent rubbed fiber. Below 10 inches there may be thin layers of only moderately well decomposed organic material in some areas. Reaction ranges from strongly acid to neutral.

The underlying mineral substratum is neutral or has hue of 5YR to 10YR, value of 3 to 5, and chroma of 1 or 2. Texture of the fine earth fraction ranges from loamy sand to silty clay loam. Reaction ranges from strongly acid to neutral.

Torull Series

The Torull series consists of shallow, poorly drained soils on bedrock-controlled uplands. These soils formed in glacial till derived from sandstone, siltstone, and shale. Slopes range from 0 to 6 percent.

Torull soils are geographically associated with Gretor, Halcott, Middlebrook, Mongaup, and Vly soils. Torull soils are also associated with Onteora and Ontusia soils. Torull soils are wetter than Halcott, Middlebrook, Mongaup, and Vly soils and are shallower than Middlebrook, Mongaup, Gretor, Vly, Onteora and Ontusia soils.

Typical pedon of Torull silt loam, 0 to 6 percent slopes, in an area of Torull-Gretor complex, 0 to 6 percent slopes, in the Town of Davenport, 75 yards north of a shale pit, 0.4 mile east of Diddish Hill Road and 0.5 mile north of Van Duesen Road, elevation 1,950 feet, lat. 42 degrees 28 minutes 43 seconds N. and long. 74 degrees 47 minutes 50 seconds W.; Davenport, NY 7.5 minute Quad, NAD 1927:

Oe—0 to 3 inches, dark reddish brown (5YR 2.5/2) partly decomposed organic material, moss, and hemlock needles

A—3 to 5 inches, dark grayish brown (10YR 4/1) silt loam, light brownish gray (10YR 6/2) dry; moderate fine and medium granular structure; very friable; many fine and medium roots; few fine and medium tubular and vesicular pores; 10 percent rock fragments; very strongly acid, abrupt wavy boundary.

E—5 to 8 inches, brown (7.5YR 5/2) silt loam; weak medium subangular blocky structure; very friable; common fine and medium roots; few medium tubular and fine and medium vesicular pores; 10 percent rock fragments; common coarse distinct, strong brown and yellowish red (7.5YR 5/6 and 5YR 5/8) iron concentrations; very strongly acid; clear wavy boundary.

Bw—8 to 13 inches, dark brown (10YR 4/3) channery silt loam, grayish brown (2.5YR 5/2) ped faces, weak fine and medium subangular blocky structure parting to fine granular structure; friable; common fine roots; few fine tubular and vesicular pores; 15 percent rock fragments; few medium distinct brownish yellow (10YR 6/6) iron concentrations and grayish brown (2.5Y 5/2) iron depletions; strongly acid; clear wavy boundary.

BC—13 to 18 inches, grayish brown (10YR 5/2, 70 percent) and brown (10YR 5/3, 30 percent) channery very fine sandy loam; weak fine and medium subangular blocky structure; friable; 20 percent rock fragments; common coarse distinct yellowish brown (10YR 5/6) and few medium distinct strong brown (7.5YR 5/8) iron concentrations; strongly acid; abrupt smooth boundary.

2R—18 inches, grayish brown (10YR 5/2) sandstone bedrock.

The thickness of the solum ranges from 10 to 20 inches. Depth to bedrock ranges from 10 to 20 inches. Rock fragment content ranges from 0 to 35 percent by volume in the solum and C horizon. Reaction is very strongly acid or strongly acid throughout the profile.

The A horizon has hue of 7.5YR to 2.5Y, value of 3 to 5, and chroma of 1 to 3. Dry colors have value of 5 or 6 and chroma of 2 or 3. Texture of the fine earth fraction is loam or silt loam.

The B horizons have hue of 5YR to 5Y, value of 4 to 6, and chroma of 2 or 3. Texture of the fine earth fraction is fine sandy loam, loam, or silt loam.

The C horizon, where present has hue of 5YR to 5Y, value of 4 to 6, and chroma of 1 or 2. Texture of the fine earth fraction ranges from sandy loam to silt loam.

Trestle Series

The Trestle series consists of very deep, well drained soils on low terraces along smaller, high gradient streams. These soils formed in recent alluvial materials overlying sand and gravel. Slopes range from 0 to 3 percent. Trestle soils are geographically associated with the well drained Barbour soils and the moderately well drained Deposit soils. Trestle soils are also associated with the moderately well drained Basher, the poorly drained Raypol, and the poorly drained or very poorly drained Fluvaquents soils. The somewhat excessively drained Tunkhannock soils are on adjacent terraces.

Typical pedon of Trestle silt loam, 0 to 3 percent slopes, in the Town of Colchester, 30 feet west of Gregory Hollow Road, 500 feet south of the intersection of Gregory Hollow Road and Bull Run Road, elevation 1,380 feet, lat. 42 degrees 06 minutes 56 seconds N. and long. 74 degrees 57 minutes 25 seconds W.; Downsville, NY 7.5 Minute Quad, NAD 1927:

Ap—0 to 9 inches, dark reddish brown (5YR 3/3) gravelly silt loam, light reddish brown (5YR 6/3) dry; moderate medium and fine granular structure; friable; common fine and medium roots; common fine vesicular pores and a few fine and medium tubular pores; 15 percent rock fragments; neutral (limed); abrupt smooth boundary.

Bw1—9 to 14 inches, brown (7.5YR 4/4) very gravelly loam; weak fine subangular blocky structure parting to moderate fine granular structure; friable; common fine roots; many fine and medium vesicular pores; 45 percent rock fragments; neutral (limed); clear smooth boundary.

Bw2—14 to 20 inches, brown (7.5YR 4/4) very gravelly loam; very weak fine subangular blocky structure; very friable; few fine roots; 45 percent rock fragments; neutral (limed); clear wavy boundary.

C—20 to 72 inches, dark brown (7.5YR 3/4) very gravelly silt loam; massive; loose; few fine roots; 50 percent rock fragments; slightly acid.

The thickness of the solum ranges from 15 to 30 inches. Depth to bedrock is more than 60 inches. Rock fragment content ranges from 5 to 25 percent by volume in the A horizon, from 15 to 45 percent in the B horizons, and 40 to 70 percent in the C horizons.

The Ap horizon has hue of 5YR to 10YR, value of 3 or 4, and chroma of 2 or 3. Texture of the fine earth fraction is loam or silt loam. If the soil is unlimed, reaction is strongly acid or moderately acid.

The Bw horizon has hue of 5YR to 10YR, value of 3, 4, or 5 and chroma of 3 or 4. Texture of the fine earth fraction ranges from sandy loam to silt loam. Reaction is moderately acid or slightly acid if the soil is unlimed.

The C horizon has hue of 5YR to 10YR with value and chroma of 3 or 4. Texture of the fine earth fraction ranges from coarse sandy loam to silt loam. Reaction is moderately acid or slightly acid.

Tunkhannock Series

The Tunkhannock series consists of very deep, somewhat excessively drained soils on outwash plains, terraces, and kames. These soils formed in gravelly glacial outwash over stratified sand and gravel. Slopes range from 0 to 50 percent.

Tunkhannock soils are geographically associated with Barbour soils in valleys and Maplecrest soils along valley sides. Tunkhannock soils are also associated with Deposit and Red Hook soils. Tunkhannock soils are more gravelly than Barbour, Maplecrest, and Red Hook soils. Tunkhannock soils are better drained than Deposit and Red Hook soils.

Typical pedon of Tunkhannock gravelly loam, 15 to 25 percent slopes; in the Town of Franklin; 100 feet east of Otego Rd.; 75 yards south of the junction of Otego and Bissel Hill Roads, elevation 1,230 feet, lat. 42 degrees 20 minutes 55 seconds N. and long. 75 degrees 10 minutes 07 seconds W.; Franklin, NY 7.5 Quad, NAD 1927:

Ap—0 to 6 inches, reddish brown (5YR 4/3) gravelly loam, light reddish brown (5YR 6/3) dry; weak fine and medium granular structure; very friable; many fine and common medium roots, 30 percent rock fragments; strongly acid; abrupt smooth boundary.

Bw1—6 to 8 inches, red (2.5YR 4/6) gravelly loam; weak medium subangular blocky structure parts to moderate medium granular structure; very friable; common fine vesicular pores, a few medium and coarse vesicular pores, few fine and medium tubular pores; larger pores filled with Ap material; many fine roots, common medium roots; 30 percent rock fragments; strongly acid; clear wavy boundary.

Bw2—8 to 18 inches, yellowish red (5YR 5/6) very gravelly loam; weak medium subangular blocky structure; friable; common medium and a few coarse vesicular pores; few fine roots; 45 percent rock fragments, 2 percent > 3 inches; moderately acid; clear wavy boundary.

BC—18 to 25 inches, reddish brown (2.5YR 4/4) very gravelly sandy loam; weak coarse granular structure; friable; few fine roots; 45 percent rock fragments, 2 percent greater than 3 inches; moderately acid; gradual wavy boundary.

2C—25 to 72 inches, reddish brown (5YR 4/3) very gravelly loamy coarse sand with lenses of gravelly loamy sand; single grain; loose; 50 percent rock fragments, 5 percent greater than 3 inches; moderately acid.

The thickness of the solum ranges from 20 to 40 inches. Depth to bedrock is more than 60 inches. Rock fragment content ranges from 15 to 60 percent, by volume, in the solum and from 40 to 80 percent in the C horizon.

The Ap horizon has hue of 5YR to 10YR, value of 3 to 5, and chroma of 2 or 3. Dry colors have hue of 5 or 6 and chroma of 3 or 4. Texture of the fine earth fraction ranges from sandy loam to silt loam. Reaction ranges from extremely acid to moderately acid.

The B horizons have hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 3 to 6. Texture of the fine earth fraction ranges from sandy loam to silt loam. Reaction ranges from extremely acid to moderately acid.

The C horizon has hue of 2.5YR to 7.5YR, value of 3 to 5, and chroma of 3 or 4. Texture of the fine earth fraction ranges from sand to sandy loam. Reaction ranges from extremely acid to moderately acid.

Udifluvents

The Udifluvents soils consist of very deep, somewhat excessively drained to moderately well drained soils on floodplains. These soils formed in recent alluvial material and are subject to flooding. Slopes range from 0 to 3 percent.

Udifluvents are geographically associated with Barbour, Wenonah, Basher, Philo, or Raypol soils along streams in valleys. In upland areas where Udifluvents are mapped along small streams, the associated soils may include Morris, Volusia, Onteora, or Ontusia soils.

Since Udifluvents are highly variable, no typical pedon description is provided. These soils have little or no profile development. The solum is just the A horizon and ranges from about 2 to 15 inches in thickness. The depth to bedrock is more than 60 inches. Rock fragment content ranges from 0 to 80 percent by volume.

The A horizon has hue of 2.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 6. Texture of the fine earth fraction ranges from sand to silt loam. Reaction ranges from very strongly acid to slightly acid.

The C horizon has hue of 2.5YR to 2.5Y, with value and chroma of 3 to 6. Texture of the fine earth fraction ranges from coarse sand to loam. Reaction ranges from very strongly acid to slightly acid.

Udorthents

Udorthents consist of very shallow to very deep, excessively drained to somewhat poorly drained soils or soil material that has been disturbed, usually by cutting or filling. Identification of the original soil by series is not possible. These soils are on glacial till plains, glacial outwash plains, terraces and floodplains. Slopes range from 0 to 45 percent.

Udorthents are on landscapes with soils of a wide range of drainage classes and parent material. They are also near urban land, pits, quarry, and pits, gravel.

Udorthents are named above the series level in the soil classification system because of variability in the material and lack of soil features that would permit more detailed classification. For these reasons, a typical pedon of Udorthents is not provided.

Rock fragments ranging in size from pebbles to boulders make up 0 to 60 percent of Udorthents. Textures range from silt loam to sand. Reaction ranges from very strongly acid to slightly alkaline.

The soil materials have hue of 2.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 8.

Unadilla Series

The Unadilla series consists of very deep, well drained soils on terraces. These soils formed in older alluvial deposits of silts and very fine sands, underlain by sand and gravel. Slopes are 0 to 3 percent.

Unadilla soils are geographically associated with Tunkhannock, Chenango, Riverhead, Barbour, and Wenonah soils. Unadilla soils are not as gravelly or sandy as the Tunkhannock, Chenango or Riverhead soils. Unadilla soils are deeper to a gravelly or sandy substratum than the Barbour soils and occupy slightly higher parts of the landscape than the Barbour or Wenonah soils do.

Typical pedon of Unadilla silt loam, 0 to 3 percent slopes, in the Town of Colchester, just north of a hedgerow, 100 yards northwest of River Road; 1 mile south of Downsville, elevation 1,090 feet; lat. 42 degrees 04 minutes 03 seconds N. and long. 75 degrees 00 minutes 28 seconds W.; Corbett, NY 7.5 minute Quad, NAD 1927:

Ap—0 to 6 inches, reddish brown (5YR 5/3); light reddish brown (5YR 6/3) dry; silt loam; moderate medium platy structure parting to a moderate medium and fine subangular blocky structure; friable; many fine, a few medium roots; slightly acid (limed); clear smooth boundary.

AB—6 to 15 inches, reddish brown (5YR 5/3 – 60 percent, 5YR 5/4 - 40 percent); silt loam; moderate medium subangular blocky structure; friable; thin lens of brown (7.5YR 4/4) fine sand at 11 inches; common very fine and fine roots; common medium and large tubular pores; common small and medium charcoal fragments; moderately acid; clear smooth boundary.

Bw1—15 to 34 inches, reddish brown (5YR 5/4) silt loam; common spots or fillings of reddish brown (5YR 5/3) Ap material; moderate fine and medium subangular blocky structure; friable; many very fine, common fine, few coarse roots; many coarse tubular pores; moderately acid; clear smooth boundary.

Bw2—34 to 39 inches, reddish brown (5YR 5/4) very fine sandy loam; weak fine subangular blocky structure; friable; few very fine and fine roots; common fine and medium tubular pores; thin silt coats in some pores; moderately acid; clear smooth boundary.

Bw3—39 to 50 inches, reddish brown (5YR 5/4 – 80 percent, 5YR 5/3 – 20 percent) silt loam; moderate medium subangular blocky structure; friable; few very fine, fine, and large roots; common fine tubular pores; strongly acid; clear smooth boundary.

2C—50 to 72 inches, brown (7.5YR 5/4) loamy sand, massive; loose; few very fine roots; strongly acid.

The thickness of the solum ranges from 20 to 50 inches. Depth to bedrock is more than 60 inches and depth to a 2C horizon is more than 40 inches. Rock fragment content ranges from 0 to 5 percent in the solum and 0 to 60 percent in the 2C horizon.

The Ap horizon has hue ranging from 5YR to 2.5Y, value of 3 to 5, and chroma of 2, 3 or 4. Dry colors have value of 5 or 6 and chroma of 3 or 4. Texture is very fine sandy loam or silt loam. Reaction, where the soil is unlimed, ranges from very strongly acid to moderately acid.

The B horizon has hue that ranges from 5YR to 2.5Y, value of 3 to 6, and chroma of 4 to 8. Texture is very fine sandy loam or silt loam. Reaction ranges from very strongly acid to moderately acid.

The 2C horizon has hue of 7.5YR, 10YR, or 2.5Y with value of 4 or 5 and chroma of 2, 3, or 4. Texture of the fine earth fraction ranges from loamy very fine sand to silt loam above 40 inches and ranges from sand to fine sandy loam below 40 inches. Reaction ranges from strongly acid to slightly acid.

Valois Series

Valois series consists of very deep, well drained soils along lower valley sides. These soils formed in glacial till derived from sandstone, siltstone, and shale. Slopes range from 3 to 60 percent.

Valois soils are geographically associated with Chenango soils in valleys and Bath, Mardin, and Lordstown soils in the uplands. Valois soils are less gravelly than Chenango soils. Valois soils lack the fragipan which is present in Bath and Mardin soils. Valois soils are deeper than Lordstown soils.

Typical pedon of Valois very fine sandy loam, 25 to 60 percent slopes, in the Town of Kortwright, hamlet of North Kortwright, 50 yards southwest of a church; road cut along north side of Underpass Road, elevation 1,530 feet, lat. 42 degrees 26 minutes 14 seconds N. and long. 74 degrees 44 minutes 44 seconds W.; Harpersfield, NY 7.5 minute Quad, NAD 1927:

A—0 to 4 inches, very dark brown (10YR 2/2) very fine sandy loam, brown (10YR 5/3) dry; moderate fine granular sturcture; very friable; many fine and few medium roots; 5 percent rock fragments; very strongly acid; clear smooth boundary.

E—4 to 5 inches, brown (7.5YR 5/2) very fine sandy loam; weak fine subangular blocky structure; very friable; many fine and few medium roots; 5 percent rock fragments; extremely acid; abrupt smooth boundary.

Bw1—5 to 15 inches, strong brown (7.5YR 5/6) gravelly silt loam; weak medium subangular blocky structure parts to weak fine granular structure; very friable; common medium and fine roots; 15 percent rock fragments; strongly acid; clear wavy boundary.

Bw2—15 to 31 inches, dark yellowish brown (10YR 4/4) gravelly silt loam; weak fine and medium subangular blocky structure; very friable; few fine, common medium, and few coarse roots; 15 percent rock fragments; moderately acid; clear wavy boundary.

2C—31 to 72 inches, pale brown (10YR 6/3) very gravelly fine sandy loam; massive; very friable; common medium and few coarse roots; 45 percent rock fragments; strongly acid.

The thickness of the solum ranges from 30 to 60 inches. Depth to bedrock is more than 60 inches. Rock fragment content by volume ranges from 5 to 35 percent in the upper part of the solum, from 15 to 35 percent in the lower part, and from 35 to 60 percent in the C horizon.

The A horizon has hue of 7.5YR and 10YR or is neutral. Value is 2, 3, or 4 and chroma is 0, 2, or 3. Dry colors have value of 5 or 6 and chroma of 3 or 4. Texture of the fine earth fraction ranges from very fine sandy loam to silt loam. Reaction ranges from extremely acid to moderately acid.

The E horizon has hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 2 to 4.

Texture of the fine earth fraction is sandy loam, very fine sandy loam, fine sandy loam, or loam. Reaction ranges from extremely acid to moderately acid.

The B horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 to 6. Texture of the fine earth fraction ranges from sandy loam to silt loam. Reaction ranges from extremely acid to moderately acid.

The C horizon has hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 2 to 4. Texture of the fine earth fraction ranges from sandy loam to silt loam. Lenses of loamy sand occur in some pedons below a depth of 40 inches. Reaction ranges from very strongly acid to neutral.

Vly Series

The Vly series consists of moderately deep, somewhat excessively drained soils on bedrock-controlled uplands. These soils formed in glacial till over reddish sandstone, siltstone, or shale. Slopes range from 2 to 70 percent.

Vly soils are geographically associated with the shallow Halcott soils, very deep Elka soils, and also associated with Mongaup, Lewbeach and Willowemoc soils. Vly soils are more channery and redder in color than Mongaup soils. Vly soils are not as deep as the Elka, Lewbeach, or Willowemoc soils.

Typical pedon of Vly channery silt loam in an area of Halcott, Mongaup, and Vly soils, steep, very rocky, in the Town of Meredith, 1,000 yards south of the intersection of Elk Creek and Miller Hill Roads, elevation 2,140 feet; lat. 42 degrees 22 minutes 32 seconds N. and long. 74 degrees 53 minutes 09 seconds W.; West Davenport, NY 7.5 minute Quad., NAD 1927:

Ap—0 to 6 inches, dark reddish brown (5YR 3/3) channery silt loam, light reddish brown (5YR 6/3) dry; moderate medium and fine granular structure; very friable; many fine, common medium, and a few coarse roots; 20 percent shale, siltstone, and a few (2 percent) sandstone rock fragments; very strongly acid; abrupt smooth boundary.

Bw1—6 to 18 inches, dark reddish brown (2.5YR 3/4) very channery silt loam; moderate fine and medium subangular blocky structure; friable; common fine, a few medium and coarse roots; common medium and a few large tubular pores, fillings of Ap material in large pores; 35 percent shale, siltstone, and a few (2 percent) sandstone rock fragments; strongly acid; gradual wavy boundary.

Bw2—18 to 24 inches, dark reddish brown (5YR 3/4) very channery silt loam; weak fine and medium subangular blocky structure; friable; common fine, a few medium roots; 40 percent shale, siltstone, and a few (2 percent) sandstone rock fragments; strongly acid, clear smooth boundary.

BC—24 to 31 inches, dark reddish brown (2.5 YR 3/4) extremely channery silt loam; weak medium platy structure; friable; few fine and coarse roots; 65 percent shale, siltstone, and a few (3 percent) sandstone rock fragments; strongly acid; abrupt smooth boundary.

2R—31 inches, reddish brown (5YR 4/4) shale bedrock.

The thickness of the solum and depth to bedrock range from 20 to 40 inches. Rock fragment content ranges from 20 to 35 percent by volume in the surface horizon and from 35 to 65 percent below.

The Ap horizon has hue of 2.5YR, 5YR or 10YR, value of 3 or 4, and chroma of 2 or 3. Dry colors have value of 5 or 6 and chroma of 3 or 4. Texture of the fine earth fraction is loam or silt loam. Reaction is very strongly acid or strongly acid.

The Bw and BC horizons have hue of 2.5 YR or 5YR, and value and chroma of 3 or 4. Texture of the fine earth fraction is loam or silt loam. Reaction is very strongly acid or strongly acid.

Volusia Series

The Volusia series consists of very deep, somewhat poorly drained soils on uplands. These soils formed in glacial till derived from sandstone, siltstone, and shale. Volusia soils are geographically associated with Bath, Mardin, and Norchip soils. Volusia soils are wetter than Bath and Mardin but are better drained than Norchip soils. Slopes range from 0 to 15 percent.

Typical pedon of Volusia channery silt loam, 0 to 3 percent slopes, in the Town of Masonville, 1,030 yards south of Gifford Road, 100 yards east of NY Route 8, in an old hayfield, elevation 1,705 feet; lat. 42 degrees 12 minutes 53 seconds N. and long. 75 degrees 22 minutes 07 seconds W.; Trout Creek, NY 7.5 minute Quad, NAD 1927:

Ap—0 to 8 inches, dark grayish brown (10YR 4/2) channery silt loam, pale brown (10YR 6/3) dry; moderate medium and fine granular structure; very friable; many fine and very fine, few medium and coarse roots; 15 percent rock fragments, 2 percent greater than 3 inches; very strongly acid; abrupt smooth boundary.

Bw—8 to 15 inches brown (10YR 4/3)channery silt loam; weak medium and coarse subangular blocky structure; very friable; common fine roots; common fine and few medium tubular pores; 20 percent rock fragments, 2 percent greater than 3 inches, many (30 percent) medium and coarse distinct yellowish brown (10YR 5/6) iron concentrations; very strongly acid; clear wavy boundary.

Eg—15 to 22 inches, light brownish gray (2.5Y 6/2) channery silt loam; weak very coarse prismatic structure parting to moderate medium and coarse subangular blocky structure; firm; few fine roots; common fine and few medium tubular pores; 15 percent rock fragments; many (25 percent) medium and coarse prominent strong brown (7.5YR 5/6) and common medium distinct brown (10YR 4/3 & 5/3) iron concentrations; strongly acid; gradual wavy boundary.

Bx—22 to 52 inches, brown (10YR 4/3, 60 percent and 5/3, 40 percent) channery silt loam; moderate very coarse prismatic structure; massive within prisms; very firm and brittle; prism faces of light gray (5Y 6/1) 1/4 to 1/2 inches wide with yellowish brown (10YR 5/6) rinds 1/16 to 1/4 inch wide; few fine and common medium tubular and vesicular pores; thin patchy clay coatings within pores; 25 percent rock fragments, 5 percent greater than 3 inches; common medium distinct light brownish gray (10YR 6/2) iron depletions and common medium faint yellowish brown (10YR 5/4) iron concentrations; strongly acid; gradual wavy boundary.

Cd—52 to 72 inches, brown and grayish brown (10YR 5/3, 60 percent and 5/2, 40 percent) very channery silt loam with lenses of fine sandy loam; massive; very firm; few fine and medium tubular pores; 35 percent rock fragments, 5 percent greater than 3 inches; a few medium and coarse distinct gray (10YR 6/1) iron depletions and common medium faint yellowish brown (10YR 5/4) iron concentrations; strongly acid.

The thickness of the solum ranges from 40 to 72 inches. Rock fragment content ranges from 5 to 30 percent in the solum and from 5 to 50 percent in the Bx horizon and 10 to 60 percents in the substratum. Depth to the top of the fragipan ranges from 10 to 22 inches. Depth to bedrock is more than 60 inches.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 2 or 3. Dry colors have value of 5 or 6 and chroma of 3 or 4. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to slightly acid.

Some pedons have a Bw or Bg horizon with hue of 10YR to 5Y, value of 3 or 4, and chroma of 2 to 4. Texture is similar to the E horizon.

The E horizon has hue of 10YR to 5Y, value of 4 to 6 and chroma of 2 or 3. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to slightly acid.

The Bx horizon has hue of 10YR to 5Y, value of 3 to 5, and chroma of 2, 3 or 4. Texture of the fine earth fraction ranges from loam to silty clay loam. Reaction ranges from very strongly acid to slightly acid in the upper Bx horizons and ranges from very strongly acid to slightly acid in the lower Bx.

The C horizon has hue of 10YR to 5Y, value of 3 to 5 and chroma of 2, 3, or 4. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from moderately acid to slightly alkaline.

Wellsboro Series

The Wellsboro series consists of very deep, moderately well drained, soils on uplands. These soils formed in reddish colored glacial till derived from sandstone, siltstone, and shale.

Wellsboro soils are geographically associated with Lackawanna, Morris and Norchip soils. Wellsboro soils are wetter than Lackawanna soils but are better drained than Morris and Norchip soils. Wellsboro soils are also associated with Oquaga soils but are deeper to bedrock. Wellsboro soils are similar to Mardin soils but have redder hues in the fragipan and substratum. Slopes range from 2 to 25 percent.

Typical profile of Wellsboro channery silt loam, 8 to 15 percent slopes, located in the Town of Franklin, on the Sickler farm, 200 yards southeast of NY Route 357, 1/2 mile southwest of North Franklin, elevation 1,350 feet; lat. 42 degrees 23 minutes 10 seconds N. and long. 75 degrees 05 minutes 30 seconds W.; Oneonta, NY 7.5 minute Quad, NAD 1927:

Ap—0 to 8 inches, dark reddish brown (5YR 3/3) channery silt loam, light reddish brown (5YR 6/3) dry; moderate medium and fine subangular blocky structure; very friable; many fine and few medium roots; 15 percent rock fragments, 2 percent greater than 3 inches; strongly acid; abrupt wavy boundary.

Bw—8 to 18 inches, reddish brown (5YR 4/4) channery silt loam with dark reddish gray (5YR 4/2) organic fillings in macropores; moderate medium and fine subangular blocky structure; very friable; common fine roots; many fine vesicular and common fine tubular pores; 15 percent rock fragments, 2 percent greater than 3 inches; moderately acid; clear wavy boundary.

B/E—18 to 25 inches, brown (10YR 4/3, B material) and light reddish to reddish brown (5YR 6/3-5/3, E material) channery silt loam; few, faint clay patches on faces of peds; weak coarse subangular blocky structure, parting to moderate medium and thin platy structure; friable; few fine roots; common fine and few medium pores, with common patchy clay linings; 15 percent rock fragments; few, fine, distinct yellowish red (5YR 5/6) iron concentrations; moderately acid; clear; wavy boundary.

Bx1—25 to 38 inches, reddish brown to dark reddish brown (2.5YR 4/4-3/4) channery silt loam; weak coarse prismatic structure, parting to moderate coarse platy and weak medium subangular blocky structure; light brownish gray (10YR 6/2) prism faces, with strong brown (7.5YR 5/6) rinds; common distinct patchy clay films on faces of peds; firm, slightly brittle; few medium roots; common fine, few medium tubular pores with continuous clay linings; 25 percent rock fragments; moderately acid; gradual smooth boundary.

Bx2—38 to 52 inches, mixed 80% dusky red (2.5YR 3/3) and 20 percent dark reddish gray (5YR 4/2) channery loam; many, distinct patchy clay films on faces of peds; weak, very coarse prismatic structure, parting to weak, medium and coarse subangular blocky; friable, brittle consistence; common fine, few medium tubular pores with continuous clay linings; 25 percent rock fragments; moderately acid; diffuse smooth boundary.

Bx3—52 to 62 inches, mixed 80 percent dusky red (2.5YR 3/3) with 20 percent dark reddish gray (5YR 4/2) lenses, very channery loam; weak, very coarse prismatic structure, parting to weak medium and coarse subangular blocky structure; firm and brittle; common fine, few medium tubular pores with continuous clay linings; 35 percent rock fragments, 5 percent greater than 3 inches; moderately acid; gradual wavy boundary.

Cd—62 to 75 inches, weak red (2.5YR 4/2) very channery loam; weak, very coarse prismatic structure; firm; 40 percent rock fragments, with 5 percent greater than 3 inches; strongly acid.

The thickness of the solum ranges from 40 to 75 inches. Depth to bedrock is more than 60 inches. Depth to the top of the fragipan ranges from 15 to 26 inches. Rock fragment content ranges from 5 to 40 percent by volume in the horizons above the fragipan and from 15 to 45 percent in the Bx and C horizons.

The Ap has hue of 5YR to 10YR, value of 3 or 4, and chroma of 2 or 3. Dry colors have value of 5 or 6 with chroma of 3 or 4. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to moderately acid.

The Bw horizons have hue of 5YR to 10YR, value of 4 or 5, and chroma of 3 to 6. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to moderately acid.

The B/E horizon has the same color as the B horizon in the B part of the B/E. The E part of the horizon has hue of 5YR or 7.5YR, value of 5 or 6, and chroma of 2 or 3. Texture of the fine earth fraction ranges from sandy loam to silt loam. Reaction ranges from very strongly acid to moderately acid.

The Bx horizon has hue of 2.5YR or 5YR, value of 3 to 5 and chroma of 3 or 4. Texture of the fine earth fraction ranges from sandy loam to silt loam. Reaction ranges from very strongly acid to moderately acid.

The Cd horizon also has hue of 2.5YR or 5YR, value of 3 to 5 and chroma of 3 or 4. Texture of the fine earth fraction ranges from sandy loam to silt loam. Reaction ranges from very strongly acid to moderately acid.

Wenonah Series

The Wenonah series consists of very deep, well drained, loamy soils on floodplains. These soils formed in recent alluvium derived from glacial drift containing sandstone, siltstone, and shale. Wenonah soils are geographically associated with the moderately well drained Philo soils, poorly drained Raypol soils and very poorly drained to somewhat excessively drained Fluvaquents- Udifluvents soil complex. The well drained Unadilla soils are on adjacent higher terraces along with the somewhat excessively drained Chenango soils. Slope ranges from 0 to 3 percent.

Typical pedon of Wenonah silt loam, 0 to 3 percent slopes, in the Town of Sidney, 2 miles northeast of Wells Bridge, 600 yards northwest of the Wells Bridge - Otego Rd. and 50 feet south of the Susquehanna river. Elevation 1040 feet; Latitude 42 degrees 22 minutes 25 seconds North; Longitude 75 degrees 12 minutes 12 seconds West; Franklin, NY 7.5 minute Quad, NAD 1927.

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; moderate fine and medium granular structure; friable; common fine and few medium roots; 1 percent rock fragments; moderately acid; clear smooth boundary.

Bw1—10 to 20 inches; brown (10YR 4/3) and yellowish brown (10YR 5/4) silt loam; weak medium and coarse subangular blocky structure; friable; few fine roots; few medium and large tubular pores, common fine and medium vesicular pores; 2 percent rock fragments; moderately acid; clear wavy boundary.

Bw2—20 to 32 inches; yellowish brown (10YR 5/4) very fine sandy loam; weak coarse subangular blocky structure; friable; few medium and large tubular pores, common fine and medium vesicular pores; 2 percent rock fragments; moderately acid; clear wavy boundary.

C1—32 to 60 inches; brown (10YR 5/3) fine sandy loam with lenses of silt loam; massive; very friable; few medium and large tubular pores; 2 percent rock fragments; moderately acid; gradual wavy boundary.
C2—60 to 72 inches; brown (10YR 5/3) very fine sandy loam; massive; very friable; 3 percent rock fragments; common coarse distinct grayish brown (10YR 5/2) iron depletions and common medium distinct brown (7.5YR 4/4) iron concentrations; moderately acid.

Solum thickness ranges from 16 to 45 inches. Depth to bedrock is more than 60 inches. Rock fragment content ranges from 0 to 15 percent in the surface and subsoil, and from 0 to 50 percent in the substratum.

The Ap horizon has hue of 7.5YR through 2.5Y, value of 3 or 4, and chroma of 2 through 4. Dry colors have value of 5 or 6 and chroma of 3 or 4. Texture is silt loam, loam, fine sandy loam, or sandy loam in the fine earth fraction. Reaction ranges from very strongly acid to moderately acid.

The Bw horizon has hue of 7.5YR through 2.5Y, value of 4 or 5, and chroma of 3 through 6. Texture is silt loam, loam, very fine sandy loam, fine sandy loam, or loamy very fine sand in the fine earth fraction. Reaction ranges from very strongly acid to moderately acid.

The C or 2C horizon has hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 2 through 5. Texture in the fine earth fraction ranges from loam or fine sandy loam to loamy sand or fine sand. Reaction ranges from very strongly acid to neutral.

Willdin Series

The Willdin series consists of very deep, moderately well drained soils on uplands higher than approximately 1750 feet. They formed in glacial till derived from sandstone, siltstone, and shale. Willdin soils are geographically associated with Lewbath, Ontusia and Mongaup soils. Willdin soils are wetter than the Lewbath and Mongaup soils but are better drained than Ontusia soils. Willdin soils are deeper than Mongaup soils. Slope ranges from 2 to 25 percent.

Typical pedon of Willdin channery silt loam, 2 to 8 percent slopes, in the Town of Deposit, on the west side of an access road in the Arctic-China State Forest, 1.25 miles east northeast of China. Elevation 1940 feet; Latitude 42 degrees 09 minutes 03 seconds North; Longitude 75 degrees 22 minutes 41 seconds West; North Sanford, NY 7.5 minute Quad, NAD 1927.

Ap—0 to 5 inches, dark brown (10YR 3/3) channery silt loam, pale brown (10YR 6/3) dry; moderate fine and medium granular structure; friable; common fine and a few medium roots; 15 percent rock fragments; very strongly acid; abrupt smooth boundary.
Bw—5 to 18 inches, yellowish brown (10YR 5/6) channery silt loam; weak fine and medium subangular blocky structure; friable; common fine and medium, a few coarse roots; common fine, a few medium tubular pores, common medium vesicular pores; 20 percent rock fragments; very strongly acid; clear wavy boundary.
E—18 to 23 inches, brown (10YR 5/3) channery silt loam; weak medium subangular blocky structure parts to moderate fine subangular blocky structure; friable; few fine and medium roots; common fine, a few medium tubular pores, common medium vesicular pores; 20 percent rock fragments; common medium distinct strong brown (7.5YR 5/6) iron concentrations and a few medium faint grayish brown (10YR 5/2) iron depletions; strongly acid; clear wavy boundary.
Bx1—23 to 40 inches, brown (7.5YR 5/4) with spots of reddish brown (5YR 5/3 gravelly silt loam; moderate very coarse prisms; prisms separated by pinkish gray (7.5YR 6/2) streaks with strong brown (7.5YR 5/6) rinds; firm and brittle; common

fine and medium tubular and vesicular pores; patchy thin linings of clay and silt in pores, common dark brown (7.5YR 3/2) Mn stains, 30 percent rock fragments; common coarse prominent yellowish red (5YR 5/8) iron concentrations and pinkish gray (7.5YR 7/2) iron depletions; strongly acid; gradual wavy boundary.

Bx2—40 to 72 inches, brown (7.5YR 5/4) gravelly silt loam; moderate very coarse prisms; prisms separated by pinkish gray (7.5YR 6/2) streaks with strong brown (7.5YR 5/6) rinds; firm and brittle common fine and medium tubular and common medium vesicular pores; 30 percent rock fragments; few medium distinct strong brown (7.5YR 5/6) iron concentrations and pinkish gray (7.5YR 6/2) iron depletions; strongly acid.

The solum thickness ranges from 40 to 75 inches. Depth to bedrock is more than 60 inches and depth to the top of the fragipan ranges from 16 to 26 inches. Rock fragment content ranges from 5 to 35 percent by volume above the fragipan and from 20 to 50 percent in the Bx horizon and 15 to 60 percent in the C horizon.

The Ap horizon has hue of 7.5YR to 2.5Y, value of 3 or 4 and chroma of 2, 3 or 4. Dry colors have value of 5 or 6 with chroma of 3 or 4. Texture of the fine earth fraction is loam or silt loam. Unlimed, the reaction ranges from very strongly acid to moderately acid.

The Bw horizons have hue of 7.5YR to 2.5Y, value of 4 to 6 and chroma of 3 to 8. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to moderately acid. Redoximorphic features may occur below a depth of 12 inches.

The E horizon has hue of 7.5YR to 2.5Y, value of 3 to 6 and chroma of 2 or 3. Texture of the fine earth fraction ranges from fine sandy loam to silt loam. Reaction ranges from very strongly acid to slightly acid. Common or many redoximorphic features are present.

The Bx horizons have hue of 7.5YR to 2.5Y, value of 3 to 5, and chroma of 2, 3 or 4. Texture of the fine earth fraction is loam or silt loam. Reaction ranges from very strongly acid to slightly acid.

Willowemoc Series

The Willowemoc series consists of very deep, moderately well drained soils in uplands above 1,750 feet. These soils formed in glacial till derived from sandstone, siltstone, or shale. Slopes range from 0 to 25 percent.

Willowemoc soils are geographically associated with the Lewbeach and Onteora soils and also associated with Vly, Mongaup, and Halcott soils. Willowemoc soils are wetter than Lewbeach soils and better drained than Onteora soils. Willowemoc soils are deeper than Vly, Mongaup, and Halcott soils.

Typical pedon of Willowemoc channery silt loam, 8 to 15 percent slopes, in the Town of Meredith, on the Elk Creek R & D Farm, 900 yards south of the intersection of Elk Creek and Miller Hill Roads, elevation 2,080 feet, lat. 42 degrees 22 minutes 39 seconds N. and long. 74 degrees 53 minutes 14 seconds W.; Delhi, NY 7.5 minute Quad, NAD 1927:

A—0 to 6 inches, dark reddish brown (5YR 3/3) channery silt loam, light reddish brown (5YR 6/3) dry; moderate medium granular structure; friable; many fine, common medium roots; 25 percent rock fragments, 3 percent greater than 3 inches; strongly acid; abrupt smooth boundary.

Bw1—6 to 18 inches, reddish brown (2.5YR 4/4) channery silt loam; weak medium and fine subangular blocky structure; friable; common fine and medium roots; 30 percent rock fragments, 3 percent greater than 3 inches; very strongly acid; clear wavy boundary.

Bw2—18 to 22 inches, reddish brown (2.5YR 5/4) channery loam; weak medium platy structure; friable; common fine and medium roots; 30 percent rock fragments, 4 percent greater than 3 inches; common medium distinct pinkish gray and light reddish brown (5YR 6/2 and 6/3) iron depletions and few medium distinct yellowish red (5YR 5/8) iron concentrations; strongly acid; clear wavy boundary.

Bx—22 to 72 inches, reddish brown (2.5YR 4/4) channery loam with pockets of fine sandy loam and silt loam; moderate very coarse prismatic structure; weak fine subangular blocky structure within prisms; prism faces of reddish brown (5YR 5/3) with yellowish red (5YR 5/8) rinds; firm and brittle; common medium vesicular and few fine and medium tubular pores with common patchy clay linings; 30 percent rock fragments; few coarse distinct light reddish brown (5YR 6/3) iron depletions and yellowish red (5YR 5/6) iron concentrations; strongly acid.

The solum thickness ranges from 35 to 75 inches. Depth to bedrock is more than 60 inches. Depth to the fragipan ranges from 17 to 26 inches. Rock fragment content ranges from 5 to 35 percent by volume in the A and Bw horizons and from 15 to 50 percent in the Bx horizon.

The A horizon has hue of 5YR to 10YR, value of 2, 3, or 4 and chroma of 1, 2, or 3. Dry colors have value of 5 or 6 and chroma of 3 or 4. Texture of the fine earth fraction is fine sandy loam, loam, or silt loam. Reaction ranges from extremely acid to strongly acid.

The Bw horizon has hue of 2.5YR to 7.5YR, value of 4 or 5 and chroma of 3 to 6. Texture of the fine earth fraction is fine sandy loam, loam, or silt loam. Reaction ranges from extremely acid to strongly acid.

The Bx horizon has hue of 2.5YR or 5YR, value of 3, 4, or 5 and chroma of 2, 3, or 4. Texture of the fine earth fraction is sandy loam, fine sandy loam, or loam. Reaction ranges from extremely acid to strongly acid.

Wonsqueak Series

The Wonsqueak series consists of very deep, very poorly drained soils in upland depressions. These soils formed in organic materials underlain by a loamy mineral substratum.

Wonsqueak soils are geographically associated with Bucksport soils, and Onteora, Ontusia, or Norchip soils, and very poorly drained mineral soils. Wonsqueak soils have a thinner layer of organic materials than do the Bucksport soils. Wonsqueak soils are wetter than Onteora, Ontusia, and Norchip soils and have a thicker organic layer than any of the mineral soils. Slopes are 0 to about 1 percent.

Typical pedon of Wonsqueak muck, in an area of Bucksport and Wonsqueak soils, in the Town of Davenport, 75 yards west of Rathbun Hill Road, 0.4 mile north of the junction of Rathbun Hill and Houghtailing Hollow Roads, elevation 2,060 feet, lat. 42 degrees 24 minutes 52 seconds N. and long. 74 degrees 56 minutes 30 seconds W.; West Davenport, NY 7.5 minute quad, NAD 1927:

Oa1—0 to 10 inches, very dark grayish brown (10YR 3/2) broken, black (10YR 2/1) rubbed, sapric material; about 25 percent fiber undisturbed, about 5 percent rubbed; weak medium subangular blocky structure parting to weak medium granular structure; very friable; common fine roots; very strongly acid in 0.015 M calcium chloride; clear smooth boundary.

Oa2—10 to 24 inches, very dark gray (10YR 3/1) and brown (10YR 5/3) in bands or varves; sapric material; about 15 percent fiber undisturbed, less than 5 percent rubbed; weak medium subangular blocky structure; very friable; thin band of silty clay about 1/2 inch thick at 20 inch depth; very strongly acid in 0.015 M calcium chloride; clear smooth boundary.

Oa3—24 to 36 inches dark reddish brown (5YR 3/3) broken (5YR 2.5/2) rubbed, sapric material; about 55 percent fiber undisturbed; about 15 percent rubbed; massive; very friable; very strongly acid in 0.015 M calcium chloride; clear smooth boundary.

Oa4—36 to 42 inches, dark grayish brown (2.5Y 4/2) broken, very dark grayish brown (10YR 3/2) rubbed; sapric material and coprogenous earth; about 15 percent fiber unrubbed, less than 5 percent rubbed; massive; very friable; very strongly acid in 0.015 M calcium chloride; abrupt smooth boundary.

Cg—42 to 72 inches, dark reddish gray (5YR 4/2) gravelly loam; massive, firm; 15 percent rock fragments from sandstone.

Thickness of the organic material ranges from 16 to 50 inches. Depth to bedrock is more than 60 inches. The content of woody fragments in the organic material ranges from 0 to 20 percent. Rock fragment content in the 2C horizon ranges from 0 to 20 percent.

The surface tier has hue of 2.5YR to 10YR, value of 2 or 3, and chroma of 1 or 2. Materials are usually sapric but some pedons have a hemic or fibric layer. Reaction ranges from extremely acid to slightly acid in 0.015 M calcium chloride.

The subsurface and bottom tiers have hue of 2.5YR to 10YR, value of 2 or 3 and chroma of 1 or 2. Materials are usually sapric but some pedons have thin hemic or fibric layers. Reaction ranges from very strongly acid to slightly acid in 0.015 M calcium chloride.

The 2C horizon is neutral or has hue of 5YR to 5Y, value of 3 to 6, and chroma of 0 to 4. Texture of the fine earth fraction ranges from fine sandy loam to silty clay loam. Reaction ranges from strongly acid to neutral.

Formation of the Soils

The first part of this section describes the factors of soil formation and relates them to the formation of the soils in the survey area. The second part defines the processes of soil horizon development as they relate to soil formation in Delaware County.

Factors of Soil Formation

Soils are products of weathering and other physical and chemical processes that act on parent material. The properties of a soil at a given point on the earth depend on the combination of the following factors: the physical and chemical composition of the parent material; the climate; the plant and animal life; the topography; and time. The relative influence of each of these factors differs from place to place, and each modifies the effect of the others. For example, the impact of climate over a given area is tempered by relief or parent material. In many areas, the influence of a single factor is dominant.

Parent Material

Parent material is the unconsolidated earthy material in which soils are formed. It influences the physical, chemical, and mineralogical composition of the soils. It also influences the rate at which soil forming processes will proceed. Most of the soils in Delaware County formed in deposits left as a result of glaciation. Glacial till is the most extensive type of parent material. Less extensive are glacial outwash, colluvial or alluvial deposits, lacustrine, and organic deposits.

Soils formed in glacial till have a wide range of characteristics as a result of the heterogeneous nature of the till, its rock and soil particles. Some soils, such as Lewbeach and Mardin, which are formed in very deep glacial till deposits, have a dense lower subsoil and substratum. Other soils, such as Cadosia and Maplecrest, which are formed in very deep till and colluvium, do not have a dense layer. In some places, the glacial till is moderately deep or shallow over bedrock. Halcott is an example of a soil which is shallow to sandstone, siltstone, or shale bedrock. Oquaga is moderately deep to shale or sandstone. Some areas have bedrock exposed at the surface. Map units that are very rocky phases are mapped in these areas.

As the glacial ice melted, large quantities of meltwaters transported and sorted soil and rock debris. This material is referred to as glacial outwash and was redeposited in layers of sand and gravel on outwash plains and terraces. Chenango and Tunkhannock are examples of soils formed in this material. These soils are skeletal with very gravelly and sandy subsoil and substratum layers.

In more recent times, overflowing streams have deposited alluvial material on the floodplains. This material tends to be variable in texture. Examples of soils formed in this material are Basher, which formed in medium textured alluvium and Udifluvents, which formed in coarse textured material. Soils formed in organic deposits are mainly in closed depressions in the uplands. Bucksport and Wonsqueak are examples of soils formed in well-decomposed organic material.

Topography

The shape of the land surface, commonly called the lay of the land, the slope, and the position of the land surface as related to the water table have a great influence on the formation of the soils. Soils that formed in convex positions, where little or no runoff accumulates, are generally well drained and do not contain gray mottles (redoximorphic features) in the subsoil. Examples of soils in this category are Lewbeach and Bath. In level or slightly depressional areas, the water table is usually closer to the surface for extended periods. This results in gray mottling close to the surface and often, accumulation of sediment at the surface. Some soils are wet because they occupy a position where water accumulates and is perched above a restricting layer in the soil. Norchip soils are an example. Local differences in soils are largely the result of differences in parent material and topography. Table 25 shows the relationship between the soils, their parent materials, landscape position, and drainage.

Climate

Climate, in particular temperature and precipitation, is one of the most influential of the soil forming factors. It determines to a large degree the kind of weathering processes that occur. It also affects the growth and kind of vegetation and the leaching and translocation of weathered materials.

Delaware County has a humid, temperate climate that tends to promote the development of moderately weathered, leached soils. More detailed and specific data on the climate of Delaware County is in the climate section under “General Nature of the Survey Area”.

Plant and Animal Life

All living organisms, including plants, animals, bacteria, and fungi, influence soil formation. Vegetation is generally responsive for the amount of organic matter and nutrients in the soil and for the color and structure of the surface layer. Earthworms and borrowing animals help to keep the soil porous and more permeable for air and water. Their waste products cause aggregations of soil particles and improve soil structure. Bacteria and fungi decompose vegetation, which results in the release of nutrients. This survey area was originally in native forest consisting of northern hardwoods, pine, and Hemlock. The loss of nutrients through leaching is slow under hardwoods because they take up large quantities of bases (nutrients) and return much of them to the soil surface each year as leaf litter. Conifers, such as pines, do not use large amounts of nutrients; therefore, leaching is more rapid than it is under hardwoods. Because the rooting depth is shallow in many of the upland soils, trees are susceptible to windthrow, which has caused much mixing of the soil materials. Human activity, through clearing trees and cultivating the land, has also influenced changes that occur in soils. This has added nutrients by fertilization, has mixed some soil horizons by plowing, and has accelerated erosion in many areas.

Time

The degree of profile development not only reflects the age of a soil but it also reflects the influence of other factors. In geological terms, the deposits in which soils formed in the survey area are relatively young, being deposited when the last glacier receded about 10,000 to 15,000 years ago.

The soils have not all reached the same stage of soil profile development, because the other soil forming factors also influence the rate of soil profile development. The time factor is constant within the county; the difference in the appearance and the depth of the weathering is more a function of the differences in the parent material. An immature soil is one that has not had enough time to develop distinct horizons. The Fluvaquents soils are a good example. They formed in recent alluvium that is regularly being flooded and more sediment deposited so the time for soil development is constantly interrupted and thin or irregular soil profiles develop.

Processes of Soil Horizon Development

This section contains a brief explanation of soil horizon nomenclature and a discussion of the processes involved in soil horizon development as they relate to soil formation. The soil-forming factors cause the formation of different layers, or soil horizons. These soil horizons can be viewed in a vertical cut of soil, known as a soil profile. The soil profile extends from the surface downward into material that is little altered by the soil-forming processes.

Most soils contain three major horizons, called A, B, and C horizons.

Several processes cause the formation of soil horizons. They include the accumulation of organic matter, the leaching of soluble salts and minerals, the translocation of clay minerals, the reduction and transfer of iron, and the formation of dense and compact layers in the subsoil. The accumulation of organic matter takes place as plant residue decomposes. This process darkens the surface layer and helps to form the A horizon. It takes a long time to replace this organic matter once it has been lost. The organic matter content of the surface layer of soils in the survey area averages about 5 percent. For soils to develop a distinct subsoil, some of the soluble salts must be leached before other soil processes such as translocation of clay minerals can take place. Factors that affect leaching include the kinds of salts originally present, the rate and depth of percolation, and the texture of the soil. One of the more important processes of soil horizon development in some of the soils is the translocation of silicate clay minerals. The amount of clay minerals in a soil is inherent in the parent material, but clay content varies from one soil horizon to another. Clay particles are transported (eluviation) downward from the A horizon and redeposited (illuviation) in the B horizon as clay films on ped faces, as linings along pores and root channels, and as coatings on some coarse fragments. In some soils an E horizon has formed due to the loss by considerable eluviation of clay minerals to the B horizon. The Collamer soil is an example of a soil where the clay content is higher in the B horizon than in the A horizon because of translocation. The reduction and transfer of iron compounds occur mainly in the wetter, more poorly drained soils. This process is known as gleying. In poorly drained and very poorly drained soils, such as Palms soils, the grayish substratum indicates the reduction of iron. In somewhat poorly drained soils, such as Morris soils, yellowish brown, strong brown and brown mottles indicate the segregation of iron compounds. A bright-colored, unmottled subsoil indicates a well drained soil where no reduction and transfer of iron have taken place. Tunkhannock soils are an example.

References

American Association of State Highway and Transportation Officials (AASHTO). 2000. Standard specifications for transportation materials and methods of sampling and testing. 20th edition, 2 volumes.

American Society for Testing and Materials (ASTM). 2001. Standard classification of soils for engineering purposes. ASTM Standard D 2487-00.

Considine, Thomas J. Jr., and Frieswyk, Thomas S. 1982. Forest Statistics for New York. Resource Bulletin NE-71. United States Department of Agriculture Forest Service and New York state DEC Northeast Forest Station.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. February 24, 1995. Hydric soils of the United States.

Jenny, Hans. 1941. Factors of soil formation. McGraw-Hill, New York.

Munsell, W.W. and Co editors. 1880. History of Delaware County, New York. W.E. Morrison and Co., Ovid, NY. 1976.

Norfleet, M.L., ed. Phosphorous in Agriculture. Soil Quality Institute Technical Pamphlet #2.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1998. Keys to soil taxonomy. 8th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soren, Julian. 1963. The Ground-water Resources of Delaware County, New York, Bulletin GW-50. New York U.S. Geological Survey Bulletin.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://nsscnt.nssc.nrcs.usda.gov/nfm/

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.ftw.nrcs.usda.gov/glti/NRPH.html

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.statlab.iastate.edu/soils/nssh/

United States Department of Agriculture, Natural Resources Conservation Service. 1996. Soil survey laboratory methods manual. Soil Survey Investigations Report 42.

Glossary

Ablation till. Loose, permeable till deposited during the final downwasting of glacial ice. Lenses of crudely sorted sand and gravel are common.
Alluvial fan. The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.
Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.
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.
Aspect. The direction in which a slope faces.
Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 40-inch profile or to a limiting layer is expressed as:

Very low	0 to 2.4
Low	2.4 to 3.2
Moderate	3.2 to 5.2
High	>5.2

Basal till. Compact glacial till deposited beneath the ice.
Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.
Base slope. A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).
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.
Catena. A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.
Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.
Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at

neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

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.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conglomerate. A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the “Soil Survey Manual” as follows:

Excessively drained . Water is removed very rapidly. The occurrence of internal free water commonly is very rare or very deep. The soils are commonly coarse-textured and have very high hydraulic conductivity or are very shallow.

Somewhat excessively drained. Water is removed from the soil rapidly. Internal free water occurrence commonly is very rare or very deep. The soils are commonly coarse-textured and have high saturated hydraulic conductivity or are very shallow.

Well drained. Water is removed from the soil readily but not rapidly. Internal free water occurrence commonly is deep or very deep; annual duration is not specified. Water is available to plants throughout most of the growing season in humid regions. Wetness does not inhibit growth of roots for significant periods during most growing seasons. The soils are mainly free of the deep to redoximorphic features that are related to wetness.

Moderately well drained. Water is removed from the soil somewhat slowly during some periods of the year. Internal free water occurrence commonly is moderately deep and transitory through permanent. The soils are wet for only a short time within the rooting depth during the growing season, but long enough that most mesophytic crops are affected. They commonly have a moderately low or lower saturated hydraulic conductivity in a layer within the upper 1 m, periodically receive high rainfall, or both.

Somewhat poorly drained. Water is removed slowly so that the soil is wet at a shallow depth for significant periods during the growing season. The occurrence of internal free water commonly is shallow to moderately deep and transitory to permanent. Wetness markedly restricts the growth of mesophytic crops, unless artificial drainage is provided. The soils commonly have one or more of the following characteristics: low or very low saturated hydraulic conductivity, a high water table, additional water from seepage, or nearly continuous rainfall.

Poorly drained. Water is removed so slowly that the soil is wet at shallow depths periodically during the growing season or remains wet for long periods. The occurrence of internal free water is shallow or very shallow and common or persistent. Free water is commonly at or near the surface long enough during the growing season so that most mesophytic crops cannot be grown, unless the soil is artificially drained. The soil, however, is not continuously wet directly below plow-depth. Free water at shallow depth is usually present. This water table is commonly the result of low or very low saturated hydraulic conductivity of nearly continuous rainfall, or of a combination of these.

Very poorly drained. Water is removed from the soil so slowly that free water remains at or very near the ground surface during much of the growing season. The occurrence of internal free water is very shallow and persistent or permanent. Unless the soil is artificially drained, most mesophytic crops cannot be grown. The soils are commonly level or depressed and frequently ponded. If rainfall is high or nearly continuous, slope gradients may be greater.

Drainage, surface. Runoff, or surface flow of water, from an area.

Drumlin. A low, smooth, elongated oval hill, mound, or ridge of compact glacial till. The longer axis is parallel to the path of the glacier and commonly has a blunt nose pointing in the direction from which the ice approached.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the 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.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Glacial drift. Pulverized and other rock material transported by glacial ice and then deposited. Also, the sorted and unsorted material deposited by streams flowing from glaciers.

Glacial outwash. Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.

Glacial till. Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.

Glaciofluvial deposits. Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.

Glaciolacustrine deposits. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are interbedded or laminated.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

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.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

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.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration 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.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Kame. An irregular, short ridge or hill of stratified glacial drift.

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.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^{1}/_{3}$- or $^{1}/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Low strength. The soil is not strong enough to support loads.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

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.

Moraine. An accumulation of earth, stones, and other debris deposited by a glacier. Some types are terminal, lateral, medial, and ground.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent.* The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Mountain. A natural elevation of the land surface, rising more than 1,000 feet above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Outwash plain. A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

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.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

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.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Red beds. Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Relief. The elevations or inequalities of a land surface, considered collectively.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to

2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Level	0 to 2 percent
Nearly level	0 to 3 percent
Gently sloping	3 to 8 percent
Strongly sloping	8 to 15 percent
Moderately steep	15 to 25 percent
Steep	25 to 35 percent
Very steep	35 percent and higher

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

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.

Terminal moraine. A belt of thick glacial drift that generally marks the termination of important glacial advances.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till plain. An extensive area of nearly level to undulating soils underlain by glacial till.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.—Temperature and Precipitation

(Recorded in the period 1961-1990 at Walton, New York)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	In	In	In	In		In
January----	30.9	10.8	20.8	56	-22	4	2.79	1.55	3.89	6	22.9
February---	33.8	12.1	23.0	59	-21	8	2.68	1.55	3.69	6	21.3
March------	44.1	22.7	33.4	74	-6	51	3.39	2.38	2.38	7	15.9
April------	56.8	31.9	44.3	83	12	182	3.77	2.55	4.89	8	6.8
May--------	69.2	41.8	55.5	89	23	482	4.28	2.62	5.77	8	0.5
June-------	77.1	50.5	63.8	91	31	712	4.10	2.41	5.62	8	0.0
July-------	81.7	54.9	68.3	94	38	877	4.00	2.71	5.18	8	0.0
August-----	79.3	54.2	66.7	91	35	829	4.26	3.10	5.34	7	0.0
September--	71.5	47.4	59.5	88	27	582	3.60	2.01	5.00	6	0.0
October----	60.5	36.7	48.6	81	15	289	3.54	1.86	5.02	6	0.5
November---	47.1	29.3	38.2	72	6	87	3.98	2.63	5.22	8	8.9
December---	34.9	17.9	26.4	61	-15	15	3.59	2.15	4.88	7	23.1
Yearly:											
Average	57.2	34.2	45.7	---	---	---	---	---	---	---	---
Extreme	98	-31	---	95	-25	---	---	---	---	---	---
Total	---	---	---	---	---	4117	44.00	38.59	49.23	85	100.0

Average number of days per year at least 1 inch of snow on the ground: 101

* 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 (Threshold: 40.0 degrees F).

Table 2.—Freeze Dates in Spring and Fall

(Recorded in the period 1961-1990 at Walton, New York)

Probability	Temperature		
	$24^{o}F$ or lower	$28^{o}F$ or lower	$32^{o}F$ or lower
Last freezing temperature in spring:			
1 year in 10 later than--	May 13	May 23	June 10
2 year in 10 later than--	May 8	May 19	June 5
5 year in 10 later than--	April 29	May 12	May 26
First freezing temperature in fall:			
1 yr in 10 earlier than--	October 4	September 22	September 7
2 yr in 10 earlier than--	October 9	September 27	September 12
5 yr in 10 earlier than--	October 19	October 7	September 20

Table 3.—Growing Season

(Recorded in the period 1961-1990 at Walton, New York)

Probability	Daily Minimum Temperature		
	Higher than 24 ^{o}F	Higher than 28 ^{o}F	Higher than 32 ^{o}F
	Days	Days	Days
9 years in 10	153	127	95
8 years in 10	159	134	102
5 years in 10	173	147	116
2 years in 10	186	160	129
1 year in 10	193	167	136

Table 4.—Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
Bc	Barbour loam	4,834	0.5
Bg	Barbour-Trestle complex	5,760	0.6
Bs	Basher silt loam	3,737	0.4
BtB	Bath channery silt loam, 3 to 8 percent slopes	122	*
BtC	Bath channery silt loam, 8 to 15 percent slopes	1,647	0.2
BtD	Bath channery silt loam, 15 to 25 percent slopes	6,307	0.7
BtE	Bath channery silt loam, 25 to 35 percent slopes	1,327	0.1
Bw	Bucksport and Wonsqueak soils	726	*
CaE	Cadosia extremely channery loam, 15 to 35 percent slopes, very bouldery	3,126	0.3
CaF	Cadosia extremely channery loam, 35 to 70 percent slopes, very bouldery	7,118	0.8
Ce	Carlisle and palms soils	283	*
ChA	Chenango gravelly silt loam, 0 to 3 percent slopes	587	*
ChB	Chenango gravelly silt loam, 3 to 8 percent slopes	1,443	0.2
ChC	Chenango gravelly silt loam, 8 to 15 percent slopes	1,313	0.1
ChD	Chenango gravelly silt loam, 15 to 25 percent slopes	640	*
ChE	Chenango gravelly silt loam, 25 to 50 percent slopes	1,042	0.1
CoB	Collamer silt loam, 3 to 8 percent slopes	157	*
CoC	Collamer silt loam, 8 to 15 percent slopes	332	*
De	Deposit gravelly silt loam	1,812	0.2
EdC	Elka channery silt loam, 8 to 15 percent slopes	291	*
EdD	Elka channery silt loam, 15 to 25 percent slopes	367	*
EdE	Elka channery silt loam, 25 to 35 percent slopes	187	*
EkC	Elka-Vly channery silt loams, 5 to 15 percent slopes	2,330	0.2
EkD	Elka-Vly channery silt loams, 15 to 25 percent slopes	1,075	0.1
ElC	Elka-Vly channery silt loams, 3 to 15 percent slopes, very stony	3,690	0.4
ElE	Elka-Vly channery silt loams, 15 to 35 percent slopes, very stony	25,607	2.7
ElF	Elka-Vly channery silt loams, 35 to 70 percent slopes, very stony	9,363	1.0
Ff	Fluvaquents-Udifluvents complex, frequently flooded	11,273	1.2
HcC	Halcott, Mongaup, and Vly soils, 2 to 15 percent slopes, very rocky	47,478	5.1
HcE	Halcott, Mongaup, and Vly soils, 15 to 35 percent slopes, very rocky	86,875	9.2
HcF	Halcott, Mongaup, and Vly soils, 35 to 70 percent slopes, very rocky	64,130	6.8
LaB	Lackawanna flaggy silt loam, 3 to 8 percent slopes	973	0.1
LaC	Lackawanna flaggy silt loam, 8 to 15 percent slopes	6,536	0.7
LaD	Lackawanna flaggy silt loam, 15 to 25 percent slopes	15,586	1.7
LaE	Lackawanna flaggy silt loam, 25 to 40 percent slopes	5,094	0.5
LcD	Lackawanna-Morris complex, 15 to 35 percent slopes, very stony	1,932	0.2
LdC	Lackawanna and Bath soils, 3 to 15 percent slopes, very stony	3,676	0.4
LdE	Lackawanna and Bath soils, 15 to 35 percent slopes, very stony	52,046	5.5
LdF	Lackawanna and Bath soils, 35 to 55 percent slopes, very stony	9,425	1.0
LeB	Lewbath flaggy loam, 3 to 8 percent slopes	262	*
LeC	Lewbath flaggy loam, 8 to 15 percent slopes	2,512	0.3
LeD	Lewbath flaggy loam, 15 to 25 percent slopes	2,621	0.3
LeE	Lewbath flaggy loam, 25 to 35 percent slopes	209	*
LhB	Lewbeach channery loam, 3 to 8 percent slopes	3,430	0.4
LhC	Lewbeach channery loam, 8 to 15 percent slopes	15,260	1.6
LhD	Lewbeach channery loam, 15 to 25 percent slopes	21,314	2.3
LhE	Lewbeach channery loam, 25 to 40 percent slopes	3,276	0.3
LkC	Lewbeach and Lewbath soils, 3 to 15 percent slopes, very stony	6,384	0.7
LkE	Lewbeach and Lewbath soils, 15 to 35 percent slopes, very stony	42,395	4.5
LkF	Lewbeach and Lewbath soils, 35 to 55 percent slopes, very stony	2,002	0.2
LoB	Lordstown channery silt loam, 2 to 8 percent slopes	1,549	0.2
LoC	Lordstown channery silt loam, 8 to 15 percent slopes	2,437	0.3
LoD	Lordstown channery silt loam, 15 to 25 percent slopes	2,005	0.2
LoE	Lordstown channery silt loam, 25 to 40 percent slopes	1,747	0.2
MaB	Maplecrest gravelly silt loam, 3 to 8 percent slopes	2,317	0.2
MaC	Maplecrest gravelly silt loam, 8 to 15 percent slopes	4,963	0.5
MaD	Maplecrest gravelly silt loam, 15 to 25 percent slopes	3,785	0.4
MaE	Maplecrest gravelly silt loam, 25 to 60 percent slopes	3,549	0.4
MdB	Mardin channery silt loam, 3 to 8 percent slopes	3,190	0.3
MdC	Mardin channery silt loam, 8 to 15 percent slopes	15,740	1.7
MdD	Mardin channery silt loam, 15 to 25 percent slopes	3,273	0.3
MkB	Middlebrook-Mongaup complex, 2 to 8 percent slopes	2,614	0.3

See footnote at end of table.

Table 4.—Acreage and Proportionate Extent of the Soils—Continued

Map symbol	Soil name	Acres	Percent
MkC	Middlebrook-Mongaup complex, 8 to 15 percent slopes	1,463	0.2
MnB	Mongaup channery loam, 2 to 8 percent slopes	3,772	0.4
MnC	Mongaup channery loam, 8 to 15 percent slopes	6,942	0.7
MnD	Mongaup channery loam, 15 to 25 percent slopes	3,660	0.4
MrA	Morris flaggy silt loam, 0 to 3 percent slopes	550	*
MrB	Morris flaggy silt loam, 3 to 8 percent slopes	4,520	0.5
MrC	Morris flaggy silt loam, 8 to 15 percent slopes	4,157	0.4
MsB	Morris and Volusia soils, 2 to 10 percent slopes, very stony	5,227	0.6
No	Norchip silt loam	3,233	0.3
Nr	Norchip silt loam, very stony	587	*
OeA	Onteora channery silt loam, 0 to 3 percent slopes	2,204	0.2
OeB	Onteora channery silt loam, 3 to 8 percent slopes	11,033	1.2
OeC	Onteora channery silt loam, 8 to 15 percent slopes	10,345	1.1
OfB	Onteora and Ontusia soils, 2 to 10 percent slopes, very stony	6,722	0.7
OnA	Ontusia channery silt loam, 0 to 3 percent slopes	936	*
OnB	Ontusia channery silt loam, 3 to 8 percent slopes	2,658	0.3
OnC	Ontusia channery silt loam, 8 to 15 percent slopes	992	0.1
OpB	Oquaga channery silt loam, 2 to 8 percent slopes	798	*
OpC	Oquaga channery silt loam, 8 to 15 percent slopes	1,965	0.2
OpD	Oquaga channery silt loam, 15 to 25 percent slopes	1,750	0.2
OpE	Oquaga channery silt loam, 25 to 35 percent slopes	1,345	0.1
OpF	Oquaga channery silt loam, 35 to 50 percent slopes	511	*
OrC	Oquaga, Lordstown, and Arnot soils, 2 to 15 percent slopes, very rocky	5,574	0.6
OrE	Oquaga, Lordstown, and Arnot soils, 15 to 35 percent slopes, very rocky	15,040	1.6
OrF	Oquaga, Lordstown, and Arnot soils, 35 to 70 percent slopes, very rocky	21,597	2.3
Pc	Philo silt loam	997	0.1
Pg	Pits, gravel	478	*
Ph	Pits, quarry	232	*
Rb	Raypol silt loam	810	*
Re	Red hook gravelly silt loam	912	*
RhA	Riverhead loam, 0 to 3 percent slopes	815	*
RhB	Riverhead loam, 3 to 8 percent slopes	1,008	0.1
RhC	Riverhead loam, 8 to 15 percent slopes	493	*
RhD	Riverhead loam, 15 to 25 percent slopes	192	*
RrE	Rockrift channery loam, 15 to 35 percent slopes, very bouldery	3,580	0.4
RrF	Rockrift channery loam, 35 to 70 percent slopes, very bouldery	2,984	0.3
Sa	Saprists and Aquents, ponded	1,105	0.1
TeB	Torull-Gretor complex, 0 to 6 percent slopes	1,728	0.2
TkA	Tunkhannock gravelly loam, 0 to 3 percent slopes	1,123	0.1
TkB	Tunkhannock gravelly loam, 3 to 8 percent slopes	3,944	0.4
TkC	Tunkhannock gravelly loam, 8 to 15 percent slopes	4,069	0.4
TkD	Tunkhannock gravelly loam, 15 to 25 percent slopes	1,694	0.2
TkE	Tunkhannock gravelly loam, 25 to 50 percent slopes	1,538	0.2
TtA	Tunkhannock and Chenango soils, fan, 0 to 3 percent slopes	2,583	0.3
TtB	Tunkhannock and Chenango soils, fan, 3 to 8 percent slopes	3,540	0.4
Ud	Udorthents, graded	2,659	0.3
Uf	Udorthents, refuse substratum	170	*
Un	Unadilla silt loam	1,558	0.2
Ur	Urban land	417	*
VaB	Valois very fine sandy loam, 3 to 8 percent slopes	1,243	0.1
VaC	Valois very fine sandy loam, 8 to 15 percent slopes	2,364	0.3
VaD	Valois very fine sandy loam, 15 to 25 percent slopes	1,801	0.2
VaE	Valois very fine sandy loam, 25 to 60 percent slopes	2,312	0.2
VlB	Vly channery silt loam, 2 to 8 percent slopes	8,363	0.9
VlC	Vly channery silt loam, 8 to 15 percent slopes	13,864	1.5
VlD	Vly channery silt loam, 15 to 25 percent slopes	8,960	1.0
VlE	Vly channery silt loam, 25 to 40 percent slopes	3,534	0.4
VoA	Volusia channery silt loam, 0 to 3 percent slopes	165	*
VoB	Volusia channery silt loam, 3 to 8 percent slopes	3,451	0.4
VoC	Volusia channery silt loam, 8 to 15 percent slopes	3,525	0.4
W	Water	16,302	1.7
WeB	Wellsboro channery silt loam, 3 to 8 percent slopes	6,840	0.7
WeC	Wellsboro channery silt loam, 8 to 15 percent slopes	26,054	2.8

See footnote at end of table.

Table 4.—Acreage and Proportionate Extent of the Soils—Continued

Map symbol	Soil name	Acres	Percent
WeD	Wellsboro channery silt loam, 15 to 25 percent slopes	6,608	0.7
WfC	Wellsboro and Mardin soils, 2 to 15 percent slopes, very stony	20,246	2.2
Wg	Wenonah silt loam	1,435	0.2
WhB	Willdin channery silt loam, 2 to 8 percent slopes	6,628	0.7
WhC	Willdin channery silt loam, 8 to 15 percent slopes	9,772	1.0
WhD	Willdin channery silt loam, 15 to 25 percent slopes	773	*
WmA	Willowemoc channery silt loam, 0 to 3 percent slopes	928	*
WmB	Willowemoc channery silt loam, 3 to 8 percent slopes	21,765	2.3
WmC	Willowemoc channery silt loam, 8 to 15 percent slopes	48,233	5.1
WmD	Willowemoc channery silt loam, 15 to 25 percent slopes	6,789	0.7
WnC	Willowemoc and Willdin soils, 2 to 15 percent slopes, very stony	24,654	2.6
	Total	939,900	100.0

* Less than 0.1 percent.

Table 5.—Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name.)

Map symbol	Soil name
Bc	Barbour loam
Bg	Barbour-Trestle complex
Bs	Basher silt loam
BtB	Bath channery silt loam, 3 to 8 percent slopes
ChA	Chenango gravelly silt loam, 0 to 3 percent slopes
ChB	Chenango gravelly silt loam, 3 to 8 percent slopes
CoB	Collamer silt loam, 3 to 8 percent slopes
De	Deposit gravelly silt loam
LaB	Lackawanna flaggy silt loam, 3 to 8 percent slopes
LeB	Lewbath flaggy loam, 3 to 8 percent slopes
LhB	Lewbeach channery loam, 3 to 8 percent slopes
LoB	Lordstown channery silt loam, 2 to 8 percent slopes
MaB	Maplecrest gravelly silt loam, 3 to 8 percent slopes
MkB	Middlebrook-Mongaup complex, 2 to 8 percent slopes
MnB	Mongaup channery loam, 2 to 8 percent slopes
Pc	Philo silt loam
Re	Red hook gravelly silt loam (Prime farmland if drained)
RhA	Riverhead loam, 0 to 3 percent slopes
RhB	Riverhead loam, 3 to 8 percent slopes
TkA	Tunkhannock gravelly loam, 0 to 3 percent slopes
TkB	Tunkhannock gravelly loam, 3 to 8 percent slopes
TtA	Tunkhannock and Chenango soils, fan, 0 to 3 percent slopes
TtB	Tunkhannock and Chenango soils, fan, 3 to 8 percent slopes
Un	Unadilla silt loam
VaB	Valois very fine sandy loam, 3 to 8 percent slopes
Wg	Wenonah silt loam

Table 6.—Land Capability and Yields per Acre of Crops and Pasture

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

Map symbol and soil name	Land capability	Alfalfa hay	Corn silage	Grass hay	Grass-legume hay	Pasture
		Tons	Tons	Tons	Tons	AUM
Bc:						
Barbour	1	5.00	24.00	4.00	5.00	8.50
Bg:						
Barbour	1	4.50	24.00	4.00	4.00	8.50
Trestle	1	4.50	24.00	4.00	4.00	7.50
Bs:						
Basher	2w	4.50	22.00	3.50	3.50	8.50
BtB:						
Bath	2e	4.50	21.00	4.00	5.00	7.50
BtC:						
Bath	3e	4.00	18.00	4.00	4.00	7.50
BtD:						
Bath	4e	3.50	14.00	3.50	3.50	6.50
BtE:						
Bath	6e	---	---	---	---	2.00
Bw:						
Bucksport	5w	---	---	---	---	---
Wonsqueak	5w	---	---	---	---	---
CaE:						
Cadosia	7s	---	---	---	---	---
CaF:						
Cadosia	7s	---	---	---	---	---
Ce:						
Carlisle	5w	---	---	---	---	---
Palms	5w	---	---	---	---	---
ChA:						
Chenango	2s	4.00	20.00	4.00	4.00	8.50
ChB:						
Chenango	2s	4.00	20.00	4.00	4.00	8.50
ChC:						
Chenango	3e	4.00	16.00	4.00	4.00	8.50
ChD:						
Chenango	4e	3.50	15.00	3.50	3.50	6.50
ChE:						
Chenango	6e	---	---	---	---	2.00
CoB:						
Collamer	2e	5.00	22.00	3.50	3.50	7.50

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn silage	Grass hay	Grass-legume hay	Pasture
		Tons	Tons	Tons	Tons	AUM
CoC:						
Collamer	3e	4.50	20.00	3.50	3.50	7.50
De:						
Deposit	2w	4.50	23.00	4.00	4.00	7.50
EdC:						
Elka	3e	3.50	17.00	3.50	3.50	7.50
EdD:						
Elka	4e	3.50	16.00	3.50	3.50	6.50
EdE:						
Elka	6e	---	---	---	---	2.00
EkC:						
Elka	3e	3.50	17.00	3.50	3.50	7.50
Vly	3e	3.00	15.00	3.00	3.00	6.50
EkD:						
Elka	4e	3.50	16.00	3.50	3.50	6.50
Vly	4e	2.50	14.00	2.50	2.50	6.00
ElC:						
Elka	6s	---	---	---	---	2.00
Vly	6s	---	---	---	---	2.00
ElE:						
Elka	7s	---	---	---	---	---
Vly	7s	---	---	---	---	---
ElF:						
Elka	7s	---	---	---	---	---
Vly	7s	---	---	---	---	---
Ff:						
Fluvaquents	5w	---	---	---	---	2.00
Udifluvents	5w	---	---	---	---	2.50
HcC:						
Halcott	6s	---	---	---	---	2.00
Mongaup	6s	---	---	---	---	2.00
Vly	6s	---	---	---	---	2.00
HcE:						
Halcott	7s	---	---	---	---	---
Mongaup	7s	---	---	---	---	---
Vly	7s	---	---	---	---	---
HcF:						
Halcott	7s	---	---	---	---	---
Mongaup	7s	---	---	---	---	---

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn silage	Grass hay	Grass-legume hay	Pasture
		Tons	Tons	Tons	Tons	AUM
HcF:						
Vly	7s	---	---	---	---	---
LaB:						
Lackawanna	2e	4.50	20.00	3.50	4.00	8.00
LaC:						
Lackawanna	3e	4.00	19.00	3.50	4.00	8.00
LaD:						
Lackawanna	4e	3.50	17.00	2.50	3.50	7.50
LaE:						
Lackawanna	6e	---	---	---	---	2.00
LcD:						
Lackawanna	7s	---	---	---	---	2.00
Morris	6s	---	---	---	---	2.00
LdC:						
Lackawanna	6s	---	---	---	---	2.00
Bath	6s	---	---	---	---	2.00
LdE:						
Lackawanna	7s	---	---	---	---	---
Bath	7s	---	---	---	---	---
LdF:						
Lackawanna	7s	---	---	---	---	---
Bath	7s	---	---	---	---	---
LeB:						
Lewbath	2e	4.00	17.00	3.50	3.50	6.50
LeC:						
Lewbath	3e	3.50	16.00	3.00	3.00	5.50
LeD:						
Lewbath	4e	3.00	14.00	2.50	2.50	4.50
LeE:						
Lewbath	6e	---	---	---	---	2.00
LhB:						
Lewbeach	2e	4.00	17.00	3.50	3.50	6.50
LhC:						
Lewbeach	3e	3.50	16.00	3.00	3.00	5.50
LhD:						
Lewbeach	4e	3.00	14.00	2.50	2.50	4.50
LhE:						
Lewbeach	6e	---	---	---	---	2.00
LkC:						
Lewbeach	6s	---	---	---	---	2.00
Lewbath	6s	---	---	---	---	2.00

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn silage	Grass hay	Grass-legume hay	Pasture
		Tons	Tons	Tons	Tons	AUM
LkE:						
Lewbeach	7s	---	---	---	---	2.00
Lewbath	7s	---	---	---	---	2.00
LkF:						
Lewbeach	7s	---	---	---	---	---
Lewbath	7s	---	---	---	---	---
LoB:						
Lordstown	2e	3.50	17.00	3.50	3.50	6.50
LoC:						
Lordstown	3e	3.50	17.00	3.50	3.50	6.50
LoD:						
Lordstown	4e	3.00	16.00	3.00	3.00	5.50
LoE:						
Lordstown	6e	---	---	---	---	2.00
MaB:						
Maplecrest	2e	4.50	20.00	3.50	3.50	7.50
MaC:						
Maplecrest	3e	4.00	19.00	3.50	3.50	7.50
MaD:						
Maplecrest	4e	3.50	18.00	3.50	3.00	6.50
MaE:						
Maplecrest	6e	---	---	---	---	2.00
MdB:						
Mardin	2w	4.00	17.00	3.50	3.50	7.50
MdC:						
Mardin	3e	4.00	17.00	3.50	3.50	7.50
MdD:						
Mardin	4e	3.50	16.00	3.00	3.00	6.50
MkB:						
Middlebrook	2w	4.00	14.00	3.00	3.00	7.50
Mongaup	2e	3.00	15.00	3.00	3.00	5.00
MkC:						
Middlebrook	3e	3.50	14.00	3.00	3.00	7.50
Mongaup	3e	3.00	15.00	3.00	3.00	5.00
MnB:						
Mongaup	2e	3.00	15.00	3.00	3.00	5.00
MnC:						
Mongaup	3e	3.00	15.00	3.00	3.00	5.00
MnD:						
Mongaup	4e	3.00	14.00	2.50	2.50	5.00

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn silage	Grass hay	Grass-legume hay	Pasture
		Tons	Tons	Tons	Tons	AUM
MrA:						
Morris	3w	3.00	12.00	2.50	2.50	6.00
MrB:						
Morris	3w	3.00	12.00	2.50	2.50	6.00
MrC:						
Morris	3e	3.00	10.00	2.00	2.00	6.00
MsB:						
Morris	6s	---	---	---	---	2.00
Volusia	6s	---	---	---	---	2.00
No:						
Norchip	4w	---	10.00	2.50	---	4.00
Nr:						
Norchip	7s	---	---	---	---	4.00
OeA:						
Onteora	3w	2.50	10.00	2.00	2.00	5.00
OeB:						
Onteora	3w	3.00	10.00	2.00	2.00	5.00
OeC:						
Onteora	3e	3.00	10.00	2.00	2.00	5.00
OfB:						
Onteora	6s	---	---	---	---	2.00
Ontusia	6s	---	---	---	---	2.00
OnA:						
Ontusia	3w	2.50	12.00	2.50	2.50	5.00
OnB:						
Ontusia	3w	3.00	12.00	2.50	2.50	5.00
OnC:						
Ontusia	3e	3.00	10.00	2.00	2.00	5.00
OpB:						
Oquaga	2e	3.50	17.00	3.50	3.50	6.50
OpC:						
Oquaga	3e	3.50	17.00	3.50	3.50	6.50
OpD:						
Oquaga	4e	3.00	16.00	3.00	3.00	5.50
OpE:						
Oquaga	6e	---	---	---	---	2.00
OpF:						
Oquaga	7e	---	---	---	---	---
OrC:						
Oquaga	6s	---	---	---	---	3.00
Lordstown	6s	---	---	---	---	3.00

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn silage	Grass hay	Grass-legume hay	Pasture
		Tons	Tons	Tons	Tons	AUM
OrC:						
Arnot	6s	---	---	---	---	2.00
OrE:						
Oquaga	7s	---	---	---	---	---
Lordstown	7s	---	---	---	---	---
Arnot	7s	---	---	---	---	---
OrF:						
Oquaga	7s	---	---	---	---	---
Lordstown	7s	---	---	---	---	---
Arnot	7s	---	---	---	---	---
Pc:						
Philo	2w	4.50	24.00	4.00	4.50	8.50
Pg:						
Pits, Gravel	---	---	---	---	---	---
Ph:						
Pits, Quarry	---	---	---	---	---	---
Rb:						
Raypol	4w	---	---	2.50	2.50	4.00
Re:						
Red Hook	3w	3.50	18.00	3.00	3.00	6.00
RhA:						
Riverhead	2s	4.50	22.00	4.00	4.00	7.50
RhB:						
Riverhead	2e	4.50	22.00	4.00	4.00	7.50
RhC:						
Riverhead	3e	4.00	19.00	4.00	4.00	6.50
RhD:						
Riverhead	4e	3.50	17.00	3.50	3.50	6.00
RrE:						
Rockrift	7s	---	---	---	---	---
RrF:						
Rockrift	7s	---	---	---	---	---
Sa:						
Saprists	8w	---	---	---	---	---
Aquents	8w	---	---	---	---	---
TeB:						
Torull	4w	---	---	2.50	2.00	4.00
Gretor	3w	2.00	10.00	2.00	2.00	5.00
TkA:						
Tunkhannock	2s	4.00	20.00	4.00	4.00	7.50

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn silage	Grass hay	Grass-legume hay	Pasture
		Tons	Tons	Tons	Tons	AUM
TkB:						
Tunkhannock	2s	4.00	20.00	4.00	4.50	7.50
TkC:						
Tunkhannock	3e	4.00	16.00	4.00	4.00	6.50
TkD:						
Tunkhannock	4e	3.50	15.00	3.50	3.50	5.50
TkE:						
Tunkhannock	6e	---	---	---	---	2.00
TtA:						
Tunkhannock	2s	4.50	20.00	4.00	4.00	7.50
Chenango	2s	4.50	20.00	4.00	4.00	7.50
TtB:						
Tunkhannock	2s	4.50	20.00	4.00	4.00	7.50
Chenango	2s	4.50	20.00	4.00	4.00	7.50
Ud:						
Udorthents	---	---	---	---	---	---
Uf:						
Udorthents	---	---	---	---	---	---
Un:						
Unadilla	1	6.00	24.00	4.00	4.00	7.50
Ur:						
Urban Land	---	---	---	---	---	---
VaB:						
Valois	2e	4.50	20.00	4.00	4.00	7.50
VaC:						
Valois	3e	4.00	19.00	4.00	4.00	7.50
VaD:						
Valois	4e	3.50	16.00	3.50	3.50	6.50
VaE:						
Valois	6e	---	---	---	---	2.00
VlB:						
Vly	2e	3.00	15.00	3.00	3.00	6.50
VlC:						
Vly	3e	3.00	15.00	3.00	3.00	6.50
VlD:						
Vly	4e	2.50	14.00	2.50	2.50	6.00
VlE:						
Vly	6e	---	---	---	---	2.00
VoA:						
Volusia	3w	3.00	13.00	3.00	3.00	5.50
VoB:						
Volusia	3w	3.00	13.00	3.00	3.00	5.50

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn silage	Grass hay	Grass-legume hay	Pasture
		Tons	Tons	Tons	Tons	AUM
VoC:						
Volusia	3e	2.50	12.00	3.00	2.50	5.50
W:						
Water	---	---	---	---	---	---
WeB:						
Wellsboro	2w	4.00	18.00	3.00	3.00	8.00
WeC:						
Wellsboro	3e	4.00	17.00	3.00	3.00	8.00
WeD:						
Wellsboro	4e	3.50	16.00	3.00	3.00	7.50
WfC:						
Wellsboro	6s	---	---	---	---	2.00
Mardin	6s	---	---	---	---	2.00
Wg:						
Wenonah	1	4.50	24.00	4.00	4.00	8.50
WhB:						
Willdin	2w	3.50	15.00	3.50	3.50	6.50
WhC:						
Willdin	3e	3.00	14.00	3.00	3.00	5.50
WhD:						
Willdin	4e	2.00	13.00	2.00	2.00	4.50
WmA:						
Willowemoc	2w	3.50	14.00	3.50	3.50	6.50
WmB:						
Willowemoc	2w	3.50	14.00	3.50	3.50	6.50
WmC:						
Willowemoc	3e	3.00	13.00	3.00	3.00	6.50
WmD:						
Willowemoc	4e	2.50	12.00	2.50	2.50	6.00
WnC:						
Willowemoc	6s	---	---	---	---	2.00
Willdin	6s	---	---	---	---	2.00

Table 7.—Forest Productivity

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
Bc:				
Barbour	northern red oak	80	57	Norway spruce, black walnut, eastern white pine
	sugar maple	70	43	
Bg:				
Barbour	northern red oak	80	57	Norway spruce, black walnut, eastern white pine
	sugar maple	70	43	
Trestle	northern red oak	80	57	European larch, Norway spruce, black locust, black walnut, eastern white pine
	sugar maple	70	43	
Bs:				
Basher	American basswood	85	57	European larch, Norway spruce, black walnut, eastern white pine
	northern red oak	80	57	
	sugar maple	70	43	
BtB:				
Bath	black cherry	75	43	European larch, Norway spruce, eastern white pine, red pine
	northern red oak	70	57	
	sugar maple	65	43	
BtC:				
Bath	black cherry	75	43	European larch, Norway spruce, eastern white pine, red pine
	northern red oak	70	57	
	sugar maple	65	43	
BtD:				
Bath	black cherry	75	43	European larch, Norway spruce, eastern white pine, red pine
	northern red oak	70	57	
	sugar maple	65	43	
BtE:				
Bath	black cherry	75	43	European larch, Norway spruce, eastern white pine, red pine
	northern red oak	70	57	
	sugar maple	65	43	
Bw:				
Bucksport	red maple	55	29	eastern arborvitae, tamarack
	balsam fir	30	57	
	gray birch	---	0	
	tamarack	---	0	
	black spruce	25	29	
	eastern arborvitae	---	0	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
Bw:				
Wonsqueak	black ash	---	0	eastern arborvitae, tamarack
	eastern arborvitae	---	0	
	quaking aspen	---	0	
	red maple	55	29	
	silver maple	80	29	
	tamarack	61	57	
	white ash	---	0	
CaE:				
Cadosia	American beech	70	43	European larch, Norway spruce, eastern white pine, white spruce
	black cherry	75	43	
	northern red oak	70	43	
	sugar maple	65	43	
	white ash	70	43	
CaF:				
Cadosia	American beech	70	43	European larch, Norway spruce, eastern white pine, white spruce
	black cherry	75	0	
	northern red oak	70	43	
	sugar maple	65	43	
	white ash	70	43	
Ce:				
Carlisle	green ash	---	0	eastern arborvitae, tamarack
	quaking aspen	---	0	
	red maple	56	29	
	silver maple	82	29	
	swamp white oak	---	0	
	white ash	---	0	
Palms	black ash	---	0	eastern arborvitae, tamarack
	eastern arborvitae	---	0	
	quaking aspen	---	0	
	red maple	55	29	
	silver maple	80	29	
	tamarack	61	57	
	white ash	---	0	
ChA:				
Chenango	northern red oak	80	57	European larch, eastern white pine, red pine
	sugar maple	70	43	
ChB:				
Chenango	northern red oak	80	57	European larch, eastern white pine, red pine
	sugar maple	70	43	
ChC:				
Chenango	northern red oak	80	57	European larch, eastern white pine, red pine
	sugar maple	70	43	
ChD:				
Chenango	northern red oak	80	57	European larch, eastern white pine, red pine
	sugar maple	70	43	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
ChE:				
Chenango	northern red oak	80	57	European larch, eastern white pine, red pine
	sugar maple	70	43	
CoB:				
Collamer	American basswood	75	43	European larch, Norway spruce, eastern white pine, white spruce
	black cherry	80	57	
	northern red oak	80	57	
	sugar maple	70	43	
	white ash	85	57	
CoC:				
Collamer	American basswood	75	43	European larch, Norway spruce, eastern white pine, white spruce
	black cherry	80	57	
	northern red oak	80	57	
	sugar maple	70	43	
	white ash	85	57	
De:				
Deposit	black cherry	70	43	European larch, Norway spruce, eastern white pine, white spruce
	sugar maple	63	43	
EdC:				
Elka	sugar maple	70	43	Douglas fir, European larch, Norway spruce, red pine, white spruce
	red maple	75	43	
	American beech	70	43	
	eastern white pine	75	143	
	northern red oak	75	57	
EdD:				
Elka	sugar maple	70	43	Douglas fir, European larch, Norway spruce, red pine, white spruce
	red maple	75	43	
	American beech	70	43	
	eastern white pine	75	143	
	northern red oak	75	57	
EdE:				
Elka	sugar maple	70	43	Douglas fir, European larch, Norway spruce, red pine, white spruce
	red maple	75	43	
	American beech	70	43	
	eastern white pine	75	143	
	northern red oak	75	57	
EkC:				
Elka	sugar maple	70	43	Douglas fir, European larch, Norway spruce, red pine, white spruce
	red maple	75	43	
	American beech	70	43	
	eastern white pine	75	143	
	northern red oak	75	57	
Vly	black cherry	70	43	Norway spruce, eastern white pine, red pine
	eastern white pine	75	143	
	northern red oak	70	57	
	sugar maple	70	43	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
EkD:				
Elka	sugar maple	70	43	Douglas fir, European larch, Norway spruce, red pine, white spruce
	red maple	75	43	
	American beech	70	43	
	eastern white pine	75	143	
	northern red oak	75	57	
Vly	black cherry	70	43	Norway spruce, eastern white pine, red pine
	eastern white pine	75	143	
	northern red oak	70	57	
	sugar maple	70	43	
ElC:				
Elka	sugar maple	70	43	Norway spruce, red pine, white spruce
	red maple	75	43	
	American beech	70	43	
	eastern white pine	75	143	
	northern red oak	75	57	
Vly	black cherry	70	43	Norway spruce, eastern white pine, red pine
	eastern white pine	75	143	
	northern red oak	70	57	
	sugar maple	70	43	
ElE:				
Elka	sugar maple	70	43	Norway spruce, red pine, white spruce
	red maple	75	43	
	American beech	70	43	
	eastern white pine	75	143	
	northern red oak	75	57	
Vly	black cherry	70	43	Norway spruce, eastern white pine, red pine
	eastern white pine	75	143	
	northern red oak	70	57	
	sugar maple	70	43	
ElF:				
Elka	sugar maple	70	43	Norway spruce, red pine, white spruce
	red maple	75	43	
	American beech	70	43	
	eastern white pine	75	143	
	northern red oak	75	57	
Vly	black cherry	70	43	Norway spruce, eastern white pine, red pine
	eastern white pine	75	143	
	northern red oak	70	57	
	sugar maple	70	43	
Ff:				
Fluvaquents	---	---	---	---
Udifluvents	---	---	---	---
HcC:				
Halcott	northern red oak	55	43	European larch, eastern white pine, red pine
	sugar maple	50	29	
	white ash	---	0	
	eastern white pine	55	86	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
HcC:				
Mongaup	sugar maple	59	43	European larch, Norway spruce, red pine
	red maple	---	0	
	beech	---	0	
	black cherry	---	0	
Vly	black cherry	70	43	Norway spruce, eastern white pine, red pine
	eastern white pine	75	143	
	northern red oak	70	57	
	sugar maple	70	43	
HcE:				
Halcott	northern red oak	55	43	European larch, eastern white pine, red pine
	sugar maple	50	29	
	white ash	---	0	
	eastern white pine	55	86	
Mongaup	sugar maple	59	43	European larch, Norway spruce, red pine
	red maple	---	0	
	beech	---	0	
	black cherry	---	0	
Vly	black cherry	70	43	Norway spruce, eastern white pine, red pine
	eastern white pine	75	143	
	northern red oak	70	57	
	sugar maple	70	43	
HcF:				
Halcott	northern red oak	55	43	European larch, eastern white pine, red pine
	sugar maple	50	29	
	white ash	---	0	
	eastern white pine	55	86	
Mongaup	sugar maple	59	43	European larch, Norway spruce, red pine
	red maple	---	0	
	beech	---	0	
	black cherry	---	0	
Vly	black cherry	70	43	Norway spruce, eastern white pine, red pine
	eastern white pine	75	143	
	northern red oak	70	57	
	sugar maple	70	43	
LaB:				
Lackawanna	northern red oak	70	57	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	70	43	
	white ash	70	43	
	black cherry	75	43	
LaC:				
Lackawanna	northern red oak	70	57	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	70	43	
	white ash	70	43	
	black cherry	75	43	
LaD:				
Lackawanna	northern red oak	70	57	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	70	43	
	white ash	70	43	
	black cherry	75	43	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
LaE:				
Lackawanna	northern red oak	70	57	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	70	43	
	white ash	70	43	
	black cherry	75	43	
LcD:				
Lackawanna	northern red oak	70	57	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	70	43	
	white ash	70	43	
	black cherry	75	43	
Morris	northern red oak	65	43	Norway spruce, eastern white pine, white spruce
	sugar maple	79	57	
	black cherry	69	43	
LdC:				
Lackawanna	northern red oak	70	57	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	70	43	
	white ash	70	43	
	black cherry	75	43	
Bath	black cherry	75	43	European larch, Norway spruce, eastern white pine, red pine
	northern red oak	70	57	
	sugar maple	65	43	
LdE:				
Lackawanna	northern red oak	70	57	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	70	43	
	white ash	70	43	
	black cherry	75	43	
Bath	black cherry	75	43	European larch, Norway spruce, eastern white pine, red pine
	northern red oak	70	57	
	sugar maple	65	43	
LdF:				
Lackawanna	northern red oak	70	57	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	70	43	
	white ash	70	43	
	black cherry	75	43	
Bath	black cherry	75	43	European larch, Norway spruce, eastern white pine, red pine
	northern red oak	70	57	
	sugar maple	65	43	
LeB:				
Lewbath	American beech	---	0	European larch, Norway spruce, black locust, eastern white pine, red pine, white spruce
	black cherry	75	43	
	northern red oak	70	57	
	sugar maple	65	43	
	white ash	---	0	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
LeC:				
Lewbath	American beech	---	0	European larch,
	black cherry	75	43	Norway spruce,
	northern red oak	70	57	black locust,
	sugar maple	65	43	eastern white
	white ash	---	0	pine, red pine,
				white spruce
LeD:				
Lewbath	American beech	---	0	European larch,
	black cherry	75	43	Norway spruce,
	northern red oak	70	57	black locust,
	sugar maple	65	43	eastern white
	white ash	---	0	pine, red pine,
				white spruce
LeE:				
Lewbath	American beech	---	0	European larch,
	black cherry	75	43	Norway spruce,
	northern red oak	70	57	black locust,
	sugar maple	65	43	eastern white
	white ash	---	0	pine, red pine,
				white spruce
LhB:				
Lewbeach	American beech	---	0	Norway spruce,
	black cherry	75	43	eastern white
	sugar maple	70	43	pine, red pine,
	white ash	---	0	white spruce
	yellow birch	---	0	
LhC:				
Lewbeach	American beech	---	0	Norway spruce,
	black cherry	75	43	eastern white
	sugar maple	70	43	pine, red pine,
	white ash	---	0	white spruce
	yellow birch	---	0	
LhD:				
Lewbeach	American beech	---	0	Norway spruce,
	black cherry	75	43	eastern white
	sugar maple	70	43	pine, red pine,
	white ash	---	0	white spruce
	yellow birch	---	0	
LhE:				
Lewbeach	American beech	---	0	Norway spruce,
	black cherry	75	43	eastern white
	sugar maple	70	43	pine, red pine,
	white ash	---	0	white spruce
	yellow birch	---	0	
LkC:				
Lewbeach	American beech	---	0	Norway spruce,
	black cherry	7	43	white spruce
	sugar maple	70	43	
	white ash	---	0	
	yellow birch	---	0	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
LkC:				
Lewbath	American beech	---	0	Norway spruce, white spruce
	black cherry	7	43	
	sugar maple	70	43	
	white ash	---	0	
	yellow birch	---	0	
LkE:				
Lewbeach	American beech	---	0	Norway spruce, white spruce
	black cherry	7	43	
	sugar maple	70	43	
	white ash	---	0	
	yellow birch	---	0	
Lewbath	American beech	---	0	Norway spruce, white spruce
	black cherry	7	43	
	sugar maple	70	43	
	white ash	---	0	
	yellow birch	---	0	
LkF:				
Lewbeach	American beech	---	0	Norway spruce, white spruce
	black cherry	7	43	
	sugar maple	70	43	
	white ash	---	0	
	yellow birch	---	0	
Lewbath	American beech	---	0	Norway spruce, white spruce
	black cherry	7	43	
	sugar maple	70	43	
	white ash	---	0	
	yellow birch	---	0	
LoB:				
Lordstown	northern red oak	70	57	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	73	43	
	white ash	75	43	
LoC:				
Lordstown	northern red oak	70	57	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	73	43	
	white ash	75	43	
LoD:				
Lordstown	northern red oak	70	57	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	73	43	
	white ash	75	43	
LoE:				
Lordstown	northern red oak	70	57	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	73	43	
	white ash	75	43	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
MaB:				
Maplecrest	sugar maple	61	43	European larch, Norway spruce, eastern white pine, red pine, white spruce
	red maple	70	43	
	beech	70	43	
	northern red oak	70	57	
MaC:				
Maplecrest	sugar maple	61	43	European larch, Norway spruce, eastern white pine, red pine, white spruce
	red maple	70	43	
	beech	70	43	
	northern red oak	70	57	
MaD:				
Maplecrest	sugar maple	61	43	European larch, Norway spruce, eastern white pine, red pine, white spruce
	red maple	70	43	
	beech	70	43	
	northern red oak	70	57	
MaE:				
Maplecrest	sugar maple	61	43	European larch, Norway spruce, eastern white pine, red pine, white spruce
	red maple	70	43	
	beech	70	43	
	northern red oak	70	57	
MdB:				
Mardin	black cherry	70	43	European larch, Norway spruce, eastern white pine, red pine, white spruce
	northern red oak	63	43	
	sugar maple	60	43	
	white ash	70	43	
MdC:				
Mardin	black cherry	70	43	European larch, Norway spruce, eastern white pine, red pine, white spruce
	northern red oak	63	43	
	sugar maple	60	43	
	white ash	70	43	
MdD:				
Mardin	black cherry	70	43	European larch, Norway spruce, eastern white pine, red pine, white spruce
	northern red oak	63	43	
	sugar maple	60	43	
	white ash	70	43	
MkB:				
Middlebrook	black cherry	70	43	European larch, Norway spruce, eastern white pine, red pine, white spruce
	northern red oak	63	43	
	sugar maple	60	43	
	white ash	70	43	
Mongaup	sugar maple	73	43	European larch, Norway spruce, red pine
	red maple	---	0	
	beech	---	0	
	black cherry	---	0	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
MkC:				
Middlebrook	black cherry	70	43	European larch, Norway spruce, eastern white pine, red pine, white spruce
	northern red oak	63	43	
	sugar maple	60	43	
	white ash	70	43	
Mongaup	sugar maple	73	43	European larch, Norway spruce, red pine
	red maple	---	0	
	beech	---	0	
	black cherry	---	0	
MnB:				
Mongaup	sugar maple	73	43	European larch, Norway spruce, red pine
	red maple	---	0	
	beech	---	0	
	black cherry	---	0	
MnC:				
Mongaup	sugar maple	73	43	European larch, Norway spruce, red pine
	red maple	---	0	
	beech	---	0	
	black cherry	---	0	
MnD:				
Mongaup	sugar maple	73	43	European larch, Norway spruce, red pine
	red maple	---	0	
	beech	---	0	
	black cherry	---	0	
MrA:				
Morris	northern red oak	65	43	European larch, Norway spruce, eastern white pine, white spruce
	sugar maple	79	57	
	white ash	71	43	
	black cherry	69	43	
MrB:				
Morris	northern red oak	65	43	European larch, Norway spruce, eastern white pine, white spruce
	sugar maple	79	57	
	white ash	71	43	
	black cherry	69	43	
MrC:				
Morris	northern red oak	65	43	European larch, Norway spruce, eastern white pine, white spruce
	sugar maple	79	57	
	white ash	71	43	
	black cherry	69	43	
MsB:				
Morris	northern red oak	65	43	Norway spruce, eastern white pine, white spruce
	sugar maple	79	57	
	black cherry	69	43	
Volusia	northern red oak	70	57	European larch, Norway spruce, black cherry, eastern white pine, white spruce
	sugar maple	64	43	
	white ash	75	43	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
No:				
Norchip	red maple	50	29	eastern arborvitae, eastern white pine, white spruce
Nr:				
Norchip	red maple	50	29	eastern arborvitae, eastern white pine, white spruce
OeA:				
Onteora	beech	60	43	Norway spruce, eastern white pine, white spruce
	red maple	75	43	
OeB:				
Onteora	beech	60	43	Norway spruce, eastern white pine, white spruce
	red maple	75	43	
OeC:				
Onteora	beech	60	43	Norway spruce, eastern white pine, white spruce
	red maple	75	43	
OfB:				
Onteora	beech	60	43	Norway spruce, eastern white pine, white spruce
	red maple	75	43	
Ontusia	black cherry	65	43	European larch, Norway spruce, white spruce
	red maple	75	43	
	northern red oak	60	43	
	hemlock	---	0	
OnA:				
Ontusia	black cherry	65	43	European larch, Norway spruce, basswood, black cherry, cottonwood, white spruce
	red maple	---	0	
	hemlock	---	0	
OnB:				
Ontusia	black cherry	65	43	European larch, Norway spruce, basswood, black cherry, cottonwood, white spruce
	red maple	---	0	
	hemlock	---	0	
OnC:				
Ontusia	black cherry	65	43	European larch, Norway spruce, basswood, black cherry, cottonwood, white spruce
	red maple	---	0	
	hemlock	---	0	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
OpB:				
Oquaga------------------	black cherry--------	72	43	European larch,
	eastern white pine--	75	143	Norway spruce,
	northern red oak----	71	57	black cherry,
	sugar maple---------	69	43	eastern white
				pine, red pine
OpC:				
Oquaga------------------	black cherry--------	72	43	European larch,
	eastern white pine--	75	143	Norway spruce,
	northern red oak----	71	57	black cherry,
	sugar maple---------	69	43	eastern white
				pine, red pine
OpD:				
Oquaga------------------	black cherry--------	72	43	European larch,
	eastern white pine--	75	143	Norway spruce,
	northern red oak----	71	57	black cherry,
	sugar maple---------	69	43	eastern white
				pine, red pine
OpE:				
Oquaga------------------	black cherry--------	72	43	European larch,
	eastern white pine--	75	143	Norway spruce,
	northern red oak----	71	57	black cherry,
	sugar maple---------	69	43	eastern white
				pine, red pine
OpF:				
Oquaga------------------	black cherry--------	72	43	European larch,
	eastern white pine--	75	143	Norway spruce,
	northern red oak----	71	57	black cherry,
	sugar maple---------	69	43	eastern white
				pine, red pine
OrC:				
Oquaga------------------	northern red oak----	60	43	European larch,
	sugar maple---------	73	43	Norway spruce,
	white ash-----------	75	43	eastern white
				pine, red pine
Lordstown---------------	northern red oak----	60	43	European larch,
	sugar maple---------	70	43	Norway spruce,
	white ash-----------	75	43	eastern white
				pine, red pine
Arnot-------------------	northern red oak----	55	43	European larch,
	sugar maple---------	50	29	eastern white
	white ash-----------	55	29	pine, red pine
	eastern white pine--	55	86	
OrE:				
Oquaga------------------	northern red oak----	60	43	European larch,
	sugar maple---------	73	43	Norway spruce,
	white ash-----------	75	43	eastern white
				pine, red pine

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
OrE:				
Lordstown	northern red oak	60	43	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	70	43	
	white ash	75	43	
Arnot	northern red oak	55	43	European larch, eastern white pine, red pine
	sugar maple	50	29	
	white ash	55	29	
	eastern white pine	55	86	
OrF:				
Oquaga	northern red oak	60	43	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	73	43	
	white ash	75	43	
Lordstown	northern red oak	60	43	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	70	43	
	white ash	75	43	
Arnot	northern red oak	55	43	European larch, eastern white pine, red pine
	sugar maple	50	29	
	white ash	55	29	
	eastern white pine	55	86	
Pc:				
Philo	northern red oak	86	72	eastern white pine, tuliptree
	white ash	85	72	
	tuliptree	102	114	
	Virginia pine	74	114	
	white oak	85	72	
	black oak	85	72	
Pg:				
Pits, Gravel	---	---	---	---
Ph:				
Pits, Quarry	---	---	---	---
Rb:				
Raypol	eastern white pine	68	114	eastern hemlock, eastern white pine, white spruce
	red maple	75	43	
Re:				
Red Hook	eastern white pine	70	129	Norway spruce, eastern white pine
	red maple	70	43	
RhA:				
Riverhead	black cherry	70	43	European larch, Norway spruce, eastern white pine
	eastern white pine	75	143	
	northern red oak	70	57	
	sugar maple	63	43	
RhB:				
Riverhead	black cherry	70	43	European larch, Norway spruce, eastern white pine
	eastern white pine	75	143	
	northern red oak	70	57	
	sugar maple	63	43	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
RhC:				
Riverhead	black cherry	70	43	European larch,
	eastern white pine	75	143	Norway spruce,
	northern red oak	70	57	eastern white pine
	sugar maple	63	43	
RhD:				
Riverhead	black cherry	70	43	European larch,
	eastern white pine	75	143	Norway spruce,
	northern red oak	70	57	eastern white pine
	sugar maple	63	43	
RrE:				
Rockrift	American beech	70	43	European larch,
	northern red oak	70	57	Norway spruce,
	sugar maple	65	43	eastern white
	white ash	70	29	pine, white spruce
RrF:				
Rockrift	American beech	70	43	European larch,
	northern red oak	70	57	Norway spruce,
	sugar maple	65	43	eastern white
	white ash	70	29	pine, white spruce
Sa:				
Saprists	---	---	---	---
Aquents	---	---	---	---
TeB:				
Torull	American elm	---	0	Norway spruce,
	eastern hemlock	45	0	white spruce
	red maple	55	29	
Gretor	eastern hemlock	45	0	Norway spruce,
	red maple	55	29	white spruce
	yellow birch	50	29	
TkA:				
Tunkhannock	northern red oak	70	57	Japanese larch,
	sugar maple	65	43	Norway spruce,
				eastern white
				pine, red pine
TkB:				
Tunkhannock	northern red oak	70	57	Japanese larch,
	sugar maple	65	43	Norway spruce,
				eastern white
				pine, red pine
TkC:				
Tunkhannock	northern red oak	70	57	Japanese larch,
	sugar maple	65	43	Norway spruce,
				eastern white
				pine, red pine

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
TkD:				
Tunkhannock-------------	northern red oak----	70	57	Japanese larch, Norway spruce, eastern white pine, red pine
	sugar maple---------	65	43	
TkE:				
Tunkhannock-------------	northern red oak----	70	57	Japanese larch, Norway spruce, eastern white pine, red pine
	sugar maple---------	65	43	
TtA:				
Tunkhannock-------------	northern red oak----	70	57	European larch, Norway spruce, eastern white pine, red pine
	sugar maple---------	65	43	
Chenango----------------	northern red oak----	80	57	Norway spruce, eastern white pine
	sugar maple---------	70	43	
TtB:				
Tunkhannock-------------	northern red oak----	70	57	European larch, Norway spruce, eastern white pine, red pine
	sugar maple---------	65	43	
Chenango----------------	northern red oak----	80	57	Norway spruce, eastern white pine
	sugar maple---------	70	43	
Ud:				
Udorthents--------------	---	---	---	---
Uf:				
Udorthents--------------	---	---	---	---
Un:				
Unadilla----------------	black cherry--------	80	57	European larch, Norway spruce, black cherry, eastern white pine, red pine, white spruce
	eastern white pine--	85	143	
	northern red oak----	80	57	
	sugar maple---------	70	43	
	white ash-----------	95	72	
Ur:				
Urban Land--------------	---	---	---	---
VaB:				
Valois------------------	American basswood---	70	43	European larch, Norway spruce, eastern white pine, red pine, white spruce
	northern red oak----	70	57	
	sugar maple---------	61	43	
	white ash-----------	70	29	
VaC:				
Valois------------------	American basswood---	70	43	European larch, Norway spruce, eastern white pine, red pine, white spruce
	northern red oak----	70	57	
	sugar maple---------	61	43	
	white ash-----------	70	29	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
VaD:				
Valois	American basswood	70	43	European larch, Norway spruce, eastern white pine, red pine, white spruce
	northern red oak	70	57	
	sugar maple	61	43	
	white ash	70	29	
VaE:				
Valois	American basswood	70	43	European larch, Norway spruce, eastern white pine, red pine, white spruce
	northern red oak	70	57	
	sugar maple	61	43	
	white ash	70	29	
VlB:				
Vly	black cherry	70	43	Norway spruce, eastern white pine, red pine
	eastern white pine	75	143	
	northern red oak	70	57	
	sugar maple	70	43	
VlC:				
Vly	black cherry	70	43	Norway spruce, eastern white pine, red pine
	eastern white pine	75	143	
	northern red oak	70	57	
	sugar maple	70	43	
VlD:				
Vly	black cherry	70	43	Norway spruce, eastern white pine, red pine
	eastern white pine	75	143	
	northern red oak	70	57	
	sugar maple	70	43	
VlE:				
Vly	black cherry	70	43	Norway spruce, eastern white pine, red pine
	eastern white pine	75	143	
	northern red oak	70	57	
	sugar maple	70	43	
VoA:				
Volusia	northern red oak	70	57	European larch, Norway spruce, black cherry, eastern white pine, white spruce
	sugar maple	64	43	
	white ash	75	43	
VoB:				
Volusia	northern red oak	70	57	European larch, Norway spruce, black cherry, eastern white pine, white spruce
	sugar maple	64	43	
	white ash	75	43	
VoC:				
Volusia	northern red oak	70	57	European larch, Norway spruce, black cherry, eastern white pine, white spruce
	sugar maple	64	43	
	white ash	75	43	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
W:				
Water	---	---	---	---
WeB:				
Wellsboro	northern red oak	78	57	European larch, Norway spruce, black cherry, eastern white pine, red pine
	sugar maple	70	43	
WeC:				
Wellsboro	northern red oak	78	57	European larch, Norway spruce, black cherry, eastern white pine, red pine
	sugar maple	70	43	
WeD:				
Wellsboro	northern red oak	78	57	European larch, Norway spruce, black cherry, eastern white pine, red pine
	sugar maple	70	43	
WfC:				
Wellsboro	northern red oak	78	57	European larch, Norway spruce, black cherry, eastern white pine, red pine
	sugar maple	70	43	
Mardin	black cherry	70	43	European larch, Norway spruce, eastern white pine, red pine, white spruce
	northern red oak	63	43	
	sugar maple	60	43	
	white ash	70	43	
Wg:				
Wenonah	northern red oak	75	57	European larch, Norway spruce, eastern white pine, red pine, tuliptree
	sugar maple	67	43	
WhB:				
Willdin	American beech	---	0	European larch, Norway spruce, black locust, eastern white pine, white spruce
	black cherry	70	43	
	northern red oak	60	43	
	sugar maple	60	43	
	white ash	---	0	
WhC:				
Willdin	American beech	---	0	European larch, Norway spruce, black locust, eastern white pine, white spruce
	black cherry	70	43	
	northern red oak	60	43	
	sugar maple	60	43	
	white ash	---	0	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
WhD:				
Willdin	American beech	---	0	European larch, Norway spruce, black locust, eastern white pine, white spruce
	black cherry	70	43	
	northern red oak	60	43	
	sugar maple	60	43	
	white ash	---	0	
WmA:				
Willowemoc	sugar maple	70	43	Norway spruce, black cherry
	red maple	---	0	
	yellow birch	---	0	
	American beech	---	0	
	hemlock	---	0	
WmB:				
Willowemoc	sugar maple	70	43	Norway spruce, black cherry
	red maple	---	0	
	yellow birch	---	0	
	American beech	---	0	
	hemlock	---	0	
WmC:				
Willowemoc	sugar maple	70	43	Norway spruce, black cherry
	red maple	---	0	
	yellow birch	---	0	
	American beech	---	0	
	hemlock	---	0	
WmD:				
Willowemoc	sugar maple	70	43	Norway spruce, black cherry
	red maple	---	0	
	yellow birch	---	0	
	American beech	---	0	
	hemlock	---	0	
WnC:				
Willowemoc	sugar maple	70	43	Norway spruce, black cherry
	red maple	---	0	
	yellow birch	---	0	
	American beech	---	0	
	hemlock	---	0	
Willdin	black cherry	70	43	European larch, Norway spruce, eastern white pine, white spruce
	northern red oak	65	43	
	sugar maple	60	43	

Table 8.—Forestland Management (Part I)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Bc:							
Barbour	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
Bg:							
Barbour	40	Moderate		Well suited		Moderate	
		Strength	0.50			Strength	0.50
Trestle	35	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
Bs:							
Basher	80	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
BtB:							
Bath	80	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
				Wetness	0.50		
BtC:							
Bath	80	Moderate		Moderately suited		Severe	
		Strength	0.50	Slope	0.50	Strength	1.00
				Strength	0.50		
				Wetness	0.50		
BtD:							
Bath	80	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
				Strength	0.50		
				Wetness	0.50		
BtE:							
Bath	80	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
				Strength	0.50		
				Wetness	0.50		
Bw:							
Bucksport	40	Moderate		Poorly suited		Slight	
		Wetness	0.75	Ponding	1.00		
				Wetness	1.00		
Wonsqueak	40	Severe		Poorly suited		Severe	
		Strength	1.00	Ponding	1.00	Strength	1.00
		Wetness	1.00	Strength	1.00	Wetness	0.50
				Wetness	1.00		

Table 8.—Forestland Management (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CaE:							
Cadosia-------------	75	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Strength	0.10
		Sandiness	0.50	Rock fragments	0.50		
				Sandiness	0.50		
CaF:							
Cadosia-------------	75	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
				Rock fragments	0.50		
				Sandiness	0.50		
Ce:							
Carlisle------------	45	Severe		Poorly suited		Severe	
		Strength	1.00	Ponding	1.00	Strength	1.00
				Strength	1.00		
				Wetness	1.00		
Palms---------------	40	Severe		Poorly suited		Severe	
		Strength	1.00	Ponding	1.00	Strength	1.00
				Strength	1.00		
				Wetness	1.00		
ChA:							
Chenango------------	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
ChB:							
Chenango------------	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
ChC:							
Chenango------------	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Slope	0.50	Strength	1.00
				Strength	0.50		
ChD:							
Chenango------------	85	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
		Sandiness	0.50	Strength	0.50		
ChE:							
Chenango------------	85	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Strength	1.00
				Strength	0.50		
CoB:							
Collamer------------	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
				Wetness	0.50		
CoC:							
Collamer------------	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Slope	0.50	Strength	1.00
				Strength	0.50		
				Wetness	0.50		

Table 8.—Forestland Management (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
De:							
Deposit	80	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
				Wetness	0.50		
EdC:							
Elka	80	Slight		Moderately suited		Severe	
				Slope	0.50	Strength	1.00
				Strength	0.50		
EdD:							
Elka	80	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
				Strength	0.50		
EdE:							
Elka	80	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
				Strength	0.50		
EkC:							
Elka	40	Slight		Moderately suited		Severe	
				Slope	0.50	Strength	1.00
				Strength	0.50		
Vly	35	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Strength	1.00
		Strength	0.50	Strength	0.50		
EkD:							
Elka	40	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
				Strength	0.50		
Vly	35	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Strength	1.00
		Slope	0.50	Strength	0.50		
		Sandiness	0.50				
ElC:							
Elka	40	Slight		Moderately suited		Severe	
				Slope	0.50	Strength	1.00
				Strength	0.50		
Vly	35	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Strength	1.00
		Strength	0.50	Strength	0.50		
ElE:							
Elka	40	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
				Strength	0.50		
Vly	35	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
		Restrictive layer	0.50	Strength	0.50		
		Sandiness	0.50				

Table 8.—Forestland Management (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
ElF:							
Elka-----------------	40	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Strength	1.00
				Strength	0.50		
Vly------------------	35	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Strength	1.00
				Strength	0.50		
Ff:							
Fluvaquents----------	45	Severe		Poorly suited		Moderate	
		Flooding	1.00	Ponding	1.00	Strength	0.50
				Flooding	1.00		
				Wetness	1.00		
Udifluvents----------	35	Severe		Poorly suited		Moderate	
		Flooding	1.00	Flooding	1.00	Strength	0.50
HcC:							
Halcott--------------	25	Severe		Moderately suited		Moderate	
		Restrictive layer	1.00	Slope	0.50	Strength	0.50
Mongaup--------------	25	Moderate		Moderately suited		Moderate	
		Restrictive layer	0.50	Slope	0.50	Strength	0.50
		Strength	0.50				
Vly------------------	25	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Strength	1.00
		Strength	0.50	Strength	0.50		
HcE:							
Halcott--------------	25	Severe		Poorly suited		Moderate	
		Restrictive layer	1.00	Slope	1.00	Strength	0.50
		Slope	0.50				
Mongaup--------------	25	Severe		Poorly suited		Moderate	
		Restrictive layer	1.00	Slope	1.00	Strength	0.50
		Slope	0.50				
Vly------------------	25	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
		Restrictive layer	0.50	Strength	0.50		
		Sandiness	0.50				
HcF:							
Halcott--------------	25	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Strength	0.50
Mongaup--------------	25	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Strength	0.50
Vly------------------	25	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Strength	1.00
				Strength	0.50		
LaB:							
Lackawanna-----------	80	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
				Wetness	0.50		

Table 8.—Forestland Management (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
LaC:							
Lackawanna----------	80	Moderate		Moderately suited		Severe	
		Strength	0.50	Slope	0.50	Strength	1.00
				Strength	0.50		
				Wetness	0.50		
LaD:							
Lackawanna----------	80	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
LaE:							
Lackawanna----------	80	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
LcD:							
Lackawanna----------	50	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
Morris--------------	30	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
		Strength	0.50	Wetness	1.00		
				Strength	0.50		
LdC:							
Lackawanna----------	50	Moderate		Moderately suited		Severe	
		Strength	0.50	Slope	0.50	Strength	1.00
				Strength	0.50		
				Wetness	0.50		
Bath----------------	30	Moderate		Moderately suited		Severe	
		Strength	0.50	Slope	0.50	Strength	1.00
				Strength	0.50		
				Wetness	0.50		
LdE:							
Lackawanna----------	50	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
Bath----------------	30	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
				Strength	0.50		
				Wetness	0.50		
LdF:							
Lackawanna----------	50	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
Bath----------------	30	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Strength	1.00
				Strength	0.50		
				Wetness	0.50		

Table 8.—Forestland Management (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LeB:							
Lewbath-------------	80	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
				Wetness	0.50		
LeC:							
Lewbath-------------	80	Moderate		Moderately suited		Severe	
		Strength	0.50	Slope	0.50	Strength	1.00
				Strength	0.50		
				Wetness	0.50		
LeD:							
Lewbath-------------	80	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
LeE:							
Lewbath-------------	80	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
LhB:							
Lewbeach------------	80	Slight		Moderately suited		Moderate	
				Wetness	0.50	Strength	0.50
				Slope	0.50		
LhC:							
Lewbeach------------	80	Slight		Moderately suited		Moderate	
				Slope	0.50	Strength	0.50
				Wetness	0.50		
LhD:							
Lewbeach------------	80	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Strength	0.50
				Wetness	0.50		
LhE:							
Lewbeach------------	80	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Strength	0.50
				Wetness	0.50		
LkC:							
Lewbeach------------	50	Slight		Moderately suited		Moderate	
				Slope	0.50	Strength	0.50
				Wetness	0.50		
Lewbath-------------	30	Moderate		Moderately suited		Severe	
		Strength	0.50	Slope	0.50	Strength	1.00
				Strength	0.50		
				Wetness	0.50		

Table 8.—Forestland Management (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LkE:							
Lewbeach------------	50	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Strength	0.50
				Wetness	0.50		
Lewbath-------------	30	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
LkF:							
Lewbeach------------	50	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Strength	0.50
				Wetness	0.50		
Lewbath-------------	30	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
LoB:							
Lordstown-----------	80	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
		Restrictive layer	0.50				
LoC:							
Lordstown-----------	80	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Strength	1.00
		Strength	0.50	Strength	0.50		
LoD:							
Lordstown-----------	80	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Strength	1.00
		Slope	0.50	Strength	0.50		
		Strength	0.50				
LoE:							
Lordstown-----------	80	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
MaB:							
Maplecrest----------	80	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
MaC:							
Maplecrest----------	80	Moderate		Moderately suited		Severe	
		Strength	0.50	Slope	0.50	Strength	1.00
				Strength	0.50		
MaD:							
Maplecrest----------	80	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
				Strength	0.50		
MaE:							
Maplecrest----------	85	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Strength	1.00
				Strength	0.50		

Table 8.—Forestland Management (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
MdB:							
Mardin	80	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
				Wetness	0.50		
				Slope	0.50		
MdC:							
Mardin	80	Moderate		Moderately suited		Severe	
		Strength	0.50	Slope	0.50	Strength	1.00
				Strength	0.50		
				Wetness	0.50		
MdD:							
Mardin	80	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
MkB:							
Middlebrook	45	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
		Restrictive layer	0.50	Wetness	0.50		
Mongaup	35	Moderate		Well suited		Moderate	
		Strength	0.50			Strength	0.50
		Restrictive layer	0.50				
MkC:							
Middlebrook	45	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
Mongaup	35	Moderate		Moderately suited		Moderate	
		Restrictive layer	0.50	Slope	0.50	Strength	0.50
		Strength	0.50				
MnB:							
Mongaup	80	Moderate		Well suited		Moderate	
		Strength	0.50			Strength	0.50
		Restrictive layer	0.50				
MnC:							
Mongaup	80	Moderate		Moderately suited		Moderate	
		Restrictive layer	0.50	Slope	0.50	Strength	0.50
		Strength	0.50				
MnD:							
Mongaup	80	Severe		Poorly suited		Moderate	
		Restrictive layer	1.00	Slope	1.00	Strength	0.50
		Slope	0.50				
MrA:							
Morris	85	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Strength	0.50		
MrB:							
Morris	85	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Strength	0.50		
				Slope	0.50		

Table 8.—Forestland Management (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
MrC:							
Morris	85	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Slope	0.50		
				Strength	0.50		
MsB:							
Morris	50	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Strength	0.50		
				Slope	0.50		
Volusia	30	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Strength	0.50		
				Slope	0.50		
No:							
Norchip	80	Slight		Poorly suited		Severe	
				Wetness	1.00	Strength	1.00
				Strength	0.50		
Nr:							
Norchip	80	Slight		Poorly suited		Severe	
				Wetness	1.00	Strength	1.00
				Strength	0.50		
OeA:							
Onteora	85	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Strength	0.50		
OeB:							
Onteora	85	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Strength	0.50		
				Slope	0.50		
OeC:							
Onteora	85	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Slope	0.50		
				Strength	0.50		
OfB:							
Onteora	50	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Strength	0.50		
				Slope	0.50		
Ontusia	30	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Strength	0.50		
				Slope	0.50		
OnA:							
Ontusia	85	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Strength	0.50		

Table 8.—Forestland Management (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
OnB:							
Ontusia-------------	85	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Strength	0.50		
				Slope	0.50		
OnC:							
Ontusia-------------	85	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Slope	0.50		
				Strength	0.50		
OpB:							
Oquaga--------------	80	Moderate		Well suited		Slight	
		Restrictive layer	0.50			Strength	0.10
OpC:							
Oquaga--------------	80	Moderate		Moderately suited		Slight	
		Restrictive layer	0.50	Slope	0.50	Strength	0.10
OpD:							
Oquaga--------------	80	Severe		Poorly suited		Slight	
		Restrictive layer	1.00	Slope	1.00	Strength	0.10
		Slope	0.50				
OpE:							
Oquaga--------------	80	Severe		Poorly suited		Slight	
		Restrictive layer	1.00	Slope	1.00	Strength	0.10
		Slope	0.50				
OpF:							
Oquaga--------------	80	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
OrC:							
Oquaga--------------	25	Moderate		Moderately suited		Slight	
		Restrictive layer	0.50	Slope	0.50	Strength	0.10
Lordstown-----------	25	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Strength	1.00
		Strength	0.50	Strength	0.50		
Arnot---------------	25	Severe		Moderately suited		Moderate	
		Restrictive layer	1.00	Slope	0.50	Strength	0.50
OrE:							
Oquaga--------------	25	Severe		Poorly suited		Slight	
		Restrictive layer	1.00	Slope	1.00	Strength	0.10
		Slope	0.50				
Lordstown-----------	25	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
		Restrictive layer	0.50	Strength	0.50		
		Strength	0.50				
Arnot---------------	25	Severe		Poorly suited		Moderate	
		Restrictive layer	1.00	Slope	1.00	Strength	0.50
		Slope	0.50				

Table 8.—Forestland Management (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
OrF:							
Oquaga	25	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Strength	0.10
Lordstown	25	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
Arnot	25	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Strength	0.50
Pc:							
Philo	80	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
Pg:							
Pits, Gravel	85	Not rated		Not rated		Not rated	
Ph:							
Pits, Quarry	85	Not rated		Not rated		Not rated	
Rb:							
Raypol	80	Slight		Poorly suited		Severe	
				Ponding	1.00	Strength	1.00
				Wetness	1.00		
				Strength	0.50		
Re:							
Red Hook	80	Slight		Moderately suited		Moderate	
				Wetness	0.50	Strength	0.50
RhA:							
Riverhead	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
RhB:							
Riverhead	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
RhC:							
Riverhead	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Slope	0.50	Strength	1.00
				Strength	0.50		
RhD:							
Riverhead	85	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
		Sandiness	0.50	Strength	0.50		
RrE:							
Rockrift	75	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Strength	0.50
				Rock fragments	0.50		

Table 8.—Forestland Management (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RrF:							
Rockrift------------	75	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Strength	0.50
				Rock fragments	0.50		
Sa:							
Saprists------------	40	Severe		Poorly suited		Severe	
		Strength	1.00	Ponding	1.00	Strength	1.00
		Wetness	1.00	Strength	1.00	Wetness	0.50
				Wetness	1.00		
Aquents-------------	40	Severe		Poorly suited		Severe	
		Wetness	1.00	Ponding	1.00	Strength	1.00
		Strength	0.50	Wetness	1.00	Wetness	0.50
				Strength	0.50		
TeB:							
Torull--------------	40	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Wetness	1.00	Strength	1.00
				Strength	0.50		
Gretor--------------	40	Moderate		Moderately suited		Severe	
		Strength	0.50	Wetness	0.50	Strength	1.00
		Restrictive layer	0.50	Strength	0.50		
TkA:							
Tunkhannock---------	85	Slight		Well suited		Moderate	
						Strength	0.50
TkB:							
Tunkhannock---------	85	Slight		Moderately suited		Moderate	
				Slope	0.50	Strength	0.50
TkC:							
Tunkhannock---------	85	Slight		Moderately suited		Moderate	
				Slope	0.50	Strength	0.50
TkD:							
Tunkhannock---------	85	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Strength	0.50
		Sandiness	0.50				
TkE:							
Tunkhannock---------	85	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Strength	0.50
TtA:							
Tunkhannock---------	50	Slight		Well suited		Moderate	
						Strength	0.50
Chenango------------	30	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
TtB:							
Tunkhannock---------	50	Slight		Moderately suited		Moderate	
				Slope	0.50	Strength	0.50
Chenango------------	30	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		

Table 8.—Forestland Management (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ud:							
Udorthents----------	80	Moderate		Moderately suited		Moderate	
		Strength	0.50	Slope	0.50	Strength	0.50
Uf:							
Udorthents, refuse substratum---------	80	Slight		Moderately suited		Moderate	
				Slope	0.50	Strength	0.50
Un:							
Unadilla------------	80	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
Ur:							
Urban Land----------	85	Not rated		Not rated		Not rated	
VaB:							
Valois--------------	80	Moderate		Moderately suited		Moderate	
		Strength	0.50	Slope	0.50	Strength	0.50
VaC:							
Valois--------------	80	Moderate		Moderately suited		Moderate	
		Strength	0.50	Slope	0.50	Strength	0.50
VaD:							
Valois--------------	80	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Strength	0.50
		Strength	0.50				
VaE:							
Valois--------------	80	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Strength	0.50
VlB:							
Vly-----------------	80	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
		Restrictive layer	0.50				
VlC:							
Vly-----------------	80	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Strength	1.00
		Strength	0.50	Strength	0.50		
VlD:							
Vly-----------------	80	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Strength	1.00
		Slope	0.50	Strength	0.50		
		Sandiness	0.50				
VlE:							
Vly-----------------	80	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Strength	1.00
				Strength	0.50		
VoA:							
Volusia-------------	85	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Strength	0.50		

Table 8.—Forestland Management (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
VoB:							
Volusia	85	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Strength	0.50		
				Slope	0.50		
VoC:							
Volusia	85	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Slope	0.50		
				Strength	0.50		
W:							
Water	100	Not rated		Not rated		Not rated	
WeB:							
Wellsboro	80	Moderate		Moderately suited		Severe	
		Strength	0.50	Wetness	0.50	Strength	1.00
				Strength	0.50		
WeC:							
Wellsboro	80	Moderate		Moderately suited		Severe	
		Strength	0.50	Slope	0.50	Strength	1.00
				Wetness	0.50		
				Strength	0.50		
WeD:							
Wellsboro	80	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
		Strength	0.50	Wetness	0.50		
				Strength	0.50		
WfC:							
Wellsboro	50	Moderate		Moderately suited		Severe	
		Strength	0.50	Wetness	0.50	Strength	1.00
				Slope	0.50		
				Strength	0.50		
Mardin	30	Moderate		Moderately suited		Severe	
		Strength	0.50	Slope	0.50	Strength	1.00
				Strength	0.50		
				Wetness	0.50		
Wg:							
Wenonah	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
WhB:							
Willdin	80	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
				Wetness	0.50		
WhC:							
Willdin	80	Moderate		Moderately suited		Severe	
		Strength	0.50	Slope	0.50	Strength	1.00
				Strength	0.50		
				Wetness	0.50		

Table 8.—Forestland Management (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WhD:							
Willdin	80	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
WmA:							
Willowemoc	80	Slight		Moderately suited		Slight	
				Wetness	0.50	Strength	0.10
WmB:							
Willowemoc	80	Slight		Moderately suited		Slight	
				Wetness	0.50	Strength	0.10
				Slope	0.50		
WmC:							
Willowemoc	80	Slight		Moderately suited		Slight	
				Slope	0.50	Strength	0.10
				Wetness	0.50		
WmD:							
Willowemoc	80	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Strength	0.10
				Wetness	0.50		
WnC:							
Willowemoc	50	Slight		Moderately suited		Slight	
				Slope	0.50	Strength	0.10
				Wetness	0.50		
Willdin	30	Moderate		Moderately suited		Severe	
		Strength	0.50	Slope	0.50	Strength	1.00
				Strength	0.50		
				Wetness	0.50		

Table 9.—Forestland Management (Part II)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Bc:							
Barbour	85	Slight		Slight		Moderately suited	
						Strength	0.50
Bg:							
Barbour	40	Slight		Slight		Well suited	
Trestle	35	Slight		Slight		Moderately suited	
						Strength	0.50
Bs:							
Basher	80	Slight		Slight		Poorly suited	
						Flooding	1.00
						Strength	0.50
						Wetness	0.50
BtB:							
Bath	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Strength	0.50
						Slope	0.50
						Wetness	0.50
BtC:							
Bath	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
						Wetness	0.50
BtD:							
Bath	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
						Wetness	0.50
BtE:							
Bath	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
						Wetness	0.50
Bw:							
Bucksport	40	Histosol - Not rated		Histosol - Not rated		Poorly suited	
		Histosol taxonomic order	1.00	Histosol taxonomic order	1.00	Ponding	1.00
						Wetness	1.00
Wonsqueak	40	Histosol - Not rated		Histosol - Not rated		Poorly suited	
		Histosol taxonomic order	1.00	Histosol taxonomic order	1.00	Ponding	1.00
						Strength	1.00
						Wetness	1.00

Table 9.—Forestland Management (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
CaE:							
Cadosia-------------	75	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Rock fragments	0.50
						Sandiness	0.50
CaF:							
Cadosia-------------	75	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Rock fragments	0.50
						Sandiness	0.50
Ce:							
Carlisle------------	45	Histosol - Not rated		Histosol - Not rated		Poorly suited	
		Histosol taxonomic order	1.00	Histosol taxonomic order	1.00	Ponding	1.00
						Strength	1.00
						Wetness	1.00
Palms---------------	40	Histosol - Not rated		Histosol - Not rated		Poorly suited	
		Histosol taxonomic order	1.00	Histosol taxonomic order	1.00	Ponding	1.00
						Strength	1.00
						Wetness	1.00
ChA:							
Chenango------------	85	Slight		Slight		Moderately suited	
						Strength	0.50
ChB:							
Chenango------------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Strength	0.50
						Slope	0.50
ChC:							
Chenango------------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
ChD:							
Chenango------------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
ChE:							
Chenango------------	85	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
CoB:							
Collamer------------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Strength	0.50
						Wetness	0.50
CoC:							
Collamer------------	85	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
						Wetness	0.50

Table 9.—Forestland Management (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
De:							
Deposit	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Strength	0.50
						Wetness	0.50
EdC:							
Elka	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
EdD:							
Elka	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
EdE:							
Elka	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
EkC:							
Elka	40	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
Vly	35	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
EkD:							
Elka	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
Vly	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
ElC:							
Elka	40	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
Vly	35	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
ElE:							
Elka	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
Vly	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
ElF:							
Elka	40	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50

Table 9.—Forestland Management (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
ElF:							
Vly	35	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
Ff:							
Fluvaquents	45	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
Udifluvents	35	Slight		Slight		Poorly suited	
						Flooding	1.00
HcC:							
Halcott	25	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Mongaup	25	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Vly	25	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
HcE:							
Halcott	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Mongaup	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Vly	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
HcF:							
Halcott	25	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Mongaup	25	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Vly	25	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
LaB:							
Lackawanna	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Strength	0.50
						Slope	0.50
						Wetness	0.50
LaC:							
Lackawanna	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
						Wetness	0.50

Table 9.—Forestland Management (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
LaD:							
Lackawanna----------	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
						Wetness	0.50
LaE:							
Lackawanna----------	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
						Wetness	0.50
LcD:							
Lackawanna----------	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
						Wetness	0.50
Morris--------------	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Wetness	1.00
						Strength	0.50
LdC:							
Lackawanna----------	50	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
						Wetness	0.50
Bath----------------	30	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
						Wetness	0.50
LdE:							
Lackawanna----------	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
						Wetness	0.50
Bath----------------	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
						Wetness	0.50
LdF:							
Lackawanna----------	50	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
						Wetness	0.50
Bath----------------	30	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
						Wetness	0.50
LeB:							
Lewbath-------------	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Strength	0.50
						Slope	0.50
						Wetness	0.50

Table 9.—Forestland Management (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LeC:							
Lewbath-------------	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
						Wetness	0.50
LeD:							
Lewbath-------------	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
						Wetness	0.50
LeE:							
Lewbath-------------	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
						Wetness	0.50
LhB:							
Lewbeach------------	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Slope	0.50
LhC:							
Lewbeach------------	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Wetness	0.50
LhD:							
Lewbeach------------	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Wetness	0.50
LhE:							
Lewbeach------------	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Wetness	0.50
LkC:							
Lewbeach------------	50	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Wetness	0.50
Lewbath-------------	30	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
						Wetness	0.50
LkE:							
Lewbeach------------	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Wetness	0.50
Lewbath-------------	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
						Wetness	0.50

Table 9.—Forestland Management (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LkF:							
Lewbeach	50	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Wetness	0.50
Lewbath	30	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
						Wetness	0.50
LoB:							
Lordstown	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Strength	0.50
LoC:							
Lordstown	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Strength	0.50
LoD:							
Lordstown	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
LoE:							
Lordstown	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
MaB:							
Maplecrest	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Strength	0.50
						Slope	0.50
MaC:							
Maplecrest	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
MaD:							
Maplecrest	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
MaE:							
Maplecrest	85	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
MdB:							
Mardin	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Strength	0.50
						Wetness	0.50
						Slope	0.50
MdC:							
Mardin	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
						Wetness	0.50

Table 9.—Forestland Management (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MdD:							
Mardin--------------	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
						Wetness	0.50
MkB:							
Middlebrook---------	45	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Strength	0.50
						Wetness	0.50
Mongaup-------------	35	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
MkC:							
Middlebrook---------	45	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
						Wetness	0.50
Mongaup-------------	35	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
MnB:							
Mongaup-------------	80	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
MnC:							
Mongaup-------------	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
MnD:							
Mongaup-------------	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
MrA:							
Morris--------------	85	Slight		Slight		Poorly suited	
						Wetness	1.00
						Strength	0.50
MrB:							
Morris--------------	85	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Wetness	1.00
						Strength	0.50
						Slope	0.50
MrC:							
Morris--------------	85	Slight		Severe		Poorly suited	
				Slope/erodibility	0.95	Wetness	1.00
						Slope	0.50
						Strength	0.50
MsB:							
Morris--------------	50	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Wetness	1.00
						Strength	0.50
						Slope	0.50
Volusia-------------	30	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Wetness	1.00
						Strength	0.50
						Slope	0.50

Table 9.—Forestland Management (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
No:							
Norchip	80	Slight		Slight		Poorly suited	
						Wetness	1.00
						Strength	0.50
Nr:							
Norchip	80	Slight		Slight		Poorly suited	
						Wetness	1.00
						Strength	0.50
OeA:							
Onteora	85	Slight		Slight		Poorly suited	
						Wetness	1.00
						Strength	0.50
OeB:							
Onteora	85	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Wetness	1.00
						Strength	0.50
						Slope	0.50
OeC:							
Onteora	85	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Wetness	1.00
						Slope	0.50
						Strength	0.50
OfB:							
Onteora	50	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Wetness	1.00
						Strength	0.50
						Slope	0.50
Ontusia	30	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Wetness	1.00
						Strength	0.50
						Slope	0.50
OnA:							
Ontusia	85	Slight		Slight		Poorly suited	
						Wetness	1.00
						Strength	0.50
OnB:							
Ontusia	85	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Wetness	1.00
						Strength	0.50
						Slope	0.50
OnC:							
Ontusia	85	Slight		Severe		Poorly suited	
				Slope/erodibility	0.95	Wetness	1.00
						Slope	0.50
						Strength	0.50
OpB:							
Oquaga	80	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		

Table 9.—Forestland Management (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
OpC:							
Oquaga	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
OpD:							
Oquaga	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
OpE:							
Oquaga	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
OpF:							
Oquaga	80	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
OrC:							
Oquaga	25	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Lordstown	25	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Strength	0.50
Arnot	25	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
OrE:							
Oquaga	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Lordstown	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
Arnot	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
OrF:							
Oquaga	25	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Lordstown	25	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
Arnot	25	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
Pc:							
Philo	80	Slight		Slight		Poorly suited	
						Flooding	1.00
						Strength	0.50
						Wetness	0.50
Pg:							
Pits, Gravel	85	Not rated		Not rated		Not rated	

Table 9.—Forestland Management (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
Ph:							
Pits, Quarry	85	Not rated		Not rated		Not rated	
Rb:							
Raypol	80	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Strength	0.50
Re:							
Red Hook	80	Slight		Slight		Moderately suited	
						Wetness	0.50
RhA:							
Riverhead	85	Slight		Slight		Moderately suited	
						Strength	0.50
RhB:							
Riverhead	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Strength	0.50
						Slope	0.50
RhC:							
Riverhead	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
RhD:							
Riverhead	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
RrE:							
Rockrift	75	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Rock fragments	0.50
RrF:							
Rockrift	75	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Rock fragments	0.50
Sa:							
Saprists	40	Histosol - Not rated		Histosol - Not rated		Poorly suited	
		Histosol taxonomic order	1.00	Histosol taxonomic order	1.00	Ponding	1.00
						Strength	1.00
						Wetness	1.00
Aquents	40	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Strength	0.50

Table 9.—Forestland Management (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
TeB:							
Torull--------------	40	Slight		Slight		Poorly suited	
						Wetness	1.00
						Strength	0.50
Gretor--------------	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Strength	0.50
TkA:							
Tunkhannock---------	85	Slight		Slight		Well suited	
TkB:							
Tunkhannock---------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
TkC:							
Tunkhannock---------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
TkD:							
Tunkhannock---------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
TkE:							
Tunkhannock---------	85	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
TtA:							
Tunkhannock---------	50	Slight		Slight		Well suited	
Chenango------------	30	Slight		Slight		Moderately suited	
						Strength	0.50
TtB:							
Tunkhannock---------	50	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Chenango------------	30	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Strength	0.50
						Slope	0.50
Ud:							
Udorthents----------	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Uf:							
Udorthents, refuse substratum---------	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Un:							
Unadilla------------	80	Slight		Slight		Moderately suited	
						Strength	0.50
Ur:							
Urban Land----------	85	Not rated		Not rated		Not rated	

Table 9.—Forestland Management (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
VaB:							
Valois	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
VaC:							
Valois	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
VaD:							
Valois	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
VaE:							
Valois	80	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
VlB:							
Vly	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Strength	0.50
VlC:							
Vly	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
VlD:							
Vly	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
VlE:							
Vly	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
VoA:							
Volusia	85	Slight		Slight		Poorly suited	
						Wetness	1.00
						Strength	0.50
VoB:							
Volusia	85	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Wetness	1.00
						Strength	0.50
						Slope	0.50
VoC:							
Volusia	85	Slight		Severe		Poorly suited	
				Slope/erodibility	0.95	Wetness	1.00
						Slope	0.50
						Strength	0.50
W:							
Water	100	Not rated		Not rated		Not rated	
WeB:							
Wellsboro	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Strength	0.50

Table 9.—Forestland Management (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WeC:							
Wellsboro-----------	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Wetness	0.50
						Strength	0.50
WeD:							
Wellsboro-----------	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Wetness	0.50
						Strength	0.50
WfC:							
Wellsboro-----------	50	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Wetness	0.50
						Slope	0.50
						Strength	0.50
Mardin--------------	30	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
						Wetness	0.50
Wg:							
Wenonah-------------	85	Slight		Slight		Moderately suited	
						Strength	0.50
WhB:							
Willdin-------------	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Strength	0.50
						Wetness	0.50
WhC:							
Willdin-------------	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
						Wetness	0.50
WhD:							
Willdin-------------	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Strength	0.50
						Wetness	0.50
WmA:							
Willowemoc----------	80	Slight		Slight		Moderately suited	
						Wetness	0.50
WmB:							
Willowemoc----------	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Slope	0.50
WmC:							
Willowemoc----------	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Wetness	0.50

Table 9.—Forestland Management (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WmD:							
Willowemoc----------	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Wetness	0.50
WnC:							
Willowemoc----------	50	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Wetness	0.50
Willdin-------------	30	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Strength	0.50
						Wetness	0.50

Table 10.—Forestland Management (Part III)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
Bc:							
Barbour	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
Bg:							
Barbour	40	Well suited		Well suited		Well suited	
Trestle	35	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
Bs:							
Basher	80	Well suited		Well suited		Moderately suited	
						Strength	0.50
BtB:							
Bath	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
BtC:							
Bath	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
BtD:							
Bath	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
BtE:							
Bath	80	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Strength	0.50
				Rock fragments	0.50	Slope	0.50
Bw:							
Bucksport	40	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Wetness	0.75
Wonsqueak	40	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Strength	1.00
						Wetness	1.00
CaE:							
Cadosia	75	Moderately suited		Poorly suited		Moderately suited	
		Sandiness	0.50	Slope	0.75	Rock fragments	0.50
		Rock fragments	0.50	Rock fragments	0.75	Sandiness	0.50
				Sandiness	0.50	Slope	0.50
CaF:							
Cadosia	75	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Sandiness	0.50	Rock fragments	0.75	Rock fragments	0.50
		Rock fragments	0.50	Sandiness	0.50	Sandiness	0.50

Table 10.—Forestland Management (Part III)—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
Ce:							
Carlisle	45	Well suited		Well suited		Poorly suited	
						Strength	1.00
Palms	40	Well suited		Well suited		Poorly suited	
						Strength	1.00
ChA:							
Chenango	85	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
ChB:							
Chenango	85	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		
ChC:							
Chenango	85	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		
ChD:							
Chenango	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
ChE:							
Chenango	85	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Strength	0.50
CoB:							
Collamer	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
CoC:							
Collamer	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
De:							
Deposit	80	Well suited		Well suited		Moderately suited	
						Strength	0.50
EdC:							
Elka	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
EdD:							
Elka	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
EdE:							
Elka	80	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Strength	0.50
				Rock fragments	0.50	Slope	0.50

Table 10.—Forestland Management (Part III)—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
EkC:							
Elka----------------	40	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
Vly-----------------	35	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		
EkD:							
Elka----------------	40	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
Vly-----------------	35	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
ElC:							
Elka----------------	40	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		
Vly-----------------	35	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		
ElE:							
Elka----------------	40	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
Vly-----------------	35	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
ElF:							
Elka----------------	40	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Strength	0.50
Vly-----------------	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Strength	0.50
Ff:							
Fluvaquents---------	45	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
Udifluvents---------	35	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
HcC:							
Halcott-------------	25	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		
Mongaup-------------	25	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		

Table 10.—Forestland Management (Part III)—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
HcC:							
Vly	25	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		
HcE:							
Halcott	25	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
Mongaup	25	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
Vly	25	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
HcF:							
Halcott	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		
Mongaup	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		
Vly	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Strength	0.50
LaB:							
Lackawanna	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
LaC:							
Lackawanna	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
LaD:							
Lackawanna	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
LaE:							
Lackawanna	80	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
				Rock fragments	0.50	Strength	0.50
LcD:							
Lackawanna	50	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
Morris	30	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50

Table 10.—Forestland Management (Part III)—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LdC:							
Lackawanna----------	50	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		
Bath----------------	30	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		
LdE:							
Lackawanna----------	50	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
Bath----------------	30	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
LdF:							
Lackawanna----------	50	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Strength	0.50
Bath----------------	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Strength	0.50
LeB:							
Lewbath-------------	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
LeC:							
Lewbath-------------	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
LeD:							
Lewbath-------------	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
LeE:							
Lewbath-------------	80	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Strength	0.50
				Rock fragments	0.50	Slope	0.50
LhB:							
Lewbeach------------	80	Well suited		Moderately suited		Well suited	
				Slope	0.50		
LhC:							
Lewbeach------------	80	Well suited		Moderately suited		Well suited	
				Slope	0.50		
LhD:							
Lewbeach------------	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50

Table 10.—Forestland Management (Part III)—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
LhE:							
Lewbeach	80	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
LkC:							
Lewbeach	50	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		
Lewbath	30	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		
LkE:							
Lewbeach	50	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
Lewbath	30	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
LkF:							
Lewbeach	50	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		
Lewbath	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Strength	0.50
LoB:							
Lordstown	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
LoC:							
Lordstown	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
LoD:							
Lordstown	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
						Slope	0.50
LoE:							
Lordstown	80	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
						Strength	0.50
MaB:							
Maplecrest	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
MaC:							
Maplecrest	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
MaD:							
Maplecrest	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
						Slope	0.50

Table 10.—Forestland Management (Part III)—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
MaE:							
Maplecrest----------	85	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Strength	0.50
MdB:							
Mardin--------------	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
MdC:							
Mardin--------------	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
MdD:							
Mardin--------------	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
MkB:							
Middlebrook---------	45	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
Mongaup-------------	35	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
MkC:							
Middlebrook---------	45	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
Mongaup-------------	35	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
MnB:							
Mongaup-------------	80	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
MnC:							
Mongaup-------------	80	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
MnD:							
Mongaup-------------	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
MrA:							
Morris--------------	85	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
MrB:							
Morris--------------	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		

Table 10.—Forestland Management (Part III)—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
MrC:							
Morris	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
MsB:							
Morris	50	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		
Volusia	30	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		
No:							
Norchip	80	Well suited		Well suited		Moderately suited	
						Strength	0.50
Nr:							
Norchip	80	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
OeA:							
Onteora	85	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
OeB:							
Onteora	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
OeC:							
Onteora	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
OfB:							
Onteora	50	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		
Ontusia	30	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		
OnA:							
Ontusia	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
OnB:							
Ontusia	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
OnC:							
Ontusia	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
OpB:							
Oquaga	80	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		

Table 10.—Forestland Management (Part III)—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
OpC:							
Oquaga	80	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		
OpD:							
Oquaga	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
OpE:							
Oquaga	80	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
				Rock fragments	0.50		
OpF:							
Oquaga	80	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		
OrC:							
Oquaga	25	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		
Lordstown	25	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		
Arnot	25	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		
OrE:							
Oquaga	25	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
Lordstown	25	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
Arnot	25	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
OrF:							
Oquaga	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		
Lordstown	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Strength	0.50
Arnot	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		

Table 10.—Forestland Management (Part III)—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
Pc:							
Philo	80	Well suited		Well suited		Moderately suited	
						Strength	0.50
Pg:							
Pits, Gravel	85	Not rated		Not rated		Not rated	
Ph:							
Pits, Quarry	85	Not rated		Not rated		Not rated	
Rb:							
Raypol	80	Well suited		Well suited		Moderately suited	
						Strength	0.50
Re:							
Red Hook	80	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
RhA:							
Riverhead	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
RhB:							
Riverhead	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
RhC:							
Riverhead	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
RhD:							
Riverhead	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
						Slope	0.50
RrE:							
Rockrift	75	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Rock fragments	0.50
				Rock fragments	0.50	Slope	0.50
RrF:							
Rockrift	75	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Rock fragments	0.50
Sa:							
Saprists	40	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Strength	1.00
						Wetness	1.00
Aquents	40	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Wetness	1.00
						Strength	0.50
TeB:							
Torull	40	Well suited		Well suited		Moderately suited	
						Strength	0.50
Gretor	40	Well suited		Well suited		Moderately suited	
						Strength	0.50

Table 10.—Forestland Management (Part III)—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
TkA:							
Tunkhannock---------	85	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
TkB:							
Tunkhannock---------	85	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		
TkC:							
Tunkhannock---------	85	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		
TkD:							
Tunkhannock---------	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
TkE:							
Tunkhannock---------	85	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50		
TtA:							
Tunkhannock---------	50	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
Chenango------------	30	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
TtB:							
Tunkhannock---------	50	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		
Chenango------------	30	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		
Ud:							
Udorthents----------	80	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		
Uf:							
Udorthents, refuse substratum---------	80	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Un:							
Unadilla------------	80	Well suited		Well suited		Moderately suited	
						Strength	0.50
Ur:							
Urban Land----------	85	Not rated		Not rated		Not rated	

Table 10.—Forestland Management (Part III)—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
VaB:							
Valois	80	Well suited		Moderately suited		Well suited	
				Slope	0.50		
VaC:							
Valois	80	Well suited		Moderately suited		Well suited	
				Slope	0.50		
VaD:							
Valois	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
VaE:							
Valois	80	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
VlB:							
Vly	80	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		
VlC:							
Vly	80	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		
VlD:							
Vly	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50	Slope	0.50
VlE:							
Vly	80	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
				Rock fragments	0.50	Strength	0.50
VoA:							
Volusia	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
VoB:							
Volusia	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
VoC:							
Volusia	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
W:							
Water	100	Not rated		Not rated		Not rated	
WeB:							
Wellsboro	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
WeC:							
Wellsboro	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50

Table 10.—Forestland Management (Part III)—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
WeD:							
Wellsboro-----------	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
						Slope	0.50
WfC:							
Wellsboro-----------	50	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		
Mardin--------------	30	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		
Wg:							
Wenonah-------------	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
WhB:							
Willdin-------------	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
WhC:							
Willdin-------------	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
WhD:							
Willdin-------------	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
						Slope	0.50
WmA:							
Willowemoc----------	80	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
WmB:							
Willowemoc----------	80	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
WmC:							
Willowemoc----------	80	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
WmD:							
Willowemoc----------	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
WnC:							
Willowemoc----------	50	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
				Slope	0.50		
Willdin-------------	30	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
				Slope	0.50		

Table 11.—Recreation (Part I)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	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
Bc:							
Barbour	85	Very limited		Not limited		Not limited	
		Flooding	1.00				
Bg:							
Barbour	40	Very limited		Not limited		Not limited	
		Flooding	1.00				
Trestle	35	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Gravel content	0.01	Gravel content	1.00
		Gravel content	0.01				
Bs:							
Basher	80	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.43	Depth to saturated zone	0.77
		Depth to saturated zone	0.77			Flooding	0.60
BtB:							
Bath	80	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
		Depth to saturated zone	0.90	Depth to saturated zone	0.60	Gravel content	1.00
						Restricted permeability	0.96
						Depth to saturated zone	0.90
BtC:							
Bath	80	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
		Depth to saturated zone	0.90	Slope	0.63	Gravel content	1.00
		Slope	0.63	Depth to saturated zone	0.60	Restricted permeability	0.96
						Depth to saturated zone	0.90
BtD:							
Bath	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Gravel content	1.00
		Depth to saturated zone	0.90	Depth to saturated zone	0.60	Restricted permeability	0.96
						Depth to saturated zone	0.90

Table 11.—Recreation (Part I)—Continued

Map symbol and soil 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
BtE:							
Bath	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Gravel content	1.00
		Depth to saturated zone	0.90	Depth to saturated zone	0.60	Restricted permeability	0.96
						Depth to saturated zone	0.90
Bw:							
Bucksport	40	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
Wonsqueak	40	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
CaE:							
Cadosia	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Too Stony	0.53	Too Stony	0.53	Content of large stones	0.68
						Too Stony	0.53
CaF:							
Cadosia	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Too Stony	0.53	Too Stony	0.53	Content of large stones	0.68
						Too Stony	0.53
Ce:							
Carlisle	45	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
PALMS	40	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
ChA:							
Chenango	85	Not limited		Not limited		Somewhat limited	
						Gravel content	1.00

Table 11.—Recreation (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
ChB:							
Chenango	85	Not limited		Not limited		Very limited	
						Slope	1.00
						Gravel content	1.00
ChC:							
Chenango	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Gravel content	1.00
ChD:							
Chenango	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
ChE:							
Chenango	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
CoB:							
Collamer	85	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	0.26	Restricted permeability	0.26	Slope	0.50
						Restricted permeability	0.26
CoC:							
Collamer	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.98
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
De:							
Deposit	80	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			Gravel content	0.99
						Slope	0.12
						Content of large stones	0.01
EdC:							
Elka	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
EdD:							
Elka	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
EdE:							
Elka	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 11.—Recreation (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
EkC:							
Elka	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
Vly	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Gravel content	1.00
		Gravel content	0.06	Gravel content	0.06	Slope	1.00
						Depth to bedrock	0.35
EkD:							
Elka	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Vly	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	0.06	Gravel content	0.06	Slope	1.00
						Depth to bedrock	0.35
ElC:							
Elka	40	Somewhat limited		Somewhat limited		Very limited	
		Too Stony	0.53	Too Stony	0.53	Slope	1.00
		Slope	0.04	Slope	0.04	Too Stony	0.53
Vly	35	Somewhat limited		Somewhat limited		Very limited	
		Too Stony	0.53	Too Stony	0.53	Gravel content	1.00
		Gravel content	0.06	Gravel content	0.06	Slope	1.00
		Slope	0.04	Slope	0.04	Too Stony	0.53
						Depth to bedrock	0.35
ElE:							
Elka	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Too Stony	0.53
Vly	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Too Stony	0.53	Too Stony	0.53	Slope	1.00
		Gravel content	0.06	Gravel content	0.06	Too Stony	0.53
						Depth to bedrock	0.35
ElF:							
Elka	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Too Stony	0.53
Vly	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Too Stony	0.53	Too Stony	0.53	Slope	1.00
		Gravel content	0.06	Gravel content	0.06	Too Stony	0.53
						Depth to bedrock	0.35
Ff:							
Fluvaquents	45	Not Rated		Not Rated		Not Rated	
Udifluvents	35	Not Rated		Not Rated		Not Rated	

Table 11.—Recreation (Part I)—Continued

Map symbol and soil 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
HcC:							
Halcott	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too Stony	0.53	Too Stony	0.53	Gravel content	1.00
		Gravel content	0.22	Gravel content	0.22	Slope	1.00
		Slope	0.04	Slope	0.04	Too Stony	0.53
						Content of large stones	0.01
Mongaup	25	Somewhat limited		Somewhat limited		Very limited	
		Too Stony	0.53	Too Stony	0.53	Gravel content	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
		Gravel content	0.04	Gravel content	0.04	Depth to bedrock	0.65
						Too Stony	0.53
						Content of large stones	0.01
Vly	25	Somewhat limited		Somewhat limited		Very limited	
		Too Stony	0.53	Too Stony	0.53	Gravel content	1.00
		Gravel content	0.06	Gravel content	0.06	Slope	1.00
		Slope	0.04	Slope	0.04	Too Stony	0.53
						Depth to bedrock	0.35
HcE:							
Halcott	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too Stony	0.53	Too Stony	0.53	Gravel content	1.00
		Gravel content	0.22	Gravel content	0.22	Too Stony	0.53
						Content of large stones	0.01
Mongaup	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Gravel content	1.00
		Gravel content	0.04	Gravel content	0.04	Depth to bedrock	0.65
						Too Stony	0.53
						Content of large stones	0.01
Vly	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Too Stony	0.53	Too Stony	0.53	Slope	1.00
		Gravel content	0.06	Gravel content	0.06	Too Stony	0.53
						Depth to bedrock	0.35
HcF:							
Halcott	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too Stony	0.53	Too Stony	0.53	Gravel content	1.00
		Gravel content	0.22	Gravel content	0.22	Too Stony	0.53
						Content of large stones	0.01
Mongaup	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Gravel content	1.00
		Gravel content	0.04	Gravel content	0.04	Depth to bedrock	0.65
						Too Stony	0.53
						Content of large stones	0.01

Table 11.—Recreation (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
HcF:							
Vly-----------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Too Stony	0.53	Too Stony	0.53	Slope	1.00
		Gravel content	0.06	Gravel content	0.06	Too Stony	0.53
						Depth to bedrock	0.35
LaB:							
Lackawanna----------	80	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
		Depth to saturated zone	0.67	Depth to saturated zone	0.35	Restricted permeability	0.96
						Gravel content	0.88
						Depth to saturated zone	0.67
						Content of large stones	0.32
LaC:							
Lackawanna----------	80	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
		Depth to saturated zone	0.67	Slope	0.63	Restricted permeability	0.96
		Slope	0.63	Depth to saturated zone	0.35	Gravel content	0.88
						Depth to saturated zone	0.67
						Content of large stones	0.32
LaD:							
Lackawanna----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
		Depth to saturated zone	0.67	Depth to saturated zone	0.35	Gravel content	0.88
						Depth to saturated zone	0.67
						Content of large stones	0.32
LaE:							
Lackawanna----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
		Depth to saturated zone	0.67	Depth to saturated zone	0.35	Gravel content	0.88
						Depth to saturated zone	0.67
						Content of large stones	0.32

Table 11.—Recreation (Part I)—Continued

Map symbol and soil 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
LcD:							
Lackawanna----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
		Depth to saturated zone	0.67	Too Stony	0.53	Gravel content	0.88
		Too Stony	0.53	Depth to saturated zone	0.35	Depth to saturated zone	0.67
						Too Stony	0.53
Morris--------------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Depth to saturated zone	1.00
		Slope	1.00	Depth to saturated zone	1.00	Slope	1.00
		Restricted permeability	0.99	Restricted permeability	0.99	Restricted permeability	0.99
		Too Stony	0.53	Too Stony	0.53	Content of large stones	0.84
						Too Stony	0.53
LdC:							
Lackawanna----------	50	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
		Depth to saturated zone	0.67	Too Stony	0.53	Restricted permeability	0.96
		Too Stony	0.53	Depth to saturated zone	0.35	Gravel content	0.88
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.67
						Too Stony	0.53
Bath----------------	30	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
		Depth to saturated zone	0.90	Depth to saturated zone	0.60	Gravel content	1.00
		Too Stony	0.53	Too Stony	0.53	Restricted permeability	0.96
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.90
						Too Stony	0.53
LdE:							
Lackawanna----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
		Depth to saturated zone	0.67	Too Stony	0.53	Gravel content	0.88
		Too Stony	0.53	Depth to saturated zone	0.35	Depth to saturated zone	0.67
						Too Stony	0.53

Table 11.—Recreation (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
LdE:							
Bath	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Gravel content	1.00
		Depth to saturated zone	0.90	Depth to saturated zone	0.60	Restricted permeability	0.96
		Too Stony	0.53	Too Stony	0.53	Depth to saturated zone	0.90
						Too Stony	0.53
LdF:							
Lackawanna	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
		Depth to saturated zone	0.67	Too Stony	0.53	Gravel content	0.88
		Too Stony	0.53	Depth to saturated zone	0.35	Depth to saturated zone	0.67
						Too Stony	0.53
Bath	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Gravel content	1.00
		Depth to saturated zone	0.90	Depth to saturated zone	0.60	Restricted permeability	0.96
		Too Stony	0.53	Too Stony	0.53	Depth to saturated zone	0.90
						Too Stony	0.53
LeB:							
Lewbath	80	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
		Depth to saturated zone	0.67	Depth to saturated zone	0.35	Restricted permeability	0.96
						Depth to saturated zone	0.67
						Gravel content	0.51
						Content of large stones	0.16
LeC:							
Lewbath	80	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
		Depth to saturated zone	0.67	Slope	0.63	Restricted permeability	0.96
		Slope	0.63	Depth to saturated zone	0.35	Depth to saturated zone	0.67
						Gravel content	0.51
						Content of large stones	0.16

Table 11.—Recreation (Part I)—Continued

Map symbol and soil 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
LeD:							
Lewbath-------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
		Depth to saturated zone	0.67	Depth to saturated zone	0.35	Depth to saturated zone	0.67
						Gravel content	0.51
						Content of large stones	0.16
LeE:							
Lewbath-------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
		Depth to saturated zone	0.67	Depth to saturated zone	0.35	Depth to saturated zone	0.67
						Gravel content	0.51
						Content of large stones	0.16
LhB:							
Lewbeach------------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Restricted permeability	0.96	Slope	1.00
		Restricted permeability	0.96	Depth to saturated zone	0.75	Gravel content	1.00
		Gravel content	0.07	Gravel content	0.07	Depth to saturated zone	0.98
						Restricted permeability	0.96
LhC:							
Lewbeach------------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Restricted permeability	0.96	Slope	1.00
		Restricted permeability	0.96	Depth to saturated zone	0.75	Gravel content	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.98
		Gravel content	0.07	Gravel content	0.07	Restricted permeability	0.96
LhD:							
Lewbeach------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Restricted permeability	0.96	Gravel content	1.00
		Restricted permeability	0.96	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Gravel content	0.07	Gravel content	0.07	Restricted permeability	0.96
LhE:							
Lewbeach------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Restricted permeability	0.96	Gravel content	1.00
		Restricted permeability	0.96	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Gravel content	0.07	Gravel content	0.07	Restricted permeability	0.96

Table 11.—Recreation (Part I)—Continued

Map symbol and soil 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
LkC:							
Lewbeach------------	50	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Restricted permeability	0.96	Slope	1.00
		Restricted permeability	0.96	Depth to saturated zone	0.75	Gravel content	1.00
		Too Stony	0.53	Too Stony	0.53	Depth to saturated zone	0.98
		Gravel content	0.07	Gravel content	0.07	Restricted permeability	0.96
		Slope	0.04	Slope	0.04	Too Stony	0.53
Lewbath-------------	30	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
		Depth to saturated zone	0.67	Too Stony	0.53	Restricted permeability	0.96
		Too Stony	0.53	Depth to saturated zone	0.35	Depth to saturated zone	0.67
		Slope	0.04	Slope	0.04	Too Stony	0.53
						Gravel content	0.51
LkE:							
Lewbeach------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Restricted permeability	0.96	Gravel content	1.00
		Restricted permeability	0.96	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Too Stony	0.53	Too Stony	0.53	Restricted permeability	0.96
		Gravel content	0.07	Gravel content	0.07	Too Stony	0.53
Lewbath-------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
		Depth to saturated zone	0.67	Too Stony	0.53	Depth to saturated zone	0.67
		Too Stony	0.53	Depth to saturated zone	0.35	Too Stony	0.53
						Gravel content	0.51
LkF:							
Lewbeach------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Restricted permeability	0.96	Gravel content	1.00
		Restricted permeability	0.96	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Too Stony	0.53	Too Stony	0.53	Restricted permeability	0.96
		Gravel content	0.07	Gravel content	0.07	Too Stony	0.53

Table 11.—Recreation (Part I)—Continued

Map symbol and soil 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
LkF:							
Lewbath	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
		Depth to saturated zone	0.67	Too Stony	0.53	Depth to saturated zone	0.67
		Too Stony	0.53	Depth to saturated zone	0.35	Too Stony	0.53
						Gravel content	0.51
LoB:							
Lordstown	80	Not limited		Not limited		Somewhat limited	
						Slope	0.88
						Depth to bedrock	0.29
						Gravel content	0.22
LoC:							
Lordstown	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Depth to bedrock	0.29
						Gravel content	0.22
LoD:							
Lordstown	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.29
						Gravel content	0.22
LoE:							
Lordstown	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.29
						Gravel content	0.22
MaB:							
Maplecrest	80	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.01	Gravel content	0.01	Slope	1.00
						Gravel content	1.00
MaC:							
Maplecrest	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Gravel content	0.01	Gravel content	0.01	Gravel content	1.00
MaD:							
Maplecrest	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.01	Gravel content	0.01	Gravel content	1.00
MaE:							
Maplecrest	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.01	Gravel content	0.01	Gravel content	1.00

Table 11.—Recreation (Part I)—Continued

Map symbol and soil 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
MdB:							
Mardin	80	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Restricted permeability	0.99	Depth to saturated zone	1.00
		Restricted permeability	0.99	Depth to saturated zone	0.90	Slope	1.00
						Restricted permeability	0.99
						Gravel content	0.97
						Content of large stones	0.01
MdC:							
Mardin	80	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Restricted permeability	0.99	Depth to saturated zone	1.00
		Restricted permeability	0.99	Depth to saturated zone	0.90	Slope	1.00
		Slope	0.63	Slope	0.63	Restricted permeability	0.99
						Gravel content	0.97
						Content of large stones	0.01
MdD:							
Mardin	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Depth to saturated zone	1.00
		Slope	1.00	Restricted permeability	0.99	Slope	1.00
		Restricted permeability	0.99	Depth to saturated zone	0.90	Restricted permeability	0.99
						Gravel content	0.97
						Content of large stones	0.01
MkB:							
Middlebrook	45	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
		Gravel content	0.01	Gravel content	0.01	Gravel content	1.00
						Slope	0.88
						Depth to bedrock	0.10
Mongaup	35	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.04	Gravel content	0.04	Gravel content	1.00
						Slope	0.88
						Depth to bedrock	0.65
						Content of large stones	0.01
MkC:							
Middlebrook	45	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
		Slope	0.63	Slope	0.63	Slope	1.00
		Gravel content	0.01	Gravel content	0.01	Gravel content	1.00
						Depth to bedrock	0.10

Table 11.—Recreation (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
MkC:							
Mongaup-------------	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Gravel content	0.04	Gravel content	0.04	Gravel content	1.00
						Depth to bedrock	0.65
						Content of large stones	0.01
MnB:							
Mongaup-------------	80	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.04	Gravel content	0.04	Gravel content	1.00
						Slope	0.88
						Depth to bedrock	0.65
						Content of large stones	0.01
MnC:							
Mongaup-------------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Gravel content	0.04	Gravel content	0.04	Gravel content	1.00
						Depth to bedrock	0.65
						Content of large stones	0.01
MnD:							
Mongaup-------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.04	Gravel content	0.04	Gravel content	1.00
						Depth to bedrock	0.65
						Content of large stones	0.01
MrA:							
Morris--------------	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
		Restricted permeability	0.99	Restricted permeability	0.99	Restricted permeability	0.99
						Content of large stones	0.68
						Gravel content	0.32
MrB:							
Morris--------------	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
		Restricted permeability	0.99	Restricted permeability	0.99	Slope	1.00
						Restricted permeability	0.99
						Content of large stones	0.68
						Gravel content	0.32

Table 11.—Recreation (Part I)—Continued

Map symbol and soil 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
MrC:							
Morris	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
		Restricted permeability	0.99	Restricted permeability	0.99	Slope	1.00
		Slope	0.63	Slope	0.63	Restricted permeability	0.99
						Content of large stones	0.68
						Gravel content	0.32
MsB:							
Morris	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
		Restricted permeability	0.99	Restricted permeability	0.99	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Restricted permeability	0.99
						Content of large stones	0.68
						Too Stony	0.53
Volusia	30	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	0.99	Restricted permeability	0.99	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Restricted permeability	0.99
						Gravel content	0.64
						Too Stony	0.53
No:							
Norchip	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	0.99	Restricted permeability	0.99	Restricted permeability	0.99
Nr:							
Norchip	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	0.99	Restricted permeability	0.99	Restricted permeability	0.99
		Too Stony	0.53	Too Stony	0.53	Too Stony	0.53
OeA:							
Onteora	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
		Restricted permeability	0.99	Restricted permeability	0.99	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Restricted permeability	0.99

Table 11.—Recreation (Part I)—Continued

Map symbol and soil 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
OeB:							
Onteora	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
		Restricted permeability	0.99	Restricted permeability	0.99	Slope	1.00
		Gravel content	0.01	Gravel content	0.01	Gravel content	1.00
						Restricted permeability	0.99
OeC:							
Onteora	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
		Restricted permeability	0.99	Restricted permeability	0.99	Slope	1.00
		Slope	0.63	Slope	0.63	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Restricted permeability	0.99
OfB:							
Onteora	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
		Restricted permeability	0.99	Restricted permeability	0.99	Gravel content	1.00
		Too Stony	0.53	Too Stony	0.53	Slope	1.00
		Gravel content	0.01	Gravel content	0.01	Restricted permeability	0.99
						Too Stony	0.53
Ontusia	30	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	0.99	Restricted permeability	0.99	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Restricted permeability	0.99
						Gravel content	0.64
						Too Stony	0.53
OnA:							
Ontusia	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
		Restricted permeability	0.99	Restricted permeability	0.99	Restricted permeability	0.99
						Gravel content	0.64
						Content of large stones	0.01
OnB:							
Ontusia	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
		Restricted permeability	0.99	Restricted permeability	0.99	Slope	1.00
						Restricted permeability	0.99
						Gravel content	0.64
						Content of large stones	0.01

Table 11.—Recreation (Part I)—Continued

Map symbol and soil 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
OnC:							
Ontusia	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
		Restricted permeability	0.99	Restricted permeability	0.99	Slope	1.00
		Slope	0.63	Slope	0.63	Restricted permeability	0.99
						Gravel content	0.64
						Content of large stones	0.01
OpB:							
Oquaga	80	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.54	Gravel content	0.54	Gravel content	1.00
						Depth to bedrock	0.90
						Slope	0.88
						Content of large stones	0.01
OpC:							
Oquaga	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Gravel content	0.54	Gravel content	0.54	Gravel content	1.00
						Depth to bedrock	0.90
						Content of large stones	0.01
OpD:							
Oquaga	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.54	Gravel content	0.54	Gravel content	1.00
						Depth to bedrock	0.90
						Content of large stones	0.01
OpE:							
Oquaga	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.54	Gravel content	0.54	Gravel content	1.00
						Depth to bedrock	0.90
						Content of large stones	0.01
OpF:							
Oquaga	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.54	Gravel content	0.54	Gravel content	1.00
						Depth to bedrock	0.90
						Content of large stones	0.01
OrC:							
Oquaga	25	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.54	Gravel content	0.54	Gravel content	1.00
		Too Stony	0.53	Too Stony	0.53	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to bedrock	0.90
						Too Stony	0.53
						Content of large stones	0.01

Table 11.—Recreation (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
OrC:							
Lordstown-----------	25	Somewhat limited		Somewhat limited		Very limited	
		Too Stony	0.53	Too Stony	0.53	Slope	1.00
		Slope	0.04	Slope	0.04	Too Stony	0.53
						Depth to bedrock	0.29
						Gravel content	0.22
Arnot---------------	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too Stony	0.53	Too Stony	0.53	Gravel content	1.00
		Gravel content	0.06	Gravel content	0.06	Slope	1.00
		Slope	0.04	Slope	0.04	Too Stony	0.53
OrE:							
Oquaga--------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.54	Gravel content	0.54	Gravel content	1.00
		Too Stony	0.53	Too Stony	0.53	Depth to bedrock	0.90
						Too Stony	0.53
						Content of large stones	0.01
Lordstown-----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Too Stony	0.53
						Depth to bedrock	0.29
						Gravel content	0.22
Arnot---------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too Stony	0.53	Too Stony	0.53	Gravel content	1.00
		Gravel content	0.06	Gravel content	0.06	Too Stony	0.53
OrF:							
Oquaga--------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.54	Gravel content	0.54	Gravel content	1.00
		Too Stony	0.53	Too Stony	0.53	Depth to bedrock	0.90
						Too Stony	0.53
						Content of large stones	0.01
Lordstown-----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Too Stony	0.53
						Depth to bedrock	0.29
						Gravel content	0.22
Arnot---------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too Stony	0.53	Too Stony	0.53	Gravel content	1.00
		Gravel content	0.06	Gravel content	0.06	Too Stony	0.53
Pc:							
Philo---------------	80	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.68	Depth to saturated zone	0.95
		Depth to saturated zone	0.95			Flooding	0.60

Table 11.—Recreation (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
Pg:							
Pits, Gravel	85	Not Rated		Not Rated		Not Rated	
Ph:							
Pits, Quarry	85	Not Rated		Not Rated		Not Rated	
Rb:							
Raypol	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	Ponding	1.00	Ponding	1.00
		Ponding	1.00				
Re:							
Red Hook	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
		Gravel content	0.92	Gravel content	0.92	Gravel content	1.00
RhA:							
Riverhead	85	Not limited		Not limited		Not limited	
RhB:							
Riverhead	85	Not limited		Not limited		Very limited	
						Slope	1.00
RhC:							
Riverhead	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
RhD:							
Riverhead	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
RrE:							
Rockrift	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Gravel content	1.00
		Gravel content	0.44	Gravel content	0.44	Too Stony	0.53
						Content of large stones	0.03
RrF:							
Rockrift	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Gravel content	1.00
		Gravel content	0.44	Gravel content	0.44	Too Stony	0.53
						Content of large stones	0.03
Sa:							
Saprists	40	Not Rated		Not Rated		Not Rated	
Aquents	40	Not Rated		Not Rated		Not Rated	

Table 11.—Recreation (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
TeB:							
Torull	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Restricted permeability	0.49	Restricted permeability	0.49	Restricted permeability	0.49
						Slope	0.12
Gretor	40	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	0.49	Restricted permeability	0.49	Depth to bedrock	0.80
						Restricted permeability	0.49
						Gravel content	0.22
						Slope	0.12
TkA:							
Tunkhannock	85	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.90	Gravel content	0.90	Gravel content	1.00
TkB:							
Tunkhannock	85	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.90	Gravel content	0.90	Gravel content	1.00
						Slope	1.00
TkC:							
Tunkhannock	85	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.90	Gravel content	0.90	Slope	1.00
		Slope	0.63	Slope	0.63	Gravel content	1.00
TkD:							
Tunkhannock	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.90	Gravel content	0.90	Gravel content	1.00
TkE:							
Tunkhannock	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.90	Gravel content	0.90	Gravel content	1.00
TtA:							
Tunkhannock	50	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Gravel content	0.90	Gravel content	1.00
		Gravel content	0.90				
Chenango	30	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Gravel content	1.00
TtB:							
Tunkhannock	50	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Gravel content	0.90	Gravel content	1.00
		Gravel content	0.90			Slope	1.00
Chenango	30	Very limited		Not limited		Very limited	
		Flooding	1.00			Slope	1.00
						Gravel content	1.00

Table 11.—Recreation (Part I)—Continued

Map symbol and soil 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
Ud:							
Udorthents	80	Not Rated		Not Rated		Not Rated	
Uf:							
Udorthents, refuse substratum	80	Not Rated		Not Rated		Not Rated	
Un:							
Unadilla	80	Not limited		Not limited		Not limited	
Ur:							
Urban Land	85	Not Rated		Not Rated		Not Rated	
VaB:							
Valois	80	Not limited		Not limited		Very limited	
						Slope	1.00
VaC:							
Valois	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
VaD:							
Valois	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
VaE:							
Valois	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
VlB:							
Vly	80	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.06	Gravel content	0.06	Gravel content	1.00
						Slope	0.88
						Depth to bedrock	0.35
VlC:							
Vly	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Gravel content	1.00
		Gravel content	0.06	Gravel content	0.06	Slope	1.00
						Depth to bedrock	0.35
VlD:							
Vly	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	0.06	Gravel content	0.06	Slope	1.00
						Depth to bedrock	0.35
VlE:							
Vly	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	0.06	Gravel content	0.06	Slope	1.00
						Depth to bedrock	0.35
VoA:							
Volusia	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
		Restricted permeability	0.99	Restricted permeability	0.99	Restricted permeability	0.99
						Gravel content	0.70

Table 11.—Recreation (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
VoB:							
Volusia	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
		Restricted permeability	0.99	Restricted permeability	0.99	Slope	1.00
						Restricted permeability	0.99
						Gravel content	0.70
VoC:							
Volusia	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
		Restricted permeability	0.99	Restricted permeability	0.99	Slope	1.00
		Slope	0.63	Slope	0.63	Restricted permeability	0.99
						Gravel content	0.70
W:							
Water	100	Not Rated		Not Rated		Not Rated	
WeB:							
Wellsboro	80	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Restricted permeability	0.96	Depth to saturated zone	1.00
		Restricted permeability	0.96	Depth to saturated zone	0.94	Restricted permeability	0.96
						Slope	0.88
						Gravel content	0.72
WeC:							
Wellsboro	80	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Restricted permeability	0.96	Depth to saturated zone	1.00
		Restricted permeability	0.96	Depth to saturated zone	0.94	Slope	1.00
		Slope	0.63	Slope	0.63	Restricted permeability	0.96
						Gravel content	0.72
WeD:							
Wellsboro	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Depth to saturated zone	1.00
		Slope	1.00	Restricted permeability	0.96	Slope	1.00
		Restricted permeability	0.96	Depth to saturated zone	0.94	Restricted permeability	0.96
						Gravel content	0.72
WfC:							
Wellsboro	50	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Restricted permeability	0.96	Depth to saturated zone	1.00
		Restricted permeability	0.96	Depth to saturated zone	0.94	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Restricted permeability	0.96
		Slope	0.04	Slope	0.04	Gravel content	0.72
						Too Stony	0.53

Table 11.—Recreation (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
WfC:							
Mardin	30	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Restricted permeability	0.99	Depth to saturated zone	1.00
		Restricted permeability	0.99	Depth to saturated zone	0.90	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Restricted permeability	0.99
		Slope	0.04	Slope	0.04	Gravel content	0.97
						Too Stony	0.53
Wg:							
Wenonah	85	Very limited		Not limited		Not limited	
		Flooding	1.00				
WhB:							
Willdin	80	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Restricted permeability	0.99	Depth to saturated zone	1.00
		Restricted permeability	0.99	Depth to saturated zone	0.83	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Restricted permeability	0.99
						Slope	0.88
WhC:							
Willdin	80	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Restricted permeability	0.99	Depth to saturated zone	1.00
		Restricted permeability	0.99	Depth to saturated zone	0.83	Slope	1.00
		Slope	0.63	Slope	0.63	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Restricted permeability	0.99
WhD:							
Willdin	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Depth to saturated zone	1.00
		Slope	1.00	Restricted permeability	0.99	Slope	1.00
		Restricted permeability	0.99	Depth to saturated zone	0.83	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Restricted permeability	0.99
WmA:							
Willowemoc	80	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Restricted permeability	0.99	Depth to saturated zone	1.00
		Restricted permeability	0.99	Depth to saturated zone	0.83	Gravel content	1.00
		Gravel content	0.22	Gravel content	0.22	Restricted permeability	0.99
						Content of large stones	0.01

Table 11.—Recreation (Part I)—Continued

Map symbol and soil 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
WmB:							
Willowemoc----------	80	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Restricted permeability	0.99	Depth to saturated zone	1.00
		Restricted permeability	0.99	Depth to saturated zone	0.83	Slope	1.00
		Gravel content	0.22	Gravel content	0.22	Gravel content	1.00
						Restricted permeability	0.99
						Content of large stones	0.01
WmC:							
Willowemoc----------	80	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Restricted permeability	0.99	Depth to saturated zone	1.00
		Restricted permeability	0.99	Depth to saturated zone	0.83	Slope	1.00
		Slope	0.63	Slope	0.63	Gravel content	1.00
		Gravel content	0.22	Gravel content	0.22	Restricted permeability	0.99
						Content of large stones	0.01
WmD:							
Willowemoc----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Depth to saturated zone	1.00
		Slope	1.00	Restricted permeability	0.99	Slope	1.00
		Restricted permeability	0.99	Depth to saturated zone	0.83	Gravel content	1.00
		Gravel content	0.22	Gravel content	0.22	Restricted permeability	0.99
						Content of large stones	0.01
WnC:							
Willowemoc----------	50	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Restricted permeability	0.99	Depth to saturated zone	1.00
		Restricted permeability	0.99	Depth to saturated zone	0.83	Gravel content	1.00
		Too Stony	0.53	Too Stony	0.53	Slope	1.00
		Gravel content	0.22	Gravel content	0.22	Restricted permeability	0.99
		Slope	0.04	Slope	0.04	Too Stony	0.53
Willdin-------------	30	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Restricted permeability	0.99	Depth to saturated zone	1.00
		Restricted permeability	0.99	Depth to saturated zone	0.83	Gravel content	1.00
		Too Stony	0.53	Too Stony	0.53	Slope	1.00
		Slope	0.04	Slope	0.04	Restricted permeability	0.99
		Gravel content	0.01	Gravel content	0.01	Too Stony	0.53

Table 12.—Recreation (Part II)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
Bc:							
Barbour	85	Not limited		Not limited		Not limited	
Bg:							
Barbour	40	Not limited		Not limited		Somewhat limited	
						Gravel content	0.01
Trestle	35	Not limited		Not limited		Somewhat limited	
						Gravel content	0.01
Bs:							
Basher	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.08	Depth to saturated zone	0.08	Flooding	0.60
						Depth to saturated zone	0.43
BtB:							
Bath	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.22	Depth to saturated zone	0.22	Depth to cemented pan	0.79
						Depth to saturated zone	0.60
						Droughty	0.06
BtC:							
Bath	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.22	Depth to saturated zone	0.22	Depth to cemented pan	0.79
						Slope	0.63
						Depth to saturated zone	0.60
						Droughty	0.06
BtD:							
Bath	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Depth to saturated zone	0.22	Slope	1.00
		Depth to saturated zone	0.22			Depth to cemented pan	0.79
						Depth to saturated zone	0.60
						Droughty	0.06
BtE:							
Bath	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.22	Slope	1.00
		Depth to saturated zone	0.22	Slope	0.22	Depth to cemented pan	0.79
						Depth to saturated zone	0.60
						Droughty	0.06

Table 12.-Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
Bw:							
Bucksport	40	Not Rated		Not Rated		Very limited	
						Ponding	1.00
						Content of organic matter	1.00
						Depth to saturated zone	1.00
Wonsqueak	40	Not Rated		Not Rated		Very limited	
						Ponding	1.00
						Depth to saturated zone	1.00
CaE:							
Cadosia	75	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.53	Slope	1.00
		Too Stony	0.53			Gravel content	1.00
						Content of large stones	0.68
CaF:							
Cadosia	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Gravel content	1.00
						Content of large stones	0.68
Ce:							
Carlisle	45	Not Rated		Not Rated		Very limited	
						Ponding	1.00
						Depth to saturated zone	1.00
Palms	40	Not Rated		Not Rated		Very limited	
						Ponding	1.00
						Depth to saturated zone	1.00
ChA:							
Chenango	85	Not limited		Not limited		Somewhat limited	
						Droughty	0.23
ChB:							
Chenango	85	Not limited		Not limited		Somewhat limited	
						Droughty	0.23
ChC:							
Chenango	85	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Droughty	0.23
ChD:							
Chenango	85	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Droughty	0.23

Table 12.-Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
ChE:							
Chenango	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.96	Slope	1.00
						Droughty	0.23
CoB:							
Collamer	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
CoC:							
Collamer	85	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	0.63
De:							
Deposit	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.78	Depth to saturated zone	0.78	Depth to saturated zone	0.90
						Droughty	0.04
						Content of large stones	0.01
EdC:							
Elka	80	Not limited		Not limited		Somewhat limited	
						Slope	0.63
EdD:							
Elka	80	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
EdE:							
Elka	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
EkC:							
Elka	40	Not limited		Not limited		Somewhat limited	
						Slope	0.16
Vly	35	Not limited		Not limited		Somewhat limited	
						Droughty	0.67
						Depth to bedrock	0.35
						Slope	0.16
						Gravel content	0.06
EkD:							
Elka	40	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
Vly	35	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Droughty	0.67
						Depth to bedrock	0.35
						Gravel content	0.06

Table 12.-Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
ElC:							
Elka	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Too Stony	0.53	Too Stony	0.53	Slope	0.04
						Content of large stones	0.01
Vly	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Too Stony	0.53	Too Stony	0.53	Droughty	0.67
						Depth to bedrock	0.35
						Gravel content	0.06
						Slope	0.04
ElE:							
Elka	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.53	Slope	1.00
		Too Stony	0.53			Content of large stones	0.01
Vly	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.53	Slope	1.00
		Too Stony	0.53			Droughty	0.67
						Depth to bedrock	0.35
						Gravel content	0.06
ElF:							
Elka	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Content of large stones	0.01
Vly	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Droughty	0.67
						Depth to bedrock	0.35
						Gravel content	0.06
Ff:							
Fluvaquents	45	Not Rated		Not Rated		Very limited	
						Ponding	1.00
						Flooding	1.00
						Depth to saturated zone	1.00
						Content of large stones	0.01
Udifluvents	35	Not Rated		Not Rated		Very limited	
						Flooding	1.00
						Gravel content	0.22
						Droughty	0.01
						Content of large stones	0.01

Table 12.-Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
HcC:							
Halcott	25	Somewhat limited		Somewhat limited		Very limited	
		Too Stony	0.53	Too Stony	0.53	Depth to bedrock	1.00
						Droughty	1.00
						Gravel content	0.22
						Slope	0.04
						Content of large stones	0.01
Mongaup	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Too Stony	0.53	Too Stony	0.53	Depth to bedrock	0.65
						Droughty	0.06
						Slope	0.04
						Gravel content	0.04
						Content of large stones	0.01
Vly	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Too Stony	0.53	Too Stony	0.53	Droughty	0.67
						Depth to bedrock	0.35
						Gravel content	0.06
						Slope	0.04
HcE:							
Halcott	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.53	Depth to bedrock	1.00
		Too Stony	0.53			Slope	1.00
						Droughty	1.00
						Gravel content	0.22
						Content of large stones	0.01
Mongaup	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.53	Slope	1.00
		Too Stony	0.53			Depth to bedrock	0.65
						Droughty	0.06
						Gravel content	0.04
						Content of large stones	0.01
Vly	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.53	Slope	1.00
		Too Stony	0.53			Droughty	0.67
						Depth to bedrock	0.35
						Gravel content	0.06
HcF:							
Halcott	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Too Stony	0.53	Too Stony	0.53	Slope	1.00
						Droughty	1.00
						Gravel content	0.22
						Content of large stones	0.01

Table 12.-Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
HcF:							
Mongaup	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Depth to bedrock	0.65
						Droughty	0.06
						Gravel content	0.04
						Content of large stones	0.01
Vly	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Droughty	0.67
						Depth to bedrock	0.35
						Gravel content	0.06
LaB:							
Lackawanna	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.04	Depth to saturated zone	0.04	Depth to cemented pan	0.64
						Depth to saturated zone	0.35
						Content of large stones	0.32
						Droughty	0.06
LaC:							
Lackawanna	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.04	Depth to saturated zone	0.04	Depth to cemented pan	0.64
						Slope	0.63
						Depth to saturated zone	0.35
						Content of large stones	0.32
						Droughty	0.06
LaD:							
Lackawanna	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Depth to saturated zone	0.04	Slope	1.00
		Depth to saturated zone	0.04			Depth to cemented pan	0.64
						Depth to saturated zone	0.35
						Content of large stones	0.32
						Droughty	0.06
LaE:							
Lackawanna	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.56	Slope	1.00
		Depth to saturated zone	0.04	Depth to saturated zone	0.04	Depth to cemented pan	0.64
						Depth to saturated zone	0.35
						Content of large stones	0.32
						Droughty	0.06

Table 12.-Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
LcD:							
Lackawanna----------	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.53	Slope	1.00
		Too Stony	0.53	Depth to saturated zone	0.04	Depth to cemented pan	0.64
		Depth to saturated zone	0.04			Depth to saturated zone	0.35
						Content of large stones	0.32
						Droughty	0.06
Morris--------------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Too Stony	0.53	Too Stony	0.53	Slope	1.00
		Slope	0.50			Depth to saturated zone	1.00
						Droughty	1.00
						Content of large stones	0.84
LdC:							
Lackawanna----------	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Too Stony	0.53	Too Stony	0.53	Depth to cemented pan	0.64
		Depth to saturated zone	0.04	Depth to saturated zone	0.04	Depth to saturated zone	0.35
						Content of large stones	0.32
						Droughty	0.06
						Slope	0.04
Bath----------------	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Too Stony	0.53	Too Stony	0.53	Depth to cemented pan	0.79
		Depth to saturated zone	0.22	Depth to saturated zone	0.22	Depth to saturated zone	0.60
						Droughty	0.06
						Slope	0.04
						Content of large stones	0.01
LdE:							
Lackawanna----------	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.53	Slope	1.00
		Too Stony	0.53	Depth to saturated zone	0.04	Depth to cemented pan	0.64
		Depth to saturated zone	0.04			Depth to saturated zone	0.35
						Content of large stones	0.32
						Droughty	0.06

Table 12.-Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
LdE:							
Bath	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.53	Slope	1.00
		Too Stony	0.53	Depth to saturated zone	0.22	Depth to cemented pan	0.79
		Depth to saturated zone	0.22			Depth to saturated zone	0.60
						Droughty	0.06
						Content of large stones	0.01
LdF:							
Lackawanna	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Depth to cemented pan	0.64
		Depth to saturated zone	0.04	Depth to saturated zone	0.04	Depth to saturated zone	0.35
						Content of large stones	0.32
						Droughty	0.06
Bath	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Depth to cemented pan	0.79
		Depth to saturated zone	0.22	Depth to saturated zone	0.22	Depth to saturated zone	0.60
						Droughty	0.06
						Content of large stones	0.01
LeB:							
Lewbath	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.04	Depth to saturated zone	0.04	Depth to saturated zone	0.35
						Depth to cemented pan	0.20
						Content of large stones	0.16
LeC:							
Lewbath	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.04	Depth to saturated zone	0.04	Slope	0.63
						Depth to saturated zone	0.35
						Depth to cemented pan	0.20
						Content of large stones	0.16

Table 12.-Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
LeD:							
Lewbath-------------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Depth to saturated zone	0.04	Slope	1.00
		Depth to saturated zone	0.04			Depth to saturated zone	0.35
						Depth to cemented pan	0.20
						Content of large stones	0.16
LeE:							
Lewbath-------------	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
		Depth to saturated zone	0.04	Depth to saturated zone	0.04	Depth to saturated zone	0.35
						Depth to cemented pan	0.20
						Content of large stones	0.16
LhB:							
Lewbeach------------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to cemented pan	1.00
						Droughty	0.94
						Depth to saturated zone	0.75
						Gravel content	0.07
LhC:							
Lewbeach------------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to cemented pan	1.00
						Droughty	0.94
						Depth to saturated zone	0.75
						Slope	0.63
						Gravel content	0.07
LhD:							
Lewbeach------------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Depth to saturated zone	0.44	Slope	1.00
		Depth to saturated zone	0.44			Depth to cemented pan	1.00
						Droughty	0.94
						Depth to saturated zone	0.75
						Gravel content	0.07

Table 12.-Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
LhE:							
Lewbeach------------	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.56	Slope	1.00
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to cemented pan	1.00
						Droughty	0.94
						Depth to saturated zone	0.75
						Gravel content	0.07
LkC:							
Lewbeach------------	50	Somewhat limited		Somewhat limited		Very limited	
		Too Stony	0.53	Too Stony	0.53	Depth to cemented pan	1.00
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Droughty	0.94
						Depth to saturated zone	0.75
						Gravel content	0.07
						Slope	0.04
Lewbath-------------	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Too Stony	0.53	Too Stony	0.53	Depth to saturated zone	0.35
		Depth to saturated zone	0.04	Depth to saturated zone	0.04	Depth to cemented pan	0.20
						Content of large stones	0.16
						Slope	0.04
LkE:							
Lewbeach------------	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.53	Slope	1.00
		Too Stony	0.53	Depth to saturated zone	0.44	Depth to cemented pan	1.00
		Depth to saturated zone	0.44			Droughty	0.94
						Depth to saturated zone	0.75
						Gravel content	0.07
Lewbath-------------	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.53	Slope	1.00
		Too Stony	0.53	Depth to saturated zone	0.04	Depth to saturated zone	0.35
		Depth to saturated zone	0.04			Depth to cemented pan	0.20
						Content of large stones	0.16

Table 12.-Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
LkF:							
Lewbeach------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Depth to cemented pan	1.00
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Droughty	0.94
						Depth to saturated zone	0.75
						Gravel content	0.07
Lewbath-------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Depth to saturated zone	0.35
		Depth to saturated zone	0.04	Depth to saturated zone	0.04	Depth to cemented pan	0.20
						Content of large stones	0.16
LoB:							
Lordstown-----------	80	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.29
LoC:							
Lordstown-----------	80	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Depth to bedrock	0.29
LoD:							
Lordstown-----------	80	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.29
LoE:							
Lordstown-----------	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.56	Slope	1.00
						Depth to bedrock	0.29
MaB:							
Maplecrest----------	80	Not limited		Not limited		Somewhat limited	
						Gravel content	0.01
MaC:							
Maplecrest----------	80	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Gravel content	0.01
MaD:							
Maplecrest----------	80	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Gravel content	0.01

Table 12.-Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
MaE:							
Maplecrest----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.01
MdB:							
Mardin--------------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.78	Depth to saturated zone	0.78	Depth to saturated zone	0.90
						Depth to cemented pan	0.79
						Droughty	0.15
						Content of large stones	0.01
MdC:							
Mardin--------------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.78	Depth to saturated zone	0.78	Depth to saturated zone	0.90
						Depth to cemented pan	0.79
						Slope	0.63
						Droughty	0.15
						Content of large stones	0.01
MdD:							
Mardin--------------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.78	Depth to saturated zone	0.78	Slope	1.00
		Slope	0.50			Depth to saturated zone	0.90
						Depth to cemented pan	0.79
						Droughty	0.15
						Content of large stones	0.01
MkB:							
Middlebrook---------	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
						Depth to bedrock	0.10
						Droughty	0.06
						Gravel content	0.01
Mongaup-------------	35	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.65
						Gravel content	0.06
						Droughty	0.06

Table 12.-Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
MkC:							
Middlebrook---------	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
						Slope	0.63
						Depth to bedrock	0.10
						Droughty	0.06
						Gravel content	0.01
Mongaup-------------	35	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.65
						Slope	0.63
						Gravel content	0.06
						Droughty	0.06
MnB:							
Mongaup-------------	80	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.65
						Gravel content	0.06
						Droughty	0.06
MnC:							
Mongaup-------------	80	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.65
						Slope	0.63
						Gravel content	0.06
						Droughty	0.06
MnD:							
Mongaup-------------	80	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.65
						Gravel content	0.06
						Droughty	0.06
MrA:							
Morris--------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
						Depth to saturated zone	1.00
						Droughty	1.00
						Content of large stones	0.68
MrB:							
Morris--------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
						Depth to saturated zone	1.00
						Droughty	1.00
						Content of large stones	0.68

Table 12.-Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
MrC:							
Morris	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
						Depth to saturated zone	1.00
						Droughty	1.00
						Content of large stones	0.68
						Slope	0.63
MsB:							
Morris	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Too Stony	0.53	Too Stony	0.53	Depth to saturated zone	1.00
						Droughty	1.00
						Content of large stones	0.84
Volusia	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too Stony	0.53	Too Stony	0.53	Depth to cemented pan	0.97
						Droughty	0.53
						Content of large stones	0.01
No:							
Norchip	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
						Depth to saturated zone	1.00
						Droughty	1.00
Nr:							
Norchip	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Too Stony	0.53	Too Stony	0.53	Depth to saturated zone	1.00
						Droughty	1.00
OeA:							
Onteora	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
						Depth to saturated zone	1.00
						Droughty	1.00
						Gravel content	0.01

Table 12.-Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
OeB:							
Onteora-------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
						Depth to saturated zone	1.00
						Droughty	1.00
						Gravel content	0.01
OeC:							
Onteora-------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
						Depth to saturated zone	1.00
						Droughty	1.00
						Slope	0.63
						Gravel content	0.01
OfB:							
Onteora-------------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Too Stony	0.53	Too Stony	0.53	Depth to saturated zone	1.00
						Droughty	1.00
Ontusia-------------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Too Stony	0.53	Too Stony	0.53	Depth to saturated zone	1.00
						Droughty	0.96
						Content of large stones	0.01
OnA:							
Ontusia-------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
						Depth to saturated zone	1.00
						Droughty	0.96
OnB:							
Ontusia-------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
						Depth to saturated zone	1.00
						Droughty	0.96
OnC:							
Ontusia-------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
						Depth to saturated zone	1.00
						Droughty	0.96
						Slope	0.63

Table 12.-Recreation (Part II)—Continued

Map symbol and soil 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
OpB:							
Oquaga	80	Not limited		Not limited		Somewhat limited	
						Droughty	0.97
						Depth to bedrock	0.90
						Gravel content	0.54
						Content of large stones	0.01
OpC:							
Oquaga	80	Not limited		Not limited		Somewhat limited	
						Droughty	0.97
						Depth to bedrock	0.90
						Slope	0.63
						Gravel content	0.54
						Content of large stones	0.01
OpD:							
Oquaga	80	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Droughty	0.97
						Depth to bedrock	0.90
						Gravel content	0.54
						Content of large stones	0.01
OpE:							
Oquaga	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
						Droughty	0.97
						Depth to bedrock	0.90
						Gravel content	0.54
						Content of large stones	0.01
OpF:							
Oquaga	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Droughty	0.97
						Depth to bedrock	0.90
						Gravel content	0.54
						Content of large stones	0.01
OrC:							
Oquaga	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Too Stony	0.53	Too Stony	0.53	Droughty	0.97
						Depth to bedrock	0.90
						Gravel content	0.54
						Slope	0.04
						Content of large stones	0.01
Lordstown	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Too Stony	0.53	Too Stony	0.53	Depth to bedrock	0.29
						Slope	0.04

Table 12.-Recreation (Part II)—Continued

Map symbol and soil 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
OrC:							
Arnot	25	Somewhat limited		Somewhat limited		Very limited	
		Too Stony	0.53	Too Stony	0.53	Depth to bedrock	1.00
						Droughty	1.00
						Gravel content	0.06
						Slope	0.04
OrE:							
Oquaga	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.53	Slope	1.00
		Too Stony	0.53			Droughty	0.97
						Depth to bedrock	0.90
						Gravel content	0.54
						Content of large stones	0.01
Lordstown	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.53	Slope	1.00
		Too Stony	0.53			Depth to bedrock	0.29
Arnot	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.53	Depth to bedrock	1.00
		Too Stony	0.53			Slope	1.00
						Droughty	1.00
						Gravel content	0.06
OrF:							
Oquaga	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Droughty	0.97
						Depth to bedrock	0.90
						Gravel content	0.54
						Content of large stones	0.01
Lordstown	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Depth to bedrock	0.29
Arnot	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Too Stony	0.53	Too Stony	0.53	Slope	1.00
						Droughty	1.00
						Gravel content	0.06
Pc:							
Philo	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.32	Depth to saturated zone	0.32	Depth to saturated zone	0.68
						Flooding	0.60
Pg:							
Pits, Gravel	85	Not Rated		Not Rated		Not Rated	
Ph:							
Pits, Quarry	85	Not Rated		Not Rated		Not Rated	

Table 12.-Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
Rb:							
Raypol	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
Re:							
Red Hook	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
						Gravel content	0.92
RhA:							
Riverhead	85	Not limited		Not limited		Somewhat limited	
						Droughty	0.03
RhB:							
Riverhead	85	Not limited		Not limited		Somewhat limited	
						Droughty	0.03
RhC:							
Riverhead	85	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Droughty	0.03
RhD:							
Riverhead	85	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Droughty	0.03
RrE:							
Rockrift	75	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.53	Slope	1.00
		Too Stony	0.53			Gravel content	0.44
						Content of large stones	0.03
RrF:							
Rockrift	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Gravel content	0.44
						Content of large stones	0.03
Sa:							
Saprists	40	Not Rated		Not Rated		Not Rated	
Aquents	40	Not Rated		Not Rated		Not Rated	
TeB:							
Torull	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
						Depth to saturated zone	1.00
						Droughty	0.59

Table 12.-Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
TeB:							
Gretor--------------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Depth to bedrock	0.80
						Droughty	0.11
TkA:							
Tunkhannock---------	85	Not limited		Not limited		Somewhat limited	
						Gravel content	0.90
						Droughty	0.20
TkB:							
Tunkhannock---------	85	Not limited		Not limited		Somewhat limited	
						Gravel content	0.90
						Droughty	0.20
TkC:							
Tunkhannock---------	85	Not limited		Not limited		Somewhat limited	
						Gravel content	0.90
						Slope	0.63
						Droughty	0.20
TkD:							
Tunkhannock---------	85	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Gravel content	0.90
						Droughty	0.20
TkE:							
Tunkhannock---------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.96	Slope	1.00
						Gravel content	0.90
						Droughty	0.20
TtA:							
Tunkhannock---------	50	Not limited		Not limited		Somewhat limited	
						Gravel content	0.90
						Droughty	0.20
Chenango------------	30	Not limited		Not limited		Somewhat limited	
						Droughty	0.23
TtB:							
Tunkhannock---------	50	Not limited		Not limited		Somewhat limited	
						Gravel content	0.90
						Droughty	0.20
Chenango------------	30	Not limited		Not limited		Somewhat limited	
						Droughty	0.23
Ud:							
Udorthents----------	80	Not Rated		Not Rated		Not Rated	
Uf:							
Udorthents, refuse substratum---------	80	Not Rated		Not Rated		Not Rated	
Un:							
Unadilla------------	80	Not limited		Not limited		Not limited	

Table 12.-Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
Ur:							
Urban Land----------	85	Not Rated		Not Rated		Not Rated	
VaB:							
Valois--------------	80	Not limited		Not limited		Not limited	
VaC:							
Valois--------------	80	Not limited		Not limited		Somewhat limited	
						Slope	0.63
VaD:							
Valois--------------	80	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
VaE:							
Valois--------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
VlB:							
Vly-----------------	80	Not limited		Not limited		Somewhat limited	
						Droughty	0.67
						Depth to bedrock	0.35
						Gravel content	0.06
VlC:							
Vly-----------------	80	Not limited		Not limited		Somewhat limited	
						Droughty	0.67
						Slope	0.63
						Depth to bedrock	0.35
						Gravel content	0.06
VlD:							
Vly-----------------	80	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Droughty	0.67
						Depth to bedrock	0.35
						Gravel content	0.06
VlE:							
Vly-----------------	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.56	Slope	1.00
						Droughty	0.67
						Depth to bedrock	0.35
						Gravel content	0.06
VoA:							
Volusia-------------	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
						Depth to cemented pan	0.97
						Droughty	0.53
VoB:							
Volusia-------------	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
						Depth to cemented pan	0.97
						Droughty	0.53

Table 12.-Recreation (Part II)—Continued

Map symbol and soil 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
VoC:							
Volusia	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
						Depth to cemented pan	0.97
						Slope	0.63
						Droughty	0.53
W:							
Water	100	Not Rated		Not Rated		Not Rated	
WeB:							
Wellsboro	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
						Depth to cemented pan	0.84
						Droughty	0.45
WeC:							
Wellsboro	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
						Depth to cemented pan	0.84
						Slope	0.63
						Droughty	0.45
WeD:							
Wellsboro	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Slope	1.00
		Slope	0.50			Depth to saturated zone	0.94
						Depth to cemented pan	0.84
						Droughty	0.45
WfC:							
Wellsboro	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
		Too Stony	0.53	Too Stony	0.53	Depth to cemented pan	0.84
						Droughty	0.45
						Slope	0.04
						Content of large stones	0.01
Mardin	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.78	Depth to saturated zone	0.78	Depth to saturated zone	0.90
		Too Stony	0.53	Too Stony	0.53	Depth to cemented pan	0.79
						Droughty	0.15
						Content of large stones	0.08
						Slope	0.04

Table 12.-Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
Wg:							
Wenonah-------------	85	Not limited		Not limited		Not limited	
WhB:							
Willdin-------------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.62	Depth to saturated zone	0.62	Depth to cemented pan	0.95
						Depth to saturated zone	0.83
						Droughty	0.41
						Gravel content	0.01
WhC:							
Willdin-------------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.62	Depth to saturated zone	0.62	Depth to cemented pan	0.95
						Depth to saturated zone	0.83
						Slope	0.63
						Droughty	0.41
						Gravel content	0.01
WhD:							
Willdin-------------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.62	Depth to saturated zone	0.62	Slope	1.00
		Slope	0.50			Depth to cemented pan	0.95
						Depth to saturated zone	0.83
						Droughty	0.41
						Gravel content	0.01
WmA:							
Willowemoc----------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.62	Depth to saturated zone	0.62	Depth to cemented pan	0.97
						Depth to saturated zone	0.83
						Droughty	0.46
						Gravel content	0.22
						Content of large stones	0.01
WmB:							
Willowemoc----------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.62	Depth to saturated zone	0.62	Depth to cemented pan	0.97
						Depth to saturated zone	0.83
						Droughty	0.46
						Gravel content	0.22
						Content of large stones	0.01

Table 12.-Recreation (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
WmC:							
Willowemoc----------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.62	Depth to saturated zone	0.62	Depth to cemented pan	0.97
						Depth to saturated zone	0.83
						Slope	0.63
						Droughty	0.46
						Gravel content	0.22
WmD:							
Willowemoc----------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.62	Depth to saturated zone	0.62	Slope	1.00
		Slope	0.50			Depth to cemented pan	0.97
						Depth to saturated zone	0.83
						Droughty	0.46
						Gravel content	0.22
WnC:							
Willowemoc----------	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.62	Depth to saturated zone	0.62	Depth to cemented pan	0.97
		Too Stony	0.53	Too Stony	0.53	Depth to saturated zone	0.83
						Droughty	0.46
						Gravel content	0.16
						Slope	0.04
Willdin-------------	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.62	Depth to saturated zone	0.62	Depth to cemented pan	0.95
		Too Stony	0.53	Too Stony	0.53	Depth to saturated zone	0.83
						Droughty	0.41
						Slope	0.04

Table 13.—Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
Bc:										
Barbour	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Bg:										
Barbour	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Trestle	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Bs:										
Basher	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
BtB:										
Bath	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
BtC:										
Bath	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
BtD:										
Bath	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
BtE:										
Bath	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Bw:										
Bucksport	Very poor	Very poor	Poor	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
Wonsqueak	Very poor	Poor	Poor	Very poor	Very poor	Good	Good	Poor	Very poor	Good
CaE:										
Cadosia	Poor	Poor	Fair	Good	Good	Very poor	Very poor	Fair	Good	Very poor
CaF:										
Cadosia	Poor	Poor	Poor	Fair	Good	Very poor	Very poor	Poor	Good	Very poor
Ce:										
Carlisle	Fair	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
Palms	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
ChA:										
Chenango	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
ChB:										
Chenango	Fair	Fair	Fair	Fair	Fair	Very	Very poor	Fair poor	Fair	Very

Table 13.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
ChC:										
Chenango	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
ChD:										
Chenango	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
ChE:										
Chenango	Very poor	Poor	Fair	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
CoB:										
Collamer	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
CoC:										
Collamer	Fair	Good	Good	Good	Good	Very	Very poor	Good poor	Good	Very
De:										
Deposit	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
EdC:										
Elka	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
EdD:										
Elka	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
EdE:										
Elka	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
EkC:										
Elka	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Vly	Fair	Good	Good	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
EkD:										
Elka	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Vly	Poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
ElC:										
Elka	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Vly	Very poor	Very poor	Good	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor

Table 13.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
ElE:										
Elka	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Vly	Very poor	Very poor	Good	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
ElF:										
Elka	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Vly	Very poor	Very poor	Good	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
Ff:										
Fluvaquents	Very poor	Very poor	Poor	Poor	Poor	Good	Good	Very poor	Poor	Good
Udifluvents	Very poor	Very poor	Poor	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
HcC:										
Halcott	Very poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Mongaup	Very poor	Very poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Vly	Very poor	Very poor	Good	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
HcE:										
Halcott	Very poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Mongaup	Very poor	Very poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Vly	Very poor	Very poor	Good	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
HcF:										
Halcott	Very poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Mongaup	Very poor	Very poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Vly	Very poor	Very poor	Good	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
LaB:										
Lackawanna	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
LaC:										
Lackawanna	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

Table 13.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
LaD:										
Lackawanna	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
LaE:										
Lackawanna	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
LcD:										
Lackawanna	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Morris	Very poor	Poor	Good	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
LdC:										
Lackawanna	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Bath	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
LdE:										
Lackawanna	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Bath	Very poor	Poor	Good	Good	Good	Very	Very poor	Poor poor	Good	Very
LdF:										
Lackawanna	Very poor	Very poor	Good	Good	Good	Very poor	Very poor	Poor	Fair	Very poor
Bath	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
LeB:										
Lewbath	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
LeC:										
Lewbath	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
LeD:										
Lewbath	Fair	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
LeE:										
Lewbath	Poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
LhB:										
Lewbeach	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
LhC:										
Lewbeach	Fair	Good	Good	Good	Good	Very	Very poor	Good poor	Good	Very

Table 13.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
LhD:										
Lewbeach	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
LhE:										
Lewbeach	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
LkC:										
Lewbeach	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Lewbath	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
LkE:										
Lewbeach	Very poor	Very poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Lewbath	Very poor	Very poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
LkF:										
Lewbeach	Very poor	Very poor	Good	Good	Good	Very poor	Very poor	Poor	Fair	Very poor
Lewbath	Very poor	Very poor	Good	Good	Good	Very poor	Very poor	Poor	Fair	Very poor
LoB:										
Lordstown	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
LoC:										
Lordstown	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
LoD:										
Lordstown	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
LoE:										
Lordstown	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
MaB:										
Maplecrest	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
MaC:										
Maplecrest	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
MaD:										
Maplecrest	Poor	Fair	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
MaE:										
Maplecrest	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor

Table 13.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
MdB:										
Mardin	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
MdC:										
Mardin	Fair	Good	Good	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
MdD:										
Mardin	Poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
MkB:										
Middlebrook	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
Mongaup	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
MkC:										
Middlebrook	Fair	Good	Good	Fair	Fair	Very	Very poor	Good poor	Fair	Very
Mongaup	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
MnB:										
Mongaup	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
MnC:										
Mongaup	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
MnD:										
Mongaup	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
MrA:										
Morris	Fair	Good	Good	Fair	Fair	Fair	Fair	Good	Fair	Fair
MrB:										
Morris	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
MrC:										
Morris	Fair	Good	Good	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
MsB:										
Morris	Very poor	Poor	Good	Fair	Fair	Poor	Very poor	Poor	Fair	Very poor
Volusia	Very poor	Poor	Fair	Poor	Poor	Poor	Very poor	Poor	Poor	Very poor
No:										
Norchip	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
Nr:										
Norchip	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good

Table 13.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
OeA:										
Onteora	Fair	Fair	Good	Fair	Fair	Fair	Fair	Fair	Fair	Fair
OeB:										
Onteora	Fair	Fair	Good	Fair	Fair	Poor	Very poor	Fair	Fair	Poor
OeC:										
Onteora	Fair	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
OfB:										
Onteora	Very poor	Poor	Good	Fair	Fair	Poor	Very poor	Poor	Fair	Very poor
Ontusia	Poor	Fair	Fair	Poor	Poor	Poor	Poor	Fair	Poor	Very poor
OnA:										
Ontusia	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Fair	Poor	Fair
OnB:										
Ontusia	Fair	Fair	Fair	Poor	Poor	Poor	Very	Fair poor	Poor	Very
OnC:										
Ontusia	Fair	Fair	Fair	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor
OpB:										
Oquaga	Fair	Good	Good	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
OpC:										
Oquaga	Fair	Good	Good	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
OpD:										
Oquaga	Poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
OpE:										
Oquaga	Very poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
OpF:										
Oquaga	Very poor	Poor	Good	Fair	Fair	Very	Very poor	Poor poor	Fair	Very
OrC:										
Oquaga	Very poor	Very poor	Good	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
Lordstown	Very poor	Very poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Arnot	Very poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor

Table 13.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
OrE:										
Oquaga	Very poor	Very poor	Good	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
Lordstown	Very poor	Very poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Arnot	Very poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
OrF:										
Oquaga	Very poor	Very poor	Good	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
Lordstown	Very poor	Very poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Arnot	Very poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Pc:										
Philo	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Pg:										
Pits, Gravel	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
Ph:										
Pits, Quarry	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
Rb:										
Raypol	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
Re:										
Red Hook	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
RhA:										
Riverhead	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
RhB:										
Riverhead	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
RhC:										
Riverhead	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
RhD:										
Riverhead	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
RrE:										
Rockrift	Poor	Poor	Fair	Good	Good	Very poor	Very poor	Fair	Good	Very poor
RrF:										
Rockrift	Poor	Poor	Poor	Fair	Good	Very poor	Very poor	Poor	Good	Very poor

Table 13.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Sa:										
Saprists	Very poor	Very poor	Poor	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
Aquents	Very poor	Very poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
TeB:										
Torull	Very poor	Poor	Poor	Very poor	Very poor	Fair	Poor	Poor	Very poor	Fair
Gretor	Fair	Fair	Poor	Fair	Fair	Poor	Very poor	Fair	Fair	Very poor
TkA:										
Tunkhannock	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
TkB:										
Tunkhannock	Fair	Fair	Fair	Fair	Fair	Very	Very poor	Fair poor	Fair	Very
TkC:										
Tunkhannock	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
TkD:										
Tunkhannock	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
TkE:										
Tunkhannock	Very poor	Poor	Fair	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
TtA:										
Tunkhannock	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Chenango	Fair	Good	Good	Fair	Fair	Poor	Very	Good poor	Fair	Very
TtB:										
Tunkhannock	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Chenango	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
Ud:										
Udorthents	Very poor	Very poor	Poor	Very poor	Very poor	Very poor	Very poor	Poor	Very poor	Very poor
Uf:										
Udorthents	---	---	---	---	---	---	---	---	---	---
Un:										
Unadilla	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Ur:										
Urban Land	---	---	---	---	---	---	---	---	---	---

Table 13.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
VaB: Valois	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
VaC: Valois	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
VaD: Valois	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
VaE: Valois	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
VlB: Vly	Fair	Good	Good	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
VlC: Vly	Fair	Good	Good	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
VlD: Vly	Poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
VlE: Vly	Very poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
VoA: Volusia	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Fair	Poor	Fair
VoB: Volusia	Fair	Fair	Fair	Poor	Poor	Poor	Very poor	Fair	Poor	Very poor
VoC: Volusia	Fair	Fair	Fair	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor
W: Water	---	---	---	---	---	---	---	---	---	---
WeB: Wellsboro	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
WeC: Wellsboro	Fair	Good	Good	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
WeD: Wellsboro	Poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor

Table 13.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
WfC:										
Wellsboro----------------	Very poor	Poor	Good	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
Mardin-------------------	Very poor	Poor	Good	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
Wg:										
Wenonah------------------	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
WhB:										
Willdin------------------	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
WhC:										
Willdin------------------	Fair	Good	Good	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
WhD:										
Willdin------------------	Poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
WmA:										
Willowemoc---------------	Fair	Good	Good	Fair	Fair	Poor	Poor	Good	Fair	Poor
WmB:										
Willowemoc---------------	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
WmC:										
Willowemoc---------------	Fair	Good	Good	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
WmD:										
Willowemoc---------------	Poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
WnC:										
Willowemoc---------------	Very poor	Poor	Good	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
Willdin------------------	Very poor	Poor	Fair	Fair	Fair	Poor	Poor	Poor	Fair	Poor

Table 14.—Building Site Development (Part I)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	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
Bc:							
Barbour	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.35		
Bg:							
Barbour	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.35		
Trestle	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.35		
Bs:							
Basher	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.77	Depth to saturated zone	1.00	Depth to saturated zone	0.77
BtB:							
Bath	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.90	Depth to saturated zone	1.00	Depth to saturated zone	0.90
						Slope	0.50
BtC:							
Bath	80	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.90	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.90
BtD:							
Bath	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.90	Depth to saturated zone	1.00	Depth to saturated zone	0.90
BtE:							
Bath	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.90	Depth to saturated zone	1.00	Depth to saturated zone	0.90

Table 14.—Building Site Development (Part I)—Continued

Map symbol and soil 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
Bw:							
Bucksport-----------	40	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
Wonsqueak-----------	40	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
CaE:							
Cadosia-------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
CaF:							
Cadosia-------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Ce:							
Carlisle------------	45	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
Palms---------------	40	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of organic matter	1.00			Content of organic matter	1.00
ChA:							
Chenango------------	85	Not limited		Not limited		Not limited	
ChB:							
Chenango------------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
ChC:							
Chenango------------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
ChD:							
Chenango------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
ChE:							
Chenango------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 14.—Building Site Development (Part I)—Continued

Map symbol and soil 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
CoB:							
Collamer------------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
CoC:							
Collamer------------	85	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.98
De:							
Deposit-------------	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
EdC:							
Elka----------------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
EdD:							
Elka----------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
EdE:							
Elka----------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
EkC:							
Elka----------------	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
Vly-----------------	35	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.35	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.16	Slope	0.16	Depth to hard bedrock	0.35
EkD:							
Elka----------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Vly-----------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.35	Depth to hard bedrock	1.00	Depth to hard bedrock	0.35
ElC:							
Elka----------------	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Vly-----------------	35	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.35	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to hard bedrock	0.35

Table 14.—Building Site Development (Part I)—Continued

Map symbol and soil 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
ElE:							
Elka	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Vly	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.35	Depth to hard bedrock	1.00	Depth to hard bedrock	0.35
ElF:							
Elka	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Vly	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.35	Depth to hard bedrock	1.00	Depth to hard bedrock	0.35
Ff:							
Fluvaquents	45	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Udifluvents	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.61		
HcC:							
Halcott	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
Mongaup	25	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to hard bedrock	0.64
Vly	25	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.35	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to hard bedrock	0.35
HcE:							
Halcott	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Mongaup	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to hard bedrock	0.64

Table 14.—Building Site Development (Part I)—Continued

Map symbol and soil 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
HcE:							
Vly	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.35	Depth to hard bedrock	1.00	Depth to hard bedrock	0.35
HcF:							
Halcott	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Mongaup	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to hard bedrock	0.64
Vly	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.35	Depth to hard bedrock	1.00	Depth to hard bedrock	0.35
LaB:							
Lackawanna	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67
						Slope	0.50
LaC:							
Lackawanna	80	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.67
LaD:							
Lackawanna	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67
LaE:							
Lackawanna	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67
LcD:							
Lackawanna	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67
Morris	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 14.—Building Site Development (Part I)—Continued

Map symbol and soil 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
LdC:							
Lackawanna----------	50	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.67
Bath----------------	30	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.90	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.90
LdE:							
Lackawanna----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67
Bath----------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.90	Depth to saturated zone	1.00	Depth to saturated zone	0.90
LdF:							
Lackawanna----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67
Bath----------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.90	Depth to saturated zone	1.00	Depth to saturated zone	0.90
LeB:							
Lewbath-------------	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67
						Slope	0.50
LeC:							
Lewbath-------------	80	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.67
LeD:							
Lewbath-------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67
LeE:							
Lewbath-------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67

Table 14.—Building Site Development (Part I)—Continued

Map symbol and soil 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
LhB:							
Lewbeach------------	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
						Slope	0.50
LhC:							
Lewbeach------------	80	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.98
LhD:							
Lewbeach------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
LhE:							
Lewbeach------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
LkC:							
Lewbeach------------	50	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.98
Lewbath-------------	30	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.67
LkE:							
Lewbeach------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Lewbath-------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67
LkF:							
Lewbeach------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Lewbath-------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67

Table 14.—Building Site Development (Part I)—Continued

Map symbol and soil 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
LoB:							
Lordstown----------	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.29	Depth to hard bedrock	1.00	Depth to hard bedrock	0.29
						Slope	0.12
LoC:							
Lordstown----------	80	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.29	Slope	0.63	Depth to hard bedrock	0.29
LoD:							
Lordstown----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.29	Depth to hard bedrock	1.00	Depth to hard bedrock	0.29
LoE:							
Lordstown----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.29	Depth to hard bedrock	1.00	Depth to hard bedrock	0.29
MaB:							
Maplecrest---------	80	Not limited		Not limited		Somewhat limited	
						Slope	0.50
MaC:							
Maplecrest---------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
MaD:							
Maplecrest---------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
MaE:							
Maplecrest---------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
MdB:							
Mardin-------------	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
						Slope	0.50
MdC:							
Mardin-------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	1.00
MdD:							
Mardin-------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 14.—Building Site Development (Part I)—Continued

Map symbol and soil 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
MkB:							
Middlebrook---------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.10	Depth to hard bedrock	1.00	Slope	0.12
						Depth to hard bedrock	0.10
Mongaup-------------	35	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to hard bedrock	0.64
						Slope	0.12
MkC:							
Middlebrook---------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Depth to hard bedrock	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.10	Slope	0.63	Depth to hard bedrock	0.10
Mongaup-------------	35	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to hard bedrock	0.64
MnB:							
Mongaup-------------	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to hard bedrock	0.64
						Slope	0.12
MnC:							
Mongaup-------------	80	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to hard bedrock	0.64
MnD:							
Mongaup-------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to hard bedrock	0.64
MrA:							
Morris--------------	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
MrB:							
Morris--------------	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
						Slope	0.50

Table 14.—Building Site Development (Part I)—Continued

Map symbol and soil 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
MrC:							
Morris	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	1.00
MsB:							
Morris	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
						Slope	0.50
Volusia	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	0.50
No:							
Norchip	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
Nr:							
Norchip	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
OeA:							
Onteora	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
OeB:							
Onteora	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
						Slope	0.50
OeC:							
Onteora	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	1.00
OfB:							
Onteora	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
						Slope	0.50
Ontusia	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	0.50
OnA:							
Ontusia	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 14.—Building Site Development (Part I)—Continued

Map symbol and soil 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
OnB:							
Ontusia	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
						Slope	0.50
OnC:							
Ontusia	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	1.00
OpB:							
Oquaga	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Depth to hard bedrock	0.90
						Slope	0.12
OpC:							
Oquaga	80	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to hard bedrock	0.90
OpD:							
Oquaga	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Depth to hard bedrock	0.90
OpE:							
Oquaga	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Depth to hard bedrock	0.90
OpF:							
Oquaga	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Depth to hard bedrock	0.90
OrC:							
Oquaga	25	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to hard bedrock	0.90
Lordstown	25	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.29	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to hard bedrock	0.29
Arnot	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.04	Slope	0.04	Slope	1.00

Table 14.—Building Site Development (Part I)—Continued

Map symbol and soil 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
OrE:							
Oquaga	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Depth to hard bedrock	0.90
Lordstown	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.29	Depth to hard bedrock	1.00	Depth to hard bedrock	0.29
Arnot	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
OrF:							
Oquaga	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Depth to hard bedrock	0.90
Lordstown	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.29	Depth to hard bedrock	1.00	Depth to hard bedrock	0.29
OrF:							
Arnot	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Pc:							
Philo	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.95	Depth to saturated zone	1.00	Depth to saturated zone	0.95
Pg:							
Pits, Gravel	85	Not Rated		Not Rated		Not Rated	
Ph:							
Pits, Quarry	85	Not Rated		Not Rated		Not Rated	
Rb:							
Raypol	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
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Re:							
Red Hook	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
RhA:							
Riverhead	85	Not limited		Not limited		Not limited	

Table 14.—Building Site Development (Part I)—Continued

Map symbol and soil 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
RhB:							
Riverhead	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
RhC:							
Riverhead	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
RhD:							
Riverhead	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
RrE:							
Rockrift	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
RrF:							
Rockrift	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Sa:							
Saprists	40	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
Aquents	40	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
TeB:							
Torull	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Gretor	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Depth to hard bedrock	0.79
TkA:							
Tunkhannock	85	Not limited		Not limited		Not limited	
TkB:							
Tunkhannock	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
TkC:							
Tunkhannock	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00

Table 14.—Building Site Development (Part I)—Continued

Map symbol and soil 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
TkD:							
Tunkhannock---------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
TkE:							
Tunkhannock---------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
TtA:							
Tunkhannock---------	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.35		
Chenango------------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.35		
TtB:							
Tunkhannock---------	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.35	Slope	0.50
Chenango------------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.35	Slope	0.50
Ud:							
Udorthents----------	80	Not Rated		Not Rated		Not Rated	
Uf:							
Udorthents, refuse substratum---------	80	Not Rated		Not Rated		Not Rated	
Un:							
Unadilla------------	80	Not limited		Not limited		Not limited	
Ur:							
Urban Land----------	85	Not Rated		Not Rated		Not Rated	
VaB:							
Valois--------------	80	Not limited		Not limited		Somewhat limited	
						Slope	0.50
VaC:							
Valois--------------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
VaD:							
Valois--------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
VaE:							
Valois--------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 14.—Building Site Development (Part I)—Continued

Map symbol and soil 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
VlB:							
Vly	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.35	Depth to hard bedrock	1.00	Depth to hard bedrock	0.35
						Slope	0.12
VlC:							
Vly	80	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.35	Slope	0.63	Depth to hard bedrock	0.35
VlD:							
Vly	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.35	Depth to hard bedrock	1.00	Depth to hard bedrock	0.35
VlE:							
Vly	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.35	Depth to hard bedrock	1.00	Depth to hard bedrock	0.35
VoA:							
Volusia	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
VoB:							
Volusia	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
						Slope	0.50
VoC:							
Volusia	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	1.00
W:							
Water	100	Not Rated		Not Rated		Not Rated	
WeB:							
Wellsboro	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
						Slope	0.12
WeC:							
Wellsboro	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	1.00

Table 14.—Building Site Development (Part I)—Continued

Map symbol and soil 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
WeD:							
Wellsboro	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
WfC:							
Wellsboro	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
		Slope	0.04	Slope	0.04	Slope	1.00
Mardin	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
Wg:							
Wenonah	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.35		
WhB:							
Willdin	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
						Slope	0.12
WhC:							
Willdin	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	1.00
WhD:							
Willdin	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
WmA:							
Willowemoc	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
WmB:							
Willowemoc	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
						Slope	0.50
WmC:							
Willowemoc	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	1.00

Table 14.—Building Site Development (Part I)—Continued

Map symbol and soil 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
WmD:							
Willowemoc----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
WnC:							
Willowemoc----------	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
		Slope	0.04	Slope	0.04	Slope	1.00
Willdin-------------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Slope	0.04	Slope	1.00

Table 15.—Building Site Development (Part II)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	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
Bc:							
Barbour	85	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
		Flooding	0.40	Depth to saturated zone	0.35		
Bg:							
Barbour	40	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.01
		Flooding	0.40	Depth to saturated zone	0.35		
Trestle	35	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.01
		Flooding	0.40	Depth to saturated zone	0.35		
Bs:							
Basher	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Flooding	0.60
		Flooding	1.00	Flooding	0.60	Depth to saturated zone	0.43
		Depth to saturated zone	0.43	Cutbanks cave	0.10		
BtB:							
Bath	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.60	Depth to saturated zone	1.00	Depth to cemented pan	0.79
		Frost action	0.50	Depth to dense layer	0.50	Depth to saturated zone	0.60
				Cutbanks cave	0.10	Droughty	0.06
BtC:							
Bath	80	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Depth to saturated zone	1.00	Depth to cemented pan	0.79
		Depth to saturated zone	0.60	Slope	0.63	Slope	0.63
		Frost action	0.50	Depth to dense layer	0.50	Depth to saturated zone	0.60
				Cutbanks cave	0.10	Droughty	0.06
BtD:							
Bath	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.60	Depth to saturated zone	1.00	Depth to cemented pan	0.79
		Frost action	0.50	Depth to dense layer	0.50	Depth to saturated zone	0.60
				Cutbanks cave	0.10	Droughty	0.06

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
BtE:							
Bath	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.60	Depth to saturated zone	1.00	Depth to cemented pan	0.79
		Frost action	0.50	Depth to dense layer	0.50	Depth to saturated zone	0.60
				Cutbanks cave	0.10	Droughty	0.06
Bw:							
Bucksport	40	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
		Frost action	1.00	Content of organic matter	1.00	Depth to saturated zone	1.00
				Cutbanks cave	0.10		
Wonsqueak	40	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
				Content of organic matter	1.00		
CaE:							
Cadosia	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	1.00
						Content of large stones	0.68
CaF:							
Cadosia	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	1.00
						Content of large stones	0.68
Ce:							
Carlisle	45	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
		Subsidence	1.00	Content of organic matter	1.00		
		Frost action	1.00	Cutbanks cave	0.10		
Ce:							
Palms	40	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
		Subsidence	1.00	Cutbanks cave	1.00		
		Frost action	1.00	Content of organic matter	1.00		

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
ChA:							
Chenango------------	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.23
ChB:							
Chenango------------	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.23
ChC:							
Chenango------------	85	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63	Droughty	0.23
ChD:							
Chenango------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.23
ChE:							
Chenango------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.23
CoB:							
Collamer------------	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
CoC:							
Collamer------------	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Slope	0.63	Slope	0.63
		Slope	0.63	Cutbanks cave	0.10		
De:							
Deposit-------------	80	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	Droughty	0.04
		Flooding	0.40			Content of large stones	0.01
EdC:							
Elka----------------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Frost action	0.50	Cutbanks cave	0.10		
EdD:							
Elka----------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10		
EdE:							
Elka----------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10		

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
EkC:							
Elka	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Slope	0.16	Slope	0.16
		Slope	0.16	Cutbanks cave	0.10		
Vly	35	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to hard bedrock	1.00	Droughty	0.67
		Depth to hard bedrock	0.35	Slope	0.16	Depth to bedrock	0.35
		Slope	0.16	Cutbanks cave	0.10	Slope	0.16
						Gravel content	0.06
EkD:							
Elka	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10		
Vly	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Droughty	0.67
		Depth to hard bedrock	0.35	Cutbanks cave	0.10	Depth to bedrock	0.35
						Gravel content	0.06
ElC:							
Elka	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	0.10	Slope	0.04
		Slope	0.04	Slope	0.04	Content of large stones	0.01
Vly	35	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to hard bedrock	1.00	Droughty	0.67
		Depth to hard bedrock	0.35	Cutbanks cave	0.10	Depth to bedrock	0.35
		Slope	0.04	Slope	0.04	Gravel content	0.06
						Slope	0.04
ElE:							
Elka	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Content of large stones	0.01
Vly	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Droughty	0.67
		Depth to hard bedrock	0.35	Cutbanks cave	0.10	Depth to bedrock	0.35
						Gravel content	0.06
ElF:							
Elka	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Content of large stones	0.01

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
ElF:							
Vly-----------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Droughty	0.67
		Depth to hard bedrock	0.35	Cutbanks cave	0.10	Depth to bedrock	0.35
						Gravel content	0.06
Ff:							
Fluvaquents---------	45	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.80	Content of large stones	0.01
Udifluvents---------	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
		Frost action	0.50	Flooding	0.80	Gravel content	0.22
				Depth to saturated zone	0.61	Droughty	0.01
						Content of large stones	0.01
HcC:							
Halcott-------------	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	1.00
		Slope	0.04	Slope	0.04	Gravel content	0.22
						Slope	0.04
						Content of large stones	0.01
HcC:							
Mongaup-------------	25	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to bedrock	0.65
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.06
		Slope	0.04	Slope	0.04	Slope	0.04
						Gravel content	0.04
						Content of large stones	0.01
Vly-----------------	25	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to hard bedrock	1.00	Droughty	0.67
		Depth to hard bedrock	0.35	Cutbanks cave	0.10	Depth to bedrock	0.35
		Slope	0.04	Slope	0.04	Gravel content	0.06
						Slope	0.04

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
HcE:							
Halcott-------------	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	1.00
						Gravel content	0.22
						Content of large stones	0.01
Mongaup-------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.64	Slope	1.00	Depth to bedrock	0.65
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.06
						Gravel content	0.04
						Content of large stones	0.01
Vly-----------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Droughty	0.67
		Depth to hard bedrock	0.35	Cutbanks cave	0.10	Depth to bedrock	0.35
						Gravel content	0.06
HcF:							
Halcott-------------	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	1.00
						Gravel content	0.22
						Content of large stones	0.01
HcF:							
Mongaup-------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.64	Slope	1.00	Depth to bedrock	0.65
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.06
						Gravel content	0.04
						Content of large stones	0.01
Vly-----------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Droughty	0.67
		Depth to hard bedrock	0.35	Cutbanks cave	0.10	Depth to bedrock	0.35
						Gravel content	0.06

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
LaB:							
Lackawanna----------	80	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to saturated zone	1.00	Depth to cemented pan	0.64
		Depth to saturated zone	0.35	Cutbanks cave	0.10	Depth to saturated zone	0.35
						Content of large stones	0.32
						Droughty	0.06
LaC:							
Lackawanna----------	80	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Depth to saturated zone	1.00	Depth to cemented pan	0.64
		Frost action	0.50	Slope	0.63	Slope	0.63
		Depth to saturated zone	0.35	Cutbanks cave	0.10	Depth to saturated zone	0.35
						Content of large stones	0.32
						Droughty	0.06
LaD:							
Lackawanna----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to saturated zone	1.00	Depth to cemented pan	0.64
		Depth to saturated zone	0.35	Cutbanks cave	0.10	Depth to saturated zone	0.35
						Content of large stones	0.32
						Droughty	0.06
LaE:							
Lackawanna----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to saturated zone	1.00	Depth to cemented pan	0.64
		Depth to saturated zone	0.35	Cutbanks cave	0.10	Depth to saturated zone	0.35
						Content of large stones	0.32
						Droughty	0.06
LcD:							
Lackawanna----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to saturated zone	1.00	Depth to cemented pan	0.64
		Depth to saturated zone	0.35	Cutbanks cave	0.10	Depth to saturated zone	0.35
						Content of large stones	0.32
						Droughty	0.06

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
LcD:							
Morris	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Depth to cemented pan	1.00
		Slope	1.00	Depth to saturated zone	1.00	Slope	1.00
		Frost action	1.00	Cutbanks cave	0.10	Depth to saturated zone	1.00
						Droughty	1.00
						Content of large stones	0.84
LdC:							
Lackawanna	50	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to saturated zone	1.00	Depth to cemented pan	0.64
		Depth to saturated zone	0.35	Cutbanks cave	0.10	Depth to saturated zone	0.35
		Slope	0.04	Slope	0.04	Content of large stones	0.32
						Droughty	0.06
						Slope	0.04
Bath	30	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.60	Depth to saturated zone	1.00	Depth to cemented pan	0.79
		Frost action	0.50	Depth to dense layer	0.50	Depth to saturated zone	0.60
		Slope	0.04	Cutbanks cave	0.10	Droughty	0.06
				Slope	0.04	Slope	0.04
						Content of large stones	0.01
LdE:							
Lackawanna	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to saturated zone	1.00	Depth to cemented pan	0.64
		Depth to saturated zone	0.35	Cutbanks cave	0.10	Depth to saturated zone	0.35
						Content of large stones	0.32
						Droughty	0.06
Bath	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.60	Depth to saturated zone	1.00	Depth to cemented pan	0.79
		Frost action	0.50	Depth to dense layer	0.50	Depth to saturated zone	0.60
				Cutbanks cave	0.10	Droughty	0.06
						Content of large stones	0.01

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
LdF:							
Lackawanna	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to saturated zone	1.00	Depth to cemented pan	0.64
		Depth to saturated zone	0.35	Cutbanks cave	0.10	Depth to saturated zone	0.35
						Content of large stones	0.32
						Droughty	0.06
Bath	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.60	Depth to saturated zone	1.00	Depth to cemented pan	0.79
		Frost action	0.50	Depth to dense layer	0.50	Depth to saturated zone	0.60
				Cutbanks cave	0.10	Droughty	0.06
						Content of large stones	0.01
LeB:							
Lewbath	80	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.35
		Depth to saturated zone	0.35	Depth to dense layer	0.50	Depth to cemented pan	0.20
				Cutbanks cave	0.10	Content of large stones	0.16
LeC:							
Lewbath	80	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Depth to saturated zone	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63	Depth to saturated zone	0.35
		Depth to saturated zone	0.35	Depth to dense layer	0.50	Depth to cemented pan	0.20
				Cutbanks cave	0.10	Content of large stones	0.16
LeD:							
Lewbath	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.35
		Depth to saturated zone	0.35	Depth to dense layer	0.50	Depth to cemented pan	0.20
				Cutbanks cave	0.10	Content of large stones	0.16
LeE:							
Lewbath	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.35
		Depth to saturated zone	0.35	Depth to dense layer	0.50	Depth to cemented pan	0.20
				Cutbanks cave	0.10	Content of large stones	0.16

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
LhB:							
Lewbeach------------	80	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.94
				Depth to dense layer	0.50	Depth to saturated zone	0.75
						Gravel content	0.07
LhC:							
Lewbeach------------	80	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Slope	0.63	Cutbanks cave	1.00	Droughty	0.94
		Frost action	0.50	Slope	0.63	Depth to saturated zone	0.75
				Depth to dense layer	0.50	Slope	0.63
						Gravel content	0.07
LhD:							
Lewbeach------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.94
				Depth to dense layer	0.50	Depth to saturated zone	0.75
						Gravel content	0.07
LhE:							
Lewbeach------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.94
				Depth to dense layer	0.50	Depth to saturated zone	0.75
						Gravel content	0.07
LkC:							
Lewbeach------------	50	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.94
		Slope	0.04	Depth to dense layer	0.50	Depth to saturated zone	0.75
				Slope	0.04	Gravel content	0.07
						Slope	0.04
Lewbath-------------	30	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.35
		Depth to saturated zone	0.35	Depth to dense layer	0.50	Depth to cemented pan	0.20
		Slope	0.04	Cutbanks cave	0.10	Content of large stones	0.16
				Slope	0.04	Slope	0.04

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
LkE:							
Lewbeach------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.94
				Depth to dense layer	0.50	Depth to saturated zone	0.75
						Gravel content	0.07
Lewbath-------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.35
		Depth to saturated zone	0.35	Depth to dense layer	0.50	Depth to cemented pan	0.20
				Cutbanks cave	0.10	Content of large stones	0.16
LkF:							
Lewbeach------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.94
				Depth to dense layer	0.50	Depth to saturated zone	0.75
						Gravel content	0.07
Lewbath-------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.35
		Depth to saturated zone	0.35	Depth to dense layer	0.50	Depth to cemented pan	0.20
				Cutbanks cave	0.10	Content of large stones	0.16
LoB:							
Lordstown-----------	80	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to hard bedrock	1.00	Depth to bedrock	0.29
		Depth to hard bedrock	0.29	Cutbanks cave	1.00		
LoC:							
Lordstown-----------	80	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Depth to hard bedrock	1.00	Slope	0.63
		Frost action	0.50	Cutbanks cave	1.00	Depth to bedrock	0.29
		Depth to hard bedrock	0.29	Slope	0.63		
LoD:							
Lordstown-----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Depth to bedrock	0.29
		Depth to hard bedrock	0.29	Cutbanks cave	1.00		

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
LoE:							
Lordstown	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Depth to bedrock	0.29
		Depth to hard bedrock	0.29	Cutbanks cave	1.00		
MaB:							
Maplecrest	80	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.01
MaC:							
Maplecrest	80	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63	Gravel content	0.01
MaD:							
Maplecrest	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.01
MaE:							
Maplecrest	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.01
MdB:							
Mardin	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.90	Depth to saturated zone	1.00	Depth to saturated zone	0.90
		Frost action	0.50	Depth to dense layer	0.50	Depth to cemented pan	0.79
				Cutbanks cave	0.10	Droughty	0.15
						Content of large stones	0.01
MdC:							
Mardin	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.90	Depth to saturated zone	1.00	Depth to saturated zone	0.90
		Slope	0.63	Slope	0.63	Depth to cemented pan	0.79
		Frost action	0.50	Depth to dense layer	0.50	Slope	0.63
				Cutbanks cave	0.10	Droughty	0.15
						Content of large stones	0.01
MdD:							
Mardin	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.90	Depth to saturated zone	1.00	Depth to saturated zone	0.90
		Frost action	0.50	Depth to dense layer	0.50	Depth to cemented pan	0.79
				Cutbanks cave	0.10	Droughty	0.15
						Content of large stones	0.01

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
MkB:							
Middlebrook---------	45	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.94	Depth to hard bedrock	1.00	Depth to saturated zone	0.94
		Frost action	0.50	Depth to saturated zone	1.00	Depth to bedrock	0.10
		Depth to hard bedrock	0.10	Depth to dense layer	0.50	Droughty	0.06
				Cutbanks cave	0.10	Gravel content	0.01
Mongaup------------	35	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to bedrock	0.65
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	0.06
						Droughty	0.06
MkC:							
Middlebrook---------	45	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.94	Depth to hard bedrock	1.00	Depth to saturated zone	0.94
		Slope	0.63	Depth to saturated zone	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63	Depth to bedrock	0.10
		Depth to hard bedrock	0.10	Depth to dense layer	0.50	Droughty	0.06
				Cutbanks cave	0.10	Gravel content	0.01
Mongaup------------	35	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to bedrock	0.65
		Slope	0.63	Slope	0.63	Slope	0.63
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	0.06
						Droughty	0.06
MnB:							
Mongaup------------	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to bedrock	0.65
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	0.06
						Droughty	0.06
MnC:							
Mongaup------------	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to bedrock	0.65
		Slope	0.63	Slope	0.63	Slope	0.63
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	0.06
						Droughty	0.06
MnD:							
Mongaup------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.64	Slope	1.00	Depth to bedrock	0.65
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	0.06
						Droughty	0.06

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
MrA:							
Morris	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	1.00	Cutbanks cave	0.10	Depth to saturated zone	1.00
						Droughty	1.00
						Content of large stones	0.68
MrB:							
Morris	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	1.00	Cutbanks cave	0.10	Depth to saturated zone	1.00
						Droughty	1.00
						Content of large stones	0.68
MrC:							
Morris	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	1.00	Slope	0.63	Depth to saturated zone	1.00
		Slope	0.63	Cutbanks cave	0.10	Droughty	1.00
						Content of large stones	0.68
						Slope	0.63
MsB:							
Morris	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	1.00	Cutbanks cave	0.10	Depth to saturated zone	1.00
						Droughty	1.00
						Content of large stones	0.84
Volusia	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Depth to dense layer	0.50	Depth to cemented pan	0.97
				Cutbanks cave	0.10	Droughty	0.53
						Content of large stones	0.01
No:							
Norchip	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
				Depth to dense layer	0.50	Droughty	1.00

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
Nr:							
Norchip	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
				Depth to dense layer	0.50	Droughty	1.00
OeA:							
Onteora	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
				Depth to dense layer	0.50	Droughty	1.00
						Gravel content	0.01
OeB:							
Onteora	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
				Depth to dense layer	0.50	Droughty	1.00
						Gravel content	0.01
OeC:							
Onteora	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
		Slope	0.63	Slope	0.63	Droughty	1.00
				Depth to dense layer	0.50	Slope	0.63
						Gravel content	0.01
OfB:							
Onteora	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
				Depth to dense layer	0.50	Droughty	1.00
Ontusia	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	1.00	Depth to dense layer	0.50	Depth to saturated zone	1.00
				Cutbanks cave	0.10	Droughty	0.96
						Content of large stones	0.01

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
OnA:							
Ontusia	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	1.00	Depth to dense layer	0.50	Depth to saturated zone	1.00
				Cutbanks cave	0.10	Droughty	0.96
OnB:							
Ontusia	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	1.00	Depth to dense layer	0.50	Depth to saturated zone	1.00
				Cutbanks cave	0.10	Droughty	0.96
OnC:							
Ontusia	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to cemented pan	1.00
		Frost action	1.00	Slope	0.63	Depth to saturated zone	1.00
		Slope	0.63	Depth to dense layer	0.50	Droughty	0.96
				Cutbanks cave	0.10	Slope	0.63
OpB:							
Oquaga	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Droughty	0.97
		Frost action	0.50	Cutbanks cave	0.10	Depth to bedrock	0.90
						Gravel content	0.54
						Content of large stones	0.01
OpC:							
Oquaga	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Droughty	0.97
		Slope	0.63	Slope	0.63	Depth to bedrock	0.90
		Frost action	0.50	Cutbanks cave	0.10	Slope	0.63
						Gravel content	0.54
						Content of large stones	0.01
OpD:							
Oquaga	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.90	Slope	1.00	Droughty	0.97
		Frost action	0.50	Cutbanks cave	0.10	Depth to bedrock	0.90
						Gravel content	0.54
						Content of large stones	0.01

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
OpE:							
Oquaga	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.90	Slope	1.00	Droughty	0.97
		Frost action	0.50	Cutbanks cave	0.10	Depth to bedrock	0.90
						Gravel content	0.54
						Content of large stones	0.01
OpF:							
Oquaga	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.90	Slope	1.00	Droughty	0.97
		Frost action	0.50	Cutbanks cave	0.10	Depth to bedrock	0.90
						Gravel content	0.54
						Content of large stones	0.01
OrC:							
Oquaga	25	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Droughty	0.97
		Frost action	0.50	Cutbanks cave	0.10	Depth to bedrock	0.90
		Slope	0.04	Slope	0.04	Gravel content	0.54
						Slope	0.04
						Content of large stones	0.01
Lordstown	25	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to hard bedrock	1.00	Depth to bedrock	0.29
		Depth to hard bedrock	0.29	Cutbanks cave	1.00	Slope	0.04
		Slope	0.04	Slope	0.04		
Arnot	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	1.00
		Slope	0.04	Slope	0.04	Gravel content	0.06
						Slope	0.04
OrE:							
Oquaga	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.90	Slope	1.00	Droughty	0.97
		Frost action	0.50	Cutbanks cave	0.10	Depth to bedrock	0.90
						Gravel content	0.54
						Content of large stones	0.01

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
OrE:							
Lordstown-----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Depth to bedrock	0.29
		Depth to hard bedrock	0.29	Cutbanks cave	1.00		
Arnot---------------	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	1.00
						Gravel content	0.06
OrF:							
Oquaga--------------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.90	Slope	1.00	Droughty	0.97
		Frost action	0.50	Cutbanks cave	0.10	Depth to bedrock	0.90
						Gravel content	0.54
						Content of large stones	0.01
Lordstown-----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Depth to bedrock	0.29
		Depth to hard bedrock	0.29	Cutbanks cave	1.00		
Arnot---------------	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	1.00
						Gravel content	0.06
Pc:							
Philo---------------	80	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.68
		Depth to saturated zone	0.68	Cutbanks cave	1.00	Flooding	0.60
		Frost action	0.50	Flooding	0.60		
Pg:							
Pits, Gravel--------	85	Not Rated		Not Rated		Not Rated	
Ph:							
Pits, Quarry--------	85	Not Rated		Not Rated		Not Rated	
Rb:							
Raypol--------------	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	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00		
		Flooding	0.40				

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
Re:							
Red Hook	80	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Cutbanks cave	1.00	Gravel content	0.92
RhA:							
Riverhead	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.03
RhB:							
Riverhead	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.03
RhC:							
Riverhead	85	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63	Droughty	0.03
RhD:							
Riverhead	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.03
RrE:							
Rockrift	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	0.44
						Content of large stones	0.03
RrF:							
Rockrift	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Gravel content	0.44
						Content of large stones	0.03
Sa:							
Saprists	40	Very limited		Very limited		Not Rated	
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Subsidence	1.00	Content of organic matter	1.00		
		Frost action	1.00	Cutbanks cave	0.10		
Aquents	40	Very limited		Very limited		Not Rated	
		Ponding	1.00	Ponding	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				

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
TeB:							
Torull	40	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10	Droughty	0.59
Gretor	40	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	0.80
		Depth to hard bedrock	0.79	Cutbanks cave	0.10	Droughty	0.11
TkA:							
Tunkhannock	85	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Gravel content	0.90
						Droughty	0.20
TkB:							
Tunkhannock	85	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Gravel content	0.90
						Droughty	0.20
TkC:							
Tunkhannock	85	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Gravel content	0.90
				Slope	0.63	Slope	0.63
						Droughty	0.20
TkD:							
Tunkhannock	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Gravel content	0.90
						Droughty	0.20
TkE:							
Tunkhannock	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Gravel content	0.90
						Droughty	0.20
TtA:							
Tunkhannock	50	Somewhat limited		Very limited		Somewhat limited	
		Flooding	0.40	Cutbanks cave	1.00	Gravel content	0.90
				Depth to saturated zone	0.35	Droughty	0.20
Chenango	30	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.23
		Flooding	0.40	Depth to saturated zone	0.35		
TtB:							
Tunkhannock	50	Somewhat limited		Very limited		Somewhat limited	
		Flooding	0.40	Cutbanks cave	1.00	Gravel content	0.90
				Depth to saturated zone	0.35	Droughty	0.20

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
TtB:							
Chenango	30	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.23
		Flooding	0.40	Depth to saturated zone	0.35		
Ud:							
Udorthents	80	Not Rated		Not Rated		Not Rated	
Uf:							
Udorthents, refuse substratum	80	Not Rated		Not Rated		Not Rated	
Un:							
Unadilla	80	Very limited		Very limited		Not limited	
		Frost action	1.00	Cutbanks cave	1.00		
Ur:							
Urban Land	85	Not Rated		Not Rated		Not Rated	
VaB:							
Valois	80	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
VaC:							
Valois	80	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63		
VaD:							
Valois	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00		
VaE:							
Valois	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00		
VlB:							
Vly	80	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to hard bedrock	1.00	Droughty	0.67
		Depth to hard bedrock	0.35	Cutbanks cave	0.10	Depth to bedrock	0.35
						Gravel content	0.06
VlC:							
Vly	80	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Depth to hard bedrock	1.00	Droughty	0.67
		Frost action	0.50	Slope	0.63	Slope	0.63
		Depth to hard bedrock	0.35	Cutbanks cave	0.10	Depth to bedrock	0.35
						Gravel content	0.06

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
VlD:							
Vly	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Droughty	0.67
		Depth to hard bedrock	0.35	Cutbanks cave	0.10	Depth to bedrock	0.35
						Gravel content	0.06
VlE:							
Vly	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Droughty	0.67
		Depth to hard bedrock	0.35	Cutbanks cave	0.10	Depth to bedrock	0.35
						Gravel content	0.06
VoA:							
Volusia	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	Depth to dense layer	0.50	Depth to cemented pan	0.97
				Cutbanks cave	0.10	Droughty	0.53
VoB:							
Volusia	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	Depth to dense layer	0.50	Depth to cemented pan	0.97
				Cutbanks cave	0.10	Droughty	0.53
VoC:							
Volusia	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	Slope	0.63	Depth to cemented pan	0.97
		Slope	0.63	Depth to dense layer	0.50	Slope	0.63
				Cutbanks cave	0.10	Droughty	0.53
W:							
Water	100	Not Rated		Not Rated		Not Rated	
WeB:							
Wellsboro	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Depth to saturated zone	0.94	Depth to dense layer	0.50	Depth to cemented pan	0.84
				Cutbanks cave	0.10	Droughty	0.45

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
WeC:							
Wellsboro-----------	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Depth to saturated zone	0.94	Slope	0.63	Depth to cemented pan	0.84
		Slope	0.63	Depth to dense layer	0.50	Slope	0.63
				Cutbanks cave	0.10	Droughty	0.45
WeD:							
Wellsboro-----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Depth to saturated zone	0.94	Depth to dense layer	0.50	Depth to cemented pan	0.84
				Cutbanks cave	0.10	Droughty	0.45
WfC:							
Wellsboro-----------	50	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Depth to saturated zone	0.94	Depth to dense layer	0.50	Depth to cemented pan	0.84
		Slope	0.04	Cutbanks cave	0.10	Droughty	0.45
				Slope	0.04	Slope	0.04
						Content of large stones	0.01
Mardin--------------	30	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.90	Depth to saturated zone	1.00	Depth to saturated zone	0.90
		Frost action	0.50	Depth to dense layer	0.50	Depth to cemented pan	0.79
		Slope	0.04	Cutbanks cave	0.10	Droughty	0.15
				Slope	0.04	Content of large stones	0.08
						Slope	0.04
Wg:							
Wenonah-------------	85	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.35		
		Flooding	0.40	Cutbanks cave	0.10		
WhB:							
Willdin-------------	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.83	Depth to saturated zone	1.00	Depth to cemented pan	0.95
		Frost action	0.50	Cutbanks cave	1.00	Depth to saturated zone	0.83
				Depth to dense layer	0.50	Droughty	0.41
						Gravel content	0.01

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
WhC:							
Willdin	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.83	Depth to saturated zone	1.00	Depth to cemented pan	0.95
		Slope	0.63	Cutbanks cave	1.00	Depth to saturated zone	0.83
		Frost action	0.50	Slope	0.63	Slope	0.63
				Depth to dense layer	0.50	Droughty	0.41
						Gravel content	0.01
WhD:							
Willdin	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.83	Depth to saturated zone	1.00	Depth to cemented pan	0.95
		Frost action	0.50	Cutbanks cave	1.00	Depth to saturated zone	0.83
				Depth to dense layer	0.50	Droughty	0.41
						Gravel content	0.01
WmA:							
Willowemoc	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to cemented pan	0.97
		Depth to saturated zone	0.83	Depth to dense layer	0.50	Depth to saturated zone	0.83
				Cutbanks cave	0.10	Droughty	0.46
						Gravel content	0.22
						Content of large stones	0.01
WmB:							
Willowemoc	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to cemented pan	0.97
		Depth to saturated zone	0.83	Depth to dense layer	0.50	Depth to saturated zone	0.83
				Cutbanks cave	0.10	Droughty	0.46
						Gravel content	0.22
						Content of large stones	0.01
WmC:							
Willowemoc	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to cemented pan	0.97
		Depth to saturated zone	0.83	Slope	0.63	Depth to saturated zone	0.83
		Slope	0.63	Depth to dense layer	0.50	Slope	0.63
				Cutbanks cave	0.10	Droughty	0.46
						Gravel content	0.22

Table 15.—Building Site Development (Part II)—Continued

Map symbol and soil 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
WmD:							
Willowemoc----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to cemented pan	0.97
		Depth to saturated zone	0.83	Depth to dense layer	0.50	Depth to saturated zone	0.83
				Cutbanks cave	0.10	Droughty	0.46
						Gravel content	0.22
WnC:							
Willowemoc----------	50	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to cemented pan	0.97
		Depth to saturated zone	0.83	Depth to dense layer	0.50	Depth to saturated zone	0.83
		Slope	0.04	Cutbanks cave	0.10	Droughty	0.46
				Slope	0.04	Gravel content	0.16
						Slope	0.04
Willdin-------------	30	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.83	Depth to saturated zone	1.00	Depth to cemented pan	0.95
		Frost action	0.50	Cutbanks cave	1.00	Depth to saturated zone	0.83
		Slope	0.04	Depth to dense layer	0.50	Droughty	0.41
				Slope	0.04	Slope	0.04

Table 16.—Sanitary Facilities (Part I)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Bc:					
Barbour	85	Somewhat limited		Very limited	
		Seepage (bottom layer)	0.90	Seepage	1.00
		Flooding	0.40	Flooding	0.40
		Depth to saturated zone	0.17	Depth to saturated zone	0.17
Bg:					
Barbour	40	Somewhat limited		Very limited	
		Seepage (bottom layer)	0.90	Seepage	1.00
		Flooding	0.40	Flooding	0.40
		Depth to saturated zone	0.17	Depth to saturated zone	0.17
Trestle	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage (bottom layer)	1.00	Flooding	0.40
		Flooding	0.40	Depth to saturated zone	0.17
		Depth to saturated zone	0.17		
Bs:					
Basher	80	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.80	Depth to saturated zone	1.00
		Restricted permeability	0.31	Seepage	1.00
BtB:					
Bath	80	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.98
		Restricted permeability	0.31	Slope	0.92
		Depth to pan or densic	0.30	Seepage	0.50
BtC:					
Bath	80	Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Slope	1.00
		Restricted permeability	0.31	Depth to saturated zone	0.98
		Depth to pan or densic	0.30	Seepage	0.50
		Slope	0.20		

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
BtD:					
Bath	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.86	Depth to saturated zone	0.98
		Restricted permeability	0.31	Seepage	0.50
		Depth to pan or densic	0.30		
BtE:					
Bath	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.86	Depth to saturated zone	0.98
		Restricted permeability	0.31	Seepage	0.50
		Depth to pan or densic	0.30		
Bw:					
Bucksport	40	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Organic matter content	1.00
				Depth to saturated zone	1.00
				Seepage	1.00
Wonsqueak	40	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	1.00
				Organic matter content	1.00
CaE:					
Cadosia	75	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
CaF:					
Cadosia	75	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
Ce:					
Carlisle	45	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Organic matter content	1.00
				Depth to saturated zone	1.00
				Seepage	1.00

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Ce:					
Palms	40	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	0.49	Seepage	1.00
				Organic matter content	1.00
ChA:					
Chenango	85	Somewhat limited		Very limited	
		Seepage (bottom layer)	0.90	Seepage	1.00
ChB:					
Chenango	85	Somewhat limited		Very limited	
		Seepage (bottom layer)	0.90	Seepage	1.00
				Slope	0.92
ChC:					
Chenango	85	Somewhat limited		Very limited	
		Seepage (bottom layer)	0.90	Slope	1.00
		Slope	0.20	Seepage	1.00
ChD:					
Chenango	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage (bottom layer)	0.90	Seepage	1.00
ChE:					
Chenango	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage (bottom layer)	0.90	Seepage	1.00
CoB:					
Collamer	85	Somewhat limited		Very limited	
		Restricted permeability	0.98	Depth to saturated zone	1.00
		Depth to saturated zone	0.89	Seepage	0.50
				Slope	0.32
CoC:					
Collamer	85	Somewhat limited		Very limited	
		Restricted permeability	0.98	Slope	1.00
		Depth to saturated zone	0.89	Depth to saturated zone	1.00
		Slope	0.20	Seepage	0.50

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
De:					
Deposit	80	Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Seepage	1.00
		Seepage (bottom layer)	0.90	Depth to saturated zone	1.00
		Flooding	0.40	Flooding	0.40
				Slope	0.08
EdC:					
Elka	80	Somewhat limited		Very limited	
		Restricted permeability	0.31	Slope	1.00
		Slope	0.20	Seepage	0.50
EdD:					
Elka	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50
EdE:					
Elka	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50
EkC:					
Elka	40	Somewhat limited		Very limited	
		Restricted permeability	0.31	Slope	1.00
		Slope	0.20	Seepage	0.50
Vly	35	Somewhat limited		Very limited	
		Depth to bedrock	0.75	Depth to hard bedrock	1.00
		Restricted permeability	0.31	Slope	1.00
		Slope	0.20	Seepage	0.50
EkD:					
Elka	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50
Vly	35	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50
ElC:					
Elka	40	Somewhat limited		Very limited	
		Surface rock fragments	0.60	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50
		Slope	0.20		

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
ElC:					
Vly	35	Somewhat limited		Very limited	
		Depth to bedrock	0.75	Depth to hard bedrock	1.00
		Surface rock fragments	0.60	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50
		Slope	0.20		
ElE:					
Elka	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
Vly	35	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
ElF:					
Elka	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
Vly	35	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
Ff:					
Fluvaquents	45	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage (bottom layer)	1.00	Seepage	1.00
		Filtering capacity	1.00		
Udifluvents	35	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage (bottom layer)	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	0.71
		Depth to saturated zone	0.33		

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
HcC:					
Halcott	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Surface rock fragments	0.60	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50
		Slope	0.20		
Mongaup	25	Somewhat limited		Very limited	
		Depth to bedrock	0.75	Depth to hard bedrock	1.00
		Surface rock fragments	0.60	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50
		Slope	0.20		
Vly	25	Somewhat limited		Very limited	
		Depth to bedrock	0.75	Depth to hard bedrock	1.00
		Surface rock fragments	0.60	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50
		Slope	0.20		
HcE:					
Halcott	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
HcE:					
Mongaup	25	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
Vly	25	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
HcF:					
Halcott	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
Mongaup	25	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
Vly	25	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
LaB:					
Lackawanna	80	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.80	Slope	0.92
		Depth to pan or densic	0.76	Depth to saturated zone	0.88
		Restricted permeability	0.31	Seepage	0.50
LaC:					
Lackawanna	80	Somewhat limited		Very limited	
		Depth to saturated zone	0.80	Slope	1.00
		Depth to pan or densic	0.76	Depth to saturated zone	0.88
		Restricted permeability	0.31	Seepage	0.50
		Slope	0.20		
LaD:					
Lackawanna	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.80	Depth to saturated zone	0.88
		Depth to pan or densic	0.76	Seepage	0.50
		Restricted permeability	0.31		

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
LaE:					
Lackawanna----------	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.80	Depth to saturated zone	0.88
		Depth to pan or densic	0.76	Seepage	0.50
		Restricted permeability	0.31		
LcD:					
Lackawanna----------	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.80	Depth to saturated zone	0.88
		Depth to pan or densic	0.76	Seepage	0.50
		Surface rock fragments	0.60		
		Restricted permeability	0.31		
Morris--------------	30	Very limited		Very limited	
		Depth to pan or densic	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00	Seepage	0.50
		Surface rock fragments	0.60		
		Restricted permeability	0.31		
LdC:					
Lackawanna----------	50	Somewhat limited		Very limited	
		Depth to saturated zone	0.80	Slope	1.00
		Depth to pan or densic	0.76	Depth to saturated zone	0.88
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
		Slope	0.20		
Bath----------------	30	Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Slope	1.00
		Surface rock fragments	0.60	Depth to saturated zone	0.98
		Restricted permeability	0.31	Seepage	0.50
		Depth to pan or densic	0.30		
		Slope	0.20		

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
LdE:					
Lackawanna	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.80	Depth to saturated zone	0.88
		Depth to pan or densic	0.76	Seepage	0.50
		Surface rock fragments	0.60		
		Restricted permeability	0.31		
Bath	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.86	Depth to saturated zone	0.98
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
		Depth to pan or densic	0.30		
LdF:					
Lackawanna	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.80	Depth to saturated zone	0.88
		Depth to pan or densic	0.76	Seepage	0.50
		Surface rock fragments	0.60		
		Restricted permeability	0.31		
LdF:					
Bath	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.86	Depth to saturated zone	0.98
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
		Depth to pan or densic	0.30		
LeB:					
Lewbath	80	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.80	Slope	0.92
		Depth to pan or densic	0.75	Depth to saturated zone	0.88
		Restricted permeability	0.31	Seepage	0.50

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
LeC:					
Lewbath	80	Somewhat limited		Very limited	
		Depth to saturated zone	0.80	Slope	1.00
		Depth to pan or densic	0.75	Depth to saturated zone	0.88
		Restricted permeability	0.31	Seepage	0.50
		Slope	0.20		
LeD:					
Lewbath	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.80	Depth to saturated zone	0.88
		Depth to pan or densic	0.75	Seepage	0.50
		Restricted permeability	0.31		
LeE:					
Lewbath	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.80	Depth to saturated zone	0.88
		Depth to pan or densic	0.75	Seepage	0.50
		Restricted permeability	0.31		
LhB:					
Lewbeach	80	Somewhat limited		Very limited	
		Depth to saturated zone	0.85	Depth to saturated zone	0.99
		Depth to pan or densic	0.80	Slope	0.92
		Restricted permeability	0.31	Seepage	0.50
LhC:					
Lewbeach	80	Somewhat limited		Very limited	
		Depth to saturated zone	0.85	Slope	1.00
		Depth to pan or densic	0.80	Depth to saturated zone	0.99
		Restricted permeability	0.31	Seepage	0.50
		Slope	0.20		
LhD:					
Lewbeach	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.85	Depth to saturated zone	0.99
		Depth to pan or densic	0.80	Seepage	0.50
		Restricted permeability	0.31		

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
LhE:					
Lewbeach	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.85	Depth to saturated zone	0.99
		Depth to pan or densic	0.80	Seepage	0.50
		Restricted permeability	0.31		
LkC:					
Lewbeach	50	Somewhat limited		Very limited	
		Depth to saturated zone	0.85	Slope	1.00
		Depth to pan or densic	0.80	Depth to saturated zone	0.99
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
		Slope	0.20		
LkC:					
Lewbath	30	Somewhat limited		Very limited	
		Depth to saturated zone	0.80	Slope	1.00
		Depth to pan or densic	0.75	Depth to saturated zone	0.88
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
		Slope	0.20		
LkE:					
Lewbeach	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.85	Depth to saturated zone	0.99
		Depth to pan or densic	0.80	Seepage	0.50
		Surface rock fragments	0.60		
		Restricted permeability	0.31		
Lewbath	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.80	Depth to saturated zone	0.88
		Depth to pan or densic	0.75	Seepage	0.50
		Surface rock fragments	0.60		
		Restricted permeability	0.31		

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
LkF:					
Lewbeach	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.85	Depth to saturated zone	0.99
		Depth to pan or densic	0.80	Seepage	0.50
		Surface rock fragments	0.60		
		Restricted permeability	0.31		
Lewbath	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.80	Depth to saturated zone	0.88
		Depth to pan or densic	0.75	Seepage	0.50
		Surface rock fragments	0.60		
		Restricted permeability	0.31		
LoB:					
Lordstown	80	Somewhat limited		Very limited	
		Depth to bedrock	0.75	Depth to hard bedrock	1.00
		Restricted permeability	0.31	Slope	0.68
				Seepage	0.50
LoC:					
Lordstown	80	Somewhat limited		Very limited	
		Depth to bedrock	0.75	Depth to hard bedrock	1.00
		Restricted permeability	0.31	Slope	1.00
		Slope	0.20	Seepage	0.50
LoD:					
Lordstown	80	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50
LoE:					
Lordstown	80	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50
MaB:					
Maplecrest	80	Somewhat limited		Very limited	
		Restricted permeability	0.31	Seepage	1.00
				Slope	0.92

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
MaC:					
Maplecrest----------	80	Somewhat limited		Very limited	
		Restricted permeability	0.31	Slope	1.00
		Slope	0.20	Seepage	1.00
MaD:					
Maplecrest----------	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Restricted permeability	0.31	Seepage	1.00
MaE:					
Maplecrest----------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Restricted permeability	0.31	Seepage	1.00
MdB:					
Mardin--------------	80	Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Depth to saturated zone	1.00
		Depth to pan or densic	0.88	Slope	0.92
		Restricted permeability	0.31	Seepage	0.50
MdC:					
Mardin--------------	80	Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Slope	1.00
		Depth to pan or densic	0.88	Depth to saturated zone	1.00
		Restricted permeability	0.31	Seepage	0.50
		Slope	0.20		
MdD:					
Mardin--------------	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.95	Depth to saturated zone	1.00
		Depth to pan or densic	0.88	Seepage	0.50
		Restricted permeability	0.31		
MkB:					
Middlebrook---------	45	Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Depth to saturated zone	1.00
		Restricted permeability	0.31	Slope	0.68
				Seepage	0.50

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
MkB:					
Mongaup	35	Somewhat limited		Very limited	
		Depth to bedrock	0.75	Depth to hard bedrock	1.00
		Restricted permeability	0.31	Slope	0.68
				Seepage	0.50
MkC:					
Middlebrook	45	Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Restricted permeability	0.31	Depth to saturated zone	1.00
		Slope	0.20	Seepage	0.50
MkC:					
Mongaup	35	Somewhat limited		Very limited	
		Depth to bedrock	0.75	Depth to hard bedrock	1.00
		Restricted permeability	0.31	Slope	1.00
		Slope	0.20	Seepage	0.50
MnB:					
Mongaup	80	Somewhat limited		Very limited	
		Depth to bedrock	0.75	Depth to hard bedrock	1.00
		Restricted permeability	0.31	Slope	0.68
				Seepage	0.50
MnC:					
Mongaup	80	Somewhat limited		Very limited	
		Depth to bedrock	0.75	Depth to hard bedrock	1.00
		Restricted permeability	0.31	Slope	1.00
		Slope	0.20	Seepage	0.50
MnD:					
Mongaup	80	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50
MrA:					
Morris	85	Very limited		Very limited	
		Depth to pan or densic	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.50
		Restricted permeability	0.31		

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
MrB:					
Morris	85	Very limited		Very limited	
		Depth to pan or densic	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.92
		Restricted permeability	0.31	Seepage	0.50
MrC:					
Morris	85	Very limited		Very limited	
		Depth to pan or densic	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	0.31	Seepage	0.50
		Slope	0.20		
MsB:					
Morris	50	Very limited		Very limited	
		Depth to pan or densic	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.92
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
		Slope	0.06		
Volusia	30	Very limited		Very limited	
		Depth to pan or densic	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.92
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
		Slope	0.06		
No:					
Norchip	80	Very limited		Very limited	
		Depth to pan or densic	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
Nr:					
Norchip	80	Very limited		Very limited	
		Depth to pan or densic	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
		Surface rock fragments	0.60		

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
OeA:					
Onteora-------------	85	Very limited		Very limited	
		Depth to pan or densic	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.50
		Restricted permeability	0.31		
OeB:					
Onteora-------------	85	Very limited		Very limited	
		Depth to pan or densic	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.92
		Restricted permeability	0.31	Seepage	0.50
OeC:					
Onteora-------------	85	Very limited		Very limited	
		Depth to pan or densic	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	0.31	Seepage	0.50
		Slope	0.20		
OfB:					
Onteora-------------	50	Very limited		Very limited	
		Depth to pan or densic	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.92
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
		Slope	0.06		
Ontusia-------------	30	Very limited		Very limited	
		Depth to pan or densic	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.92
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
		Slope	0.06		
OnA:					
Ontusia-------------	85	Very limited		Very limited	
		Depth to pan or densic	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.50
		Restricted permeability	0.31		

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
OnB:					
Ontusia	85	Very limited		Very limited	
		Depth to pan or densic	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.92
		Restricted permeability	0.31	Seepage	0.50
OnC:					
Ontusia	85	Very limited		Very limited	
		Depth to pan or densic	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	0.31	Seepage	0.50
		Slope	0.20		
OpB:					
Oquaga	80	Somewhat limited		Very limited	
		Depth to bedrock	0.75	Depth to hard bedrock	1.00
		Restricted permeability	0.31	Slope	0.68
				Seepage	0.50
OpC:					
Oquaga	80	Somewhat limited		Very limited	
		Depth to bedrock	0.75	Depth to hard bedrock	1.00
		Restricted permeability	0.31	Slope	1.00
		Slope	0.20	Seepage	0.50
OpD:					
Oquaga	80	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50
OpE:					
Oquaga	80	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50
OpF:					
Oquaga	80	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
OrC:					
Oquaga	25	Somewhat limited		Very limited	
		Depth to bedrock	0.75	Depth to hard bedrock	1.00
		Surface rock fragments	0.60	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50
		Slope	0.20		
Lordstown	25	Somewhat limited		Very limited	
		Depth to bedrock	0.75	Depth to hard bedrock	1.00
		Surface rock fragments	0.60	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50
		Slope	0.20		
Arnot	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Surface rock fragments	0.60	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50
		Slope	0.20		
OrE:					
Oquaga	25	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
Lordstown	25	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
Arnot	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
OrF:					
Oquaga	25	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
Lordstown	25	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
Arnot	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
Pc:					
Philo	80	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage (bottom layer)	0.90	Seepage	1.00
		Depth to saturated zone	0.88	Depth to saturated zone	1.00
		Restricted permeability	0.49		
Pg:					
Pits, Gravel	85	Not rated		Not rated	
Ph:					
Pits, Quarry	85	Not rated		Not rated	
Rb:					
Raypol	80	Very limited		Very limited	
		Ponding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Filtering capacity	1.00	Ponding	1.00
		Seepage (bottom layer)	1.00	Flooding	0.40
		Flooding	0.40		
Re:					
Red Hook	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	0.31	Seepage	0.50

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
RhA:					
Riverhead-----------	85	Somewhat limited		Very limited	
		Seepage (bottom layer)	0.90	Seepage	1.00
RhB:					
Riverhead-----------	85	Somewhat limited		Very limited	
		Seepage (bottom layer)	0.90	Seepage	1.00
				Slope	0.92
RhC:					
Riverhead-----------	85	Somewhat limited		Very limited	
		Seepage (bottom layer)	0.90	Slope	1.00
		Slope	0.20	Seepage	1.00
RhD:					
Riverhead-----------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage (bottom layer)	0.90	Seepage	1.00
RrE:					
Rockrift------------	75	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Surface rock fragments	0.60	Organic matter content	1.00
		Restricted permeability	0.31	Seepage	0.50
RrF:					
Rockrift------------	75	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Surface rock fragments	0.60	Organic matter content	1.00
		Restricted permeability	0.31	Seepage	0.50
Sa:					
Saprists------------	40	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Organic matter content	1.00
		Seepage (bottom layer)	1.00	Depth to saturated zone	1.00
		Filtering capacity	1.00	Seepage	1.00
Sa:					
Aquents-------------	40	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage (bottom layer)	1.00	Seepage	1.00
		Filtering capacity	1.00		

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Septic tank absorption fields: Value	Sewage lagoons: Rating class and limiting features	Sewage lagoons: Value
TeB:					
Torull--------------	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	0.99	Organic matter content	1.00
				Slope	0.08
Gretor--------------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Restricted permeability	0.99	Depth to saturated zone	1.00
		Depth to bedrock	0.75	Seepage	0.50
				Slope	0.08
TkA:					
Tunkhannock---------	85	Somewhat limited		Very limited	
		Seepage (bottom layer)	0.90	Seepage	1.00
TkB:					
Tunkhannock---------	85	Somewhat limited		Very limited	
		Seepage (bottom layer)	0.90	Seepage	1.00
				Slope	0.92
TkC:					
Tunkhannock---------	85	Somewhat limited		Very limited	
		Seepage (bottom layer)	0.90	Slope	1.00
		Slope	0.20	Seepage	1.00
TkD:					
Tunkhannock---------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage (bottom layer)	0.90	Seepage	1.00
TkE:					
Tunkhannock---------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage (bottom layer)	0.90	Seepage	1.00
TtA:					
Tunkhannock---------	50	Somewhat limited		Very limited	
		Seepage (bottom layer)	0.90	Seepage	1.00
		Flooding	0.40	Flooding	0.40
		Depth to saturated zone	0.17	Depth to saturated zone	0.17
Chenango------------	30	Somewhat limited		Very limited	
		Seepage (bottom layer)	0.90	Seepage	1.00
		Flooding	0.40	Flooding	0.40
		Depth to saturated zone	0.17	Depth to saturated zone	0.17

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
TtB:					
Tunkhannock	50	Somewhat limited		Very limited	
		Seepage (bottom layer)	0.90	Seepage	1.00
		Flooding	0.40	Slope	0.92
		Depth to saturated zone	0.17	Flooding	0.40
				Depth to saturated zone	0.17
Chenango	30	Somewhat limited		Very limited	
		Seepage (bottom layer)	0.90	Seepage	1.00
		Flooding	0.40	Slope	0.92
		Depth to saturated zone	0.17	Flooding	0.40
				Depth to saturated zone	0.17
Ud:					
Udorthents	80	Not rated		Not rated	
Uf:					
Udorthents, refuse substratum	80	Not rated		Not rated	
Un:					
Unadilla	80	Somewhat limited		Very limited	
		Seepage (bottom layer)	0.90	Seepage	1.00
		Restricted permeability	0.31		
Ur:					
Urban Land	85	Not rated		Not rated	
VaB:					
Valois	80	Somewhat limited		Very limited	
		Restricted permeability	0.31	Seepage	1.00
				Slope	0.92
VaC:					
Valois	80	Somewhat limited		Very limited	
		Restricted permeability	0.31	Slope	1.00
		Slope	0.20	Seepage	1.00
VaD:					
Valois	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Restricted permeability	0.31	Seepage	1.00
VaE:					
Valois	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Restricted permeability	0.31	Seepage	1.00

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
VlB:					
Vly	80	Somewhat limited		Very limited	
		Depth to bedrock	0.75	Depth to hard bedrock	1.00
		Restricted permeability	0.31	Slope	0.68
				Seepage	0.50
VlC:					
Vly	80	Somewhat limited		Very limited	
		Depth to bedrock	0.75	Depth to hard bedrock	1.00
		Restricted permeability	0.31	Slope	1.00
		Slope	0.20	Seepage	0.50
VlD:					
Vly	80	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50
VlE:					
Vly	80	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.75	Slope	1.00
		Restricted permeability	0.31	Seepage	0.50
VoA:					
Volusia	85	Very limited		Very limited	
		Depth to pan or densic	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.50
		Restricted permeability	0.31		
VoB:					
Volusia	85	Very limited		Very limited	
		Depth to pan or densic	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.92
		Restricted permeability	0.31	Seepage	0.50
VoC:					
Volusia	85	Very limited		Very limited	
		Depth to pan or densic	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	0.31	Seepage	0.50
		Slope	0.20		

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
W:					
Water	100	Not rated		Not rated	
WeB:					
Wellsboro	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to pan or densic	0.88	Slope	0.68
		Restricted permeability	0.31	Seepage	0.50
WeC:					
Wellsboro	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Depth to pan or densic	0.88	Depth to saturated zone	1.00
		Restricted permeability	0.31	Seepage	0.50
		Slope	0.20		
WeD:					
Wellsboro	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00
		Depth to pan or densic	0.88	Seepage	0.50
		Restricted permeability	0.31		
WfC:					
Wellsboro	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to pan or densic	0.88	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
		Slope	0.20		
Mardin	30	Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Depth to saturated zone	1.00
		Depth to pan or densic	0.88	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
		Slope	0.20		

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Wg:					
Wenonah-------------	85	Somewhat limited		Very limited	
		Flooding	0.40	Seepage	1.00
		Depth to saturated zone	0.17	Flooding	0.40
				Depth to saturated zone	0.17
WhB:					
Willdin-------------	80	Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Depth to saturated zone	1.00
		Depth to pan or densic	0.85	Slope	0.68
		Restricted permeability	0.31	Seepage	0.50
WhC:					
Willdin-------------	80	Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Slope	1.00
		Depth to pan or densic	0.85	Depth to saturated zone	1.00
		Restricted permeability	0.31	Seepage	0.50
		Slope	0.20		
WhD:					
Willdin-------------	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.95	Depth to saturated zone	1.00
		Depth to pan or densic	0.85	Seepage	0.50
		Restricted permeability	0.31		
WmA:					
Willowemoc----------	80	Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Depth to saturated zone	1.00
		Depth to pan or densic	0.83	Seepage	0.50
		Restricted permeability	0.31		
WmB:					
Willowemoc----------	80	Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Depth to saturated zone	1.00
		Depth to pan or densic	0.83	Slope	0.92
		Restricted permeability	0.31	Seepage	0.50

Table 16.—Sanitary Facilities (Part I)—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
WmC:					
Willowemoc----------	80	Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Slope	1.00
		Depth to pan or densic	0.83	Depth to saturated zone	1.00
		Restricted permeability	0.31	Seepage	0.50
		Slope	0.20		
WmD:					
Willowemoc----------	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to saturated zone	0.95	Depth to saturated zone	1.00
		Depth to pan or densic	0.83	Seepage	0.50
		Restricted permeability	0.31		
WnC:					
Willowemoc----------	50	Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Depth to saturated zone	1.00
		Depth to pan or densic	0.83	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
		Slope	0.20		
Willdin-------------	30	Somewhat limited		Very limited	
		Depth to saturated zone	0.95	Depth to saturated zone	1.00
		Depth to pan or densic	0.85	Slope	1.00
		Surface rock fragments	0.60	Seepage	0.50
		Restricted permeability	0.31		
		Slope	0.20		

Table 17.—Sanitary Facilities (Part II)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
Bc:							
Barbour	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00	Gravel content	0.61
		Too Sandy	1.00	Flooding	0.40	Too Sandy	0.50
		Flooding	0.40				
Bg:							
Barbour	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00	Gravel content	0.61
		Too Sandy	1.00	Flooding	0.40	Too Sandy	0.50
		Flooding	0.40				
Trestle	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00	Gravel content	1.00
		Flooding	0.40	Flooding	0.40		
Bs:							
Basher	80	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.95
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.15
		Seepage	1.00	Seepage	1.00		
BtB:							
Bath	80	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.98	Depth to saturated zone	0.99
						Gravel content	0.39
BtC:							
Bath	80	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.98	Depth to saturated zone	0.99
		Slope	0.63	Slope	0.63	Slope	0.63
						Gravel content	0.39
BtD:							
Bath	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	0.98	Depth to saturated zone	0.99
						Gravel content	0.39

Table 17.—Sanitary Facilities (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BtE:							
Bath	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	0.98	Depth to saturated zone	0.99
						Gravel content	0.39
Bw:							
Bucksport	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of organic matter	1.00	Seepage	1.00	Content of organic matter	1.00
		Seepage	1.00			Seepage	0.15
Wonsqueak	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage	1.00	Seepage	1.00	Seepage	0.15
CaE:							
Cadosia	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.89
CaF:							
Cadosia	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.89
Ce:							
Carlisle	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of organic matter	1.00	Seepage	1.00	Content of organic matter	1.00
		Seepage	1.00			Seepage	0.15
Palms	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	1.00		
ChA:							
Chenango	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Seepage	1.00
		Too Sandy	1.00			Gravel content	1.00
						Too Sandy	0.50

Table 17.—Sanitary Facilities (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ChB:							
Chenango------------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Seepage	1.00
		Too Sandy	1.00			Gravel content	1.00
						Too Sandy	0.50
ChC:							
Chenango------------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Seepage	1.00
		Too Sandy	1.00	Slope	0.63	Gravel content	1.00
		Slope	0.63			Slope	0.63
						Too Sandy	0.50
ChD:							
Chenango------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage	1.00	Seepage	1.00	Seepage	1.00
		Too Sandy	1.00			Gravel content	1.00
						Too Sandy	0.50
ChE:							
Chenango------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage	1.00	Seepage	1.00	Seepage	1.00
		Too Sandy	1.00			Gravel content	1.00
						Too Sandy	0.50
CoB:							
Collamer------------	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
		Too clayey	0.50			Too clayey	0.50
CoC:							
Collamer------------	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
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50			Too clayey	0.50
De:							
Deposit-------------	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
		Seepage	1.00	Seepage	1.00	Seepage	1.00
		Too Sandy	1.00	Flooding	0.40	Gravel content	1.00
		Flooding	0.40			Too Sandy	0.50
EdC:							
Elka----------------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Gravel content	0.93
						Slope	0.63
EdD:							
Elka----------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.93

Table 17.—Sanitary Facilities (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
EdE:							
Elka	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.93
EkC:							
Elka	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Slope	0.16	Gravel content	0.93
						Slope	0.16
Vly	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.16	Slope	0.16	Gravel content	1.00
						Slope	0.16
EkD:							
Elka	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.93
Vly	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	1.00
ElC:							
Elka	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.04	Slope	0.04	Gravel content	0.93
						Slope	0.04
Vly	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.04	Slope	0.04	Gravel content	1.00
						Slope	0.04
ElE:							
Elka	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.93
Vly	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	1.00
ElF:							
Elka	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.93
Vly	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	1.00
Ff:							
Fluvaquents	45	Not Rated		Not Rated		Not Rated	
Udifluvents	35	Not Rated		Not Rated		Not Rated	

Table 17.—Sanitary Facilities (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HcC:							
Halcott	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.04	Slope	0.04	Gravel content	0.98
						Slope	0.04
Mongaup	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.04	Slope	0.04	Gravel content	0.45
						Slope	0.04
Vly	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.04	Slope	0.04	Gravel content	1.00
						Slope	0.04
HcE:							
Halcott	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	0.98
Mongaup	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	0.45
Vly	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	1.00
HcF:							
Halcott	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	0.98
Mongaup	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	0.45
Vly	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	1.00
LaB:							
Lackawanna	80	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.88	Depth to saturated zone	0.93
LaC:							
Lackawanna	80	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.88	Depth to saturated zone	0.93
		Slope	0.63	Slope	0.63	Slope	0.63

Table 17.—Sanitary Facilities (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
LaD:							
Lackawanna	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	0.88	Depth to saturated zone	0.93
LaE:							
Lackawanna	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	0.88	Depth to saturated zone	0.93
LcD:							
Lackawanna	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	0.88	Depth to saturated zone	0.93
Morris	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
LdC:							
Lackawanna	50	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.88	Depth to saturated zone	0.93
		Slope	0.04	Slope	0.04	Slope	0.04
Bath	30	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.98	Depth to saturated zone	0.99
		Slope	0.04	Slope	0.04	Gravel content	0.39
						Slope	0.04
LdE:							
Lackawanna	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	0.88	Depth to saturated zone	0.93
Bath	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	0.98	Depth to saturated zone	0.99
						Gravel content	0.39
LdF:							
Lackawanna	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	0.88	Depth to saturated zone	0.93

Table 17.—Sanitary Facilities (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
LdF:							
Bath	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	0.98	Depth to saturated zone	0.99
						Gravel content	0.39
LeB:							
Lewbath	80	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.88	Depth to saturated zone	0.93
LeC:							
Lewbath	80	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.88	Depth to saturated zone	0.93
		Slope	0.63	Slope	0.63	Slope	0.63
LeD:							
Lewbath	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	0.88	Depth to saturated zone	0.93
LeE:							
Lewbath	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	0.88	Depth to saturated zone	0.93
LhB:							
Lewbeach	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
						Gravel content	0.37
LhC:							
Lewbeach	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
		Slope	0.63	Slope	0.63	Slope	0.63
						Gravel content	0.37
LhD:							
Lewbeach	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	0.37
LhE:							
Lewbeach	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	0.37

Table 17.—Sanitary Facilities (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
LkC:							
Lewbeach	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
		Slope	0.04	Slope	0.04	Gravel content	0.37
						Slope	0.04
Lewbath	30	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.88	Depth to saturated zone	0.93
		Slope	0.04	Slope	0.04	Slope	0.04
LkE:							
Lewbeach	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	0.37
Lewbath	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	0.88	Depth to saturated zone	0.93
LkF:							
Lewbeach	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	0.37
Lewbath	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	0.88	Depth to saturated zone	0.93
LoB:							
Lordstown	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Gravel content	0.14
LoC:							
Lordstown	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
						Gravel content	0.14
LoD:							
Lordstown	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	0.14

Table 17.—Sanitary Facilities (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LoE:							
Lordstown-----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	0.14
MaB:							
Maplecrest----------	80	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Seepage	1.00	Gravel content	0.52
						Seepage	0.21
MaC:							
Maplecrest----------	80	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Seepage	1.00	Slope	0.63
		Slope	0.63	Slope	0.63	Gravel content	0.52
						Seepage	0.21
MaD:							
Maplecrest----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage	1.00	Seepage	1.00	Gravel content	0.52
						Seepage	0.21
MaE:							
Maplecrest----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage	1.00	Seepage	1.00	Gravel content	0.52
						Seepage	0.21
MdB:							
Mardin--------------	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
						Gravel content	0.60
MdC:							
Mardin--------------	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
		Slope	0.63	Slope	0.63	Slope	0.63
						Gravel content	0.60
MdD:							
Mardin--------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	0.60
MkB:							
Middlebrook---------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
						Gravel content	0.38

Table 17.—Sanitary Facilities (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MkB:							
Mongaup-------------	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Gravel content	0.45
MkC:							
Middlebrook---------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
						Gravel content	0.38
Mongaup-------------	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
						Gravel content	0.45
MnB:							
Mongaup-------------	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Gravel content	0.45
MnC:							
Mongaup-------------	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
						Gravel content	0.45
MnD:							
Mongaup-------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	0.45
MrA:							
Morris--------------	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
MrB:							
Morris--------------	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
MrC:							
Morris--------------	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
		Slope	0.63	Slope	0.63	Slope	0.63
MsB:							
Morris--------------	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
Volusia-------------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	0.01

Table 17.—Sanitary Facilities (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
No:							
Norchip-------------	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
						Gravel content	0.09
Nr:							
Norchip-------------	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
						Gravel content	0.09
OeA:							
Onteora-------------	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
						Gravel content	0.23
OeB:							
Onteora-------------	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
						Gravel content	0.23
OeC:							
Onteora-------------	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
		Slope	0.63	Slope	0.63	Slope	0.63
						Gravel content	0.23
OfB:							
Onteora-------------	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
						Gravel content	0.23
Ontusia-------------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	0.01
OnA:							
Ontusia-------------	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
						Gravel content	0.01
OnB:							
Ontusia-------------	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
						Gravel content	0.01
OnC:							
Ontusia-------------	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
		Slope	0.63	Slope	0.63	Slope	0.63
						Gravel content	0.01

Table 17.—Sanitary Facilities (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
OpB:							
Oquaga	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Gravel content	0.94
OpC:							
Oquaga	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Gravel content	0.94
						Slope	0.63
OpD:							
Oquaga	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	0.94
OpE:							
Oquaga	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	0.94
OpF:							
Oquaga	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	0.94
OrC:							
Oquaga	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.04	Slope	0.04	Gravel content	0.94
						Slope	0.04
Lordstown	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.04	Slope	0.04	Gravel content	0.14
						Slope	0.04
Arnot	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.04	Slope	0.04	Gravel content	0.99
						Slope	0.04
OrE:							
Oquaga	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	0.94
Lordstown	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	0.14
Arnot	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	0.99

Table 17.—Sanitary Facilities (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
OrF:							
Oquaga	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	0.94
Lordstown	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	0.14
Arnot	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	0.99
Pc:							
Philo	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Seepage	1.00	Seepage	1.00	Too Sandy	0.50
		Too Sandy	1.00				
Pg:							
Pits, Gravel	85	Not Rated		Not Rated		Not Rated	
Ph:							
Pits, Quarry	85	Not Rated		Not Rated		Not Rated	
Rb:							
Raypol	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
		Seepage	1.00	Seepage	1.00	Too Sandy	1.00
		Too Sandy	1.00	Ponding	1.00	Seepage	1.00
		Ponding	1.00	Flooding	0.40	Ponding	1.00
		Flooding	0.40			Gravel content	0.06
Re:							
Red Hook	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
						Gravel content	0.71
RhA:							
Riverhead	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Too Sandy	1.00
		Too Sandy	1.00			Seepage	1.00
RhB:							
Riverhead	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Too Sandy	1.00
		Too Sandy	1.00			Seepage	1.00
RhC:							
Riverhead	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Too Sandy	1.00
		Too Sandy	1.00	Slope	0.63	Seepage	1.00
		Slope	0.63			Slope	0.63

Table 17.—Sanitary Facilities (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RhD:							
Riverhead-----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage	1.00	Seepage	1.00	Too Sandy	1.00
		Too Sandy	1.00			Seepage	1.00
RrE:							
Rockrift------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.65
RrF:							
Rockrift------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.65
Sa:							
Saprists------------	40	Not Rated		Not Rated		Not Rated	
Aquents-------------	40	Not Rated		Not Rated		Not Rated	
TeB:							
Torull--------------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
Gretor--------------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
						Gravel content	0.01
TkA:							
Tunkhannock---------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Seepage	1.00
		Too Sandy	1.00			Gravel content	1.00
						Too Sandy	0.50
TkB:							
Tunkhannock---------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Seepage	1.00
		Too Sandy	1.00			Gravel content	1.00
						Too Sandy	0.50
TkC:							
Tunkhannock---------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Seepage	1.00
		Too Sandy	1.00	Slope	0.63	Gravel content	1.00
		Slope	0.63			Slope	0.63
						Too Sandy	0.50
TkD:							
Tunkhannock---------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage	1.00	Seepage	1.00	Seepage	1.00
		Too Sandy	1.00			Gravel content	1.00
						Too Sandy	0.50

Table 17.—Sanitary Facilities (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TkE:							
Tunkhannock---------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage	1.00	Seepage	1.00	Seepage	1.00
		Too Sandy	1.00			Gravel content	1.00
						Too Sandy	0.50
TtA:							
Tunkhannock---------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00	Gravel content	1.00
		Too Sandy	1.00	Flooding	0.40	Too Sandy	0.50
		Flooding	0.40				
Chenango------------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00	Gravel content	1.00
		Too Sandy	1.00	Flooding	0.40	Too Sandy	0.50
		Flooding	0.40				
TtB:							
Tunkhannock---------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00	Gravel content	1.00
		Too Sandy	1.00	Flooding	0.40	Too Sandy	0.50
		Flooding	0.40				
Chenango------------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00	Gravel content	1.00
		Too Sandy	1.00	Flooding	0.40	Too Sandy	0.50
		Flooding	0.40				
Ud:							
Udorthents----------	80	Not Rated		Not Rated		Not Rated	
Uf:							
Udorthents, refuse substratum---------	80	Not Rated		Not Rated		Not Rated	
Un:							
Unadilla------------	80	Very limited		Not limited		Very limited	
		Too Sandy	1.00			Seepage	1.00
		Seepage	1.00			Too Sandy	0.50
Ur:							
Urban Land----------	85	Not Rated		Not Rated		Not Rated	
VaB:							
Valois--------------	80	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Seepage	1.00	Gravel content	0.65
						Seepage	0.21

Table 17.—Sanitary Facilities (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
VaC:							
Valois	80	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Seepage	1.00	Gravel content	0.65
		Slope	0.63	Slope	0.63	Slope	0.63
						Seepage	0.21
VaD:							
Valois	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage	1.00	Seepage	1.00	Gravel content	0.65
						Seepage	0.21
VaE:							
Valois	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage	1.00	Seepage	1.00	Gravel content	0.65
						Seepage	0.21
VlB:							
Vly	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Gravel content	1.00
VlC:							
Vly	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Gravel content	1.00
						Slope	0.63
VlD:							
Vly	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	1.00
VlE:							
Vly	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	1.00
VoA:							
Volusia	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
						Gravel content	0.02
VoB:							
Volusia	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
						Gravel content	0.02
VoC:							
Volusia	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
		Slope	0.63	Slope	0.63	Slope	0.63
						Gravel content	0.02

Table 17.—Sanitary Facilities (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
W:							
Water	100	Not Rated		Not Rated		Not Rated	
WeB:							
Wellsboro	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
						Gravel content	0.06
WeC:							
Wellsboro	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
		Slope	0.63	Slope	0.63	Slope	0.63
						Gravel content	0.06
WeD:							
Wellsboro	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	0.06
WfC:							
Wellsboro	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
		Slope	0.04	Slope	0.04	Gravel content	0.06
						Slope	0.04
Mardin	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Slope	0.04	Gravel content	0.60
						Slope	0.04
Wg:							
Wenonah	85	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.21
		Seepage	1.00	Seepage	1.00		
		Flooding	0.40	Flooding	0.40		
WhB:							
Willdin	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
						Gravel content	0.50
WhC:							
Willdin	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
		Slope	0.63	Slope	0.63	Slope	0.63
						Gravel content	0.50

Table 17.—Sanitary Facilities (Part II)—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
WhD:							
Willdin	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	0.50
WmA:							
Willowemoc	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
						Gravel content	0.46
WmB:							
Willowemoc	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
						Gravel content	0.46
WmC:							
Willowemoc	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
		Slope	0.63	Slope	0.63	Slope	0.63
						Gravel content	0.46
WmD:							
Willowemoc	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	0.46
WnC:							
Willowemoc	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
		Slope	0.04	Slope	0.04	Gravel content	0.46
						Slope	0.04
Willdin	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Slope	0.04	Gravel content	0.50
						Slope	0.04

Table 18.—Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Bc:					
Barbour	85	Improbable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.07
Bg:					
Barbour	40	Improbable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.07
Trestle	35	Probable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.03	Thickest layer	0.00
Bs:					
Basher	80	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
BtB,BtC,BtD,BtE:					
Bath	80	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Bw:					
Bucksport	40	Not Rated		Not Rated	
Wonsqueak	40	Not Rated		Not Rated	
CaE,CaF:					
Cadosia	75	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Ce:					
Carlisle	45	Not Rated		Not Rated	
Palms	40	Not Rated		Not Rated	
ChA,ChB,ChC,ChD,ChE:					
Chenango	85	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.22	Bottom layer	0.14

Table 18.—Construction Materials—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
CoB,CoC:					
Collamer------------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
De:					
Deposit-------------	80	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.07
EdC,EdD,EdE:					
Elka----------------	80	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
EkC,EkD:					
Elka----------------	40	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Vly-----------------	35	Probable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
ElC,ElE,ElF:					
Elka----------------	40	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Vly-----------------	35	Probable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
Ff:					
Fluvaquents---------	45	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Udifluvents---------	35	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
HcC,HcE,HcF:					
Halcott-------------	25	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Mongaup-------------	25	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Vly-----------------	25	Probable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
LaB,LaC,LaD,LaE:					
Lackawanna----------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.—Construction Materials—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
LcD:					
Lackawanna----------	50	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Morris--------------	30	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
LdC,LdE,LdF:					
Lackawanna----------	50	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Bath----------------	30	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
LeB,LeC,LeD,LeE:					
Lewbath-------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
LhB,LhC,LhD,LhE:					
Lewbeach------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
LkC,LkE,LkF:					
Lewbeach------------	50	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Lewbath-------------	30	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
LoB,LoC,LoD,LoE:					
Lordstown-----------	80	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
MaB,MaC,MaD,MaE:					
Maplecrest----------	80	Probable		Improbable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.07	Bottom layer	0.00
MdB,MdC,MdD:					
Mardin--------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MkB,MkC:					
Middlebrook---------	45	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Mongaup-------------	35	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.—Construction Materials—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
MnB,MnC,MnD:					
Mongaup	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MrA,MrB,MrC:					
Morris	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MsB:					
Morris	50	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Volusia	30	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
No:					
Norchip	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nr:					
Norchip	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
OeA,OeB,OeC:					
Onteora	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
OfB:					
Onteora	50	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ontusia	30	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
OnA,OnB,OnC:					
Ontusia	85	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
OpB,OpC,OpD,OpE,OpF:					
Oquaga	80	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
OrC,OrE,OrF:					
Oquaga	25	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 18.—Construction Materials—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
OrC,OrE,OrF:					
Lordstown-----------	25	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Arnot---------------	25	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Pc:					
Philo---------------	80	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.07
Pg:					
Pits, Gravel--------	85	Not Rated		Not Rated	
Ph:					
Pits, Quarry--------	85	Not Rated		Not Rated	
Rb:					
Raypol--------------	80	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.86
Re:					
Red Hook------------	80	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
RhA,RhB,RhC,RhD:					
Riverhead-----------	85	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.86
RrE,RrF:					
Rockrift------------	75	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Sa:					
Saprists------------	40	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
		Content of organic matter	0.00	Content of organic matter	0.00
Sa:					
Aquents-------------	40	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
TeB:					
Torull--------------	40	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Gretor--------------	40	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.—Construction Materials—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
TkA,TkB,TkC,TkD,TkE:					
Tunkhannock	85	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.14
TtA,TtB:					
Tunkhannock	50	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.14
Chenango	30	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.14
Ud:					
Udorthents	80	Not Rated		Not Rated	
Uf:					
Udorthents, refuse substratum	80	Not Rated		Not Rated	
Un:					
Unadilla	80	Improbable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.07
Ur:					
Urban Land	85	Not Rated		Not Rated	
VaB,VaC,VaD,VaE:					
Valois	80	Probable		Improbable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.07	Bottom layer	0.00
VlB,VlC,VlD,VlE:					
Vly	80	Probable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
VoA,VoB,VoC:					
Volusia	85	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
W:					
Water	100	Not Rated		Not Rated	
WeB,WeC,WeD:					
Wellsboro	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.—Construction Materials—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
WfC:					
Wellsboro-----------	50	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Mardin--------------	30	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Wg:					
Wenonah-------------	85	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
WhB,WhC,WhD:					
Willdin-------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
WmA,WmB,WmC,WmD:					
Willowemoc----------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
WnC:					
Willowemoc----------	50	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Willdin-------------	30	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 19.—Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	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
Bc:							
Barbour	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.18	Cutbanks cave	1.00
						Depth to water	0.96
Bg:							
Barbour	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.18	Cutbanks cave	1.00
						Depth to water	0.96
Trestle	35	Very limited		Not limited		Very limited	
		Seepage	1.00			Cutbanks cave	1.00
						Depth to water	0.96
Bs:							
Basher	80	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	1.00		
BtB:							
Bath	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
BtC:							
Bath	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.01				
BtD:							
Bath	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.12				
BtE:							
Bath	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.50				
Bw:							
Bucksport	40	Very limited		Not Rated		Somewhat limited	
		Seepage	1.00			Cutbanks cave	0.10
Wonsqueak	40	Very limited		Not Rated		Very limited	
		Seepage	1.00			Cutbanks cave	1.00

Table 19.—Water Management—Continued

Map symbol and soil 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
CaE:							
Cadosia	75	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.09	Depth to water	1.00
		Slope	0.28				
CaF:							
Cadosia	75	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.09	Depth to water	1.00
		Seepage	0.70				
Ce:							
Carlisle	45	Very limited		Not Rated		Somewhat limited	
		Seepage	1.00			Cutbanks cave	0.10
Palms	40	Very limited		Not Rated		Very limited	
		Seepage	1.00			Cutbanks cave	1.00
ChA:							
Chenango	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.43	Depth to water	1.00
ChB:							
Chenango	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.43	Depth to water	1.00
ChC:							
Chenango	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.43	Depth to water	1.00
		Slope	0.01				
ChD:							
Chenango	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.43	Depth to water	1.00
		Slope	0.12				
ChE:							
Chenango	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.43	Depth to water	1.00
		Slope	0.82				
CoB:							
Collamer	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
				Piping	1.00	Cutbanks cave	0.10
CoC:							
Collamer	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
		Slope	0.01	Piping	1.00	Cutbanks cave	0.10
De:							
Deposit	80	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.18		

Table 19.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
EdC:							
Elka	80	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
		Slope	0.01				
EdD:							
Elka	80	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
		Slope	0.12				
EdE:							
Elka	80	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
		Slope	0.50				
EkC:							
Elka	40	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
Vly	35	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.83	Thin layer	0.83	Depth to water	1.00
		Seepage	0.70	Seepage	0.12		
EkD:							
Elka	40	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
		Slope	0.12				
Vly	35	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.83	Thin layer	0.83	Depth to water	1.00
		Seepage	0.70	Seepage	0.12		
		Slope	0.12				
ElC:							
Elka	40	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
Vly	35	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.83	Thin layer	0.83	Depth to water	1.00
		Seepage	0.70	Seepage	0.12		
ElE:							
Elka	40	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
		Slope	0.28				
Vly	35	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.83	Thin layer	0.83	Depth to water	1.00
		Seepage	0.70	Seepage	0.12		
		Slope	0.28				
ElF:							
Elka	40	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				

Table 19.—Water Management—Continued

Map symbol and soil 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
ElF:							
Vly	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.97	Thin layer	0.83	Depth to water	1.00
		Depth to bedrock	0.83	Seepage	0.12		
		Seepage	0.70				
Ff:							
Fluvaquents	45	Very limited		Very limited		Very limited	
		Seepage	1.00	Ponding	1.00	Cutbanks cave	1.00
				Depth to saturated zone	1.00		
Udifluvents	35	Very limited		Not limited		Very limited	
		Seepage	1.00			Cutbanks cave	1.00
						Depth to water	0.81
HcC:							
Halcott	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
Mongaup	25	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.91	Thin layer	0.91	Depth to water	1.00
		Seepage	0.70				
Vly	25	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.83	Thin layer	0.83	Depth to water	1.00
		Seepage	0.70	Seepage	0.12		
HcE:							
Halcott	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
		Slope	0.28				
Mongaup	25	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.91	Thin layer	0.91	Depth to water	1.00
		Seepage	0.70				
		Slope	0.28				
Vly	25	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.83	Thin layer	0.83	Depth to water	1.00
		Seepage	0.70	Seepage	0.12		
		Slope	0.28				
HcF:							
Halcott	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
		Slope	1.00				
Mongaup	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.91	Depth to water	1.00
		Depth to bedrock	0.91				
		Seepage	0.70				
Vly	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.97	Thin layer	0.83	Depth to water	1.00
		Depth to bedrock	0.83	Seepage	0.12		
		Seepage	0.70				

Table 19.—Water Management—Continued

Map symbol and soil 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
LaB:							
Lackawanna----------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	1.00		
LaC:							
Lackawanna----------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.01	Piping	1.00		
LaD:							
Lackawanna----------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.12	Piping	1.00		
LaE:							
Lackawanna----------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.64	Piping	1.00		
LcD:							
Lackawanna----------	50	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.28	Piping	1.00		
Morris--------------	30	Somewhat limited		Very limited		Very limited	
		Slope	0.12	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	1.00		
LdC:							
Lackawanna----------	50	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	1.00		
Bath----------------	30	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
LdE:							
Lackawanna----------	50	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.28	Piping	1.00		
Bath----------------	30	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.28				

Table 19.—Water Management—Continued

Map symbol and soil 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
LdF:							
Lackawanna----------	50	Somewhat limited		Very limited		Very limited	
		Slope	0.97	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70	Piping	1.00		
Bath----------------	30	Somewhat limited		Very limited		Very limited	
		Slope	0.97	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70				
LeB:							
Lewbath-------------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	1.00		
LeC:							
Lewbath-------------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.01	Piping	1.00		
LeD:							
Lewbath-------------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.12	Piping	1.00		
LeE:							
Lewbath-------------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.50	Piping	1.00		
LhB:							
Lewbeach------------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
LhC:							
Lewbeach------------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.01				
LhD:							
Lewbeach------------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.12				
LhE:							
Lewbeach------------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.64				

Table 19.—Water Management—Continued

Map symbol and soil 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
LkC:							
Lewbeach------------	50	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
Lewbath-------------	30	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	1.00		
LkE:							
Lewbeach------------	50	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.28				
Lewbath-------------	30	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.28	Piping	1.00		
LkF:							
Lewbeach------------	50	Somewhat limited		Very limited		Very limited	
		Slope	0.97	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70				
Lewbath-------------	30	Somewhat limited		Very limited		Very limited	
		Slope	0.97	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70	Piping	1.00		
LoB:							
Lordstown-----------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.81	Thin layer	0.81	Depth to water	1.00
		Seepage	0.70				
LoC:							
Lordstown-----------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.81	Thin layer	0.81	Depth to water	1.00
		Seepage	0.70				
		Slope	0.01				
LoD:							
Lordstown-----------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.81	Thin layer	0.81	Depth to water	1.00
		Seepage	0.70				
		Slope	0.12				
LoE:							
Lordstown-----------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.81	Thin layer	0.81	Depth to water	1.00
		Seepage	0.70				
		Slope	0.64				
MaB:							
Maplecrest----------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	Depth to water	1.00

Table 19.—Water Management—Continued

Map symbol and soil 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
MaC:							
Maplecrest----------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	Depth to water	1.00
		Slope	0.01				
MaD:							
Maplecrest----------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	Depth to water	1.00
		Slope	0.12				
MaE:							
Maplecrest----------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	Depth to water	1.00
		Slope	0.94				
MdB:							
Mardin--------------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
MdC:							
Mardin--------------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.01				
MdD:							
Mardin--------------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.12				
MkB:							
Middlebrook---------	45	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to bedrock	0.69	Thin layer	0.70		
Mongaup-------------	35	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.91	Thin layer	0.91	Depth to water	1.00
		Seepage	0.70				
MkC:							
Middlebrook---------	45	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to bedrock	0.69	Thin layer	0.70		
		Slope	0.01				
Mongaup-------------	35	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.91	Thin layer	0.91	Depth to water	1.00
		Seepage	0.70				
		Slope	0.01				
MnB:							
Mongaup-------------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.91	Thin layer	0.91	Depth to water	1.00
		Seepage	0.70				

Table 19.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
MnC:							
Mongaup-------------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.91	Thin layer	0.91	Depth to water	1.00
		Seepage	0.70				
		Slope	0.01				
MnD:							
Mongaup-------------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.91	Thin layer	0.91	Depth to water	1.00
		Seepage	0.70				
		Slope	0.12				
MrA:							
Morris--------------	85	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Depth to water	1.00
				Piping	1.00		
MrB:							
Morris--------------	85	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Depth to water	1.00
				Piping	1.00		
MrC:							
Morris--------------	85	Somewhat limited		Very limited		Very limited	
		Slope	0.01	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	1.00		
MsB:							
Morris--------------	50	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Depth to water	1.00
				Piping	1.00		
Volusia-------------	30	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	1.00		
No:							
Norchip-------------	80	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Depth to water	1.00
Nr:							
Norchip-------------	80	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Depth to water	1.00
OeA:							
Onteora-------------	85	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Depth to water	1.00

Table 19.—Water Management—Continued

Map symbol and soil 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
OeB:							
Onteora-------------	85	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Depth to water	1.00
OeC:							
Onteora-------------	85	Somewhat limited		Very limited		Very limited	
		Slope	0.01	Depth to saturated zone	1.00	Depth to water	1.00
OfB:							
Onteora-------------	50	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Depth to water	1.00
Ontusia-------------	30	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Depth to water	1.00
OnA:							
Ontusia-------------	85	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Depth to water	1.00
OnB:							
Ontusia-------------	85	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Depth to water	1.00
OnC:							
Ontusia-------------	85	Somewhat limited		Very limited		Very limited	
		Slope	0.01	Depth to saturated zone	1.00	Depth to water	1.00
OpB:							
Oquaga--------------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.98	Thin layer	0.98	Depth to water	1.00
		Seepage	0.70				
OpC:							
Oquaga--------------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.98	Thin layer	0.98	Depth to water	1.00
		Seepage	0.70				
		Slope	0.01				
OpD:							
Oquaga--------------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.98	Thin layer	0.98	Depth to water	1.00
		Seepage	0.70				
		Slope	0.12				
OpE:							
Oquaga--------------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.98	Thin layer	0.98	Depth to water	1.00
		Seepage	0.70				
		Slope	0.50				

Table 19.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
OpF:							
Oquaga	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.98	Thin layer	0.98	Depth to water	1.00
		Slope	0.94				
		Seepage	0.70				
OrC:							
Oquaga	25	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.98	Thin layer	0.98	Depth to water	1.00
		Seepage	0.70				
Lordstown	25	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.81	Thin layer	0.81	Depth to water	1.00
		Seepage	0.70				
Arnot	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
OrE:							
Oquaga	25	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.98	Thin layer	0.98	Depth to water	1.00
		Seepage	0.70				
		Slope	0.28				
Lordstown	25	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.81	Thin layer	0.81	Depth to water	1.00
		Seepage	0.70				
		Slope	0.28				
Arnot	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
		Slope	0.28				
OrF:							
Oquaga	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.98	Depth to water	1.00
		Depth to bedrock	0.98				
		Seepage	0.70				
Lordstown	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.81	Depth to water	1.00
		Depth to bedrock	0.81				
		Seepage	0.70				
Arnot	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
		Slope	1.00				
Pc:							
Philo	80	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.18		
Pg:							
Pits, Gravel	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.96	Depth to water	1.00

Table 19.—Water Management—Continued

Map symbol and soil 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
Ph:							
Pits, Quarry	85	Somewhat limited		Not Rated		Very limited	
		Seepage	0.03			Depth to water	1.00
Rb:							
Raypol	80	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	1.00		
				Ponding	1.00		
Re:							
Red Hook	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.08	Slow refill	0.30
RhA:							
Riverhead	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Depth to water	1.00
RhB:							
Riverhead	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Depth to water	1.00
RhC:							
Riverhead	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Depth to water	1.00
		Slope	0.01				
RhD:							
Riverhead	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Depth to water	1.00
		Slope	0.12				
RrE:							
Rockrift	75	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.09	Depth to water	1.00
		Slope	0.28				
RrF:							
Rockrift	75	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.09	Depth to water	1.00
		Seepage	0.70				
Sa:							
Saprists	40	Very limited		Not Rated		Somewhat limited	
		Seepage	1.00			Cutbanks cave	0.10
Aquents	40	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Ponding	1.00	Cutbanks cave	0.10
				Depth to saturated zone	1.00		
				Piping	0.63		

Table 19.—Water Management—Continued

Map symbol and soil 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
TeB:							
Torull	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
				Thin layer	1.00	Slow refill	0.98
				Piping	1.00	Cutbanks cave	0.10
				Seepage	0.08		
Gretor	40	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.95	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.02	Thin layer	0.95	Slow refill	0.30
						Cutbanks cave	0.10
TkA:							
Tunkhannock	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.43	Depth to water	1.00
TkB:							
Tunkhannock	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.43	Depth to water	1.00
TkC:							
Tunkhannock	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.43	Depth to water	1.00
		Slope	0.01				
TkD:							
Tunkhannock	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.43	Depth to water	1.00
		Slope	0.12				
TkE:							
Tunkhannock	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.43	Depth to water	1.00
		Slope	0.82				
TtA:							
Tunkhannock	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.43	Cutbanks cave	1.00
						Depth to water	0.96
Chenango	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.43	Cutbanks cave	1.00
						Depth to water	0.96
TtB:							
Tunkhannock	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.43	Cutbanks cave	1.00
						Depth to water	0.96
Chenango	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.43	Cutbanks cave	1.00
						Depth to water	0.96
Ud:							
Udorthents	80	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Cutbanks cave	1.00
				Depth to saturated zone	0.46	Depth to water	0.24
				Seepage	0.09		

Table 19.—Water Management—Continued

Map symbol and soil 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
Uf:							
Udorthents, refuse substratum	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.09	Depth to water	1.00
Un:							
Unadilla	80	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
				Seepage	0.18		
Ur:							
Urban Land	85	Not limited		Not Rated		Very limited	
						Depth to water	1.00
VaB:							
Valois	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	Depth to water	1.00
VaC:							
Valois	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	Depth to water	1.00
		Slope	0.01				
VaD:							
Valois	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	Depth to water	1.00
		Slope	0.12				
VaE:							
Valois	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	Depth to water	1.00
		Slope	0.94				
VlB:							
Vly	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.83	Thin layer	0.83	Depth to water	1.00
		Seepage	0.70	Seepage	0.12		
VlC:							
Vly	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.83	Thin layer	0.83	Depth to water	1.00
		Seepage	0.70	Seepage	0.12		
		Slope	0.01				
VlD:							
Vly	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.83	Thin layer	0.83	Depth to water	1.00
		Seepage	0.70	Seepage	0.12		
		Slope	0.12				
VlE:							
Vly	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.83	Thin layer	0.83	Depth to water	1.00
		Seepage	0.70	Seepage	0.12		
		Slope	0.64				

Table 19.—Water Management—Continued

Map symbol and soil 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
VoA:							
Volusia	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	1.00		
VoB:							
Volusia	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	1.00		
VoC:							
Volusia	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.01	Piping	1.00		
W:							
Water	100	Not Rated		Not Rated		Not Rated	
WeB:							
Wellsboro	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
WeC:							
Wellsboro	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.01				
WeD:							
Wellsboro	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.12				
WfC:							
Wellsboro	50	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
WfC:							
Mardin	30	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
Wg:							
Wenonah	85	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Piping	1.00	Depth to water	0.96
				Seepage	0.10	Cutbanks cave	0.10
WhB:							
Willdin	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00

Table 19.—Water Management—Continued

Map symbol and soil 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
WhC:							
Willdin-------------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.01				
WhD:							
Willdin-------------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.12				
WmA:							
Willowemoc----------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
WmB:							
Willowemoc----------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
WmC:							
Willowemoc----------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.01				
WmD:							
Willowemoc----------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.12				
WnC:							
Willowemoc----------	50	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
Willdin-------------	30	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00

Table 20.—Engineering Index Properties

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Bc:												
Barbour---------	0-6	Loam	CL-ML, ML, SC-SM, SM	A-4, A-2	0	0	65-100	50-100	35-95	20-90	15-25	2-7
	6-18	Silt loam, fine sandy loam, gravelly loam	CL-ML, ML, SC-SM, SM	A-4, A-2, A-1	0	0	65-100	50-100	35-95	20-90	15-25	2-7
	18-26	Gravelly loam	SC-SM, ML, CL-ML, SM	A-4, A-2, A-1	0	0	60-100	50-100	35-95	20-85	15-25	2-7
	26-72	Very gravelly loamy sand, very gravelly sand, gravelly loamy fine sand	SP-SM, GM, GP, SM, SP	A-1, A-2, A-3	0-1	0-5	45-100	30-100	15-80	0-35	0-14	NP
Bg:												
Barbour---------	0-6	Gravelly loam	SC-SM, ML, CL-ML, SM	A-4, A-2, A-1	0	0-4	65-95	50-92	35-90	20-80	15-25	2-7
	6-18	Gravelly silt loam, gravelly fine sandy loam, gravelly loam	CL-ML, ML, SC-SM, SM	A-4, A-2, A-1	0	0-4	65-90	50-75	35-70	20-65	15-25	2-7
	18-26	Gravelly loam	SC-SM, ML, CL-ML, SM	A-4, A-2, A-1	0	0-4	65-90	50-75	35-70	20-65	15-25	2-7
	26-72	Very gravelly loamy sand, very gravelly sand, gravelly loamy fine sand	SW-SM, GM, GP, SM, SP	A-1, A-2, A-3	0-1	0-5	45-100	30-95	15-80	0-35	0-14	NP
Trestle---------	0-9	Gravelly silt loam	ML	A-4	0	0-2	75-95	60-92	50-90	35-80	25-40	2-10
	9-20	Gravelly silt loam, very gravelly loam, very gravelly sandy loam	GM, ML, SM	A-1-b, A-2, A-4	0	0-5	50-90	40-75	25-70	10-60	25-40	2-10
	20-72	Very gravelly coarse sandy loam, very gravelly loam, very gravelly silt loam	GC-GM, GC, GM, GW-GM	A-1-b, A-1-a, A-2	0	0-10	40-70	20-45	10-40	5-35	0-20	NP-10

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Bs:												
Basher	0-8	Silt loam	CL-ML, ML, SC-SM, SM	A-4, A-2, A-1	0	0-5	75-100	70-100	40-100	20-90	15-25	2-7
	8-13	Silt loam	CL-ML, ML, SC-SM, SM	A-4, A-2, A-1	0	0-5	75-100	70-100	40-100	20-90	15-25	2-7
	13-23	Silt loam, loam, gravelly sandy loam	CL-ML, ML, SC-SM, SM	A-4, A-2, A-1	0	0-5	75-100	70-100	40-100	20-90	15-25	2-7
	23-35	Silt loam, gravelly loam, sandy loam	CL-ML, ML, SC-SM, SM	A-4, A-2, A-1	0	0-5	75-100	70-100	40-100	20-90	15-25	2-7
	35-72	Fine sandy loam, gravelly loamy sand, very gravelly sand, loam	ML, GM, SM	A-4, A-3, A-2, A-1	0	0-5	45-100	25-100	10-100	5-75	0-14	NP
BtB,BtC,BtD,BtE:												
Bath	0-9	Channery silt loam	ML, GM, SM	A-4, A-2	0	0-15	65-92	50-85	40-80	30-70	30-40	5-10
	9-20	Channery loam, gravelly loam, silt loam, channery silt loam	GM, ML, SM	A-4, A-2	0	0-15	65-92	50-85	40-80	30-70	20-35	NP-7
	20-26	Channery loam, gravelly sandy loam, channery silt loam	SM, ML, GM, GC-GM	A-4, A-2	0	0-15	65-92	50-85	35-80	20-70	15-30	NP-6
	26-72	Very channery silt loam, very channery loam	GM, GW-GM, CL-ML, SC-SM	A-4, A-2	0-8	0-20	45-90	30-75	20-70	10-65	0-25	NP-6
Bw:												
Bucksport	0-12	Muck	PT	A-8	0	0	---	---	---	---	0-14	---
	12-30	Muck	PT	A-8	0	0	---	---	---	---	0-14	---
	30-50	Muck	PT	A-8	0	0	---	---	---	---	0-14	---
	50-75	Muck	PT	A-8	0	0	---	---	---	---	0-14	---
Wonsqueak	0-10	Muck	PT	A-8	0	0	---	---	---	---	---	---
	10-24	Muck	PT	A-8	0	0	---	---	---	---	---	---
	24-36	Muck	PT	A-8	0	0	---	---	---	---	---	---
	36-42	Muck	PT	A-8	0	0	---	---	---	---	---	---
	42-72	Silty clay loam, gravelly sandy loam, gravelly loam	SC	A-6	0	0-5	75-100	70-100	50-95	30-90	5-40	2-20

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
CaE,CaF:												
Cadosia---------	0-6	Extremely channery loam	GC-GM, GM, ML, SM	A-1, A-2, A-4	1-5	5-15	40-85	20-70	10-65	5-60	15-25	1-10
	6-23	Very channery silt loam, very channery loam, channery loam, very channery fine sandy loam	GC-GM, GM, SC-SM	A-4, A-2	2-8	5-25	40-85	20-70	10-65	5-60	10-25	NP-10
	23-32	Very channery loam, extremely channery loam	GM, GC-GM, SM	A-2, A-1, A-4	2-8	5-30	40-85	20-70	10-65	5-60	10-20	NP-5
	32-58	Very channery loam, very channery silt loam, extremely channery loam	GM, GC-GM, SM	A-1, A-2, A-4	2-8	5-30	40-85	20-70	10-65	5-60	10-20	NP-5
	58-72	Very flaggy loam, very flaggy sandy loam, extremely flaggy sandy loam, extremely gravelly sandy loam	GW-GM, GC-GM, GM	A-1, A-2, A-4	2-15	5-30	40-85	20-70	10-65	5-50	10-20	NP-5
Ce:												
Carlisle--------	0-8	Muck	PT	A-8	0	0	---	---	---	---	---	---
	8-42	Muck	PT	A-8	0	0	---	---	---	---	---	---
	42-65	Muck	PT	A-8	0	0	---	---	---	---	---	---
	65-72	Mucky peat	PT	A-8	0	0	---	---	---	---	---	---
Palms-----------	0-6	Muck	PT	A-8	0	0	---	---	---	---	---	---
	6-22	Muck	PT	A-8	0	0	---	---	---	---	---	---
	22-36	Muck	PT	A-8	0	0	---	---	---	---	---	---
	36-72	Clay loam, silty clay loam, gravelly sandy loam	SC, CL-ML, CL, SC-SM	A-2, A-4, A-6, A-7	0	0	70-100	60-100	35-95	15-80	20-45	5-20

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
ChA,ChB,ChC,ChD,ChE:												
Chenango--------	0-10	Gravelly silt loam	CL-ML, GM, ML, SM	A-4, A-2, A-1	0	0-15	50-92	35-85	15-80	10-70	0-35	NP-10
	10-21	Very gravelly silt loam	GC-GM	A-4	0	0-15	45-90	30-75	15-70	10-65	0-40	NP-10
	21-25	Very gravelly sandy loam, gravelly fine sandy loam, very gravelly silt loam	GC-GM, GM, ML, SM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	0-40	NP-10
	25-72	Very gravelly loamy coarse sand, very gravelly sand, gravelly loamy fine sand, very gravelly loamy sand	GW-GM, GM, GW, SM	A-1	0	2-15	40-75	20-60	10-45	0-20	0-14	NP
CoB,CoC:												
Collamer--------	0-7	Silt loam	CL, CL-ML, ML, SC-SM, SM	A-4	0	0	95-100	92-100	65-100	40-90	25-35	5-10
	7-14	Silt loam, very fine sandy loam, fine sandy loam	CL-ML, CL, ML, SC-SM	A-4	0	0	95-100	92-100	65-100	40-90	20-30	3-10
	14-21	Silty clay loam	CL-ML, CL, ML, SC-SM	A-4	0	0	95-100	92-100	80-100	65-95	20-30	3-10
	21-26	Silty clay loam, silt loam, sandy clay loam	CL, CL-ML	A-4, A-6	0	0	95-100	92-100	70-100	40-95	20-35	5-15
	26-72	Stratified silty clay loam to silt loam, very fine sand, silty clay loam	CL, CL-ML, ML, SM	A-4, A-6	0	0	95-100	92-100	70-100	40-90	20-35	3-15

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
De:												
Deposit---------	0-12	Gravelly silt loam	CL-ML, GM, ML, SM	A-4, A-2	0	0-5	60-90	50-75	40-70	30-65	0-30	NP-10
	12-18	Gravelly very fine sandy loam, gravelly loam, very gravelly silt loam	SC-SM, GC-GM, GM, ML, SM	A-4, A-2, A-1	0-1	0-10	45-90	30-75	15-70	10-65	0-30	NP-10
	18-24	Very gravelly fine sandy loam	SC-SM, GC-GM, GM, ML, SM	A-1, A-2, A-4	0-1	0-10	45-90	30-75	15-65	10-60	0-30	NP-10
	24-72	Extremely gravelly loamy sand, very gravelly sandy loam, very gravelly loam	GP-GM, GM, GW-GM, SW-SM	A-1, A-2, A-4	0-2	2-10	40-70	20-50	10-45	1-40	0-14	NP
EdC,EdD,EdE:												
Elka------------	0-1	Moderately decomposed plant material	PT	A-8	---	---	---	---	---	---	---	---
	1-6	Channery silt loam	ML, GM, SM	A-4, A-2, A-1-b	---	0-10	60-92	45-85	25-80	20-70	0-30	NP-5
	6-36	Channery silt loam, silt loam, sandy loam, very channery loam	SM, ML	A-4, A-2, A-1-b	---	0-10	60-92	45-85	25-80	10-70	0-30	NP-5
	36-55	Very channery silt loam	GM, ML, SM	A-2, A-4, A-1-b	---	0-10	45-75	30-65	15-60	10-55	0-30	NP-5
	55-72	Very channery loam, silt loam, sandy loam	GM, ML, SM	A-1-b, A-2, A-4	---	0-10	45-75	30-65	15-60	10-55	0-30	NP-5

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
EkC,EkD:												
Elka------------	0-1	Moderately decomposed plant material	PT	A-8	---	---	---	---	---	---	---	---
	1-6	Channery silt loam	ML, GM, SM	A-4, A-2, A-1-b	---	0-10	60-92	45-85	25-80	20-70	0-30	NP-5
	6-36	Channery silt loam, silt loam, sandy loam, very channery loam	SM, ML	A-4, A-2, A-1-b	---	0-10	60-92	45-85	25-80	10-70	0-30	NP-5
	36-55	Very channery silt loam	GM, ML, SM	A-2, A-4, A-1-b	---	0-10	45-75	30-65	15-60	10-55	0-30	NP-5
	55-72	Very channery loam, silt loam, sandy loam	GM, ML, SM	A-1-b, A-2, A-4	---	0-10	45-75	30-65	15-60	10-55	0-30	NP-5
EkC,EkD:												
Vly-------------	0-6	Channery silt loam	ML, GM, SM	A-4, A-2, A-5	0	0-15	60-85	50-70	40-70	30-65	35-45	1-9
	6-18	Extremely channery loam, very channery silt loam, very gravelly loam	GC-GM, GM, SM	A-4, A-2, A-1	0-1	2-20	45-80	25-50	15-50	10-45	20-30	1-9
	18-24	Very channery silt loam	GC-GM, GM, SM	A-2, A-1, A-4	0-1	2-20	45-80	25-50	15-50	10-45	20-30	1-9
	24-31	Extremely channery silt loam	GC-GM, GM, SM	A-1, A-2, A-4	0-1	2-25	45-80	25-50	15-50	10-45	20-30	1-9
	31-41	Bedrock			---	---	---	---	---	---	---	---
ElC,ElE,ElF:												
Elka------------	0-1	Moderately decomposed plant material	PT	A-8	---	---	---	---	---	---	---	---
	1-6	Channery silt loam	ML, GM, SM	A-4, A-2, A-1-b	---	0-10	60-92	45-85	25-80	20-70	0-30	NP-5
	6-36	Channery silt loam, silt loam, sandy loam, very channery loam	SM, ML	A-4, A-2, A-1-b	---	0-10	60-92	45-85	25-80	10-70	0-30	NP-5
	36-55	Very channery silt loam	GM, ML, SM	A-2, A-4, A-1-b	---	0-10	45-75	30-65	15-60	10-55	0-30	NP-5
	55-72	Very channery loam, silt loam, sandy loam	GM, ML, SM	A-1-b, A-2, A-4	---	0-10	45-75	30-65	15-60	10-55	0-30	NP-5

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
ElC,ElE,ElF:												
Vly-------------	0-6	Channery silt loam	ML, GM, SM	A-4, A-2, A-5	0	0-15	60-85	50-70	40-70	30-65	35-45	1-9
	6-18	Extremely channery loam, very channery silt loam, very gravelly loam	GC-GM, GM, SM	A-4, A-2, A-1	0-1	2-20	45-80	25-50	15-50	10-45	20-30	1-9
	18-24	Very channery silt loam	GC-GM, GM, SM	A-2, A-1, A-4	0-1	2-20	45-80	25-50	15-50	10-45	20-30	1-9
	24-31	Extremely channery silt loam	GC-GM, GM, SM	A-1, A-2, A-4	0-1	2-25	45-80	25-50	15-50	10-45	20-30	1-9
	31-41	Bedrock			---	---	---	---	---	---	---	---
Ff:												
Fluvaquents-----	0-8	Gravelly silt loam	SC, CL, GM, ML, SM	A-4, A-2, A-1	0	0-10	60-100	55-100	30-100	10-90	0-25	NP-15
	8-72	Gravelly sand, very gravelly silt loam, silty clay loam	GC, CL, GM, ML, SC-SM	A-4, A-1, A-2, A-6	0	0-15	35-100	30-100	15-100	5-90	0-30	NP-20
Udifluvents-----	0-8	Gravelly loam	SC, CL, GM, ML, SM	A-4, A-2, A-1	---	0-10	60-80	55-75	30-75	10-65	0-25	NP-20
	8-72	Gravelly sand, very gravelly loam	GC, CL, GM, ML	A-4, A-2, A-1, A-6	---	0-15	35-100	30-100	15-100	5-90	0-30	NP-20
HcC,HcE,HcF:												
Halcott---------	0-3	Channery loam	SM, GM	A-4, A-2, A-5	0-5	0-20	50-90	35-75	20-70	10-65	35-45	1-9
	3-11	Very channery silt loam	GM	A-4, A-2, A-5	0-5	2-20	40-80	20-70	15-65	10-60	35-45	1-9
	11-18	Very channery silt loam, very channery loam, very channery fine sandy loam	GM	A-2, A-4, A-5	0-5	2-20	40-80	20-70	15-65	10-60	35-45	1-9
	18-28	Bedrock			---	---	---	---	---	---	---	---

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
HcC,HcE,HcF:												
Mongaup---------	0-5	Channery loam	SM, ML	A-4, A-2	0-5	0-15	60-95	50-92	30-90	15-80	0-20	NP-5
	5-12	Channery silt loam	ML, GM, SM	A-4, A-2, A-1	0-5	0-10	60-95	50-92	35-90	20-80	0-20	NP-5
	12-20	Gravelly loam, sandy loam, channery silt loam	GM, ML, SM	A-4, A-2, A-1	0-5	0-10	60-95	50-92	35-90	20-80	0-20	NP-5
	20-28	Very channery silt loam	GM, ML, SM	A-2, A-1, A-4	0-5	0-10	50-90	35-75	20-70	10-65	0-20	NP-5
	28-38	Bedrock			---	---	---	---	---	---	---	---
Vly-------------	0-6	Channery silt loam	ML, GM, SM	A-4, A-2, A-5	1-5	0-15	60-85	50-70	40-70	30-65	35-45	1-9
	6-18	Extremely channery loam, very channery silt loam, very gravelly loam	GC-GM, GM, SM	A-4, A-2, A-1	0-1	2-20	45-80	25-50	15-50	10-45	20-30	1-9
	18-24	Very channery silt loam	GC-GM, GM, SM	A-2, A-1, A-4	0-1	2-20	45-80	25-50	15-50	10-45	20-30	1-9
	24-31	Extremely channery silt loam	GC-GM, GM, SM	A-1, A-2, A-4	0-1	2-25	45-80	25-50	15-50	10-45	20-30	1-9
	31-41	Bedrock			---	---	---	---	---	---	---	---
LaB,LaC,LaD,LaE:												
Lackawanna------	0-7	Flaggy silt loam	ML, GM, SM	A-4, A-2	0-1	0-20	60-92	45-85	35-80	25-70	0-14	---
	7-18	Flaggy silt loam, silt loam, channery silt loam	CL, GM, ML, SM	A-4, A-2, A-6	0-1	0-20	60-92	45-85	35-80	25-70	20-35	1-14
	18-28	Flaggy silt loam	CL, GM, ML, SM	A-4, A-2, A-6	0-1	0-20	60-92	45-85	35-80	25-70	20-35	1-14
	28-48	Flaggy silt loam	CL-ML, CL, GM, ML, SM	A-4, A-2, A-6	0-2	0-20	45-90	25-75	15-70	10-65	15-35	1-12
	48-72	Flaggy loam, channery silt loam, very channery sandy loam	SC-SM, CL, GM, ML, SM	A-4, A-2, A-6	0-2	0-20	45-90	25-75	15-70	10-65	15-35	1-12

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
LcD:												
Lackawanna------	0-7	Flaggy silt loam	ML, GM, SM	A-4, A-2	1-5	0-20	60-92	45-85	35-80	25-70	0-14	---
	7-18	Flaggy silt loam, silt loam, channery silt loam	CL, GM, ML, SM	A-4, A-2, A-6	0-1	0-20	60-92	45-85	35-80	25-70	20-35	1-14
	18-28	Flaggy silt loam	CL, GM, ML, SM	A-4, A-2, A-6	0-1	0-20	60-92	45-85	35-80	25-70	20-35	1-14
	28-48	Flaggy silt loam	CL-ML, CL, GM, ML, SM	A-4, A-2, A-6	0-2	0-20	45-90	25-75	15-70	10-65	15-35	1-12
	48-72	Flaggy loam, channery silt loam, very channery sandy loam	SC-SM, CL, GM, ML, SM	A-4, A-2, A-6	0-2	0-20	45-90	25-75	15-70	10-65	15-35	1-12
Morris----------	0-8	Flaggy silt loam	CL-ML, CL, GM, ML, SM	A-4, A-2	1-5	0-20	60-92	45-85	35-80	25-70	20-30	1-10
	8-14	Channery silt loam	CL-ML, GM, SM	A-4	0-5	0-20	60-92	45-85	35-80	25-70	15-25	NP-10
	14-26	Channery silt loam	CL-ML, CL, GM, ML, SM	A-4, A-2	0-5	0-20	50-90	35-75	25-70	20-65	15-25	NP-9
	26-72	Flaggy silt loam, channery silt loam, channery silty clay loam	CL-ML, CL, GM, ML, SM	A-4, A-2	0-5	0-20	50-90	35-75	25-70	20-65	15-25	NP-9
LdC,LdE,LdF:												
Lackawanna------	0-7	Flaggy silt loam	ML, GM, SM	A-4, A-2	1-5	0-20	60-92	45-85	35-80	25-70	0-14	---
	7-18	Flaggy silt loam, silt loam, channery silt loam	CL, GM, ML, SM	A-4, A-2, A-6	0-1	0-20	60-92	45-85	35-80	25-70	20-35	1-14
	18-28	Flaggy silt loam	CL, GM, ML, SM	A-4, A-2, A-6	0-1	0-20	60-92	45-85	35-80	25-70	20-35	1-14
	28-48	Flaggy silt loam	CL-ML, CL, GM, ML, SM	A-4, A-2, A-6	0-2	0-20	45-90	25-75	15-70	10-65	15-35	1-12
	48-72	Flaggy loam, channery silt loam, very channery sandy loam	SC-SM, CL, GM, ML, SM	A-4, A-2, A-6	0-2	0-20	45-90	25-75	15-70	10-65	15-35	1-12

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
LdC,LdE,LdF:												
Bath-----------	0-9	Channery silt loam	ML, GM, SM	A-4, A-2	1-5	0-15	65-92	50-85	40-80	30-70	30-40	5-10
	9-20	Channery loam, gravelly loam, silt loam, channery silt loam	GM, ML, SM	A-4, A-2	0-5	0-15	65-92	50-85	40-80	30-70	20-35	NP-7
	20-26	Channery loam, gravelly sandy loam, channery silt loam	SM, ML, GM, GC-GM	A-4, A-2	0	0-15	65-92	50-85	35-80	20-70	15-30	NP-6
	26-72	Very channery silt loam, very channery loam	GM, GW-GM, CL-ML, SC-SM	A-4, A-2	0-8	0-20	45-90	30-75	20-70	10-65	0-25	NP-6
LeB,LeC,LeD,LeE:												
Lewbath---------	0-4	Flaggy loam	ML, GM, SM	A-5, A-4	0	0-20	65-92	50-85	40-80	30-70	35-50	2-10
	4-22	Flaggy silt loam	ML, GM, SM	A-4, A-2-4	0-5	0-20	65-92	50-85	40-80	30-70	15-25	NP-6
	22-31	Flaggy silt loam	ML, GM, SM	A-4, A-2-4	0-5	0-20	65-90	50-85	40-80	30-70	15-25	NP-6
	31-33	Channery loam	SM, ML, GM	A-4, A-2-4	0-5	0-20	65-92	50-85	35-75	20-60	15-25	NP-6
	33-72	Flaggy silt loam, very channery silt loam, very gravelly loam	ML, GM, CL-ML, SM	A-4, A-2-4	0-5	0-25	50-90	35-75	20-70	15-65	15-25	NP-5
LhB,LhC,LhD,LhE:												
Lewbeach--------	0-9	Channery loam	SM, ML, GM	A-4, A-2	0-1	0-5	65-95	50-92	35-90	20-80	0-25	NP-5
	9-17	Channery loam	SM, ML, GM	A-4, A-2	0-1	0-5	65-95	50-92	35-90	20-80	0-25	NP-5
	17-20	Gravelly loam, channery silt loam, gravelly sandy loam	SM, ML, GM	A-4, A-2	0-1	0-5	65-95	50-92	35-90	20-80	0-25	NP-5
	20-61	Channery loam	GM, GW-GM, ML, SM	A-4, A-2, A-1	0-1	1-10	50-90	35-75	15-65	10-50	0-25	NP-5
	61-72	Gravelly sandy loam, gravelly silt loam, channery loam	SM, ML, GW-GM	A-4, A-2, A-1	0-1	1-10	50-90	35-75	15-70	10-60	0-25	NP-5

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
LkC,LkE,LkF:												
Lewbeach--------	0-9	Channery loam	SM, ML, GM	A-4, A-2	1-5	0-5	65-95	50-92	35-90	20-80	0-25	NP-5
	9-17	Channery loam	SM, ML, GM	A-4, A-2	0-1	0-5	65-95	50-92	35-90	20-80	0-25	NP-5
	17-20	Gravelly loam, channery silt loam, gravelly sandy loam	SM, ML, GM	A-4, A-2	0-1	0-5	65-95	50-92	35-90	20-80	0-25	NP-5
	20-61	Channery loam	GM, GW-GM, ML, SM	A-4, A-2, A-1	0-1	1-10	50-90	35-75	15-65	10-50	0-25	NP-5
	61-72	Gravelly sandy loam, gravelly silt loam, channery loam	SM, ML, GW-GM	A-4, A-2, A-1	0-1	1-10	50-90	35-75	15-70	10-60	0-25	NP-5
Lewbath---------	0-4	Flaggy loam	ML, GM, SM	A-5, A-4	1-5	0-20	65-92	50-85	40-80	30-70	35-50	2-10
	4-22	Flaggy silt loam	ML, GM, SM	A-4, A-2-4	0-5	0-20	65-92	50-85	40-80	30-70	15-25	NP-6
	22-31	Flaggy silt loam	ML, GM, SM	A-4, A-2-4	0-5	0-20	65-90	50-85	40-80	30-70	15-25	NP-6
	31-33	Channery loam	SM, ML, GM	A-4, A-2-4	0-5	0-20	65-92	50-85	35-75	20-60	15-25	NP-6
	33-72	Flaggy silt loam, very channery silt loam, very gravelly loam	ML, GM, CL-ML, SM	A-4, A-2-4	0-5	0-25	50-90	35-75	20-70	15-65	15-25	NP-5
LoB,LoC,LoD,LoE:												
Lordstown-------	0-3	Channery silt loam	ML, GM, SM	A-4	0	0-15	65-92	50-85	40-80	30-70	0-30	NP-4
	3-6	Channery silt loam	ML, GM, SM	A-4	0	0-15	45-85	30-70	25-70	20-65	0-30	NP-4
	6-19	Channery silt loam	ML, GM, SM	A-4	0	0-15	45-85	30-70	25-70	20-65	0-30	NP-4
	19-27	Channery loam	GM, ML, SM	A-4	0	0-15	45-85	30-70	25-70	20-65	0-30	NP-4
	27-32	Gravelly loam	GM, ML, SM	A-4, A-2, A-1	0	0-25	45-85	30-70	25-70	20-65	0-30	NP-4
	32-42	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
MaB,MaC,MaD,MaE:												
Maplecrest------	0-3	Gravelly silt loam	ML, GM, GC-GM	A-4, A-2, A-6	0-1	0-5	65-95	50-92	40-90	30-80	20-40	1-12
	3-6	Gravelly silt loam	CL-ML, GC-GM, GM, ML	A-4, A-2	0-1	0-10	65-95	50-92	40-90	30-80	15-25	1-7
	6-18	Gravelly silt loam	CL-ML, GC-GM, GM, ML	A-4, A-2	0-5	0-10	65-95	50-92	40-90	25-80	15-25	1-7
	18-36	Gravelly very fine sandy loam	SC-SM, GC-GM, GM, ML	A-2, A-4	0-5	0-10	65-92	50-90	40-90	25-80	15-25	1-7
	36-46	Gravelly loam	SC-SM, GC-GM, GM, ML	A-2, A-4	0-5	0-20	40-85	20-70	15-70	10-65	15-25	1-7
	46-72	Gravelly fine sandy loam	SM, GM, GC-GM	A-2, A-1, A-4	0-5	0-20	40-85	20-70	10-65	5-50	15-25	NP-7
MdB,MdC,MdD:												
Mardin----------	0-5	Channery silt loam	CL, GC, GM, ML	A-4	0-1	0-15	65-95	50-92	40-90	30-80	25-35	5-10
	5-14	Channery silt loam	CL, CL-ML, GC, SC-SM	A-4	0-1	0-15	65-95	50-92	40-90	30-80	15-25	5-10
	14-23	Channery silt loam	GC, CL-ML, CL, SC-SM	A-4	0-1	0-15	65-95	50-92	40-90	30-80	15-25	5-10
	23-26	Channery loam	GC, CL-ML, CL, SC-SM	A-4	0-1	0-15	65-95	50-92	35-90	20-80	15-25	5-10
	26-52	Very channery loam	GC, CL-ML, CL, SC	A-2, A-4, A-1	0-5	0-25	45-90	30-75	25-70	20-65	20-30	5-10
	52-72	Very channery loam	GC, CL-ML, CL, SC	A-2, A-4, A-1	0-5	0-25	45-90	30-75	25-70	20-65	20-30	5-10
MkB,MkC:												
Middlebrook-----	0-6	Channery silt loam	CL, GC, GM, ML	A-4	0	0-15	65-92	45-85	25-80	10-70	25-35	5-10
	6-17	Channery silt loam	SC, GC, SC-SM	A-4	0	0-15	65-92	45-85	25-80	10-70	15-25	5-10
	17-35	Very channery loam	SC, GC	A-2, A-1, A-4	0	2-25	50-80	35-65	15-55	10-45	20-30	5-10
	35-45	Bedrock			---	---	---	---	---	---	---	---
Mongaup---------	0-5	Channery loam	SM, ML	A-4, A-2	0-1	0-15	60-95	50-92	30-90	15-80	0-20	NP-5
	5-12	Channery silt loam	ML, GM, SM	A-4, A-2, A-1	0-5	0-10	60-95	50-92	35-90	20-80	0-20	NP-5
	12-20	Gravelly loam, sandy loam, channery silt loam	GM, ML, SM	A-4, A-2, A-1	0-5	0-10	60-95	50-92	35-90	20-80	0-20	NP-5
	20-28	Very channery silt loam	GM, ML, SM	A-2, A-1, A-4	0-5	0-10	50-90	35-75	20-70	10-65	0-20	NP-5
	28-38	Bedrock			---	---	---	---	---	---	---	---

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
MnB,MnC,MnD:												
Mongaup---------	0-5	Channery loam	SM, ML	A-4, A-2	0-1	0-15	60-95	50-92	30-90	15-80	0-20	NP-5
	5-12	Channery silt loam	ML, GM, SM	A-4, A-2, A-1	0-5	0-10	60-95	50-92	35-90	20-80	0-20	NP-5
	12-20	Gravelly loam, sandy loam, channery silt loam	GM, ML, SM	A-4, A-2, A-1	0-5	0-10	60-95	50-92	35-90	20-80	0-20	NP-5
	20-28	Very channery silt loam	GM, ML, SM	A-2, A-1, A-4	0-5	0-10	50-90	35-75	20-70	10-65	0-20	NP-5
	28-38	Bedrock			---	---	---	---	---	---	---	---
MrA,MrB,MrC:												
Morris----------	0-8	Flaggy silt loam	CL-ML, CL, GM, ML, SM	A-4, A-2	0-1	0-20	60-92	45-85	35-80	25-70	20-30	1-10
	8-14	Channery silt loam	CL-ML, GM, SM	A-4	0-5	0-20	60-92	45-85	35-80	25-70	15-25	NP-10
	14-26	Channery silt loam	CL-ML, CL, GM, ML, SM	A-4, A-2	0-5	0-20	50-90	35-75	25-70	20-65	15-25	NP-9
	26-72	Flaggy silt loam, channery silt loam, channery silty clay loam	CL-ML, CL, GM, ML, SM	A-4, A-2	0-5	0-20	50-90	35-75	25-70	20-65	15-25	NP-9
MsB:												
Morris----------	0-8	Flaggy silt loam	CL-ML, CL, GM, ML, SM	A-4, A-2	1-5	0-20	60-92	45-85	35-80	25-70	20-30	1-10
	8-14	Channery silt loam	CL-ML, GM, SM	A-4	0-5	0-20	60-92	45-85	35-80	25-70	15-25	NP-10
	14-26	Channery silt loam	CL-ML, CL, GM, ML, SM	A-4, A-2	0-5	0-20	50-90	35-75	25-70	20-65	15-25	NP-9
	26-72	Flaggy silt loam, channery silt loam, channery silty clay loam	CL-ML, CL, GM, ML, SM	A-4, A-2	0-5	0-20	50-90	35-75	25-70	20-65	15-25	NP-9
Volusia---------	0-8	Channery silt loam	CL, CL-ML, GC, SC	A-4	1-5	0-10	70-95	55-92	40-90	30-80	15-25	5-10
	8-15	Channery silt loam	CL, CL-ML, GC-GM, SC	A-4	0-5	0-10	70-95	55-92	40-90	30-80	15-25	5-10
	15-22	Channery silt loam	CL, CL-ML, GC-GM, SC	A-4	0-5	0-10	70-95	55-92	40-90	30-80	15-25	5-10
	22-52	Channery silt loam	CL, CL-ML, SC, SC-SM	A-4	0-5	0-25	50-95	35-92	25-90	20-80	20-30	5-10
	52-72	Very channery silt loam	GC, CL, CL-ML, GC-GM, SC	A-4, A-2, A-1	0-5	0-25	45-92	30-85	25-80	20-70	20-30	5-10

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
No:												
Norchip---------	0-2	Silt loam	ML, OL	A-5, A-7-5	0-1	0-5	75-100	70-100	60-100	40-90	40-50	5-15
	2-7	Silt loam	ML, OL	A-5, A-7-5	0-1	0-5	75-100	70-100	60-100	40-90	40-50	5-15
	7-11	Silt loam	ML, OL	A-5, A-7-5	0-1	0-5	75-100	70-100	60-100	40-90	40-50	5-15
	11-25	Channery loam	SC, GC-GM, GC, CL-ML	A-4, A-2-4, A-2, A-1-b	0-5	0-15	50-90	35-75	20-70	10-65	15-25	5-10
	25-52	Channery loam	SC, GC-GM, GC, CL-ML	A-4, A-2-4, A-2, A-1-b	0-5	0-20	50-90	35-75	20-70	10-65	15-25	5-10
	52-72	Very gravelly silt loam	GC, CL, CL-ML, GC-GM, SC	A-4, A-2-4, A-2, A-1-b	0-5	0-20	50-90	35-75	20-70	10-65	15-25	5-10
Nr:												
Norchip---------	0-2	Silt loam	ML, OL	A-5, A-7-5	1-5	0-5	75-100	70-100	60-100	40-90	40-50	5-15
	2-7	Silt loam	ML, OL	A-5, A-7-5	0-1	0-5	75-100	70-100	60-100	40-90	40-50	5-15
	7-11	Silt loam	ML, OL	A-5, A-7-5	0-1	0-5	75-100	70-100	60-100	40-90	40-50	5-15
	11-25	Channery loam	SC, GC-GM, GC, CL-ML	A-4, A-2-4, A-2, A-1-b	0-5	0-15	50-90	35-75	20-70	10-65	15-25	5-10
	25-52	Channery loam	SC, GC-GM, GC, CL-ML	A-4, A-2-4, A-2, A-1-b	0-5	0-20	50-90	35-75	20-70	10-65	15-25	5-10
	52-72	Very gravelly silt loam	GC, CL, CL-ML, GC-GM, SC	A-4, A-2-4, A-2, A-1-b	0-5	0-20	50-90	35-75	20-70	10-65	15-25	5-10
OeA,OeB,OeC:												
Onteora---------	0-6	Channery silt loam	ML, GM, CL-ML, SM	A-4, A-2	0-1	0-5	65-95	50-92	35-90	20-80	0-25	NP-5
	6-13	Channery silt loam	GM, CL-ML, ML, SM	A-4, A-2, A-1	0-1	0-5	65-95	50-92	30-90	15-80	0-25	NP-5
	13-33	Gravelly loam	SM, ML, GM, CL-ML	A-4, A-2, A-1	0-5	0-15	50-90	35-75	15-70	10-65	0-25	NP-5
	33-46	Gravelly loam	GM	A-4	0-5	0-15	50-90	35-75	15-70	10-65	0-25	NP-5
	46-72	Gravelly loam	GM, CL-ML, ML, SM	A-4, A-2, A-1	0-5	0-15	50-90	35-75	15-70	10-65	0-25	NP-5
OfB:												
Onteora---------	0-6	Channery silt loam	ML, GM, CL-ML, SM	A-4, A-2	1-5	0-5	65-95	50-92	35-90	20-80	0-25	NP-5
	6-13	Channery silt loam	GM, CL-ML, ML, SM	A-4, A-2, A-1	0-1	0-5	65-95	50-92	30-90	15-80	0-25	NP-5
	13-33	Gravelly loam	SM, ML, GM, CL-ML	A-4, A-2, A-1	0-5	0-15	50-90	35-75	15-70	10-65	0-25	NP-5
	33-46	Gravelly loam	GM	A-4	0-5	0-15	50-90	35-75	15-70	10-65	0-25	NP-5
	46-72	Gravelly loam	GM, CL-ML, ML, SM	A-4, A-2, A-1	0-5	0-15	50-90	35-75	15-70	10-65	0-25	NP-5

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Ontusia---------	0-8	Channery silt loam	CL, CL-ML, GC-GM, SC-SM	A-4, A-6	1-5	0-10	65-92	50-88	40-80	30-70	25-40	5-15
	8-12	Silt loam	CL, CL-ML, GC-GM, SC-SM	A-4, A-6	0-1	0-10	65-92	50-88	40-80	30-70	20-35	5-15
	12-16	Silt loam	CL, CL-ML, GC-GM, SC-SM	A-4, A-6	0-1	0-10	65-92	50-88	40-80	30-70	20-35	5-15
	16-25	Channery silt loam	CL-ML, GM, ML, SM	A-4, A-1-b, A-1	0-5	0-20	50-90	35-75	25-70	20-65	15-30	1-7
	25-36	Channery silt loam	GC-GM, SM, ML, GM	A-4, A-1-b, A-1	0-5	0-20	50-90	35-75	25-70	20-65	15-30	1-7
	36-57	Channery loam	SC-SM, GM, ML, SM	A-4, A-2, A-1-b	0-5	0-20	50-90	35-75	25-70	20-65	15-30	1-7
	57-72	Very channery loam	GC-GM, GM, ML, SM	A-4, A-2-4, A-1-b	0-5	0-25	45-90	30-75	25-70	20-65	10-30	1-7
OnA,OnB,OnC: Ontusia---------	0-8	Channery silt loam	CL, CL-ML, GC-GM, SC-SM	A-4, A-6	0-1	0-10	65-92	50-88	40-80	30-70	25-40	5-15
	8-12	Silt loam	CL, CL-ML, GC-GM, SC-SM	A-4, A-6	0-1	0-10	65-92	50-88	40-80	30-70	20-35	5-15
	12-16	Silt loam	CL, CL-ML, GC-GM, SC-SM	A-4, A-6	0-1	0-10	65-92	50-88	40-80	30-70	20-35	5-15
	16-25	Channery silt loam	CL-ML, GM, ML, SM	A-4, A-1-b, A-1	0-5	0-20	50-90	35-75	25-70	20-65	15-30	1-7
	25-36	Channery silt loam	GC-GM, SM, ML, GM	A-4, A-1-b, A-1	0-5	0-20	50-90	35-75	25-70	20-65	15-30	1-7
	36-57	Channery loam	SC-SM, GM, ML, SM	A-4, A-2, A-1-b	0-5	0-20	50-90	35-75	25-70	20-65	15-30	1-7
	57-72	Very channery loam	GC-GM, GM, ML, SM	A-4, A-2-4, A-1-b	0-5	0-25	45-90	30-75	25-70	20-65	10-30	1-7
OpB,OpC,OpD,OpE, OpF: Oquaga----------	0-6	Channery silt loam	GM, ML, SM	A-4, A-2, A-5	0-1	0-20	45-90	30-75	15-70	10-65	35-45	2-7
	6-24	Very channery silt loam	SC-SM, GC-GM, GM, ML, SM	A-2, A-1, A-4	0-5	2-25	35-80	10-65	5-60	5-55	20-30	2-7
	24-34	Unweathered bedrock			---	---	---	---	---	---	---	---
OrC,OrE,OrF: Oquaga----------	0-6	Channery silt loam	GM, ML, SM	A-4, A-2, A-5	0-1	0-20	45-90	30-75	15-70	10-65	35-45	2-7
	6-24	Very channery silt loam	SC-SM, GC-GM, GM, ML, SM	A-2, A-1, A-4	0-5	2-25	35-80	10-65	5-60	5-55	20-30	2-7
	24-34	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
OrC,OrE,OrF:												
Lordstown-------	0-3	Channery silt loam	ML, SM, GM	A-4	0	0-15	65-92	50-85	40-80	30-70	0-30	NP-4
	3-6	Channery silt loam	ML, GM, SM	A-4	0	0-15	45-85	30-70	25-70	20-65	0-30	NP-4
	6-19	Channery silt loam	ML, GM, SM	A-4	0	0-15	45-85	30-70	25-70	20-65	0-30	NP-4
	19-27	Channery loam	GM, ML, SM	A-4	0	0-15	45-85	30-70	25-70	20-65	0-30	NP-4
	27-32	Gravelly loam	GM, ML, SM	A-4, A-2, A-1	0	0-25	45-85	30-70	25-70	20-65	0-30	NP-4
	32-42	Unweathered bedrock			---	---	---	---	---	---	---	---
Arnot-----------	0-2	Channery loam	SM, ML, GM	A-4, A-2, A-5	0-5	0-25	40-85	20-70	15-70	10-65	35-45	1-9
	2-8	Channery silt loam	GM	A-4, A-2, A-1	0-5	0-25	40-85	20-70	15-70	10-65	20-35	1-9
	8-17	Very channery silt loam	GM	A-2, A-1, A-4	0-5	0-25	40-85	20-70	15-70	10-65	20-35	1-9
	17-27	Unweathered bedrock			---	---	---	---	---	---	---	---
Pc:												
Philo-----------	0-12	Silt loam	CL-ML, ML	A-4	0-3	0-3	75-100	70-100	50-100	30-90	20-35	1-10
	12-19	Silt loam	CL-ML, GM, ML, SM	A-4	0-3	0-3	75-100	70-100	50-100	30-90	20-35	1-10
	19-31	Very fine sandy loam	CL-ML, GM, ML, SM	A-4	0-3	0-3	75-100	70-100	50-100	30-90	20-35	1-10
	31-39	Very fine sandy loam	CL-ML, GM, SM	A-4	0-3	0-3	75-100	70-100	40-100	20-90	20-35	1-10
	39-44	Silt loam	CL-ML, GM, SM	A-4	0-3	0-3	75-100	70-100	35-100	5-90	20-35	1-10
	44-72	Stratified very gravelly loamy sand	SW-SC, GC, GM, SC, SM	A-1, A-2, A-4	0-5	0-10	55-100	45-100	20-100	1-90	15-30	1-10
Pg:												
Pits, Gravel----	---	---	---	---	---	---	---	---	---	---	---	---
Ph:												
Pits, Quarry----	---	---	---	---	---	---	---	---	---	---	---	---

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Rb:												
Raypol----------	0-5	Silt loam	ML	A-4	0	0	85-100	85-100	65-100	40-90	0-30	NP-7
	5-10	Silt loam	ML	A-4	0	0	85-100	85-100	65-100	40-90	0-25	NP-5
	10-13	Very fine sandy loam	ML	A-4	0	0	85-100	85-100	65-100	40-90	0-25	NP-5
	13-21	Loam	ML	A-4	0	0	85-100	85-100	65-100	40-90	0-25	NP-5
	21-27	Stratified loamy fine sand to fine sandy loam	SM, GP, GM, SP	A-2, A-1, A-3	0	0-10	45-100	30-100	15-80	2-35	0-14	NP
	27-32	Loamy fine sand	SM, GP, GM, SP	A-2, A-1, A-3	0	0-10	45-100	30-100	15-80	2-35	0-14	NP
	32-40	Very gravelly loamy fine sand	SW-SM, GM, GP, SM, SP	A-1, A-2, A-3	0	0-20	45-100	30-100	15-80	2-35	0-14	NP
	40-72	Very gravelly sand	SW, GM, GP, SM, SP	A-1, A-2, A-3	0	0-20	45-100	30-100	15-80	2-30	0-14	NP
Re:												
Red Hook--------	0-8	Gravelly silt loam	GC, CL-ML, GM, ML, SM	A-4, A-2, A-6	---	0-5	65-95	50-92	35-90	20-80	15-30	1-15
	8-17	Gravelly silt loam	CL, GM, ML, SC-SM, SM	A-4, A-2, A-1, A-6	---	0-5	45-92	30-85	20-80	10-70	15-30	1-15
	17-25	Gravelly silt loam	CL, GM, ML, SC-SM, SM	A-4, A-2, A-1, A-6	---	0-5	45-92	30-85	20-80	10-70	15-30	1-15
	25-38	Gravelly very fine sandy loam	SC, GM, ML, SC-SM, SM	A-4, A-2, A-1, A-6	---	0-5	45-92	30-85	20-80	10-70	15-30	1-15
	38-72	Very gravelly very fine sandy loam	SC, GM, ML, SC-SM, SM	A-2, A-1, A-4, A-6	---	0-10	40-92	25-85	10-80	5-70	15-30	1-15
RhA,RhB,RhC,RhD:												
Riverhead-------	0-7	Loam	ML, SM	A-4, A-2	0	0-5	65-100	50-100	30-95	15-75	14-18	1-3
	7-22	Fine sandy loam	SM	A-4, A-2, A-1	0	0-4	65-95	50-92	30-75	15-50	14-18	1-3
	22-28	Loamy fine sand	SM, SP-SM, SW-SM	A-2, A-1	0	0-4	65-95	50-92	25-65	10-35	0-14	NP
	28-72	Sand	SW-SM, SW, SP-SM, SP	A-1	0	0-4	65-95	45-92	20-65	0-25	0-14	NP

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
RrE,RrF:												
Rockrift--------	0-2	Channery muck	PT, ML, GM, GC-GM, SM	A-8, A-4, A-2	1-5	1-15	60-90	45-75	35-70	30-65	15-25	1-10
	2-4	Channery loam	SC-SM, GM, GC-GM	A-4, A-2	1-5	1-20	60-90	45-75	25-70	10-65	10-25	NP-10
	4-49	Very channery loam	GM, GC-GM, SM	A-2, A-1, A-4	0-5	5-30	45-80	25-60	10-60	5-55	10-20	NP-5
	49-72	Very flaggy sandy loam	SW-SM, GC-GM, GM	A-1, A-2, A-4	0-15	5-30	45-80	25-60	10-55	5-45	10-20	NP-5
Sa:												
Saprists--------	0-72	Muck	PT	A-8	---	---	---	---	---	---	0-14	---
Aquents---------	0-10	Mucky silt loam	CL, CL-ML	A-4, A-6	0	0-5	90-100	85-100	75-100	50-90	20-35	5-15
	10-72	Gravelly loamy sand, silt loam, silty clay	CL, ML, SM	A-6, A-4, A-2	0	0-10	60-100	55-100	30-100	15-90	10-50	NP-30
TeB:												
Torull----------	0-3	Mucky peat	PT, ML	A-8	0	0	90-100	80-100	70-100	50-90	35-50	10-20
	3-5	Silt loam	CL-ML, SC-SM, SM	A-4, A-2	0-1	0-10	65-100	50-100	40-95	30-80	20-30	2-7
	5-8	Silt loam	CL-ML, SC-SM, SM	A-4, A-2	0-1	0-10	65-100	50-100	40-95	30-80	20-30	2-7
	8-13	Channery silt loam	CL-ML, ML, SC-SM, SM	A-4, A-2	0-1	0-15	65-98	50-98	35-95	20-80	20-30	2-7
	13-18	Channery very fine sandy loam	SC-SM, ML, SM	A-4, A-2	0-1	0-15	65-98	50-98	35-95	20-80	20-30	2-7
	18-28	Unweathered bedrock			---	---	---	---	---	---	---	---
Gretor----------	0-7	Silt loam	ML, MH, GM, SM	A-7, A-6	0-1	0-10	65-95	50-92	40-90	30-80	35-55	10-20
	7-16	Channery very fine sandy loam	SM, ML, GM	A-7, A-6	0-1	0-10	65-95	50-92	40-90	25-80	35-50	10-20
	16-26	Channery clay loam, channery silt loam, channery loam	SC-SM, ML, CL-ML, SM	A-4	0-1	0-15	65-95	50-92	40-90	30-80	20-30	1-7
	26-36	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
TkA,TkB,TkC,TkD, TkE:												
Tunkhannock-----	0-6	Gravelly loam	SM, GM	A-2, A-1, A-4	0	0-10	50-90	30-75	15-70	10-65	0-14	---
	6-8	Gravelly loam	SM, GM, SP-SM	A-2, A-1, A-4	0	0-20	50-90	30-75	15-70	10-65	0-25	NP-3
	8-18	Very gravelly loam	GM, SM, SP-SM	A-1, A-2, A-4	0	0-20	45-90	30-75	15-70	10-65	0-25	NP-3
	18-25	Very gravelly sandy loam	GM, SM, SP-SM	A-1, A-2, A-4	0	0-20	45-90	30-75	15-70	10-65	0-25	NP-3
	25-72	Very gravelly loamy coarse sand	GP, GM, GP-GM, SP-SM	A-1	0-1	1-25	35-75	15-45	5-30	0-15	0-20	NP-2
TtA,TtB:												
Tunkhannock-----	0-6	Gravelly loam	SM, GM	A-2, A-1, A-4	0	0-10	50-90	30-75	15-70	10-65	0-14	---
	6-8	Gravelly loam	SM, GM, SP-SM	A-2, A-1, A-4	0	0-20	50-90	30-75	15-70	10-65	0-25	NP-3
	8-18	Very gravelly loam	GM, SM, SP-SM	A-1, A-2, A-4	0	0-20	45-90	30-75	15-70	10-65	0-25	NP-3
	18-25	Very gravelly sandy loam	GM, SM, SP-SM	A-1, A-2, A-4	0	0-20	45-90	30-75	15-70	10-65	0-25	NP-3
	25-72	Very gravelly loamy coarse sand	GP, GM, GP-GM, SP-SM	A-1	0-1	1-25	35-75	15-45	5-30	0-15	0-20	NP-2
Chenango--------	0-10	Gravelly silt loam	CL-ML, GM, ML, SM	A-4, A-2, A-1	0	0-15	50-92	35-85	15-80	10-70	0-35	NP-10
	10-21	Very gravelly silt loam	GC-GM	A-4	0	0-15	45-90	30-75	15-70	10-65	0-40	NP-10
	21-25	Very gravelly sandy loam, gravelly fine sandy loam, very gravelly silt loam	GC-GM, GM, ML, SM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	0-40	NP-10
	25-72	Very gravelly loamy coarse sand, very gravelly sand, gravelly loamy fine sand, very gravelly loamy sand	GW-GM, GM, GW, SM	A-1	0	2-15	40-75	20-60	10-45	0-20	0-14	NP

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Ud:												
Udorthents------	---	---	---	---	---	---	---	---	---	---	---	
Uf:												
Udorthents, refuse substratum-----	---	---	---	---	---	---	---	---	---	---	---	
Un:												
Unadilla--------	0-6	Silt loam	CL-ML, ML	A-4	0	0	95-100	92-100	75-100	50-90	0-35	NP-10
	6-15	Silt loam	CL-ML, ML	A-4	0	0	95-100	92-100	75-100	50-90	0-35	NP-10
	15-34	Silt loam	CL-ML, ML	A-4	0	0	95-100	92-100	75-100	50-90	0-25	NP-10
	34-39	Very fine sandy loam	CL-ML, ML	A-4	0	0	95-100	92-100	75-100	50-90	0-25	NP-10
	39-50	Silt loam	CL-ML, ML	A-4	0	0	95-100	92-100	75-100	50-90	0-25	NP-10
	50-72	Very gravelly sand, gravelly sand, loamy sand	SM, GP, GM, SP	A-2, A-1, A-3	---	0-10	45-100	25-100	10-80	1-50	0-14	NP
Ur:												
Urban Land------	0-6	Variable			---	---	---	---	---	---	---	---
VaB,VaC,VaD,VaE:												
Valois----------	0-4	Very fine sandy loam	SM, SC-SM, ML, CL-ML	A-4, A-2	0	0-5	65-95	50-92	40-90	25-80	20-40	1-12
	4-5	Very fine sandy loam	SM, ML, GM, GC-GM	A-4, A-2, A-1	0	0-3	65-95	50-92	30-90	20-80	15-25	NP-5
	5-15	Gravelly silt loam	ML, GM, GC-GM, SM	A-4, A-2, A-1	0	0-10	65-95	50-92	30-90	15-80	15-25	NP-5
	15-31	Gravelly silt loam	ML, GM, GC-GM, SM	A-4, A-2, A-1	0	0-10	65-90	50-75	30-70	15-65	15-25	NP-5
	31-72	Very gravelly fine sandy loam	GM, GC-GM, GW-GM	A-1, A-2, A-4	0-1	0-15	45-70	30-55	15-50	10-45	15-25	NP-7
VlB,VlC,VlD,VlE:												
Vly------------	0-6	Channery silt loam	ML, GM, SM	A-4, A-2, A-5	0-1	0-15	60-85	50-70	40-70	30-65	35-45	1-9
	6-18	Extremely channery loam, very channery silt loam, very gravelly loam	GC-GM, GM, SM	A-4, A-2, A-1	0-1	2-20	45-80	25-50	15-50	10-45	20-30	1-9

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
VlB,VlC,VlD,VlE:												
Vly-------------	18-24	Very channery silt loam	GC-GM, GM, SM	A-2, A-1, A-4	0-1	2-20	45-80	25-50	15-50	10-45	20-30	1-9
	24-31	Extremely channery silt loam	GC-GM, GM, SM	A-1, A-2, A-4	0-1	2-25	45-80	25-50	15-50	10-45	20-30	1-9
	31-41	Bedrock			---	---	---	---	---	---	---	---
VoA,VoB,VoC:												
Volusia---------	0-8	Channery silt loam	CL, CL-ML, GC, SC	A-4	0-1	0-10	70-95	55-92	40-90	30-80	15-25	5-10
	8-15	Channery silt loam	CL, CL-ML, GC-GM, SC	A-4	0-5	0-10	70-95	55-92	40-90	30-80	15-25	5-10
	15-22	Channery silt loam	CL, CL-ML, GC-GM, SC	A-4	0-5	0-10	70-95	55-92	40-90	30-80	15-25	5-10
	22-52	Channery silt loam	CL, CL-ML, SC, SC-SM	A-4	0-5	0-25	50-95	35-92	25-90	20-80	20-30	5-10
	52-72	Very channery silt loam	GC, CL, CL-ML, GC-GM, SC	A-4, A-2, A-1	0-5	0-25	45-92	30-85	25-80	20-70	20-30	5-10
W:												
Water-----------	---	---	---	---	---	---	---	---	---	---	---	---
WeB,WeC,WeD:												
Wellsboro-------	0-8	Channery silt loam	CL-ML, ML, SM	A-4, A-2	0-1	0-15	65-95	45-92	35-90	25-80	0-14	3-10
	8-18	Channery silt loam	CL-ML, GC-GM, ML, SM	A-4, A-2	0-1	0-15	65-95	45-92	35-90	25-80	15-30	NP-10
	18-25	Channery silt loam	CL-ML, GC-GM, ML, SM	A-4, A-2	0-1	0-15	65-95	45-92	25-90	10-80	15-30	NP-10
	25-38	Channery silt loam	GC-GM, CL, GM, ML, SM	A-4, A-2	0-2	0-15	60-90	40-75	25-70	10-65	15-30	NP-10
	38-52	Channery loam	SC-SM, CL, GM, ML, SM	A-4, A-2	0-2	0-15	60-90	40-75	25-70	10-65	15-30	NP-10
	52-62	Very channery loam	SC-SM, CL, GM, ML, SM	A-2, A-4	0-2	0-15	55-90	40-75	25-70	10-65	15-30	NP-10
	62-72	Very channery loam	GC-GM, CL, GM, ML, SM	A-2, A-4	0-2	0-20	55-90	40-75	25-70	10-65	15-30	NP-10

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
WfC:												
Wellsboro-------	0-8	Channery silt loam	CL-ML, ML, SM	A-4, A-2	1-5	0-15	65-95	45-92	35-90	25-80	0-14	3-10
	8-18	Channery silt loam	CL-ML, GC-GM, ML, SM	A-4, A-2	0-1	0-15	65-95	45-92	35-90	25-80	15-30	NP-10
	18-25	Channery silt loam	CL-ML, GC-GM, ML, SM	A-4, A-2	0-1	0-15	65-95	45-92	25-90	10-80	15-30	NP-10
	25-38	Channery silt loam	GC-GM, CL, GM, ML, SM	A-4, A-2	0-2	0-15	60-90	40-75	25-70	10-65	15-30	NP-10
	38-52	Channery loam	SC-SM, CL, GM, ML, SM	A-4, A-2	0-2	0-15	60-90	40-75	25-70	10-65	15-30	NP-10
	52-62	Very channery loam	SC-SM, CL, GM, ML, SM	A-2, A-4	0-2	0-15	55-90	40-75	25-70	10-65	15-30	NP-10
	62-72	Very channery loam	GC-GM, CL, GM, ML, SM	A-2, A-4	0-2	0-20	55-90	40-75	25-70	10-65	15-30	NP-10
Mardin----------	0-5	Channery silt loam	CL, GC, GM, ML	A-4	1-5	0-15	65-95	50-92	40-90	30-80	25-35	5-10
	5-14	Channery silt loam	CL, CL-ML, GC, SC-SM	A-4	0-1	0-15	65-95	50-92	40-90	30-80	15-25	5-10
	14-23	Channery silt loam	GC, CL-ML, CL, SC-SM	A-4	0-1	0-15	65-95	50-92	40-90	30-80	15-25	5-10
	23-26	Channery loam	GC, CL-ML, CL, SC-SM	A-4	0-1	0-15	65-95	50-92	35-90	20-80	15-25	5-10
	26-52	Very channery loam	GC, CL-ML, CL, SC	A-2, A-4, A-1	0-5	0-25	45-90	30-75	25-70	20-65	20-30	5-10
	52-72	Very channery loam	GC, CL-ML, CL, SC	A-2, A-4, A-1	0-5	0-25	45-90	30-75	25-70	20-65	20-30	5-10
Wg:												
Wenonah---------	0-10	Silt loam	ML, SM	A-4, A-2-4	0	0	85-100	75-100	45-100	25-90	0-15	NP-4
	10-20	Silt loam	ML, SM	A-4, A-2	0	0	85-100	75-100	50-100	30-90	0-15	NP-4
	20-32	Very fine sandy loam	ML, SM	A-4, A-2	0	0	80-100	75-100	50-100	30-90	0-15	NP-4
	32-60	Fine sandy loam	SM, ML, GW-GM, GM	A-4, A-2, A-1	0	0-3	50-100	35-100	20-95	10-75	0-15	NP-2
	60-72	Very fine sandy loam	SM, ML, GW-GM, GM	A-4, A-2, A-1	0	0-4	45-100	35-100	15-95	5-75	0-15	NP-2

Table 20.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
WhB,WhC,WhD:												
Willdin---------	0-5	Channery silt loam	ML, GM, SM	A-4, A-5	0-1	0-15	65-95	50-92	40-90	30-80	25-45	3-10
	5-18	Channery silt loam	CL-ML, GC-GM, GM, SM	A-4, A-2-4	0-5	0-15	65-95	50-92	40-90	30-80	15-30	NP-10
	18-23	Channery silt loam	CL-ML, GC-GM, GM, SM	A-4, A-2-4	0-5	0-15	65-95	50-92	35-90	20-80	15-30	NP-10
	23-40	Gravelly silt loam	GM, CL-ML, ML, SM	A-4, A-2-4, A-1	0-5	0-20	50-85	35-70	25-65	20-65	15-30	NP-7
	40-72	Gravelly silt loam	GM, CL-ML, ML, SM	A-4, A-2-4, A-1	0-5	0-20	50-85	35-70	25-65	20-65	15-30	NP-7
WmA,WmB,WmC,WmD:												
Willowemoc------	0-6	Channery silt loam	GM, ML, SM	A-4, A-2	0-1	0-15	65-95	50-92	35-90	20-80	0-25	NP-5
	6-18	Channery silt loam	GM, ML, SM	A-4, A-2	0-5	0-15	65-95	50-92	35-90	20-80	0-25	NP-5
	18-22	Channery loam	GM, ML, SM	A-4, A-2	0-5	0-15	65-95	50-92	35-90	20-80	0-25	NP-5
	22-72	Channery loam	GM, ML, SM	A-4, A-2, A-1	0-5	0-15	50-90	35-75	15-65	10-50	0-25	NP-5
WnC:												
Willowemoc------	0-6	Channery silt loam	GM, ML, SM	A-4, A-2	1-5	0-15	65-95	50-92	35-90	20-80	0-25	NP-5
	6-18	Channery silt loam	GM, ML, SM	A-4, A-2	0-5	0-15	65-95	50-92	35-90	20-80	0-25	NP-5
	18-22	Channery loam	GM, ML, SM	A-4, A-2	0-5	0-15	65-95	50-92	35-90	20-80	0-25	NP-5
	22-72	Channery loam	GM, ML, SM	A-4, A-2, A-1	0-5	0-15	50-90	35-75	15-65	10-50	0-25	NP-5
Willdin---------	0-5	Channery silt loam	ML, GM, SM	A-4, A-5	1-5	0-15	65-95	50-92	40-90	30-80	25-45	3-10
	5-18	Channery silt loam	CL-ML, GC-GM, GM, SM	A-4, A-2-4	0-5	0-15	65-95	50-92	40-90	30-80	15-30	NP-10
	18-23	Channery silt loam	CL-ML, GC-GM, GM, SM	A-4, A-2-4	0-5	0-15	65-95	50-92	35-90	20-80	15-30	NP-10
	23-40	Gravelly silt loam	GM, CL-ML, ML, SM	A-4, A-2-4, A-1	0-5	0-20	50-85	35-70	25-65	20-65	15-30	NP-7
	40-72	Gravelly silt loam	GM, CL-ML, ML, SM	A-4, A-2-4, A-1	0-5	0-20	50-85	35-70	25-65	20-65	15-30	NP-7

Table 21.—Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors		
										Kw	Kf	T
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct			
Bc:												
Barbour	0-6	24-52	28-50	7-17	1.15-1.40	0.6-2	0.16-0.21	0.0-2.9	1.0-5.0	.32	.32	3
	6-18	15-85	0-80	0-17	1.15-1.45	2-6	0.10-0.19	0.0-2.9	0.0-2.0	.32	.37	
	18-26	24-52	28-50	7-17	1.15-1.45	2-6	0.10-0.19	0.0-2.9	0.0-2.0	.32	.37	
	26-72	70-100	0-29	0-15	1.25-1.55	6-20	0.02-0.07	0.0-2.9	0.0-0.6	.17	.20	
Bg:												
Barbour	0-6	24-52	28-50	7-17	1.15-1.40	0.6-2	0.16-0.21	0.0-2.9	1.0-5.0	.32	.32	3
	6-18	15-85	0-80	0-17	1.15-1.45	2-6	0.10-0.19	0.0-2.9	0.0-2.0	.32	.37	
	18-26	24-52	28-50	7-17	1.15-1.45	2-6	0.10-0.19	0.0-2.9	0.0-2.0	.32	.37	
	26-72	70-100	0-29	0-15	1.25-1.55	6-20	0.02-0.07	0.0-2.9	0.0-0.6	.17	.20	
Trestle	0-9	15-50	50-80	0-27	1.35-1.45	0.6-2	0.15-0.21	0.0-2.9	4.0-7.0	.28	.28	4
	9-20	15-85	0-80	0-27	1.45-1.55	0.6-6	0.06-0.15	0.0-2.9	0.0-1.0	.20	.24	
	20-72	15-85	0-80	0-27	1.45-1.55	6-20	0.02-0.09	0.0-2.9	0.0-1.0	.17	.24	
Bs:												
Basher	0-8	15-50	50-80	0-17	1.15-1.40	0.6-2	0.15-0.21	0.0-2.9	1.0-5.0	.32	.32	4
	8-13	15-50	50-80	0-17	1.15-1.45	0.6-2	0.10-0.19	0.0-2.9	0.0-3.0	.32	.32	
	13-23	15-85	0-80	0-17	1.15-1.45	0.6-2	0.10-0.19	0.0-2.9	0.0-3.0	.32	.32	
	23-35	15-85	0-80	0-17	1.25-1.55	0.2-6	0.10-0.19	0.0-2.9	0.0-0.8	.32	.32	
	35-72	24-100	0-50	0-17	1.25-1.55	0.2-6	0.02-0.07	0.0-2.9	0.0-0.5	.17	.20	
BtB,BtC,BtD,BtE:												
Bath	0-9	15-50	50-80	0-17	1.10-1.40	0.6-2	0.10-0.20	0.0-2.9	3.0-6.0	.24	.32	3
	9-20	15-52	28-80	0-17	1.20-1.50	0.6-2	0.08-0.18	0.0-2.9	0.0-1.0	.24	.28	
	20-26	15-85	0-80	0-17	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	0.0-1.0	.24	.32	
	26-72	15-52	28-80	0-17	1.65-1.95	0.06-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.32	
Bw:												
Bucksport	0-12	---	---	0-0	0.10-0.30	0.2-6	0.20-0.50	---	80-99	---	---	3
	12-30	---	---	0-0	0.10-0.30	0.2-6	0.20-0.50	---	80-99	---	---	
	30-50	---	---	0-0	0.10-0.30	0.2-6	0.20-0.50	---	80-99	---	---	
	50-75	---	---	0-0	0.10-0.30	0.2-6	0.20-0.50	---	80-90	---	---	
Wonsqueak	0-10	---	---	0-0	0.10-0.30	0.2-6	0.20-0.40	---	75-99	---	---	2
	10-24	---	---	0-0	0.10-0.30	0.2-6	0.20-0.40	---	75-99	---	---	
	24-36	---	---	0-0	0.10-0.30	0.2-6	0.20-0.40	---	75-99	---	---	
	36-42	---	---	0-0	0.10-0.30	0.2-6	0.20-0.40	---	75-99	---	---	
	42-72	15-85	0-73	0-34	1.45-1.75	0.2-6	0.14-0.22	0.0-2.9	0.0-2.0	.20	.28	

Table 21.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct			
CaE,CaF:												
Cadosia-------------	0-6	24-52	28-50	7-27	1.10-1.40	0.6-2	0.10-0.15	0.0-2.9	2.0-6.0	.24	.32	4
	6-23	15-85	0-80	0-27	1.20-1.50	0.6-2	0.10-0.15	0.0-2.9	0.0-1.0	.24	.20	
	23-32	24-52	28-50	7-27	1.40-1.60	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.32	
	32-58	15-52	28-80	0-27	1.40-1.60	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.32	
	58-72	24-85	0-50	0-27	1.40-1.60	0.6-2	0.05-0.10	0.0-2.9	0.0-0.5	.20	.20	
Ce:												
Carlisle------------	0-8	---	---	0-0	0.13-0.23	0.2-6	0.35-0.45	---	70-99	---	---	3
	8-42	---	---	0-0	0.13-0.23	0.2-6	0.35-0.45	---	70-99	---	---	
	42-65	---	---	0-0	0.13-0.23	0.2-6	0.35-0.45	---	70-99	---	---	
	65-72	---	---	0-0	0.13-0.23	0.2-6	0.35-0.45	---	70-99	---	---	
Palms---------------	0-6	---	---	0-0	0.30-0.40	0.2-6	0.35-0.45	---	75-99	---	---	2
	6-22	---	---	0-0	0.15-0.30	0.2-6	0.35-0.45	---	75-99	---	---	
	22-36	---	---	0-0	0.15-0.30	0.2-6	0.35-0.45	---	75-99	---	---	
	36-72	15-85	0-73	7-35	1.45-1.75	0.2-2	0.14-0.22	0.0-2.9	0.0-2.0	.37	.37	
ChA,ChB,ChC,ChD,ChE:												
Chenango------------	0-10	15-50	50-80	0-27	1.20-1.50	0.6-6	0.08-0.16	0.0-2.9	2.0-6.0	.24	.32	3
	10-21	15-50	50-80	0-27	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-1.0	.17	.24	
	21-25	15-85	0-80	0-27	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-1.0	.17	.24	
	25-72	70-100	0-29	0-15	1.45-1.65	6-20	0.01-0.05	0.0-2.9	0.0-1.0	.17	.24	
CoB,CoC:												
Collamer------------	0-7	0-50	50-80	0-27	1.20-1.50	0.6-2	0.14-0.21	0.0-2.9	2.0-5.0	.49	.49	4
	7-14	0-85	0-80	0-27	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	0.0-1.0	.49	.49	
	14-21	0-20	40-73	27-35	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	0.0-1.0	.49	.49	
	21-26	0-80	15-80	0-40	1.20-1.50	0.2-0.6	0.16-0.20	0.0-2.9	0.0-1.0	.49	.49	
	26-72	0-100	0-80	0-40	1.45-1.65	0.2-0.6	0.12-0.20	0.0-2.9	0.0-1.0	.64	.64	
De:												
Deposit-------------	0-12	15-50	50-80	0-27	1.10-1.40	0.6-6	0.09-0.16	0.0-2.9	4.0-10	.24	.28	4
	12-18	15-85	0-80	0-27	1.25-1.55	2-6	0.05-0.15	0.0-2.9	0.0-3.0	.20	.28	
	18-24	44-85	0-49	0-20	1.25-1.55	2-6	0.05-0.15	0.0-2.9	0.0-3.0	.20	.28	
	24-72	24-91	0-50	0-27	1.30-1.60	6-20	0.01-0.05	0.0-2.9	0.0-3.0	.17	.24	

Table 21.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors		
										Kw	Kf	T
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct			
EdC,EdD,EdE:												
Elka----------------	0-1	---	---	0-0	0.10-0.40	0.2-6	0.20-0.50	---	35-100	---	---	5
	1-6	15-50	50-80	0-17	1.10-1.40	0.6-2	0.11-0.17	0.0-2.9	2.0-6.0	.24	.28	
	6-36	15-85	0-80	0-17	1.20-1.50	0.6-2	0.11-0.17	0.0-2.9	0.0-1.0	.28	.32	
	36-55	15-50	50-80	0-17	1.20-1.50	0.6-2	0.11-0.17	0.0-2.9	0.0-1.0	.28	.32	
	55-72	15-85	0-80	0-17	1.20-1.50	0.6-2	0.11-0.17	0.0-2.9	0.0-1.0	.28	.32	
EkC,EkD:												
Elka----------------	0-1	---	---	0-0	0.10-0.40	0.2-6	0.20-0.50	---	35-100	---	---	5
	1-6	15-50	50-80	0-17	1.10-1.40	0.6-2	0.11-0.17	0.0-2.9	2.0-6.0	.24	.28	
	6-36	15-85	0-80	0-17	1.20-1.50	0.6-2	0.11-0.17	0.0-2.9	0.0-1.0	.28	.32	
	36-55	15-50	50-80	0-17	1.20-1.50	0.6-2	0.11-0.17	0.0-2.9	0.0-1.0	.28	.32	
	55-72	15-85	0-80	0-17	1.20-1.50	0.6-2	0.11-0.17	0.0-2.9	0.0-1.0	.28	.32	
Vly-----------------	0-6	15-50	50-80	0-27	1.10-1.40	0.6-2	0.08-0.17	0.0-2.9	3.0-6.0	.28	.32	3
	6-18	15-52	28-80	0-27	1.20-1.50	0.6-2	0.04-0.12	0.0-2.9	0.0-2.0	.20	.28	
	18-24	15-50	50-80	0-27	1.20-1.50	0.6-2	0.04-0.12	0.0-2.9	0.0-2.0	.20	.28	
	24-31	15-50	50-80	0-27	1.20-1.50	0.6-2	0.04-0.12	0.0-2.9	0.0-2.0	.20	.28	
	31-41	---	---	---	---	0.06-0.06	---	---	---	---	---	
ElC,ElE,ElF:												
Elka----------------	0-1	---	---	0-0	0.10-0.40	0.2-6	0.20-0.50	---	35-100	---	---	5
	1-6	15-50	50-80	0-17	1.10-1.40	0.6-2	0.11-0.17	0.0-2.9	2.0-6.0	.24	.28	
	6-36	15-85	0-80	0-17	1.20-1.50	0.6-2	0.11-0.17	0.0-2.9	0.0-1.0	.28	.32	
	36-55	15-50	50-80	0-17	1.20-1.50	0.6-2	0.11-0.17	0.0-2.9	0.0-1.0	.28	.32	
	55-72	15-85	0-80	0-17	1.20-1.50	0.6-2	0.11-0.17	0.0-2.9	0.0-1.0	.28	.32	
Vly-----------------	0-6	15-50	50-80	0-27	1.10-1.40	0.6-2	0.08-0.17	0.0-2.9	3.0-6.0	.28	.32	3
	6-18	15-52	28-80	0-27	1.20-1.50	0.6-2	0.04-0.12	0.0-2.9	0.0-2.0	.20	.28	
	18-24	15-50	50-80	0-27	1.20-1.50	0.6-2	0.04-0.12	0.0-2.9	0.0-2.0	.20	.28	
	24-31	15-50	50-80	0-27	1.20-1.50	0.6-2	0.04-0.12	0.0-2.9	0.0-2.0	.20	.28	
	31-41	---	---	---	---	0.06-0.06	---	---	---	---	---	
Ff:												
Fluvaquents---------	0-8	15-50	50-80	0-27	1.10-1.50	0.06-20	0.06-0.18	0.0-2.9	2.0-7.0	.10	.15	-
	8-72	15-100	0-80	0-40	1.20-1.60	0.06-20	0.03-0.16	0.0-2.9	0.0-1.0	.28	.32	
Udifluvents---------	0-8	24-52	28-50	7-27	1.10-1.50	0.06-20	0.03-0.15	0.0-2.9	0.0-3.0	.28	.32	-
	8-72	24-100	0-50	0-27	1.20-1.70	0.06-20	0.03-0.16	0.0-2.9	0.0-0.5	.28	.32	

Table 21.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors		
										Kw	Kf	T
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct			
HcC,HcE,HcE:												
Halcott-------------	0-3	24-52	28-50	7-27	1.20-1.40	0.6-2	0.08-0.12	0.0-2.9	2.0-6.0	.17	.28	2
	3-11	15-50	50-80	0-27	1.35-1.65	0.6-2	0.08-0.12	0.0-2.9	0.0-1.0	.17	.24	
	11-18	15-85	0-80	0-27	1.35-1.65	0.6-2	0.08-0.12	0.0-2.9	0.0-1.0	.17	.24	
	18-28	---	---	---	---	0.0000-0.2	---	---	---	---	---	
Mongaup-------------	0-5	24-52	28-50	7-17	1.10-1.40	0.6-2	0.08-0.16	0.0-2.9	3.0-7.0	.24	.28	3
	5-12	15-50	50-80	0-17	1.20-1.60	0.6-2	0.08-0.16	0.0-2.9	0.0-1.0	.24	.28	
	12-20	15-85	0-80	0-17	1.20-1.60	0.6-2	0.08-0.16	0.0-2.9	0.0-1.0	.24	.28	
	20-28	15-50	50-80	0-17	1.20-1.60	0.6-2	0.08-0.16	0.0-2.9	0.0-1.0	.24	.28	
	28-38	---	---	---	---	0.2-0.6	---	---	---	---	---	
Vly-----------------	0-6	15-50	50-80	0-27	1.10-1.40	0.6-2	0.08-0.17	0.0-2.9	3.0-6.0	.28	.32	3
	6-18	15-52	28-80	0-27	1.20-1.50	0.6-2	0.04-0.12	0.0-2.9	0.0-2.0	.20	.28	
	18-24	15-50	50-80	0-27	1.20-1.50	0.6-2	0.04-0.12	0.0-2.9	0.0-2.0	.20	.28	
	24-31	15-50	50-80	0-27	1.20-1.50	0.6-2	0.04-0.12	0.0-2.9	0.0-2.0	.20	.28	
	31-41	---	---	---	---	0.06-0.06	---	---	---	---	---	
LaB,LaC,LaD,LaE:												
Lackawanna----------	0-7	15-50	50-80	0-17	1.20-1.40	0.6-2	0.10-0.14	0.0-2.9	3.0-5.0	.28	.32	3
	7-18	15-50	50-80	0-17	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.20	.24	
	18-28	15-50	50-80	0-17	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.20	.24	
	28-48	15-50	50-80	0-17	1.60-1.90	0.06-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.20	.24	
	48-72	15-85	0-80	0-17	1.60-1.90	0.06-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.20	.24	
LcD:												
Lackawanna----------	0-7	15-50	50-80	0-17	1.20-1.40	0.6-2	0.10-0.14	0.0-2.9	3.0-5.0	.28	.32	3
	7-18	15-50	50-80	0-17	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.20	.24	
	18-28	15-50	50-80	0-17	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.20	.24	
	28-48	15-50	50-80	0-17	1.60-1.90	0.06-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.20	.24	
	48-72	15-85	0-80	0-17	1.60-1.90	0.06-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.20	.24	
Morris--------------	0-8	15-50	50-80	0-17	1.20-1.40	0.6-2	0.12-0.16	0.0-2.9	3.0-8.0	.24	.32	2
	8-14	15-50	50-80	0-17	1.30-1.50	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28	
	14-26	15-50	50-80	0-17	1.60-1.70	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.24	.28	
	26-72	15-50	40-80	0-40	1.60-1.70	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.24	.28	
LdC,LdE,LdF:												
Lackawanna----------	0-7	15-50	50-80	0-17	1.20-1.40	0.6-2	0.10-0.14	0.0-2.9	3.0-5.0	.28	.32	3
	7-18	15-50	50-80	0-17	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.20	.24	
	18-28	15-50	50-80	0-17	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.20	.24	
	28-48	15-50	50-80	0-17	1.60-1.90	0.06-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.20	.24	
	48-72	15-85	0-80	0-17	1.60-1.90	0.06-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.20	.24	
Bath----------------	0-9	15-50	50-80	0-17	1.10-1.40	0.6-2	0.10-0.20	0.0-2.9	3.0-6.0	.24	.32	3
	9-20	15-52	28-80	0-17	1.20-1.50	0.6-2	0.08-0.18	0.0-2.9	0.0-1.0	.24	.28	
	20-26	15-85	0-80	0-17	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	0.0-1.0	.24	.32	
	26-72	15-52	28-80	0-17	1.65-1.95	0.06-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.32	

Table 21.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct			
LeB,LeC,LeD,LeE:												
Lewbath	0-4	24-52	28-50	7-17	1.00-1.40	0.6-2	0.12-0.17	0.0-2.9	2.0-6.0	.28	.32	3
	4-22	15-50	50-80	0-17	1.00-1.50	0.6-2	0.10-0.17	0.0-2.9	1.0-4.0	.28	.32	
	22-31	15-50	50-80	0-17	1.00-1.50	0.6-2	0.10-0.17	0.0-2.9	1.0-4.0	.28	.32	
	31-33	24-52	28-50	7-17	1.00-1.50	0.6-2	0.10-0.17	0.0-2.9	1.0-4.0	.28	.32	
	33-72	15-52	28-80	0-17	1.65-2.00	0.06-0.2	0.00-0.00	0.0-2.9	0.0-2.0	.24	.32	
LhB,LhC,LhD,LhE:												
Lewbeach	0-9	24-52	28-50	7-17	1.10-1.40	0.6-2	0.08-0.16	0.0-2.9	2.0-6.0	.24	.28	3
	9-17	24-52	28-50	7-17	1.20-1.50	0.6-2	0.07-0.14	0.0-2.9	0.0-2.0	.24	.28	
	17-20	15-85	0-80	0-17	1.20-1.50	0.6-2	0.07-0.14	0.0-2.9	0.0-2.0	.24	.28	
	20-61	24-52	28-50	7-17	1.65-2.00	0.06-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.32	
	61-72	15-85	0-80	0-17	1.65-2.00	0.06-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.32	
LkC,LkE,LkF:												
Lewbeach	0-9	24-52	28-50	7-17	1.10-1.40	0.6-2	0.08-0.16	0.0-2.9	2.0-6.0	.24	.28	3
	9-17	24-52	28-50	7-17	1.20-1.50	0.6-2	0.07-0.14	0.0-2.9	0.0-2.0	.24	.28	
	17-20	15-85	0-80	0-17	1.20-1.50	0.6-2	0.07-0.14	0.0-2.9	0.0-2.0	.24	.28	
	20-61	24-52	28-50	7-17	1.65-2.00	0.06-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.32	
	61-72	15-85	0-80	0-17	1.65-2.00	0.06-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.32	
Lewbath	0-4	24-52	28-50	7-17	1.00-1.40	0.6-2	0.12-0.17	0.0-2.9	2.0-6.0	.28	.32	3
	4-22	15-50	50-80	0-17	1.00-1.50	0.6-2	0.10-0.17	0.0-2.9	1.0-4.0	.28	.32	
	22-31	15-50	50-80	0-17	1.00-1.50	0.6-2	0.10-0.17	0.0-2.9	1.0-4.0	.28	.32	
	31-33	24-52	28-50	7-17	1.00-1.50	0.6-2	0.10-0.17	0.0-2.9	1.0-4.0	.28	.32	
	33-72	15-52	28-80	0-17	1.65-2.00	0.06-0.2	0.00-0.00	0.0-2.9	0.0-2.0	.24	.32	
LoB,LoC,LoD,LoE:												
Lordstown	0-3	15-50	50-80	0-17	1.10-1.40	0.6-2	0.11-0.17	0.0-2.9	2.0-6.0	.20	.28	3
	3-6	15-50	50-80	0-17	1.20-1.50	0.6-2	0.10-0.16	0.0-2.9	0.5-1.0	.28	.32	
	6-19	15-50	50-80	0-17	1.20-1.50	0.6-2	0.10-0.16	0.0-2.9	0.5-1.0	.28	.32	
	19-27	24-52	28-50	7-17	1.20-1.50	0.6-2	0.10-0.16	0.0-2.9	0.5-1.0	.28	.32	
	27-32	24-52	28-50	7-17	1.20-1.50	0.6-2	0.05-0.14	0.0-2.9	0.0-0.5	.28	.37	
	32-42	---	---	---	---	0.2-0.6	---	---	---	---	---	
MaB,MaC,MaD,MaE:												
Maplecrest	0-3	15-50	50-80	0-17	1.10-1.40	0.6-2	0.10-0.17	0.0-2.9	2.0-6.0	.24	.32	5
	3-6	15-50	50-80	0-17	1.20-1.50	0.6-2	0.10-0.19	0.0-2.9	1.0-5.0	.24	.28	
	6-18	15-50	50-80	0-17	1.20-1.50	0.6-2	0.10-0.19	0.0-2.9	0.0-1.0	.24	.28	
	18-36	44-85	0-49	0-17	1.20-1.50	0.6-2	0.10-0.19	0.0-2.9	0.0-1.0	.24	.28	
	36-46	24-52	28-50	7-17	1.20-1.50	0.6-6	0.10-0.14	0.0-2.9	0.0-1.0	.24	.28	
	46-72	44-85	0-49	0-17	1.40-1.60	0.6-6	0.02-0.10	0.0-2.9	0.0-1.0	.24	.32	

Table 21.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct			
MdB,MdC,MdD:												
Mardin--------------	0-5	15-50	50-80	0-17	1.10-1.40	0.6-2	0.11-0.17	0.0-2.9	3.0-7.0	.24	.32	2
	5-14	15-50	50-80	0-17	1.20-1.50	0.6-2	0.09-0.16	0.0-2.9	0.0-1.0	.24	.28	
	14-23	15-50	50-80	0-17	1.20-1.50	0.6-2	0.09-0.16	0.0-2.9	0.0-1.0	.24	.28	
	23-26	24-52	28-50	7-17	1.20-1.50	0.6-2	0.09-0.16	0.0-2.9	0.0-1.0	.24	.28	
	26-52	24-52	28-50	7-17	1.70-2.00	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.32	
	52-72	24-52	28-50	7-17	1.65-1.95	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.32	
MkB,MkC:												
Middlebrook---------	0-6	15-50	50-80	0-17	1.10-1.40	0.6-2	0.11-0.17	0.0-2.9	3.0-7.0	.24	.32	3
	6-17	15-50	50-80	0-17	1.20-1.50	0.6-2	0.09-0.16	0.0-2.9	0.0-1.0	.24	.28	
	17-35	24-52	28-50	7-17	1.70-2.00	0.6-2	0.03-0.07	0.0-2.9	0.0-1.0	.24	.32	
	35-45	---	---	---	---	0.06-0.2	---	---	---	---	---	
Mongaup-------------	0-5	24-52	28-50	7-17	1.10-1.40	0.6-2	0.08-0.16	0.0-2.9	3.0-7.0	.24	.28	3
	5-12	15-50	50-80	0-17	1.20-1.60	0.6-2	0.08-0.16	0.0-2.9	0.0-1.0	.24	.28	
	12-20	15-85	0-80	0-17	1.20-1.60	0.6-2	0.08-0.16	0.0-2.9	0.0-1.0	.24	.28	
	20-28	15-50	50-80	0-17	1.20-1.60	0.6-2	0.08-0.16	0.0-2.9	0.0-1.0	.24	.28	
	28-38	---	---	---	---	0.2-0.6	---	---	---	---	---	
MnB,MnC,MnD:												
Mongaup-------------	0-5	24-52	28-50	7-17	1.10-1.40	0.6-2	0.08-0.16	0.0-2.9	3.0-7.0	.24	.28	3
	5-12	15-50	50-80	0-17	1.20-1.60	0.6-2	0.08-0.16	0.0-2.9	0.0-1.0	.24	.28	
	12-20	15-85	0-80	0-17	1.20-1.60	0.6-2	0.08-0.16	0.0-2.9	0.0-1.0	.24	.28	
	20-28	15-50	50-80	0-17	1.20-1.60	0.6-2	0.08-0.16	0.0-2.9	0.0-1.0	.24	.28	
	28-38	---	---	---	---	0.2-0.6	---	---	---	---	---	
MrA,MrB,MrC:												
Morris--------------	0-8	15-50	50-80	0-17	1.20-1.40	0.6-2	0.12-0.16	0.0-2.9	3.0-8.0	.24	.32	2
	8-14	15-50	50-80	0-17	1.30-1.50	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28	
	14-26	15-50	50-80	0-17	1.60-1.70	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.24	.28	
	26-72	15-50	40-80	0-40	1.60-1.70	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.24	.28	
MsB:												
Morris--------------	0-8	15-50	50-80	0-17	1.20-1.40	0.6-2	0.12-0.16	0.0-2.9	3.0-8.0	.24	.32	2
	8-14	15-50	50-80	0-17	1.30-1.50	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28	
	14-26	15-50	50-80	0-17	1.60-1.70	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.24	.28	
	26-72	15-50	40-80	0-40	1.60-1.70	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.24	.28	
Volusia-------------	0-8	15-50	50-80	0-27	1.10-1.40	0.6-2	0.11-0.17	0.0-2.9	2.0-7.0	.24	.32	2
	8-15	15-50	50-80	18-27	1.30-1.60	0.6-2	0.09-0.16	0.0-2.9	0.0-1.0	.24	.28	
	15-22	15-50	50-80	18-27	1.30-1.60	0.6-2	0.09-0.16	0.0-2.9	0.0-1.0	.24	.28	
	22-52	15-50	50-80	18-27	1.70-2.00	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.28	
	52-72	15-50	50-80	0-27	1.65-1.95	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.32	

Table 21.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct			
No,Nr:												
Norchip-------------	0-2	15-80	50-80	0-27	1.10-1.40	0.6-2	0.14-0.20	0.0-2.9	3.0-10	.32	.32	2
	2-7	15-50	50-80	18-27	1.10-1.40	0.6-2	0.14-0.20	0.0-2.9	1.0-3.0	.32	.32	
	7-11	15-50	50-80	18-27	1.10-1.40	0.6-2	0.14-0.20	0.0-2.9	0.5-2.0	.32	.32	
	11-25	24-52	28-50	18-27	1.70-2.00	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.28	
	25-52	24-52	28-50	18-27	1.70-2.00	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.28	
	52-72	15-50	50-80	0-27	1.50-1.85	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.28	
OeA,OeB,OeC:												
Onteora-------------	0-6	15-50	50-80	0-17	1.10-1.40	0.6-2	0.09-0.17	0.0-2.9	4.0-12	.20	.28	2
	6-13	15-50	50-80	0-17	1.10-1.40	0.6-2	0.07-0.15	0.0-2.9	2.0-6.0	.20	.24	
	13-33	24-52	28-50	7-17	1.70-2.00	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.20	.28	
	33-46	24-52	28-50	7-17	1.55-1.70	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.20	.24	
	46-72	24-52	28-50	7-17	1.55-1.70	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.20	.24	
OfB:												
Onteora-------------	0-6	15-50	50-80	0-17	1.10-1.40	0.6-2	0.09-0.17	0.0-2.9	4.0-12	.20	.28	2
	6-13	15-50	50-80	0-17	1.10-1.40	0.6-2	0.07-0.15	0.0-2.9	2.0-6.0	.20	.24	
	13-33	24-52	28-50	7-17	1.70-2.00	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.20	.28	
	33-46	24-52	28-50	7-17	1.55-1.70	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.20	.24	
	46-72	24-52	28-50	7-17	1.55-1.70	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.20	.24	
Ontusia-------------	0-8	15-50	50-80	0-27	1.10-1.40	0.6-2	0.11-0.19	0.0-2.9	3.0-10	.24	.32	2
	8-12	15-50	50-80	18-27	1.10-1.50	0.6-2	0.08-0.18	0.0-2.9	2.0-6.0	.24	.28	
	12-16	15-50	50-80	18-27	1.10-1.50	0.6-2	0.08-0.18	0.0-2.9	2.0-6.0	.24	.28	
	16-25	15-50	50-80	18-27	1.65-2.00	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.28	
	25-36	15-50	50-80	18-27	1.65-2.00	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.28	
	36-57	24-52	28-50	18-27	1.70-2.00	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.28	
	57-72	24-52	28-50	7-27	1.60-1.90	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.32	
OnA,OnB,OnC:												
Ontusia-------------	0-8	15-50	50-80	0-27	1.10-1.40	0.6-2	0.11-0.19	0.0-2.9	3.0-10	.24	.32	2
	8-12	15-50	50-80	18-27	1.10-1.50	0.6-2	0.08-0.18	0.0-2.9	2.0-6.0	.24	.28	
	12-16	15-50	50-80	18-27	1.10-1.50	0.6-2	0.08-0.18	0.0-2.9	2.0-6.0	.24	.28	
	16-25	15-50	50-80	18-27	1.65-2.00	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.28	
	25-36	15-50	50-80	18-27	1.65-2.00	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.28	
	36-57	24-52	28-50	18-27	1.70-2.00	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.28	
	57-72	24-52	28-50	7-27	1.60-1.90	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.32	
OpB,OpC,OpD,OpE,OpF:												
Oquaga--------------	0-6	15-50	50-80	0-27	1.10-1.40	0.6-2	0.08-0.17	0.0-2.9	2.0-6.0	.28	.37	3
	6-24	15-50	50-80	0-27	1.20-1.50	0.6-2	0.04-0.12	0.0-2.9	0.0-1.0	.24	.32	
	24-34	---	---	---	---	0.06-0.06	---	---	---	---	---	

Table 21.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct			
OrC,OrE,OrF:												
Oquaga--------------	0-6	15-50	50-80	0-27	1.10-1.40	0.6-2	0.08-0.17	0.0-2.9	2.0-6.0	.28	.37	3
	6-24	15-50	50-80	0-27	1.20-1.50	0.6-2	0.04-0.12	0.0-2.9	0.0-1.0	.24	.32	
	24-34	---	---	---	---	0.06-0.06	---	---	---	---	---	
Lordstown-----------	0-3	15-50	50-80	0-17	1.10-1.40	0.6-2	0.11-0.17	0.0-2.9	2.0-6.0	.20	.28	3
	3-6	15-50	50-80	0-17	1.20-1.50	0.6-2	0.10-0.16	0.0-2.9	0.5-1.0	.28	.32	
	6-19	15-50	50-80	0-17	1.20-1.50	0.6-2	0.10-0.16	0.0-2.9	0.5-1.0	.28	.32	
	19-27	24-52	28-50	7-17	1.20-1.50	0.6-2	0.10-0.16	0.0-2.9	0.5-1.0	.28	.32	
	27-32	24-52	28-50	7-17	1.20-1.50	0.6-2	0.05-0.14	0.0-2.9	0.0-0.5	.28	.37	
	32-42	---	---	---	---	0.2-0.6	---	---	---	---	---	
Arnot---------------	0-2	24-52	28-50	7-27	1.10-1.40	0.6-2	0.10-0.15	0.0-2.9	3.0-6.0	.24	.28	2
	2-8	15-50	50-80	0-27	1.20-1.50	0.6-2	0.08-0.12	0.0-2.9	2.0-4.0	.17	.24	
	8-17	15-50	50-80	0-27	1.20-1.50	0.6-2	0.08-0.12	0.0-2.9	0.0-1.0	.17	.24	
	17-27	---	---	---	---	0.02-0.2	---	---	---	---	---	
Pc:												
Philo---------------	0-12	15-50	50-80	0-17	1.20-1.40	0.2-2	0.14-0.20	0.0-2.9	2.0-4.0	.37	.37	5
	12-19	15-50	50-80	0-17	1.20-1.40	0.2-2	0.10-0.20	0.0-2.9	0.5-1.0	.32	.32	
	19-31	44-85	0-49	0-17	1.20-1.40	0.2-2	0.10-0.20	0.0-2.9	0.5-1.0	.32	.32	
	31-39	44-85	0-49	0-17	1.20-1.50	0.2-2	0.05-0.10	0.0-2.9	0.5-1.0	.24	.28	
	39-44	15-50	50-80	0-17	1.20-1.50	6-20	0.05-0.10	0.0-2.9	0.5-1.0	.24	.28	
	44-72	70-91	0-29	0-15	1.20-1.50	6-20	0.03-0.06	0.0-2.9	0.5-1.0	.17	.20	
Pg:												
Pits, Gravel--------	---	---	---	---	---	---	---	---	---	---	---	-
Ph:												
Pits, Quarry--------	---	---	---	---	---	---	---	---	---	---	---	-
Rb:												
Raypol--------------	0-5	15-50	50-80	0-17	1.00-1.25	0.6-2	0.16-0.28	0.0-2.9	2.0-8.0	.49	.49	3
	5-10	15-50	50-80	0-17	1.35-1.55	0.6-2	0.15-0.26	0.0-2.9	2.0-6.0	.49	.49	
	10-13	44-85	0-49	0-17	1.35-1.55	0.6-2	0.15-0.26	0.0-2.9	1.0-4.0	.49	.49	
	13-21	24-52	28-50	7-17	1.35-1.55	0.6-2	0.15-0.26	0.0-2.9	0.0-1.0	.49	.49	
	21-27	44-91	0-49	0-17	1.40-1.65	6-20	0.01-0.10	0.0-2.9	0.0-1.0	.10	.15	
	27-32	70-91	0-29	0-15	1.40-1.65	6-20	0.01-0.10	0.0-2.9	0.0-1.0	.10	.15	
	32-40	70-91	0-29	0-15	1.40-1.65	6-20	0.01-0.10	0.0-2.9	0.0-1.0	.10	.15	
	40-72	86-100	0-14	0-10	1.40-1.65	6-20	0.01-0.10	0.0-2.9	0.0-1.0	.10	.15	

Table 21.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors		
										Kw	Kf	T
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct			
Re:												
Red Hook------------	0-8	15-50	50-80	0-17	1.10-1.40	0.6-2	0.09-0.12	0.0-2.9	3.0-12	.17	.32	4
	8-17	15-50	50-80	0-17	1.25-1.55	0.6-2	0.04-0.17	0.0-2.9	2.0-6.0	.24	.28	
	17-25	15-50	50-80	0-17	1.25-1.55	0.6-2	0.04-0.17	0.0-2.9	0.0-1.0	.24	.28	
	25-38	44-85	0-49	0-17	1.25-1.55	0.6-2	0.04-0.17	0.0-2.9	0.0-1.0	.24	.28	
	38-72	44-85	0-49	0-17	1.45-1.65	0.6-2	0.04-0.11	0.0-2.9	0.0-1.0	.17	.24	
RhA, RhB, RhC, RhD:												
Riverhead-----------	0-7	24-52	28-50	7-17	1.10-1.40	2-6	0.14-0.20	0.0-2.9	2.0-4.0	.28	.28	3
	7-22	44-85	0-49	0-17	1.25-1.55	2-6	0.09-0.13	0.0-2.9	0.0-1.0	.28	.32	
	22-28	70-91	0-29	0-15	1.25-1.55	2-6	0.04-0.13	0.0-2.9	0.0-1.0	.17	.20	
	28-72	86-100	0-14	0-10	1.45-1.65	20-20	0.02-0.04	0.0-2.9	0.0-1.0	.17	.20	
RrE, RrF:												
Rockrift------------	0-2	---	---	0-0	0.10-1.00	0.6-6	0.20-0.65	0.0-2.9	35-60	.24	.32	5
	2-4	24-52	28-50	7-27	1.20-1.50	0.6-2	0.10-0.15	0.0-2.9	0.0-1.0	.24	.20	
	4-49	24-52	28-50	7-27	1.40-1.60	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.32	
	49-72	44-85	0-49	0-20	1.40-1.60	0.6-2	0.05-0.10	0.0-2.9	0.0-0.5	.20	.20	
Sa:												
Saprists------------	0-72	---	---	0-0	0.30-0.60	0.1-20	0.35-0.45	---	50-95	---	---	-
Aquents-------------	0-10	---	---	10-25	1.10-1.35	0.2-2	0.14-0.24	3.0-5.9	2.0-20	.37	.37	-
	10-72	---	---	5-50	1.10-1.70	0.06-20	0.03-0.21	3.0-5.9	0.0-5.0	.32	.37	
TeB:												
Torull--------------	0-3	---	---	0-0	0.10-0.80	0.6-6	0.20-0.60	0.0-2.9	30-90	.28	.28	2
	3-5	15-50	50-80	0-27	1.20-1.50	0.6-2	0.09-0.13	0.0-2.9	1.0-6.0	.20	.24	
	5-8	15-50	50-80	0-27	1.20-1.50	0.06-0.6	0.08-0.16	0.0-2.9	0.0-4.0	.20	.24	
	8-13	15-50	50-80	0-27	1.20-1.50	0.06-0.6	0.08-0.16	0.0-2.9	0.0-1.0	.20	.24	
	13-18	44-85	0-49	0-27	1.20-1.50	0.06-0.6	0.08-0.16	0.0-2.9	0.0-1.0	.20	.24	
	18-28	---	---	---	---	0.02-0.2	---	---	---	---	---	
Gretor--------------	0-7	15-50	50-80	0-27	1.00-1.30	0.6-2	0.12-0.17	0.0-2.9	3.0-9.0	.24	.32	3
	7-16	44-85	0-49	18-20	1.10-1.40	0.6-2	0.12-0.16	0.0-2.9	0.0-1.0	.28	.32	
	16-26	15-52	15-80	18-35	1.30-1.65	0.06-0.6	0.08-0.14	0.0-2.9	0.0-1.0	.28	.32	
	26-36	---	---	---	---	0.06-0.2	---	---	---	---	---	
TkA, TkB, TkC, TkD, TkE:												
Tunkhannock---------	0-6	24-52	28-50	7-27	1.20-1.40	2-6	0.08-0.15	0.0-2.9	2.0-4.0	.24	.32	4
	6-8	24-52	28-50	7-27	1.40-1.60	2-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.24	
	8-18	24-52	28-50	7-27	1.40-1.60	2-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.24	
	18-25	44-85	0-49	0-20	1.40-1.60	2-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.24	
	25-72	70-91	0-29	0-15	1.40-1.60	6-20	0.01-0.08	0.0-2.9	0.0-0.5	.17	.24	

Table 21.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors		
										Kw	Kf	T
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct			
TtA,TtB:												
Tunkhannock---------	0-6	24-52	28-50	7-27	1.20-1.40	2-6	0.08-0.15	0.0-2.9	2.0-4.0	.24	.32	4
	6-8	24-52	28-50	7-27	1.40-1.60	2-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.24	
	8-18	24-52	28-50	7-27	1.40-1.60	2-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.24	
	18-25	44-85	0-49	0-20	1.40-1.60	2-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.24	
	25-72	70-91	0-29	0-15	1.40-1.60	6-20	0.01-0.08	0.0-2.9	0.0-0.5	.17	.24	
Chenango------------	0-10	15-50	50-80	0-27	1.20-1.50	0.6-6	0.08-0.16	0.0-2.9	2.0-6.0	.24	.32	3
	10-21	15-50	50-80	0-27	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-1.0	.17	.24	
	21-25	15-85	0-80	0-27	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-1.0	.17	.24	
	25-72	70-100	0-29	0-15	1.45-1.65	6-20	0.01-0.05	0.0-2.9	0.0-1.0	.17	.24	
Ud:												
Udorthents----------	---	---	---	---	---	---	---	---	---	---	---	-
Uf:												
Udorthents, refuse substratum---------	---	---	---	---	---	---	---	---	---	---	---	-
Un:												
Unadilla------------	0-6	0-50	50-80	0-17	1.20-1.50	0.6-2	0.18-0.21	0.0-2.9	2.0-7.0	.43	.43	4
	6-15	0-50	50-80	0-17	1.20-1.50	0.6-2	0.18-0.21	0.0-2.9	2.0-7.0	.49	.49	
	15-34	0-50	50-80	0-17	1.20-1.50	0.6-2	0.17-0.20	0.0-2.9	0.0-1.0	.64	.64	
	34-39	44-85	0-49	0-17	1.20-1.50	0.6-2	0.17-0.20	0.0-2.9	0.0-1.0	.64	.64	
	39-50	0-50	50-80	0-17	1.20-1.50	0.6-2	0.17-0.20	0.0-2.9	0.0-1.0	.64	.64	
	50-72	70-100	0-29	0-15	1.45-1.65	2-20	0.01-0.10	0.0-2.9	0.0-0.5	.17	.20	
Ur:												
Urban Land----------	---	---	---	---	---	---	---	---	---	---	---	-
VaB,VaC,VaD,VaE:												
Valois--------------	0-4	44-85	0-49	0-17	1.10-1.40	0.6-2	0.12-0.21	0.0-2.9	2.0-6.0	.32	.32	4
	4-5	44-85	0-49	0-17	1.20-1.50	0.6-2	0.07-0.14	0.0-2.9	0.0-1.0	.24	.28	
	5-15	15-50	50-80	0-17	1.20-1.50	0.6-2	0.07-0.14	0.0-2.9	0.0-1.0	.24	.28	
	15-31	15-50	50-80	0-17	1.20-1.50	0.6-2	0.07-0.14	0.0-2.9	0.0-1.0	.24	.28	
	31-72	44-85	0-49	0-17	1.40-1.60	0.6-6	0.03-0.09	0.0-2.9	0.0-1.0	.24	.32	
VlB,VlC,VlD,VlE:												
Vly-----------------	0-6	15-50	50-80	0-27	1.10-1.40	0.6-2	0.08-0.17	0.0-2.9	3.0-6.0	.28	.32	3
	6-18	15-52	28-80	0-27	1.20-1.50	0.6-2	0.04-0.12	0.0-2.9	0.0-2.0	.20	.28	
	18-24	15-50	50-80	0-27	1.20-1.50	0.6-2	0.04-0.12	0.0-2.9	0.0-2.0	.20	.28	
	24-31	15-50	50-80	0-27	1.20-1.50	0.6-2	0.04-0.12	0.0-2.9	0.0-2.0	.20	.28	
	31-41	---	---	---	---	0.06-0.06	---	---	---	---	---	

Table 21.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors		
										Kw	Kf	T
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct			
VoA,VoB,VoC:												
Volusia-------------	0-8	15-50	50-80	0-27	1.10-1.40	0.6-2	0.11-0.17	0.0-2.9	2.0-7.0	.24	.32	2
	8-15	15-50	50-80	18-27	1.30-1.60	0.6-2	0.09-0.16	0.0-2.9	0.0-1.0	.24	.28	
	15-22	15-50	50-80	18-27	1.30-1.60	0.6-2	0.09-0.16	0.0-2.9	0.0-1.0	.24	.28	
	22-52	15-50	50-80	18-27	1.70-2.00	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.28	
	52-72	15-50	50-80	18-27	1.65-1.95	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.32	
W:												
Water---------------	---	---	---	---	---	---	---	---	---	---	---	-
WeB,WeC,WeD:												
Wellsboro-----------	0-8	15-50	50-80	0-17	1.20-1.40	0.6-2	0.10-0.14	0.0-2.9	3.0-5.0	.28	.32	3
	8-18	15-50	50-80	0-17	1.30-1.50	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.28	.43	
	18-25	15-50	50-80	0-17	1.30-1.50	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.28	.43	
	25-38	15-50	50-80	0-17	1.70-1.95	0.06-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.28	.32	
	38-52	24-52	28-50	7-17	1.70-1.95	0.06-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.28	.32	
	52-62	24-52	28-50	7-17	1.70-1.95	0.06-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.28	.32	
	62-72	24-52	28-50	7-17	1.70-1.95	0.06-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.28	.32	
WfC:												
Wellsboro-----------	0-8	15-50	50-80	0-17	1.20-1.40	0.6-2	0.10-0.14	0.0-2.9	3.0-5.0	.28	.32	3
	8-18	15-50	50-80	0-17	1.30-1.50	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.28	.43	
	18-25	15-50	50-80	0-17	1.30-1.50	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.28	.43	
	25-38	15-50	50-80	0-17	1.70-1.95	0.06-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.28	.32	
	38-52	24-52	28-50	7-17	1.70-1.95	0.06-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.28	.32	
	52-62	24-52	28-50	7-17	1.70-1.95	0.06-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.28	.32	
	62-72	24-52	28-50	7-17	1.70-1.95	0.06-0.2	0.00-0.00	0.0-2.9	0.0-0.5	.28	.32	
Mardin--------------	0-5	15-50	50-80	0-17	1.10-1.40	0.6-2	0.11-0.17	0.0-2.9	3.0-7.0	.24	.32	2
	5-14	15-50	50-80	0-17	1.20-1.50	0.6-2	0.09-0.16	0.0-2.9	0.0-1.0	.24	.28	
	14-23	15-50	50-80	0-17	1.20-1.50	0.6-2	0.09-0.16	0.0-2.9	0.0-1.0	.24	.28	
	23-26	24-52	28-50	7-17	1.20-1.50	0.6-2	0.09-0.16	0.0-2.9	0.0-1.0	.24	.28	
	26-52	24-52	28-50	7-17	1.70-2.00	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.32	
	52-72	24-52	28-50	7-17	1.65-1.95	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.32	
Wg:												
Wenonah-------------	0-10	15-50	50-80	0-17	1.15-1.35	0.6-2	0.15-0.21	0.0-2.9	2.0-6.0	.37	.37	4
	10-20	15-50	50-80	0-17	1.15-1.45	0.6-6	0.11-0.19	0.0-2.9	1.0-3.0	.32	.32	
	20-32	44-85	0-49	0-17	1.15-1.45	0.6-6	0.11-0.19	0.0-2.9	1.0-3.0	.32	.32	
	32-60	44-85	0-49	0-17	1.20-1.55	0.6-6	0.03-0.18	0.0-2.9	0.0-2.0	.32	.37	
	60-72	44-85	0-49	0-17	1.20-1.55	0.6-6	0.03-0.18	0.0-2.9	0.0-2.0	.32	.37	
WhB,WhC,WhD:												
Willdin-------------	0-5	15-50	50-80	0-17	1.10-1.40	0.6-2	0.12-0.18	0.0-2.9	3.0-7.0	.24	.32	2
	5-18	15-50	50-80	0-17	1.20-1.50	0.6-2	0.09-0.17	0.0-2.9	0.0-2.0	.24	.28	
	18-23	15-50	50-80	0-17	1.20-1.50	0.6-2	0.09-0.17	0.0-2.9	0.0-1.0	.24	.28	
	23-40	15-50	50-80	0-17	1.65-2.00	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.28	
	40-72	15-50	50-80	0-17	1.60-1.95	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.32	

Table 21.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors		
										Kw	Kf	T
WmA,WmB,WmC,WmD:												
Willowemoc----------	0-6	15-50	50-80	0-17	1.10-1.40	0.6-2	0.08-0.19	0.0-2.9	2.0-6.0	.24	.28	3
	6-18	15-50	50-80	0-17	1.10-1.40	0.6-2	0.08-0.19	0.0-2.9	0.0-2.0	.24	.28	
	18-22	24-52	28-50	7-17	1.20-1.55	0.6-2	0.06-0.17	0.0-2.9	0.0-1.0	.24	.28	
	22-72	15-52	28-50	7-17	1.65-2.00	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.20	.28	
WnC:												
Willowemoc----------	0-6	15-50	50-80	0-17	1.10-1.40	0.6-2	0.08-0.19	0.0-2.9	2.0-6.0	.24	.28	3
	6-18	15-50	50-80	0-17	1.10-1.40	0.6-2	0.08-0.19	0.0-2.9	0.0-2.0	.24	.28	
	18-22	24-52	28-50	7-17	1.20-1.55	0.6-2	0.06-0.17	0.0-2.9	0.0-1.0	.24	.28	
	22-72	15-52	28-50	7-17	1.65-2.00	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.20	.28	
Willdin--------------	0-5	15-50	50-80	0-17	1.10-1.40	0.6-2	0.12-0.18	0.0-2.9	3.0-7.0	.24	.32	2
	5-18	15-50	50-80	0-17	1.20-1.50	0.6-2	0.09-0.17	0.0-2.9	0.0-2.0	.24	.28	
	18-23	15-50	50-80	0-17	1.20-1.50	0.6-2	0.09-0.17	0.0-2.9	0.0-1.0	.24	.28	
	23-40	15-50	50-80	0-17	1.65-2.00	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.28	
	40-72	15-50	50-80	0-17	1.60-1.95	0.0015-0.2	0.00-0.00	0.0-2.9	0.0-1.0	.24	.32	

Table 22.—Soil Reaction

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Soil reaction
	In	pH
Bc:		
Barbour	0-6	4.5-6.0
	6-18	4.5-6.0
	18-26	4.5-6.0
	26-72	4.5-6.5
Bg:		
Barbour	0-6	4.5-6.0
	6-18	4.5-6.0
	18-26	4.5-6.0
	26-72	4.5-6.5
Trestle	0-9	5.1-6.0
	9-20	5.6-6.5
	20-72	5.6-6.5
Bs:		
Basher	0-8	3.6-6.0
	8-13	3.6-6.0
	13-23	3.6-6.0
	23-35	4.5-6.5
	35-72	4.5-6.5
BtB,BtC,BtD,BtE:		
Bath	0-9	4.5-6.0
	9-20	4.5-6.0
	20-26	4.5-6.5
	26-72	4.5-6.5
Bw:		
Bucksport	0-12	3.6-5.5
	12-30	3.6-6.0
	30-50	3.6-6.0
	50-75	3.6-6.5
Wonsqueak	0-10	3.6-6.5
	10-24	4.5-6.5
	24-36	4.5-6.5
	36-42	4.5-6.5
	42-72	4.5-6.5
CaE,CaF:		
Cadosia	0-6	4.5-6.0
	6-23	4.5-6.0
	23-32	4.5-6.0
	32-58	4.5-6.0
	58-72	4.5-6.0
Ce:		
Carlisle	0-8	4.5-7.3
	8-42	4.5-7.3
	42-65	4.5-7.3
	65-72	4.5-7.3
Palms	0-6	5.1-7.3
	6-22	5.1-7.3
	22-36	5.1-7.3
	36-72	5.6-7.3

Table 22.—Soil Reaction—Continued

Map symbol and soil name	Depth	Soil reaction
	In	pH
ChA,ChB,ChC,ChD,ChE:		
Chenango-------------	0-10	4.5-5.5
	10-21	4.5-6.0
	21-25	4.5-6.0
	25-72	5.1-7.8
CoB,CoC:		
Collamer-------------	0-7	5.6-7.3
	7-14	5.6-7.3
	14-21	5.6-7.3
	21-26	5.6-7.3
	26-72	6.1-7.3
De:		
Deposit--------------	0-12	5.1-6.0
	12-18	5.1-6.0
	18-24	5.1-6.0
	24-72	5.1-6.5
EdC,EdD,EdE:		
Elka-----------------	0-6	4.5-6.0
	6-36	4.5-6.0
	36-55	4.5-6.0
	55-72	4.5-6.0
EkC,EkD,:		
Elka-----------------	0-6	4.5-6.0
	6-36	4.5-6.0
	36-55	4.5-6.0
	55-72	4.5-6.0
Vly------------------	0-6	4.5-5.5
	6-18	4.5-5.5
	18-24	4.5-5.5
	24-31	4.5-5.5
	31-41	---
ElC,ElE,ElF:		
Elka-----------------	0-6	4.5-6.0
	6-36	4.5-6.0
	36-55	4.5-6.0
	55-72	4.5-6.0
Vly-------------------	0-6	4.5-5.5
	6-18	4.5-5.5
	18-24	4.5-5.5
	24-31	4.5-5.5
	31-41	---
Ff:		
Fluvaquents----------	0-8	4.5-7.3
	8-72	4.5-7.3
Udifluvents----------	0-8	4.5-7.3
	8-72	4.5-7.3
HcC,HcE,HcF:		
Halcott--------------	0-3	4.5-5.5
	3-11	4.5-5.5
	11-18	4.5-5.5
	18-28	---

Table 22.—Soil Reaction—Continued

Map symbol and soil name	Depth	Soil reaction
	In	pH
HcC,HcE,HcF:		
Mongaup--------------	0-5	3.6-5.5
	5-12	3.6-5.5
	12-20	3.6-5.5
	20-28	3.6-5.5
	28-38	---
Vly------------------	0-6	4.5-5.5
	6-18	4.5-5.5
	18-24	4.5-5.5
	24-31	4.5-5.5
	31-41	---
LaB,LaC,LaD,LaE:		
Lackawanna-----------	0-7	4.5-5.5
	7-18	4.5-5.5
	18-28	4.5-5.5
	28-48	4.5-6.0
	48-72	4.5-6.0
LcD:		
Lackawanna-----------	0-7	4.5-5.5
	7-18	4.5-5.5
	18-28	4.5-5.5
	28-48	4.5-6.0
	48-72	4.5-6.0
Morris---------------	0-8	4.5-6.0
	8-14	4.5-6.0
	14-26	4.5-6.0
	26-72	4.5-6.5
LdC,LdE,LdF:		
Lackawanna-----------	0-7	4.5-5.5
	7-18	4.5-5.5
	18-28	4.5-5.5
	28-48	4.5-6.0
	48-72	4.5-6.0
Bath-----------------	0-9	4.5-6.0
	9-20	4.5-6.0
	20-26	4.5-6.5
	26-72	4.5-6.5
LeB,LeC,LeD,LeE:		
Lewbath--------------	0-4	4.5-6.0
	4-22	4.5-6.0
	22-31	4.5-6.0
	31-33	4.5-6.0
	33-72	4.5-6.5
LkC,LkE,LkF:		
Lewbeach-------------	0-9	4.5-5.5
	9-17	4.5-5.5
	17-20	4.5-5.5

Table 22.—Soil Reaction—Continued

Map symbol and soil name	Depth	Soil reaction
	In	pH
LhB,LhC,LhD,LhE:		
Lewbeach	0-9	4.5-5.5
	9-17	4.5-5.5
	17-20	4.5-5.5
	20-61	4.5-6.0
	61-72	5.1-6.5
	20-61	4.5-6.0
	61-72	5.1-6.5
Lewbath	0-4	4.5-6.0
	4-22	4.5-6.0
	22-31	4.5-6.0
	31-33	4.5-6.0
	33-72	4.5-6.5
LoB,LoC,LoD,LoE:		
Lordstown	0-3	4.5-6.5
	3-6	4.5-6.0
	6-19	4.5-6.0
	19-27	4.5-6.0
	27-32	5.1-6.0
	32-42	---
MaB,MaC,MaD,MaE:		
Maplecrest	0-3	4.5-6.0
	3-6	4.5-6.0
	6-18	4.5-6.0
	18-36	5.1-6.5
	36-46	5.1-6.0
	46-72	5.1-6.0
MdB,MdC,MdD:		
Mardin	0-5	3.6-6.0
	5-14	3.6-6.0
	14-23	3.6-6.0
	23-26	3.6-6.0
	26-52	4.5-6.5
	52-72	4.5-6.5
MkB,MkC:		
Middlebrook	0-6	4.5-5.5
	6-17	4.5-5.5
	17-35	4.5-5.5
	35-45	---
Mongaup	0-5	3.6-5.5
	5-12	3.6-5.5
	12-20	3.6-5.5
	20-28	3.6-5.5
	28-38	---
MnB,MnC,MnD:		
Mongaup	0-5	3.6-5.5
	5-12	3.6-5.5
	12-20	3.6-5.5
	20-28	3.6-5.5
	28-38	---

Table 22.—Soil Reaction—Continued

Map symbol and soil name	Depth	Soil reaction
	In	pH
MrA,MrB,MrC:		
Morris---------------	0-8	4.5-6.0
	8-14	4.5-6.0
	14-26	4.5-6.0
	26-72	5.1-6.5
MsB:		
Morris---------------	0-8	4.5-6.0
	8-14	4.5-6.0
	14-26	4.5-6.0
	26-72	5.1-6.5
Volusia---------------	0-8	4.5-6.5
	8-15	4.5-6.5
	15-22	4.5-6.5
	22-52	5.1-6.5
	52-72	5.6-7.8
No,Nr:		
Norchip--------------	0-2	4.5-6.5
	2-7	4.5-6.5
	7-11	5.1-6.5
	11-25	5.1-6.5
	25-52	5.6-7.3
	52-72	6.1-7.3
OeA,OeB,OeC:		
Onteora--------------	0-6	3.6-6.0
	6-13	4.5-6.0
	13-33	5.1-6.0
	33-46	5.1-6.0
	46-72	5.1-6.0
OfB:		
Onteora--------------	0-6	3.5-6.0
	6-13	4.5-6.0
	13-33	5.1-6.0
	33-46	5.1-6.0
	46-72	5.1-6.0
Ontusia--------------	0-8	4.5-6.5
	8-12	4.5-6.5
	12-16	4.5-6.5
	16-25	4.5-6.5
	25-36	4.5-6.5
	36-57	4.5-6.5
	57-72	5.1-6.5
OnA,OnB,OnC:		
Ontusia--------------	0-8	4.5-6.5
	8-12	4.5-6.5
	12-16	4.5-6.5
	16-25	4.5-6.5
	25-36	4.5-6.5
	36-57	4.5-6.5
	57-72	5.1-6.5
OpB,OpC,OpD,OpE,OpF:		
Oquaga---------------	0-6	3.6-6.0
	6-24	3.6-6.0
	24-34	---

Table 22.—Soil Reaction—Continued

Map symbol and soil name	Depth	Soil reaction
	In	pH
OrC,OrE,OrF:		
Oquaga	0-6	3.6-6.0
	6-24	3.6-6.0
	24-34	---
Lordstown	0-3	4.5-6.5
	3-6	4.5-6.0
	6-19	4.5-6.0
	19-27	4.5-6.0
	27-32	5.1-6.0
	32-42	---
Arnot	0-2	3.6-6.0
	2-8	3.6-6.0
	8-17	3.6-6.0
	17-27	---
Pc:		
Philo	0-12	4.5-6.0
	12-19	4.5-6.0
	19-31	4.5-6.0
	31-39	4.5-6.0
	39-44	4.5-6.0
	44-72	4.5-6.0
Pg:		
Pits, Gravel	---	---
	---	---
Ph:		
Pits, Quarry	---	---
Rb:		
Raypol	0-5	4.5-5.5
	5-10	4.5-5.5
	10-13	4.5-5.5
	13-21	4.5-5.5
	21-27	5.1-6.5
	27-32	5.1-6.5
	32-40	5.1-6.5
	40-72	5.1-6.5
Re:		
Red Hook	0-8	5.1-6.5
	8-17	5.6-6.5
	17-25	5.6-6.5
	25-38	5.6-6.5
	38-72	5.6-7.3
RhA,RhB,RhC,RhD:		
Riverhead	0-7	3.6-6.0
	7-22	3.6-6.0
	22-28	3.6-6.0
	28-72	4.5-7.3
RrE,RrF:		
Rockrift	0-2	4.5-6.0
	2-4	4.5-6.0
	4-49	4.5-6.0
	49-72	4.5-6.0

Table 22.—Soil Reaction—Continued

Map symbol and soil name	Depth	Soil reaction
	In	pH
Sa:		
Saprists	0-72	4.5-7.3
Aquents	0-10	4.5-7.3
	10-72	4.5-7.3
TeB:		
Torull	0-3	4.5-5.5
	3-5	4.5-5.5
	5-8	4.5-5.5
	8-13	4.5-5.5
	13-18	4.5-5.5
	18-28	---
Gretor	0-7	4.5-6.0
	7-16	4.5-6.0
	16-26	4.5-6.0
	26-36	---
TkA,TkB,TkC,TkD,TkE:		
Tunkhannock	0-6	3.6-6.0
	6-8	3.6-6.0
	8-18	3.6-6.0
	18-25	3.6-6.0
	25-72	3.6-6.0
TtA,TtB:		
Tunkhannock	0-6	3.6-6.0
	6-8	3.6-6.0
	8-18	3.6-6.0
	18-25	3.6-6.0
	25-72	3.6-6.0
Chenango	0-10	4.5-5.5
	10-21	4.5-6.0
	21-25	4.5-6.0
	25-72	5.1-7.8
Ud:		
Udorthents	---	---
Uf:		
Udorthents	---	---
Un:		
Unadilla	0-6	4.5-6.0
	6-15	4.5-6.0
	15-34	4.5-6.0
	34-39	4.5-6.0
	39-50	4.5-6.0
	50-72	5.1-7.8
Ur:		
Urban Land	---	---

Table 22.—Soil Reaction—Continued

Map symbol and soil name	Depth	Soil reaction
	In	pH
VaB,VaC,VaD,VaE:		
Valois	0-4	3.6-6.0
	4-5	3.6-6.0
	5-15	3.6-6.0
	15-31	3.6-6.0
	31-72	4.5-7.3
VlB,VlC,VlD,VlE:		
Vly	0-6	4.5-5.5
	6-18	4.5-5.5
	18-24	4.5-5.5
	24-31	4.5-5.5
	31-41	---
VoA,VoB,VoC:		
Volusia	0-8	4.5-6.5
	8-15	4.5-6.5
	15-22	4.5-6.5
	22-52	5.1-6.5
	52-72	5.6-7.8
W:		
Water	---	---
WeB,WeC,WeD:		
Wellsboro	0-8	4.5-6.0
	8-18	4.5-6.0
	18-25	4.5-6.0
	25-38	4.5-6.0
	38-52	4.5-6.0
	52-62	4.5-6.0
	62-72	4.5-6.0
WfC:		
Wellsboro	0-8	4.5-6.0
	8-18	4.5-6.0
	18-25	4.5-6.0
	25-38	4.5-6.0
	38-52	4.5-6.0
	52-62	4.5-6.0
	62-72	4.5-6.0
Mardin	0-5	3.6-6.0
	5-14	3.6-6.0
	14-23	3.6-6.0
	23-26	3.6-6.0
	26-52	4.5-6.5
	52-72	4.5-6.5
Wg:		
Wenonah	0-10	4.5-6.0
	10-20	4.5-6.0
	20-32	4.5-6.0
	32-60	4.5-7.3
	60-72	4.5-7.3
WhB,WhC,WhD:		
Willdin	0-5	4.5-6.0
	5-18	4.5-6.0
	18-23	4.5-6.5
	23-40	4.5-6.5
	40-72	4.5-6.5

Table 22.—Soil Reaction—Continued

Map symbol and soil name	Depth	Soil reaction
	In	pH
WmA,WmB,WmC,WmD:		
Willowemoc-----------	0-6	3.6-5.5
	6-18	3.6-5.5
	18-22	3.6-5.5
	22-72	3.6-5.5
WnC:		
Willowemoc-----------	0-6	3.6-5.5
	6-18	3.6-5.5
	18-22	3.6-5.5
	22-72	3.6-5.5
Willdin--------------	0-5	4.5-6.0
	5-18	4.5-6.0
	18-23	4.5-6.5
	23-40	4.5-6.5
	40-72	4.5-6.5

Table 23.—Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive Layer		Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
		In	In	In			
Bc:							
Barbour	Bedrock (lithic)	>60	0	---	Moderate	Low	Moderate
Bg:							
Barbour	Bedrock (lithic)	>60	0	---	Moderate	Low	Moderate
Trestle	Bedrock (lithic)	>60	0	---	Moderate	Low	Moderate
Bs:							
Basher	Bedrock (lithic)	>60	0	---	High	Moderate	Moderate
BtB,BtC,BtD,BtE:							
Bath	Fragipan	26-38	0	---	Moderate	Moderate	Moderate
	Bedrock (lithic)	>60					
Bw:							
Bucksport	Bedrock (lithic)	>60	0	---	High	Moderate	High
Wonsqueak	Bedrock (lithic)	>60	0	---	High	Moderate	Moderate
CaE,CaF:							
Cadosia	Bedrock (lithic)	>60	0	---	Moderate	Low	Moderate
Ce:							
Carlisle	Bedrock (lithic)	>60	0	43-54	High	High	Low
Palms	Bedrock (lithic)	>60	4-15	25-32	High	High	Moderate
ChA,ChB,ChC,ChD,ChE:							
Chenango	Bedrock (lithic)	>60	0	---	Moderate	Low	Moderate
CoB,CoC:							
Collamer	Bedrock (lithic)	>60	0	---	High	Moderate	Low
De:							
Deposit	Bedrock (lithic)	>60	0	---	High	Moderate	Moderate
EdC,EdD,EdE:							
Elka	Bedrock (lithic)	>60	0	---	Moderate	Low	High
EkC,EkD:							
Elka	Bedrock (lithic)	>60	0	---	Moderate	Low	High
Vly	Bedrock (lithic)	20-40	0	---	Moderate	Low	Moderate
ElC,ElE,ElF:							
Elka	Bedrock (lithic)	>60	0	---	Moderate	Low	High
Vly	Bedrock (lithic)	20-40	0	---	Moderate	Low	Moderate
Ff:							
Fluvaquents	Bedrock (lithic)	>60	0	---	High	High	High
Udifluvents	Bedrock (lithic)	>60	0	---	Moderate	High	High
HcC,HcE,HcF:							
Halcott	Bedrock (lithic)	10-20	0	---	Moderate	Low	High
Mongaup	Bedrock (lithic)	20-40	0	---	Moderate	Low	Moderate

Table 23.—Soil Features—Continued

Map symbol and soil name	Restrictive Layer		Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
		In	In	In			
HcC,HcE,HcF:							
Vly---------------------	Bedrock (lithic)	20-40	0	---	Moderate	Low	Moderate
LaB,LaC,LaD,LaE:							
Lackawanna------------	Fragipan	20-36	0	---	Moderate	Low	Moderate
	Bedrock (lithic)	>60					
LcD:							
Lackawanna------------	Fragipan	20-36	0	---	Moderate	Low	Moderate
	Bedrock (lithic)	>60					
Morris-----------------	Fragipan	10-20	0	---	High	High	Moderate
	Bedrock (lithic)	>60					
LdC,LdE,LdF:							
Lackawanna------------	Fragipan	20-36	0	---	Moderate	Low	Moderate
	Bedrock (lithic)	>60					
Bath------------------	Fragipan	26-38	0	---	Moderate	Moderate	Moderate
	Bedrock (lithic)	>60					
LeB,LeC,LeD,LeE:							
Lewbath---------------	Fragipan	20-38	0	---	Moderate	Moderate	Moderate
	Bedrock (lithic)	>60					
LhB,LhC,LhD,LhE:							
Lewbeach--------------	Fragipan	18-36	0	---	Moderate	Moderate	Moderate
	Bedrock (lithic)	>60					
LkC,LkE,LkF:							
Lewbeach--------------	Fragipan	18-36	0	---	Moderate	Moderate	Moderate
	Bedrock (lithic)	>60					
Lewbath---------------	Fragipan	20-38	0	---	Moderate	Moderate	Moderate
	Bedrock (lithic)	>60					
LoB,LoC,LoD,LoE:							
Lordstown-------------	Bedrock (lithic)	20-40	0	---	Moderate	Low	High
MaB,MaC,MaD,MaE:							
Maplecrest------------	Bedrock (lithic)	>60	0	---	Moderate	Low	High
MdB,MdC,MdD:							
Mardin-----------------	Fragipan	15-26	0	---	Moderate	Moderate	Low
	Bedrock (lithic)	>60					
MkB,MkC:							
Middlebrook-----------	Bedrock (lithic)	20-40	0	---	Moderate	Moderate	Low
Mongaup---------------	Bedrock (lithic)	20-40	0	---	Moderate	Low	Moderate

Table 23.—Soil Features—Continued

Map symbol and soil name	Restrictive Layer		Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
		In	In	In			
MnB,MnC,MnD:							
Mongaup	Bedrock (lithic)	20-40	0	---	Moderate	Low	Moderate
MrA,MrB,MrC:							
Morris	Fragipan	10-20	0	---	High	High	Moderate
	Bedrock (lithic)	>60					
MsB:							
Morris	Fragipan	10-20	0	---	High	High	Moderate
	Bedrock (lithic)	>60					
Volusia	Fragipan	10-22	0	---	High	High	Moderate
	Bedrock (lithic)	>60					
No,Nr:							
Norchip	Fragipan	10-20	0	---	High	High	Moderate
	Bedrock (lithic)	>60					
OeA,OeB,OeC:							
Onteora	Fragipan	10-25	0	---	High	High	Moderate
	Bedrock (lithic)	>60					
OfB:							
Onteora	Fragipan	10-25	0	---	High	High	Moderate
	Bedrock (lithic)	>60					
Ontusia	Fragipan	10-25	0	---	High	High	Moderate
	Bedrock (lithic)	>60					
OnA,OnB,OnC:							
Ontusia	Fragipan	10-25	0	---	High	High	Moderate
	Bedrock (lithic)	>60					
OpB,OpC,OpD,OpE,OpF:							
Oquaga	Bedrock (lithic)	20-40	0	---	Moderate	Low	Moderate
OrC,OrE,OrF:							
Oquaga	Bedrock (lithic)	20-40	0	---	Moderate	Low	Moderate
Lordstown	Bedrock (lithic)	20-40	0	---	Moderate	Low	High
Arnot	Bedrock (lithic)	10-20	0	---	Moderate	Low	High
Pc:							
Philo	Bedrock (lithic)	>60	0	---	Moderate	Low	High
Pg:							
Pits, Gravel	---	---	---	---	---	---	---
Ph:							
Pits, Quarry	---	---	---	---	---	---	---
Rb:							
Raypol	Bedrock (lithic)	>60	0	---	High	Moderate	Moderate

Table 23.—Soil Features—Continued

Map symbol and soil name	Restrictive Layer		Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
		In	In	In			
Re:							
Red Hook	Bedrock (lithic)	>60	0	---	High	High	Moderate
RhA,RhB,RhC,RhD:							
Riverhead	Bedrock (lithic)	>60	0	---	Moderate	Low	High
RrE,RrF:							
Rockrift	Bedrock (lithic)	>60	0	---	Moderate	Low	Moderate
Sa:							
Saprists	Bedrock (lithic)	>60	2-4	25-40	High	High	Low
Aquents	Bedrock (lithic)	>60	---	---	High	High	High
TeB:							
Torull	Bedrock (lithic)	10-20	0	---	High	High	High
Gretor	Bedrock (lithic)	20-40	0	---	High	High	High
TkA,TkB,TkC,TkD,TkE:							
Tunkhannock	Bedrock (lithic)	>60	0	---	Low	Low	High
TtA,TtB:							
Tunkhannock	Bedrock (lithic)	>60	0	---	Low	Low	High
Chenango	Bedrock (lithic)	>60	0	---	Moderate	Low	Moderate
Ud:							
Udorthents	Bedrock (lithic)	>60	---	---	---	---	---
Uf:							
Udorthents	Bedrock (lithic)	>60	---	---	---	---	---
Un:							
Unadilla	Bedrock (lithic)	>60	0	---	High	Low	Moderate
Ur:							
Urban Land	---	---	---	---	---	---	---
VaB,VaC,VaD,VaE:							
Valois	Bedrock (lithic)	>60	0	---	Moderate	Low	High
VlB,VlC,VlD,VlE:							
Vly	Bedrock (lithic)	20-40	0	---	Moderate	Low	Moderate
VoA,VoB,VoC:							
Volusia	Fragipan	10-22	0	---	High	High	Moderate
	Bedrock (lithic)	>60					
W:							
Water	---	---	---	---	---	---	---
WeB,WeC,WeD:							
Wellsboro	Fragipan	15-26	0	---	High	High	Moderate
	Bedrock (lithic)	>60					
WfC:							
Wellsboro	Fragipan	15-26	0	---	High	High	Moderate
	Bedrock (lithic)	>60					

Table 23.—Soil Features—Continued

Map symbol and soil name	Restrictive Layer		Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
		In	In	In			
WfC:							
Mardin-----------------	Fragipan	15-26	0	---	Moderate	Moderate	Low
	Bedrock (lithic)	>60					
Wg:							
Wenonah----------------	Bedrock (lithic)	>60	0	---	Moderate	Low	High
WhB,WhC,WhD:							
Willdin----------------	Fragipan	16-26	0	---	Moderate	Moderate	Moderate
	Bedrock (lithic)	>60					
WmA,WmB,WmC,WmD:							
Willowemoc-------------	Fragipan	17-26	0	---	High	High	Moderate
	Bedrock (lithic)	>60					
WnC:							
Willowemoc-------------	Fragipan	17-26	0	---	High	High	Moderate
	Bedrock (lithic)	>60					
		In	In	In			
Willdin----------------	Fragipan	16-26	0	---	Moderate	Moderate	Moderate
	Bedrock (lithic)	>60					

Table 24.—Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
Bc:									
Barbour-------------------	B								
		January	3.0-6.0	>6.0	---	---	None	Brief	Rare
		February	3.0-6.0	>6.0	---	---	None	Brief	Rare
		March	3.0-6.0	>6.0	---	---	None	Brief	Rare
		April	3.0-6.0	>6.0	---	---	None	Brief	Rare
		December	3.0-6.0	>6.0	---	---	None	Brief	Rare
Bg:									
Barbour-------------------	B								
		January	3.0-6.0	>6.0	---	---	None	Brief	Rare
		February	3.0-6.0	>6.0	---	---	None	Brief	Rare
		March	3.0-6.0	>6.0	---	---	None	Brief	Rare
		April	3.0-6.0	>6.0	---	---	None	Brief	Rare
		December	3.0-6.0	>6.0	---	---	None	Brief	Rare
Trestle-------------------	B								
		January	3.0-6.0	>6.0	---	---	None	Brief	Rare
		February	3.0-6.0	>6.0	---	---	None	Brief	Rare
		March	3.0-6.0	>6.0	---	---	None	Brief	Rare
		April	3.0-6.0	>6.0	---	---	None	Brief	Rare
		December	3.0-6.0	>6.0	---	---	None	Brief	Rare
Bs:									
Basher--------------------	B								
		January	1.5-2.0	>6.0	---	---	None	Brief	Occasional
		February	1.5-2.0	>6.0	---	---	None	Brief	Occasional
		March	1.5-2.0	>6.0	---	---	None	Brief	Occasional
		April	1.5-2.0	>6.0	---	---	None	Brief	Occasional
		May	1.5-2.0	>6.0	---	---	None	Brief	Occasional
		December	1.5-2.0	>6.0	---	---	None	Brief	Occasional
BtB:									
Bath----------------------	C								
		January	1.3-2.0	2.2-3.2	---	---	None	---	None
		February	1.3-2.0	2.2-3.2	---	---	None	---	None
		March	1.3-2.0	2.2-3.2	---	---	None	---	None
		December	1.3-2.0	2.2-3.2	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
BtC:									
Bath	C								
		January	1.3-2.0	2.2-3.2	---	---	None	---	None
		February	1.3-2.0	2.2-3.2	---	---	None	---	None
		March	1.3-2.0	2.2-3.2	---	---	None	---	None
		December	1.3-2.0	2.2-3.2	---	---	None	---	None
BtD:									
Bath	C								
		January	1.3-2.0	2.2-3.2	---	---	None	---	None
		February	1.3-2.0	2.2-3.2	---	---	None	---	None
		March	1.3-2.0	2.2-3.2	---	---	None	---	None
		December	1.3-2.0	2.2-3.2	---	---	None	---	None
BtE:									
Bath	C								
		January	1.3-2.0	2.2-3.2	---	---	None	---	None
		February	1.3-2.0	2.2-3.2	---	---	None	---	None
		March	1.3-2.0	2.2-3.2	---	---	None	---	None
		December	1.3-2.0	2.2-3.2	---	---	None	---	None
Bw:									
Bucksport	D								
		January	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	---	None
		February	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	---	None
		March	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	---	None
		April	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	---	None
		May	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	---	None
		June	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	---	None
		July	0.0-1.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		August	---	---	0.0-0.5	Brief	Occasional	---	None
		September	0.0-1.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		October	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	---	None
		November	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	---	None
		December	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
Bw:									
Wonsqueak	D								
		January	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	---	None
		February	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	---	None
		March	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	---	None
		April	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	---	None
		May	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	---	None
		June	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	---	None
		July	0.0-1.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		August	0.0-1.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		September	0.0-1.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		October	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	---	None
		November	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	---	None
		December	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	---	None
CaE:									
Cadosia	B								
		Jan-Dec	---	---	---	---	None	---	None
CaF:									
Cadosia	B								
		Jan-Dec	---	---	---	---	None	---	None
Ce:									
Carlisle	A/D								
		January	0.0	>6.0	0.0-0.5	Very long	Frequent	---	None
		February	0.0	>6.0	0.0-0.5	Very long	Frequent	---	None
		March	0.0	>6.0	0.0-0.5	Very long	Frequent	---	None
		April	0.0	>6.0	0.0-0.5	Very long	Frequent	---	None
		May	0.0	>6.0	0.0-0.5	Very long	Frequent	---	None
		June	0.0	>6.0	0.0-0.5	Very long	Occasional	---	None
		September	0.0	>6.0	0.0-0.5	Very long	Occasional	---	None
		October	0.0	>6.0	0.0-0.5	Very long	Frequent	---	None
		November	0.0	>6.0	0.0-0.5	Very long	Frequent	---	None
		December	0.0	>6.0	0.0-0.5	Very long	Frequent	---	None
Palms	A/D								
		January	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		April	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		May	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		November	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		December	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
ChA:									
Chenango	A								
		Jan-Dec	---	---	---	---	None	---	None
ChB:									
Chenango	A								
		Jan-Dec	---	---	---	---	None	---	None
ChC:									
Chenango	A								
		Jan-Dec	---	---	---	---	None	---	None
ChD:									
Chenango	A								
		Jan-Dec	---	---	---	---	None	---	None
ChE:									
Chenango	A								
		Jan-Dec	---	---	---	---	None	---	None
CoB:									
Collamer	C								
		March	1.2-1.8	>6.0	---	---	None	---	None
		April	1.2-1.8	>6.0	---	---	None	---	None
		May	1.2-1.8	>6.0	---	---	None	---	None
CoC:									
Collamer	C								
		March	1.2-1.8	>6.0	---	---	None	---	None
		April	1.2-1.8	>6.0	---	---	None	---	None
		May	1.2-1.8	>6.0	---	---	None	---	None
De:									
Deposit	B								
		February	1.0-1.6	>6.0	---	---	None	Brief	Rare
		March	1.0-1.6	>6.0	---	---	None	Brief	Rare
		April	1.0-1.6	>6.0	---	---	None	Brief	Rare
		May	1.0-1.6	>6.0	---	---	None	Brief	Rare
EdC:									
Elka	C								
		Jan-Dec	---	---	---	---	None	---	None
EdD:									
Elka	C								
		Jan-Dec	---	---	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
EdE:									
Elka	C								
		Jan-Dec	---	---	---	---	None	---	None
EkC:									
Elka	C								
		Jan-Dec	---	---	---	---	None	---	None
Vly	C								
		Jan-Dec	---	---	---	---	None	---	None
EkD:									
Elka	C								
		Jan-Dec	---	---	---	---	None	---	None
Vly	C								
		Jan-Dec	---	---	---	---	None	---	None
ElC:									
Elka	C								
		Jan-Dec	---	---	---	---	None	---	None
Vly	C								
		Jan-Dec	---	---	---	---	None	---	None
ElE:									
Elka	C								
		Jan-Dec	---	---	---	---	None	---	None
Vly	C								
		Jan-Dec	---	---	---	---	None	---	None
ElF:									
Elka	C								
		Jan-Dec	---	---	---	---	None	---	None
Vly	C								
		Jan-Dec	---	---	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
Ff:									
Fluvaquents	D								
		January	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	Long	Frequent
		February	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	Long	Frequent
		March	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	Long	Frequent
		April	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	Long	Frequent
		May	0.0-1.0	>6.0	0.0-0.5	Long	Occasional	Long	Frequent
		June	0.0-1.0	>6.0	0.0-0.5	Brief	Occasional	Brief	Frequent
		July	0.0-1.0	>6.0	---	---	None	Brief	Frequent
		September	0.0-1.0	>6.0	---	---	None	Brief	Frequent
		October	0.0-1.0	>6.0	0.0-0.5	Brief	Occasional	Brief	Frequent
		November	0.0-1.0	>6.0	0.0-0.5	Brief	Occasional	Long	Frequent
		December	0.0-1.0	>6.0	0.0-0.5	Long	Frequent	Long	Frequent
Udifluvents	B								
		January	2.0-6.0	>6.0	0.0-0.5	---	None	Brief	Frequent
		February	2.0-6.0	>6.0	0.0-0.5	---	None	Brief	Frequent
		March	2.0-6.0	>6.0	0.0-0.5	---	None	Brief	Frequent
		April	2.0-6.0	>6.0	0.0-0.5	---	None	Brief	Frequent
		May	2.0-6.0	>6.0	0.0-0.5	---	None	Brief	Frequent
		June	2.0-6.0	>6.0	0.0-0.5	---	None	Brief	Frequent
		October	2.0-6.0	>6.0	---	---	None	Brief	Frequent
		November	2.0-6.0	>6.0	---	---	None	Brief	Frequent
		December	2.0-6.0	>6.0	---	---	None	Brief	Frequent
HcC:									
Halcott	C/D								
		Jan-Dec	---	---	---	---	None	---	None
Mongaup	C								
		Jan-Dec	---	---	---	---	None	---	None
Vly	C								
		Jan-Dec	---	---	---	---	None	---	None
HcE:									
Halcott	C/D								
		Jan-Dec	---	---	---	---	None	---	None
Mongaup	C								
		Jan-Dec	---	---	---	---	None	---	None
Vly	C								
		Jan-Dec	---	---	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
HcF:									
Halcott	C/D								
		Jan-Dec	---	---	---	---	None	---	None
Mongaup	C								
		Jan-Dec	---	---	---	---	None	---	None
Vly	C								
		Jan-Dec	---	---	---	---	None	---	None
LaB:									
Lackawanna	C								
		January	1.5-2.2	1.6-3.0	---	---	None	---	None
		February	1.5-2.2	1.6-3.0	---	---	None	---	None
		March	1.5-2.2	1.6-3.0	---	---	None	---	None
		November	1.5-2.2	1.6-3.0	---	---	None	---	None
		December	1.5-2.2	1.6-3.0	---	---	None	---	None
LaC:									
Lackawanna	C								
		January	1.5-2.2	1.6-3.0	---	---	None	---	None
		February	1.5-2.2	1.6-3.0	---	---	None	---	None
		March	1.5-2.2	1.6-3.0	---	---	None	---	None
		November	1.5-2.2	1.6-3.0	---	---	None	---	None
		December	1.5-2.2	1.6-3.0	---	---	None	---	None
LaD:									
Lackawanna	C								
		January	1.5-2.2	1.6-3.0	---	---	None	---	None
		February	1.5-2.2	1.6-3.0	---	---	None	---	None
		March	1.5-2.2	1.6-3.0	---	---	None	---	None
		November	1.5-2.2	1.6-3.0	---	---	None	---	None
		December	1.5-2.2	1.6-3.0	---	---	None	---	None
LaE:									
Lackawanna	C								
		January	1.5-2.2	1.6-3.0	---	---	None	---	None
		February	1.5-2.2	1.6-3.0	---	---	None	---	None
		March	1.5-2.2	1.6-3.0	---	---	None	---	None
		November	1.5-2.2	1.6-3.0	---	---	None	---	None
		December	1.5-2.2	1.6-3.0	---	---	None	---	None
LcD:									
Lackawanna	C								
		January	1.5-2.2	1.6-3.0	---	---	None	---	None
		February	1.5-2.2	1.6-3.0	---	---	None	---	None
		March	1.5-2.2	1.6-3.0	---	---	None	---	None
		November	1.5-2.2	1.6-3.0	---	---	None	---	None
		December	1.5-2.2	1.6-3.0	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
LcD:									
Morris--------------------	C								
		January	0.5-1.0	0.9-1.6	---	---	None	---	None
		February	0.5-1.0	0.9-1.6	---	---	None	---	None
		March	0.5-1.0	0.9-1.6	---	---	None	---	None
		April	0.5-1.0	0.9-1.6	---	---	None	---	None
		November	0.5-1.0	0.9-1.6	---	---	None	---	None
		December	0.5-1.0	0.9-1.6	---	---	None	---	None
LdC:									
Lackawanna----------------	C								
		January	1.5-2.2	1.6-3.0	---	---	None	---	None
		February	1.5-2.2	1.6-3.0	---	---	None	---	None
		March	1.5-2.2	1.6-3.0	---	---	None	---	None
		November	1.5-2.2	1.6-3.0	---	---	None	---	None
		December	1.5-2.2	1.6-3.0	---	---	None	---	None
Bath----------------------	C								
		January	1.3-2.0	2.2-3.2	---	---	None	---	None
		February	1.3-2.0	2.2-3.2	---	---	None	---	None
		March	1.3-2.0	2.2-3.2	---	---	None	---	None
		December	1.3-2.0	2.2-3.2	---	---	None	---	None
LdE:									
Lackawanna----------------	C								
		January	1.5-2.2	1.6-3.0	---	---	None	---	None
		February	1.5-2.2	1.6-3.0	---	---	None	---	None
		March	1.5-2.2	1.6-3.0	---	---	None	---	None
		November	1.5-2.2	1.6-3.0	---	---	None	---	None
		December	1.5-2.2	1.6-3.0	---	---	None	---	None
Bath----------------------	C								
		January	1.3-2.0	2.2-3.2	---	---	None	---	None
		February	1.3-2.0	2.2-3.2	---	---	None	---	None
		March	1.3-2.0	2.2-3.2	---	---	None	---	None
		December	1.3-2.0	2.2-3.2	---	---	None	---	None
LdF:									
Lackawanna----------------	C								
		January	1.5-2.2	1.6-3.0	---	---	None	---	None
		February	1.5-2.2	1.6-3.0	---	---	None	---	None
		March	1.5-2.2	1.6-3.0	---	---	None	---	None
		November	1.5-2.2	1.6-3.0	---	---	None	---	None
		December	1.5-2.2	1.6-3.0	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
LdF:									
Bath	C								
		January	1.3-2.0	2.2-3.2	---	---	None	---	None
		February	1.3-2.0	2.2-3.2	---	---	None	---	None
		March	1.3-2.0	2.2-3.2	---	---	None	---	None
		December	1.3-2.0	2.2-3.2	---	---	None	---	None
LeB:									
Lewbath	C								
		January	1.5-2.2	1.7-3.2	---	---	None	---	None
		February	1.5-2.2	1.7-3.2	---	---	None	---	None
		March	1.5-2.2	1.7-3.2	---	---	None	---	None
		November	1.5-2.2	1.7-3.2	---	---	None	---	None
		December	1.5-2.2	1.7-3.2	---	---	None	---	None
LeC:									
Lewbath	C								
		January	1.5-2.2	1.7-3.2	---	---	None	---	None
		February	1.5-2.2	1.7-3.2	---	---	None	---	None
		March	1.5-2.2	1.7-3.2	---	---	None	---	None
		November	1.5-2.2	1.7-3.2	---	---	None	---	None
		December	1.5-2.2	1.7-3.2	---	---	None	---	None
LeD:									
Lewbath	C								
		January	1.5-2.2	1.7-3.2	---	---	None	---	None
		February	1.5-2.2	1.7-3.2	---	---	None	---	None
		March	1.5-2.2	1.7-3.2	---	---	None	---	None
		November	1.5-2.2	1.7-3.2	---	---	None	---	None
		December	1.5-2.2	1.7-3.2	---	---	None	---	None
LeE:									
Lewbath	C								
		January	1.5-2.2	1.7-3.2	---	---	None	---	None
		February	1.5-2.2	1.7-3.2	---	---	None	---	None
		March	1.5-2.2	1.7-3.2	---	---	None	---	None
		December	1.5-2.2	1.7-3.2	---	---	None	---	None
LhB:									
Lewbeach	C								
		January	1.3-1.7	1.5-3.0	---	---	None	---	None
		February	1.3-1.7	1.5-3.0	---	---	None	---	None
		March	1.3-1.7	1.5-3.0	---	---	None	---	None
		November	1.3-1.7	1.5-3.0	---	---	None	---	None
		December	1.3-1.7	1.5-3.0	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
LhC:									
Lewbeach	C								
		January	1.3-1.7	1.5-3.0	---	---	None	---	None
		February	1.3-1.7	1.5-3.0	---	---	None	---	None
		March	1.3-1.7	1.5-3.0	---	---	None	---	None
		November	1.3-1.7	1.5-3.0	---	---	None	---	None
		December	1.3-1.7	1.5-3.0	---	---	None	---	None
LhD:									
Lewbeach	C								
		January	1.3-1.7	1.5-3.0	---	---	None	---	None
		February	1.3-1.7	1.5-3.0	---	---	None	---	None
		March	1.3-1.7	1.5-3.0	---	---	None	---	None
		November	1.3-1.7	1.5-3.0	---	---	None	---	None
		December	1.3-1.7	1.5-3.0	---	---	None	---	None
LhE:									
Lewbeach	C								
		January	1.3-1.7	1.5-3.0	---	---	None	---	None
		February	1.3-1.7	1.5-3.0	---	---	None	---	None
		March	1.3-1.7	1.5-3.0	---	---	None	---	None
		December	1.3-1.7	1.5-3.0	---	---	None	---	None
LkC:									
Lewbeach	C								
		January	1.3-1.7	1.5-3.0	---	---	None	---	None
		February	1.3-1.7	1.5-3.0	---	---	None	---	None
		March	1.3-1.7	1.5-3.0	---	---	None	---	None
		November	1.3-1.7	1.5-3.0	---	---	None	---	None
		December	1.3-1.7	1.5-3.0	---	---	None	---	None
Lewbath	C								
		January	1.5-2.2	1.7-3.2	---	---	None	---	None
		February	1.5-2.2	1.7-3.2	---	---	None	---	None
		March	1.5-2.2	1.7-3.2	---	---	None	---	None
		November	1.5-2.2	1.7-3.2	---	---	None	---	None
		December	1.5-2.2	1.7-3.2	---	---	None	---	None
LkE:									
Lewbeach	C								
		January	1.3-1.7	1.5-3.0	---	---	None	---	None
		February	1.3-1.7	1.5-3.0	---	---	None	---	None
		March	1.3-1.7	1.5-3.0	---	---	None	---	None
		December	1.3-1.7	1.5-3.0	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
LkE:									
Lewbath-------------------	C								
		January	1.5-2.2	1.7-3.2	---	---	None	---	None
		February	1.5-2.2	1.7-3.2	---	---	None	---	None
		March	1.5-2.2	1.7-3.2	---	---	None	---	None
		December	1.5-2.2	1.7-3.2	---	---	None	---	None
LkF:									
Lewbeach------------------	C								
		January	1.3-1.7	1.5-3.0	---	---	None	---	None
		February	1.3-1.7	1.5-3.0	---	---	None	---	None
		March	1.3-1.7	1.5-3.0	---	---	None	---	None
		December	1.3-1.7	1.5-3.0	---	---	None	---	None
Lewbath-------------------	C								
		January	1.5-2.2	1.7-3.2	---	---	None	---	None
		February	1.5-2.2	1.7-3.2	---	---	None	---	None
		March	1.5-2.2	1.7-3.2	---	---	None	---	None
		December	1.5-2.2	1.7-3.2	---	---	None	---	None
LoB:									
Lordstown-----------------	C								
		Jan-Dec	---	---	---	---	None	---	None
LoC:									
Lordstown-----------------	C								
		Jan-Dec	---	---	---	---	None	---	None
LoD:									
Lordstown-----------------	C								
		Jan-Dec	---	---	---	---	None	---	None
LoE:									
Lordstown-----------------	C								
		Jan-Dec	---	---	---	---	None	---	None
MaB:									
Maplecrest----------------	B								
		Jan-Dec	---	---	---	---	None	---	None
MaC:									
Maplecrest----------------	B								
		Jan-Dec	---	---	---	---	None	---	None
MaD:									
Maplecrest----------------	B								
		Jan-Dec	---	---	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
MaE:									
Maplecrest	B								
		Jan-Dec	---	---	---	---	None	---	None
MdB:									
Mardin	C								
		January	1.0-1.6	1.2-2.2	---	---	None	---	None
		February	1.0-1.6	1.2-2.2	---	---	None	---	None
		March	1.0-1.6	1.2-2.2	---	---	None	---	None
		April	1.0-1.6	1.2-2.2	---	---	None	---	None
		November	1.0-1.6	1.2-2.2	---	---	None	---	None
		December	1.0-1.6	1.2-2.2	---	---	None	---	None
MdC:									
Mardin	C								
		January	1.0-1.6	1.2-2.2	---	---	None	---	None
		February	1.0-1.6	1.2-2.2	---	---	None	---	None
		March	1.0-1.6	1.2-2.2	---	---	None	---	None
		April	1.0-1.6	1.2-2.2	---	---	None	---	None
		November	1.0-1.6	1.2-2.2	---	---	None	---	None
		December	1.0-1.6	1.2-2.2	---	---	None	---	None
MdD:									
Mardin	C								
		January	1.0-1.6	1.2-2.2	---	---	None	---	None
		February	1.0-1.6	1.2-2.2	---	---	None	---	None
		March	1.0-1.6	1.2-2.2	---	---	None	---	None
		April	1.0-1.6	1.2-2.2	---	---	None	---	None
		November	1.0-1.6	1.2-2.2	---	---	None	---	None
		December	1.0-1.6	1.2-2.2	---	---	None	---	None
MkB:									
Middlebrook	C								
		January	1.0-1.5	1.1-1.8	---	---	None	---	None
		February	1.0-1.5	1.1-1.8	---	---	None	---	None
		March	1.0-1.5	1.1-1.8	---	---	None	---	None
		April	1.0-1.5	1.1-1.8	---	---	None	---	None
		December	1.0-1.5	1.1-1.8	---	---	None	---	None
Mongaup	C								
		Jan-Dec	---	---	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
MkC:									
Middlebrook	C								
		January	1.0-1.5	1.1-1.8	---	---	None	---	None
		February	1.0-1.5	1.1-1.8	---	---	None	---	None
		March	1.0-1.5	1.1-1.8	---	---	None	---	None
		April	1.0-1.5	1.1-1.8	---	---	None	---	None
		December	1.0-1.5	1.1-1.8	---	---	None	---	None
Mongaup	C								
		Jan-Dec	---	---	---	---	None	---	None
MnB:									
Mongaup	C								
		Jan-Dec	---	---	---	---	None	---	None
MnC:									
Mongaup	C								
		Jan-Dec	---	---	---	---	None	---	None
MnD:									
Mongaup	C								
		Jan-Dec	---	---	---	---	None	---	None
MrA:									
Morris	C								
		January	0.5-1.0	0.9-1.6	---	---	None	---	None
		February	0.5-1.0	0.9-1.6	---	---	None	---	None
		March	0.5-1.0	0.9-1.6	---	---	None	---	None
		April	0.5-1.0	0.9-1.6	---	---	None	---	None
		May	0.5-1.0	0.9-1.6	---	---	None	---	None
		November	0.5-1.0	0.9-1.6	---	---	None	---	None
		December	0.5-1.0	0.9-1.6	---	---	None	---	None
MrB:									
Morris	C								
		January	0.5-1.0	0.9-1.6	---	---	None	---	None
		February	0.5-1.0	0.9-1.6	---	---	None	---	None
		March	0.5-1.0	0.9-1.6	---	---	None	---	None
		April	0.5-1.0	0.9-1.6	---	---	None	---	None
		May	0.5-1.0	0.9-1.6	---	---	None	---	None
		November	0.5-1.0	0.9-1.6	---	---	None	---	None
		December	0.5-1.0	0.9-1.6	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
MrC:									
Morris-------------------	C								
		January	0.5-1.0	0.9-1.6	---	---	None	---	None
		February	0.5-1.0	0.9-1.6	---	---	None	---	None
		March	0.5-1.0	0.9-1.6	---	---	None	---	None
		April	0.5-1.0	0.9-1.6	---	---	None	---	None
		November	0.5-1.0	0.9-1.6	---	---	None	---	None
		December	0.5-1.0	0.9-1.6	---	---	None	---	None
MsB:									
Morris-------------------	C								
		January	0.5-1.0	0.9-1.6	---	---	None	---	None
		February	0.5-1.0	0.9-1.6	---	---	None	---	None
		March	0.5-1.0	0.9-1.6	---	---	None	---	None
		April	0.5-1.0	0.9-1.6	---	---	None	---	None
		May	0.5-1.0	0.9-1.6	---	---	None	---	None
		November	0.5-1.0	0.9-1.6	---	---	None	---	None
		December	0.5-1.0	0.9-1.6	---	---	None	---	None
Volusia------------------	C								
		January	0.5-1.0	0.9-1.8	---	---	None	---	None
		February	0.5-1.0	0.9-1.8	---	---	None	---	None
		March	0.5-1.0	0.9-1.8	---	---	None	---	None
		April	0.5-1.0	0.9-1.8	---	---	None	---	None
		May	0.5-1.0	0.9-1.8	---	---	None	---	None
		November	0.5-1.0	0.9-1.8	---	---	None	---	None
		December	0.5-1.0	0.9-1.8	---	---	None	---	None
No:									
Norchip------------------	D								
		January	0.0-0.1	0.8-1.7	---	---	None	---	None
		February	0.0-0.1	0.8-1.7	---	---	None	---	None
		March	0.0-0.1	0.8-1.7	---	---	None	---	None
		April	0.0-0.1	0.8-1.7	---	---	None	---	None
		May	0.0-0.1	0.8-1.7	---	---	None	---	None
		November	0.0-0.1	0.8-1.7	---	---	None	---	None
		December	0.0-0.1	0.8-1.7	---	---	None	---	None
Nr:									
Norchip------------------	D								
		January	0.0-0.1	0.8-1.7	---	---	None	---	None
		February	0.0-0.1	0.8-1.7	---	---	None	---	None
		March	0.0-0.1	0.8-1.7	---	---	None	---	None
		April	0.0-0.1	0.8-1.7	---	---	None	---	None
		May	0.0-0.1	0.8-1.7	---	---	None	---	None
		November	0.0-0.1	0.8-1.7	---	---	None	---	None
		December	0.0-0.1	0.8-1.7	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
OeA:									
Onteora-------------------	C								
		January	0.5-1.0	0.8-2.1	---	---	None	---	None
		February	0.5-1.0	0.8-2.1	---	---	None	---	None
		March	0.5-1.0	0.8-2.1	---	---	None	---	None
		April	0.5-1.0	0.8-2.1	---	---	None	---	None
		May	0.5-1.0	0.8-2.1	---	---	None	---	None
		November	0.5-1.0	0.8-2.1	---	---	None	---	None
		December	0.5-1.0	0.8-2.1	---	---	None	---	None
OeB:									
Onteora-------------------	C								
		January	0.5-1.0	0.8-2.1	---	---	None	---	None
		February	0.5-1.0	0.8-2.1	---	---	None	---	None
		March	0.5-1.0	0.8-2.1	---	---	None	---	None
		April	0.5-1.0	0.8-2.1	---	---	None	---	None
		May	0.5-1.0	0.8-2.1	---	---	None	---	None
		November	0.5-1.0	0.8-2.1	---	---	None	---	None
		December	0.5-1.0	0.8-2.1	---	---	None	---	None
OeC:									
Onteora-------------------	C								
		January	0.5-1.0	0.8-2.1	---	---	None	---	None
		February	0.5-1.0	0.8-2.1	---	---	None	---	None
		March	0.5-1.0	0.8-2.1	---	---	None	---	None
		April	0.5-1.0	0.8-2.1	---	---	None	---	None
		May	0.5-1.0	0.8-2.1	---	---	None	---	None
		November	0.5-1.0	0.8-2.1	---	---	None	---	None
		December	0.5-1.0	0.8-2.1	---	---	None	---	None
OfB:									
Onteora-------------------	C								
		January	0.5-1.0	0.8-2.1	---	---	None	---	None
		February	0.5-1.0	0.8-2.1	---	---	None	---	None
		March	0.5-1.0	0.8-2.1	---	---	None	---	None
		April	0.5-1.0	0.8-2.1	---	---	None	---	None
		May	0.5-1.0	0.8-2.1	---	---	None	---	None
		November	0.5-1.0	0.8-2.1	---	---	None	---	None
		December	0.5-1.0	0.8-2.1	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
OfB:									
Ontusia-------------------	C								
		January	0.5-0.9	0.8-2.1	---	---	None	---	None
		February	0.5-0.9	0.8-2.1	---	---	None	---	None
		March	0.5-0.9	0.8-2.1	---	---	None	---	None
		April	0.5-0.9	0.8-2.1	---	---	None	---	None
		May	0.5-0.9	0.8-2.1	---	---	None	---	None
		November	0.5-0.9	0.8-2.1	---	---	None	---	None
		December	0.5-0.9	0.8-2.1	---	---	None	---	None
OnA:									
Ontusia-------------------	C								
		January	0.5-0.9	0.8-2.1	---	---	None	---	None
		February	0.5-0.9	0.8-2.1	---	---	None	---	None
		March	0.5-0.9	0.8-2.1	---	---	None	---	None
		April	0.5-0.9	0.8-2.1	---	---	None	---	None
		May	0.5-0.9	0.8-2.1	---	---	None	---	None
		November	0.5-0.9	0.8-2.1	---	---	None	---	None
		December	0.5-0.9	0.8-2.1	---	---	None	---	None
OnB:									
Ontusia-------------------	C								
		January	0.5-0.9	0.8-2.1	---	---	None	---	None
		February	0.5-0.9	0.8-2.1	---	---	None	---	None
		March	0.5-0.9	0.8-2.1	---	---	None	---	None
		April	0.5-0.9	0.8-2.1	---	---	None	---	None
		May	0.5-0.9	0.8-2.1	---	---	None	---	None
		November	0.5-0.9	0.8-2.1	---	---	None	---	None
		December	0.5-0.9	0.8-2.1	---	---	None	---	None
OnC:									
Ontusia-------------------	C								
		January	0.5-0.9	0.8-2.1	---	---	None	---	None
		February	0.5-0.9	0.8-2.1	---	---	None	---	None
		March	0.5-0.9	0.8-2.1	---	---	None	---	None
		April	0.5-0.9	0.8-2.1	---	---	None	---	None
		May	0.5-0.9	0.8-2.1	---	---	None	---	None
		November	0.5-0.9	0.8-2.1	---	---	None	---	None
		December	0.5-0.9	0.8-2.1	---	---	None	---	None
OpB:									
Oquaga--------------------	C								
		Jan-Dec	---	---	---	---	None	---	None
OpC:									
Oquaga--------------------	C								
		Jan-Dec	---	---	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
OpD:									
Oquaga	C								
		Jan-Dec	---	---	---	---	None	---	None
OpE:									
Oquaga	C								
		Jan-Dec	---	---	---	---	None	---	None
OpF:									
Oquaga	C								
		Jan-Dec	---	---	---	---	None	---	None
OrC:									
Oquaga	C								
		Jan-Dec	---	---	---	---	None	---	None
Lordstown	C								
		Jan-Dec	---	---	---	---	None	---	None
Arnot	C/D								
		Jan-Dec	---	---	---	---	None	---	None
OrE:									
Oquaga	C								
		Jan-Dec	---	---	---	---	None	---	None
Lordstown	C								
		Jan-Dec	---	---	---	---	None	---	None
Arnot	C/D								
		Jan-Dec	---	---	---	---	None	---	None
OrF:									
Oquaga	C								
		Jan-Dec	---	---	---	---	None	---	None
Lordstown	C								
		Jan-Dec	---	---	---	---	None	---	None
Arnot	C/D								
		Jan-Dec	---	---	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
Pc:									
Philo	B								
		January	1.2-1.9	>6.0	---	---	None	Very brief	Occasional
		February	1.2-1.9	>6.0	---	---	None	Very brief	Occasional
		March	1.2-1.9	>6.0	---	---	None	Very brief	Occasional
		April	1.2-1.9	>6.0	---	---	None	Very brief	Occasional
		May	1.2-1.9	>6.0	---	---	None	Very brief	Occasional
		December	1.2-1.9	>6.0	---	---	None	Very brief	Occasional
Pg:									
Pits, Gravel	A								
		Jan-Dec	---	---	---	---	None	---	None
Ph:									
Pits, Quarry	---								
		Jan-Dec	---	---	---	---	None	---	None
Rb:									
Raypol	C								
		January	0.0-1.0	>6.0	0.0-0.5	Brief	Occasional	Brief	Rare
		February	0.0-1.0	>6.0	0.0-0.5	Brief	Occasional	Brief	Rare
		March	0.0-1.0	>6.0	0.0-0.5	Brief	Occasional	Brief	Rare
		April	0.0-1.0	>6.0	0.0-0.5	Brief	Occasional	Brief	Rare
		May	0.0-1.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		November	0.0-1.0	>6.0	0.0-0.5	Brief	Occasional	Brief	Rare
		December	0.0-1.0	>6.0	0.0-0.5	Brief	Occasional	Brief	Rare
Re:									
Red Hook	C								
		January	0.5-1.5	>6.0	---	---	None	---	None
		February	0.5-1.5	>6.0	---	---	None	---	None
		March	0.5-1.5	>6.0	---	---	None	---	None
		April	0.5-1.5	>6.0	---	---	None	---	None
		May	0.5-1.5	>6.0	---	---	None	---	None
		December	0.5-1.5	>6.0	---	---	None	---	None
RhA:									
Riverhead	B								
		Jan-Dec	---	---	---	---	None	---	None
RhB:									
Riverhead	B								
		Jan-Dec	---	---	---	---	None	---	None
RhC:									
Riverhead	B								
		Jan-Dec	---	---	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
RhD:									
Riverhead	B								
		Jan-Dec	---	---	---	---	None	---	None
RrE:									
Rockrift	B								
		Jan-Dec	---	---	---	---	None	---	None
RrF:									
Rockrift	B								
		Jan-Dec	---	---	---	---	None	---	None
Sa:									
Saprists	A/D								
		January	0.0	>6.0	0.0-2.0	Very long	Frequent	---	None
		February	0.0	>6.0	0.0-2.0	Very long	Frequent	---	None
		March	0.0	>6.0	0.0-2.0	Very long	Frequent	---	None
		April	0.0	>6.0	0.0-2.0	Very long	Frequent	---	None
		May	0.0	>6.0	0.0-2.0	Very long	Frequent	---	None
		June	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		July	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		August	0.0	>6.0	0.0-1.0	Long	Occasional	---	None
		September	0.0	>6.0	0.0-1.0	Long	Occasional	---	None
		October	0.0	>6.0	0.0-1.0	Long	Occasional	---	None
		November	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		December	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
Aquents	D								
		January	0.0	>6.0	0.0-2.0	Very long	Frequent	---	None
		February	0.0	>6.0	0.0-2.0	Very long	Frequent	---	None
		March	0.0	>6.0	0.0-2.0	Very long	Frequent	---	None
		April	0.0	>6.0	0.0-2.0	Very long	Frequent	---	None
		May	0.0	>6.0	0.0-2.0	Very long	Frequent	---	None
		June	0.0	>6.0	0.0-2.0	Very long	Frequent	---	None
		July	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		August	0.0	>6.0	0.0-1.0	Long	Occasional	---	None
		September	0.0	>6.0	0.0-1.0	Long	Occasional	---	None
		October	0.0	>6.0	0.0-2.0	Long	Occasional	---	None
		November	0.0	>6.0	0.0-2.0	Very long	Frequent	---	None
		December	0.0	>6.0	0.0-2.0	Very long	Frequent	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
TeB:									
Torull----------------------	D								
		January	0.3-0.8	4.9-4.9	---	---	None	---	None
		February	0.3-0.8	0.3-0.8	---	---	None	---	None
		March	0.3-0.8	4.9-4.9	---	---	None	---	None
		April	0.3-0.8	4.9-4.9	---	---	None	---	None
		May	0.3-0.8	4.9-4.9	---	---	None	---	None
		June	0.3-0.8	4.9-4.9	---	---	None	---	None
		November	0.3-0.8	4.9-4.9	---	---	None	---	None
		December	0.3-0.8	4.9-4.9	---	---	None	---	None
Gretor----------------------	C								
		January	0.5-1.5	4.9-4.9	---	---	None	---	None
		February	0.5-1.5	4.9-4.9	---	---	None	---	None
		March	0.5-1.5	4.9-4.9	---	---	None	---	None
		April	0.5-1.5	4.9-4.9	---	---	None	---	None
		May	0.5-1.5	4.9-4.9	---	---	None	---	None
		June	0.5-1.5	4.9-4.9	---	---	None	---	None
		November	0.5-1.5	4.9-4.9	---	---	None	---	None
		December	0.5-1.5	4.9-4.9	---	---	None	---	None
TkA:									
Tunkhannock-----------------	A								
		Jan-Dec	---	---	---	---	None	---	None
TkB:									
Tunkhannock-----------------	A								
		Jan-Dec	---	---	---	---	None	---	None
TkC:									
Tunkhannock-----------------	A								
		Jan-Dec	---	---	---	---	None	---	None
TkD:									
Tunkhannock-----------------	A								
		Jan-Dec	---	---	---	---	None	---	None
TkE:									
Tunkhannock-----------------	A								
		Jan-Dec	---	---	---	---	None	---	None
TtA:									
Tunkhannock-----------------	A								
		March	3.0-6.0	>6.0	---	---	None	Brief	Rare
		April	3.0-6.0	>6.0	---	---	None	Brief	Rare
		May	3.0-6.0	>6.0	---	---	None	Brief	Rare

Table 24.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
TtA:									
Chenango	A								
		March	3.0-6.0	>6.0	---	---	None	Brief	Rare
		April	3.0-6.0	>6.0	---	---	None	Brief	Rare
		May	3.0-6.0	>6.0	---	---	None	Brief	Rare
TtB:									
Tunkhannock	A								
		March	3.0-6.0	>6.0	---	---	None	Brief	Rare
		April	3.0-6.0	>6.0	---	---	None	Brief	Rare
		May	3.0-6.0	>6.0	---	---	None	Brief	Rare
Chenango	A								
		March	3.0-6.0	>6.0	---	---	None	Brief	Rare
		April	3.0-6.0	>6.0	---	---	None	Brief	Rare
		May	3.0-6.0	>6.0	---	---	None	Brief	Rare
Ud:									
Udorthents	A/D								
		January	3.0	>6.0	---	---	None	---	None
		February	3.0	>6.0	---	---	None	---	None
		March	3.0	>6.0	---	---	None	---	None
		April	3.0	>6.0	---	---	None	---	None
		May	3.0	>6.0	---	---	None	---	None
		June	3.0	>6.0	---	---	None	---	None
		November	3.0	>6.0	---	---	None	---	None
		December	3.0	>6.0	---	---	None	---	None
Uf:									
Udorthents	A								
		Jan-Dec	---	---	---	---	None	---	None
Un:									
Unadilla	B								
		Jan-Dec	---	---	---	---	None	---	None
Ur:									
Urban Land	---								
		Jan-Dec	---	---	---	---	None	---	None
VaB:									
Valois	B								
		Jan-Dec	---	---	---	---	None	---	None
VaC:									
Valois	B								
		Jan-Dec	---	---	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
VaD:									
Valois	B								
		Jan-Dec	---	---	---	---	None	---	None
VaE:									
Valois	B								
		Jan-Dec	---	---	---	---	None	---	None
VlB:									
Vly	C								
		Jan-Dec	---	---	---	---	None	---	None
VlC:									
Vly	C								
		Jan-Dec	---	---	---	---	None	---	None
VlD:									
Vly	C								
		Jan-Dec	---	---	---	---	None	---	None
VlE:									
Vly	C								
		Jan-Dec	---	---	---	---	None	---	None
VoA:									
Volusia	C								
		January	0.5-1.0	0.9-1.8	---	---	None	---	None
		February	0.5-1.0	0.9-1.8	---	---	None	---	None
		March	0.5-1.0	0.9-1.8	---	---	None	---	None
		April	0.5-1.0	0.9-1.8	---	---	None	---	None
		May	0.5-1.0	0.9-1.8	---	---	None	---	None
		November	0.5-1.0	0.9-1.8	---	---	None	---	None
		December	0.5-1.0	0.9-1.8	---	---	None	---	None
VoB:									
Volusia	C								
		January	0.5-1.0	0.9-1.8	---	---	None	---	None
		February	0.5-1.0	0.9-1.8	---	---	None	---	None
		March	0.5-1.0	0.9-1.8	---	---	None	---	None
		April	0.5-1.0	0.9-1.8	---	---	None	---	None
		May	0.5-1.0	0.9-1.8	---	---	None	---	None
		November	0.5-1.0	0.9-1.8	---	---	None	---	None
		December	0.5-1.0	0.9-1.8	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
VoC:									
Volusia-------------------	C								
		January	0.5-1.0	0.9-1.8	---	---	None	---	None
		February	0.5-1.0	0.9-1.8	---	---	None	---	None
		March	0.5-1.0	0.9-1.8	---	---	None	---	None
		April	0.5-1.0	0.9-1.8	---	---	None	---	None
		May	0.5-1.0	0.9-1.8	---	---	None	---	None
		November	0.5-1.0	0.9-1.8	---	---	None	---	None
		December	0.5-1.0	0.9-1.8	---	---	None	---	None
W:									
Water---------------------	---								
		Jan-Dec	---	---	---	---	None	---	None
WeB:									
Wellsboro-----------------	C								
		January	0.9-1.6	1.2-2.2	---	---	None	---	None
		February	0.9-1.6	1.2-2.2	---	---	None	---	None
		March	0.9-1.6	1.2-2.2	---	---	None	---	None
		November	0.9-1.6	1.2-2.2	---	---	None	---	None
		December	0.9-1.6	1.2-2.2	---	---	None	---	None
WeC:									
Wellsboro-----------------	C								
		January	0.9-1.6	1.2-2.2	---	---	None	---	None
		February	0.9-1.6	1.2-2.2	---	---	None	---	None
		March	0.9-1.6	1.2-2.2	---	---	None	---	None
		November	0.9-1.6	1.2-2.2	---	---	None	---	None
		December	0.9-1.6	1.2-2.2	---	---	None	---	None
WeD:									
Wellsboro-----------------	C								
		January	0.9-1.6	1.2-2.2	---	---	None	---	None
		February	0.9-1.6	1.2-2.2	---	---	None	---	None
		March	0.9-1.6	1.2-2.2	---	---	None	---	None
		November	0.9-1.6	1.2-2.2	---	---	None	---	None
		December	0.9-1.6	1.2-2.2	---	---	None	---	None
WfC:									
Wellsboro-----------------	C								
		January	0.9-1.6	1.2-2.2	---	---	None	---	None
		February	0.9-1.6	1.2-2.2	---	---	None	---	None
		March	0.9-1.6	1.2-2.2	---	---	None	---	None
		November	0.9-1.6	1.2-2.2	---	---	None	---	None
		December	0.9-1.6	1.2-2.2	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
WfC:									
Mardin--------------------	C								
		January	1.0-1.6	1.2-2.2	---	---	None	---	None
		February	1.0-1.6	1.2-2.2	---	---	None	---	None
		March	1.0-1.6	1.2-2.2	---	---	None	---	None
		April	1.0-1.6	1.2-2.2	---	---	None	---	None
		November	1.0-1.6	1.2-2.2	---	---	None	---	None
		December	1.0-1.6	1.2-2.2	---	---	None	---	None
Wg:									
Wenonah-------------------	B								
		February	3.0-6.0	>6.0	---	---	None	Brief	Rare
		March	3.0-6.0	>6.0	---	---	None	Brief	Rare
		April	3.0-6.0	>6.0	---	---	None	Brief	Rare
		December	---	---	---	---	None	Brief	Rare
WhB:									
Willdin-------------------	C								
		January	1.0-1.8	1.3-2.2	---	---	None	---	None
		February	1.0-1.8	1.3-2.2	---	---	None	---	None
		March	1.0-1.8	1.3-2.2	---	---	None	---	None
		April	1.0-1.8	1.3-2.2	---	---	None	---	None
		November	1.0-1.8	1.3-2.2	---	---	None	---	None
		December	1.0-1.8	1.3-2.2	---	---	None	---	None
WhC:									
Willdin-------------------	C								
		January	1.0-1.8	1.3-2.2	---	---	None	---	None
		February	1.0-1.8	1.3-2.2	---	---	None	---	None
		March	1.0-1.8	1.3-2.2	---	---	None	---	None
		April	1.0-1.8	1.3-2.2	---	---	None	---	None
		November	1.0-1.8	1.3-2.2	---	---	None	---	None
		December	1.0-1.8	1.3-2.2	---	---	None	---	None
WhD:									
Willdin-------------------	C								
		January	1.0-1.8	1.3-2.2	---	---	None	---	None
		February	1.0-1.8	1.3-2.2	---	---	None	---	None
		March	1.0-1.8	1.3-2.2	---	---	None	---	None
		April	1.0-1.8	1.3-2.2	---	---	None	---	None
		November	1.0-1.8	1.3-2.2	---	---	None	---	None
		December	1.0-1.8	1.3-2.2	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
WmA:									
Willowemoc	C								
		January	1.0-1.8	1.5-2.2	---	---	None	---	None
		February	1.0-1.8	1.5-2.2	---	---	None	---	None
		March	1.0-1.8	1.5-2.2	---	---	None	---	None
		April	1.0-1.8	1.5-2.2	---	---	None	---	None
		November	1.0-1.8	1.5-2.2	---	---	None	---	None
		December	1.0-1.8	1.5-2.2	---	---	None	---	None
WmB:									
Willowemoc	C								
		January	1.0-1.8	1.5-2.2	---	---	None	---	None
		February	1.0-1.8	1.5-2.2	---	---	None	---	None
		March	1.0-1.8	1.5-2.2	---	---	None	---	None
		April	1.0-1.8	1.5-2.2	---	---	None	---	None
		November	1.0-1.8	1.5-2.2	---	---	None	---	None
		December	1.0-1.8	1.5-2.2	---	---	None	---	None
WmC:									
Willowemoc	C								
		January	1.0-1.8	1.5-2.2	---	---	None	---	None
		February	1.0-1.8	1.5-2.2	---	---	None	---	None
		March	1.0-1.8	1.5-2.2	---	---	None	---	None
		April	1.0-1.8	1.5-2.2	---	---	None	---	None
		November	1.0-1.8	1.5-2.2	---	---	None	---	None
		December	1.0-1.8	1.5-2.2	---	---	None	---	None
WmD:									
Willowemoc	C								
		January	1.0-1.8	1.5-2.2	---	---	None	---	None
		February	1.0-1.8	1.5-2.2	---	---	None	---	None
		March	1.0-1.8	1.5-2.2	---	---	None	---	None
		April	1.0-1.8	1.5-2.2	---	---	None	---	None
		November	1.0-1.8	1.3-2.5	---	---	None	---	None
		December	1.0-1.8	1.3-2.5	---	---	None	---	None
WnC:									
Willowemoc	C								
		January	1.0-1.8	1.5-2.2	---	---	None	---	None
		February	1.0-1.8	1.5-2.2	---	---	None	---	None
		March	1.0-1.8	1.5-2.2	---	---	None	---	None
		April	1.0-1.8	1.5-2.2	---	---	None	---	None
		November	1.0-1.8	1.5-2.2	---	---	None	---	None
		December	1.0-1.8	1.5-2.2	---	---	None	---	None

Table 24.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
WnC:									
Willdin-------------------	C								
		January	1.0-1.8	1.3-2.2	---	---	None	---	None
		February	1.0-1.8	1.3-2.2	---	---	None	---	None
		March	1.0-1.8	1.3-2.2	---	---	None	---	None
		April	1.0-1.8	1.3-2.2	---	---	None	---	None
		November	1.0-1.8	1.3-2.2	---	---	None	---	None
		December	1.0-1.8	1.3-2.2	---	---	None	---	None

Table 25.—Relationships between Soil Characteristics and Parent Material, Landscape Position, Temperature Regime*, and Drainage of Soils

Soil Characteristics and Parent Material	Somewhat excessively drained	Well drained	Moderately well drained	Somewhat poorly drained	Poorly drained	Very poorly drained
	Soils that Formed in Glacial Till on Uplands					
Very deep, moderately coarse and medium textured, brownish soils formed in glacial till derived from sandstone, siltstone, and shale.		Valois				
Very deep, moderately coarse and medium textured, reddish brown soils formed in glacial till derived from sandstone, siltstone, and shale						
Mesic		Maplecrest				
Frigid		Elka				
Very deep, medium textured, brownish soils formed in glacial till derived from sandstone, siltstone, and shale; with a fragipan						
Mesic		Bath	Mardin	Volusia		
Frigid		Lewbath	Willdin	Ontusia		
Very deep, medium textured, reddish brown soils formed in glacial till derived from sandstone, siltstone, and shale; with a fragipan						
Mesic		Lackawanna	Wellsboro	Morris		
Frigid		Lewbeach	Willowemoc	Onteora	Norchip	
Very deep, medium textured, brownish soils formed in glacial till derived from sandstone, siltstone, and shale; loamy-skeletal						
Mesic		Cadosia				
Frigid		Rockrift				
Moderately deep, medium textured, brownish soils formed in glacial till derived from sandstone, siltstone, and shale						
Mesic		Lordstown				
Frigid		Mongaup	Middlebrook	Gretor		

See footnotes at end of table.

Table 25.—Relationships between Soil Characteristics and Parent Material, Landscape Position, Temperature Regime*, and Drainage of Soils—Continued

Soil Characteristics and Parent Material	Somewhat excessively drained	Well drained	Moderately well drained	Somewhat poorly drained	Poorly drained	Very poorly drained
	Soils that Formed in Glacial Till on Uplands					
Moderately deep, medium textured reddish brown soils formed in glacial till derived from sandstone, siltstone, and shale						
Mesic	Oquaga					
Frigid	Vly					
Shallow, medium textured, reddish brown and brown soils formed in glacial till derived from sandstone, siltstone, and shale loamy-skeletal						
		Arnot				
Mesic	Halcott				Torull	
Frigid						
	Soils that Formed in Lacustrine Deposits					
Very deep, medium textured, brownish or reddish brown soils formed in glaciolacustrine deposits		Unadilla				
Very deep, medium and moderately Fine textured reddish soils Formed in lacustrine deposits			Collamer			
	Soils that Formed in Glacial Outwash Plains, Terraces, and Kames					
Very deep, medium and moderately coarse textured reddish brown soils formed in glaciofluvial material; loamy-skeletal	Tunkhannock					
Very deep, medium and moderately coarse textured brownish soils formed in glaciolacustrine materials; loamy-skeletal	Chenango			Red Hook		
Very deep, moderately coarse textured, brownish soils formed in glaciofluvial materials		Riverhead				
	Soils Formed in Alluvial and Glaciofluvial Materials on Flood Plains					
Very deep, medium textured, reddish brown soils formed in alluvial and glaciofluvial materials		Barbour	Basher			
Very deep, medium textured, brownish soils formed in alluvial and glaciofluvial materials		Wenonah	Philo	Raypol		

See footnotes at end of table.

Table 25.—Relationships between Soil Characteristics and Parent Material, Landscape Position, Temperature Regime*, and Drainage of Soils—Continued

Soil Characteristics and Parent Material	Somewhat excessively drained	Well drained	Moderately well drained	Somewhat poorly drained	Poorly drained	Very poorly drained
	Soils Formed in Alluvial and Glaciofluvial Materials on Flood Plains					
Very deep, medium textured, brownish soils formed in alluvial and glaciofluvial Materials loamy-skeletal		Trestle	Deposit			
Very deep, coarse textured to moderately fine textured reddish brown and brownish soils formed in alluvial and glaciofluvial materials	Udifluvents					Fluvaquents
	Soils Formed in Organic Materials in Bogs and Swamps					
Organic materials more than 51 inches thick						
Mesic					Carlisle	
Frigid					Bucksport	
Organic materials 16 to 51 thick Over loamy mineral materials						
Mesic					Palms	
Frigid					Wonsqueak	

* Where the temperature regime is not shown, the soil series is mesic.

Table 26.—Classification of the Soils

Soil name	Family or higher taxonomic class
Aquents	Aquents
Arnot	Loamy-skeletal, mixed, active, mesic Lithic Dystrudepts
Barbour	Coarse-loamy over sandy or sandy-skeletal, mixed, active, mesic Fluventic Dystrudepts
Basher	Coarse-loamy, mixed, active, mesic Fluvaquentic Dystrudepts
Bath	Coarse-loamy, mixed, active, mesic Typic Fragiudepts
Bucksport	Euic, frigid Typic Haplosaprists
Cadosia	Loamy-skeletal, mixed, superactive, mesic Typic Dystrudepts
Carlisle	Euic, mesic Typic Haplosaprists
Chenango	Loamy-skeletal, mixed, superactive, mesic Typic Dystrudepts
Collamer	Fine-silty, mixed, active, mesic Aquic Glossudalfs
Deposit	Loamy-skeletal, mixed, active, mesic Fluvaquentic Dystrudepts
Elka	Coarse-loamy, mixed, active, frigid Typic Dystrudepts
Fluvaquents	Fluvaquents
Gretor	Fine-loamy, mixed, active, acid, frigid Aeric Endoaquepts
Halcott	Loamy-skeletal, mixed, active, frigid Lithic Dystrudepts
Lackawanna	Coarse-loamy, mixed, active, mesic Typic Fragiudepts
Lewbath	Coarse-loamy, mixed, semiactive, frigid Typic Fragiudepts
Lewbeach	Coarse-loamy, mixed, semiactive, frigid Typic Fragiudepts
Lordstown	Coarse-loamy, mixed, active, mesic Typic Dystrudepts
Maplecrest	Coarse-loamy, mixed, superactive, mesic Typic Dystrudepts
Mardin	Coarse-loamy, mixed, active, mesic Typic Fragiudepts
Middlebrook	Coarse-loamy, mixed, active, frigid Aquic Dystrudepts
Mongaup	Coarse-loamy, mixed, active, frigid Typic Dystrudepts
Morris	Coarse-loamy, mixed, active, mesic Aeric Fragiaquepts
Norchip	Fine-loamy, mixed, active, frigid Aeric Fragiaquepts
Onteora	Coarse-loamy, mixed, semiactive, frigid Aquic Fragiudepts
Ontusia	Fine-loamy, mixed, active, frigid Aeric Fragiaquepts
Oquaga	Loamy-skeletal, mixed, superactive, mesic Typic Dystrudepts
Palms	Loamy, mixed, euic, mesic Terric Haplosaprists
Philo	Coarse-loamy, mixed, active, mesic Fluvaquentic Dystrudepts
Raypol	Coarse-loamy over sandy or sandy-skeletal, mixed, active, acid, mesic Aeric Endoaquepts
Red Hook	Coarse-loamy, mixed, superactive, nonacid, mesic Aeric Endoaquepts
Riverhead	Coarse-loamy, mixed, active, mesic Typic Dystrudepts
Rockrift	Loamy-skeletal, mixed, active, frigid Typic Dystrudepts
Saprists	Saprists
Torull	Loamy, mixed, active, acid, frigid Lithic Endoaquepts
Trestle	Loamy-skeletal, mixed, active, mesic Fluventic Dystrudepts
Tunkhannock	Loamy-skeletal, mixed, superactive, mesic Typic Dystrudepts
Udifluvents	Udifluvents
Udorthents	Udorthents
Unadilla	Coarse-silty, mixed, active, mesic Typic Dystrudepts
Valois	Coarse-loamy, mixed, superactive, mesic Typic Dystrudepts
Vly	Loamy-skeletal, mixed, superactive, frigid Typic Dystrudepts
Volusia	Fine-loamy, mixed, superactive, mesic Aeric Fragiaquepts
Wellsboro	Coarse-loamy, mixed, active, mesic Typic Fragiudepts
Wenonah	Coarse-loamy, mixed, superactive, mesic Fluventic Dystrudepts
Willdin	Coarse-loamy, mixed, active, frigid Typic Fragiudepts
Willowemoc	Coarse-loamy, mixed, semiactive, frigid Typic Fragiudepts
Wonsqueak	Loamy, mixed, euic, frigid Terric Haplosaprists

NRCS Accessibility Statement

The Natural Resources Conservation Service (NRCS) is committed to making its information accessible to all of its customers and employees. If you are experiencing accessibility issues and need assistance, please contact our Helpdesk by phone at 1-800-457-3642 or by e-mail at ServiceDesk-FTC@ftc.usda.gov. For assistance with publications that include maps, graphs, or similar forms of information, you may also wish to contact our State or local office. You can locate the correct office and phone number at http://offices.sc.egov.usda.gov/locator/app.