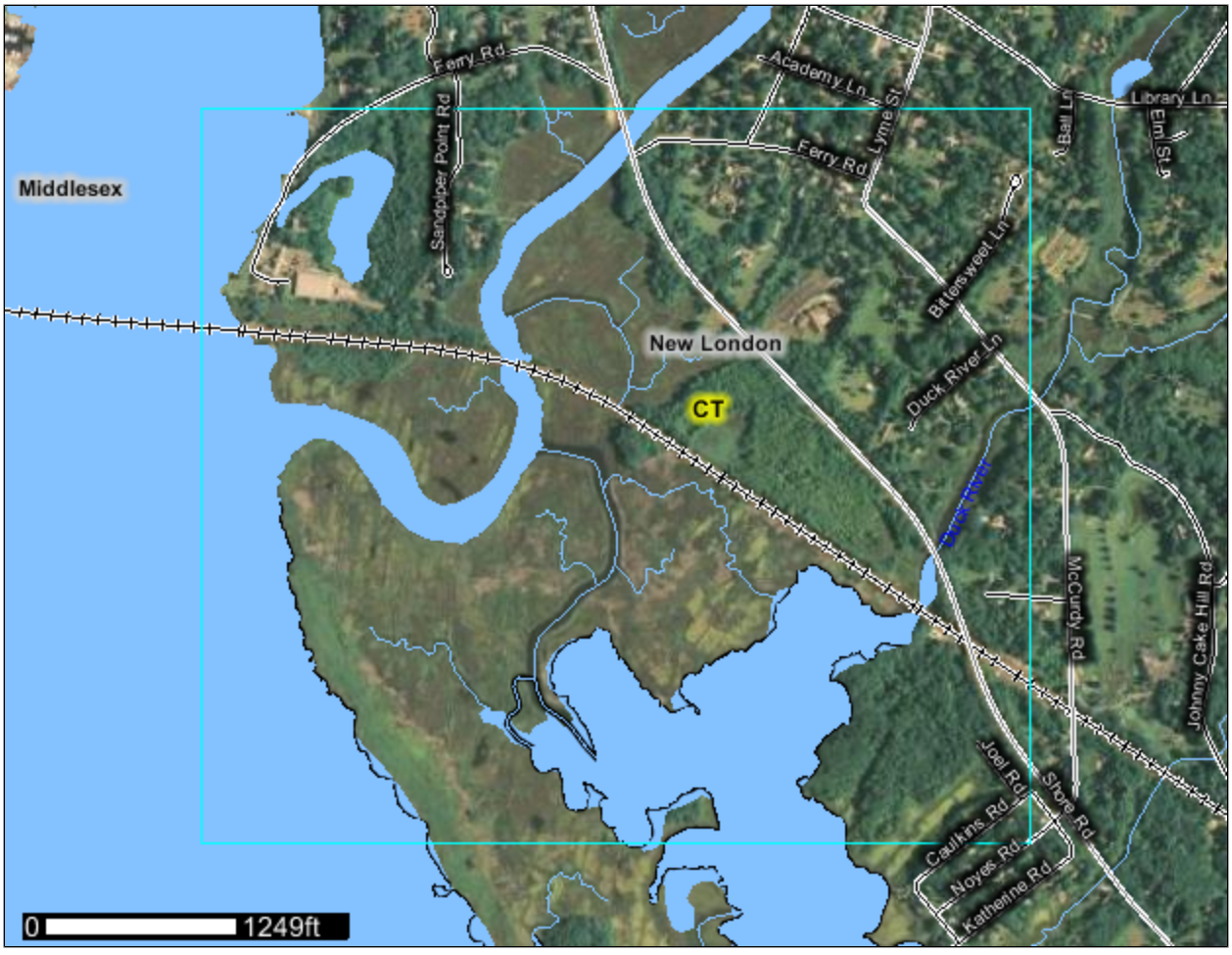
United States Department of Agriculture

Natural Resources Conservation Service

A product 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 participants

Custom Soil Resource Report for State of Connecticut

Old Lyme



March 4, 2011

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is 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.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://soils.usda.gov/sqi/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://soils.usda.gov/contact/state_offices/).

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

The National Cooperative Soil Survey is 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 (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Soil Data Mart Web site or the NRCS Web Soil Survey. The Soil Data Mart is the data storage site for the official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various 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 observed and described many soil profiles. A soil profile 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 or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur 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.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

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.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features
- Cities

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:12,000 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 18N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
Survey Area Data: Version 8, Dec 13, 2010

Date(s) aerial images were photographed: 8/16/2006

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

State of Connecticut (CT600)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
12	Raypol silt loam	2.4	0.4%
29A	Agawam fine sandy loam, 0 to 3 percent slopes	84.7	14.6%
29B	Agawam fine sandy loam, 3 to 8 percent slopes	28.5	4.9%
32B	Haven and Enfield soils, 3 to 8 percent slopes	26.9	4.7%
34B	Merrimac sandy loam, 3 to 8 percent slopes	18.2	3.1%
38C	Hinckley gravelly sandy loam, 3 to 15 percent slopes	4.8	0.8%
60D	Canton and Charlton soils, 15 to 25 percent slopes	1.0	0.2%
74C	Narragansett-Hollis complex, 3 to 15 percent slopes, very rocky	16.0	2.8%
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	5.0	0.9%
96	Ipswich mucky peat	5.7	1.0%
98	Westbrook mucky peat	165.4	28.6%
99	Westbrook mucky peat, low salt	59.0	10.2%
306	Udorthents-Urban land complex	19.9	3.4%
W	Water	140.9	24.4%
Totals for Area of Interest		**578.2**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

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. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. 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 important soil properties and qualities.

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, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha 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. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 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. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

State of Connecticut

12—Raypol silt loam

Map Unit Setting

Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days

Map Unit Composition

Raypol and similar soils: 80 percent
Minor components: 20 percent

Description of Raypol

Setting

Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from granite and/or schist and/or gneiss

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 7.0 inches)

Interpretive groups

Land capability (nonirrigated): 4w

Typical profile

0 to 8 inches: Silt loam
8 to 12 inches: Very fine sandy loam
12 to 20 inches: Silt loam
20 to 26 inches: Silt loam
26 to 29 inches: Very fine sandy loam
29 to 52 inches: Stratified very gravelly coarse sand to loamy fine sand
52 to 65 inches: Stratified very gravelly coarse sand to loamy fine sand

Minor Components

Haven

Percent of map unit: 5 percent
Landform: Outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Linear

Enfield

Percent of map unit: 5 percent

Landform: Outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Linear

Ninigret
Percent of map unit: 3 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Concave

Tisbury
Percent of map unit: 2 percent
Landform: Outwash plains, terraces
Down-slope shape: Concave
Across-slope shape: Linear

Walpole
Percent of map unit: 2 percent
Landform: Depressions on terraces, drainageways on terraces
Down-slope shape: Concave
Across-slope shape: Concave

Scarboro
Percent of map unit: 2 percent
Landform: Depressions, drainageways, terraces
Down-slope shape: Concave
Across-slope shape: Concave

Unnamed, loamy substratum
Percent of map unit: 1 percent

29A—Agawam fine sandy loam, 0 to 3 percent slopes

Map Unit Setting
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days

Map Unit Composition
Agawam and similar soils: 80 percent
Minor components: 20 percent

Description of Agawam

Setting
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from granite and/or schist and/or gneiss

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.8 inches)

Interpretive groups

Land capability (nonirrigated): 1

Typical profile

0 to 8 inches: Fine sandy loam
8 to 14 inches: Fine sandy loam
14 to 24 inches: Fine sandy loam
24 to 60 inches: Stratified very gravelly coarse sand to fine sand

Minor Components

Hinckley

Percent of map unit: 5 percent
Landform: Eskers, kames, outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Convex

Merrimac

Percent of map unit: 5 percent
Landform: Kames, outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear

Ninigret

Percent of map unit: 3 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Concave

Walpole

Percent of map unit: 3 percent
Landform: Depressions on terraces, drainageways on terraces
Down-slope shape: Concave
Across-slope shape: Concave

Scarboro

Percent of map unit: 2 percent
Landform: Depressions, drainageways, terraces
Down-slope shape: Concave
Across-slope shape: Concave

Unnamed, red parent material

Percent of map unit: 2 percent

29B—Agawam fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days

Map Unit Composition

Agawam and similar soils: 80 percent
Minor components: 20 percent

Description of Agawam

Setting

Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from granite and/or schist and/or gneiss

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.8 inches)

Interpretive groups

Land capability (nonirrigated): 2e

Typical profile

0 to 8 inches: Fine sandy loam
8 to 14 inches: Fine sandy loam
14 to 24 inches: Fine sandy loam
24 to 60 inches: Stratified very gravelly coarse sand to fine sand

Minor Components

Hinckley

Percent of map unit: 5 percent
Landform: Eskers, kames, outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Convex

Merrimac

Percent of map unit: 5 percent
Landform: Kames, outwash plains, terraces

Down-slope shape: Linear
Across-slope shape: Linear

Ninigret
Percent of map unit: 3 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Concave

Walpole
Percent of map unit: 3 percent
Landform: Depressions on terraces, drainageways on terraces
Down-slope shape: Concave
Across-slope shape: Concave

Scarboro
Percent of map unit: 2 percent
Landform: Depressions, drainageways, terraces
Down-slope shape: Concave
Across-slope shape: Concave

Unnamed, red parent material
Percent of map unit: 2 percent

32B—Haven and Enfield soils, 3 to 8 percent slopes

Map Unit Setting
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days

Map Unit Composition
Haven and similar soils: 60 percent
Enfield and similar soils: 25 percent
Minor components: 15 percent

Description of Haven

Setting
Landform: Outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from granite and/or schist and/or gneiss

Properties and qualities
Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.1 inches)

Interpretive groups

Land capability (nonirrigated): 2e

Typical profile

0 to 7 inches: Silt loam
7 to 14 inches: Silt loam
14 to 20 inches: Silt loam
20 to 24 inches: Fine sandy loam
24 to 60 inches: Stratified very gravelly sand to gravelly fine sand

Description of Enfield

Setting

Landform: Outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-silty eolian deposits over sandy and gravelly glaciofluvial deposits derived from granite and/or schist and/or gneiss

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.6 inches)

Interpretive groups

Land capability (nonirrigated): 2e

Typical profile

0 to 3 inches: Slightly decomposed plant material
3 to 4 inches: Moderately decomposed plant material
4 to 12 inches: Silt loam
12 to 20 inches: Silt loam
20 to 26 inches: Silt loam
26 to 30 inches: Silt loam
30 to 37 inches: Stratified coarse sand to very gravelly loamy sand
37 to 65 inches: Stratified very gravelly coarse sand to loamy sand

Minor Components

Agawam

Percent of map unit: 4 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear

Branford

Percent of map unit: 3 percent

Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear

Ninigret
Percent of map unit: 2 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Concave

Tisbury
Percent of map unit: 2 percent
Landform: Outwash plains, terraces
Down-slope shape: Concave
Across-slope shape: Linear

Raypol
Percent of map unit: 2 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Concave

Unnamed, gravelly surface
Percent of map unit: 2 percent

34B—Merrimac sandy loam, 3 to 8 percent slopes

Map Unit Setting
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days

Map Unit Composition
Merrimac and similar soils: 80 percent
Minor components: 20 percent

Description of Merrimac

Setting
Landform: Kames, outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and gravelly glaciofluvial deposits derived from granite and/or schist and/or gneiss

Properties and qualities
Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.0 inches)

Interpretive groups

Land capability (nonirrigated): 2e

Typical profile

0 to 9 inches: Sandy loam
9 to 16 inches: Sandy loam
16 to 24 inches: Gravelly sandy loam
24 to 60 inches: Stratified very gravelly coarse sand to gravelly sand

Minor Components

Windsor

Percent of map unit: 5 percent
Landform: Kames, outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Convex

Hinckley

Percent of map unit: 3 percent
Landform: Eskers, kames, outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Convex

Agawam

Percent of map unit: 3 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear

Ninigret

Percent of map unit: 2 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Concave

Sudbury

Percent of map unit: 2 percent
Landform: Outwash plains, terraces
Down-slope shape: Concave
Across-slope shape: Linear

Walpole

Percent of map unit: 2 percent
Landform: Depressions on terraces, drainageways on terraces
Down-slope shape: Concave
Across-slope shape: Concave

Scarboro

Percent of map unit: 2 percent
Landform: Depressions, drainageways, terraces
Down-slope shape: Concave
Across-slope shape: Concave

Unnamed, red parent material
Percent of map unit: 1 percent

38C—Hinckley gravelly sandy loam, 3 to 15 percent slopes

Map Unit Setting
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days

Map Unit Composition
Hinckley and similar soils: 80 percent
Minor components: 20 percent

Description of Hinckley

Setting
Landform: Eskers, kames, outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy and gravelly glaciofluvial deposits derived from granite and/or schist and/or gneiss

Properties and qualities
Slope: 3 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 2.3 inches)

Interpretive groups
Land capability (nonirrigated): 4e

Typical profile
0 to 8 inches: Gravelly sandy loam
8 to 20 inches: Very gravelly loamy sand
20 to 27 inches: Very gravelly sand
27 to 42 inches: Stratified cobbly coarse sand to extremely gravelly sand
42 to 60 inches: Stratified cobbly coarse sand to extremely gravelly sand

Minor Components

Windsor
Percent of map unit: 5 percent
Landform: Kames, outwash plains, terraces
Down-slope shape: Convex

Across-slope shape: Convex

Merrimac
Percent of map unit: 5 percent
Landform: Kames, outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear

Agawam
Percent of map unit: 3 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear

Sudbury
Percent of map unit: 2 percent
Landform: Outwash plains, terraces
Down-slope shape: Concave
Across-slope shape: Linear

Walpole
Percent of map unit: 1 percent
Landform: Depressions on terraces, drainageways on terraces
Down-slope shape: Concave
Across-slope shape: Concave

Scarboro
Percent of map unit: 1 percent
Landform: Depressions, drainageways, terraces
Down-slope shape: Concave
Across-slope shape: Concave

Unnamed, red parent material
Percent of map unit: 1 percent

Unnamed, gravelly silt loam solum
Percent of map unit: 1 percent

Unnamed, gravelly loamy sand surface
Percent of map unit: 1 percent

60D—Canton and Charlton soils, 15 to 25 percent slopes

Map Unit Setting
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days

Map Unit Composition
Canton and similar soils: 45 percent
Charlton and similar soils: 35 percent
Minor components: 20 percent

Description of Canton

Setting

Landform: Hills
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy and gravelly melt-out till derived from granite and/or schist and/or gneiss

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.6 inches)

Interpretive groups

Land capability (nonirrigated): 4e

Typical profile

0 to 1 inches: Moderately decomposed plant material
1 to 3 inches: Gravelly fine sandy loam
3 to 15 inches: Gravelly loam
15 to 24 inches: Gravelly loam
24 to 30 inches: Gravelly loam
30 to 60 inches: Very gravelly loamy sand

Description of Charlton

Setting

Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.9 inches)

Interpretive groups

Land capability (nonirrigated): 4e

Typical profile

0 to 4 inches: Fine sandy loam
4 to 7 inches: Fine sandy loam
7 to 19 inches: Fine sandy loam

19 to 27 inches: Gravelly fine sandy loam
27 to 65 inches: Gravelly fine sandy loam

Minor Components

Sutton
Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear

Leicester
Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave

Chatfield
Percent of map unit: 5 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Linear

Hollis
Percent of map unit: 5 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Convex

74C—Narragansett-Hollis complex, 3 to 15 percent slopes, very rocky

Map Unit Setting
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days

Map Unit Composition
Narragansett and similar soils: 55 percent
Hollis and similar soils: 20 percent
Minor components: 25 percent

Description of Narragansett

Setting
Landform: Hills, till plains
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Coarse-loamy eolian deposits over sandy and gravelly melt-out till derived from gneiss and/or schist and/or sandstone and shale

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.3 inches)

Interpretive groups

Land capability (nonirrigated): 6s

Typical profile

0 to 6 inches: Silt loam
6 to 15 inches: Silt loam
15 to 24 inches: Silt loam
24 to 28 inches: Gravelly silt loam
28 to 60 inches: Very gravelly loamy coarse sand

Description of Hollis

Setting

Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy melt-out till derived from granite and/or schist and/or gneiss

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 1.8 inches)

Interpretive groups

Land capability (nonirrigated): 6s

Typical profile

0 to 1 inches: Highly decomposed plant material
1 to 6 inches: Gravelly fine sandy loam
6 to 9 inches: Channery fine sandy loam
9 to 15 inches: Gravelly fine sandy loam
15 to 80 inches: Bedrock

Minor Components

Rock outcrop

Percent of map unit: 6 percent

Chatfield
Percent of map unit: 5 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Linear

Charlton
Percent of map unit: 5 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear

Leicester
Percent of map unit: 3 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave

Canton
Percent of map unit: 2 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Convex

Wapping
Percent of map unit: 2 percent
Landform: Hills, till plains
Down-slope shape: Linear
Across-slope shape: Linear

Sutton
Percent of map unit: 2 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear

75E—Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes

Map Unit Setting
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days

Map Unit Composition
Hollis and similar soils: 35 percent
Chatfield and similar soils: 30 percent
Rock outcrop: 15 percent
Minor components: 20 percent

Description of Hollis

Setting

Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy melt-out till derived from granite and/or schist and/or gneiss

Properties and qualities

Slope: 15 to 45 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 1.8 inches)

Interpretive groups

Land capability (nonirrigated): 7s

Typical profile

0 to 1 inches: Highly decomposed plant material
1 to 6 inches: Gravelly fine sandy loam
6 to 9 inches: Channery fine sandy loam
9 to 15 inches: Gravelly fine sandy loam
15 to 80 inches: Bedrock

Description of Chatfield

Setting

Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Properties and qualities

Slope: 15 to 45 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 3.3 inches)

Interpretive groups

Land capability (nonirrigated): 7s

Typical profile

0 to 1 inches: Highly decomposed plant material
1 to 6 inches: Gravelly fine sandy loam

6 to 15 inches: Gravelly fine sandy loam
15 to 29 inches: Gravelly fine sandy loam
29 to 80 inches: Unweathered bedrock

Description of Rock Outcrop

Properties and qualities
Slope: 15 to 45 percent
Depth to restrictive feature: 0 to 4 inches to lithic bedrock

Interpretive groups
Land capability (nonirrigated): 8

Minor Components

Charlton
Percent of map unit: 7 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear

Sutton
Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear

Leicester
Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave

Brimfield
Percent of map unit: 1 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Convex

Unnamed, red parent material
Percent of map unit: 1 percent

Unnamed, sandy subsoil
Percent of map unit: 1 percent

96—Ipswich mucky peat

Map Unit Setting
Elevation: 0 feet
Mean annual precipitation: 43 to 56 inches

Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 165 to 185 days

Map Unit Composition

Ipswich and similar soils: 85 percent
Minor components: 15 percent

Description of Ipswich

Setting

Landform: Salt marshes, tidal marshes
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Herbaceous organic material

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 20 to 40 inches to sulfuric; 20 to 40 inches to salic
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (0.57 to 19.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Very frequent
Frequency of ponding: Frequent
Maximum salinity: Moderately saline to strongly saline (16.0 to 60.0 mmhos/cm)
Available water capacity: Moderate (about 6.2 inches)

Interpretive groups

Land capability (nonirrigated): 8

Typical profile

0 to 16 inches: Mucky peat
16 to 23 inches: Mucky peat
23 to 64 inches: Mucky peat
64 to 80 inches: Muck

Minor Components

Pawcatuck

Percent of map unit: 5 percent
Landform: Salt marshes, tidal marshes
Down-slope shape: Concave
Across-slope shape: Concave

Westbrook

Percent of map unit: 5 percent
Landform: Salt marshes, tidal marshes
Down-slope shape: Concave
Across-slope shape: Concave

Udorthents, wet substratum

Percent of map unit: 5 percent
Landform: Salt marshes
Down-slope shape: Convex
Across-slope shape: Linear

98—Westbrook mucky peat

Map Unit Setting

Elevation: 0 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 165 to 185 days

Map Unit Composition

Westbrook and similar soils: 80 percent
Minor components: 20 percent

Description of Westbrook

Setting

Landform: Salt marshes, tidal marshes
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Herbaceous organic material over loamy drift and/or marine deposits

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 0 to 51 inches to sulfuric; 0 to 51 inches to salic
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Very frequent
Frequency of ponding: Frequent
Maximum salinity: Moderately saline to strongly saline (16.0 to 60.0 mmhos/cm)
Available water capacity: Very low (about 2.8 inches)

Interpretive groups

Land capability (nonirrigated): 8

Typical profile

0 to 10 inches: Mucky peat
10 to 40 inches: Mucky peat
40 to 48 inches: Mucky peat
48 to 64 inches: Silt loam
64 to 99 inches: Silt loam

Minor Components

Pawcatuck

Percent of map unit: 5 percent
Landform: Salt marshes, tidal marshes
Down-slope shape: Concave
Across-slope shape: Concave

Timakwa

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave

Ipswich

Percent of map unit: 5 percent
Landform: Salt marshes, tidal marshes
Down-slope shape: Concave
Across-slope shape: Concave

Natchaug

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave

99—Westbrook mucky peat, low salt

Map Unit Setting

Elevation: 0 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 165 to 185 days

Map Unit Composition

Westbrook, low salt, and similar soils: 80 percent
Minor components: 20 percent

Description of Westbrook, Low Salt

Setting

Landform: Salt marshes, tidal marshes
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Herbaceous organic material over loamy drift and/or marine deposits

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 0 to 51 inches to sulfuric
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Very frequent
Frequency of ponding: Frequent
Maximum salinity: Moderately saline to strongly saline (16.0 to 32.0 mmhos/cm)
Available water capacity: High (about 10.8 inches)

Interpretive groups

Land capability (nonirrigated): 8

Typical profile

0 to 10 inches: Mucky peat
10 to 40 inches: Mucky peat
40 to 48 inches: Mucky peat
48 to 64 inches: Silt loam
64 to 99 inches: Silt loam

Minor Components

Pawcatuck

Percent of map unit: 5 percent
Landform: Salt marshes, tidal marshes
Down-slope shape: Concave
Across-slope shape: Concave

Timakwa

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave

Ipswich

Percent of map unit: 5 percent
Landform: Salt marshes, tidal marshes
Down-slope shape: Concave
Across-slope shape: Concave

Natchaug

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave

306—Udorthents-Urban land complex

Map Unit Setting

Elevation: 0 to 2,000 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days

Map Unit Composition

Udorthents and similar soils: 50 percent
Urban land: 35 percent
Minor components: 15 percent

Description of Udorthents

Setting
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Drift

Properties and qualities
Slope: 0 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)
Depth to water table: About 54 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.8 inches)

Interpretive groups
Land capability (nonirrigated): 3e

Typical profile
0 to 5 inches: Loam
5 to 21 inches: Gravelly loam
21 to 80 inches: Very gravelly sandy loam

Description of Urban Land

Interpretive groups
Land capability (nonirrigated): 8

Typical profile
0 to 6 inches: Material

Minor Components

Unnamed, undisturbed soils
Percent of map unit: 8 percent

Udorthents, wet substratum
Percent of map unit: 5 percent
Down-slope shape: Convex
Across-slope shape: Linear

Rock outcrop
Percent of map unit: 2 percent

W—Water

Map Unit Composition
Water: 100 percent

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

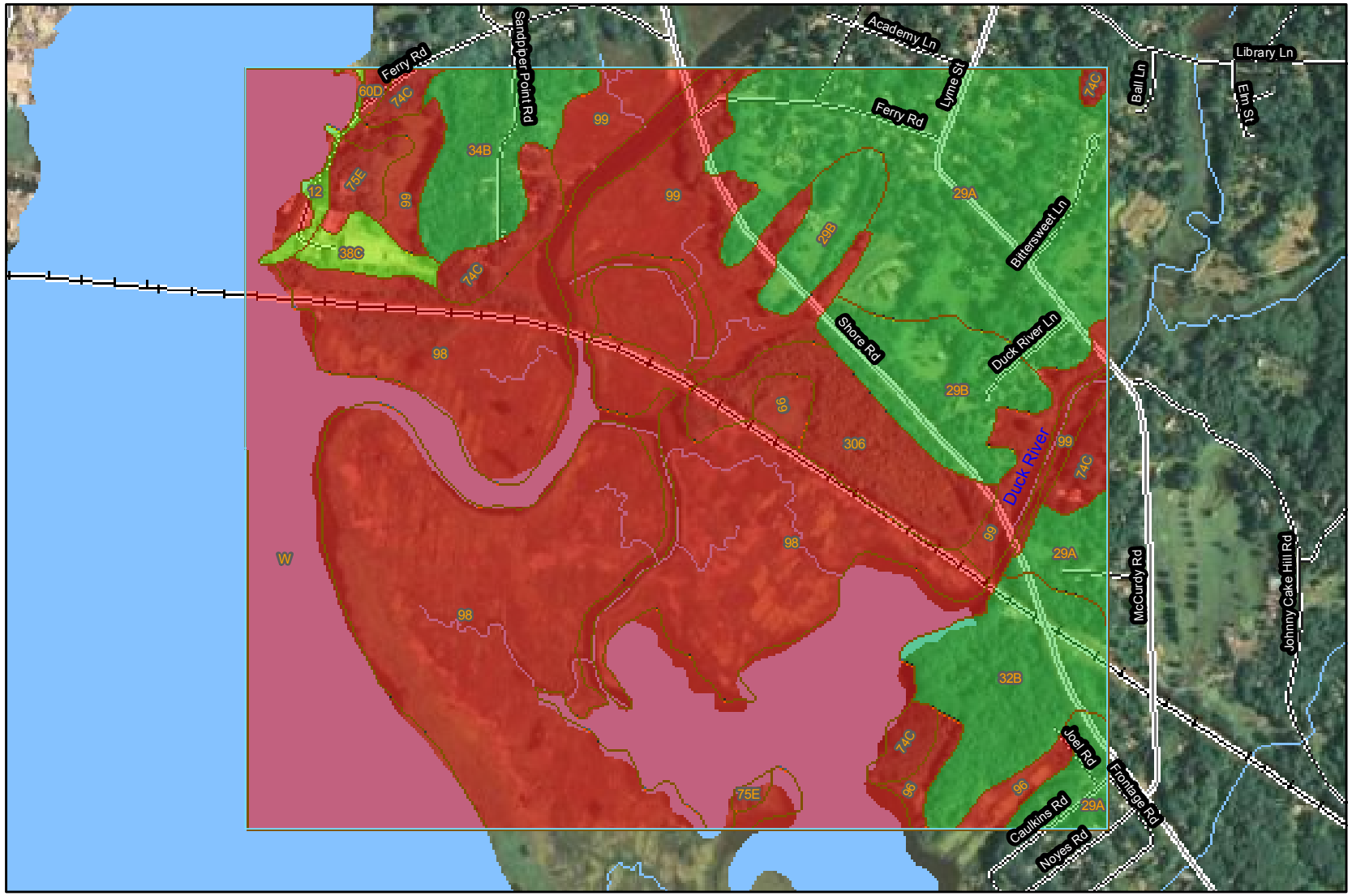
Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Farmland Classification

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Custom Soil Resource Report
Map—Farmland Classification



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Units

Soil Ratings

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Political Features

- Cities

Water Features

- Oceans
- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:12,000 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 18N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
Survey Area Data: Version 8, Dec 13, 2010

Date(s) aerial images were photographed: 8/16/2006

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Farmland Classification

Farmland Classification— Summary by Map Unit — State of Connecticut				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
12	Raypol silt loam	Farmland of statewide importance	2.4	0.4%
29A	Agawam fine sandy loam, 0 to 3 percent slopes	All areas are prime farmland	84.7	14.6%
29B	Agawam fine sandy loam, 3 to 8 percent slopes	All areas are prime farmland	28.5	4.9%
32B	Haven and Enfield soils, 3 to 8 percent slopes	All areas are prime farmland	26.9	4.7%
34B	Merrimac sandy loam, 3 to 8 percent slopes	All areas are prime farmland	18.2	3.1%
38C	Hinckley gravelly sandy loam, 3 to 15 percent slopes	Farmland of statewide importance	4.8	0.8%
60D	Canton and Charlton soils, 15 to 25 percent slopes	Not prime farmland	1.0	0.2%
74C	Narragansett-Hollis complex, 3 to 15 percent slopes, very rocky	Not prime farmland	16.0	2.8%
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	Not prime farmland	5.0	0.9%
96	Ipswich mucky peat	Not prime farmland	5.7	1.0%
98	Westbrook mucky peat	Not prime farmland	165.4	28.6%
99	Westbrook mucky peat, low salt	Not prime farmland	59.0	10.2%
306	Udorthents-Urban land complex	Not prime farmland	19.9	3.4%
W	Water	Not prime farmland	140.9	24.4%
Totals for Area of Interest			**578.2**	**100.0%**

Rating Options—Farmland Classification

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Physical Properties

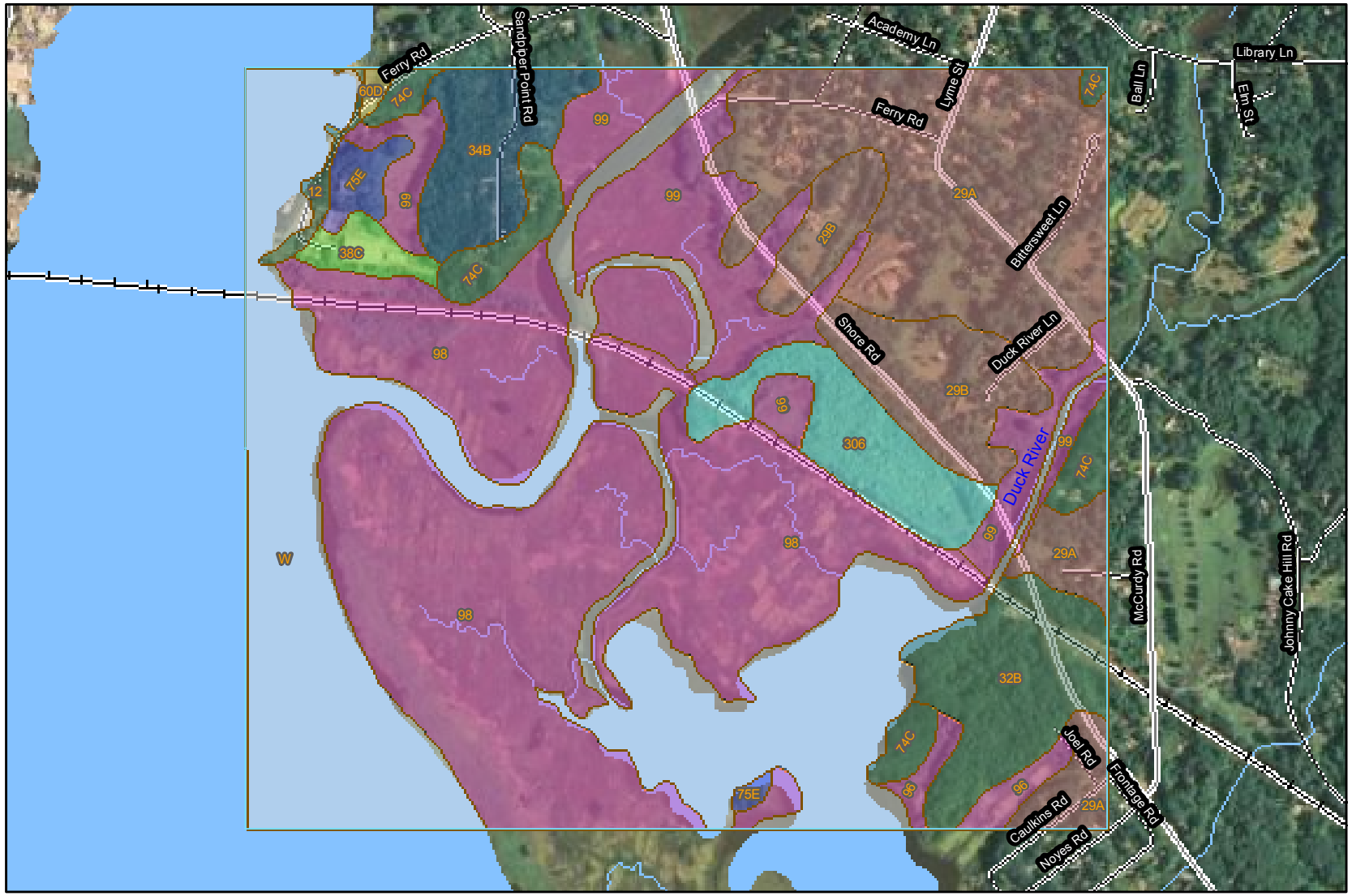
Soil Physical Properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

Surface Texture

This displays the representative texture class and modifier of the surface horizon.

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."

Custom Soil Resource Report
Map—Surface Texture



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Soil Ratings
- fine sandy loam
- gravelly sandy loam
- highly decomposed plant material
- loam
- moderately decomposed plant material
- mucky peat
- sandy loam
- silt loam
- Not rated or not available

Political Features
- Cities

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:12,000 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 18N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
Survey Area Data: Version 8, Dec 13, 2010

Date(s) aerial images were photographed: 8/16/2006

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Surface Texture

Surface Texture— Summary by Map Unit — State of Connecticut				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
12	Raypol silt loam	silt loam	2.4	0.4%
29A	Agawam fine sandy loam, 0 to 3 percent slopes	fine sandy loam	84.7	14.6%
29B	Agawam fine sandy loam, 3 to 8 percent slopes	fine sandy loam	28.5	4.9%
32B	Haven and Enfield soils, 3 to 8 percent slopes	silt loam	26.9	4.7%
34B	Merrimac sandy loam, 3 to 8 percent slopes	sandy loam	18.2	3.1%
38C	Hinckley gravelly sandy loam, 3 to 15 percent slopes	gravelly sandy loam	4.8	0.8%
60D	Canton and Charlton soils, 15 to 25 percent slopes	moderately decomposed plant material	1.0	0.2%
74C	Narragansett-Hollis complex, 3 to 15 percent slopes, very rocky	silt loam	16.0	2.8%
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	highly decomposed plant material	5.0	0.9%
96	Ipswich mucky peat	mucky peat	5.7	1.0%
98	Westbrook mucky peat	mucky peat	165.4	28.6%
99	Westbrook mucky peat, low salt	mucky peat	59.0	10.2%
306	Udorthents-Urban land complex	loam	19.9	3.4%
W	Water		140.9	24.4%
Totals for Area of Interest			**578.2**	**100.0%**

Rating Options—Surface Texture

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Layer Options: Surface Layer

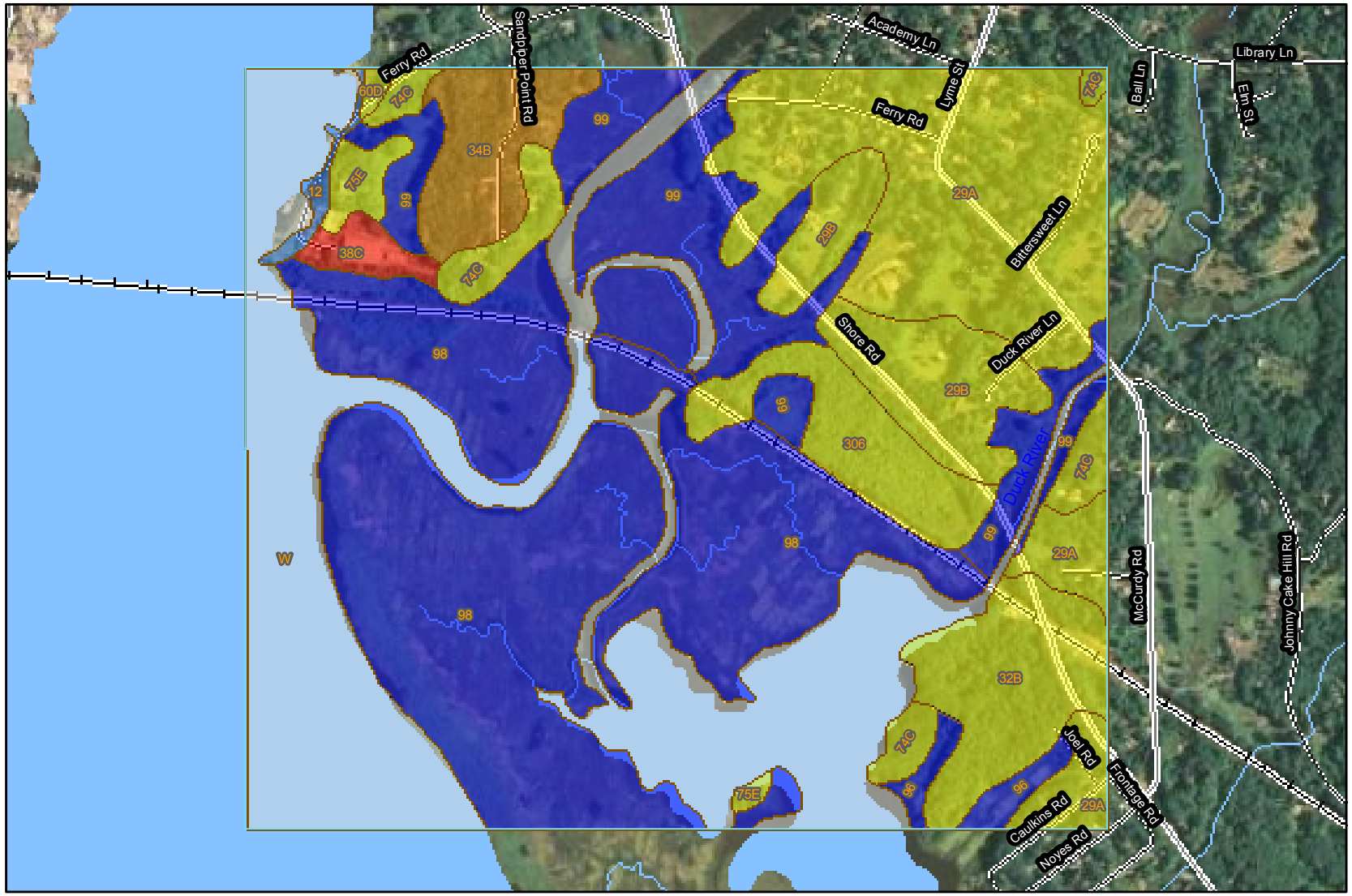
Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Drainage Class

"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."

Custom Soil Resource Report
Map—Drainage Class



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Units

Soil Ratings

- Excessively drained
- Somewhat excessively drained
- Well drained
- Moderately well drained
- Somewhat poorly drained
- Poorly drained
- Very poorly drained
- Not rated or not available

Political Features

- Cities

Water Features

- Oceans
- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:12,000 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 18N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
Survey Area Data: Version 8, Dec 13, 2010

Date(s) aerial images were photographed: 8/16/2006

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Drainage Class

Drainage Class— Summary by Map Unit — State of Connecticut				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
12	Raypol silt loam	Poorly drained	2.4	0.4%
29A	Agawam fine sandy loam, 0 to 3 percent slopes	Well drained	84.7	14.6%
29B	Agawam fine sandy loam, 3 to 8 percent slopes	Well drained	28.5	4.9%
32B	Haven and Enfield soils, 3 to 8 percent slopes	Well drained	26.9	4.7%
34B	Merrimac sandy loam, 3 to 8 percent slopes	Somewhat excessively drained	18.2	3.1%
38C	Hinckley gravelly sandy loam, 3 to 15 percent slopes	Excessively drained	4.8	0.8%
60D	Canton and Charlton soils, 15 to 25 percent slopes	Well drained	1.0	0.2%
74C	Narragansett-Hollis complex, 3 to 15 percent slopes, very rocky	Well drained	16.0	2.8%
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	Well drained	5.0	0.9%
96	Ipswich mucky peat	Very poorly drained	5.7	1.0%
98	Westbrook mucky peat	Very poorly drained	165.4	28.6%
99	Westbrook mucky peat, low salt	Very poorly drained	59.0	10.2%
306	Udorthents-Urban land complex	Well drained	19.9	3.4%
W	Water		140.9	24.4%
Totals for Area of Interest			**578.2**	**100.0%**

Rating Options—Drainage Class

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

AOI Inventory

This folder contains a collection of tabular reports that present a variety of soil information. Included are various map unit description reports, special soil interpretation reports, and data summary reports.

Selected Soil Interpretations (CT Inland Wetlands)

This report allows the customer to produce a report showing the results of the soil interpretation(s) of his or her choice. It is useful when a standard report that displays the results of the selected interpretation(s) is not available.

When customers select this report, they are presented with a list of interpretations with results for the selected map units. The customer may select up to three interpretations to be presented in table format.

For a description of the particular interpretations and their criteria, use the "Selected Survey Area Interpretation Descriptions" report.

Report—Selected Soil Interpretations (CT Inland Wetlands)

Selected Soil Interpretations– State of Connecticut			
Map symbol and soil name	Pct. of map unit	Inland wetlands (ct)	
		Rating class and limiting features	Value
12—Raypol silt loam			
Raypol	80	CT nonwetland	
29A—Agawam fine sandy loam, 0 to 3 percent slopes			
Agawam	80	CT nonwetland	
29B—Agawam fine sandy loam, 3 to 8 percent slopes			
Agawam	80	CT nonwetland	

Selected Soil Interpretations– State of Connecticut			
Map symbol and soil name	Pct. of map unit	Inland wetlands (ct)	
		Rating class and limiting features	Value
32B—Haven and Enfield soils, 3 to 8 percent slopes			
Haven	60	CT nonwetland	
Enfield	25	CT nonwetland	
34B—Merrimac sandy loam, 3 to 8 percent slopes			
Merrimac	80	CT nonwetland	
38C—Hinckley gravelly sandy loam, 3 to 15 percent slopes			
Hinckley	80	CT nonwetland	
60D—Canton and Charlton soils, 15 to 25 percent slopes			
Canton	45	CT nonwetland	
Charlton	35	CT nonwetland	
74C—Narragansett-Hollis complex, 3 to 15 percent slopes, very rocky			
Narragansett	55	CT nonwetland	
Hollis	20	CT nonwetland	
75E—Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes			
Hollis	35	CT nonwetland	
Chatfield	30	CT nonwetland	
Rock outcrop	15	CT nonwetland	
96—Ipswich mucky peat			
Ipswich	85	CT nonwetland	
98—Westbrook mucky peat			
Westbrook	80	CT nonwetland	
99—Westbrook mucky peat, low salt			
Westbrook, low salt	80	CT nonwetland	
306—Udorthents-Urban land complex			
Udorthents	50	CT nonwetland	
Urban land	35	CT nonwetland	
W—Water			
Water	100	CT nonwetland	

Selected Soil Interpretations (Dwellings w/basements, Lawns, Septic tanks)

This report allows the customer to produce a report showing the results of the soil interpretation(s) of his or her choice. It is useful when a standard report that displays the results of the selected interpretation(s) is not available.

When customers select this report, they are presented with a list of interpretations with results for the selected map units. The customer may select up to three interpretations to be presented in table format.

For a description of the particular interpretations and their criteria, use the "Selected Survey Area Interpretation Descriptions" report.

Report—Selected Soil Interpretations (Dwellings w/basements, Lawns, Septic tanks)

Selected Soil Interpretations– State of Connecticut							
Map symbol and soil name	Pct. of map unit	Eng - dwellings with basements		Eng - lawn, landscape, golf fairway (ct)		Eng - septic tank absorption fields	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
12—Raypol silt loam							
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, bottom layer	1.00
						Slow water movement	0.50
29A—Agawam fine sandy loam, 0 to 3 percent slopes							
Agawam	80	Not limited		Not limited		Very limited	
						Seepage, bottom layer	1.00
29B—Agawam fine sandy loam, 3 to 8 percent slopes							
Agawam	80	Not limited		Not limited		Very limited	
						Seepage, bottom layer	1.00
32B—Haven and Enfield soils, 3 to 8 percent slopes							
Haven	60	Not limited		Not limited		Very limited	
						Seepage, bottom layer	1.00
						Slow water movement	0.50
Enfield	25	Not limited		Not limited		Very limited	
						Seepage, bottom layer	1.00
						Slow water movement	0.50
34B—Merrimac sandy loam, 3 to 8 percent slopes							
Merrimac	80	Not limited		Not limited		Very limited	
						Seepage, bottom layer	1.00

Selected Soil Interpretations– State of Connecticut							
Map symbol and soil name	Pct. of map unit	Eng - dwellings with basements		Eng - lawn, landscape, golf fairway (ct)		Eng - septic tank absorption fields	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
38C—Hinckley gravelly sandy loam, 3 to 15 percent slopes							
Hinckley	80	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Droughty	1.00	Seepage, bottom layer	1.00
				Slope	0.04	Filtering capacity	1.00
				Large stones	0.11	Slope	0.04
				Gravel	0.05		
60D—Canton and Charlton soils, 15 to 25 percent slopes							
Canton	45	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
						Seepage, bottom layer	1.00
Charlton	35	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
						Seepage, bottom layer	1.00
74C—Narragansett-Hollis complex, 3 to 15 percent slopes, very rocky							
Narragansett	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Seepage, bottom layer	1.00
						Slow water movement	0.50
						Slope	0.04
Hollis	20	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to bedrock	1.00	Shallow depth to bedrock	1.00
		Slope	0.04	Droughty	1.00	Seepage, bottom layer	1.00
				Slope	0.04	Slope	0.04

Selected Soil Interpretations– State of Connecticut							
Map symbol and soil name	Pct. of map unit	Eng - dwellings with basements		Eng - lawn, landscape, golf fairway (ct)		Eng - septic tank absorption fields	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75E—Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes							
Hollis	35	Very limited		Very limited		Very limited	
		Too steep	1.00	Depth to bedrock	1.00	Shallow depth to bedrock	1.00
		Depth to hard bedrock	1.00	Too steep	1.00	Too steep	1.00
				Droughty	1.00	Seepage, bottom layer	1.00
Chatfield	30	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Shallow depth to bedrock	1.00
		Depth to hard bedrock	1.00	Depth to bedrock	0.54	Too steep	1.00
						Seepage, bottom layer	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	
96—Ipswich mucky peat							
Ipswich	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Subsidence	1.00	Flooding	1.00	Ponding	1.00
		Flooding	1.00	Organic matter content	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Salinity	1.00	Filtering capacity	1.00
		Organic matter content	1.00	Depth to saturated zone	1.00	Subsidence	1.00
98—Westbrook mucky peat							
Westbrook	80	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Salinity	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Depth to saturated zone	1.00	Subsidence	1.00
				Sulfur content	1.00	Slow water movement	0.82
99—Westbrook mucky peat, low salt							
Westbrook, low salt	80	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Flooding	1.00	Flooding	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	Sulfur content	1.00	Subsidence	1.00
				Salinity	1.00	Slow water movement	0.82

Selected Soil Interpretations– State of Connecticut							
Map symbol and soil name	Pct. of map unit	Eng - dwellings with basements		Eng - lawn, landscape, golf fairway (ct)		Eng - septic tank absorption fields	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
306—Udorthents-Urban land complex							
Udorthents	50	Very limited		Very limited		Very limited	
		Too steep	1.00	Too steep	1.00	Too steep	1.00
		Depth to saturated zone	0.18			Seepage, bottom layer	1.00
						Depth to saturated zone	0.50
Urban land	35	Not rated		Not rated		Not rated	
W—Water							
Water	100	Not rated		Not rated		Not rated	

Selected Soil Interpretations (Camp areas, Picnic areas, Playgrounds)

This report allows the customer to produce a report showing the results of the soil interpretation(s) of his or her choice. It is useful when a standard report that displays the results of the selected interpretation(s) is not available.

When customers select this report, they are presented with a list of interpretations with results for the selected map units. The customer may select up to three interpretations to be presented in table format.

For a description of the particular interpretations and their criteria, use the "Selected Survey Area Interpretation Descriptions" report.

Report—Selected Soil Interpretations (Camp areas, Picnic areas, Playgrounds)

Selected Soil Interpretations– State of Connecticut							
Map symbol and soil name	Pct. of map unit	Rec - camp areas (ct)		Rec - picnic areas (ct)		Rec - playgrounds (ct)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
12—Raypol silt loam							
Raypol	80	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
29A—Agawam fine sandy loam, 0 to 3 percent slopes							
Agawam	80	Not limited		Not limited		Not limited	

Selected Soil Interpretations– State of Connecticut							
Map symbol and soil name	Pct. of map unit	Rec - camp areas (ct)		Rec - picnic areas (ct)		Rec - playgrounds (ct)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29B—Agawam fine sandy loam, 3 to 8 percent slopes							
Agawam	80	Not limited		Not limited		Somewhat limited	
						Slope	1.00
32B—Haven and Enfield soils, 3 to 8 percent slopes							
Haven	60	Not limited		Not limited		Somewhat limited	
						Slope	1.00
						Gravel	0.06
Enfield	25	Not limited		Not limited		Somewhat limited	
						Slope	1.00
34B—Merrimac sandy loam, 3 to 8 percent slopes							
Merrimac	80	Not limited		Not limited		Somewhat limited	
						Slope	1.00
						Gravel	0.78
38C—Hinckley gravelly sandy loam, 3 to 15 percent slopes							
Hinckley	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.04	Slope	0.04	Gravel	1.00
		Gravel	0.05	Gravel	0.05	Slope	1.00
						Large stones	0.11
60D—Canton and Charlton soils, 15 to 25 percent slopes							
Canton	45	Very limited		Very limited		Somewhat limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
Charlton	35	Very limited		Very limited		Somewhat limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
						Gravel	0.43

Selected Soil Interpretations– State of Connecticut							
Map symbol and soil name	Pct. of map unit	Rec - camp areas (ct)		Rec - picnic areas (ct)		Rec - playgrounds (ct)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74C—Narragansett-Hollis complex, 3 to 15 percent slopes, very rocky							
Narragansett	55	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones	0.53	Large stones	0.53	Slope	1.00
		Slope	0.04	Slope	0.04	Large stones	0.53
Hollis	20	Very limited		Very limited		Somewhat limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones	0.53	Large stones	0.53	Slope	1.00
		Slope	0.04	Slope	0.04	Large stones	0.53
75E—Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes							
Hollis	35	Very limited		Very limited		Somewhat limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
		Large stones	1.00	Large stones	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Large stones	1.00
Chatfield	30	Very limited		Very limited		Somewhat limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
		Large stones	0.53	Large stones	0.53	Depth to bedrock	0.54
						Large stones	0.53
Rock outcrop	15	Not rated		Not rated		Not rated	
96—Ipswich mucky peat							
Ipswich	85	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Salinity	1.00	Depth to saturated zone	1.00	Salinity	1.00
		Flooding	1.00	Salinity	1.00	Flooding	1.00
		Ponding	1.00	Flooding	0.60	Ponding	1.00
98—Westbrook mucky peat							
Westbrook	80	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Salinity	1.00	Depth to saturated zone	1.00	Salinity	1.00
		Flooding	1.00	Salinity	1.00	Flooding	1.00
		Ponding	1.00	Flooding	0.60	Ponding	1.00

Selected Soil Interpretations– State of Connecticut							
Map symbol and soil name	Pct. of map unit	Rec - camp areas (ct)		Rec - picnic areas (ct)		Rec - playgrounds (ct)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
99—Westbrook mucky peat, low salt							
Westbrook, low salt	80	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Ponding	1.00	Salinity	1.00	Ponding	1.00
		Salinity	1.00	Flooding	0.60	Salinity	1.00
306—Udorthents-Urban land complex							
Udorthents	50	Very limited		Very limited		Somewhat limited	
		Too steep	1.00	Too steep	1.00	Slope	1.00
Urban land	35	Not rated		Not rated		Not rated	
W—Water							
Water	100	Not rated		Not rated		Not rated	

Soil Physical Properties

This folder contains a collection of tabular reports that present soil physical properties. The reports (tables) include all selected map units and components for each map unit. Soil physical properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

Physical Soil Properties

This table shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The 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, saturated hydraulic conductivity (Ksat), 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 linear extensibility, 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.

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates in the table are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (Ksat) 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. The amount and type of clay minerals in the soil influence volume change.

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 this table, 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 the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and Ksat. 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 and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook."

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (http://soils.usda.gov)

Physical Soil Properties– State of Connecticut														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
12—Raypol silt loam														
Raypol	0-8	13-31- 46	51-62- 75	3- 8- 12	1.00-1.25	4.00-14.00	0.17-0.21	0.0-2.9	2.0-8.0	.32	.37	3	5	56
	8-12	13-49- 65	32-46- 75	3- 5- 12	1.35-1.55	4.00-14.00	0.13-0.21	0.0-2.9	0.5-1.5	.49	.55			
	12-20	13-41- 65	32-52- 75	3- 8- 12	1.35-1.55	4.00-14.00	0.13-0.21	0.0-2.9	0.0-0.5	.49	.55			
	20-26	13-41- 65	32-52- 75	3- 8- 12	1.35-1.55	4.00-14.00	0.13-0.21	0.0-2.9	0.0-0.5	.55	.64			
	26-29	13-51- 65	32-44- 75	3- 5- 12	1.35-1.55	4.00-14.00	0.13-0.21	0.0-2.9	0.0-0.5	.55	.64			
	29-52	73-87-100	0-12- 25	0- 1- 2	1.40-1.65	42.00-703.00	0.01-0.11	0.0-2.9	0.0-0.5	.17	.43			
	52-65	73-92-100	0- 7- 25	0- 1- 2	1.40-1.65	42.00-703.00	0.01-0.11	0.0-2.9	0.0-0.5	.17	.43			
29A—Agawam fine sandy loam, 0 to 3 percent slopes														
Agawam	0-8	53-62- 71	25-31- 37	4- 7- 10	1.10-1.20	14.00-42.00	0.12-0.15	0.0-2.9	1.0-5.0	.28	.32	3	3	86
	8-14	50-60- 69	30-35- 40	1- 6- 10	1.20-1.40	14.00-42.00	0.11-0.18	0.0-2.9	0.5-2.0	.37	.43			
	14-24	54-62- 69	30-35- 40	1- 4- 6	1.30-1.40	14.00-42.00	0.11-0.17	0.0-2.9	0.0-0.5	.32	.55			
	24-60	87-94-100	0- 6- 12	0- 1- 1	1.30-1.50	141.00-703.00	0.01-0.07	0.0-2.9	0.0-0.5	.15	.17			
29B—Agawam fine sandy loam, 3 to 8 percent slopes														
Agawam	0-8	53-62- 71	25-31- 37	4- 7- 10	1.10-1.20	14.00-42.00	0.12-0.15	0.0-2.9	1.0-5.0	.28	.32	3	3	86
	8-14	50-60- 69	30-35- 40	1- 6- 10	1.20-1.40	14.00-42.00	0.11-0.18	0.0-2.9	0.5-2.0	.37	.43			
	14-24	54-62- 69	30-35- 40	1- 4- 6	1.30-1.40	14.00-42.00	0.11-0.17	0.0-2.9	0.0-0.5	.32	.55			
	24-60	87-94-100	0- 6- 12	0- 1- 1	1.30-1.50	141.00-703.00	0.01-0.07	0.0-2.9	0.0-0.5	.15	.17			

Physical Soil Properties– State of Connecticut														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
32B—Haven and Enfield soils, 3 to 8 percent slopes														
Haven	0-7	2-25- 44	51-64- 80	5-12- 18	1.10-1.40	4.00-14.00	0.16-0.21	0.0-2.9	2.0-6.0	.32	.43	3	5	56
	7-14	2-29- 44	25-60- 80	5-12- 18	1.20-1.40	4.00-14.00	0.13-0.21	0.0-2.9	0.5-2.0	.49	.64			
	14-20	2-36- 44	25-53- 80	5-12- 18	1.20-1.40	4.00-14.00	0.13-0.21	0.0-2.9	0.5-1.0	.49	.64			
	20-24	54-62- 70	25-27- 28	5-12- 18	1.25-1.50	4.00-14.00	0.13-0.17	0.0-2.9	0.0-0.5	.37	.43			
	24-60	92-96-100	0- 2- 5	0- 2- 3	1.40-1.65	141.00-703.00	0.01-0.06	0.0-2.9	0.0-0.5	.10	.15			
Enfield	0-3	0- 0- 0	0- 0- 0	0- 0- 0	0.30-0.55	14.00-141.00	0.08-0.40	—	50.0-80.0			3	5	56
	3-4	0- 0- 0	0- 0- 0	0- 0- 0	0.30-0.55	14.00-141.00	0.08-0.40	—	50.0-80.0					
	4-12	8-27- 51	51-66- 80	3- 7- 12	1.20-1.40	4.00-14.00	0.18-0.21	0.0-2.9	2.0-6.0	.43	.49			
	12-20	8-42- 75	22-51- 80	3- 7- 12	1.30-1.60	4.00-14.00	0.14-0.21	0.0-2.9	0.5-2.0	.55	.64			
	20-26	8-42- 75	22-51- 80	3- 7- 12	1.30-1.60	4.00-14.00	0.14-0.21	0.0-2.9	0.5-2.0	.55	.64			
	26-30	8-42- 75	22-51- 80	3- 7- 12	1.30-1.60	4.00-14.00	0.14-0.21	0.0-2.9	0.0-0.5	.64	.64			
	30-37	85-85- 94	3-13- 28	0- 2- 6	1.30-1.60	4.00-14.00	0.01-0.11	0.0-2.9	0.0-0.5	.10	.15			
	37-65	73-90-100	0- 9- 25	0- 1- 2	1.40-1.65	42.00-703.00	0.01-0.08	0.0-2.9	0.0-0.5	.17	.20			
34B—Merrimac sandy loam, 3 to 8 percent slopes														
Merrimac	0-9	45-59- 70	27-36- 48	3- 5- 7	1.10-1.20	14.00-42.00	0.10-0.12	0.0-2.9	1.0-5.0	.24	.28	3	3	86
	9-16	48-60- 69	30-38- 48	1- 3- 4	1.20-1.40	14.00-42.00	0.10-0.14	0.0-2.9	0.5-1.0	.28	.37			
	16-24	48-60- 69	30-38- 48	1- 3- 4	1.20-1.40	14.00-42.00	0.07-0.12	0.0-2.9	0.5-1.0	.24	.32			
	24-60	88-94-100	0- 5- 9	0- 2- 3	1.30-1.50	42.00-703.00	0.02-0.05	0.0-2.9	0.0-0.5	.10	.15			

Physical Soil Properties– State of Connecticut														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
38C—Hinckley gravelly sandy loam, 3 to 15 percent slopes														
Hinckley	0-8	54-64- 69	27-30- 38	4- 6- 8	0.90-1.10	42.00-141.00	0.07-0.11	0.0-2.9	2.0-7.0	.15	.28	2	5	56
	8-20	75-79- 83	12-18- 24	1- 3- 5	1.20-1.40	42.00-141.00	0.03-0.10	0.0-2.9	0.5-1.5	.10	.17			
	20-27	87-90- 93	2- 7- 12	1- 3- 5	1.20-1.40	42.00-141.00	0.02-0.05	0.0-2.9	0.0-0.5	.05	.15			
	27-42	88-92- 93	4- 7- 12	0- 2- 3	1.30-1.50	141.00-703.00	0.01-0.04	0.0-2.9	0.0-0.5	.10	.28			
	42-60	88-92- 93	4- 7- 12	0- 2- 3	1.30-1.50	141.00-703.00	0.01-0.04	0.0-2.9	0.0-0.5	.10	.28			
60D—Canton and Charlton soils, 15 to 25 percent slopes														
Canton	0-1	0- 0- 0	0- 0- 0	0- 0- 0	0.30-0.55	42.00-141.00	0.08-0.40	—	45.0-95.0			3	3	86
	1-3	54-58- 70	29-36- 38	1- 6- 8	1.25-1.45	14.00-42.00	0.10-0.13	0.0-2.9	2.0-6.0	.05	.24			
	3-15	43-50- 70	29-43- 45	1- 7- 8	1.25-1.45	14.00-42.00	0.10-0.15	0.0-2.9	0.5-1.0	.32	.55			
	15-24	43-50- 70	29-43- 45	1- 7- 8	1.25-1.50	14.00-42.00	0.10-0.15	0.0-2.9	0.5-1.0	.32	.55			
	24-30	43-50- 70	29-43- 45	1- 7- 8	1.30-1.50	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.5	.32	.55			
	30-60	77-83- 85	15-15- 18	0- 3- 5	1.35-1.60	42.00-141.00	0.03-0.09	0.0-2.9	0.0-0.5	.17	.32			
Charlton	0-4	57-65- 72	20-30- 40	3- 6- 8	1.25-1.45	4.00-42.00	0.12-0.14	0.0-2.9	2.0-6.0	.17	.24	5	3	86
	4-7	57-65- 72	20-30- 40	3- 6- 8	1.30-1.45	4.00-42.00	0.09-0.14	0.0-2.9	0.5-1.0	.24	.37			
	7-19	57-65- 72	20-30- 40	3- 6- 8	1.35-1.50	4.00-42.00	0.09-0.14	0.0-2.9	0.0-0.5	.28	.43			
	19-27	57-65- 72	20-30- 40	3- 6- 8	1.35-1.55	4.00-42.00	0.08-0.14	0.0-2.9	0.0-0.5	.28	.43			
	27-65	57-66- 72	20-30- 40	1- 5- 8	1.35-1.60	4.00-42.00	0.08-0.13	0.0-2.9	0.0-0.5	.28	.43			

Physical Soil Properties– State of Connecticut														
Map symbol and soil name	**Depth**	**Sand**	**Silt**	**Clay**	**Moist bulk density**	**Saturated hydraulic conductivity**	**Available water capacity**	**Linear extensibility**	**Organic matter**	**Erosion factors**			**Wind erodibility group**	**Wind erodibility index**
										Kw	**Kf**	**T**		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
74C—Narragansett-Hollis complex, 3 to 15 percent slopes, very rocky														
Narragansett	0-6	10-28- 45	51-65- 80	4- 7- 10	1.20-1.40	4.00-14.00	0.16-0.21	0.0-2.9	2.0-6.0	.37	.43	3	5	56
	6-15	10-38- 73	23-55- 80	4- 7- 10	1.40-1.60	4.00-14.00	0.11-0.21	0.0-2.9	1.0-2.0	.49	.55			
	15-24	10-38- 73	23-55- 80	4- 7- 10	1.40-1.60	4.00-14.00	0.11-0.21	0.0-2.9	0.5-1.0	.49	.55			
	24-28	10-42- 73	23-51- 80	4- 7- 10	1.40-1.60	4.00-14.00	0.11-0.21	0.0-2.9	0.0-1.0	.49	.55			
	28-60	73-83- 92	8-16- 25	0- 1- 2	1.40-1.70	14.00-141.00	0.02-0.10	0.0-2.9	0.0-0.5	.20	.32			
Hollis	0-1	0- 0- 0	0- 0- 0	0- 0- 0	0.30-0.55	14.00-42.00	0.08-0.40	—	20.0-60.0			1	3	86
	1-6	54-61- 70	27-33- 36	3- 7- 10	1.10-1.40	4.00-42.00	0.08-0.17	0.0-2.9	2.0-6.0	.10	.20			
	6-9	53-61- 69	30-35- 39	1- 5- 8	1.30-1.55	4.00-42.00	0.08-0.14	0.0-2.9	0.5-2.0	.15	.37			
	9-15	53-61- 69	30-35- 39	1- 5- 8	1.30-1.55	4.00-42.00	0.06-0.18	0.0-2.9	0.0-0.5	.28	.43			
	15-80	—	—	—	—	0.07-141.00	—	—	—					

Physical Soil Properties– State of Connecticut														
Map symbol and soil name	**Depth**	**Sand**	**Silt**	**Clay**	**Moist bulk density**	**Saturated hydraulic conductivity**	**Available water capacity**	**Linear extensibility**	**Organic matter**	**Erosion factors**			**Wind erodibility group**	**Wind erodibility index**
										Kw	**Kf**	**T**		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
75E—Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes														
Hollis	0-1	0- 0- 0	0- 0- 0	0- 0- 0	0.30-0.55	14.00-42.00	0.08-0.40	—	20.0-60.0			1	3	86
	1-6	54-61- 70	27-33- 36	3- 7- 10	1.10-1.40	4.00-42.00	0.08-0.17	0.0-2.9	2.0-6.0	.10	.20			
	6-9	53-61- 69	30-35- 39	1- 5- 8	1.30-1.55	4.00-42.00	0.08-0.14	0.0-2.9	0.5-2.0	.15	.37			
	9-15	53-61- 69	30-35- 39	1- 5- 8	1.30-1.55	4.00-42.00	0.06-0.18	0.0-2.9	0.0-0.5	.28	.43			
	15-80	—	—	—	—	0.07-141.00	—	—	—					
Chatfield	0-1	0- 0- 0	0- 0- 0	0- 0- 0	0.30-0.55	14.00-42.00	0.08-0.40	—	50.0-95.0	.05	.05	2	3	86
	1-6	52-68- 83	10-20- 30	7-13- 18	1.25-1.45	4.00-42.00	0.09-0.13	0.0-2.9	2.0-6.0	.10	.15			
	6-15	37-62- 83	10-26- 45	7-13- 18	1.30-1.45	4.00-42.00	0.08-0.17	0.0-2.9	0.5-2.0	.20	.28			
	15-29	50-68- 83	10-20- 28	7-13- 18	1.35-1.50	4.00-42.00	0.08-0.13	0.0-2.9	0.0-0.5	.20	.28			
	29-80	—	—	—	—	0.07-141.00	—	—	—					
Rock outcrop	—	—	—	—	—	—	—	—	—			1		
96—Ipswich mucky peat														
Ipswich	0-16	0- 0- 0	0- 0- 0	0- 0- 0	0.30-0.55	4.00-141.00	0.07-0.35	—	50.0-80.0			3	8	0
	16-23	0- 0- 0	0- 0- 0	0- 0- 0	0.30-0.55	4.00-141.00	0.07-0.35	—	50.0-80.0					
	23-64	0- 0- 0	0- 0- 0	0- 0- 0	0.30-0.55	4.00-141.00	0.07-0.35	—	50.0-80.0					
	64-80	0- 0- 0	0- 0- 0	0- 0- 0	0.30-0.55	4.00-141.00	0.07-0.35	—	55.0-75.0					

Physical Soil Properties– State of Connecticut														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
98—Westbrook mucky peat														
Westbrook	0-10	0- 0- 0	0- 0- 0	0- 0- 0	0.30-0.55	4.00-141.00	0.05-0.09	—	20.0-90.0			2	8	0
	10-40	0- 0- 0	0- 0- 0	0- 0- 0	0.30-0.55	4.00-141.00	0.05-0.09	—	20.0-90.0					
	40-48	0- 0- 0	0- 0- 0	0- 0- 0	0.30-0.55	4.00-141.00	0.05-0.09	—	15.0-40.0					
	48-64	2- 2- 60	40-76- 80	2-22- 35	1.25-1.50	0.01-14.00	0.02-0.07	0.0-6.0	8.0-15.0	.20	.20			
	64-99	2- 5- 60	40-78- 80	2-17- 35	1.25-1.50	0.01-14.00	0.02-0.07	0.0-6.0	5.0-15.0	.24	.24			
99—Westbrook mucky peat, low salt														
Westbrook, low salt	0-10	0- 0- 0	0- 0- 0	0- 0- 0	0.30-0.55	4.00-141.00	0.07-0.27	—	20.0-90.0			2	8	0
	10-40	0- 0- 0	0- 0- 0	0- 0- 0	0.30-0.55	4.00-141.00	0.07-0.27	—	20.0-90.0					
	40-48	0- 0- 0	0- 0- 0	0- 0- 0	0.30-0.55	4.00-141.00	0.07-0.27	—	15.0-40.0					
	48-64	2- 2- 60	40-76- 80	2-22- 35	1.25-1.50	0.01-14.00	0.02-0.07	0.0-6.0	8.0-15.0	.20	.20			
	64-99	2- 5- 60	40-78- 80	2-17- 35	1.25-1.50	0.01-14.00	0.02-0.07	0.0-6.0	5.0-15.0	.24	.24			
306—Udorthents-Urban land complex														
Udorthents	0-5	35-42- 50	43-46- 50	7-12- 15	1.00-1.70	4.00-14.00	0.14-0.18	0.0-2.9	2.0-6.0	.28	.37	3	5	56
	5-21	10-52- 95	2-31- 60	3-17- 30	1.10-1.70	0.01-703.00	0.01-0.21	0.0-2.9	0.0-0.5	.24	.28			
	21-80	10-57- 95	2-31- 60	3-12- 30	1.20-2.00	0.01-703.00	0.01-0.21	0.0-2.9	0.0-0.5	.24	.28			
Urban land	0-6	—	—	0- 0- 0	—	0.07-141.00	0.00	—	—					
W—Water														
Water	—	—	—	—	—	—	—	—	—					

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