



Vanasse Hangen Brustlin, Inc.

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Memorandum

To: Chuck Regulbuto
Project Director New Tower Builds
SBA Network Services, Inc.
One Research Drive, Suite 200C
Westborough, MA 01581

Date: October 23, 2008

Project No.: 40999.03

From: Dean Gustafson
Professional Soil Scientist

Re: NEPA Wetland Compliance
Bloomfield - Site No. 999-0058
12 Burr Road
Bloomfield, Connecticut

Vanasse Hangen Brustlin, Inc. (VHB) previously completed on-site investigations to determine if wetlands and/or watercourses are located on the above-referenced Site.

The Site was inspected on September 5, 2008. The property is improved as an industrial warehouse property operated by Maple Hill Farms, Inc. Based on a review of plans prepared by Clough Harbour & Associates LLP (latest revised date 10/23/08) VHB understands that Optasite Towers LLC proposes to construct a wireless communications facility in the western portion of the subject property in a maintained lawn area just west of a warehouse building. An existing paved access road, originating from Burr Road, will be used to access the proposed tower location. Two wetland areas were delineated on the property along the north, east and west property boundaries. Tumbledown Brook and associated bordering forested wetlands are located over 100 feet to the west and north of the proposed tower facility while a smaller wet meadow wetland system is located over 200 feet to the east. Although work is proposed in proximity to nearby wetland resource areas, no direct impact to wetlands or watercourses is proposed for the Optasite Towers development and adequate erosion controls are proposed to protect these nearby wetland and watercourse areas during construction. Therefore, the proposed development will not result in an adverse impact to nearby wetlands or watercourses.

In addition, as no direct impact to federal wetlands is associated with Optasite Towers' construction activities, **NO significant change in surface features** (e.g., wetland fill, deforestation or water diversion) will result in accordance with the National Environmental Policy Act Categorical Exclusion checklist.



WETLANDS DELINEATION REPORT

Vanasse Hangen Brustlin, Inc.

Date: October 1, 2008
Project No.: 40999.03
Prepared For: Chuck Regulbuto
Project Director New Tower Builds
SBA Network Services, Inc.
One Research Drive, Suite 200C
Westborough, MA 01581
Site Location: Maple Hill Farms, Inc.
12 Burr Road
Bloomfield, Connecticut
Site Map: VHB Wetland Sketch Map, 09/05/08
Inspection Date: 09/05/08
Field Conditions: Weather: cloudy, mid 80's General Soil Moisture: moist
Snow Depth: 0 inches Frost Depth: 0 inches

Type of Wetlands Identified and Delineated:


Connecticut Wetlands and Watercourses
Tidal Wetlands
U.S. Army Corps of Engineers

Field Numbering Sequence of Wetlands Boundary: WF 1-01 to 1-15, WF 2-01 to 2-66
[as depicted on attached wetland sketch map]

The classification systems of the Massachusetts Department of Environmental Protection, National Cooperative Soil Survey, the U.S. Department of Agriculture, Natural Resources Conservation Service, County Soil Survey Identification Legend, and/or United States Army Corps of Engineers New England District were used in this investigation.

All established wetland and watercourse boundary lines are subject to change until officially adopted by local, state, or federal regulatory agencies.

The wetlands delineation was conducted and reviewed by:



Dean Gustafson
Professional Soil Scientist

Enclosures

Attachments



-
- Wetland Delineation Field Form
 - Soil Map
 - Soil Report
 - Wetland Delineation Sketch Map

Wetland Delineation Field Form

Project Address:	12 Burr Road Bloomfield, CT	Project Number:	40999.03
Inspection Date:	09/05/08	Inspector:	Dean Gustafson, Sr. Wetland Scientist
Wetland I.D.:	Wetland 1		

Field Conditions:	Weather: sunny, low 90's	Snow Depth: none
	General Soil Moisture: moist	Frost Depth: none
Type of Wetland Delineation:	Connecticut <input checked="" type="checkbox"/>	
	ACOE <input type="checkbox"/>	
	Tidal <input type="checkbox"/>	
Flag No. Sequence: WF 1 to 28 (1 thru 9 previously delineated and found to be substantially correct)		

WETLAND HYDROLOGY:

NONTIDAL

Regularly Flooded <input type="checkbox"/>	Irregularly Flooded <input type="checkbox"/>	Permanently Flooded <input type="checkbox"/>
Semipermanently Flooded <input type="checkbox"/>	Seasonally Flooded <input checked="" type="checkbox"/>	Temporarily Flooded <input type="checkbox"/>
Permanently Saturated <input type="checkbox"/>	Seasonally Saturated – seepage <input type="checkbox"/>	Seasonally Saturated - perched <input type="checkbox"/>
Comments: hydrology associated with seasonal stream flooding and some groundwater discharge/recharge		

TIDAL

Subtidal <input type="checkbox"/>	Regularly Flooded <input type="checkbox"/>	Irregularly Flooded <input type="checkbox"/>
Seasonally Flooded <input type="checkbox"/>	Temporarily Flooded <input type="checkbox"/>	
Comments: N/A		

WETLAND TYPE:

SYSTEM:

Estuarine <input type="checkbox"/>	Riverine <input checked="" type="checkbox"/>	Palustrine <input type="checkbox"/>
Lacustrine <input type="checkbox"/>	Marine <input type="checkbox"/>	
Comments:		

CLASS:

Emergent <input type="checkbox"/>	Scrub-shrub <input type="checkbox"/>	Forested <input checked="" type="checkbox"/>
Open Water <input type="checkbox"/>	Disturbed <input type="checkbox"/>	Wet Meadow <input type="checkbox"/>
Comments:		

WATERCOURSE TYPE:

Perennial <input checked="" type="checkbox"/>	Intermittent <input type="checkbox"/>	Tidal <input type="checkbox"/>
Comments: Tumbledown Brook, 12-16 feet wide, 1-2 feet deep, sand-silt bottom		

SPECIAL AQUATIC HABITAT:

Vernal Pool <input type="checkbox"/>	Other <input type="checkbox"/>	
Comments: N/A		

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Scarboro muck (15)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Catden and Freetown soils (18)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Haven and Enfield soils (32)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Rainbow silt loam (43)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Udorthents (309)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DOMINANT PLANTS:

Red maple	Tussock sedge
Black willow	Sensitive fern
American elm	Royal fern
Weeping willow	Phragmites
Green ash	Jewelweed
Silky dogwood	False nettle
Northern arrowwood	
Speckled alder	
Buttonbush	
Spicebush	
Winterberry	

WETLAND NARRATIVE:

The delineated wetland boundary is associated with a forested wetland system that borders Tumbledown Brook, which flows in a southerly direction under Burr Road. The wetland edge is typically characterized by a distinct slope break caused by encroaching fill material likely associated with the site's initial development as an industrial warehouse.

Wetland Delineation Field Form

Project Address:	12 Burr Road Bloomfield, CT	Project Number:	40999.03
Inspection Date:	09/05/08	Inspector:	Dean Gustafson, Sr. Wetland Scientist
Wetland I.D.:	Wetland 2		

Field Conditions:	Weather: sunny, low 90's	Snow Depth: none
	General Soil Moisture: moist	Frost Depth: none
Type of Wetland Delineation:	Connecticut <input checked="" type="checkbox"/>	
	ACOE <input type="checkbox"/>	
	Tidal <input type="checkbox"/>	
Flag No. Sequence: WF 2-01 to 2-06		

WETLAND HYDROLOGY:

NONTIDAL

Regularly Flooded <input type="checkbox"/>	Irregularly Flooded <input type="checkbox"/>	Permanently Flooded <input type="checkbox"/>
Semipermanently Flooded <input checked="" type="checkbox"/>	Seasonally Flooded <input type="checkbox"/>	Temporarily Flooded <input type="checkbox"/>
Permanently Saturated <input type="checkbox"/>	Seasonally Saturated – seepage <input type="checkbox"/>	Seasonally Saturated - perched <input type="checkbox"/>
Comments: groundwater depressional system		

TIDAL

Subtidal <input type="checkbox"/>	Regularly Flooded <input type="checkbox"/>	Irregularly Flooded <input type="checkbox"/>
Seasonally Flooded <input type="checkbox"/>	Temporarily Flooded <input type="checkbox"/>	
Comments: N/A		

WETLAND TYPE:

SYSTEM:

Estuarine <input type="checkbox"/>	Riverine <input type="checkbox"/>	Palustrine <input checked="" type="checkbox"/>
Lacustrine <input type="checkbox"/>	Marine <input type="checkbox"/>	
Comments:		

CLASS:

Emergent <input type="checkbox"/>	Scrub-shrub <input checked="" type="checkbox"/>	Forested <input type="checkbox"/>
Open Water <input type="checkbox"/>	Disturbed <input type="checkbox"/>	Wet Meadow <input checked="" type="checkbox"/>
Comments:		

WATERCOURSE TYPE:

Perennial <input type="checkbox"/>	Intermittent <input type="checkbox"/>	Tidal <input type="checkbox"/>
Comments:		

SPECIAL AQUATIC HABITAT:

Vernal Pool <input type="checkbox"/>	Other <input type="checkbox"/>	
Comments: N/A		

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD ID/ CONFIRMED
Scarboro muck (15)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Catden and Freetown soils (18)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Haven and Enfield soils (32)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Rainbow silt loam (43)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Udorthents (309)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

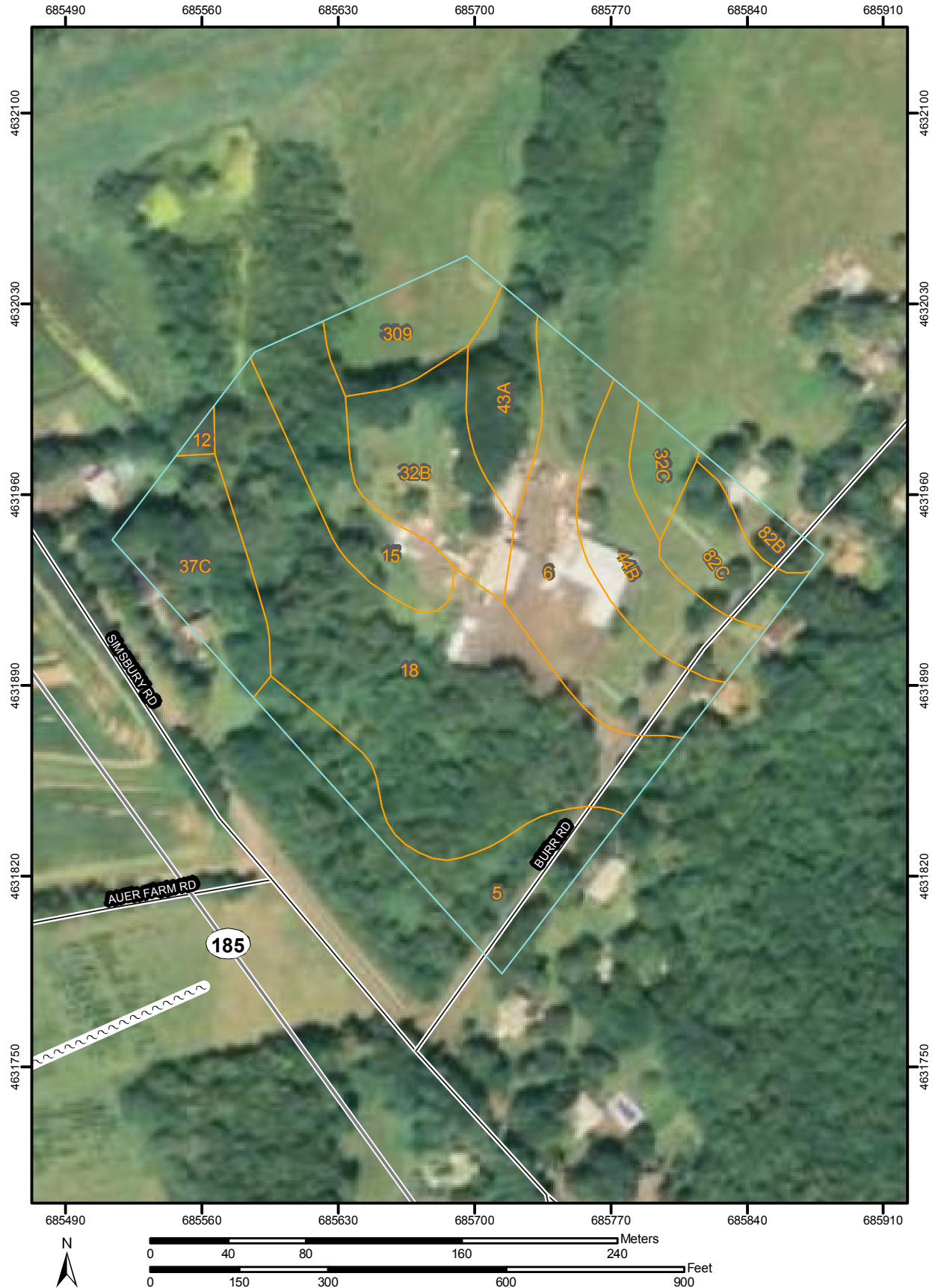
DOMINANT PLANTS:

Reed canary grass	
Joe-pye-weed	
Tearthumb	
Silky dogwood	
green bulrush	
Rough goldenrod	
Jewelweed	
Ironweed	

WETLAND NARRATIVE:


This wetland system flows to the north away from the subject property and proposed development. Maintained lawn and fill material characterize the southern wetland boundary on the subject property.

Soil Map—State of Connecticut
(12 Burr Road, Bloomfield, CT)



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
-  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

Municipalities

-  Cities
-  Urban Areas






Water Features

-  Oceans
-  Streams and Canals

Transportation

-  Rails

Roads

-  Interstate Highways
-  US Routes
-  State Highways
-  Local Roads
-  Other Roads

MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

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

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 6, Mar 22, 2007

Date(s) aerial images were photographed: 3/31/1991; 3/16/1992

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
5	Wilbraham silt loam	1.5	8.6%
6	Wilbraham and Menlo soils, extremely stony	2.1	12.2%
12	Raypol silt loam	0.1	0.3%
15	Scarboro muck	1.3	7.1%
18	Catden and Freetown soils	5.3	30.5%
32B	Haven and Enfield soils, 3 to 8 percent slopes	1.5	8.5%
32C	Haven and Enfield soils, 8 to 15 percent slopes	0.4	2.0%
37C	Manchester gravelly sandy loam, 3 to 15 percent slopes	1.3	7.3%
43A	Rainbow silt loam, 0 to 3 percent slopes	0.8	4.6%
44B	Rainbow silt loam, 2 to 8 percent slopes, very stony	1.3	7.4%
82B	Broadbrook silt loam, 3 to 8 percent slopes	0.3	1.7%
82C	Broadbrook silt loam, 8 to 15 percent slopes	0.8	4.3%
309	Udorthents, flood control	0.9	5.4%
Totals for Area of Interest (AOI)		17.5	100.0%

Map Unit Description (Brief)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the selected area. The map unit descriptions in this report, 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.

The "Map Unit Description (Brief)" report gives a brief, general description of the major soils that occur in a map unit. Descriptions of nonsoil (miscellaneous areas) and minor map unit components may or may not be included. This description is written by the local soil scientists responsible for the respective soil survey area data. A more detailed description can be generated by the "Map Unit Description" report.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description (Brief)

State of Connecticut

Description Category: SOI

Map Unit: 5—Wilbraham silt loam

Wilbraham Silt Loam This map unit is in the Connecticut Valley Major Land Resource Area. The mean annual precipitation is 40 to 50 inches (1016 to 1270 millimeters) and the average annual air temperature is 45 to 52 degrees F. (7 to 11 degrees C.) This map unit is 80 percent Wilbraham soils. 20 percent minor components. Wilbraham soils This component occurs on upland drainageway and depression landforms. The parent material consists of lodgement till derived from sandstone, shale, and basalt. The slope ranges from 0 to 3 percent and the runoff class is low. The depth to a restrictive feature is 20 to 36 inches to densic material. The drainage class is poorly drained. The slowest permeability within 60 inches is about 0.00 in/hr (very slow), with about 3.4 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is about 9 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 4w Typical Profile: 0 to 4 inches; silt loam 4 to 8 inches; silt loam 8 to 20 inches; silt loam 20 to 65 inches; gravelly loam

Map Unit: 6—Wilbraham and Menlo soils, extremely stony

Wilbraham And Menlo Soils, Extremely Stony This map unit is in the Connecticut Valley Major Land Resource Area. The mean annual precipitation is 40 to 50 inches (1016 to 1270 millimeters) and the average annual air temperature is 45 to 52 degrees F. (7 to 11 degrees C.) This map unit is 60 percent Wilbraham soils, 25 percent Menlo soils. 15 percent minor components. Wilbraham soils This component occurs on upland drainageway and depression landforms. The parent material consists of lodgement till derived from sandstone, shale, and basalt. The slope ranges from 0 to 3 percent and the runoff class is low. The depth to a restrictive feature is 20 to 36 inches to densic material. The drainage class is poorly drained. The slowest permeability within 60 inches is about 0.00 in/hr (very slow), with about 3.4 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is about 9 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 7s Typical Profile: 0 to 4 inches; silt loam 4 to 8 inches; silt loam 8 to 20 inches; silt loam 20 to 65 inches; gravelly loam Menlo soils This component occurs on upland drainageway and depression landforms. The parent material consists of lodgement till derived from sandstone, shale, and basalt. The slope ranges from 0 to 3 percent and the runoff class is low. The depth to a restrictive feature is 20 to 36 inches to densic material. The drainage class is very poorly drained. The slowest permeability within 60 inches is about 0.00 in/hr (very slow), with about 4.0 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is frequent. The minimum depth to a seasonal water table, when present, is about 9 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 7s Typical Profile: 0 to 5 inches; highly decomposed plant material 5 to 16 inches; mucky silt loam 16 to 22 inches; flaggy very fine sandy loam 22 to 27 inches; flaggy fine sandy loam 27 to 40 inches; fine sandy loam 40 to 60 inches; fine sandy loam

Map Unit: 12—Raypol silt loam

Raypol Silt Loam This map unit is in the Connecticut Valley Major Land Resource Area. The mean annual precipitation is 37 to 50 inches (940 to 1270 millimeters) and the average annual air temperature is 45 to 52 degrees F. (7 to 11 degrees C.) This map unit is 80 percent Raypol soils. 20 percent minor components. Raypol soils This component occurs on outwash plain terrace, depression, and drainageway landforms. The parent material consists of eolian deposits over sandy and gravelly glaciofluvial deposits. The slope ranges from 0 to 3 percent and the runoff class is low. The depth to a restrictive feature is greater than 60 inches. The drainage class is poorly drained. The slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 7.3 inches (high) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is about 6 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 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

Map Unit: 15—Scarboro muck

Scarboro Muck This map unit is in the New England and Eastern New York Upland, Southern Part Major Land Resource Area. The mean annual precipitation is 32 to 50 inches (813 to 1270 millimeters) and the average annual air temperature is 45 to 52 degrees F. (7 to 11 degrees C.) This map unit is 80 percent Scarboro soils. 20 percent minor components. Scarboro soils This component occurs on outwash plain terrace, depression, and drainageway landforms. The parent material consists of organic material over sandy glaciofluvial deposits derived from gneiss, granite, and schist. The slope ranges from 0 to 2 percent and the runoff class is very low. The depth to a restrictive feature is greater than 60 inches. The drainage class is very poorly drained. The slowest permeability within 60 inches is about 1.98 in/hr (moderately rapid), with about 4.8 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.8 LEP (low). The flooding frequency for this component is none. The ponding hazard is occasional. The minimum depth to a seasonal water table, when present, is about 4 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 5w Typical Profile: 0 to 12 inches; muck 12 to 17 inches; loamy sand 17 to 31 inches; statified sand to loamy fine sand 31 to 72 inches; statified very gravelly coarse sand to loamy fine sand

Map Unit: 18—Catden and Freetown soils

Catden And Freetown Soils This map unit is in the New England and Eastern New York Upland, Southern Part Major Land Resource Area. The mean annual precipitation is 32 to 47 inches (813 to 1194 millimeters) and the average annual air temperature is 45 to 52 degrees F. (7 to 11 degrees C.) This map unit is 40 percent Catden soils, 40 percent Freetown soils. 20 percent minor components.

Catden soils This component occurs on depression landforms. The parent material consists of woody and herbaceous organic material. The slope ranges from 0 to 2 percent and the runoff class is negligible. The depth to a restrictive feature is greater than 60 inches. The drainage class is very poorly drained. The available water capacity is about 24.4 inches (very high). The weighted average shrink-swell potential in 10 to 60 inches is about 10.0 LEP (very high). The flooding frequency for this component is rare. The ponding hazard is frequent. The minimum depth to a seasonal water table, when present, is about 0 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 5w Typical Profile: 0 to 2 inches; muck 2 to 18 inches; muck 18 to 47 inches; muck 47 to 49 inches; muck 49 to 61 inches; muck

Freetown soils This component occurs on depression landforms. The parent material consists of woody and herbaceous organic material. The slope ranges from 0 to 2 percent and the runoff class is negligible. The depth to a restrictive feature is greater than 60 inches. The drainage class is very poorly drained. The available water capacity is about 33.1 inches (very high). The weighted average shrink-swell potential in 10 to 60 inches is about 10.0 LEP (very high). The flooding frequency for this component is rare. The ponding hazard is frequent. The minimum depth to a seasonal water table, when present, is about 0 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 5w Typical Profile: 0 to 4 inches; peat 4 to 10 inches; peat 10 to 22 inches; muck 22 to 35 inches; muck 35 to 41 inches; muck 41 to 55 inches; muck 55 to 71 inches; muck 71 to 91 inches; muck

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

Haven And Enfield Soils, 3 To 8 Percent Slopes This map unit is in the New England and Eastern New York Upland, Southern Part Major Land Resource Area. The mean annual precipitation is 40 to 50 inches (1016 to 1270 millimeters) and the average annual air temperature is 45 to 55 degrees F. (7 to 13 degrees C.) This map unit is 60 percent Haven soils, 25 percent Enfield soils. 15 percent minor components. Haven soils This component occurs on valley outwash plain and terrace landforms. The parent material consists of eolian deposits over glaciofluvial deposits derived from schist, granite, and gneiss. The slope ranges from 3 to 8 percent and the runoff class is low. The depth to a restrictive feature is greater than 60 inches. The drainage class is well drained. The slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 5.1 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 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 Enfield soils This component occurs on valley outwash plain and terrace landforms. The parent material consists of eolian deposits over glaciofluvial deposits derived from schist, granite, and gneiss. The slope ranges from 3 to 8 percent and the runoff class is medium. The depth to a restrictive feature is greater than 60 inches. The drainage class is well drained. The slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 6.8 inches (high) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 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 8 to 17 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 loamy sand to coarse sand

Map Unit: 32C—Haven and Enfield soils, 8 to 15 percent slopes

Haven And Enfield Soils, 8 To 15 Percent Slopes This map unit is in the New England and Eastern New York Upland, Southern Part Connecticut Valley Major Land Resource Area. The mean annual precipitation is 40 to 50 inches (1016 to 1270 millimeters) and the average annual air temperature is 45 to 55 degrees F. (7 to 13 degrees C.) This map unit is 60 percent Haven soils, 25 percent Enfield soils, 15 percent minor components. Haven soils This component occurs on valley outwash plain and terrace landforms. The parent material consists of eolian deposits over glaciofluvial deposits derived from schist, granite, and gneiss. The slope ranges from 8 to 15 percent and the runoff class is low. The depth to a restrictive feature is greater than 60 inches. The drainage class is well drained. The slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 5.1 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 3e 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 Enfield soils This component occurs on valley outwash plain and terrace landforms. The parent material consists of eolian deposits over glaciofluvial deposits derived from schist, granite, and gneiss. The slope ranges from 8 to 15 percent and the runoff class is medium. The depth to a restrictive feature is greater than 60 inches. The drainage class is well drained. The slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 6.8 inches (high) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 3e 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 loamy sand to coarse sand

Map Unit: 37C—Manchester gravelly sandy loam, 3 to 15 percent slopes

Manchester Gravelly Sandy Loam, 3 To 15 Percent Slopes This map unit is in the Connecticut Valley Major Land Resource Area. The mean annual precipitation is 38 to 50 inches (965 to 1270 millimeters) and the average annual air temperature is 45 to 52 degrees F. (7 to 11 degrees C.) This map unit is 80 percent Manchester soils. 20 percent minor components. Manchester soils This component occurs on valley outwash plain, terrace, kame, and esker landforms. The parent material consists of sandy and gravelly glaciofluvial deposits derived from basalt, sandstone, and shale. The slope ranges from 3 to 15 percent and the runoff class is low. The depth to a restrictive feature is greater than 60 inches. The drainage class is excessively drained. The slowest permeability within 60 inches is about 5.95 in/hr (rapid), with about 2.6 inches (low) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 4e Typical Profile: 0 to 9 inches; gravelly sandy loam 9 to 18 inches; gravelly loamy sand 18 to 65 inches; stratified extremely gravelly coarse sand to very gravelly loamy sand

Map Unit: 43A—Rainbow silt loam, 0 to 3 percent slopes

Rainbow Silt Loam, 0 To 3 Percent Slopes This map unit is in the New England and Eastern New York Upland, Southern Part Major Land Resource Area. The mean annual precipitation is 45 to 52 inches (1143 to 1321 millimeters) and the average annual air temperature is 45 to 52 degrees F. (7 to 11 degrees C.) This map unit is 80 percent Rainbow soils. 20 percent minor components. Rainbow soils This component occurs on upland drumlin and hill landforms. The parent material consists of eolian deposits over lodgement till derived from basalt, gneiss, schist, and sandstone. The slope ranges from 0 to 3 percent and the runoff class is low. The depth to a restrictive feature is 20 to 40 inches to densic material. The drainage class is moderately well drained. The slowest permeability within 60 inches is about 0.00 in/hr (very slow), with about 4.9 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is about 24 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 2w Typical Profile: 0 to 6 inches; silt loam 6 to 18 inches; silt loam 18 to 26 inches; silt loam 26 to 65 inches; gravelly fine sandy loam

Map Unit: 44B—Rainbow silt loam, 2 to 8 percent slopes, very stony

Rainbow Silt Loam, 2 To 8 Percent Slopes, Very Stony This map unit is in the New England and Eastern New York Upland, Southern Part Major Land Resource Area. The mean annual precipitation is 37 to 50 inches (940 to 1270 millimeters) and the average annual air temperature is 45 to 52 degrees F. (7 to 11 degrees C.) This map unit is 80 percent Rainbow soils. 20 percent minor components. Rainbow soils This component occurs on upland drumlin and hill landforms. The parent material consists of eolian deposits over lodgement till derived from basalt, gneiss, schist, and sandstone. The slope ranges from 3 to 8 percent and the runoff class is medium. The depth to a restrictive feature is 20 to 40 inches to densic material. The drainage class is moderately well drained. The slowest permeability within 60 inches is about 0.00 in/hr (very slow), with about 4.9 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is about 24 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 6s Typical Profile: 0 to 6 inches; silt loam 6 to 18 inches; silt loam 18 to 26 inches; silt loam 26 to 65 inches; gravelly fine sandy loam

Map Unit: 82B—Broadbrook silt loam, 3 to 8 percent slopes

Broadbrook Silt Loam, 3 To 8 Percent Slopes This map unit is in the New England and Eastern New York Upland, Southern Part Connecticut Valley Major Land Resource Area. The mean annual precipitation is 37 to 50 inches (940 to 1270 millimeters) and the average annual air temperature is 45 to 52 degrees F. (7 to 11 degrees C.) This map unit is 80 percent Broadbrook soils. 20 percent minor components. Broadbrook soils This component occurs on upland hill, plain and drumlin landforms. The parent material consists of eolian deposits over lodgement till derived from sandstone, basalt, schist, and gneiss. The slope ranges from 3 to 8 percent and the runoff class is medium. The depth to a restrictive feature is 20 to 40 inches to densic material. The drainage class is well drained. The slowest permeability within 60 inches is about 0.00 in/hr (very slow), with about 4.8 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is about 24 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 2e Typical Profile: 0 to 8 inches; silt loam 8 to 14 inches; silt loam 14 to 25 inches; silt loam 25 to 65 inches; gravelly fine sandy loam

Map Unit: 82C—Broadbrook silt loam, 8 to 15 percent slopes

Broadbrook Silt Loam, 8 To 15 Percent Slopes This map unit is in the New England and Eastern New York Upland, Southern Part Connecticut Valley Major Land Resource Area. The mean annual precipitation is 37 to 50 inches (940 to 1270 millimeters) and the average annual air temperature is 45 to 52 degrees F. (7 to 11 degrees C.) This map unit is 80 percent Broadbrook soils. 20 percent minor components. Broadbrook soils This component occurs on upland hill, plain and drumlin landforms. The parent material consists of eolian deposits over lodgement till derived from sandstone, basalt, schist, and gneiss. The slope ranges from 8 to 15 percent and the runoff class is medium. The depth to a restrictive feature is 20 to 40 inches to densic material. The drainage class is well drained. The slowest permeability within 60 inches is about 0.00 in/hr (very slow), with about 4.8 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is about 24 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 3e Typical Profile: 0 to 8 inches; silt loam 8 to 14 inches; silt loam 14 to 25 inches; silt loam 25 to 65 inches; gravelly fine sandy loam

Map Unit: 309—Udorthents, flood control

Udorthents, Flood Control This map unit is in the New England and Eastern New York Upland, Southern Part Connecticut Valley Major Land Resource Area. The mean annual precipitation is 32 to 50 inches (813 to 1270 millimeters) and the average annual air temperature is 45 to 55 degrees F. (7 to 13 degrees C.) This map unit is 80 percent Udorthents soils. 20 percent minor components. Udorthents soils This component occurs on river valley landforms. The slope ranges from 0 to 35 percent and the runoff class is medium. The depth to a restrictive feature is greater than 60 inches. The drainage class is well drained. The slowest permeability within 60 inches is about 0.00 in/hr (very slow), with about 9.0 inches (very high) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.4 LEP (low). The flooding frequency for this component is rare. The ponding hazard is none. The minimum depth to a seasonal water table is greater than 60 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 4e Typical Profile: 0 to 5 inches; loam 5 to 21 inches; gravelly loam 21 to 80 inches; very gravelly sandy loam

Data Source Information

Soil Survey Area: State of Connecticut
Survey Area Data: Version 6, Mar 22, 2007

