# Transportation Land Development Environmental Services



54 Tuttle Place Middletown, Connecticut 06457 860 632-1500 FAX 860 632-7879

Memorandum

To: Ms. Alexandria Carter Verizon Wireless 99 East River Drive East Hartford, CT 06108

Date: October 22, 2007

Project No.: 41240.18

From: Dean Gustafson

Professional Soil Scientist

Re: Wetland Impact Analysis/NEPA Compliance

Kent

38 Maple Street (Route 341)

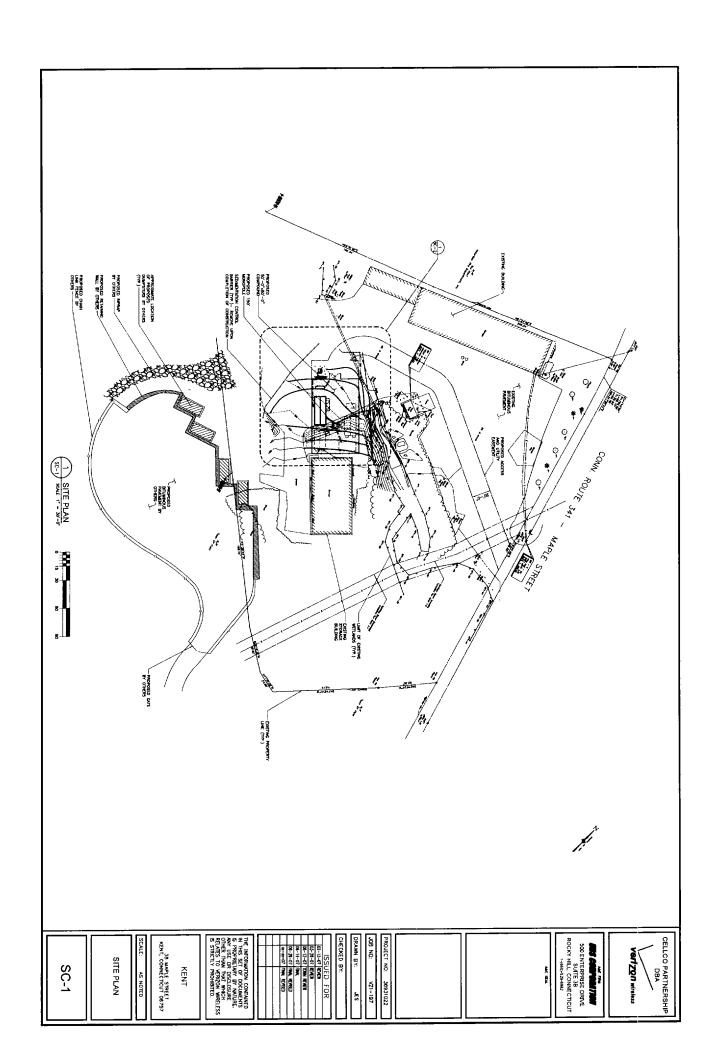
Kent, Connecticut

Vanasse Hangen Brustlin, Inc. (VHB) previously completed on-site investigations to determine if wetlands and/or watercourses are located on the above-referenced Site. Refer to Wetlands Delineation Report dated June 14, 2007.

The Site was inspected on January 13, 2007. The property is improved with the Town of Kent's transfer station and garage. Based on a review of plans prepared by URS Corporation (latest revised date 06-29-07, as attached) VHB understands that Verizon Wireless proposes to construct a wireless communications facility in the central portion of the subject property immediately adjacent to a garage building. A ditched intermittent watercourse channel was identified approximately 12 feet northeast of the proposed Verizon Wireless facility. This channel serves as an overflow from a manmade pond (Kent Kid's Fishing Hole) located along Route 314. The banks of this man-made channel are characterized by moderately steep fill slopes and adjoining developed/disturbed areas associated with the current site usage. The area proposed for development by Verizon Wireless consists of an existing disturbed and developed area associated with the adjacent storage building. Although work is proposed in proximity to nearby wetland resource area, no direct impact to wetlands is proposed for the Verizon Wireless development. Due to the existing disturbance to the nearby intermittent watercourse, the existing disturbance/development of the area proposed for development and no mature vegetation bordering the watercourse will be removed, the proposed project will not result in a likely adverse impact to this nearby watercourse resource.

In addition, as no direct impact to federal wetlands is associated with Verizon Wireless' 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.

Enclosure



# Transportation Land Development Environmental Services



imagination innovation energy Creating results for our clients and benefits for our communities

#### **WETLANDS DELINEATION REPORT**

Vanasse Hangen Brustlin, Inc.

June 14, 2007

Project No.:

41240.18

Prepared For:

Ms. Alexandria Carter

Verizon Wireless 99 East River Drive

East Hartford, Connecticut 06108

Site Location:

Kent

38 Maple Street (Route 341)

Kent, Connecticut

Site Map:

Wetland Sketch, 1/13/07, VHB

**Inspection Date:** 

January 13, 2007

**Field Conditions:** 

Weather: light rain, mid 40's

Snow Depth: 0 inches

General Soil Moisture: moist

Frost Depth: 0 inches

#### Type of Wetlands Identified and Delineated:

Connecticut Inland Wetlands and Watercourses

Tidal Wetlands

U.S. Army Corps of Engineers

Local Regulated Upland Review Areas: Wetlands: 100 feet Watercourses: 200 feet

Field Numbering Sequence of Wetlands Boundary: WF 1-01 to 1-30; WF 1-50 to 1-54

[as depicted on attached wetland sketch map]

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

All established wetlands 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** 

54 Tuttle Place Middletown, Connecticut 06457 1847 860.632.1500 • FAX 860.632.7879 email: info@vhb.com www.vhb.com

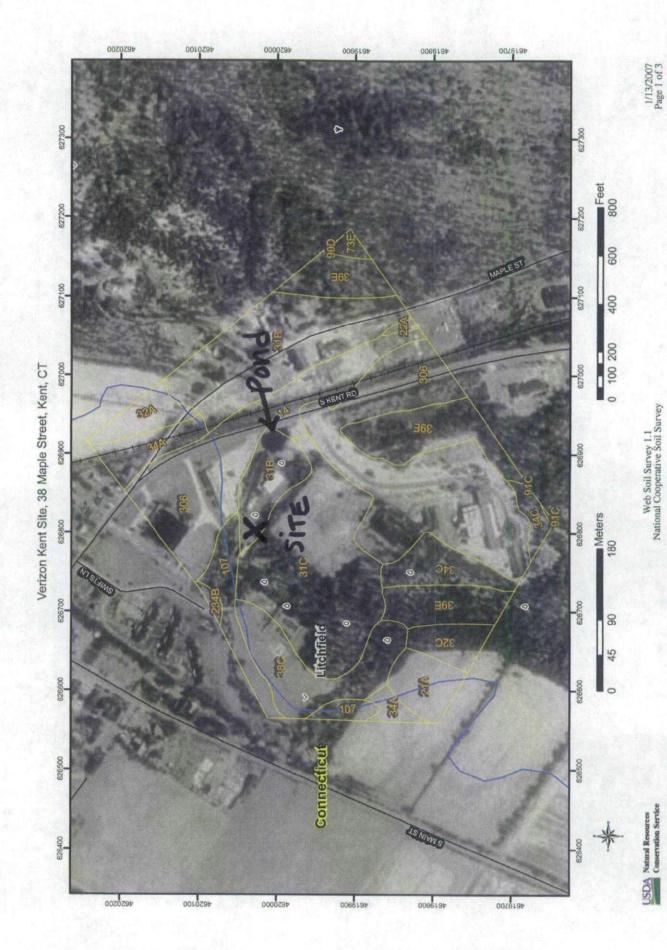
# **Attachments**

- ➤ Wetland Delineation Field Form

- Soil Map
  Soil Report
  Wetland Delineation Sketch Map

# Wetland Delineation Field Form

Project Address:	38 MA	PLE STR	EET, K	ENT	, CT			
Inspection Date:	1/13/0		Project		41240.18			
Wetland I.D.	WETLA	ND 1	Inspec	tor	DEAN GUSTAFSOI	2		
Field Conditions: Weather: H. vain, Mid 40's Snow Depth:								
General Soil Moisture: Moist Frost Depth:								
Type of Wetland Delineation: Connecticut								
		ACOE						
Tidal  Field Numbering Sequence: WF 1-01 to 1-30; WF 1-50 to 1-54								
Field Numbering	sequence: K	PF 1-01 TO	1-30 ;	WP	1-50 +0 1-54			
WETLAND HYI Nontidal	ROLOGY:							
Regularly Flooded	l 🔲	Irregularly Flo	oded 🗌		Permanently Flooded			
	Semipermanently Flooded		Seasonally Flooded		Temporarily Flooded			
Permanently Satur	rated	Seasonally Sa	turated – seepa	d – seepage Seasonally Saturated - perched				
Comments:								
Tidal								
Subtidal		Regularly Floo	oded	1	Irregularly Flooded			
	easonally Flooded Temporarily Flooded							
Comments: NA								
WETLAND TYP	E:							
System			T					
Estuarine		Riverine	<u> </u>	Pa	lustrine 🔀			
Lacustrine Comments:		Marine						
Comments.								
Class								
Emergent Marsh		Scrub-shrul	b 🔲	Fo	sted 🔀			
Open Water 🔀		Disturbed	Disturbed					
Comments:								
WATERCOURS	E TYPE:							
Upper Perennial Lower			nnial	Ĭn	Intermittent X			
Tidal	<del></del>							
Comments: ditc	hed cha	nnel Serv	es as ov	erf(ou	from man-mad			
Pon	o Ken	1 LID > L(	SHING HO	にこり				
SPECIAL AQUA	TIC HABIT	AT:			<del>_</del>			
Vernal Pool		Other 🗌						
Comments: NA								
DOMINANT DI	NTC.							
multiflora vose American elm								
			- Miler.	HILLEY CAN EIM				
Morrow's honeysuckle Asian bittersweet								
DOLLAR DIRECTS	<u>~227</u>							
COMMENTS:								
Site is heavily disturbed by its transfer station use. Edge								
					slope to ditched			
ntermittent water course with exception of man-made poind.								
- THE WALL COURSE WITH CELEPTION OF MAN-INDER POND								



# Verizon Kent Site, 38 Maple Street, Kent, CT

# 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 comprised of aerial images photographed on these dates: Source of Map: Natural Resources Conservation Service Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov MAP INFORMATION Soil Survey Area: State of Connecticut Soil Map Compilation Scale: 1:12000 Coordinate System: UTM Zone 18 Spatial Version of Data: 3 3/31/1991 Escarpment, non-bedrock Escarpment, bedrock Interstate Highways Miscellaneous Water Depression, closed Detailed Counties Marsh or Swamp Detailed States Soil Map Units Gravelly Spot Rock Outcrop Eroded Spot Hydrography Saline Spot Sandy Spot Slide or Slip Gravel Pit Sodic Spot Spoil Area Stony Spot MAP LEGEND Borrow Pit Clay Spot ava Flow Sinkhole Oceans Blowout Roads Landfill Cities Gulley Gulley Rails Water Slope AYAYAYA

Very Storry Spot Perennial Water

Wet Spot

# Map Unit Legend Summary

# State of Connecticut

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	
14	Fredon silt loam	2.2	4.0	
21A	Ninigret and Tisbury soils, 0 to 5 percent slopes	1.5	2.8	
22A	Hero gravelly loam, 0 to 3 percent slopes	0.1	0.2	
31B	Copake fine sandy loam, 3 to 8 percent slopes	8.3	15.6	
31C	Copake gravelly loam, 8 to 15 percent slopes	8.4	15.7	
32A	Haven and Enfield soils, 0 to 3 percent slopes	1.1	2.1	
32C	Haven and Enfield soils, 8 to 15 percent slopes	1.1	2.1	
34A	Merrimac sandy loam, 0 to 3 percent slopes	1.8	3.4	
34C	Merrimac sandy loam, 8 to 15 percent slopes	2.2	4.2	
38C	Hinckley gravelly sandy loam, 3 to 15 percent slopes	3.4	6.4	
39E	Groton gravelly sandy loam, 15 to 45 percent slopes	6.0	11.2	
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	0.3	0.5	
90D	Stockbridge loam, 15 to 25 percent slopes	0.0	0.0	
91C	Stockbridge loam, 8 to 15 percent slopes, very stony	0.0	0.1	
107	Limerick and Lim soils	2.1	3.9	
234B	Merrimac-Urban land complex, 0 to 8 percent slopes	0.2	0.3	
306	Udorthents-Urban land complex	14.7	27.6	
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State of Connecticut

[Only those map units that have entries for the selected non-technical description categories are included in this report]

Map Unit: 14 - Fredon silt loam

Description Category: SOI

Fredon Silt Loam

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 48 inches (1016 to 1219 millimeters) and the average annual air temperature is 45 to 52 degrees F. (7 to 11 degrees C.) This map unit is 85 percent Fredon soils. 15 percent minor components.

#### Fredon soils

This component occurs on outwash plain terrace, depression, and drainageway landforms. The parent material consists of glaciofluvial deposits derived from schist, limestone, and dolomite over sand and gravel. 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 5.7 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 about 5 percent. 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 17 inches; fine sandy loam

17 to 24 inches; fine sandy loam

24 to 29 inches; stratified gravelly sand to loamy fine sand

29 to 48 inches; stratified gravelly sand to loamy fine sand

48 to 60 inches; stratified gravelly sand to loamy fine sand

Map Unit: 21A - Ninigret and Tisbury soils, 0 to 5 percent slopes

Description Category: SOI

Ninigret And Tisbury Soils, 0 To 5 Percent Slopes

This map unit is in the Connecticut Valley Major Land Resource Area. The mean annual precipitation is 35 to 50 inches (889 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 Ninigret soils, 25 percent Tisbury soils. 15 percent minor components.

#### Ninigret soils

This component occurs on valley and outwash plain terrace landforms. The parent material consists of eolian deposits over glaciofluvial deposits derived from schist, granite, and gneiss. The slope ranges from 0 to 5 percent and the runoff class is very low. The depth to a restrictive feature is greater than 60 inches. The drainage class is moderately well drained. The slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 6.2 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 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 8 inches; fine sandy loam 8 to 16 inches; fine sandy loam

16 to 26 inches; fine sandy loam

26 to 65 inches; stratified very gravelly coarse sand to loamy fine sand

#### Tisbury soils

This component occurs on valley and outwash plain terrace landforms. The parent material consists of eolian deposits over sand and gravel. 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 moderately well drained. The slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 6.6 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 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

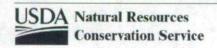
Typical Profile:

0 to 8 inches; silt loam

8 to 18 inches; silt loam

18 to 26 inches; silt loam

26 to 60 inches; stratified very gravelly sand to loamy sand



State of Connecticut

Map Unit: 22A - Hero gravelly loam, 0 to 3 percent slopes

Description Category: SOI

Hero Gravelly 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 36 to 50 inches (914 to 1270 millimeters) and the average annual air temperature is 45 to 50 degrees F. (7 to 10 degrees C.) This map unit is 85 percent Hero soils. 15 percent minor components.

#### Hero soils

This component occurs on valley and outwash plain terrace landforms. The parent material consists of glaciofluvial deposits derived from schist, limestone, and dolomite over sand and gravel. The slope ranges from 0 to 3 percent and the runoff class is very low. The depth to a restrictive feature is greater than 60 inches. The drainage class is moderately well drained. The slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 4.5 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 about 20 percent. 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 9 inches; gravelly loam 9 to 18 inches; gravelly silt loam 18 to 24 inches; gravelly silt loam 24 to 27 inches; gravelly sandy loam

27 to 60 inches; stratified extremely gravelly coarse sand to gravelly loamy fine sand

Map Unit: 31B - Copake fine sandy loam, 3 to 8 percent slopes

Description Category: SOI

Copake Fine Sandy Loam, 3 To 8 Percent Slopes

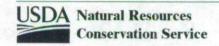
This map unit is in the New England and Eastern New York Upland, Southern Part Major Land Resource Area. The mean annual precipitation is 36 to 50 inches (914 to 1270 millimeters) and the average annual air temperature is 45 to 50 degrees F. (7 to 10 degrees C.) This map unit is 85 percent Copake soils. 15 percent minor components.

#### Copake soils

This component occurs on valley kame, outwash plain, and terrace landforms. The parent material consists of glaciofluvial deposits derived from schist, limestone, and dolomite. 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 6.3 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 greater than 6 feet. The maximum calcium carbonate within 40 inches is about 2 percent. 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 6 inches; fine sandy loam 6 to 13 inches; gravelly fine sandy loam 13 to 21 inches; gravelly fine sandy loam 21 to 31 inches; gravelly fine sandy loam 31 to 56 inches; very gravelly coarse sand 56 to 65 inches; fine sand

65 to 75 inches; gravelly sand 75 to 80 inches; gravelly sand



State of Connecticut

Map Unit: 31C - Copake gravelly loam, 8 to 15 percent slopes

Description Category: SOI

Copake Gravelly Loam, 8 To 15 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 36 to 50 inches (914 to 1270 millimeters) and the average annual air temperature is 45 to 50 degrees F. (7 to 10 degrees C.) This map unit is 85 percent Copake soils. 15 percent minor components.

#### Copake soils

This component occurs on valley kame, outwash plain, and terrace landforms. The parent material consists of glaciofluvial deposits derived from schist, limestone, and dolomite. 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 6.3 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 greater than 6 feet. The maximum calcium carbonate within 40 inches is about 2 percent. 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 6 inches; gravelly loam

6 to 13 inches; gravelly fine sandy loam

13 to 21 inches; gravelly fine sandy loam

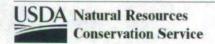
21 to 31 inches; gravelly fine sandy loam

31 to 56 inches; very gravelly coarse sand

56 to 65 inches; fine sand

65 to 75 inches; gravelly sand

75 to 80 inches; gravelly sand



State of Connecticut

Map Unit: 32A - Haven and Enfield soils, 0 to 3 percent slopes

Description Category: SOI

Haven And Enfield Soils, 0 To 3 Percent Slopes

This map unit is in the Connecticut Valley 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, granile, and gneiss. 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 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 1

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

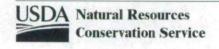
#### Enfield soils

This component occurs on valley outwash plain and terrace landforms. The parent material consists of eolian deposits over glaciofluvial deposits derived from schist, granile, and gneiss. 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 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 1 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



State of Connecticut

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

Description Category: SOI

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

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; statified coarse sand to very gravelly loamy sand

37 to 65 inches; statified very gravelly loamy sand to coarse sand

Map Unit: 34A - Merrimac sandy loam, 0 to 3 percent slopes

Description Category: SOI

Merrimac Sandy Loam, 0 To 3 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 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 Merrimac soils. 20 percent minor components.

#### Merrimac soils

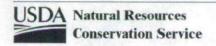
This component occurs on valley outwash plain, terrace, and kame landforms. The parent material consists of sandy glaciofluvial deposits derived from schist, granite, and gneiss. The slope ranges from 0 to 3 percent and the runoff class is very low. The depth to a restrictive feature is greater than 60 inches. The drainage class is somewhat excessively drained. The lowest permeability within 60 inches is about 1.98 in/hr (moderately rapid), 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 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 1 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



State of Connecticut

Map Unit: 34C - Merrimac sandy loam, 8 to 15 percent slopes

Description Category: SOI

Merrimac Sandy 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 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 Merrimac soils. 20 percent minor components.

#### Merrimac soils

This component occurs on valley outwash plain, terrace, and kame landforms. The parent material consists of sandy 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 somewhat excessively drained. The slowest permeability within 60 inches is about 1.98 in/hr (moderately rapid), 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 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

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

Map Unit: 38C - Hinckley gravelly sandy loam, 3 to 15 percent slopes

Description Category: SOI

Hinckley Gravelly Sandy Loam, 3 To 15 Percent Slopes

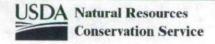
This map unit is in the New England and Eastern New York Upland, Southern Part Major Land Resource Area. The mean annual precipitation is 40 to 50 inches (1016 to 1270 millimeters) and the average annual air temperature is 45 to 55 degrees F. (7 to 13 degrees C.) This map unit is 80 percent Hinckley soils. 20 percent minor components.

#### Hinckley 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 schist, granite, and gneiss. 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 2.3 inches (very 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

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



State of Connecticut

Map Unit: 39E - Groton gravelly sandy loam, 15 to 45 percent slopes

Description Category: SOI

Groton Gravelly Sandy Loam, 15 To 45 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 36 to 50 inches (914 to 1270 millimeters) and the average annual air temperature is 45 to 52 degrees F. (7 to 11 degrees C.) This map unit is 85 percent Groton soils. 15 percent minor components.

#### Groton soils

This component occurs on valley outwash plain, esker, terrace, and kame landforms. The parent material consists of sandy and gravelly glaciofluvial deposits from schist, limestone, and dolomite. The slope ranges from 15 to 45 percent and the runoff class is high. 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 1.98 in/hr (moderately rapid), with about 2.7 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 about 10 percent. The maximum amount of salinity in any layer is about 0 mmhos/cm (nonsaline). The Nonirrigated Land Capability Class is 6e Typical Profile:

0 to 8 inches; gravelly sandy loam

8 to 18 inches; very gravelly sandy loam

18 to 24 inches; very gravelly loamy sand

24 to 30 inches; very gravelly loamy sand

30 to 52 inches; stratified extremely gravelly coarse sand to very gravelly loamy fine sand

52 to 72 inches; stratified extremely gravelly coarse sand to gravelly loamy fine sand

Map Unit: 73E - Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky

Description Category: SOI

Charlton-Chatfield Complex, 15 To 45 Percent Slopes, Very Rocky

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 49 inches (940 to 1244 millimeters) and the average annual air temperature is 45 to 52 degrees F. (7 to 11 degrees C.) This map unit is 45 percent Charlton soils, 30 percent Charlield soils. 25 percent minor components.

#### Charlton soils

This component occurs on upland hill landforms. The parent material consists of melt-out till derived from granite, schist, and gneiss. The slope ranges from 15 to 45 percent and the runoff class is high. 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 6.4 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 7s

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

#### Chatfield soils

This component occurs on upland hill and ridge landforms. The parent material consists of melt-out till derived from gneiss, granite, and schist. The slope ranges from 15 to 45 percent and the runoff class is high. The depth to a restrictive feature is 20 to 40 inches to bedrock (lithic). The drainage class is well drained. The slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 3.3 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 7s Typical Profile:

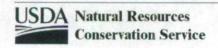
0 to 1 inches; highly decomposed plant material

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 36 inches; unweathered bedrock



State of Connecticut

Map Unit: 90D - Stockbridge loam, 15 to 25 percent slopes

Description Category: SOI

Stockbridge Loam, 15 To 25 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 36 to 48 inches (914 to 1219 millimeters) and the average annual air temperature is 45 to 50 degrees F. (7 to 10 degrees C.) This map unit is 80 percent Stockbridge soils. 20 percent minor components.

Stockbridge soils

This component occurs on upland hill landforms. The parent material consists of till derived from schist, limestone, and dolomite. The slope ranges from 15 to 25 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 0.20 in/hr (moderately slow), with about 9.1 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 4e

Typical Profile: 0 to 10 inches; loam

10 to 20 inches; loam

20 to 28 inches; loam

28 to 42 inches; gravelly loam

42 to 48 inches; gravelly loam

48 to 65 inches; gravelly loam

Map Unit: 91C - Stockbridge loam, 8 to 15 percent slopes, very stony

Description Category: SOI

Stockbridge Loam, 8 To 15 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 36 to 48 inches (914 to 1219 millimeters) and the average annual air temperature is 45 to 50 degrees F. (7 to 10 degrees C.) This map unit is 80 percent Stockbridge soils. 20 percent minor components.

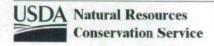
Stockbridge soils

This component occurs on upland hill landforms. The parent material consists of till derived from schist, limestone, and dolomite. 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 0.20 in/hr (moderately slow), with about 9.1 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 6s

Typical Profile: 0 to 10 inches; loam 10 to 20 inches; loam 20 to 28 inches; loam

28 to 42 inches; gravelly loam 42 to 48 inches; gravelly loam

48 to 65 inches; gravelly loam



Tabular Data Version: 4 Tabular Data Version Date: 08/17/2006

State of Connecticut

Map Unit: 107 - Limerick and Lim soils

Description Category: SOI

#### Limerick And Lim Soils

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 54 degrees F. (7 to 12 degrees C.) This map unit is 50 percent Limerick soils, 30 percent Limerick soils. 20 percent minor components.

#### Limerick soils

This component occurs on depression and flood plain landforms. The parent material consists of silty alluvium. 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 12.4 inches (very 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 frequent. 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

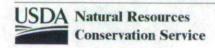
Class is 4w
Typical Profile:
0 to 8 inches; silt loam
8 to 20 inches; silt loam
20 to 36 inches; silt loam
36 to 54 inches; silt loam
54 to 65 inches; silt loam

#### I im soils

This component occurs on depression and flood plain landforms. The parent material consists of loamy alluvium. 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 6.1 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 frequent. 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 6 inches; very fine sandy loam 6 to 11 inches; very fine sandy loam 11 to 15 inches; very fine sandy loam 15 to 22 inches; silt loam 22 to 29 inches; fine sandy loam 29 to 42 inches; stratified very gravelly coarse

29 to 42 inches; stratified very gravelly coarse sand to loamy fine sand 42 to 50 inches; stratified very gravelly coarse sand to loamy fine sand 50 to 57 inches; stratified very gravelly coarse sand to loamy fine sand 57 to 65 inches; stratified very gravelly coarse sand to loamy sand



State of Connecticut

Map Unit: 234B - Merrimac-Urban land complex, 0 to 8 percent slopes

Description Category: SOI

Merrimac-Urban Land Complex, 0 To 8 Percent Slopes

This map unit is in the Connecticut Valley 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 40 percent Merrimac soils, 35 percent Urban Land. 25 percent minor components.

#### Merrimac soils

This component occurs on valley outwash plain, terrace, and kame landforms. The parent material consists of sandy glaciofluvial deposits derived from granite, gneiss, and schist. The slope ranges from 0 to 8 percent and the runoff class is very low. The depth to a restrictive feature is greater than 60 inches. The drainage class is somewhat excessively drained. The slowest permeability within 60 inches is about 1.98 in/hr (moderately rapid), 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 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:

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

#### Urban Land

Urban land is land mostly covered by streets, parking lots, buildings, and other structures of urban areas. The slope ranges from 0 to 8 percent and the runoff class is very high. The Nonirrigated Land Capability Class is 8

Map Unit: 306 - Udorthents-Urban land complex

Description Category: SOI

#### Udorthents-Urban Land Complex

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 50 percent Udorthents soils, 35 percent Urban Land. 15 percent minor components.

#### Udorthents soils

This component occurs on cut (road, railroad, etc.), railroad bed, road bed, spoil pile, urban land, fill, and spoil pile landforms. The slope ranges from 0 to 25 percent and the runoff class is medium. The depth to a restrictive feature varies, but is commonly greater than 60 inches. The drainage class is typically well drained. The slowest permeability within 60 inches is about 0.00 in/hr (very slow), with about 9.0 inches (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 none. 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 3e

Typical Profile:
0 to 5 inches; loam
5 to 21 inches; gravelly loam
21 to 80 inches; very gravelly sandy loam

#### Urban Land

Urban land is land mostly covered by streets, parking lots, buildings, and other structures of urban areas. The slope ranges from 0 to 35 percent and the runoff class is very high. The Nonirrigated Land Capability Class is 8

