Transportation Land Development Environmental \*

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May 15, 2009

Vanasse Hangen Brustlin, Inc.

Ref: 40505.09

Mr. Scott Chasse All-Points Technology Corp., P.C. 3 Saddlebrook Drive Killingworth, Connecticut 06419

Re: Wetland Inspection T-Mobile Site No. CTNL804B - Amtrak Old Lyme 5 387 Shore Road, Old Lyme, Connecticut

Dear Mr. Chasse:

Vanasse Hangen Brustlin, Inc. (VHB) has completed on-site investigations to determine if wetlands and/or watercourses are located on the above-referenced Site. VHB has relied upon the accuracy of information provided by All-Points Technology Corp., P.C. (refer to attached Site Plan) regarding the proposed lease area, access road, and utility easement locations for identifying wetlands and watercourses within and proximate to said locations.

VHB understands that T-Mobile proposes to construct a wireless telecommunications facility in the eastern portion of 387 Shore Road in Old Lyme, Connecticut (the "Site"). The eastern portion of the Site is developed with an existing laundromat and associated paved parking areas. A dirt path located off the west end of the paved parking area leads to a partially cleared and filled area near the adjoining railroad tracks. The cleared area is the proposed location of the T-Mobile Facility (the "Facility"). Access to the Facility will be via the dirt path which will be upgraded. No wetlands or watercourses were identified (or delineated) on the Site or within 200 feet of proposed development activities. The nearest wetland is a forested wetland area associated with the Threemile River located approximately 250 feet west of the Facility; refer to attached Site Plan. Soils classified in the vicinity of the proposed development are generally consistent with published data (attached) consisting of well drained soils classified as Charlton-Chatfield complex (soil symbol – 73). Areas of fill are classified as Udorthents, smoothed (308). A copy of the soil survey is enclosed. Therefore, the proposed development will not directly or indirectly affect wetlands or watercourses.

If you have any questions concerning this matter do not hesitate to contact me.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.

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

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Soil Map—State of Connecticut (387 Shore Road, Old Lyme, CT)



Natural Resources Conservation Service

Web Soil Survey 2.2 National Cooperative Soil Survey



# Map Unit Legend

100.0%	11.7		<b>Totals for Area of Interes</b>
0.3%	0.0	Pawcatuck mucky peat	97
1.9%	0.2	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	73E
56.1%	6.5	Charlton-Chatfield complex, 3 to 15 percent slopes, very rocky	73C
0.1%	0.0	Hinckley gravelly sandy loam, 15 to 45 percent slopes	38E
5.6%	0.7	Haven and Enfield soils, 3 to 8 percent slopes	32B
0.0%	0.0	Scarboro muck	15
35.9%	4.2	Ridgebury, Leicester, and Whitman soils, extremely stony	ω
Percent of AOI	Acres in AOI	Map Unit Name	Map Unit Symbol
	T600)	State of Connecticut (C	

# 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 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: 3—Ridgebury, Leicester, and Whitman soils, extremely stony

USDA

Ridgebury, Leicester And Whitman Soils, Extremely 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 40 percent Ridgebury soils, 35 percent Leicester soils, 15 percent Whitman soils. 10 percent minor components. Ridgebury soils This component occurs on upland drainageway and depression landforms. The parent material consists of lodgement till derived from granite, schist, and gneiss. The slope ranges from 0 to 5 percent and the runoff class is very low. The depth to a restrictive feature is 20 to 30 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 2.5 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 about 3 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 1 inches; slightly decomposed plant material 1 to 5 inches; fine sandy loam 5 to 14 inches; fine sandy loam 14 to 21 inches; fine sandy loam 21 to 60 inches; sandy loam Leicester soils This component occurs on upland drainageway and depression landforms. The parent material consists of melt-out till derived from granite, schist, 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 poorly drained. The slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 7.4 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 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 1 inches; moderately decomposed plant material 1 to 7 inches; fine sandy loam 7 to 10 inches; fine sandy loam 10 to 18 inches; fine sandy loam 18 to 24 inches; fine sandy loam 24 to 43 inches; gravelly fine sandy loam 43 to 65 inches; gravelly fine sandy loam Whitman soils This component occurs on upland drainageway and depression landforms. The parent material consists of lodgement till derived from gneiss, schist, and granite. The slope ranges from 0 to 2 percent and the runoff class is very low. The depth to a restrictive feature is 12 to 20 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 1.9 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 occasional. 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 7s Typical Profile: 0 to 1 inches; slightly decomposed plant material 1 to 9 inches; fine sandy loam 9 to 16 inches; fine sandy loam 16 to 22 inches; fine sandy loam 22 to 60 inches; fine sandy loam

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

Map Unit: 38E—Hinckley gravelly sandy loam, 15 to 45 percent slopes

USDA

Hinckley 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 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 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 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 6e 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

Map Unit: 73C-Charlton-Chatfield complex, 3 to 15 percent slopes, very rocky

Charlton-Chatfield Complex, 3 To 15 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 Chatfield 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 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 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 shrinkswell 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 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 3 to 15 percent and the runoff class is low. 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 6s 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

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

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 Chatfield 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

Map Unit: 97—Pawcatuck mucky peat

Pawcatuck Mucky Peat 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 48 to 52 degrees F. (9 to 11 degrees C.) This map unit is 85 percent Pawcatuck soils. 15 percent minor components. Pawcatuck soils This component occurs on coastal plain salt marsh and tidal marsh landforms. The parent material consists of herbaceous organic material over sandy glaciofluvial deposits. 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 slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 4.1 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 7.8 LEP (high). The flooding frequency for this component is frequent. The ponding hazard is frequent. 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 32 mmhos/cm (strongly saline). The Nonirrigated Land Capability Class is 8 Typical Profile: 0 to 12 inches; mucky peat 12 to 40 inches; mucky peat 40 to 46 inches; mucky peat 46 to 50 inches; very fine sandy loam 50 to 60 inches; loamy sand

## **Data Source Information**

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