Attachment 5

WETLAND INVESTIGATION

Wednesday, June 27, 2012

New Cingular Wireless PCS, LLC
500 Enterprise Drive, Suite 3A
Rocky Hill, CT 06067

APT Project No.: CT361110

Attn: David Vivian

Re: Proposed AT&T Facility
Candidate 1: Tolland Turnpike or
Candidate 2: Old South Willington Road
Willington, Connecticut

Dear Mr. Vivain,

All-Points Technology Corporation, P.C. ("APT") understands that a wireless telecommunications facility ("Facility") is proposed by New Cingular Wireless PCS, LLC ("AT&T") at one of two possible locations in Willington, Connecticut. An APT Professional Soil Scientist, Dean Gustafson, inspected both candidates on June 18, 2012 for the purposes of reviewing previous delineations of wetland resources on both sites. The results of this wetland investigation are provided below.

AT&T proposes to construct a new telecommunications Facility located in the town of Willington, Connecticut. Two candidate sites are currently under consideration: off Tolland Turnpike (State Route 74), referred to as "Candidate A"; and off Old South Willington Road, referred to as "Candidate B". A new self-supporting monopole tower 160 feet in height is proposed for Candidate A (Parcel Tax ID: M23/P62), while a new self-supporting monopole tower 190 feet in height is proposed for Candidate B (Tax Parcel ID: M18-19). AT&T's Facility would also include the installation, at either site, of a single shelter designed to house AT&T's equipment. The proposed Facility, at either candidate site, would be located in an undeveloped upland area currently occupied by oak dominant forest. Candidate A is surrounded by commercial development (along Route 74), residences, undeveloped forest and a rock quarry operation. Candidate B is surrounded by residences and undeveloped forest.

Candidate A

Candidate A was previously investigated by Kleinfelder in September 2009, the results of which are contained in a December 4, 2009 report as attached. Kleinfelder delineated a forested wetland area with wetland flags A1 to A11. A review of this delineation on June 18, 2012 revealed most of the wetland flags still existed and were legible. The wetland boundary, with minor exceptions, was found to be substantially correct and was reflagged by APT with wetland flags WF 1-1 to 1-12. Please refer to the attached Wetland Sketch Map. This forested wetland system was found to be isolated in nature with some overland flow to the south/southwest onto an existing gravel access road, which appears to only occur during peak hydroperiods or significant precipitation events. APT's investigation of the southern extent of the wetland (undelineated, as it extends away from the proposed development) revealed shallow (less than 2 feet) topographic depressions within the wetland interior having the

physical characteristics of potential vernal pool habitat. However, the southern extent of this wetland system is located within a few hundred feet of a substantial rock quarry operation, which encompasses a significant portion of the watershed that historically fed this wetland prior to establishment of the quarry. As a result, it is questionable if this wetland sustains inundation over a long enough period of time to support successful breeding by vernal pool species. Due to the time of year the wetland inspection was conducted it was not possible to make a thorough assessment or provide a more definitive conclusion with respect to the wetland's ability to support vernal pool habitat.

A second, previously unmapped wetland was identified and delineated by APT in the northern portion of the project area just west of the existing gravel drive that provides access from Tolland Turnpike. This isolated forested wetland system was delineated by wetland flags WF 2-1 to 2-6. Please refer to the attached Wetland Sketch Map.

No direct impact to wetlands is associated with the proposed AT&T development. Although portions of the access drive are located in close proximity to wetland resources, no temporary impacts associated with construction activities are anticipated with the proper installation and maintenance of sedimentation and erosion controls. Long term secondary impacts to wetland resources possibly associated with the operation of this Facility are minimized by the fact the development is unmanned, minimizes the creation of impervious surfaces with the use of a gravel access drive and gravel compound and creates minimal traffic. Therefore, Candidate A will not result in a likely adverse impact to wetland resources.

Candidate B

Candidate B was previously investigated by Vanasse Hangen Brustlin, Inc. ("VHB") in June 2010, the results of which are contained in a September 2, 2010 report as attached. VHB delineated a forested wetland area with wetland flags WF 1 to 20. A review of this delineation on June 18, 2012 revealed most of the wetland flags still existed and were legible; new flagging was added where necessary. The wetland boundary was found to be substantially correct with no corrections required.

An alternate access route to the proposed Facility was investigated during the June 18, 2012 inspection. This alternate access route follows along the western property boundary on an existing gravel drive that serves a residence at 52 Old Willington Road, then turns north along a woods road, then makes one last turn to the east through a mesic oak-dominant forest to the original Facility location; refer to attached Abutters Map for the alternate access route location. No wetlands or watercourses were identified in proximity to this alternate access route; the nearest wetland is the previously delineated wetland referenced above.

Regardless of the access ultimately selected, no direct impact to wetlands is associated with the proposed AT&T development. Although portions of the original access drive are located in close proximity to wetland resources, no temporary impacts associated with construction activities are anticipated with the proper installation and maintenance of sedimentation and erosion controls. Long term secondary impacts to wetland resources possibly associated with the operation of this Facility are minimized by the fact the development is unmanned, minimizes the creation of impervious surfaces with the use of a gravel access drive and gravel compound and creates minimal traffic. Therefore, Candidate B will not result in a likely adverse impact to wetland resources.

If you have any questions regarding the above-referenced information, please feel free to contact me at (860) 984-9515 or at dgustafson@allpointstech.com.

Sincerely,

All-Points Technology Corporation, P.C.

Dean Gustafson
Professional Soil Scientist

Enclosures

Kleinfelder Wetland & Watercourse Delineation Report December 4, 2009

KLEINFELDER
Bright People. Right Solutions.

December 4, 2009

Paul Lusitani
Project Manager
Clough Harbour & Associates, LLP
2139 Silas Deane Highway
Rocky Hill, CT 06067

RE: Wetland & Watercourse Delineation Report
Tolland Turnpike (Site ID: SR1107)
Willilngton, CT 06279
Project # 106386

Dear Mr. Lusitani:

Kleinfelder East, Inc. (Kleinfelder) completed an on-site investigation to determine the presence or absence of wetlands and/or watercourses on the above referenced property (Tolland Turnpike), as requested and authorized. This investigation involved a wetland/watercourse delineation that was completed by a qualified staff soil scientist and conducted in accordance with the principles and practices noted in the United States Department of Agriculture (USDA) Soil Survey Manual (Soil Survey Staff, 1993). The soil classification system of the National Cooperative Soil Survey was used in this investigation to identify the soil map units present on the project site.

INVESTIGATION

The project site was investigated on September 21, 2009, with a temperature in the mid-60s under sunny conditions. Soil types were identified by observing soil morphology (soil texture, color, structure, etc.). To observe the morphology of the soils, numerous test pits and/or hand borings (generally to a depth of at least two feet) were completed. Wetland and watercourse boundaries were identified with flags and hung from vegetation or stakes if in fields or grass communities. These flags are labeled "Wetland Delineation" and generally spaced approximately 25 feet apart. It is important to note that flagged wetland and watercourse boundaries are subject to change until verified by local, state, or federal regulatory agencies.

REGULATORY INFORMATION

Wetlands and watercourses are regulated by both state and federal law each with different definitions and regulatory requirements. Accordingly, the State may regulate waters that fall outside of federal jurisdiction; however, where federal jurisdiction exists concurrent State jurisdiction is almost always present.

State Regulations

Wetland determinations are based on the presence of poorly drained, very poorly drained, alluvial, or floodplain soils and submerged land. *Watercourses* are defined as "rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through or border upon the state or any portion thereof." *Intermittent watercourse* determinations are made based on the presence of a defined permanent channel and bank, and two of the following characteristics: (1) evidence of scour or deposits of recent alluvium or detritus, (2) the presence of standing or flowing water for a duration longer than a particular storm incident, and (3) the presence of hydrophytic vegetation. (See Inland Wetlands and Watercourses Act §22a-38 CGS.)

WETLAND AND WATERCOURSE SITE DESCRIPTION

Wetland classifications used to identify the type of wetland(s) occurring on the project site are based on guidance from the U.S. Fish and Wildlife Service (USFWS) (Cowardin et. al. 1979). These are further qualified with the Hydrogeomorphic Method of wetland classification (Brinson, 1993).

One on-site wetland system was delineated during the September 2009 site visit using sequentially numbered flags ranging from A1 to A11 (see attached plans). The wetland consisted of a palustrine, forested, broad-leaved deciduous, saturated (USFWS class: PFO1) wetland system. As indicated by its classification, this wetland community is predominantly a forested habitat. The adjacent area consists of an open mixed hardwood forest dominated by oaks, hickories, and maples. (Table 1)

The distance from the proposed project where ground disturbance would occur to the nearest wetland is approximately 41 feet to the south of the proposed gravel access road, with no activity occurring directly within the delineated wetland area. Thus, the proposed project will not directly impact the wetland's hydrologic functional role. In addition, there will not be severe impacts to the habitat provided by the wetland as the main portion of the construction will occur in an area in excess of 400 feet from the wetland.

TABLE 1: Predominate Vegetation within and adjacent to the wetlands (Common (*Scientific)* names)

TREES & SAPLINGS
Red Maple (*Acer rubrum*)
Sugar Maple (*Acer saccharum*)
Ironwood (*Carpinus caroliniana*)
Pignut Hickory (Carya *ovata*)
White Pine (*Pinus strobus*)
White Oak (*Quercus* alba)
SHRUBS
Japanese Barberry (*Berberis thunbergii*)
Witch-hazel (*Hamamelis virginiana*)
Maple-leaf Viburnum (*Viburnum acerfolium*)
HERBS/VINES
Hayscented Fern (*Dennstaedtia punctilobula*)
Sensitive Fern (*Onoclea sensibilis*)
Cinnamon Fern (*Osmunda cinnamomea*)
Virginia creeper (*Parthenocissus quinquefolia*)
*Denotes state non-native invasive species

SOIL MAP TYPES

A brief description of each soil map unit identified on the project site is presented below including information from the Untied States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil descriptions. Further information on these and other soils, please refer to the internet site at http://soils.usda.gov/technical/classification/osd/index.html).

Upland Soils

Charlton Series
Coarse-loamy, mixed, active, mesic Typic Dystrudepts

The Charlton series consists of very deep, well drained loamy soils formed in till. They are nearly level to very steep soils on till plains and hills. Slope ranges from 0 to 50 percent. Saturated hydraulic conductivity is moderately high or high. Mean annual temperature is about 50 degrees F., and mean annual precipitation is about 47 inches.

Chatfield Series
Coarse-loamy, mixed, superactive, mesic Typic Dystrudepts

The Chatfield series consists of moderately deep, well drained, and somewhat excessively drained soils formed in till. They are nearly level to very steep soils on glaciated plains, hills, and ridges. Slope ranges from 0 to 70 percent. Crystalline

bedrock is at depths of 20 to 40 inches. Saturated hydraulic conductivity is moderately high to high in the mineral soil. Mean annual temperature is 51 degrees F. and mean annual precipitation is 38 inches.

The soils within the project area are classified as Charlton-Chatfield complex, ranging from 3 to 45 percent slope that is very rocky. These soils are classified as hydric soils of the State of Connecticut due to a potentially high groundwater table. Soils within the access road consist of silt with some clay and gravel with a matrix of 7.5YR 4/4 from 0-18 inches. Soils within the area of the proposed cell tower consist of silt with gravel with a matrix of 10YR 5/6 from 0-8 inches. Bedrock was reached at 8 inches. The wetland located south of the proposed access road contains soils that consist of silt, clay, and organics with a matrix of 2.5Y 2/1 from 0-8 inches. A sandy, silt, gravel with a matrix of 10YR 4/3 with abundant mottles were found below 8 inches.

SUMMARY CLOSING

No wetlands were observed within the proposed access road or cell tower pad. The proposed tower development project reviewed is not anticipated to cause an adverse impact on the delineated wetland noted in this report. Utilizing appropriate soil erosion and sedimentation controls will reduce, if not eliminate, any risk of impact to the wetland during construction.

Thank for the opportunity to work with you on this project. Please contact me at (860) 683-4200 if you have any questions or require additional assistance.

Very truly yours,
Kleinfelder East, Inc.

Jamie Morgan
Ecologist/Soil Scientist

Ben Rieger
Project Manager

REFERENCES

Brinson, M.M. 1993. *A Hydrogeomorphic Classification for Wetlands.* Tech. Rpt.WRP-DE-4, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

Cowardin, L.M., V. Carter, F.C. Golet, E.T. LaRoe. 1979. Classification of Wetland and Deepwater Habitats of the Untied States. US Government Printing Office. Washington D.C. GPO 024-010-00524-6.103 pp.

Soil Survey Staff. 1993. Soil Survey Manual. USDA Handbook No. 18. United States Government Printing Office, Washington, D.C., USA.

Kleinfelder Photo Documentation

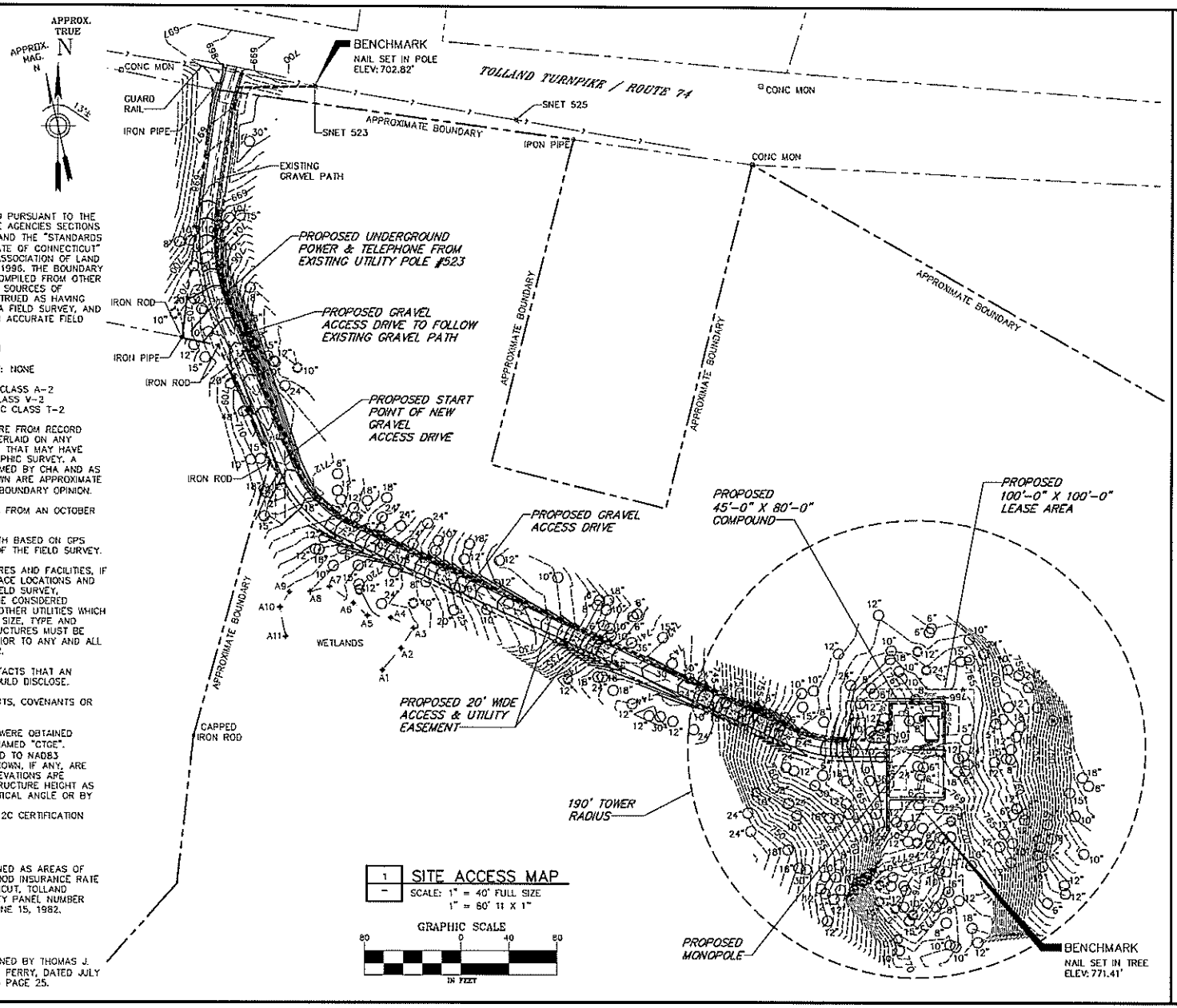
Client: Clough Harbor
Site Name: CHA Willington SR 1107
Site Location: Willington, CT
KA Project Number: 106386
Date Photographs Taken: September 21, 2009

Figure 1:
View Direction: East

View of uplands in general location of proposed site pad.

Figure 2:
View Direction: South

View of red maple forested wetland Located south of the proposed access road.



SURVEY NOTES:

1. THIS SURVEY HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300b-1 THROUGH 20-300b-20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS INC. ON SEPTEMBER 26, 1996. THE BOUNDARY LINES SHOWN ON THIS PLAN WERE COMPILED FROM OTHER MAPS, RECORD RESEARCH OR OTHER SOURCES OF INFORMATION. IT IS NOT TO BE CONSTRUED AS HAVING BEEN OBTAINED AS THE RESULT OF A FIELD SURVEY, AND IS SUBJECT TO SUCH CHANGE AS AN ACCURATE FIELD SURVEY MAY DISCLOSE.

TYPE OF SURVEY: COMPILATION PLAN

BOUNDARY DETERMINATION CATEGORY: NONE

CLASS OF ACCURACY: HORIZONTAL CLASS A-2
VERTICAL CLASS V-2
TOPOGRAPHIC CLASS T-2

2. PROPERTY LINE SHOWN HEREON ARE FROM RECORD DEEDS PLOTS AND TAX MAPS AS OVERLAID ON ANY MONUMENTATION OR OTHER EVIDENCE THAT MAY HAVE BEEN LOCATED DURING THE TOPOGRAPHIC SURVEY. A PROPERTY SURVEY WAS NOT PERFORMED BY CHA AND AS A RESULT THE PROPERTY LINES SHOWN ARE APPROXIMATE AND DO NOT PRESENT A PROPERTY/BOUNDARY OPINION.

3. BASE MAPPING PREPARED BY CHA FROM AN OCTOBER 2009 FIELD SURVEY.

4. NORTH ORIENTATION IS TRUE NORTH BASED ON GPS OBSERVATIONS TAKEN AT THE TIME OF THE FIELD SURVEY.

5. UNDERGROUND UTILITIES, STRUCTURES AND FACILITIES, IF ANY, HAVE BEEN SHOWN FROM SURFACE LOCATIONS AND MEASUREMENTS OBTAINED FROM A FIELD SURVEY, THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHER UTILITIES WHICH THE EXISTENCE OF ARE NOT KNOWN. SIZE, TYPE AND LOCATION OF ALL UTILITIES AND STRUCTURES MUST BE VERIFIED BY PROPER AUTHORITIES PRIOR TO ANY AND ALL CONSTRUCTION. CALL DIG SAFE PRIOR.

6. SUBJECT TO ANY STATEMENT OF FACTS THAT AN UP-TO-DATE ABSTRACT OF TITLE WOULD DISCLOSE.

7. SUBJECT TO ALL RIGHTS, EASEMENTS, COVENANTS OR RESTRICTIONS OF RECORD

8. LATITUDE/LONGITUDE/ELEVATIONS WERE OBTAINED UTILIZING NGS CORS BASE STATION NAMED "CTGE". LATITUDE/LONGITUDE ARE REFERENCED TO NAD83 CONNECTICUT ZONE. COORDINATES SHOWN, IF ANY, ARE EXPRESSED IN U.S. SURVEY FEET. ELEVATIONS ARE REFERENCED TO NAVD88. TOP OF STRUCTURE HEIGHT AS SHOWN, IF ANY, DETERMINED BY VERTICAL ANGLE OR BY ACTUAL LOCATION.
INFORMATION SHOWN BASED ON FAA 2C CERTIFICATION ACCURACY LEVEL DEFINED AS;
HORIZONTAL: ±20 FEET / 6 METERS
VERTICAL: ±3 FEET / 1 METERS

9. SITE FALLS WITHIN ZONE "C" DEFINED AS AREAS OF MINIMAL FLOODING AS SHOWN ON FLOOD INSURANCE RATE MAP, TOWN OF WILLINGTON, CONNECTICUT, TOLLAND COUNTY, PANEL 20 OF 20, COMMUNITY PANEL NUMBER 090159 0020 A, EFFECTIVE DATE JUNE 15, 1982.

MAP REFERENCES:

1. MAP ENTITLED "PLAN OF LAND OWNED BY THOMAS J. OWENS" AS PREPARED BY GILBERT F. PERRY, DATED JULY 12, 1967 AND FILED AS MAP BOOK 5 PAGE 25.

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500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

CHA

CHA PROJECT NO:
16301 - 1028 - 1601

NO.	SUBMITTAL		
0	10/30/09	ECSBD FOR CSC CERTIFICATE	
	BY: JDM	CHK'D:	APP'D: JPS

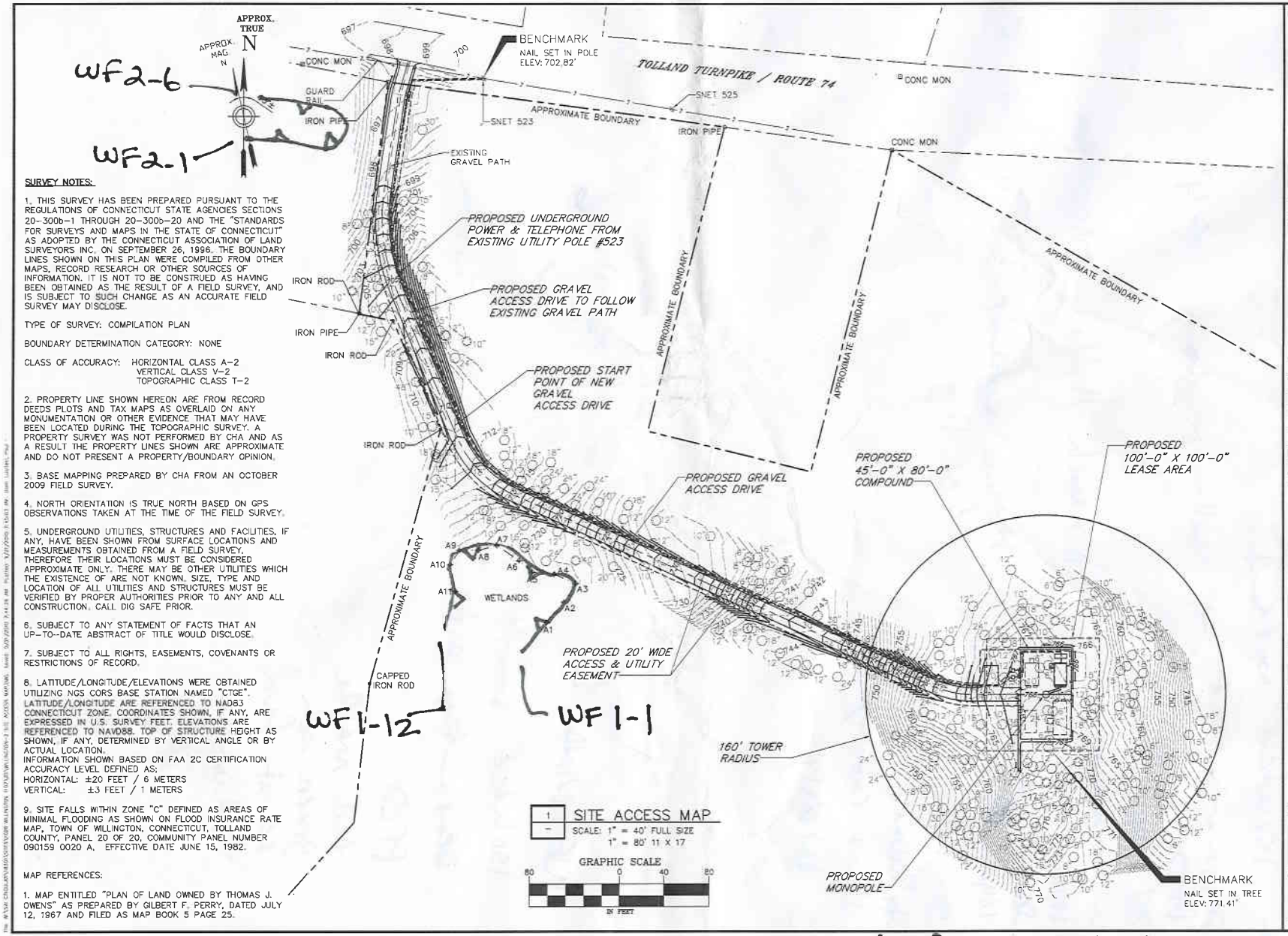
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SITE ID:
SR1107
SITE NAME:
WILLINGTON
SITE ADDRESS:
TOLLAND TURNPIKE
WILLINGTON, CT
06279
TOLLAND COUNTY

SHEET TITLE
SITE ACCESS MAP

SHEET NUMBER
C02

APT Wetland Sketch Map
June 18, 2012



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TYPE OF SURVEY: COMPILATION PLAN

BOUNDARY DETERMINATION CATEGORY: NONE

CLASS OF ACCURACY: HORIZONTAL CLASS A-2
VERTICAL CLASS V-2
TOPOGRAPHIC CLASS T-2

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4. NORTH ORIENTATION IS TRUE NORTH BASED ON GPS OBSERVATIONS TAKEN AT THE TIME OF THE FIELD SURVEY.

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7. SUBJECT TO ALL RIGHTS, EASEMENTS, COVENANTS OR RESTRICTIONS OF RECORD.

8. LATITUDE/LONGITUDE/ELEVATIONS WERE OBTAINED UTILIZING NGS CORS BASE STATION NAMED "CTGE". LATITUDE/LONGITUDE ARE REFERENCED TO NAD83 CONNECTICUT ZONE. COORDINATES SHOWN, IF ANY, ARE EXPRESSED IN U.S. SURVEY FEET. ELEVATIONS ARE REFERENCED TO NAVD88. TOP OF STRUCTURE HEIGHT AS SHOWN, IF ANY, DETERMINED BY VERTICAL ANGLE OR BY ACTUAL LOCATION.
INFORMATION SHOWN BASED ON FAA 2C CERTIFICATION
ACCURACY LEVEL DEFINED AS;
HORIZONTAL: ±20 FEET / 6 METERS
VERTICAL: ±3 FEET / 1 METERS

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1. MAP ENTITLED "PLAN OF LAND OWNED BY THOMAS J. OWENS" AS PREPARED BY GILBERT F. PERRY, DATED JULY 12, 1967 AND FILED AS MAP BOOK 5 PAGE 25.

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ROCKY HILL, CT 06067

CHA

2139 Silas Deane Highway, Suite 212 - Rocky Hill, CT 06067-2338
Main: (860) 257-4597 - www.chacompanies.com

CHA PROJECT NO:
18301 – 1028 – 1601

NO.	SUBMITTAL		
0	10/30/09	ISSUED FOR CSC CERTIFICATE	
	BY: JDM	CHK: PAL	APP'D: JPS
1	09/27/10	REVISED TOWER HEIGHT	
	BY: JDM	CHK: PAL	APP'D: JPS

SITE ID:
SR1107
SITE NAME:
WILLINGTON
SITE ADDRESS:
TOLLAND TURNPIKE
WILLINGTON, CT
06279
TOLLAND COUNTY

SHEET TITLE
SITE ACCESS MAP

SHEET NUMBER
C02

WETLAND FLAGS: WF 1-1 to 1-12
WF 2-1 to 2-6

All-Points Technology Corp., P.C.
WETLAND SKETCH
6/18/12 DEG

VHB Wetlands Delineation Report
September 2, 2010

WETLANDS DELINEATION REPORT

Vanasse Hangen Brustlin, Inc.

Date: September 2, 2010

Project No.: 41502.10

Prepared For: Mr. David Vivian
New Cingular Wireless PCS, LLC
500 Enterprise Drive, Suite 3A
Rocky Hill, Connecticut, 06067

Site Location: Willington B - Old South Willington Road, Willington, Connecticut

Site Map: Wetland Sketch, dated June 4, 2010

Inspection Date: June 4, 2010

Field Conditions: Weather: partly cloudy, mid 80'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: 100 feet

Field Numbering Sequence of Wetlands Boundary: Connecticut - WF 1 to 20
[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:	Old South Willington Road Willington, Connecticut	Project Number:	41502.10
Inspection Date:	June 4, 2010	Inspector:	Dean Gustafson, PSS
Wetland I.D.:	Wetland 1		

Field Conditions:	Weather: partly cloudy, mid 80's	Snow Depth: 0 inches
	General Soil Moisture: moist	Frost Depth: 0 inches
Type of Wetland Delineation:	Connecticut ☒	
	ACOE ☐	
	Tidal ☐	
Field Numbering Sequence: WF 1 to 20		

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded ☐	Artificially Flooded ☐	Permanently Flooded ☐
Semipermanently Flooded ☐	Seasonally Flooded ☒	Temporarily Flooded ☐
Permanently Saturated ☐	Seasonally Saturated – seepage ☐	Seasonally Saturated - perched ☐
Comments:		

TIDAL

Subtidal ☐	Regularly Flooded ☐	Irregularly Flooded ☐
Irregularly Flooded ☐		
Comments: N/A		

WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☐	Palustrine ☒
Lacustrine ☐	Marine ☐	
Comments:		

CLASS:

Emergent ☐	Scrub-shrub ☐	Forested ☒
Open Water ☐	Disturbed ☐	Wet Meadow ☐
Comments: typical red maple swamp		

WATERCOURSE TYPE:

Perennial ☐	Intermittent ☒	Tidal ☐
Comments: intermittent channel forms at the northeastern end of the delineated wetland		

SPECIAL AQUATIC HABITAT:

Vernal Pool ☒	Other ☐	
Comments: depressions in hummock-hollow microtopography provide vernal pool habitat		

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Ridgebury, Leicester, and Whitman soils, extremely stony (3)	☒	☐	☒	☒
Sutton fine sandy loam (52)	☐	☒	☒	☒
Canton and Charlton soils (61)	☐	☒	☒	☒
Charlton-Chatfield complex (73)	☐	☒	☒	☒

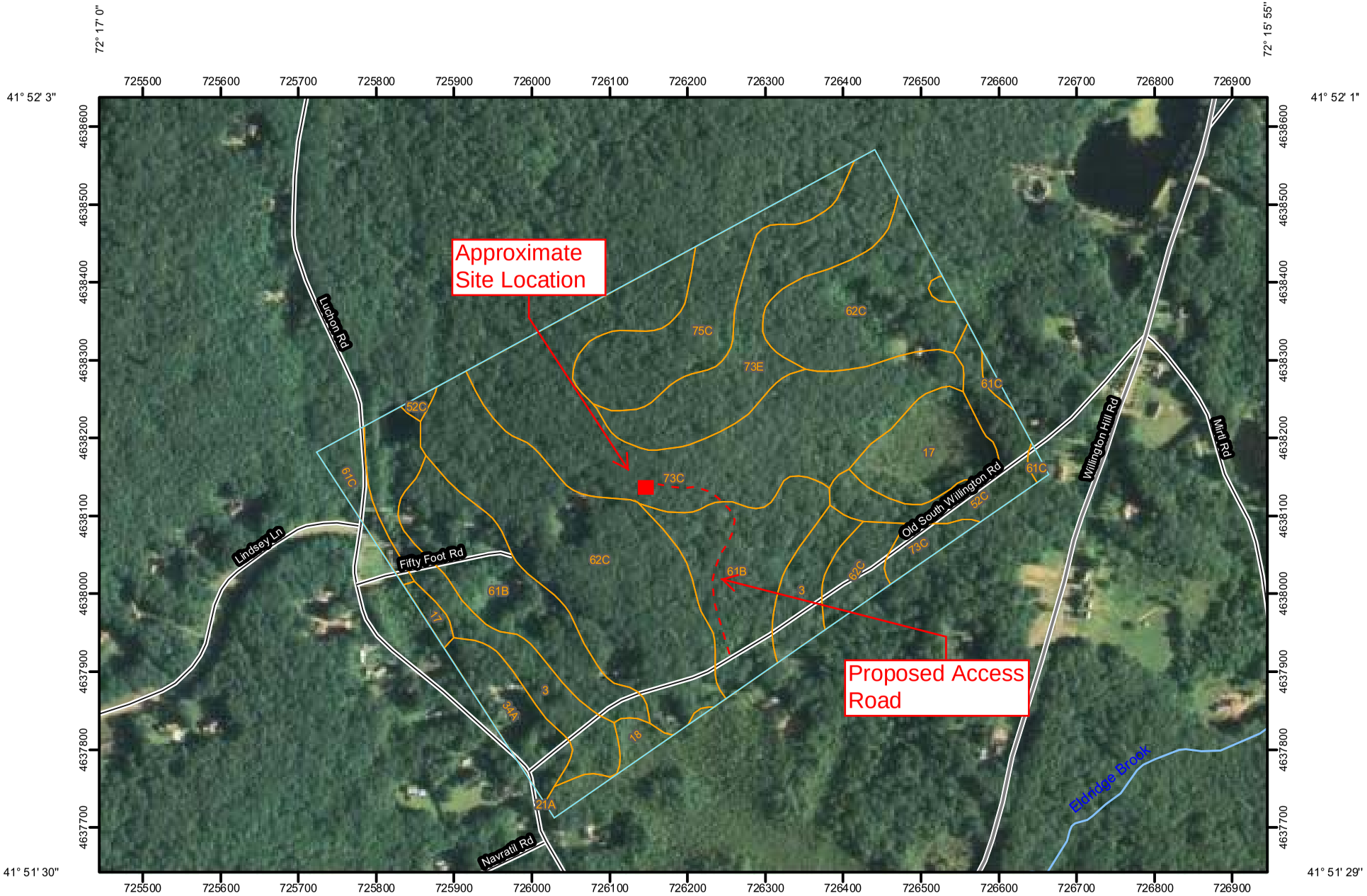
DOMINANT PLANTS:

red maple (*Acer rubrum*)	eastern hemlock (*Tsuga Canadensis*)
pepperbush (*Clethra alnifolia*)	highbush blueberry (*Vaccinium corymbosum*)
skunk cabbage (*Symplocarpus foetidus*)	sensitive fern (*Onoclea sensibilis*)
cinnamon fern (*Osmunda cinnamomea)*	

WETLAND NARRATIVE:

Wetland 1 is a forested swamp located approximately 100 feet east of the proposed access road and approximately 500 feet southeast of the proposed AT&T Willington B wireless telecommunications facility. The red maple swamp is a typical forested wetland community located along upland forest communities. The wetland is bound to the south by Old South Willington Road and continues off property to the northeast. During site inspection small shallow pools that appear to be seasonally inundated were noted. The pools, found to be approximately 6 to 10 inches deep at the time of the inspection, provide vernal pool habitat to a variety of amphibian species. Adult green grogs were seen within the pools along with spotted salamander egg masses. Northern grey tree frogs were also heard chorusing from within the interior of the wetland system.

Soil Map—State of Connecticut
(Becker Property, Old South Willington Road, WIllington, CT)



Map Scale: 1:7,120 if printed on A size (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 350 700 1,400 2,100

MAP LEGEND

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

Soils
- Soil Map Units

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

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features
- Cities

Water Features
- Oceans
- Streams and Canals

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

MAP INFORMATION

Map Scale: 1:7,120 if printed on A size (8.5" × 11") sheet.

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

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

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

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

Soil Survey Area: State of Connecticut
Survey Area Data: Version 7, Dec 3, 2009

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

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

Map Unit Legend

State of Connecticut (CT600)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
3	Ridgebury, Leicester, and Whitman soils, extremely stony	8.6	8.5%
17	Timakwa and Natchaug soils	4.8	4.8%
18	Catden and Freetown soils	1.3	1.3%
21A	Ninigret and Tisbury soils, 0 to 5 percent slopes	0.0	0.0%
34A	Merrimac sandy loam, 0 to 3 percent slopes	3.1	3.1%
52C	Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony	4.7	4.6%
61B	Canton and Charlton soils, 3 to 8 percent slopes, very stony	14.7	14.5%
61C	Canton and Charlton soils, 8 to 15 percent slopes, very stony	1.9	1.9%
62C	Canton and Charlton soils, 3 to 15 percent slopes, extremely stony	26.2	25.9%
73C	Charlton-Chatfield complex, 3 to 15 percent slopes, very rocky	19.9	19.7%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	8.9	8.8%
75C	Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes	7.0	6.9%
Totals for Area of Interest		**101.1**	**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: 3—Ridgebury, Leicester, and Whitman soils, extremely stony

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: 17—Timakwa and Natchaug soils

Timakwa And Natchaug 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 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 45 percent Timakwa soils, 40 percent Natchaug soils. 15 percent minor components. Timakwa soils This component occurs on depression landforms. The parent material consists of woody organic material over sandy and gravelly 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 5.95 in/hr (rapid), with about 16.2 inches (very high) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 3.9 LEP (moderate). 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 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 10 inches; muck 10 to 21 inches; muck 21 to 24 inches; muck 24 to 37 inches; muck 37 to 47 inches; very gravelly loamy coarse sand 47 to 60 inches; gravelly loamy very fine sand Natchaug soils This component occurs on depression landforms. The parent material consists of woody organic material over loamy alluvium, loamy glaciofluvial deposits, or loamy till. 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 0.20 in/hr (moderately slow), with about 15.6 inches (very high) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 3.9 LEP (moderate). 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; peat 2 to 4 inches; peat 4 to 6 inches; muck 6 to 11 inches; muck 11 to 18 inches; muck 18 to 24 inches; muck 24 to 33 inches; fine sandy loam 33 to 36 inches; fine sandy loam 36 to 80 inches; loam

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: 21A—Ninigret and Tisbury soils, 0 to 5 percent slopes

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

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

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

Map Unit: 52C—Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony

Sutton Fine Sandy Loam, 2 To 15 Percent Slopes, 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 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 80 percent Sutton soils. 20 percent minor components. Sutton soils This component occurs on upland hill landforms. The parent material consists of melt-out till derived from granite, gneiss, and schist. The slope ranges from 2 to 15 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 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 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 7s Typical Profile: 0 to 1 inches; moderately decomposed plant material 1 to 6 inches; fine sandy loam 6 to 12 inches; fine sandy loam 12 to 24 inches; fine sandy loam 24 to 28 inches; fine sandy loam 28 to 36 inches; gravelly fine sandy loam 36 to 65 inches; gravelly sandy loam

Map Unit: 61B—Canton and Charlton soils, 3 to 8 percent slopes, very stony

Canton And Charlton Soils, 3 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 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 Canton soils, 35 percent Charlton soils. 20 percent minor components Canton soils This component occurs on upland hill landforms. The parent material consists of melt-out till 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 1.98 in/hr (moderately rapid), with about 5.6 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 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; moderately decomposed plant material 1 to 3 inches; gravelly fine sandy loam 3 to 15 inches; gravelly loam 15 to 24 inches; gravelly loam 24 to 30 inches; gravelly loam 30 to 60 inches; very gravelly loamy sand 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 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 6.4 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 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

Map Unit: 61C—Canton and Charlton soils, 8 to 15 percent slopes, very stony

Canton And Charlton Soils, 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 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 Canton soils, 35 percent Charlton soils. 20 percent minor components Canton soils This component occurs on upland hill landforms. The parent material consists of melt-out till 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 1.98 in/hr (moderately rapid), with about 5.6 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 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; moderately decomposed plant material 1 to 3 inches; gravelly fine sandy loam 3 to 15 inches; gravelly loam 15 to 24 inches; gravelly loam 24 to 30 inches; gravelly loam 30 to 60 inches; very gravelly loamy sand 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 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 6.4 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 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

Map Unit: 62C—Canton and Charlton soils, 3 to 15 percent slopes, extremely stony

Canton And Charlton Soils, 3 To 15 Percent Slopes, 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 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 Canton soils, 35 percent Charlton soils. 20 percent minor components. Canton soils This component occurs on upland hill landforms. The parent material consists of melt-out till 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 well drained. The slowest permeability within 60 inches is about 1.98 in/hr (moderately rapid), with about 5.6 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 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; moderately decomposed plant material 1 to 3 inches; gravelly fine sandy loam 3 to 15 inches; gravelly loam 15 to 24 inches; gravelly loam 24 to 30 inches; gravelly loam 30 to 60 inches; very gravelly loamy sand 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 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

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 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 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

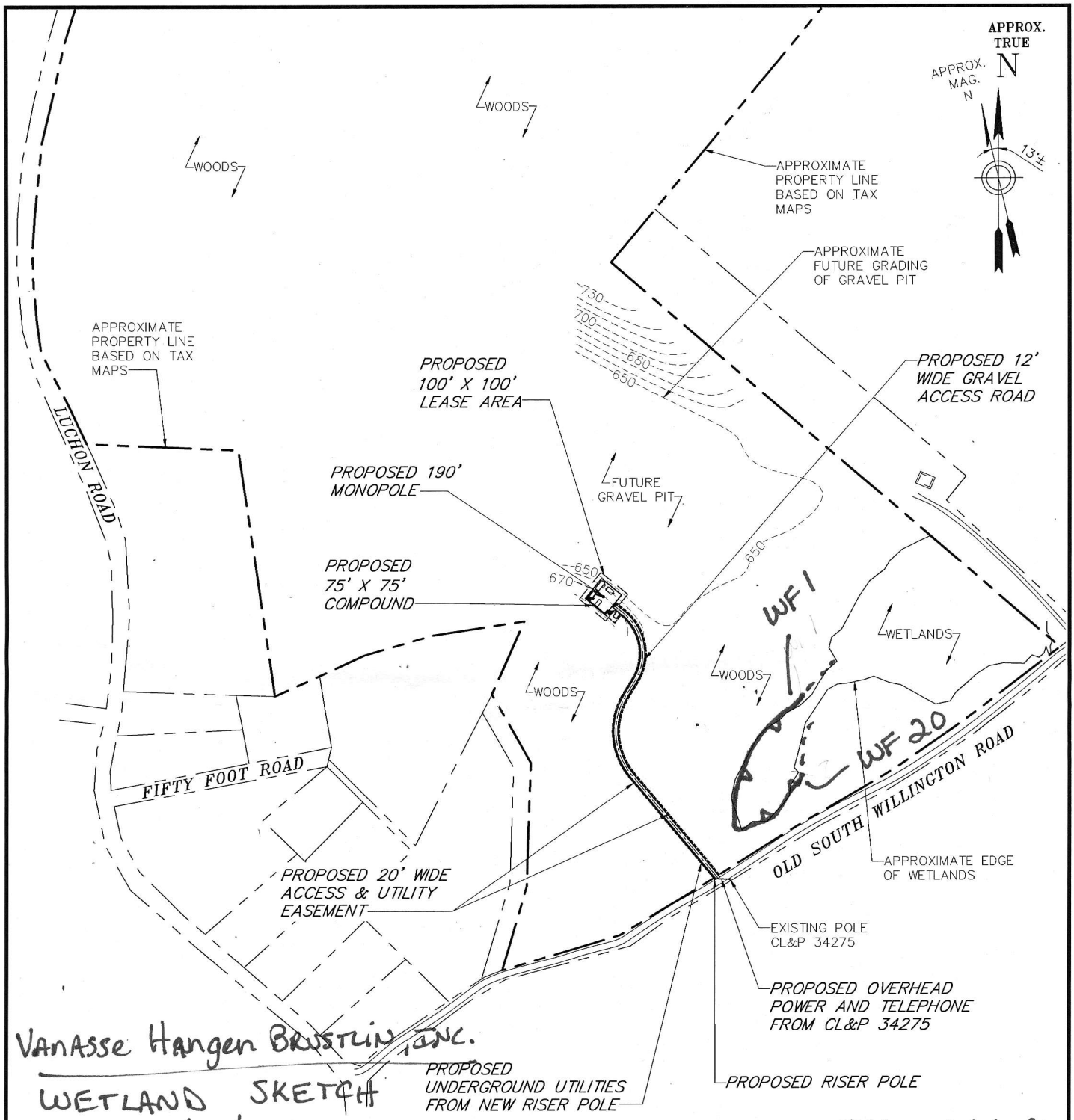
Charlton-Chatfield Complex, 15 To 45 Percent Slopes, Very Rocky This map unit is in the New England and Eastern New York Upland, Southern Part Major Land Resource Area. The mean annual precipitation is 37 to 49 inches (940 to 1244 millimeters) and the average annual air temperature is 45 to 52 degrees 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: 75C—Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes

Hollis-Chatfield-Rock Outcrop Complex, 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 37 to 49 inches (940 to 1244 millimeters) and the average annual air temperature is 45 to 54 degrees F. (7 to 12 degrees C.) This map unit is 35 percent Hollis soils, 30 percent Chatfield soils, 15 percent Rock Outcrop. 20 percent minor components. Hollis soils This component occurs on upland hill and ridge landforms. The parent material consists of melt-out till derived from granite, gneiss, and schist. The slope ranges from 3 to 15 percent and the runoff class is low. The depth to a restrictive feature is 10 to 20 inches to bedrock (lithic). The drainage class is somewhat excessively drained. The slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 1.8 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 6s Typical Profile: 0 to 1 inches; highly decomposed plant material 1 to 6 inches; gravelly fine sandy loam 6 to 9 inches; channery fine sandy loam 9 to 15 inches; gravelly fine sandy loam 15 to 25 inches; unweathered bedrock 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 Rock Outcrop This component occurs on bedrock controlled landforms. The slope ranges from 3 to 15 percent and the runoff class is very high. The Nonirrigated Land Capability Class is 8

Data Source Information

Soil Survey Area: State of Connecticut
Survey Area Data: Version 7, Dec 3, 2009



VANASSE HANGEN BRUSTLIN, INC.

WETLAND SKETCH

06/04/10 DEG

WETLAND FLAGS: VHB WF 1 to 20

SITE PLAN

400 0 200 400

IN FEET

NOTE:
PROPOSED AT&T INSTALLATION SHOWN IS ONLY APPROXIMATE. EXACT LOCATIONS AND DETAILS WILL BE DETERMINED BY FINAL ENGINEERING DESIGN.

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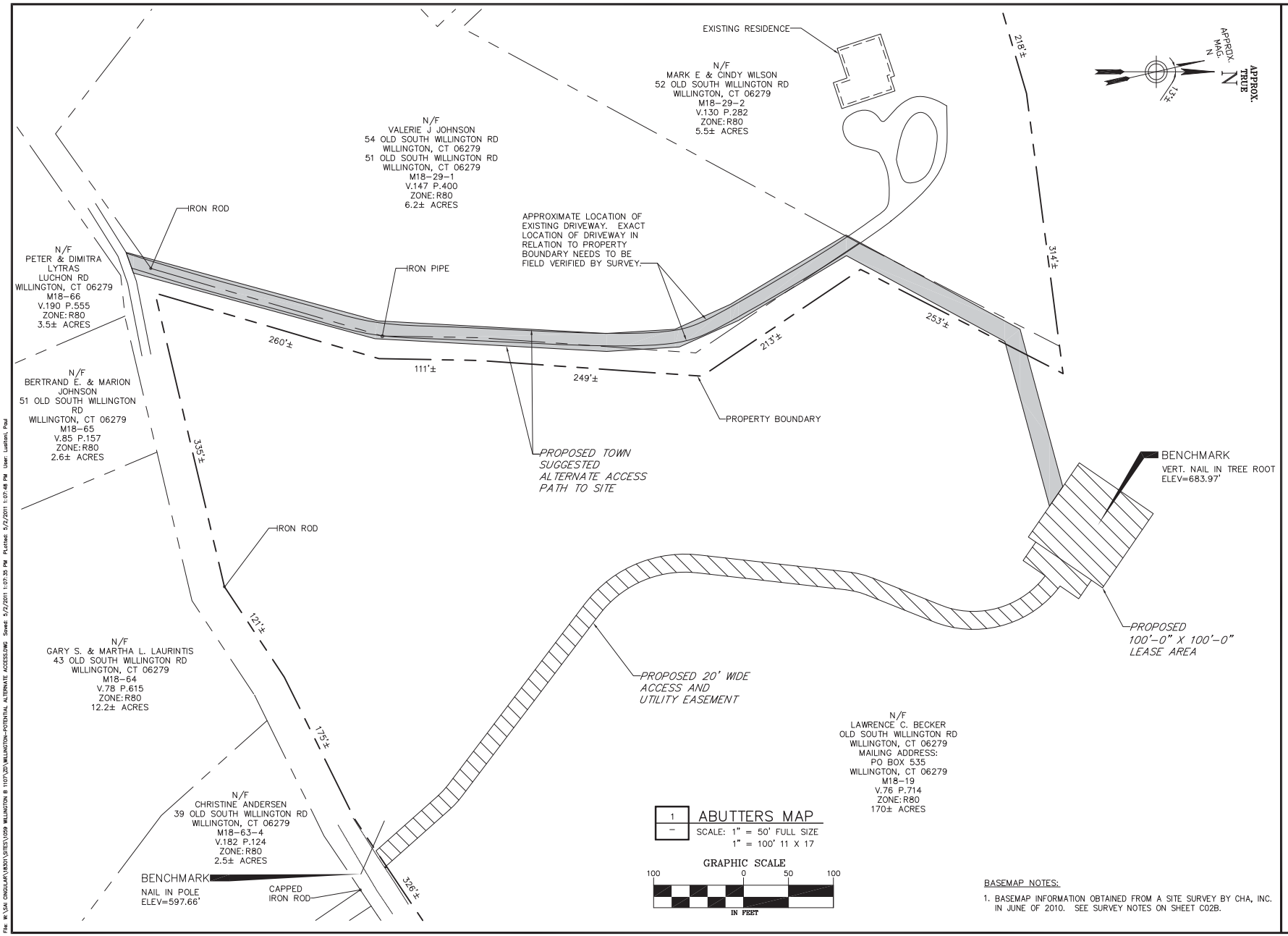
SR1107
WILLINGTON B
OLD SOUTH WILLINGTON ROAD
WILLINGTON, CT 06279
TOLLAND COUNTY
CHA PROJ. NO. – 18301–1059

DATE: 5/18/2010 7:58 AM FILE: W:\SAI CINGULAR\18301\SITES\1059 WILLINGTON B 1107\LE\WILLINGTON_LE.DWG

Abutters Map
(alternate access location)



1 — ABUTTERS MAP

SCALE: 1" = 50' FULL SIZE
1" = 100' 11 X 17

BASEMAP NOTES:

1. BASEMAP INFORMATION OBTAINED FROM A SITE SURVEY BY CHA, INC. IN JUNE OF 2010. SEE SURVEY NOTES ON SHEET C02B.

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CHA PROJECT NO:
18301 – 1059 – 43000

NO.	SUBMITTAL		
0	07/12/10	ISSUED FOR CONSTRUCTION	
	BY: JDM	CHK: PAL	APP'D: JPS
1	04/13/11	UPDATED ABUTTERS	
	BY: PAL	CHK: PAL	APP'D: JPS

SITE ID:
SR1107
SITE NAME:
WILLINGTON B
SITE ADDRESS:
OLD SOUTH WILLINGTON ROAD
WILLINGTON, CT 06279
TOLLAND COUNTY

SHEET TITLE
ABUTTERS MAP

SHEET NUMBER
C01

MIGRATORY BIRD ASSESSMENT

Wednesday, June 27, 2012

New Cingular Wireless PCS, LLC
500 Enterprise Drive, Suite 3A
Rocky Hill, CT 06067

APT Project No.: CT361110

Attn: David Vivian, SAI Communications

Re: Avian Resources Evaluation
Proposed AT&T Willington Facility
Candidate A: Tolland Turnpike
Candidate B: Old South Willington Road
Willington, Connecticut

Dear Mr. Vivain,

All-Points Technology Corporation, P.C. ("APT") is pleased to provide the following information with respect to potential impacts on migratory birds associated with the development of a proposed New Cingular Wireless PCS, LLC ("AT&T") wireless telecommunications facility (Facility) at one of two possible locations in Willington, Connecticut (the "project area").

APT understands that AT&T proposes to construct a new telecommunications Facility located in the town of Willington, Connecticut. Two candidate sites are currently under consideration: one located off Tolland Turnpike (State Route 74), referred to as "Candidate A"; and, a second situated off Old South Willington Road, referred to as "Candidate B". A self-supporting monopole tower, 160 feet in height, is proposed for Candidate A (Parcel Tax ID: M23/P62), while a new self-supporting monopole tower 190 feet in height is proposed for Candidate B (Tax Parcel ID: M18-19). AT&T's Facility would also include the installation, at either candidate, of a single shelter designed to house AT&T's equipment. Development of a Facility at either site would be located in an undeveloped upland area currently occupied by oak dominant forest. Candidate A is surrounded by commercial development (along Route 74), residences, undeveloped forest and a rock quarry operation. Candidate B is surrounded by residences and undeveloped forest.

This evaluation is provided in response to Interrogatories previously submitted by the Connecticut Siting Council (the "Council") on June 17, 2011 for Docket No. 418 prior to the withdrawal without prejudice by the applicant on June 24, 2011. Specifically:

- Interrogatory #7 – Is Site A and/or Site B located within or adjacent to an "Important Bird Area" (IBA) as designated by the National Audubon Society? If yes, provide the distance(s) from the site(s) to the IBA.

- Interrogatory #8 – Would a proposed facility at either site comply with recommended guidelines of the United States Fish and Wildlife Service for minimizing the potential for telecommunications towers to impact bird species?

APT reviewed several sources of avian data available for the state of Connecticut as part of this analysis. Information located within an approximate 2 mile radius of either candidate site is depicted on the attached *Avian Resources Map*. Some of the avian data referenced herein may not be located in proximity to the project area and are therefore not visible on the referenced map due to its scale. However, in those cases the actual distances separating the project area from the resources are identified in the discussions below.

Proximity to Important Bird Areas

With respect to Interrogatory #7, the National Audubon Society has identified 27 Important Bird Areas ("IBAs") in the state of Connecticut. The closest IBA to the proposed Facility is the Trinity College Field Station, located in Ashford approximately 5.2 miles to the east of the project area. Due to its distance from the candidate sites, this IBA would not experience an adverse impact resulting from development of the proposed Facility. Therefore, no seasonal restrictions would be recommended for the project.

Supporting Migratory Bird Data

In addition to Audubon's IBAs, APT researched several avian source data for the State of Connecticut. The following analysis and attached graphics identify these avian resources and their proximities to the project area, and demonstrates that no adverse impacts to avian resources would result from development of the proposed Facility.

Critical Habitat

Connecticut Critical Habitats depict the classification and distribution of 25 rare and specialized wildlife habitats in the state resulting in the creation of habitat maps to be used in land use planning and natural resource protection. It represents a compilation of ecological information collected over many years by state agencies, conservation organizations and many individuals. The Connecticut Critical Habitats information can serve to highlight ecologically significant areas and to target areas of species diversity for land conservation and protection. The nearest Critical Habitat is associated with Ruby Road Bog; this resource is located approximately 2,000 feet north of Candidate A, and 6,800 feet north of Candidate B. Based on the distance separating this resource from either location, no adverse impacts are anticipated and no seasonal restrictions would be recommended for the project.

Breeding Bird Survey Route

The North American Breeding Bird Survey is a cooperative effort between various agencies and volunteer groups to monitor the status and trends of North American bird populations. Routes area randomly located to sample habitats that are representative of an entire region. Each year during the height of the avian breeding season (June for most of the United States) participants skilled in avian identification collect bird population data along roadside survey routes. Each survey route is approximately 24.5 miles long and contains 50 stops located at 0.5-mile intervals. At each stop, a three-minute count is conducted. During each count, every bird seen or heard within a 0.25-mile radius is recorded. The resulting data are used by conservation managers, scientists, and the general public to estimate population trends and relative abundances and to assess bird conservation priorities. No survey routes are located within the town of Willington. The nearest survey route is the Willimantic Breeding Bird Survey Route located approximately 3.7 miles to the south of Candidate A, and 2.8 miles to the south of Candidate B. This route generally begins in Chaplin and winds its way north through Mansfield, Coventry, and terminates in Vernon. Bird survey routes do not represent a potential restriction to development, including the proposed Facility.

Hawk Watch Site

The Hawk Migration Association of North America ("HMANA") is a membership-based organization committed to the conservation of raptors through the scientific study, enjoyment and appreciation of raptor migration. HMANA collects hawk count data from almost 200

affiliated raptor monitoring sites throughout the United States, Canada and Mexico, identified as "Hawk Watch Sites." The nearest Hawk Watch Site is located in South Windsor (the Beelzebulb Street Hawk Watch Site), approximately 13.4 miles southwest of Candidate A, and 12.9 miles southwest of Candidate B. Hawk Watch Sites by themselves do not represent a potential restriction to development, although they can sometimes be an indicator of migratory routes for raptors. Due to the distances separating the candidate sites and the nearest Hawk Watch Site, no impacts would result from the Facility and no seasonal restrictions would be recommended.

Bald Eagle Site

Bald Eagle Sites consist of locations of midwinter Bald Eagle counts from 1986 to 2005 with an update provided in 2008. This survey was initiated in 1979 by the National Wildlife Federation. This database includes information on statewide, regional and national trends. Survey routes are included in the database only if they were surveyed consistently in at least four years and where at least four eagles were counted in a single year. No Bald Eagle Sites are located within the Town of Willington or abutting municipalities; the nearest Bald Eagle Site is located in in Windsor at the confluence of the Farmington and Connecticut Rivers, approximately 19 miles west of Candidate A, and approximately 18.7 miles west of Candidate B. Due to the distance separating the project area and the nearest Bald Eagle Site, no impacts to bald eagles would result from the Facility's development and no seasonal restrictions would be recommended.

Flyways

The project area is located in western Tolland County Connecticut, approximately 37 miles north of Long Island Sound. The Connecticut coast lies within the Atlantic Flyway, one of four generally recognized regional migratory bird flyways (Mississippi, Central and Pacific being the others). This regional flyway is used by migratory birds travelling to and from summering and wintering grounds. The Atlantic Flyway is particularly important for many species of migratory waterfowl and shorebirds, and Connecticut's coast serves as vital stopover habitat. Migratory land birds also stop along coastal habitats before making their way inland. Smaller inland migratory flyways are often concentrated along major riparian areas as birds make their way further inland to their preferred breeding habitats. The Willimantic River likely forms an important secondary flyway in eastern Connecticut as birds move north from the shoreline into interior portions of northeastern Connecticut. In addition, the Fenton River, a smaller riparian corridor likely also serves some function as a secondary flyway in this area.

The project area is not located within the Atlantic Flyway. It is roughly 2 miles east of the Willimantic River and approximately 1.6 miles to the west. Therefore, no adverse impacts to avian habitat potentially used by migrating species are anticipated as a result of the proposed Facility and no seasonal restrictions would be recommended.

Waterfowl Focus Areas

The Atlantic Joint Coast venture ("AJCV") is an affiliation of federal, state, regional and local partners working together to address bird conservation planning along the Atlantic Flyway. The AJCV has identified waterfowl focus areas recognizing the most important habitats for waterfowl along the Atlantic Flyway. Connecticut contains several of these waterfowl focus areas. The nearest waterfowl focus area to the project area is the Connecticut River and Tidal Wetlands Complex, located approximately 23.2 miles to the south. Please refer to the attached *Connecticut Waterfowl Focus Areas Map*. Based on the distance of these resources to the project area, no direct impacts would occur from development of the proposed Facility. The proposed Facility is located within the Upper Thames River Waterfowl Planning Area. One of the principle goals in this planning area is wetland conservation and acquisition of open space. The proposed Facility will not result in impact to wetland resources and significant waterfowl habitat is not located on the property to make it a potentially valuable open space acquisition.

CTDEEP Migratory Waterfowl Data

The Connecticut Department of Energy and Environmental Protection ("CTDEEP") created a Geographic Information System ("GIS") data layer in 1999 identifying concentration areas of migratory waterfowl at specific locations in Connecticut. The intent of this data layer is to assist in the identification of migratory waterfowl resource areas in the event of an oil spill or other condition that might be a threat to waterfowl species. This data layer identifies conditions at a particular point in time and has not been updated since 1999.

No migratory waterfowl areas are located within the Town of Willington or neighboring municipalities. The nearest migratory waterfowl area (Marsh Brook in Ellington) is located approximately 10.4 miles to the west of the project area. The associated species are identified as American Black Duck, Mallard, Green Wing Teal, and Wood Duck. Based on its distance to the project area, no impacts to migratory waterfowl habitat are anticipated to result from development of the proposed Facility.

CTDEEP Natural Diversity Data Base

CTDEEP's Natural Diversity Data Base ("NDDB") program performs hundreds of environmental reviews each year to determine the impact of proposed development projects on state listed species and to help landowners conserve the state's biodiversity. State agencies are required to ensure that any activity authorized, funded or performed by a state agency does not threaten the continued existence of endangered or threatened species. Maps have been developed to serve as a pre-screening tool to help applicants determine if there is a potential impact to state listed species.

The NDDB maps represent approximate locations of endangered, threatened and special concern species and significant natural communities in Connecticut. The locations of species and natural communities depicted on the maps are based on data collected over the years by CTDEEP staff, scientists, conservation groups, and landowners. In some cases an occurrence represents a location derived from literature, museum records and/or specimens. These data are compiled and maintained in the NDDB. The general locations of species and communities are symbolized as shaded areas on the maps. Exact locations have been masked to protect sensitive species from collection and disturbance and to protect landowner's rights whenever species occur on private property.

According to the CTDEEP NDDB, there are no known extant populations of state of Federal Endangered, Threatened or Special Concern Species at or near either candidate site.

USFWS Communications Towers Compliance

The U.S Fish and Wildlife Service ("USFWS") prepared its *Interim Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers* (September 14, 2000), which recommends the 12 voluntary actions below be implemented in order to mitigate potential bird strikes that could result by the construction of telecommunications towers. With respect to Interrogatory #8, APT offers the responses, specific to the proposed Facility, following each of the recommended actions.

1. *Any company/applicant/licensee proposing to construct a new communications tower should be strongly encouraged to collocate the communications equipment on an existing communications tower or other structure (e.g., billboard, water tower, or building mount). Depending on tower load factors, from 6 to 10 providers may collocate on an existing tower.*

   Collocation opportunities on existing towers, buildings or non-tower structures are not available in the area while achieving the required radio frequency ("RF") coverage objectives of AT&T.

2. *If collocation is not feasible and a new tower or towers are to be constructed, communications service providers should be strongly encouraged to construct towers no more than 199 feet above ground level (AGL), using construction techniques which do not require guy wires (e.g., use a lattice structure, monopole, etc.). Such towers should be unlighted if Federal Administration regulations permit.*

   The proposed Facility would consist of either a free-standing 160-foot (Candidate A) or 190-foot (Candidate B) tall monopole structure which requires neither guy wires nor lighting.

3. *If constructing multiple towers, providers should consider the cumulative impacts of all of those towers to migratory birds and threatened and endangered species as well as the impacts of each individual tower.*

   Multiple towers are not proposed as part of this project.

4. *If at all possible, new towers should be sited within existing "antenna farms" (clusters of towers). Towers should not be sited in or near wetlands, or other known bird concentration areas (e.g., state or Federal refuges, staging areas, rookeries), in known migratory or daily movement flyways, or in habitat of threatened or endangered species. Towers should not be sited in areas with a high incidence of fog, mist, and low ceilings.*

   There are no existing "antenna farms" in the area. In Connecticut, seasonal atmospheric conditions can occasionally produce fog, mist and/or low ceilings. The proposed Facility location is not within a migratory or daily movement flyway. According to the CTDEEP Natural Diversity Data Base NDDB, there are no known extant populations of state of Federal Endangered, Threatened or Special Concern Species at either Candidate A or Candidate B or in the immediate vicinity.

5. *If taller (>199 feet AGL) towers requiring lights for aviation safety must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA should be used.*

   The proposed Facility height at either Candidate A (160' AGL) or Candidate B (190' AGL) is less than 199 feet, and would not require any aviation safety lighting.

6. *Tower designs using guy wires for support which are proposed to be located in known raptor or waterbird concentration areas or daily movement routes, or in major migratory bird movement routes or stopover sites, should have daytime visual markers on the wires to prevent collisions by these diurnally moving species.*

   The proposed Facility would be free-standing and would not require guy wires or visual marking.

7. *Towers and appendant facilities should be sited, designed and constructed so as to avoid or minimize habitat loss within and adjacent to the tower "footprint." However, a larger tower footprint is preferable to the use of guy wires in construction. Road access and fencing should be minimized to reduce or prevent habitat fragmentation and disturbance, and to reduce above ground obstacles to birds in flight.*

   The proposed Facility is sited, designed, and would be constructed to accommodate proposed equipment and to allow for future collocations within the smallest footprint possible. Both candidate sites are located proximate to existing development and infrastructure (e.g., residential properties, active rock quarry, State Route's 74 and 320) and therefore will not result in habitat fragmentation.

8. *If significant numbers of breeding, feeding, or roosting birds are known to habitually use the proposed tower construction area, relocation to an alternate site should be recommended. If this is not an option, seasonal; restrictions on construction may be advisable in order to avoid disturbance during periods of high bird activity.*

   Significant numbers of breeding, feeding, or roosting birds are not known to habitually use the proposed tower construction areas at either Candidate A or Candidate B or their surrounding properties.

9. *In order to reduce the number of towers needed in the future, providers should be encouraged to design new towers structurally and electrically to accommodate the applicant/licensee's antennas and comparable antennas for at least two additional users (minimum of three users for each tower structure), unless this design would require the addition of lights or guy wires to an otherwise unlighted and/or unguyed tower.*

   The proposed Facility has been designed in accordance with this guidance, as it would accommodate a total of four antenna platform positions. The proposed, free-standing Facility would be neither lighted nor guyed.

10. *Security lighting for on-ground facilities and equipment should be down-shielded to keep light within the boundaries of the site.*

    Security lighting for on-ground facilities would be down-shielded using Dark Sky compliant fixtures set on motion sensor with timer.

11. *If a tower is constructed or proposed for construction, Service personnel or researchers from the Communication Tower Working Group should be allowed access to the site to evaluate bird use, conduct, dead-bird searches, to place net catchments below the towers but above the ground, and to place radar, Global Positioning System, infrared, thermal imagery, and acoustical monitoring equipment as necessary to assess and verify bird movements and to gain information on the impacts of various tower sizes, configurations, and lighting systems.*

    With prior notification to AT&T, USFWS personnel would be allowed access to the proposed Facility to conduct evaluations.

12. *Towers no longer in use or determined to be obsolete should be removed within 12 months of cessation of use.*

    If the proposed Facility was no longer in use or determined to be obsolete, it would be removed within 12 months of cessation of use.

Summary

In response to the Council's previous Interrogatories, APT has determined that development of a Facility at either candidate site would comply with the USFWS guidelines for minimizing the potential impacts to birds. The nearest IBA to either candidate site is located approximately 5.2 miles to the east. No migratory bird species are anticipated to be impacted by development of the proposed Facility.

Sincerely,

All-Points Technology Corporation, P.C.

Dean Gustafson
Senior Environmental Scientist

Enclosures

Figures

- Avian Resource Map
- Connecticut Waterfowl Focus Areas Map

Avian Resources Map

Proposed Telecommunications Facility
New Cingular Wireless, PCS (AT&T)

Willington, Connecticut

Legend

- Proposed Tower Location
- Hawk Watch Site*
- Bald Eagle Watch Site*
- Important Bird Site*
- Breeding Bird Survey Route*
- Important Bird Area*
- Migratory Waterfowl (CT DEEP, 1999)*
- Critical Habitat (CT DEEP, 07/2009)
- Natural Diversity Database Area (CT DEEP, 12/2011)
- Federal Property (CT DEEP, 2004)*
- Municipal and Private Open Space (CT DEEP, 1997)

DEP Property (CT DEEP, 2010)

- State Forest
- State Park
- State Park Scenic Reserve
- State Park Trail
- Natural Area Preserve
- Wildlife Area
- Wildlife Sanctuary
- Historic Preserve
- Flood Control
- Fish Hatchery
- DEP Owned Waterbody
- Water Access
- Other
- Waterbody
- Watercourse
- Road
- Town Line*

*None within mapped extents

Last Updated Wednesday, June 27, 2012

Avian Source Information:
Bald Eagle Sites: Midwinter Bald Eagle Count Survey website
http://ocid.nacse.org/nbii/eagles/state.php?php_screen=first&stateIn=Connecticut
Hawk Watch Sites: Hawk Migration Association of North America (HMANA), Hawk Count website:
http://hawkcount.org/sitesel.php?country=USA&stateprov=Connecticut
Migratory Waterfowl: CTDEP GIS, 1999
Important Bird Sites/Areas: National Audubon Society, Audubon Connecticut
http://ct.audubon.org/BirdSci_IBAs.html
Breeding Bird Survey Routes: Patuxent Wildlife Research Center of the U.S. Geological Survey and the Canadian Wildlife Service's National Wildlife Research Centre
http://www.nationalatlas.gov/mld/bbsrtsl.html

1 inch equals 2,000 feet

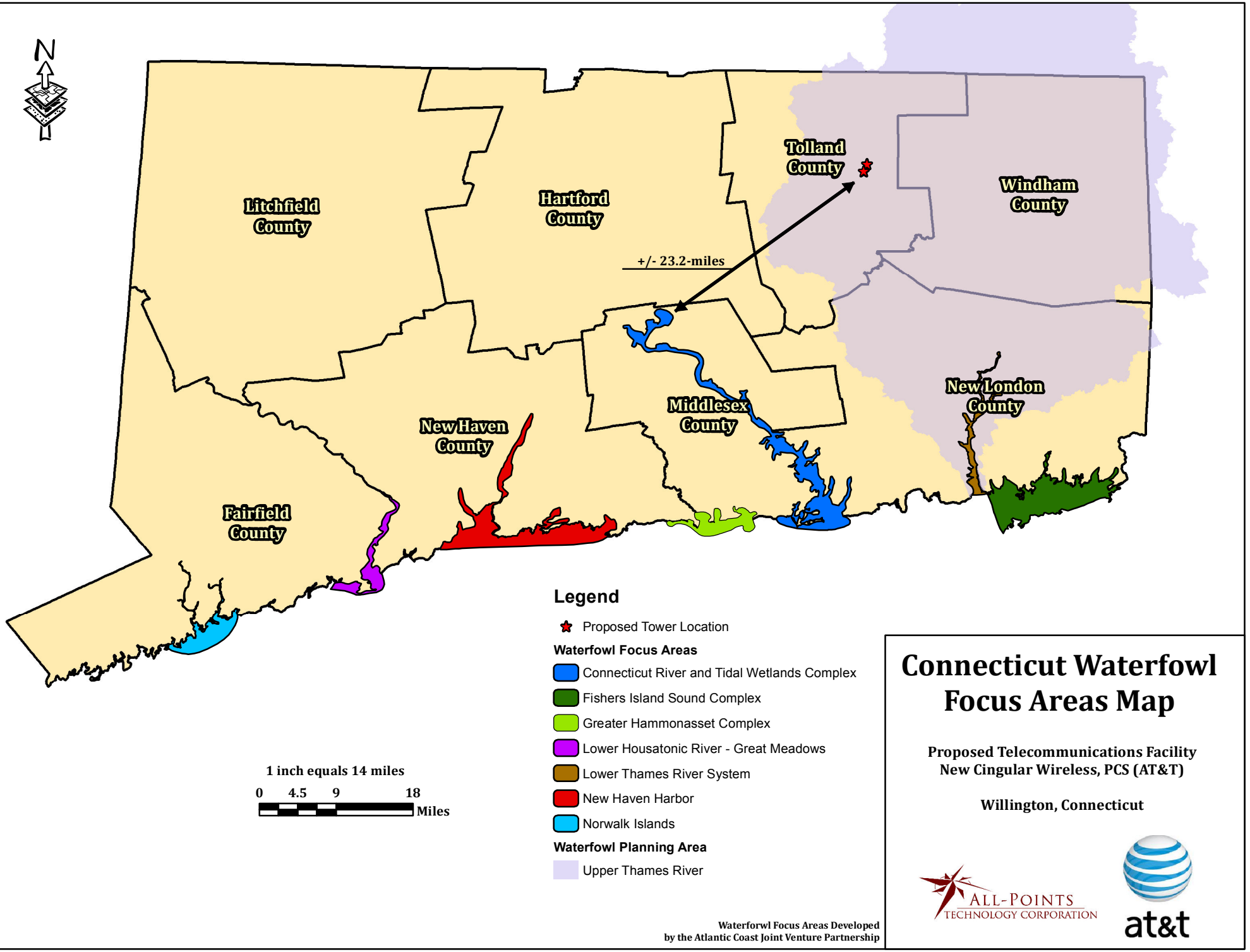
0 0.125 0.25 0.5 Miles

ALL-POINTS TECHNOLOGY CORPORATION

at&t

Base Map Source: CT DEEP GIS Shaded Relief 2000

Path: D:\GISLibrary\Templates\Avian_Resources_Screen.mxd



Connecticut Waterfowl Focus Areas Map

Proposed Telecommunications Facility
New Cingular Wireless, PCS (AT&T)

Willington, Connecticut

ALL-POINTS TECHNOLOGY CORPORATION

at&t

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PUBLIC WATER SUPPLY ASSESSMENT

Wednesday, June 27, 2012

New Cingular Wireless PCS, LLC
500 Enterprise Drive, Suite 3A
Rocky Hill, CT 06067

APT Project No.: CT361110

Attn: David Vivian, SAI Communications

Re: Proposed AT&T Facility
Candidate A: Tolland Turnpike or
Candidate B: Old South Willington Road
Willington, Connecticut

Dear Mr. Vivian,

All-Points Technology Corporation, P.C. ("APT") understands that a proposed wireless telecommunications facility ("Facility") proposed by New Cingular Wireless PCS, LLC ("AT&T") at one of two possible locations in Willington, Connecticut is located within a public water supply watershed. As part of the initial application process with the Connecticut Siting Council (the "Council") for the proposed Facility (formerly Docket No. 418), the Department of Public Health ("DPH") provided comments to the Council. The Drinking Water Section ("DWS") of DPH indicated in their June 14, 2011 letter (enclosed) that the Facility is located within the Willimantic Reservoir Public Water Supply Watershed of Mansfield Hollow Reservoir, an active source of public drinking water for the Windham Water Works System. DWS provided various recommendations to protect this source of public drinking water.

APT recommends the following precautions, protective measures, monitoring and notifications to protect this important resource and address the DWS recommendations. These recommendations should be incorporated into the final plans during the Council's Development and Management (D&M) Plan process should the Facility receive approval.

Erosion and Sedimentation Controls

The proposed AT&T construction project will follow an approved soil erosion and sedimentation control plan designed in accordance with the *2002 Connecticut Guidelines For Soil Erosion and Sediment Control*. The installed erosion devices will be inspected once every seven days and after significant rainfall events of greater than one half inch over a 24-hour period to ensure that proper precautions are taken to avoid the release of sediment into nearby resource areas. These inspections will be documented on an Erosion and Sedimentation Control Site Inspection Form (please refer to the attached form). In addition to the site contractor being responsible for the proper installation and daily inspection of erosion and sedimentation (E&S) controls, staff from APT will independently inspect E&S controls and document their condition and recommend any actions necessary to bring the controls back into compliance. This E&S control inspection procedure will help avoid erosion and sedimentation problems by ensuring that the erosion

control devices are maintained and functioning properly. Copies of the completed forms will be submitted to the Windham Water Works and the Council throughout the duration of the construction project. In addition, Windham Water Works personnel will be allowed access to the project for period inspections.

Erosion and sedimentation control items subject to inspection include, but are not limited to the following:

- Construction Entrance Pad
- Sediment Traps
- Sediment/ Detention Basins
- Temporary Soil Stockpile Areas
- Silt Fencing/Hay Bales
- Seeding & Mulching
- Drainage Swales
- Drainage Swale Check Dams
- Other Site-Specific Erosion Control Devices

Petroleum/Hazardous Materials Storage and Spill Prevention Plan

Certain precautions are necessary to store petroleum and hazardous materials, refuel and contain and properly clean up any inadvertent fuel or petroleum (i.e., oil, hydraulic fluid, etc.) spill due to the project's location in a public water supply watershed. A spill containment kit consisting of a sufficient supply of absorbent pads and absorbent material will be maintained by the site contractor at the construction site throughout the duration of the project. In addition, a waste drum will be kept on site to contain any used absorbent pads/material for proper disposal off site.

The following restrictions, protective measures and procedures will be adhered to by the contractor.

<u>Petroleum and Hazardous Materials Storage and Refueling</u>

- Servicing of machinery should be completed outside of the public water supply watershed.
- Refueling of vehicles or machinery should take place on an impervious pad with secondary containment designed to contain fuels.
- Fuel and other hazardous materials should not be stored within the public water supply watershed.
- Any fuel or hazardous materials that must be kept within the public water supply watershed during working hours should be stored on an impervious surface utilizing secondary containment.

<u>Initial Response</u>

- Stop operations and shut off equipment.
- Remove any sources of spark or flame.
- Contain the source of the spill.
- Determine the approximate volume of the spill.
- Identify the location of natural flow paths to prevent the release of the spill to sensitive nearby waterways or wetlands.
- Ensure that fellow workers are notified of the spill.

<u>Clean Up & Containment</u>

- Obtain spill response materials from the on-site spill response kit.
- Limit the spread of the spill by placing absorbent materials around the perimeter of the spill.
- Contact Windham Water Works immediately at (860) 465-3086, along with other appropriate local, state and/or federal agencies, as necessary.
- Contact a disposal company to properly dispose of contaminated materials.

Follow-Up

- Complete an incident report.
- Submit a completed incident report to Windham Water Works.

The Windham Water Works and the Council will be noticed at least 48 hours in advance of a pre-construction meeting with an invitation to attend. During the project's pre-construction meeting, the contractor will be made aware of the special protective precautions that are required due to the project's location in the Willimantic Reservoir Public Water Supply Watershed of Mansfield Hollow Reservoir.

If you have any questions regarding the above-referenced information, please feel free to contact me at (860) 984-9515 or at dgustafson@allpointstech.com.

Sincerely,

All-Points Technology Corporation, P.C.

Dean Gustafson
Senior Environmental Scientist

Enclosures

Department of Public Health
June 14, 2011 Letter of Recommendations

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

ORIGINAL

June 14, 2011

Linda Roberts
Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Docket No. 418: New Cingular Wireless PCS, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located off Tolland Turnpike or off Old South Willington Road, Willington, Connecticut

Dear Ms. Roberts:

The Drinking Water Section (DWS) of the Department of Public Health has reviewed the location and specific work items associated with the above noted Docket Number. This project is contained within the public water supply watershed (Willimantic Reservoir Watershed) of Mansfield Hollow Reservoir, an active source of public drinking water for the Windham Water Works System (PWSID #CT1630011). The DWS offers the following recommendations to protect this source of public drinking water:

- Erosion and sedimentation controls should be in place and properly maintained as necessary.
- A responsible party should be identified for maintenance, inspection, repair, and replacement and incorporation of new controls as may become necessary.
- Servicing of machinery should be completed outside of the public water supply watershed.
- Refueling of vehicles or machinery should take place on an impervious pad with secondary containment designed to contain fuels.
- Fuel and other hazardous materials should not be stored within the public water supply watershed. Any fuel or hazardous materials that must be kept within the public water supply watershed during working hours should be stored on an impervious surface utilizing secondary containment.
- A fuel spill remediation kit should be stored on-site so that any spills may be contained and cleaned quickly.
- Windham Water Works System should be contacted prior to starting this project to review the scope of this project.
- Windham Water Works System personnel should be allowed to periodically inspect this project to ensure that drinking water quality is not being adversely impacted.

If you have any questions regarding this matter, please contact Kimberly Wholean of this office at 860-509-7333.

Sincerely,

Eric McPhee
Supervising Environmental Analyst
Drinking Water Section

Cc: James Hooper, Water Superintendent, Windham Water Works

Phone: (860) 509-7333
Telephone Device for the Deaf (860) 509-7191
410 Capitol Avenue - MS # 51WAT
P.O. Box 340308 Hartford, CT 06134
Affirmative Action / An Equal Opportunity Employer

APT Example Erosion and Sedimentation Control Site Inspection Form

Project Name

Site E&S Inspection Form

Report No._____

APT Project #:

Project Street Address

Project Town, State

Date of Inspection:	Weather Conditions:
Time of Inspection:	Latest Precipitation Event:

Construction Activities Underway since last documented inspection:

Check if NOT Functioning Properly	Erosion Control Measure
☐	Street Sweeping/ Construction Access
☐	Stabilized Construction Entrance
☐	Temporary/Permanent Check Dams
☐	Temporary/Permanent Sediment Basins/Traps
☐	Drainage Swales and Diversion Channels
☐	Perimeter Controls (i.e. hay bales, straw wattles, silt fencing etc.)
☐	Catch Basin Protection
☐	Temporary/Permanent Slope Stabilization
☐	Dewatering Basins and Filter Devices
☐	Outlet Protection (i.e. plunge pool, splash pad, level spreader, etc.)
☐	Active Treatment Systems

*In the event of a spill refer to the Spill Response Procedure and contact appropriate agencies. Refer to SWPPP for Spill Prevention Plan and Response Procedures.

Are sediment/pollution discharges from the site present?		
☐ **No**	☐ **Yes**	**If yes, describe:**

Immediate Action Items:	
1.	
2.	
3.	
4.	

Additional Action Items/Comments:	
1.	
2.	
3.	
4	

Items/Comments Addressed From Previous Report(s):	
1.	
2.	
3.	
4.	

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Erosion Control Inspector: _____ Date: _____

Inspector Name

Qualifications: _____

**A copy of this report should be placed in the Monitoring Section of the Stormwater Pollution Prevention Plan, if applicable.