

**USFWS COMPLIANCE
DETERMINATION**

Transportation
Land Development
Environmental
Services



Vanasse Hangen Brustlin, Inc.

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

Memorandum

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

Date: December 3, 2010

Project No.: 41479.38

From: Dean Gustafson
Senior Environmental Scientist

Re: USFWS Compliance Determination
Proposed Verizon Wireless
Branford South Facility
723 Leetes Island Road, Branford, CT

The referenced Site was evaluated with respect to possible federally-listed, threatened or endangered species in order to determine if the proposed communications facility would result in a potential adverse effect to federally-listed species. This evaluation was performed in accordance with the January 4, 2010 policy statement of the United States Department of the Interior Fish and Wildlife Service (USFWS) New England Field Office. A copy of this policy statement and list of rare species is enclosed for reference.

Project Site:

State & County: Connecticut, New Haven
Address: 723 Leetes Island Road, Branford
Latitude/Longitude Coordinates: 41° 15' 58.8" / 72° 43' 59.7"
Size of Property: ±19.12 acres
Watershed: South Central Shoreline (basin # 5000)

The Roseate Tern (*Sterna dougalii*) is listed as a federally endangered species that occurs in the town of Branford; refer to the attached rare species list. In accordance with the January 4, 2010 USFWS policy statement, "If a listed species is present in the town or county where the project is proposed, further review of our lists of threatened and endangered species may allow you to conclude that suitable habitat for the species will not be affected." As a result of this policy, further investigation of the proposed project was performed to determine if the development may adversely affect this listed species.

Habitat Description

An inspection was conducted on November 19, 2010 in order to document the existing habitat types at the Site for evaluation of usage by roseate tern.

The 19.12± acre Site is an agricultural property known as Medlyn Farms, whose operations also extend onto a separate parcel to the north across Leetes Island Road. The Site is developed with a greenhouse in the northwest parcel corner, while the majority of the site is encompassed by various agricultural operations including wood/mulch/compost storage areas near the greenhouse, cultivated fields in the western half of the property, successional upland forest in the central/east portion of the property and a small upland field and two inland wetland areas in the eastern end of the site. An intertidal salt marsh

associated with tidally influenced Stony Creek is located along the western property boundary extending off site to the west approximately 1,000 feet from the proposed Facility. A closer tidal salt marsh is located off the subject property 450± feet southeast of the proposed Facility, although it is separated by the Amtrak rail line. Surrounding land use consists of an Amtrak rail line to the south, an intertidal salt marsh associated with Stony Creek to the west, Leetes Island Road and residential development to the north and inland wetlands and residential properties to the east.

The proposed Facility will be located in a successional upland forest area consisting of typical tree sizes ranging from 6 to 14 inches diameter at breast height (DBH) with dominant species including pignut hickory (*Carya glabra*), eastern red cedar (*Juniperus virginiana*), red oak (*Quercus rubra*), tree of heaven (*Ailanthus altissima*), black cherry (*Prunus serotina*), winged euonymus (*Euonymus alatus*), multiflora rose (*Rosa multiflora*), bush honeysuckle (*Lonicera spp.*), European privet (*Ligustrum vulgare*) and common greenbrier (*Smilax rotundifolia*). Soils within the proposed Facility and access drive development areas consist of well drained shallow glacial till soils with exposed bedrock classified as Holyoke-rock outcrop complex (soil symbol - 78). Two inland wetland areas were delineated in proximity to the proposed access drive and Facility areas.

Roseate Tern

Roseate Terns are exclusively marine and typically nest with Common Terns in various habitats on offshore islands or mainland beaches. Roseate Terns prefer sandy, gravelly, or rocky areas with shelter provided by vegetation, debris or rocks¹.

The subject property does not contain nor is it located near any coastal sandy beaches or offshore islands. The tidal marsh areas located distant to the proposed Facility do not provide suitable nesting habitat as they consist of muddy, organic soils subject to regular tidal inundation. The nearest potential nesting habitat for roseate tern appears to be located at the mouth of Stony Creek in a rocky beach area located over 2,000 feet south of the proposed Facility. Refer to the attached Coastal Habitat Map. The Thimbles islands, which potentially provide tern nesting habitat, are located over 4,000 feet south of the proposed Facility. Since the proposed project is located a significant distance from these potential tern nesting habitat areas, we believe the proposed development will not impact Roseate Tern and no protective measures or seasonal restrictions would be recommended for the proposed development.

This conclusion is further supported by the USFWS January 4, 2010 policy statement which states "Based on past experiences, we anticipate that there will be few, if any, projects that are likely to impact piping plovers, roseate terns, bog turtles, Jesup's milk-vetch or other such species that are found on coastal beaches, riverine habitats or in wetlands because communication towers typically are not located in these habitats." Therefore, based on our assessment of Roseate Tern habitat and this statement there is no need to contact USFWS for further project review.

Bald Eagle

The bald eagle has been delisted and maintains protection under the Bald and Golden Eagle Protection Act (Eagle Act) and the Migratory Bird Treaty Act (MBTA). No bald eagle nests, roosting or foraging areas were observed on the subject property or are known to existing on the surrounding properties. Therefore, the proposed telecommunications facility will not result in disturbance² to Bald Eagles.

¹ *The Atlas of Breeding Birds of Connecticut*. Louis R. Bevier, Editor. State Geological and Natural History Survey of Connecticut Bulletin 113. Pgs. 148-149.

² "Disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." (Eagle Act)



USFWS January 4, 2010 Telecommunications Policy Statement and Endangered Species List



United States Department of the Interior



FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
<http://www.fws.gov/newengland>

January 4, 2010

To Whom It May Concern:

The U.S. Fish and Wildlife Service's (Service) New England Field Office has determined that individual project review for certain types of activities associated with communication towers is **not required**. These comments are submitted in accordance with provisions of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

Due to the rapid expansion of the telecommunication industry, we are receiving a growing number of requests for review of **existing** and **new** telecommunication facilities in relation to the presence of federally-listed or proposed, threatened or endangered species, critical habitat, wilderness areas and/or wildlife preserves. We have evaluated our review process for proposed communications towers and believe that individual correspondence with this office is not required for the following types of actions relative to **existing** facilities:

1. the re-licensing of existing telecommunication facilities;
2. audits of existing facilities associated with acquisition;
3. routine maintenance of existing tower sites, such as painting, antenna or panel replacement, upgrading of existing equipment, etc.;
4. co-location of new antenna facilities on/in existing structures;
5. repair or replacement of existing towers and/or equipment, provided such activities do not significantly increase the existing tower mass and height, or require the addition of guy wires.

In order to curtail the need to contact this office in the future for individual environmental review for **existing** communication towers or antenna facilities, please note that we are not aware of any federally-listed, threatened or endangered species that are being adversely affected by any existing communication tower or antenna facility in the following states: Vermont, New Hampshire, Rhode Island, Connecticut and Massachusetts. Furthermore, we are not aware of any **existing** telecommunication towers in federally-designated critical habitats, wilderness areas or wildlife preserves. Therefore, no further consultation with this office relative to the impact of the above referenced activities on federally-listed species is required.

January 4, 2010

Future Coordination with this Office Relative to New Telecommunication Facilities

We have determined that proposed projects are not likely to adversely affect any federally-listed or proposed species when the following steps are taken to evaluate new telecommunication facilities:

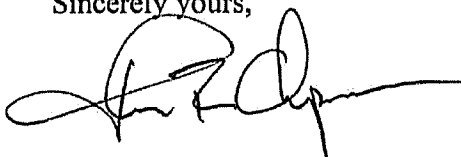
1. If the facility will be installed within or on an existing structure, such as in a church steeple or on the roof of an existing building, no further coordination with this office is necessary. Similarly, new antennas or towers in urban and other developed areas, in which no natural vegetation will be affected, do not require further review.
2. If the above criteria cannot be met, your review of our lists of threatened and endangered species locations within Vermont, New Hampshire, Rhode Island, Connecticut and Massachusetts may confirm that no federally-listed endangered or threatened species are known to occur in the town or county where the project is proposed.
3. If a listed species is present in the town or county where the project is proposed, further review of our lists of threatened and endangered species may allow you to conclude that suitable habitat for the species will not be affected. Based on past experiences, we anticipate that there will be few, if any, projects that are likely to impact piping plovers, roseate terns, bog turtles, Jesup's milk-vetch or other such species that are found on coastal beaches, riverine habitats or in wetlands because communication towers typically are not located in these habitats.

For projects that meet the above criteria, there is no need to contact this office for further project review. A copy of this letter should be retained in your file as the Service's determination that no listed species are present, or that listed species in the general area will not be affected. Due to the high workload associated with responding to many individual requests for threatened and endangered species information, we will no longer be providing response letters for activities that meet the above criteria. This correspondence and the species lists remain valid until January 1, 2011. Updated consultation letters and species lists are available on our website:

(<http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm>)

Thank you for your cooperation, and please contact Mr. Anthony Tur at 603-223-2541 for further assistance.

Sincerely yours,



Thomas R. Chapman
Supervisor
New England Field Office

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES
IN CONNECTICUT**

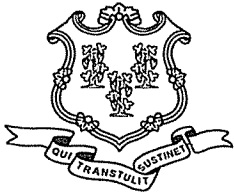
COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Fairfield	Piping Plover	Threatened	Coastal Beaches	Westport, Bridgeport and Stratford
	Roseate Tern	Endangered	Coastal beaches, Islands and the Atlantic Ocean	Westport and Stratford
	Bog Turtle	Threatened	Wetlands	Ridgefield and Danbury.
Hartford	Dwarf wedgemussel	Endangered	Farmington and Podunk Rivers	South Windsor, East Granby, Simsbury, Avon and Bloomfield.
Litchfield	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Sharon.
	Bog Turtle	Threatened	Wetlands	Sharon and Salisbury.
Middlesex	Roseate Tern	Endangered	Coastal beaches, islands and the Atlantic Ocean	Westbrook and New London.
	Piping Plover	Threatened	Coastal Beaches	Clinton, Westbrook, Old Saybrook.
New Haven	Bog Turtle	Threatened	Wetlands	Southbury
	Piping Plover	Threatened	Coastal Beaches	Milford, Madison and West Haven
	Roseate Tern	Endangered	Coastal beaches, Islands and the Atlantic Ocean	Branford, Guilford and Madison
New London	Piping Plover	Threatened	Coastal Beaches	Old Lyme, Waterford, Groton and Stonington.
	Roseate Tern	Endangered	Coastal beaches, Islands and the Atlantic Ocean	East Lyme and Waterford.
	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Waterford
Tolland	None			

-Eastern cougar, gray wolf, seabeach amaranth and American burying beetle are considered extirpated in Connecticut.

-There is no federally-designated Critical Habitat in Connecticut.

7/31/2008

CT DEP CORRESPONDENCE



STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Bureau of Natural Resources
Wildlife Division
79 Elm Street, 6th Floor
Hartford, CT 06106
Natural Diversity Data Base

September 11, 2009

Ms. Coreen Kelsey
Vanasse Hangen Brustlin, Inc.
54 Tuttle Place
Middletown, CT 06457

re: Construction of a telecommunications Facility (Branford South) for Verizon Wireless at 723 Leetes Island Road in Branford, Connecticut

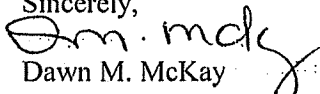
Dear Ms. Kelsey:

I have reviewed Natural Diversity Data Base maps and files regarding the area delineated on the map you provided for the proposed new telecommunication facility at 723 Leetes Island Road in Branford, Connecticut. According to our information there are historic records for Federal and State Endangered *Sterna dougalii* (roseate tern) State Special Concern *Papaipema maritima* (maritime sunflower borer moth) from the vicinity of this project site. I have sent your letter to Julie Victoria (DEP-Wildlife; 860-642-7239) for further review. She will write to you directly with her comments. We also have several state-listed plant species in this area. Our program botanist, Ms. Nancy Murray (DEP-Inland Fisheries, 860-424-3589, nancy.murray@ct.gov) will write to you directly with her comments on the plants in the area.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department's Geological and Natural History Survey and cooperating units of DEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

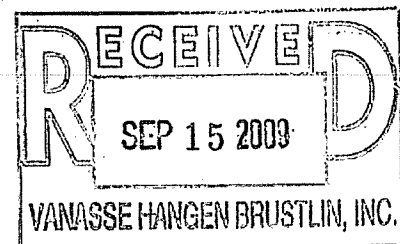
Please contact me if you have further questions at 424-3592. Thank you for consulting the Natural Diversity Data Base. Also be advised that this is a preliminary review and not a final determination. A more detailed review may be conducted as part of any subsequent environmental permit applications submitted to DEP for the proposed site.

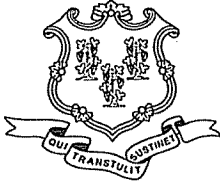
Sincerely,


Dawn M. McKay
Biologist/Environmental Analyst 3

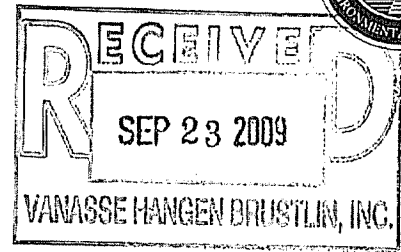
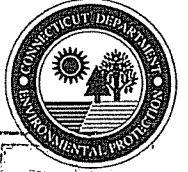
Cc: Julie Victoria, NDDB # 17143
Nancy Murray

(Printed on Recycled Paper)
79 Elm Street • Hartford, CT 06106-5127
www.ct.gov/dep
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STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION



September 17, 2009

Ms. Coreen Kelsey
Vanasse Hangen Brustlin, Inc.
54 Tuttle Place
Middletown, CT 06457

re: telecommunication facility (Branford South) for Verizon Wireless at 723 Leetes Island Road, Branford

Dear Ms. Kelsey:

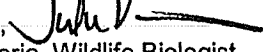
Your request was forwarded to me on 9/16/09 from Dawn McKay of the Department of Environmental Protection's (DEP) Natural Diversity Database (NDDB). Their records indicate that an historic federal and state endangered species, Roseate Tern (*Sterna dougallii*) and a state species of special concern, the maritime sunflower borer moth (*Papaipema maritima*) was recorded in the vicinity of your project.

If this work will affect beach areas and nesting shorebirds then we recommend that work **not be done** during the nesting season (April – mid August). Maritime sunflower borer moths occur on the edges of salt marshes and are associated with the host plant *Heliantheous*. Anything that affects the host plant will affect this species.

Please be advised that the Wildlife Division has not made a field inspection of the project nor have we seen detailed timetables for work to be done. The time of year when this work will take place will affect this species if they are present on the site when construction is scheduled. The Wildlife Division recommends that any work be done during the species' dormant or non-breeding period which is November – April. Disruption or destruction of any host plants will affect this species if they are present on site.

If you are planning to conduct work in any *Papaipema maritima* habitat, the Wildlife Division recommends that a lepidopterist familiar with the habitat requirements of this species conduct surveys. A report summarizing the results of such surveys should include habitat descriptions, invertebrate species list and a statement/resume giving the lepidopterist' qualifications. The DEP doesn't maintain a list of qualified lepidopterists. A DEP Wildlife Division permit may be required by the lepidopterist to conduct survey work, you should ask if your lepidopterist has one. The results of this investigation can be forwarded to the Wildlife Division and, after evaluation, recommendations for additional surveys, if any, will be made.

Please be advised that should state permits be required or should state involvement occur in some other fashion, specific restrictions or conditions relating to the species discussed above may apply. In this situation, additional evaluation of the proposal by the DEP Wildlife Division should be requested. Please be advised that the Wildlife Division has not made a field inspection of any of your project nor have we seen detailed timetables for work to be done. Consultation with the Wildlife Division should not be substituted for site-specific surveys that may be required for environmental assessments. The time of year when this work will take place will affect this species if they are present on the site when the work is scheduled. Please be advised that should state permits be required or should state involvement occur in some other fashion, specific restrictions or conditions relating to the species discussed above may apply. In this situation, additional evaluation of the proposal by the DEP Wildlife Division should be requested. If the proposed project has not been initiated within 6 months of this review, contact the NDDB for an updated review. If you have any additional questions, please feel free to contact me at Julie.Victoria@ct.gov, please reference the NDDB # at the bottom of this letter when you e-mail. Thank you for the opportunity to comment.

Sincerely, 
Julie Victoria, Wildlife Biologist
Franklin Swamp Wildlife Management Area
391 Route 32
N. Franklin, CT 06254

cc: NDDB – 17143

**VHB ENVIRONMENTAL
RESOURCES REVIEW**

**Transportation
Land Development
Environmental
Services**



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

December 3, 2010

Vanasse Hangen Brustlin, Inc.

Ref: 41479.38

Ms. Julie Victoria
Wildlife Biologist
Department of Environmental Protection
Franklin Wildlife Management Area
391 Route 32
N. Franklin, Connecticut 06254

Re: Roseate Tern and Maritime Sunflower Borer Habitat Survey
NDDDB - 17143
Proposed Verizon Wireless Telecommunications
Branford South Facility
723 Leetes Island Road, Branford, CT

Dear Ms. Victoria:

Vanasse Hangen Brustlin, Inc. (VHB) has been retained by Verizon Wireless to review environmental resource information, including threatened or endangered species or designated critical habitats, outlined in 47 CFR Ch.1 § 1.1307 sections (a) and (b) for environmental consequences pursuant to the Federal Communications Commission ("FCC or Commission") requirements. As a licensing agency, the FCC complies with NEPA by requiring its licensees to review their proposed actions for environmental consequences. Rules implementing NEPA are found at Title 47 of the Code of Federal Regulations, Part 1, Subpart I, rule sections 1.1301 to 1.1319.

VHB understands that Verizon Wireless is proposing to construct a new telecommunications facility at 723 Leetes Island Road in Branford, Connecticut (referred to herein as "Site"). A Natural Diversity Data Base (NDDDB) map, depicting the proposed facility location is attached for reference. The proposed facility will consist of a ±109-foot tall stealth monopole tower designed to resemble a rustic-style water tank, concealed (interior-mount) antennas, and associated ground equipment within a fenced-enclosed compound area (referred to herein as "Facility"). Access to the Facility would initially follow an existing woods road/grass path (to be improved as a 12-foot wide gravel access drive) for approximately 275 feet then continue for an additional 100± feet to the proposed compound area in a northeasterly direction through a successional upland forested area. Refer to attached Partial Site/Site Survey Plan, Sheet Number C-1A, dated 11/23/10, for details.

In response to your letter of September 17, 2009 (attached), a habitat survey was conducted in order to determine if suitable roseate tern (*Sterna dougalii*) or maritime sunflower borer moth (*Papaipema maritima*) habitat exists at the Site. As indicated in the September 17th letter, there is

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email: info@vhb.com
www.vhb.com

an historic record of the roseate tern, a federal and state endangered species, and record of maritime sunflower borer moth, a state species of special concern, in the vicinity of the proposed Facility. A summary of our study is provided below.

Site Habitat Survey

An inspection was conducted on November 19, 2010 in order to document the existing habitat types at the Site for evaluation of usage by roseate tern or maritime sunflower borer moth (see attached Habitat Map and Photo Documentation).

The 19.12± acre Site is an agricultural property known as Medlyn Farms, whose operations also extend onto a separate parcel to the north across Leetes Island Road. The Site is developed with a greenhouse in the northwest parcel corner, while the majority of the site is encompassed by various agricultural operations including wood/mulch/compost storage areas near the greenhouse, cultivated fields in the western half of the property, successional upland forest in the central/east portion of the property and a small upland field and two inland wetland areas in the eastern end of the site. An intertidal salt marsh associated with tidally influenced Stony Creek is located along the western property boundary extending off site to the west approximately 1,000 feet from the proposed Facility. A closer tidal salt marsh is located off the subject property 450± feet southeast of the proposed Facility, although it is separated by the Amtrak rail line. Surrounding land use consists of an Amtrak rail line to the south, an intertidal salt marsh associated with Stony Creek to the west, Leetes Island Road and residential development to the north and inland wetlands and residential properties to the east.

The proposed Facility will be located in a successional upland forest area consisting of typical tree sizes ranging from 6 to 14 inches diameter at breast height (DBH) with dominant species including pignut hickory (*Carya glabra*), eastern red cedar (*Juniperus virginiana*), red oak (*Quercus rubra*), tree of heaven (*Ailanthus altissima*), black cherry (*Prunus serotina*), winged euonymus (*Euonymus alatus*), multiflora rose (*Rosa multiflora*), bush honeysuckle (*Lonicera spp.*), European privet (*Ligustrum vulgare*) and common greenbrier (*Smilax rotundifolia*). Soils within the proposed Facility and access drive development areas consist of well drained shallow glacial till soils with exposed bedrock classified as Holyoke-rock outcrop complex (soil symbol - 78). Two inland wetland areas were delineated in proximity to the proposed access drive and Facility areas. A copy of the Wetlands Delineation Report dated September 12, 2009 is enclosed.

Roseate Tern Discussion

Roseate Terns are exclusively marine and typically nest with Common Terns in various habitats on offshore islands or mainland beaches. Roseate Terns prefer sandy, gravelly, or rocky areas with shelter provided by vegetation, debris or rocks¹.



¹ *The Atlas of Breeding Birds of Connecticut*. Louis R. Bevier, Editor. State Geological and Natural History Survey of Connecticut Bulletin 113. Pgs. 148-149.

The subject property does not contain nor is it located near any coastal sandy beaches or offshore islands. The tidal marsh areas located distant to the proposed Facility do not provide suitable nesting habitat as they consist of muddy, organic soils subject to regular tidal inundation. The nearest potential nesting habitat for roseate tern appears to be located at the mouth of Stony Creek in a rocky beach area located over 2,000 feet south of the proposed Facility. Refer to the attached Coastal Habitat Map. The Thimbles islands, which potentially provide tern nesting habitat, are located over 4,000 feet south of the proposed Facility. Since the proposed project is located a significant distance from these potential tern nesting habitat areas, we believe the proposed development will not impact roseate tern and no protective measures or seasonal restrictions would be recommended for the proposed development.

Maritime Sunflower Borer Moth Discussion

As indicated in your letter, maritime sunflower borer moths occur on the edges of salt marshes and are associated with the host plant *Heliantheous* (sunflowers). The proposed project is primarily located in an upland successional forest with a small section of the gravel access drive occurring in a small upland field. The nearest salt marshes on the subject property consist of an intertidal salt marsh associated with tidally influenced Stony Creek located along the western property boundary approximately 1,000 feet west of the proposed Facility. A closer tidal salt marsh is located off the subject property 450± feet southeast of the proposed Facility, although it is separated by the Amtrak rail line. Since the proposed project is located a significant distance from these potential maritime sunflower borer moth habitat areas, the proposed development will not impact maritime sunflower borer moth and, as a result, no protective measures or seasonal restrictions are recommended.

Summary

The proposed Verizon Wireless project will not impact beach, island or salt marsh habitats utilized by the two listed species. Since Verizon's proposed development at this property is significantly distant from these preferred habitats, there would not be an adverse affect on roseate tern or maritime sunflower borer moth. Therefore, no protective measures or seasonal restrictions are recommended.



Ms. Julie Victoria
NDDB - 17143
December 3, 2010
Page 4

We respectfully request a written opinion from your office regarding the potential effect of proposed activities on the federal and state endangered species and state species of special concern in light of documentation contained herein. At your earliest convenience, please forward correspondence to my attention. Thank you in advance for your assistance in this matter.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.


Dean Gustafson
Senior Environmental Scientist

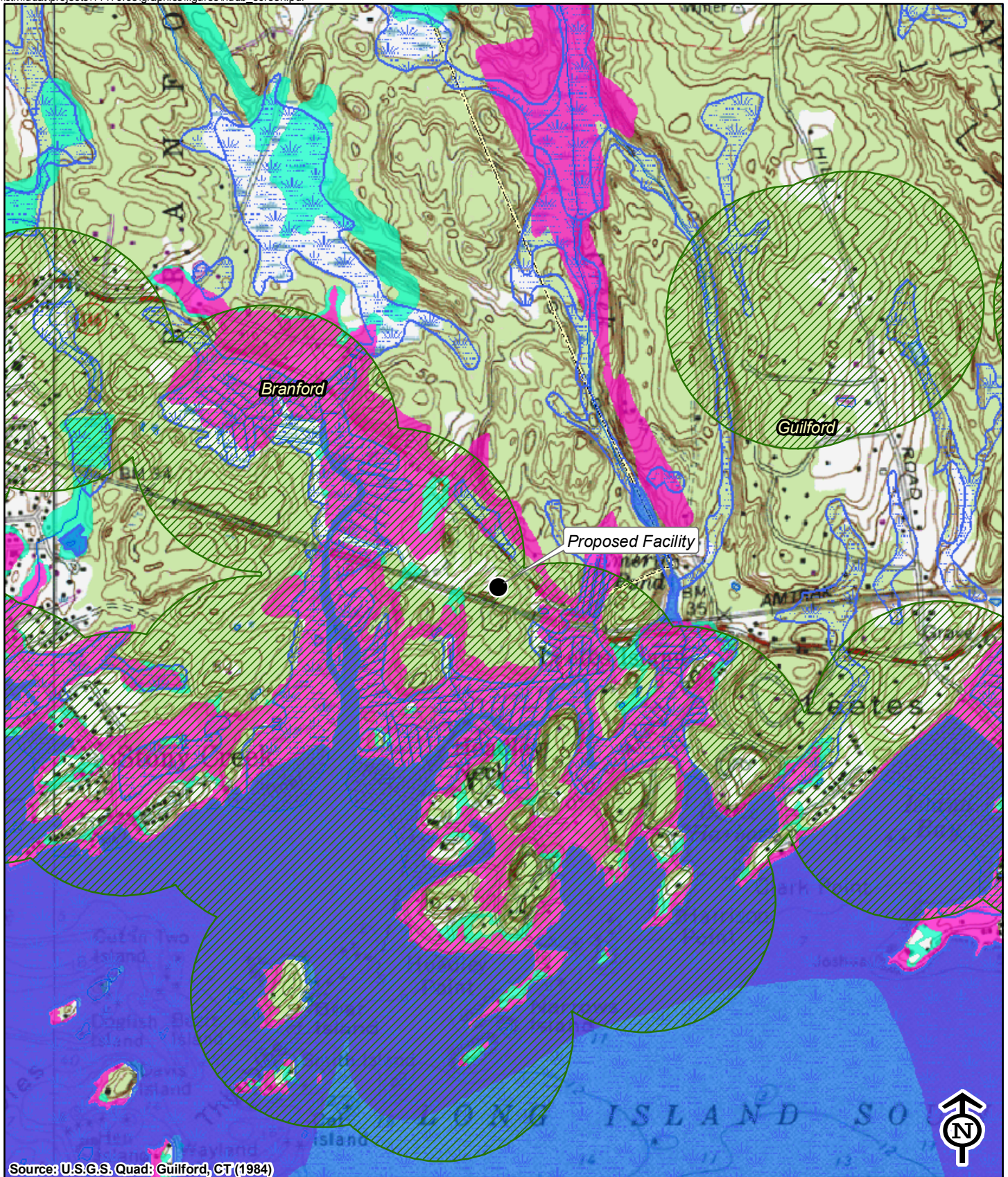
Enclosures

cc: Kenneth C. Baldwin, Robinson & Cole LLP



Natural Diversity Data Base Map

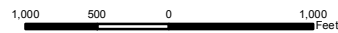




Source: U.S.G.S. Quad: Guilford, CT (1984)

Legend

- Proposed Facility
- ▨ NDDB Areas (buffered; last updated 08/2010)
- Wetlands
- Open Water
- Town Line
- FEMA Flood Zone**
- 100 Year Flood Zone
- 500 Year Flood Zone
- Floodway in Zone AE
- Other Flood Areas



Vanasse Hangen Brustlin, Inc.

Natural Diversity Data Base (NDDB)
 State and Federally-Listed Endangered,
 Threatened, and Special Concern Species
 and Significant Natural Communities Screen
 Proposed Verizon Wireless Facility
 Branford South
 723 Leetes Island Road
 Branford, Connecticut

September 7, 2010



Site Access Map - Sheet C02



SURVEY NOTES

THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300B-1 THRU 20-300B-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES - "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPT. 26, 1996. IT IS DATA ACCUMULATION PLAN AND IS BASED UPON LIMITED FIELD DATA AND REFERENCE MAPS CONFORMING TO HORIZONTAL ACCURACY CLASS TYPE D AND IS INTENDED TO BE USED TO DEPICT A PROPOSED TELECOMMUNICATION SITE.

THE PROPERTY/BOUNDARY LINES DEPICTED HEREON ARE COMPILED FROM OTHER MAPS, DEEDS AND LIMITED FIELD SURVEY. THESE LINES ARE NOT TO BE CONSTRUED AS A BOUNDARY OPINION AND ARE SUBJECT TO CHANGE AS AN ACCURATE FIELD SURVEY MAY DISCLOSE. PROPERTY MAY BE SUBJECT TO ENCUMBRANCES, EASEMENTS, RIGHTS OF WAY AS A TITLE SEARCH REPORT MAY DISCLOSE.

NOT ALL IMPROVEMENTS ARE SHOWN.

VERTICAL DATUM IS BASED ON NGVD 29.

COORDINATES REFER TO NAD 83.

THE INTENTION OF THIS MAP IS TO SHOW THE LOCATION OF THE WIRELESS COMMUNICATIONS FACILITY TO BE CONSTRUCTED BY VERIZON WIRELESS.

REFERENCE IS MADE TO THE FOLLOWING MAPS ENTITLED:

- 1) "RIGHT OF WAY AND TRACK MAP, THE NEW YORK NEW HAVEN AND HARTFORD R.R. COMPANY OPERATED BY THE NEW YORK NEW HAVEN AND HARTFORD R.R. COMPANY, FROM NEW HAVEN TO NEW LONDON, STATION 686+25 TO STATION 739+05, TOWN OF BRANFORD - GUILFORD, SCALE 1"=100', DATED JUNE 30, 1915, BY THE OFFICE OF VALUATION ENGINEER.

PARCEL OWNER OF RECORD: JAMES MEDLYN,
710 LEETES ISLAND ROAD
BRANFORD, CT 06405

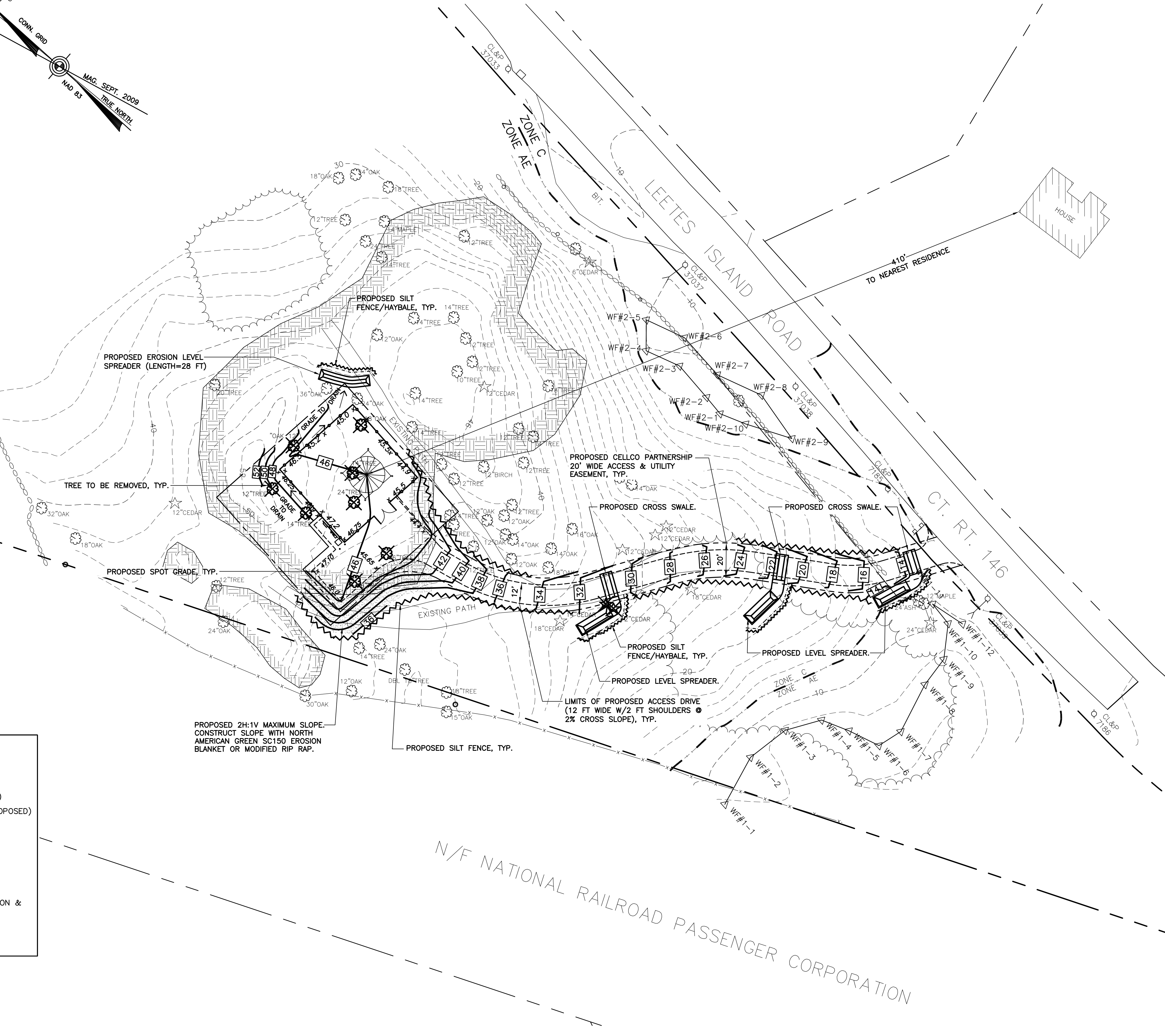
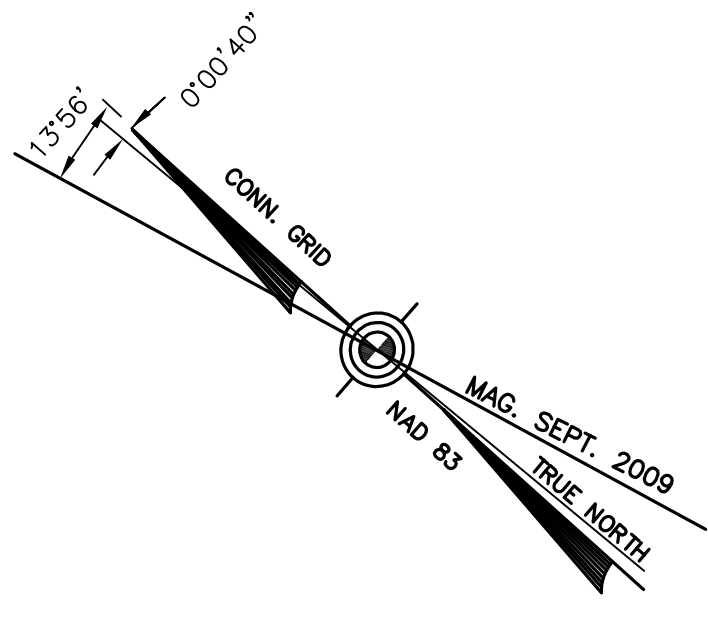
PARCEL KNOWN AS 723 LEETES ISLAND ROAD, BRANFORD, CT

PARCEL AREA =19± ACRES

PARCEL IS IN THE R5 ZONING DISTRICT.

PARCEL MAP K09 BLOCK 004 LOT 008 & 008A BRANFORD ASSESSORS MAP.

PARCEL IS IN THE FLOOD ZONE AE (EL=12) & C ON THE FLOOD INSURANCE RATE MAP, TOWN OF BRANFORD, CONNECTICUT, NEW HAVEN COUNTY, PANEL 8 OF 10, COMMUNITY PANEL NUMBER 090073 0008 C, MAP REVISED APRIL 18, 1983, BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.



SYMBOLS LEGEND

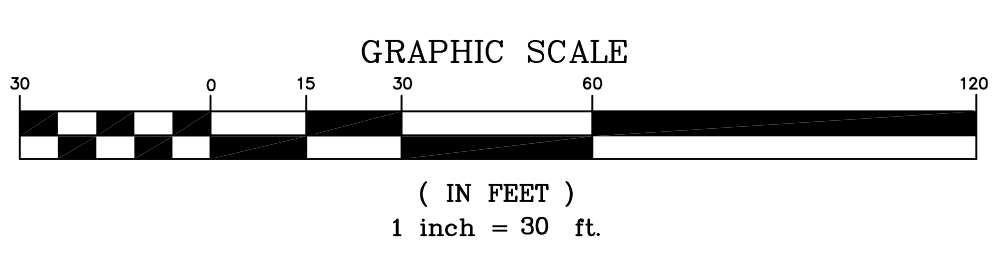
—x—	GUY ANCHOR	—x—	WIRE FENCE LINE
□	SIGN	—	WOOD FENCE LINE
□	MAILBOX	—	OVERHEAD UTILITY
◊	UTILITY POLE (EXISTING)	---	PROPERTY LINE
○	IRON PIPE	---	EASEMENT LINE (PROPOSED)
□	CONC MON	---	GRAVEL ACCESS DRIVE (PROPOSED)
☆	EXISTING CONIFEROUS TREE	---	LEASE LINE (PROPOSED)
○	EXISTING DECIDUOUS TREE	---	CONTOUR LINE
⊗	EXISTING DECIDUOUS TREE TO BE REMOVED	---	GRADING LINE
⊗	EXISTING CONIFEROUS TREE TO BE REMOVED	---	WETLAND BOUNDARY
⊘	STONE WALL (EXISTING)	---	SILT FENCE-EROSION & SEDIMENTATION CONTROL
---	DIRT PATH (EXISTING)	---	SILT FENCE/HAYBALE EROSION & SEDIMENTATION CONTROL
---	CHAINLINK FENCE (PROPOSED)	---	LEDGE
→	GRADE TO DRAIN DIRECTION		

TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON
THIS MAP IS NOT VALID WITHOUT A LIVE SIGNATURE AND SEAL

A. RAFAEL MARTINEZ LLS #18833

DATE

1 SITE / SITE SURVEY PLAN
C-1A SCALE: 1"=30'



DESIGNED BY: OFC	ISSUED FOR CSC - CLIENT REVIEW
DRAWN BY: TSP	DRAWN BY: OFC
CHK'D BY: DMD	DATE: 11/23/10
	REV.
PROFESSIONAL ENGINEER SEAL	
Cellco Partnership d.b.a. Verizon Wireless	
CENTEK engineering <small>Centered on Solutions™</small> (203) 488-0380 (203) 488-5337 Fax 65.2 North Branford Road Branford, CT 06405 www.CentekEng.com	
Cellco Partnership d/b/a Verizon Wireless WIRELESS COMMUNICATIONS FACILITY BRANFORD SOUTH 723 LEETES ISLAND ROAD BRANFORD, CT 06405	
DATE: 11/23/10	SCALE: AS NOTED
JOB NO. 09070	
PARTIAL SITE / SITE SURVEY PLAN	
C-1A	
Sheet No. 3 of 7	

CT DEP letter dated September 17, 2010





STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION



September 17, 2009

Ms. Coreen Kelsey
Vanasse Hangen Brustlin, Inc.
54 Tuttle Place
Middletown, CT 06457

re: telecommunication facility (Branford South) for Verizon Wireless at 723 Leetes Island Road, Branford

Dear Ms. Kelsey:

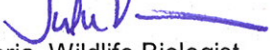
Your request was forwarded to me on 9/16/09 from Dawn McKay of the Department of Environmental Protection's (DEP) Natural Diversity Database (NDDB). Their records indicate that an historic federal and state endangered species, Roseate Tern (*Sterna dougallii*) and a state species of special concern, the maritime sunflower borer moth (*Papaipema maritima*) was recorded in the vicinity of your project.

If this work will affect beach areas and nesting shorebirds then we recommend that work **not be done** during the nesting season (April – mid August). Maritime sunflower borer moths occur on the edges of salt marshes and are associated with the host plant *Heliantheous*. Anything that affects the host plant will affect this species.

Please be advised that the Wildlife Division has not made a field inspection of the project nor have we seen detailed timetables for work to be done. The time of year when this work will take place will affect this species if they are present on the site when construction is scheduled. The Wildlife Division recommends that any work be done during the species' dormant or non-breeding period which is November – April. Disruption or destruction of any host plants will affect this species if they are present on site.

If you are planning to conduct work in any *Papaipema maritima* habitat, the Wildlife Division recommends that a lepidopterist familiar with the habitat requirements of this species conduct surveys. A report summarizing the results of such surveys should include habitat descriptions, invertebrate species list and a statement/resume giving the lepidopterist' qualifications. The DEP doesn't maintain a list of qualified lepidopterists. A DEP Wildlife Division permit may be required by the lepidopterist to conduct survey work, you should ask if your lepidopterist has one. The results of this investigation can be forwarded to the Wildlife Division and, after evaluation, recommendations for additional surveys, if any, will be made.

Please be advised that should state permits be required or should state involvement occur in some other fashion, specific restrictions or conditions relating to the species discussed above may apply. In this situation, additional evaluation of the proposal by the DEP Wildlife Division should be requested. Please be advised that the Wildlife Division has not made a field inspection of any of your project nor have we seen detailed timetables for work to be done. Consultation with the Wildlife Division should not be substituted for site-specific surveys that may be required for environmental assessments. The time of year when this work will take place will affect this species if they are present on the site when the work is scheduled. Please be advised that should state permits be required or should state involvement occur in some other fashion, specific restrictions or conditions relating to the species discussed above may apply. In this situation, additional evaluation of the proposal by the DEP Wildlife Division should be requested. If the proposed project has not been initiated within 6 months of this review, contact the NDDB for an updated review. If you have any additional questions, please feel free to contact me at Julie.Victoria@ct.gov, please reference the NDDB # at the bottom of this letter when you e-mail. Thank you for the opportunity to comment.

Sincerely, 
Julie Victoria, Wildlife Biologist
Franklin Swamp Wildlife Management Area
391 Route 32
N. Franklin, CT 06254

cc: NDDB – 17143

Habitat Map



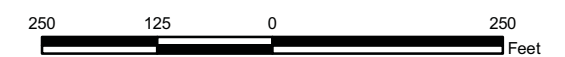
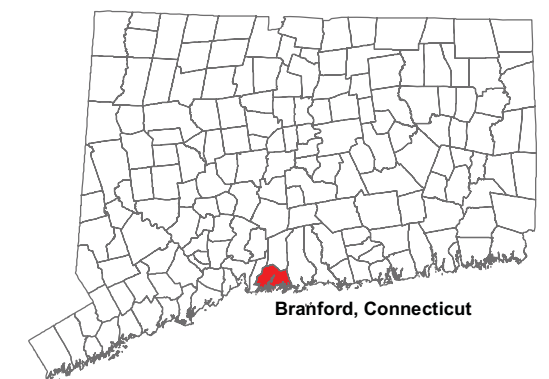
Proposed Verizon Wireless Facility Habitat Map

Medlyn Farms Property
723 Leetes Island Road
Branford, Connecticut

Legend

- Proposed Site Location
- Proposed Access Road
- Proposed Compound Area
- Site Parcel
- Assessor Parcel Boundary
- Delineation Inland Wetland Boundary
- Delineated Wetlands
- Critical Habitat (CTDEP, 03/26/2010)
- Wetlands (CTDEP, 2005)
- Open Water
- Town Line

Base Map Source: AirPhoto USA 2006 Aerial
Photography with 1-foot resolution.



VHB Vanasse Hangen Brustlin, Inc.



Coastal Habitat Map



Proposed Verizon Wireless Facility Coastal Habitat Map

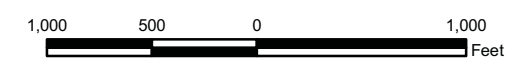
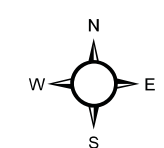
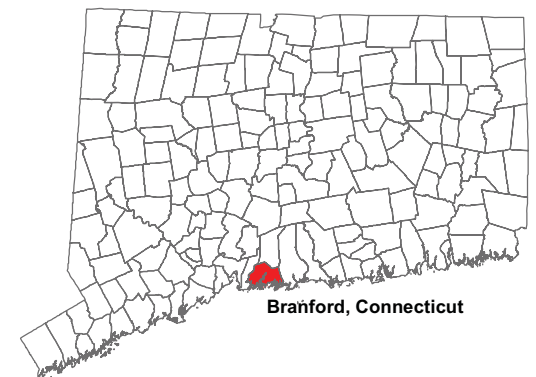
Medlyn Farms Property
723 Leetes Island Road
Branford, Connecticut



Legend

- Proposed Site Location
- Site Parcel
- Open Water
- Town Line

Base Map Source: AirPhoto USA 2006 Aerial
Photography with 1-foot resolution.



VHB Vanasse Hangen Brustlin, Inc.

Photograph Documentation



Vanasse Hangen Brustlin, Inc.
PHOTO DOCUMENTATION
Proposed Verizon Wireless Facility
723 Leetes Island Road, Branford, Connecticut
November 19, 2010



Photo 1: View of existing grass farm road entrance off Leetes Island Road, looking north.



Photo 2: View of existing grass farm road, looking south (Amtrak rail line in background).

Vanasse Hangen Brustlin, Inc.
PHOTO DOCUMENTATION
Proposed Verizon Wireless Facility
723 Leetes Island Road, Branford, Connecticut
November 19, 2010



Photo 3: View of small field near farm road entrance from Leetes Island Road, looking west.



Photo 4: View of small field with delineated inland wetland area in background of photo (common reed), looking east.

Vanasse Hangen Brustlin, Inc.
PHOTO DOCUMENTATION
Proposed Verizon Wireless Facility
723 Leetes Island Road, Branford, Connecticut
November 19, 2010



Photo 5: View of farm road from small field to successional forest area, looking west.



Photo 6: View of farm road in successional forest habitat, looking west.

Vanasse Hangen Brustlin, Inc.
PHOTO DOCUMENTATION
Proposed Verizon Wireless Facility
723 Leetes Island Road, Branford, Connecticut
November 19, 2010



Photo 7: View of proposed Facility in successional forest, looking north.



Photo 8: View of Amtrak rail line near proposed Facility, looking east.

Vanasse Hangen Brustlin, Inc.
PHOTO DOCUMENTATION
Proposed Verizon Wireless Facility
723 Leetes Island Road, Branford, Connecticut
November 19, 2010



Photo 9: View of cultivated agricultural fields near the proposed Facility, looking west.



Photo 10: View of Stony Creek intertidal marsh located in western end of subject property, looking west/northwest.

Wetlands Delineation Report





WETLANDS DELINEATION REPORT

Vanasse Hangen Brustlin, Inc.

Date: September 12, 2009
Project No.: 41479.38
Prepared For: Ms. Alexandria Carter
Verizon Wireless
99 East River Drive
East Hartford, Connecticut 06108
Site Location: Branford South
Medlyn Farm
723 Leetes Island Road
Branford, Connecticut

Site Map: VHB Wetland Sketch, 08/15/09

Inspection Date: August 15, 2009

Field Conditions: Weather: sunny, low 90's General Soil Moisture: moist
Snow Depth: N/A Frost Depth: N/A

Type of Wetlands Identified and Delineated:

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

Inland Wetland Regulated Upland Review Areas: Wetlands: 100 feet* Watercourses: 100 feet*
*also includes activities that are likely to impact or affect wetlands or watercourses

Field Numbering Sequence of Wetlands Boundary: WF 1-01 to 1-12; WF 2-01 to 2-10; WF 3-01 to 3-05

[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

Attachments



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

Wetland Delineation Field Form

Project Address:	723 Leetes Island Road Branford, Connecticut	Project Number:	41479.38
Inspection Date:	August 15, 2009	Inspector:	Dean Gustafson, PSS
Wetland I.D.:	Wetland 1		

Field Conditions:	Weather: sunny, low 90's	Snow Depth: 0 inches
	General Soil Moisture: moist	Frost Depth: 0 inches
Type of Wetland Delineation:	Connecticut <input checked="" type="checkbox"/>	
	ACOE <input type="checkbox"/>	
	Tidal <input type="checkbox"/>	
Field Numbering Sequence: WF 1-01 to 1-12		

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded <input type="checkbox"/>	Artificially Flooded <input type="checkbox"/>	Permanently Flooded <input type="checkbox"/>
Semipermanently Flooded <input type="checkbox"/>	Seasonally Flooded <input checked="" type="checkbox"/>	Temporarily Flooded <input type="checkbox"/>
Permanently Saturated <input type="checkbox"/>	Seasonally Saturated – seepage <input checked="" type="checkbox"/>	Seasonally Saturated - perched <input type="checkbox"/>
Comments:		

TIDAL

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

WETLAND TYPE:

SYSTEM:

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

CLASS:

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

WATERCOURSE TYPE:

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

SPECIAL AQUATIC HABITAT:

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

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Cheshire-Holyoke complex (77)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Wilbraham and Menlo soils, extremely stony (6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DOMINANT PLANTS:

red maple (<i>Acer rubrum</i>)	black gum (<i>Nyssa nigra</i>)
winterberry (<i>Ilex verticillata</i>)	highbush blueberry (<i>Vaccinium corymbosum</i>)
New York ironweed (<i>Vernonia noveboracensis</i>)	soft rush (<i>Juncus effusus</i>)
common reed (<i>Phragmites australis</i>)	rice cut grass (<i>Leersia oryzoides</i>)
joe pye weed (<i>Eupatoriadelphus dubius</i>)	arrowleaf tearthumb (<i>Polygonum sagittatum</i>)

WETLAND NARRATIVE:

Wetland 1 is a hillside seep wetland located in the eastern end of the subject property at the based of a sloped field. The wetland is bound to the north by Leetes Island Road and to the south by the Amtrak railroad tracks. This wetland area contains forest, shrub and emergent plant communities with common reed dominating the emergent plant community. The wetland is within 40± feet of the proposed access drive, which follows an existing path through the field and woods from Leetes Island Road. The proposed wireless telecommunications facility is located more than 200 feet to the west from this wetland area.

Wetland Delineation Field Form

Project Address:	723 Leetes Island Road Branford, Connecticut	Project Number:	41479.38
Inspection Date:	August 15, 2009	Inspector:	Dean Gustafson, PSS
Wetland I.D.:	Wetland 2		

Field Conditions:	Weather: sunny, low 90's	Snow Depth: 0 inches
	General Soil Moisture: moist	Frost Depth: 0 inches
Type of Wetland Delineation:	Connecticut <input checked="" type="checkbox"/>	
	ACOE <input type="checkbox"/>	
	Tidal <input type="checkbox"/>	
Field Numbering Sequence: WF 2-01 to 2-10		

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded <input type="checkbox"/>	Artificially Flooded <input type="checkbox"/>	Permanently Flooded <input type="checkbox"/>
Semipermanently Flooded <input type="checkbox"/>	Seasonally Flooded <input checked="" type="checkbox"/>	Temporarily Flooded <input type="checkbox"/>
Permanently Saturated <input type="checkbox"/>	Seasonally Saturated – seepage <input type="checkbox"/>	Seasonally Saturated - perched <input checked="" type="checkbox"/>
Comments: artificial seasonal impoundment from Leetes Island Road		

TIDAL

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

WETLAND TYPE:

SYSTEM:

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

CLASS:

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

WATERCOURSE TYPE:

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

SPECIAL AQUATIC HABITAT:

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

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Cheshire-Holyoke complex (77)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Wilbraham and Menlo soils, extremely stony (6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DOMINANT PLANTS:

red maple (<i>Acer rubrum</i>)	black gum (<i>Nyssa nigra</i>)
northern arrowwood (<i>Viburnum dentatum</i>)	winterberry (<i>Ilex verticillata</i>)

WETLAND NARRATIVE:

Wetland two is a small isolated wetland just south of Leetes Island Road and north of the proposed tower location. This forested wetland feature's hydrology is artificially created by impoundment from Leetes Island Road which allows no drainage relief from the wetland. This wetland is located over 200 feet to the northeast from the proposed wireless telecommunications facility.

Wetland Delineation Field Form

Project Address:	723 Leetes Island Road Branford, Connecticut	Project Number:	41479.38
Inspection Date:	August 15, 2009	Inspector:	Dean Gustafson, PSS
Wetland I.D.:	Wetland 3		

Field Conditions:	Weather: sunny, low 90's	Snow Depth: 0 inches
	General Soil Moisture: moist	Frost Depth: 0 inches
Type of Wetland Delineation:	Connecticut <input checked="" type="checkbox"/>	
	ACOE <input type="checkbox"/>	
	Tidal <input type="checkbox"/>	
Field Numbering Sequence: WF 3-01 to 3-05		

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded <input type="checkbox"/>	Artificially Flooded <input type="checkbox"/>	Permanently Flooded <input type="checkbox"/>
Semipermanently Flooded <input type="checkbox"/>	Seasonally Flooded <input type="checkbox"/>	Temporarily Flooded <input checked="" type="checkbox"/>
Permanently Saturated <input type="checkbox"/>	Seasonally Saturated – seepage <input type="checkbox"/>	Seasonally Saturated - perched <input type="checkbox"/>
Comments: roadside drainage ditch has intercepted the seasonal high groundwater table		

TIDAL

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

WETLAND TYPE:

SYSTEM:

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

CLASS:

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

WATERCOURSE TYPE:

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

SPECIAL AQUATIC HABITAT:

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

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Cheshire-Holyoke complex (77)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Wilbraham and Menlo soils, extremely stony (6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

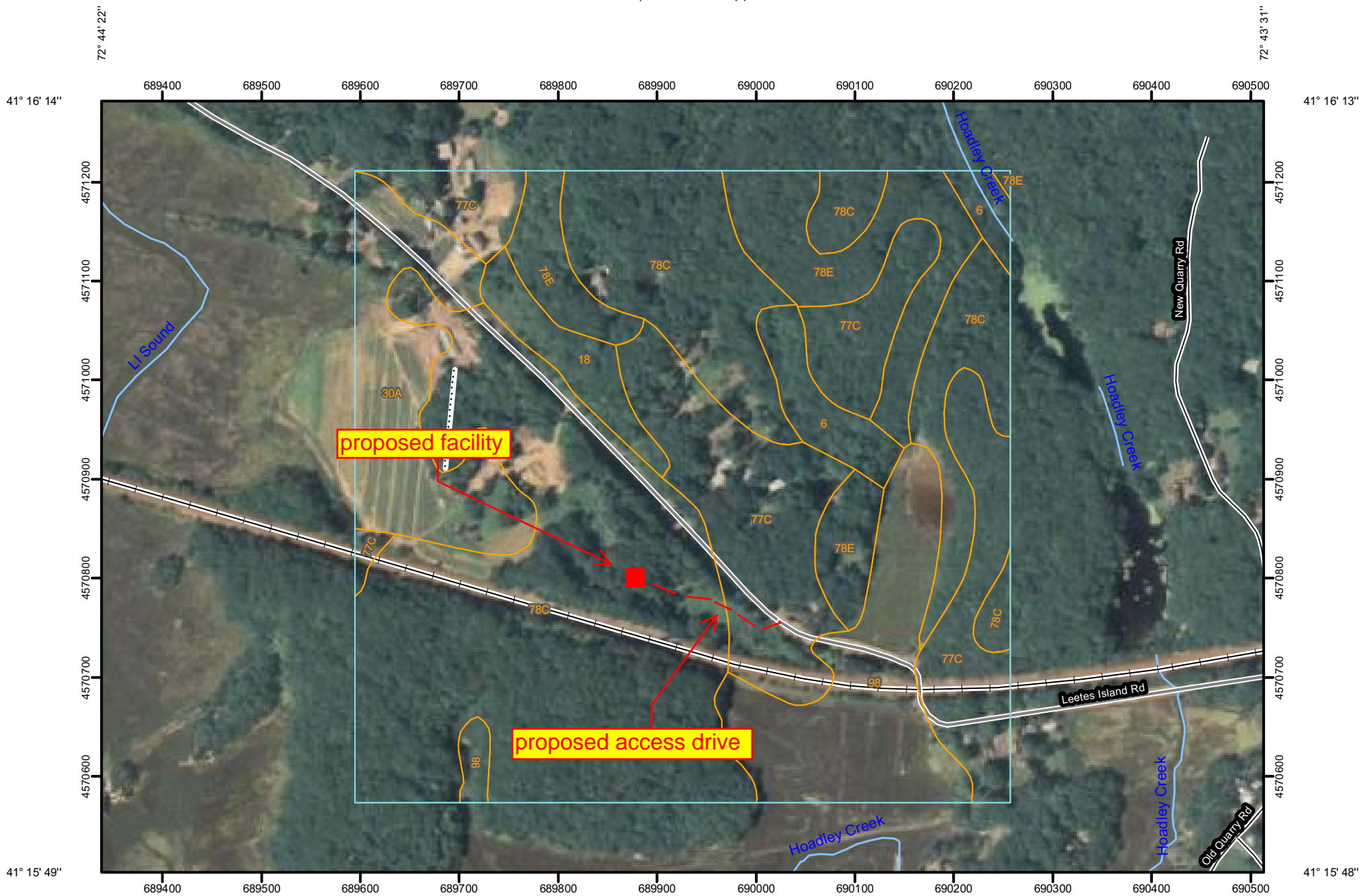
DOMINANT PLANTS:

pepperbush (<i>Croton humilis</i>)	jewelweed (<i>Impatiens capensis</i>)
bebb willow (<i>Salix bebbiana</i>)	winterberry (<i>Ilex verticillata</i>)

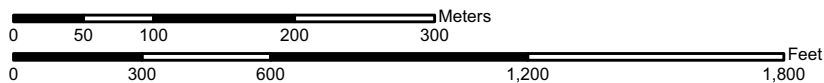
WETLAND NARRATIVE:

Wetland 3 is a drainage ditch that follows east to west along the south side of Leetes Island Road. This dug ditch receives stormwater runoff from Leetes Island Road as well as intercepts the season high groundwater table. Wetland 3 is located more than 150 feet north of the proposed wireless telecommunications facility.

Soil Map—State of Connecticut
(Site 1 Soil Map)




Map Scale: 1:5,570 if printed on A size (8.5" x 11") sheet.



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: 1:5,570 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 6, Mar 22, 2007

Date(s) aerial images were photographed: 8/13/2006

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
6	Wilbraham and Menlo soils, extremely stony	3.2	3.1%
18	Catden and Freetown soils	2.6	2.5%
30A	Branford silt loam, 0 to 3 percent slopes	9.2	8.8%
77C	Cheshire-Holyoke complex, 3 to 15 percent slopes, very rocky	20.8	19.9%
78C	Holyoke-Rock outcrop complex, 3 to 15 percent slopes	47.3	45.3%
78E	Holyoke-Rock outcrop complex, 15 to 45 percent slopes	10.5	10.1%
98	Westbrook mucky peat	10.7	10.3%
Totals for Area of Interest		104.3	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: 6—Wilbraham and Menlo soils, extremely stony

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

Map Unit: 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: 30A—Branford silt loam, 0 to 3 percent slopes

Branford Silt Loam, 0 To 3 Percent Slopes This map unit is in the Connecticut Valley Major Land Resource Area. The mean annual precipitation is 38 to 50 inches (965 to 1270 millimeters) and the average annual air temperature is 45 to 52 degrees F. (7 to 11 degrees C.) This map unit is 80 percent Branford soils. 20 percent minor components.

Branford soils This component occurs on valley and outwash plain terrace landforms. The parent material consists of eolian deposits over glaciofluvial deposits derived from basalt, sandstone and shale. 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 well drained. The slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 6.3 inches (high) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is 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 8 inches; silt loam 8 to 18 inches; loam 18 to 24 inches; gravelly loam 24 to 65 inches; stratified very gravelly coarse sand to loamy fine sand

Map Unit: 77C—Cheshire-Holyoke complex, 3 to 15 percent slopes, very rocky

Cheshire-Holyoke Complex, 3 To 15 Percent Slopes, Very Rocky This map unit is in the Connecticut Valley Major Land Resource Area. The mean annual precipitation is 40 to 50 inches (1016 to 1270 millimeters) and the average annual air temperature is 45 to 54 degrees F. (7 to 12 degrees C.) This map unit is 45 percent Cheshire soils, 35 percent Holyoke soils. 20 percent minor components.

Cheshire soils This component occurs on till plain and upland landforms. The parent material consists of melt-out till derived from sandstone, shale, and basalt. 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 8.4 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 8 inches; fine sandy loam 8 to 16 inches; fine sandy loam 16 to 26 inches; fine sandy loam 26 to 65 inches; gravelly sandy loam

Holyoke soils This component occurs on ridge and upland landforms. The parent material consists of eolian deposits over melt-out till derived from sandstone, shale, and basalt. The slope ranges from 3 to 15 percent and the runoff class is medium. The depth to a restrictive feature is 10 to 20 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 2.7 inches (low) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is 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; silt loam 3 to 8 inches; silt loam 8 to 18 inches; gravelly silt loam 18 to 28 inches; unweathered bedrock

Map Unit: 78C—Holyoke-Rock outcrop complex, 3 to 15 percent slopes

Holyoke-Rock Outcrop Complex, 3 To 15 Percent Slopes This map unit is in the Connecticut Valley Major Land Resource Area. The mean annual precipitation is 40 to 50 inches (1016 to 1270 millimeters) and the average annual air temperature is 46 to 54 degrees F. (8 to 12 degrees C.) This map unit is 50 percent Holyoke soils, 25 percent Rock Outcrop. 25 percent minor components. Holyoke soils This component occurs on ridge and upland landforms. The parent material consists of eolian deposits over melt-out till derived from sandstone, shale, and basalt. The slope ranges from 3 to 15 percent and the runoff class is medium. The depth to a restrictive feature is 10 to 20 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 2.7 inches (low) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is 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; silt loam 3 to 8 inches; silt loam 8 to 18 inches; gravelly silt loam 18 to 28 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

Map Unit: 78E—Holyoke-Rock outcrop complex, 15 to 45 percent slopes

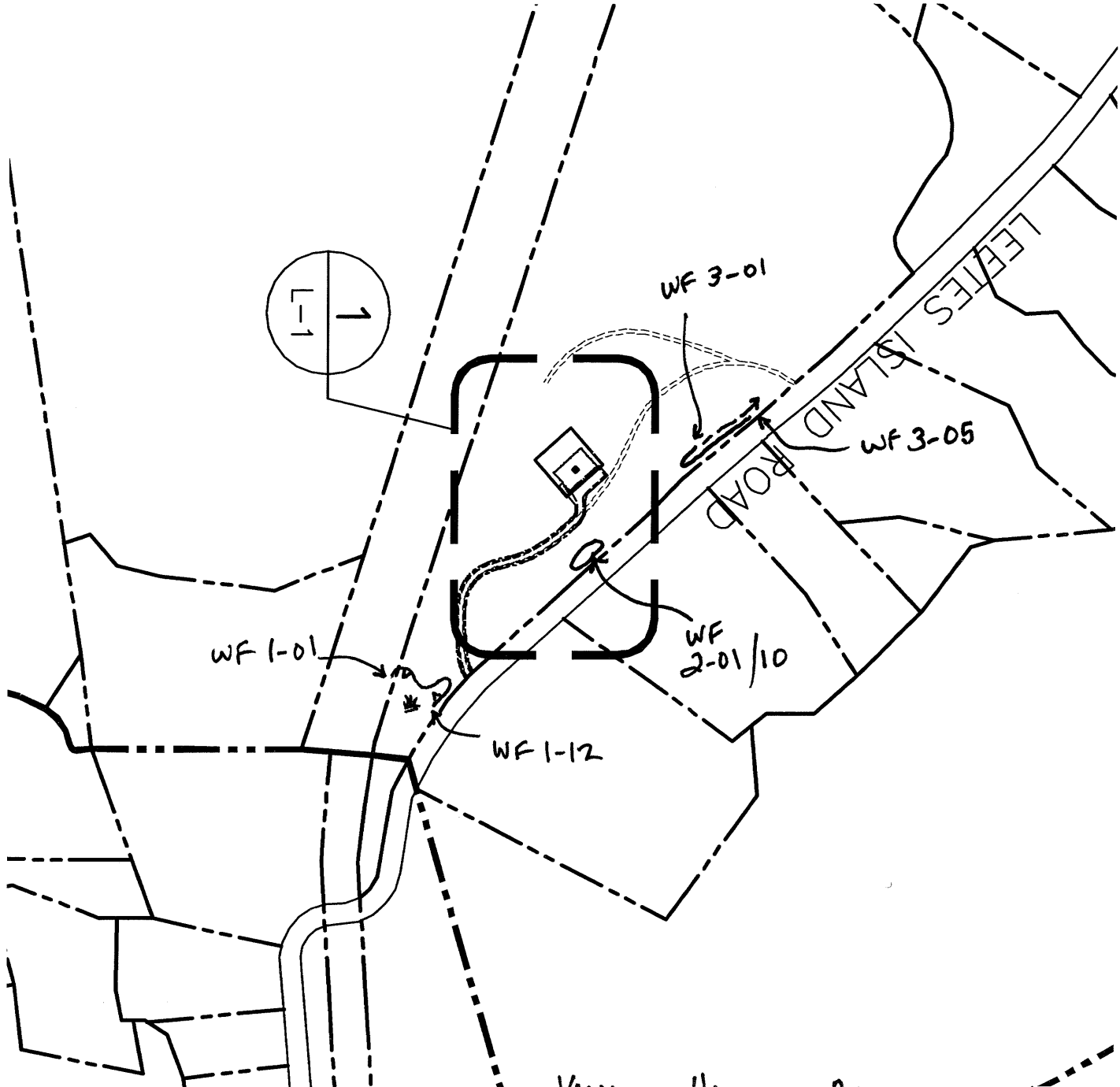
Holyoke-Rock Outcrop Complex, 15 To 45 Percent Slopes This map unit is in the Connecticut Valley Major Land Resource Area. The mean annual precipitation is 40 to 50 inches (1016 to 1270 millimeters) and the average annual air temperature is 46 to 54 degrees F. (8 to 12 degrees C.) This map unit is 50 percent Holyoke soils, 25 percent Rock Outcrop. 25 percent minor components. Holyoke soils This component occurs on ridge and upland landforms. The parent material consists of eolian deposits over melt-out till derived from sandstone, shale, and basalt. The slope ranges from 15 to 45 percent and the runoff class is very high. The depth to a restrictive feature is 10 to 20 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 2.7 inches (low) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is 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; silt loam 3 to 8 inches; silt loam 8 to 18 inches; gravelly silt loam 18 to 28 inches; unweathered bedrock
Rock Outcrop This component occurs on bedrock controlled landforms. The slope ranges from 15 to 45 percent and the runoff class is very high. The Nonirrigated Land Capability Class is 8

Map Unit: 98—Westbrook mucky peat

Westbrook Mucky Peat This map unit is in the New England and Eastern New York Upland, Southern Part Connecticut Valley Major Land Resource Area. The mean annual precipitation is 40 to 50 inches (1016 to 1270 millimeters) and the average annual air temperature is 48 to 52 degrees F. (9 to 11 degrees C.) This map unit is 80 percent Westbrook soils. 20 percent minor components. Westbrook soils This component occurs on coastal plain salt marsh and tidal marsh landforms. The parent material consists of herbaceous organic material over loamy drift or marine deposits. The slope ranges from 0 to 2 percent and the runoff class is negligible. The depth to a restrictive feature is 0 to 51 inches to salic. The drainage class is very poorly drained. The slowest permeability within 60 inches is about 0.00 in/hr (very slow), with about 4.4 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 8.4 LEP (high). The flooding frequency for this component is frequent. The ponding hazard is frequent. The minimum depth to a seasonal water table, when present, is about 6 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 60 mmhos/cm (strongly saline). The Nonirrigated Land Capability Class is 8 Typical Profile: 0 to 10 inches; mucky peat 10 to 40 inches; mucky peat 40 to 48 inches; mucky peat 48 to 64 inches; silt loam 64 to 99 inches; silt loam

Data Source Information

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




VANASSE HANGEN BRUSTLIN, INC.

WETLAND SKETCH 8/15/09

VERIZON WIRELESS

BRANFORD SOUTH
 LOCATION 1
 723 LEETES ISLAND RD.
 BRANFORD, CT

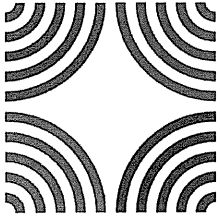
DEG



NATCO
CONSULTING

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 w: nat-eng.com e: info@
 63-2 N. Branford Rd. Br

SHPO REVIEW



Connecticut Commission on Culture & Tourism

November 2, 2010

Historic Preservation
and Museum Division

One Constitution Plaza
Second Floor
Hartford, Connecticut
06103

860.256.2800
860.256.2763 (f)

Ms. Coreen Kelsey
VHB Inc.
54 Tuttle Place
Middletown, CT 06457-1847

Subject: Proposed Stealth Water Tower Telecommunication Facility
723 Leetes Island Road
Branford, Connecticut
Verizon Wireless/ATT&T

Dear Ms. Kelsey:

The State Historic Preservation Office is in receipt of additional information for above-referenced project, as well as VHB's proposed plan for stealthing, submitted for review and comment pursuant to the National Historic Preservation Act and in accordance with Federal Communications Commission regulations.

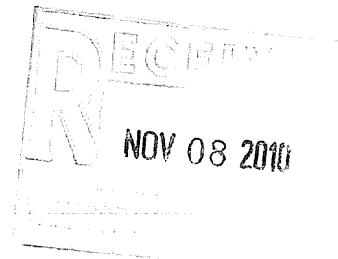
In the opinion of this office, the proposed undertaking will have no adverse effect on the Route 146 National Register Historic District with the following conditions:

- the stealth water tower structure shall not exceed 109' in height, and
- if not in use for six consecutive months, the structure, antennae and equipment shall be removed by the telecommunications facility owner. This removal shall occur within 90 days of the end of such six-month period. Upon removal, the property shall be restored by the facility owner to its historically appropriate appearance and materials.

The State Historic Preservation Office appreciates the opportunity to provide VHB with this evaluation. Please contact Susan Chandler, Historical Architect, should you have additional questions concerning this matter.

Sincerely,

David Bahlman
Division Director and Deputy
State Historic Preservation Officer



CONNECTICUT

www.cultureandtourism.org

Baldwin, Kenneth

From: Chandler, Susan [Susan.Chandler@ct.gov]
Sent: Monday, October 18, 2010 5:28 AM
To: Baldwin, Kenneth
Subject: FW: Medlyn Farm Cell Tower Proposal

Hi Ken -

As requested.

I am out all day today with DEP, but back in the office for at least some of tomorrow.

Best, Susan

From: karyleehall1@aol.com [karyleehall1@aol.com]
Sent: Tuesday, October 12, 2010 5:00 PM
To: Chandler, Susan
Subject: Medlyn Farm Cell Tower Proposal

Dear Ms. Chandler,

I am the co-chair of the Scenic Roads Advisory Committee for Route 146. It is my understanding that you suggested that Verizon contact us with regard to the Medlyn Farm cell tower proposal for which I thank you. The committee members met with Verizon representatives recently to discuss the tower design and related issues. While we were in favor of the water tower design and grateful for your efforts to encourage a creative approach, we are now concerned about the tower's height. It is our understanding that the original proposal was for an approximately 90' tower. Now, because of the needs of a potential co-locating company, AT&T, it may be that the tower will need to be more than 100'. Clearly, the higher the tower, the less likely that the tower will blend into the landscape, which we assumed was the goal of the design. I know that you share our concern about the integrity of the scenic quality of the road. I was wondering if you could share the position of your office concerning the height issue. If you have time to talk briefly by telephone, my cell phone number is 203-996-4719.

Thanks again for suggesting that Verizon contact us.

Sincerely,

Karyl Lee Hall



C Squared Systems, LLC
920 Candia Road
Manchester, NH 03109
Phone: (603) 657 9702
support@csquaredsystems.com

Calculated Radio Frequency Emissions



Branford South

723 Leetes Island Road

Branford, CT 06405

November 15, 2010

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1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed Verizon Wireless stealth “water tank” monopole tower to be located at 723 Leetes Island Road in Branford, CT. AT&T and T-Mobile also plan to collocate on the tower. The coordinates of the proposed tower are 41-15-59.12 N, 72-43-59.79 W.

Verizon Wireless is proposing the following:

- 1) Install three 700 MHz LTE antennas (one per sector);
- 2) Install six 850 MHz Cellular antennas (two per sector);
- 3) Install six 1900 MHz PCS antennas (two per sector).

AT&T is proposing the following:

- 1) Install nine dualband antennas (three per sector).

T-Mobile is proposing the following:

- 1) Install three PCS/AWS band antennas (three per sector).

This report uses the actual proposed antenna configuration for all carriers to provide a representation of the resulting cumulative %MPE for this installation.

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the attached “FCC Limits for Maximum Permissible Exposure (MPE)” in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{\text{EIRP}}{\pi \times R^2} \right) \times \text{Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

R = Radial Distance = $\sqrt{(H^2 + V^2)}$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Off Beam Loss is determined by the selected antenna patterns

Ground reflection factor of 1.6

These calculations assume that the antennas are operating at 100 percent capacity, that all antenna channels are transmitting simultaneously, and that the radio transmitters are operating at full power. Obstructions (trees, buildings, etc...) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the finished installation.

The percent of MPE values presented in this report reflect levels that one may encounter from one sector of each carrier's antennas. Most carriers use 3 sectors per site with azimuths approximately 120 degrees apart, therefore one could not be standing in the main beam of all 3 sectors at the same time. Although carriers are free to orient their antennas in whichever direction necessary to support their network coverage objectives, this report assumes that all carriers are using the same azimuth for each sector. In cases where antenna models are not uniform across all 3 sectors, the antenna model with the highest gain was used for the calculations. This results in a conservative or "worst case" assumption for percent of MPE calculations.

4. Proposed Antenna Inventory

Table 1 below outlines the proposed antenna configuration to be installed on the tower. The associated data sheets and antenna patterns for these specific antenna models are included in Attachments C, D, & E.

Carrier	Height AGL (feet)	Antenna Model	TX Freq (MHz)	Power at Antenna/ Channel (Watts)	Ant Gain (dBd)	Ant Length (feet)	Beam Width	Mech Down Tilt
Verizon	90	DB846F65ZAXY	850	20	14.5	6	65	0
Verizon	90	LPA-185063/12CF	1900	16	16.4	6	63	0
Verizon	90	BXA-70063/6CF	750	40	14.0	6	65	0
Verizon	90	LPA-185063/12CF	1900	16	16.4	6	63	0
Verizon	90	DB846F65ZAXY	850	20	14.5	6	65	0
Verizon	90	DB846F65ZAXY	850	20	14.5	6	65	0
Verizon	90	LPA-185063/12CF	1900	16	16.4	6	63	0
Verizon	90	BXA-70063/6CF	750	40	14.0	6	65	0
Verizon	90	LPA-185063/12CF	1900	16	16.4	6	63	0
Verizon	90	DB846F65ZAXY	850	20	14.5	6	65	0
Verizon	90	DB846F65ZAXY	850	20	14.5	6	65	0
Verizon	90	LPA-185063/12CF	1900	16	16.4	6	63	0
Verizon	90	BXA-70063/6CF	750	40	14.0	6	65	0
Verizon	90	LPA-185063/12CF	1900	16	16.4	6	63	0
Verizon	90	DB846F65ZAXY	850	20	14.5	6	65	0
AT&T	100	P90-15-XLH-RR	850	35.5	12.4	6	84	0
			1900	24	13.9		80	
AT&T	100	P90-15-XLH-RR	750	40	11.7	6	86	0
			2100	28.2	14.2		80	
AT&T	100	P90-15-XLH-RR	850	20	12.4	6	84	0
			1900	24	13.9		80	
AT&T	100	P90-15-XLH-RR	850	35.5	12.4	6	84	0
			1900	24	13.9		80	
AT&T	100	P90-15-XLH-RR	750	40	11.7	6	86	0
			2100	28.2	14.2		80	
AT&T	100	P90-15-XLH-RR	850	20	12.4	6	84	0
			1900	24	13.9		80	
AT&T	100	P90-15-XLH-RR	850	35.5	12.4	6	84	0
			1900	24	13.9		80	
AT&T	100	P90-15-XLH-RR	750	40	11.7	6	86	0
			2100	28.2	14.2		80	
AT&T	100	P90-15-XLH-RR	850	20	12.4	6	84	0
			1900	24	13.9		80	
T-Mobile	80	APX16DWV-16DWV-S	1900	20	16.0	4.5	65	0
			2100	40				
T-Mobile	80	APX16DWV-16DWV-S	1900	20	16.0	4.5	65	0
			2100	40				
T-Mobile	80	APX16DWV-16DWV-S	1900	20	16.0	4.5	65	0
			2100	40				

Table 1: Proposed Tower Antenna Inventory¹

¹ All information for Verizon and AT&T was obtained directly from each carrier. Information for T-Mobile was taken from a recent collocation in Greenwich, CT. The antennas and power levels used represent what T-Mobile commonly installs in this area of the Connecticut market.

5. Calculation Results

The calculated power density results are shown in Figure 1 below. Each frequency band and technology is calculated (one line is displayed to represent the combination of all technologies per carrier) as well as the resulting total percent of MPE. For completeness, the calculations for this analysis range from 0 feet horizontal distance (directly below the antennas) to a value of 3000 feet horizontal distance from the antennas. In addition to the other worst case scenario considerations that were previously mentioned, the power density calculations to each horizontal distance point away from the antennas were completed using a local maximum off beam antenna gain (within ± 5 degrees of the true mathematical angle) to incorporate a realistic worst case scenario.

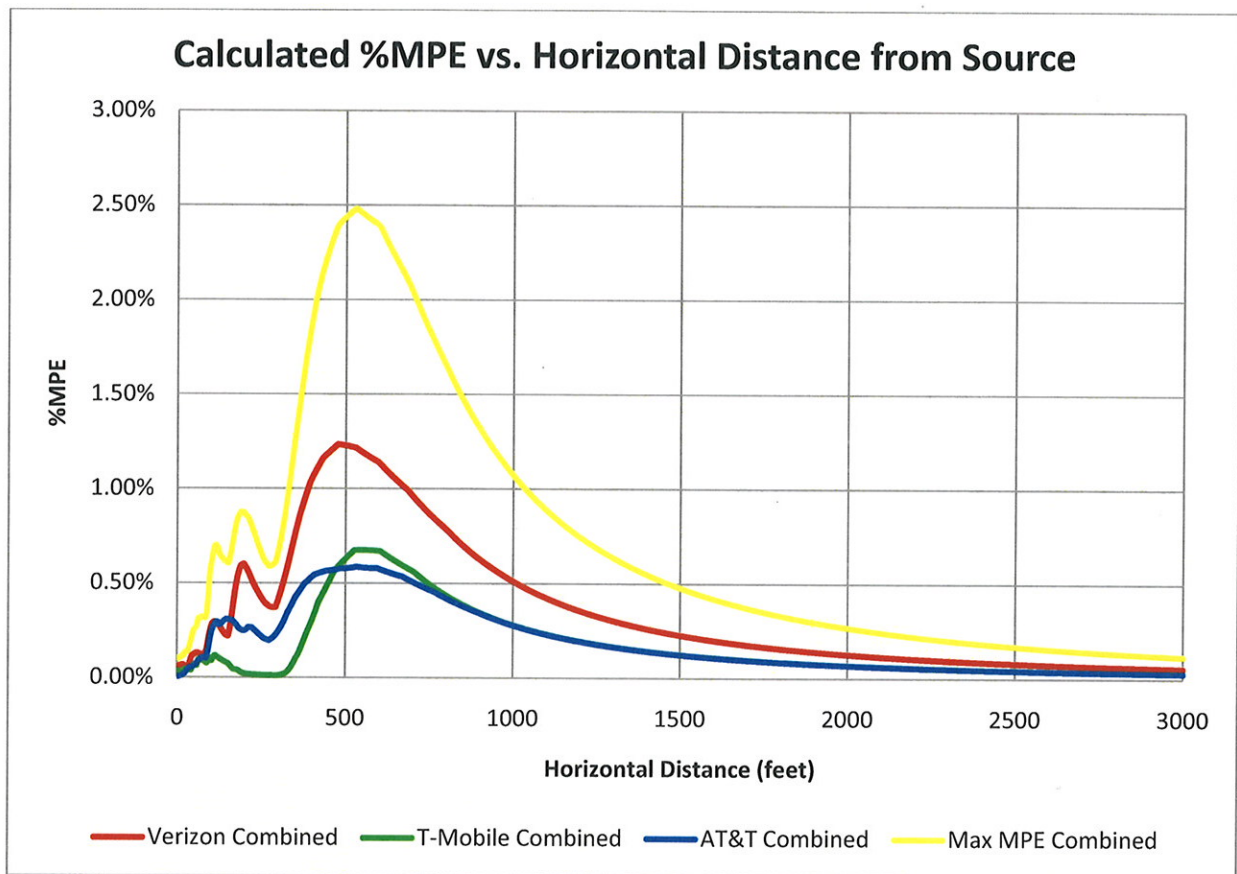


Figure 1: Graph of Percent of MPE vs. Distance

The highest composite percent of MPE was calculated to occur at a horizontal distance of 527 feet from the antennas. Please note that the percent of MPE calculations close to the site take into account off beam loss, which is determined from the vertical beamwidth pattern of the antennas used. Therefore, power density RF levels may increase as the distance from the site increases. At distances of approximately 750' and beyond, one would now be in the main beam of most antenna patterns and off beam loss is no longer considered. Beyond this point, RF levels become calculated solely on distance from the site and the percent of MPE decreases significantly as distance from the site increases.

Table 2 below lists percent of MPE values for each technology as well as the associated parameters that were included in the calculations. The highest composite percent of MPE value was calculated to occur at a horizontal distance of 527 feet from the antennas (reference Figure 1).

As stated in Section 3, all calculations assume that the antennas are operating at 100 percent capacity, that all antenna channels are transmitting simultaneously, and that the radio transmitters are operating at full power. Obstructions (trees, buildings etc.) that would normally attenuate the signal are not taken into account. In addition, 6 feet was subtracted from the height of the antennas for this analysis to account for average human height. As a result, the predicted signal levels are significantly higher than the actual signal levels will be from the finished installation.

Carrier	Number of Trans.	Power out of Base Station Per Transmitter (Watts)	Antenna Height (Feet)	Distance to the Base of Antennas (Feet)	Power Density (mW/cm ²)	Limit (mW/cm ²)	%MPE	Composite %MPE
AT&T 750MHz	2	40	100	527	0.0011	0.5000	0.21%	0.57%
AT&T GSM 850MHz	4	20	100	527	0.0012	0.5667	0.20%	
AT&T UMTS 850MHz	1	36	100	527	0.0005	0.5667	0.09%	
AT&T GSM 1900MHz	2	24	100	527	0.0004	1.0000	0.04%	
AT&T UMTS 1900MHz	1	24	100	527	0.0002	1.0000	0.02%	
AT&T UMTS 2100MHz	2	28	100	527	0.0001	1.0000	0.01%	
T-Mobile GSM 1900MHz	8	20	80	527	0.0036	1.0000	0.36%	0.68%
T-Mobile UMTS 2100MHz	2	40	80	527	0.0032	1.0000	0.32%	
Verizon 750MHz	1	40	90	527	0.0011	0.5000	0.23%	1.22%
Verizon CDMA 850MHz	9	20	90	527	0.0048	0.5667	0.85%	
Verizon EVDO 850MHz	1	20	90	527	0.0005	0.5667	0.09%	
Verizon EVDO 1900MHz	3	16	90	527	0.0005	1.0000	0.05%	
Totals							2.47%	2.47%

Table 2: Maximum Percent of MPE Values²

² Frequencies listed in Table 2 are representative of the operating band of the particular carrier and are not the carrier's specific operating frequency.

6. Conclusion

The above analysis verifies that emissions from the site will be well below the maximum levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Using the conservative calculation methods described above, the maximum composite percent of MPE from the proposed transmit antennas is 2.47% of the FCC limit. This maximum percent of MPE value is calculated to occur at 527' away from the site.

7. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.



Daniel L. Goulet
C Squared Systems, LLC

November 15, 2010

Date

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

ANSI C95.1-1982, American National Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz IEEE-SA Standards Board

IEEE Std C95.3-1991 (Reaff 1997), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure³

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	f/300	6
1500-100,000	-	-	5	6

(B) Limits for General Population/Uncontrolled Exposure⁴

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz * Plane-wave equivalent power density

Table 3: FCC Limits for Maximum Permissible Exposure

³ Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure

⁴ General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure

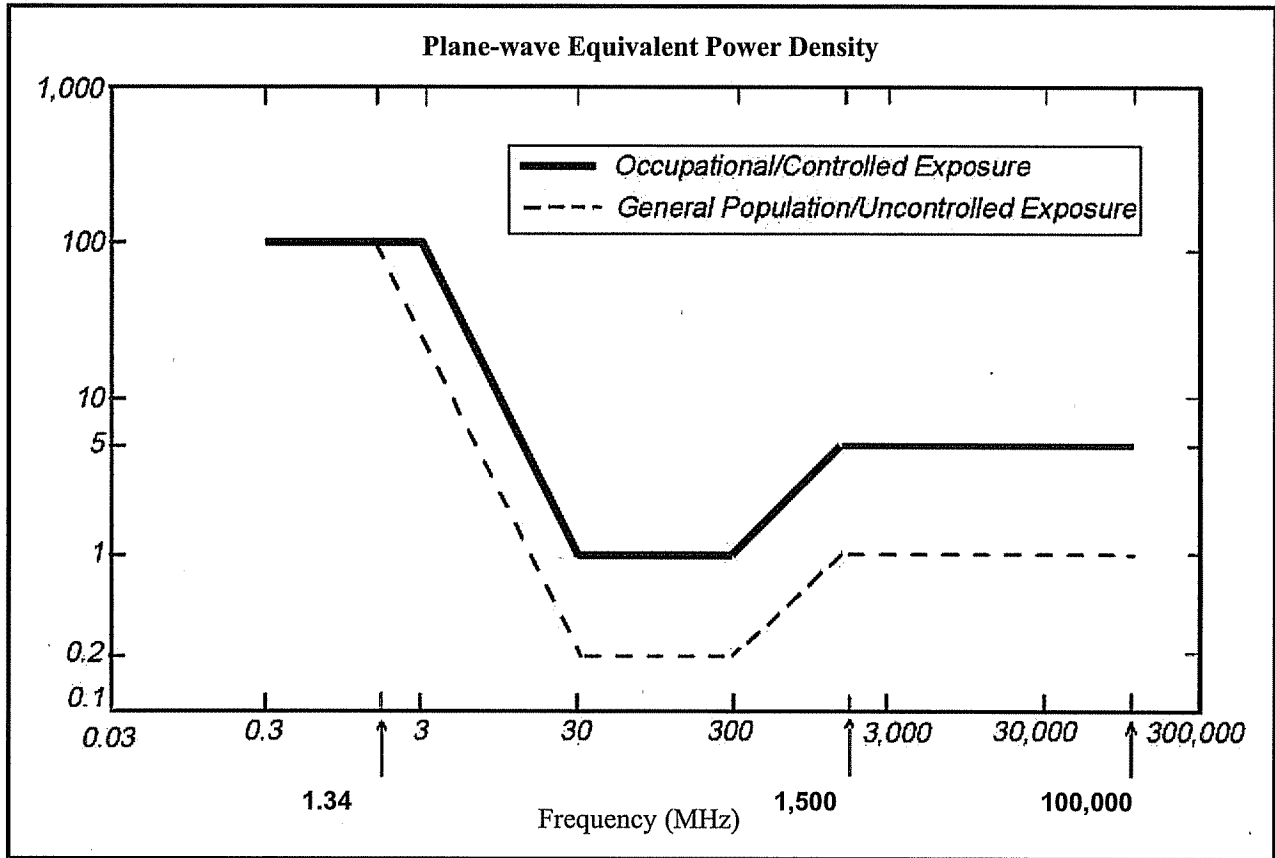
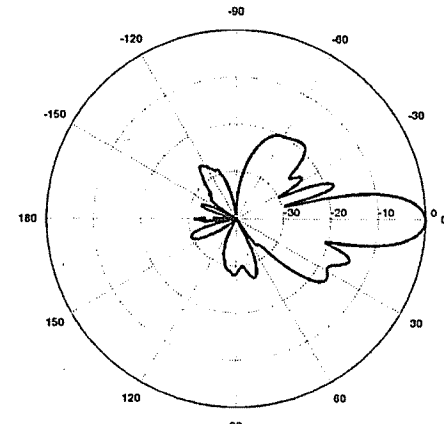
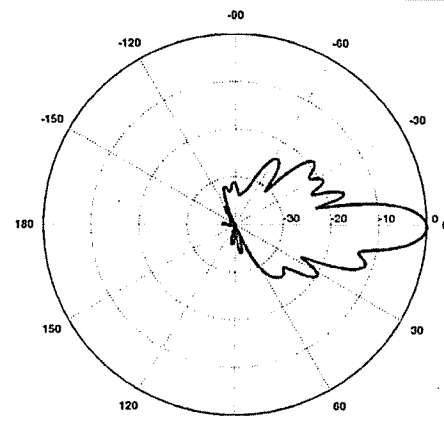
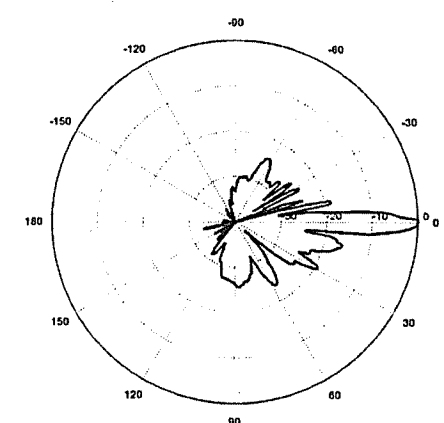
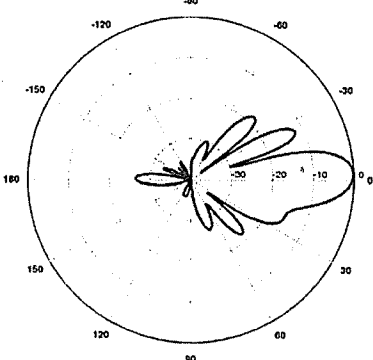
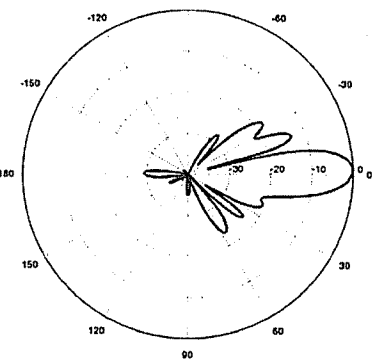
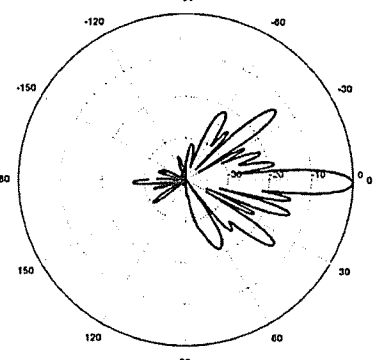
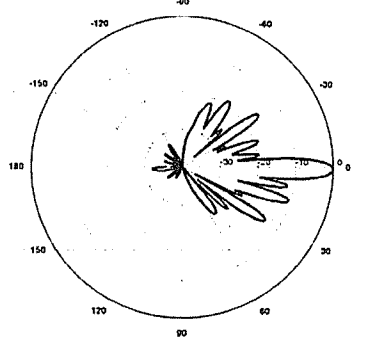


Figure 2: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

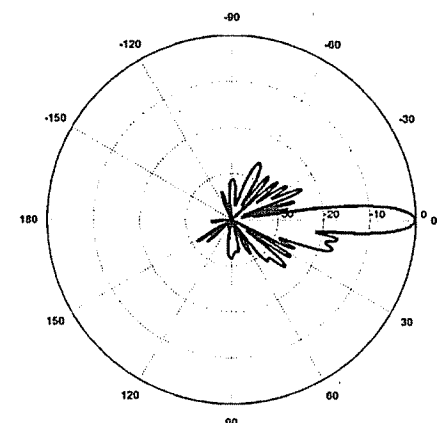
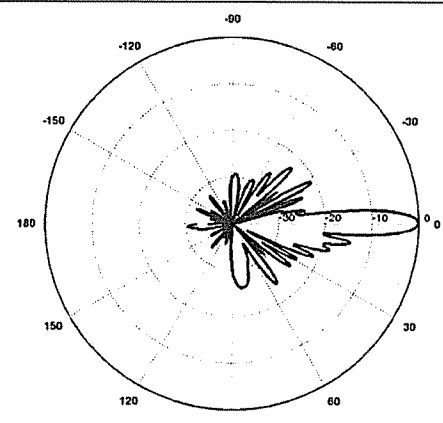
Attachment C: Verizon's Antenna Model Data Sheets and Electrical Patterns

<p>750 MHz</p> <p>Manufacturer: Amphenol Model #: BXA-70063/6CF Frequency Band: 696-806 MHz Gain: 14.0 dBd Vertical Beamwidth: 13 deg Horizontal Beamwidth: 65 deg Polarization: +- 45 deg Size L x W x D: 71.0" x 11.2" x 5.2"</p>	
<p>850 MHz</p> <p>Manufacturer: Andrew Model #: DB846F65ZAXY Frequency Band: 806-896 MHz Gain: 14.5 dBd Vertical Beamwidth: 11 deg Horizontal Beamwidth: 65 deg Polarization: Vertical Size L x W x D: 72.0" x 10.0" x 8.5"</p>	
<p>1900 MHz</p> <p>Manufacturer: Amphenol Model #: LPA-185063/12CF Frequency Band: 1850-1990 MHz Gain: 16.4 dBd Vertical Beamwidth: 5 deg Horizontal Beamwidth: 63 deg Polarization: Vertical Size L x W x D: 71.1" x 6.6" x 5.8"</p>	

Attachment D: AT&T's Antenna Model Data Sheets and Electrical Patterns

<p>750 MHz</p> <p>Manufacturer: Powerwave Model #: P90-15-XLH-RR Frequency Band: 698-806 MHz Gain: 11.7 dBd Vertical Beamwidth: 14 deg Horizontal Beamwidth: 86 deg Polarization: Dual Linear +/- 45 Size L x W x D: 72.0" x 12.0" x 7.3"</p>	
<p>850 MHz</p> <p>Manufacturer: Powerwave Model #: P90-15-XLH-RR Frequency Band: 806-894 MHz Gain: 12.4 dBd Vertical Beamwidth: 12 deg Horizontal Beamwidth: 84 deg Polarization: Dual Linear +/- 45 Size L x W x D: 72.0" x 12.0" x 7.3"</p>	
<p>1900 MHz</p> <p>Manufacturer: Powerwave Model #: P90-15-XLH-RR Frequency Band: 1850-1990 MHz Gain: 13.9 dBd Vertical Beamwidth: 6.5 deg Horizontal Beamwidth: 80 deg Polarization: Dual Linear +/- 45 Size L x W x D: 72.0" x 12.0" x 7.3"</p>	
<p>2100 MHz</p> <p>Manufacturer: Powerwave Model #: P90-15-XLH-RR Frequency Band: 1900-2170 MHz Gain: 14.2 dBd Vertical Beamwidth: 6 deg Horizontal Beamwidth: 80 deg Polarization: Dual Linear +/- 45 Size L x W x D: 72.0" x 12.0" x 7.3"</p>	

Attachment E: T-Mobile's Antenna Model Data Sheets and Electrical Patterns

<p>1900 MHz</p> <p>Manufacturer: RFS Model #: APX16DWV-16DWV-S Frequency Band: 1710-2170 MHz Gain: 16.0 dBd Vertical Beamwidth: 6.8 deg Horizontal Beamwidth: 65 deg Polarization: Dual Pol +/- 45 Size L x W x D: 53.0" x 13.0" x 3.15"</p>	 <p>A polar plot showing the radiation pattern for 1900 MHz. The plot is circular with concentric dashed lines representing gain levels and radial lines representing angles from 0 to 180 degrees. The main beam is centered at 0 degrees, with a peak gain of approximately 16 dBd. The horizontal beamwidth is 65 degrees, and the vertical beamwidth is 6.8 degrees. The plot shows a main lobe and several side lobes.</p>
<p>2100 MHz</p> <p>Manufacturer: RFS Model #: APX16DWV-16DWV-S Frequency Band: 1710-2170 MHz Gain: 16.0 dBd Vertical Beamwidth: 6.8 deg Horizontal Beamwidth: 65 deg Polarization: Dual Pol +/- 45 Size L x W x D: 53.0" x 13.0" x 3.15"</p>	 <p>A polar plot showing the radiation pattern for 2100 MHz. The plot is circular with concentric dashed lines representing gain levels and radial lines representing angles from 0 to 180 degrees. The main beam is centered at 0 degrees, with a peak gain of approximately 16 dBd. The horizontal beamwidth is 65 degrees, and the vertical beamwidth is 6.8 degrees. The plot shows a main lobe and several side lobes, very similar to the 1900 MHz pattern.</p>



Vanasse Hangen Brustlin, Inc.

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

Memorandum

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

Date: December 3, 2010

Project No.: 41479.38

From: Dean Gustafson
Professional Soil Scientist

Re: NEPA Wetland Compliance
Branford South Facility
723 Leetes Island Road
Branford, Connecticut

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

The Site was inspected on August 15, 2009. VHB understands that Verizon Wireless is proposing to construct a new telecommunications facility at 723 Leetes Island Road in Branford, Connecticut. The proposed facility will consist of a ±109-foot tall stealth monopole tower designed to resemble a rustic-style water tank, concealed (interior-mount) antennas, and associated ground equipment within a fenced-enclosed compound area (referred to herein as "Facility"). Access to the Facility would initially follow an existing woods road/grass path (to be improved as a 12-foot wide gravel access drive) for approximately 275 feet then continue for an additional 100± feet to the proposed compound area in a northeasterly direction through a successional upland forested area. The nearest wetland/watercourse is a wetland system referred to as Wetland 2 located approximately 150± feet to the northeast of the proposed Facility's southeast fence corner to wetland flag WF 2-4. The proposed gravel access drive will be approximately 20± feet north of Wetland 1 at wetland flag WF 1-11 at its closest point where it follows an existing developed access drive off Leetes Island Road.

Since Verizon Wireless' Facility will not directly impact wetlands, is relatively small and unmanned, is sufficiently distant to nearby wetland areas, and proper appropriate erosion control measures will be installed and maintained during construction, no likely adverse impact to nearby wetlands will result. In addition, as no direct impact to federal wetlands is associated with Verizon Wireless' construction activities, **NO significant change in surface features** (e.g., wetland fill, deforestation or water diversion) will result in accordance with the National Environmental Policy Act Categorical Exclusion checklist.



WETLANDS DELINEATION REPORT

Vanasse Hangen Brustlin, Inc.

Date: September 12, 2009
Project No.: 41479.38
Prepared For: Ms. Alexandria Carter
Verizon Wireless
99 East River Drive
East Hartford, Connecticut 06108
Site Location: Branford South
Medlyn Farm
723 Leetes Island Road
Branford, Connecticut
Site Map: VHB Wetland Sketch, 08/15/09
Inspection Date: August 15, 2009
Field Conditions: Weather: sunny, low 90's
Snow Depth: N/A

General Soil Moisture: moist
Frost Depth: N/A

Type of Wetlands Identified and Delineated:

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

Inland Wetland Regulated Upland Review Areas: Wetlands: 100 feet* Watercourses: 100 feet*
*also includes activities that are likely to impact or affect wetlands or watercourses

Field Numbering Sequence of Wetlands Boundary: WF 1-01 to 1-12; WF 2-01 to 2-10; WF 3-01 to 3-05

[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

Attachments



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

Wetland Delineation Field Form

Project Address:	723 Leetes Island Road Branford, Connecticut	Project Number:	41479.38
Inspection Date:	August 15, 2009	Inspector:	Dean Gustafson, PSS
Wetland I.D.:	Wetland 1		

Field Conditions:	Weather: sunny, low 90's	Snow Depth: 0 inches
	General Soil Moisture: moist	Frost Depth: 0 inches
Type of Wetland Delineation:	Connecticut <input checked="" type="checkbox"/>	
	ACOE <input type="checkbox"/>	
	Tidal <input type="checkbox"/>	
Field Numbering Sequence: WF 1-01 to 1-12		

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded <input type="checkbox"/>	Artificially Flooded <input type="checkbox"/>	Permanently Flooded <input type="checkbox"/>
Semipermanently Flooded <input type="checkbox"/>	Seasonally Flooded <input checked="" type="checkbox"/>	Temporarily Flooded <input type="checkbox"/>
Permanently Saturated <input type="checkbox"/>	Seasonally Saturated – seepage <input checked="" type="checkbox"/>	Seasonally Saturated - perched <input type="checkbox"/>
Comments:		

TIDAL

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

WETLAND TYPE:

SYSTEM:

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

CLASS:

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

WATERCOURSE TYPE:

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

SPECIAL AQUATIC HABITAT:

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

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Cheshire-Holyoke complex (77)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Wilbraham and Menlo soils, extremely stony (6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DOMINANT PLANTS:

red maple (<i>Acer rubrum</i>)	black gum (<i>Nyssa nigra</i>)
winterberry (<i>Ilex verticillata</i>)	highbush blueberry (<i>Vaccinium corymbosum</i>)
New York ironweed (<i>Vernonia noveboracensis</i>)	soft rush (<i>Juncus effusus</i>)
common reed (<i>Phragmites australis</i>)	rice cut grass (<i>Leersia oryzoides</i>)
joe pye weed (<i>Eupatoriadelphus dubius</i>)	arrowleaf tearthumb (<i>Polygonum sagittatum</i>)

WETLAND NARRATIVE:

Wetland 1 is a hillside seep wetland located in the eastern end of the subject property at the based of a sloped field. The wetland is bound to the north by Leetes Island Road and to the south by the Amtrak railroad tracks. This wetland area contains forest, shrub and emergent plant communities with common reed dominating the emergent plant community. The wetland is within 40± feet of the proposed access drive, which follows an existing path through the field and woods from Leetes Island Road. The proposed wireless telecommunications facility is located more than 200 feet to the west from this wetland area.

Wetland Delineation Field Form

Project Address:	723 Leetes Island Road Branford, Connecticut	Project Number:	41479.38
Inspection Date:	August 15, 2009	Inspector:	Dean Gustafson, PSS
Wetland I.D.:	Wetland 2		

Field Conditions:	Weather: sunny, low 90's	Snow Depth: 0 inches
	General Soil Moisture: moist	Frost Depth: 0 inches
Type of Wetland Delineation:	Connecticut <input checked="" type="checkbox"/>	
	ACOE <input type="checkbox"/>	
	Tidal <input type="checkbox"/>	
Field Numbering Sequence: WF 2-01 to 2-10		

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded <input type="checkbox"/>	Artificially Flooded <input type="checkbox"/>	Permanently Flooded <input type="checkbox"/>
Semipermanently Flooded <input type="checkbox"/>	Seasonally Flooded <input checked="" type="checkbox"/>	Temporarily Flooded <input type="checkbox"/>
Permanently Saturated <input type="checkbox"/>	Seasonally Saturated – seepage <input type="checkbox"/>	Seasonally Saturated - perched <input checked="" type="checkbox"/>
Comments: artificial seasonal impoundment from Leetes Island Road		

TIDAL

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

WETLAND TYPE:

SYSTEM:

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

CLASS:

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

WATERCOURSE TYPE:

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

SPECIAL AQUATIC HABITAT:

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

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Cheshire-Holyoke complex (77)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Wilbraham and Menlo soils, extremely stony (6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DOMINANT PLANTS:

red maple (<i>Acer rubrum</i>)	black gum (<i>Nyssa nigra</i>)
northern arrowwood (<i>Viburnum dentatum</i>)	winterberry (<i>Ilex verticillata</i>)

WETLAND NARRATIVE:

Wetland two is a small isolated wetland just south of Leetes Island Road and north of the proposed tower location. This forested wetland feature's hydrology is artificially created by impoundment from Leetes Island Road which allows no drainage relief from the wetland. This wetland is located over 200 feet to the northeast from the proposed wireless telecommunications facility.

Wetland Delineation Field Form

Project Address:	723 Leetes Island Road Branford, Connecticut	Project Number:	41479.38
Inspection Date:	August 15, 2009	Inspector:	Dean Gustafson, PSS
Wetland I.D.:	Wetland 3		

Field Conditions:	Weather: sunny, low 90's	Snow Depth: 0 inches
	General Soil Moisture: moist	Frost Depth: 0 inches
Type of Wetland Delineation:	Connecticut <input checked="" type="checkbox"/>	
	ACOE <input type="checkbox"/>	
	Tidal <input type="checkbox"/>	
Field Numbering Sequence: WF 3-01 to 3-05		

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded <input type="checkbox"/>	Artificially Flooded <input type="checkbox"/>	Permanently Flooded <input type="checkbox"/>
Semipermanently Flooded <input type="checkbox"/>	Seasonally Flooded <input type="checkbox"/>	Temporarily Flooded <input checked="" type="checkbox"/>
Permanently Saturated <input type="checkbox"/>	Seasonally Saturated – seepage <input type="checkbox"/>	Seasonally Saturated - perched <input type="checkbox"/>
Comments: roadside drainage ditch has intercepted the seasonal high groundwater table		

TIDAL

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

WETLAND TYPE:

SYSTEM:

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

CLASS:

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

WATERCOURSE TYPE:

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

SPECIAL AQUATIC HABITAT:

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

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Cheshire-Holyoke complex (77)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Wilbraham and Menlo soils, extremely stony (6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

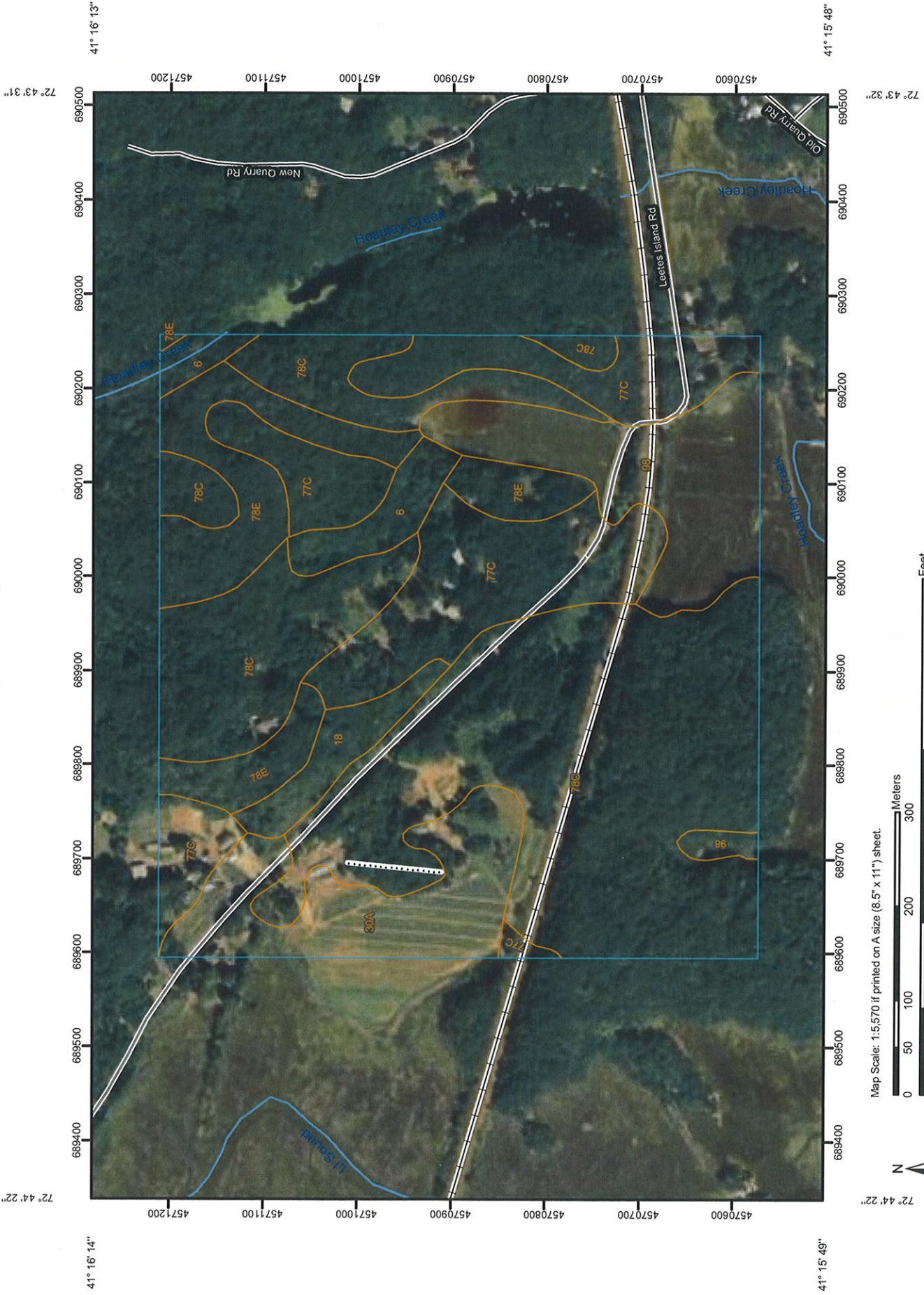
DOMINANT PLANTS:

pepperbush (<i>Croton humilis</i>)	jewelweed (<i>Impatiens capensis</i>)
bebb willow (<i>Salix bebbiana</i>)	winterberry (<i>Ilex verticillata</i>)

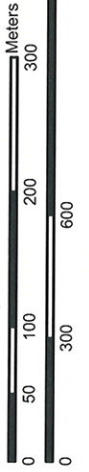
WETLAND NARRATIVE:

Wetland 3 is a drainage ditch that follows east to west along the south side of Leetes Island Road. This dug ditch receives stormwater runoff from Leetes Island Road as well as intercepts the season high groundwater table. Wetland 3 is located more than 150 feet north of the proposed wireless telecommunications facility.



















































Soil Map—State of Connecticut
(Site 1 Soil Map)



Map Scale: 1:5,570 if printed on A size (8.5" x 11") sheet.



MAP LEGEND

 Area of Interest (AOI)	 Area of Interest (AOI)	 Very Stony Spot
 Soils	 Soil Map Units	 Wet Spot
 Blowout	 Borrow Pit	 Other
 Clay Spot	 Closed Depression	Special Line Features
 Gravel Pit	 Gravelly Spot	 Gully
 Landfill	 Lava Flow	 Short Steep Slope
 Marsh or swamp	 Mine or Quarry	 Other
 Miscellaneous Water	 Miscellaneous Water	Political Features
 Perennial Water	 Perennial Water	 Cities
 Rock Outcrop	 Rock Outcrop	Water Features
 Saline Spot	 Saline Spot	 Oceans
 Sandy Spot	 Sandy Spot	 Streams and Canals
 Severely Eroded Spot	 Severely Eroded Spot	Transportation
 Sinkhole	 Sinkhole	 Rails
 Slide or Slip	 Slide or Slip	 Interstate Highways
 Sodic Spot	 Sodic Spot	 US Routes
 Spoil Area	 Spoil Area	 Major Roads
 Stony Spot	 Stony Spot	 Local Roads

MAP INFORMATION

Map Scale: 1:5,570 if printed on A size (8.5" x 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 6, Mar 22, 2007
 Date(s) aerial images were photographed: 8/13/2006

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
6	Wilbraham and Menlo soils, extremely stony	3.2	3.1%
18	Catden and Freetown soils	2.6	2.5%
30A	Branford silt loam, 0 to 3 percent slopes	9.2	8.8%
77C	Cheshire-Holyoke complex, 3 to 15 percent slopes, very rocky	20.8	19.9%
78C	Holyoke-Rock outcrop complex, 3 to 15 percent slopes	47.3	45.3%
78E	Holyoke-Rock outcrop complex, 15 to 45 percent slopes	10.5	10.1%
98	Westbrook mucky peat	10.7	10.3%
Totals for Area of Interest		104.3	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: 6—Wilbraham and Menlo soils, extremely stony

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

Map Unit: 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: 30A—Branford silt loam, 0 to 3 percent slopes

Branford Silt Loam, 0 To 3 Percent Slopes This map unit is in the Connecticut Valley Major Land Resource Area. The mean annual precipitation is 38 to 50 inches (965 to 1270 millimeters) and the average annual air temperature is 45 to 52 degrees F. (7 to 11 degrees C.) This map unit is 80 percent Branford soils, 20 percent minor components.

Branford soils This component occurs on valley and outwash plain terrace landforms. The parent material consists of eolian deposits over glaciofluvial deposits derived from basalt, sandstone and shale. 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 well drained. The slowest permeability within 60 inches is about 0.57 in/hr (moderate), with about 6.3 inches (high) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is 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 8 inches; silt loam 8 to 18 inches; loam 18 to 24 inches; gravelly loam 24 to 65 inches; stratified very gravelly coarse sand to loamy fine sand

Map Unit: 77C—Cheshire-Holyoke complex, 3 to 15 percent slopes, very rocky

Cheshire-Holyoke Complex, 3 To 15 Percent Slopes, Very Rocky This map unit is in the Connecticut Valley Major Land Resource Area. The mean annual precipitation is 40 to 50 inches (1016 to 1270 millimeters) and the average annual air temperature is 45 to 54 degrees F. (7 to 12 degrees C.) This map unit is 45 percent Cheshire soils, 35 percent Holyoke soils, 20 percent minor components.

Cheshire soils This component occurs on till plain and upland landforms. The parent material consists of melt-out till derived from sandstone, shale, and basalt. 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 8.4 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 8 inches; fine sandy loam 8 to 16 inches; fine sandy loam 16 to 26 inches; fine sandy loam 26 to 65 inches; gravelly sandy loam

Holyoke soils This component occurs on ridge and upland landforms. The parent material consists of eolian deposits over melt-out till derived from sandstone, shale, and basalt. The slope ranges from 3 to 15 percent and the runoff class is medium. The depth to a restrictive feature is 10 to 20 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 2.7 inches (low) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is 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; silt loam 3 to 8 inches; silt loam 8 to 18 inches; gravelly silt loam 18 to 28 inches; unweathered bedrock

Map Unit: 78C—Holyoke-Rock outcrop complex, 3 to 15 percent slopes

Holyoke-Rock Outcrop Complex, 3 To 15 Percent Slopes This map unit is in the Connecticut Valley Major Land Resource Area. The mean annual precipitation is 40 to 50 inches (1016 to 1270 millimeters) and the average annual air temperature is 46 to 54 degrees F. (8 to 12 degrees C.) This map unit is 50 percent Holyoke soils, 25 percent Rock Outcrop. 25 percent minor components. Holyoke soils This component occurs on ridge and upland landforms. The parent material consists of eolian deposits over melt-out till derived from sandstone, shale, and basalt. The slope ranges from 3 to 15 percent and the runoff class is medium. The depth to a restrictive feature is 10 to 20 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 2.7 inches (low) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is 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; silt loam 3 to 8 inches; silt loam 8 to 18 inches; gravelly silt loam 18 to 28 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

Map Unit: 78E—Holyoke-Rock outcrop complex, 15 to 45 percent slopes

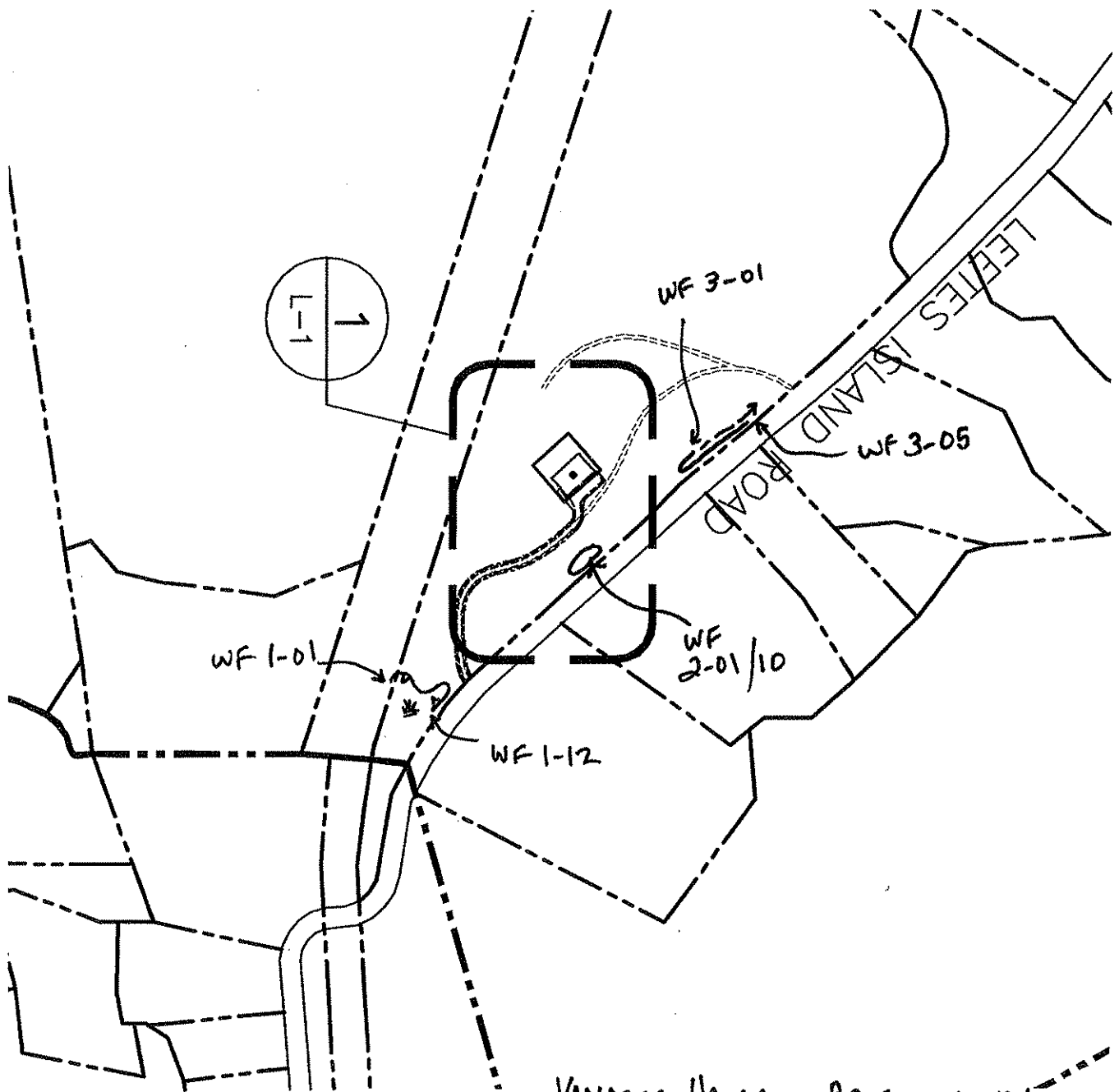
Holyoke-Rock Outcrop Complex, 15 To 45 Percent Slopes This map unit is in the Connecticut Valley Major Land Resource Area. The mean annual precipitation is 40 to 50 inches (1016 to 1270 millimeters) and the average annual air temperature is 46 to 54 degrees F. (8 to 12 degrees C.) This map unit is 50 percent Holyoke soils, 25 percent Rock Outcrop. 25 percent minor components. Holyoke soils This component occurs on ridge and upland landforms. The parent material consists of eolian deposits over melt-out till derived from sandstone, shale, and basalt. The slope ranges from 15 to 45 percent and the runoff class is very high. The depth to a restrictive feature is 10 to 20 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 2.7 inches (low) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 1.5 LEP (low). The flooding frequency for this component is none. The ponding hazard is none. The minimum depth to a seasonal water table, when present, is greater than 6 feet. The maximum calcium carbonate within 40 inches is 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; silt loam 3 to 8 inches; silt loam 8 to 18 inches; gravelly silt loam 18 to 28 inches; unweathered bedrock Rock Outcrop This component occurs on bedrock controlled landforms. The slope ranges from 15 to 45 percent and the runoff class is very high. The Nonirrigated Land Capability Class is 8

Map Unit: 98—Westbrook mucky peat

Westbrook Mucky Peat This map unit is in the New England and Eastern New York Upland, Southern Part Connecticut Valley Major Land Resource Area. The mean annual precipitation is 40 to 50 inches (1016 to 1270 millimeters) and the average annual air temperature is 48 to 52 degrees F. (9 to 11 degrees C.) This map unit is 80 percent Westbrook soils. 20 percent minor components. Westbrook soils This component occurs on coastal plain salt marsh and tidal marsh landforms. The parent material consists of herbaceous organic material over loamy drift or marine deposits. The slope ranges from 0 to 2 percent and the runoff class is negligible. The depth to a restrictive feature is 0 to 51 inches to salic. The drainage class is very poorly drained. The slowest permeability within 60 inches is about 0.00 in/hr (very slow), with about 4.4 inches (moderate) available water capacity. The weighted average shrink-swell potential in 10 to 60 inches is about 8.4 LEP (high). The flooding frequency for this component is frequent. The ponding hazard is frequent. The minimum depth to a seasonal water table, when present, is about 6 inches. The maximum calcium carbonate within 40 inches is none. The maximum amount of salinity in any layer is about 60 mmhos/cm (strongly saline). The Nonirrigated Land Capability Class is 8 Typical Profile: 0 to 10 inches; mucky peat 10 to 40 inches; mucky peat 40 to 48 inches; mucky peat 48 to 64 inches; silt loam 64 to 99 inches; silt loam

Data Source Information

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



VANASSE HANGEN BRUSTLIN, INC.

WETLAND SKETCH 8/15/09

VERIZON WIRELESS
BRANFORD SOUTH
 LOCATION 1
 723 LEETES ISLAND RD.
 BRANFORD, CT

DEG

NATCO
 CONSULTING

p: 203.488.0580 f: 203.4
 w: nat-eng.com e: info@
 63-2 N. Branford Rd. Br



Vanasse Hangen Brustlin, Inc.

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

Memorandum

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

Date: December 2, 2010

Project No.: 41479.38

From: Dean Gustafson
Senior Environmental Scientist

Re: Coastal Consistency Analysis
Proposed Verizon Wireless Facility
723 Leetes Island Road
Branford, Connecticut

Vanasse Hangen Brustlin, Inc. (VHB) provides the following assessment to demonstrate that the proposed Verizon Wireless project meets the requirements of the Connecticut Coastal Management Act (CGS Section 22a-90 through 22a-112) and is adequately protective of the interests of these regulations and the State's coastal resources.

VHB understands that Verizon Wireless is proposing to construct a new telecommunications facility at 723 Leetes Island Road in Branford, Connecticut (referred to herein as "Site"). The proposed facility will consist of a ±109-foot tall stealth monopole tower designed to resemble a rustic-style water tank, concealed (interior-mount) antennas, and associated ground equipment within a fenced-enclosed compound area (referred to herein as "Facility"). Access to the Facility would initially follow an existing woods road/grass path (to be improved as a 12-foot wide gravel access drive) for approximately 275 feet then continue for an additional 100± feet to the proposed compound area in a northeasterly direction through a successional upland forested area.

The 19.12± acre Site is an agricultural property known as Medlyn Farms, whose operations also extend onto a separate parcel to the north across Leetes Island Road. The Site is developed with a greenhouse in the northwest parcel corner, while the majority of the site is encompassed by various agricultural operations including wood/mulch/compost storage areas near the greenhouse, cultivated fields in the western half of the property, successional forest in the central/east portion of the property and a small field and inland wetlands in the eastern end of the site. Surrounding land use consists of an Amtrak rail line to the south, an intertidal salt marsh associated with Stony Creek to the west, Leetes Island Road and residential development to the north and inland wetlands and residential properties to the east.

The proposed Facility location is within the coastal boundary; refer to the enclosed Coastal Boundary and Tidal Wetlands Map, which depicts 1990 state-mapped tidal wetlands data with respect to the proposed Facility location. No federal or state-regulated coastal resources (e.g., tidal wetlands, beaches, estuary, etc.) are located within the proposed Facility's development limits. Coastal resources, consisting of an intertidal salt marsh associated with tidally influenced Stony Creek, are located along the western boundary of the subject property approximately 1,000 feet west

of the proposed Facility. A closer tidal salt marsh is located off the subject property 450± feet southeast of the proposed Facility, although it is separated by the Amtrak rail line.

Due to the distance separating nearby coastal resources from the proposed Facility (450 feet and beyond), no likely adverse impact to coastal resources will result from the proposed Verizon Wireless project. The project's consistency with the State's coastal policies and goals are detailed below.

Coastal Consistency Review

The proposed Verizon Wireless project will not result in adverse impacts to coastal resources as defined in the Connecticut Coastal Management Act (CCMA). The CCMA identifies eight potential adverse impacts to coastal resources. This section provides a definition of the potential adverse impacts associated with each resource area and why the proposed project would not adversely affect the resources.

- 1) *Degrading water quality of coastal waters by introducing significant amounts of suspended solids, nutrients, toxics, heavy metals or pathogens, or through the significant alteration of temperature, pH, dissolved oxygen or salinity.*

The proposed project will not affect water quality within Stony Creek or other nearby coastal resources. Since the proposed wireless telecommunications compound creates minimal impervious surface, is underlain by a gravel surface and is an unmanned facility with no sanitary facilities, no significant stormwater runoff and no wastewater will be generated by the proposed project. In addition, erosion and sedimentation controls will be installed and maintained during construction in accordance with the CTDEP 2002 *Connecticut Guidelines For Soil Erosion and Sediment Control* to avoid discharge to nearby coastal resources.

- 2) *Degrading existing circulation patterns of coastal waters by impacting tidal exchange or flushing rates, freshwater input, or existing basin characteristics and channel contours.*

The proposed project is located outside of tidally influenced coastal water areas and as such will not impact current drainage or circulation patterns to tidally influenced areas.

- 3) *Degrading natural erosion patterns by significantly altering littoral transport of sediments in terms of deposition or source reduction.*

The proposed project would not affect littoral transport of sediments since the Facility location is not on a shoreline.

- 4) *Degrading natural or existing drainage patterns by significantly altering groundwater flow and recharge and volume of runoff.*

Existing drainage patterns, groundwater flow and recharge and stormwater runoff will not be significantly altered by the proposed Facility due to its small size (3,249 square foot compound) and limited impervious surfaces.

- 5) *Increasing the hazard of coastal flooding by significantly altering shoreline configurations or bathymetry, particularly within high velocity flood zones.*

The proposed project will not significantly alter shoreline configurations or bathymetry and will not increase coastal flooding. Based on the most recent available digital flood hazard mapping data, the proposed project is located in Zone C outside of the 100-year flood hazard zone.

6) *Degrading visual quality by significantly altering the natural features of vistas and viewpoints.*

Potential views of the water tank from nearby intertidal salt marsh, tidal rivers and Long Island Sound would be mostly be nestled within the intervening and background tree canopies. The design of the proposed Facility, a rustic-style water tank, would conceal associated telecommunications equipment and serve to mitigate potential visual effects normally associated with traditional monopole/full antenna array configurations. The stealth water tank design is also contextually consistent with surrounding land uses including the existing Amtrak rail corridor and agricultural properties, further mitigating any potential degradation of visual quality. Considering the relatively low height (109± feet), stealth design and buffering of the intervening and background tree canopies, the proposed Facility is not considered to result in degrading visual quality by significantly altering the natural features of coastal vistas and viewpoints. Refer to VHB's Visual Resource Evaluation Report dated November 2010, provided under separate cover, for additional details.

7) *Degrading or destroying essential wildlife, finfish or shellfish habitat by significantly altering the composition, migration patterns, distribution, breeding or other population characteristics of the natural species or significantly altering the natural components of the habitat.*

The proposed Facility would be located in an upland area in proximity to Leetes Island Road and the Amtrak rail line on property currently in active agricultural use, with the nearest coastal resource 450± feet to the southeast across the railroad tracks. Therefore, the proposed Facility will not degrade or destroy essential coastal wildlife, finfish or shellfish habitat.

8) *Degrading tidal wetlands, beaches and dunes, rocky shorefronts, and bluffs and escarpments by significantly altering their natural characteristics or function.*

The proposed Facility would be located in a forested upland area surrounded by Leetes Island Road, an Amtrak rail line and agricultural operations, with the nearest coastal resource 450± feet to the southeast across the railroad tracks. Therefore, the proposed project will not alter the natural characteristics of any coastal resource areas.

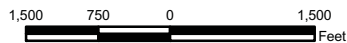
Enclosure



Source: U.S.G.S. Quad: Guilford and Brandford, CT (1984)

Legend

- Proposed Facility Location
- ▭ Coastal Boundary
- ▭ Tidal Wetland 1990s
- ▭ Town Line



Vanasse Hangen Brustlin, Inc.
Coastal Boundary and
Tidal Wetlands Map
Branford South
723 Leetes Island Road
Branford, Connecticut



APPROXIMATE SCALE
400 0 400 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

TOWN OF
BRANFORD,
CONNECTICUT
NEW HAVEN COUNTY

PANEL 8 OF 10
(SEE MAP INDEX FOR PANELS NOT PRINTED)

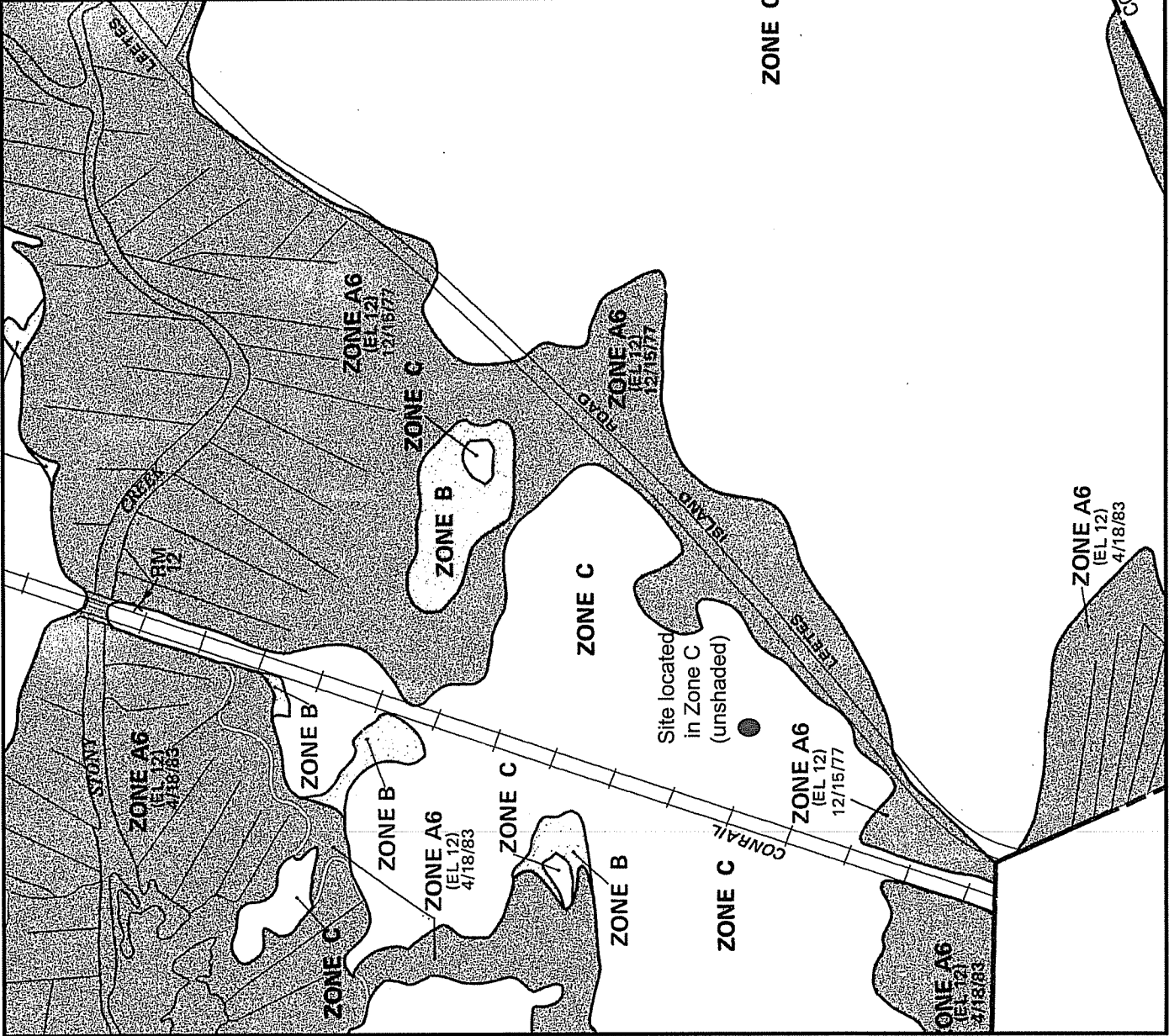
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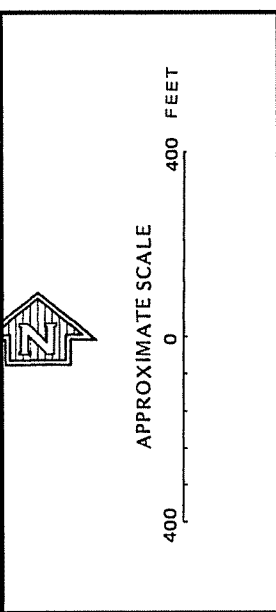
MAP REVISED:
APRIL 18, 1983



Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov





NATIONAL FLOOD INSURANCE PROGRAM


FIRM FLOOD INSURANCE RATE MAP

**TOWN OF BRANFORD, CONNECTICUT
NEW HAVEN COUNTY**

PANEL 8 OF 10
(SEE MAP INDEX FOR PANELS NOT PRINTED)

**COMMUNITY-PANEL NUMBER
090073 0008 C**

**MAP REVISED:
APRIL 18, 1983**



Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



KEY TO MAP

- 500-Year Flood Boundary _____
- 100-Year Flood Boundary _____
- Zone Designations* With Date of Identification e.g., 12/2/74
- 100-Year Flood Boundary _____
- 500-Year Flood Boundary _____
- Base Flood Elevation Line With Elevation In Feet** _____
- Base Flood Elevation in Feet Where Uniform Within Zone** (EL 987)
- Elevation Reference Mark RM7X
- Zone D Boundary _____
- River Mile • M1.5

***EXPLANATION OF ZONE DESIGNATIONS**

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave

BRANFORDS.SRP

* Federal Airways & Airspace *
* Summary Report *

File: BRANFORDS

Location: New Haven, CT
Distance: 10.4 Statute Miles
Direction: 286° (true bearing)

Latitude: 41°-15'-58.87" Longitude: 72°-43'-59.7"

SITE ELEVATION AMSL..... 46 ft.
STRUCTURE HEIGHT.....120 ft.
OVERALL HEIGHT AMSL.....166 ft.

NOTICE CRITERIA

- FAR 77.13(a)(1): NNR (DNE 200 ft AGL)
- FAR 77.13(a)(2): NNR (DNE Notice Slope)
- FAR 77.13(a)(3): NNR (Not a Traverse Way)
- FAR 77.13(a)(4): PNR (Circling Approach Area)
- FAR 77.13(a)(4): NNR FAR 77.13(a)(4) Notice Criteria for HVN
- FAR 77.13(a)(4): NNR (No Expected TERPS® impact SNC)
- FAR 77.13(a)(5): NNR (Off Airport Construction)

Notice to the FAA is not required at the analyzed location and height.

- NR = Notice Required
- NNR = Notice Not Required
- PNR = Possible Notice Required

OBSTRUCTION STANDARDS

- FAR 77.23(a)(1): DNE 500 ft AGL
- FAR 77.23(a)(2): DNE - Airport Surface
- FAR 77.25(a): DNE - Horizontal Surface
- FAR 77.25(b): DNE - Conical Surface
- FAR 77.25(c): DNE - Primary Surface
- FAR 77.25(d): DNE - Approach Surface
- FAR 77.25(e): DNE - Transitional Surface

VFR TRAFFIC PATTERN AIRSPACE FOR: HVN: TWEED-NEW HAVEN

- Type: A RD: 40514.27 RE: 4.4
- FAR 77.23(a)(1): DNE
- FAR 77.23(a)(2): DNE - Greater Than 6 NM.
- VFR Horizontal Surface: DNE
- VFR Conical Surface: DNE
- VFR Approach Slope: DNE
- VFR Transitional Slope: DNE

VFR TRAFFIC PATTERN AIRSPACE FOR: SNC: CHESTER

- Type: A RD: 75404.43 RE: 408
- FAR 77.23(a)(1): DNE
- FAR 77.23(a)(2): Does Not Apply.
- VFR Horizontal Surface: DNE
- VFR Conical Surface: DNE
- VFR Approach Slope: DNE
- VFR Transitional Slope: DNE

TERPS DEPARTURE PROCEDURE (FAA Order 8260.3, Volume 4)

- FAR 77.23(a)(3) Departure Surface Criteria (40:1)
- DNE Departure Surface

BRANFORDS.SRP
 MINIMUM OBSTACLE CLEARANCE ALTITUDE (MOCA)
 FAR 77.23(a)(4) MOCA Altitude Enroute Criteria
 The Maximum Height Permitted is 400 ft AMSL

PRIVATE LANDING FACILITIES

FACIL IDENT TYP NAME	BEARING TO FACIL	RANGE IN NM	DELTA ARP ELEVATION	FAA IFR
CT54 HEL NORTH BRANFORD No Impact to Private Landing Facility Structure 0 ft below heliport.	328.03	4.89	-89	

AIR NAVIGATION ELECTRONIC FACILITIES

FAC IDNT	TYPE	ST AT	FREQ	VECTOR	DIST (ft)	DELTA ELEVA	ST	LOCATION	ANGLE
MAD	VOR/DME	ON	0110.4	33.1	20654	-54	CT	MADISON	-.15

FCC AM PROOF-OF-PERFORMANCE

NOT REQUIRED: Structure is not near a FCC licensed AM
 radio station Proof-of-Performance is not required.
 Please review AM Station Report for details.

Nearest AM Station: WAVZ @ 17984 meters.

Airspace® Summary Version 2009.11

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12-03-2009
 09:08:22

SITE NAME: Branford South, CT
SITE NUMBER: 2000018270
DATE 8/4/09

OPTION AND LAND LEASE AGREEMENT

This Agreement made this *21st* day of *October*, 2009, between James John Medlyn, an individual, with an address at 710 Leetes Island Road, Branford CT, 06405, hereinafter designated LESSOR and Celco Partnership d/b/a Verizon Wireless, with its principal offices located at One Verizon Way, Mail Stop 4AW100, Basking Ridge, New Jersey 07920 (telephone number 866-862-4404), hereinafter designated LESSEE. The LESSOR and LESSEE are at times collectively referred to hereinafter as the "Parties" or individually as the "Party".

LESSOR is the owner of that certain real property located at 723 Leetes Island Road, Branford, Connecticut, 06405, as shown on the Tax Map of the Town of Branford as Section K09, Block 004, Lot 008 and being further described in Volume 270 at Page 272 as recorded in the Land Records of the Town of Branford (the entirety of LESSOR's property is referred to hereinafter as the "Property"). LESSEE desires to obtain an option to lease a portion of said Property, being described as a 100' by 100' parcel containing 10,000 square feet (the "Land Space"), together with the non-exclusive right (the "Rights of Way") for ingress and egress, seven (7) days a week twenty-four (24) hours a day, on foot or motor vehicle, including trucks over or along a thirty (30') foot wide right-of-way extending from the nearest public right-of-way, Leetes Island Road, to the Land Space, and for the installation and maintenance of utility wires, poles, cables, conduits, and pipes over, under, or along one or more rights of way from the Land Space, said Land Space and Rights of Way (hereinafter collectively referred to as the "Premises") being substantially as described herein in Exhibit "A" attached hereto and made a part hereof.

NOW THEREFORE, in consideration of the sum of [REDACTED] to be paid by LESSEE to the LESSOR, the LESSOR hereby grants to LESSEE the right and option to lease said Premises, for the term and in accordance with the covenants and conditions set forth herein. The foregoing payment shall be made by LESSEE within forty five (45) days of execution of this Agreement or of receipt by LESSEE from LESSOR of the Rental Documentation, as defined in and in accordance with Paragraph 3 of the Agreement below, whichever occurs later. The providing by LESSOR of Rental Documentation to LESSEE shall be a prerequisite for the payment of the foregoing amount or any other option or rental payment, if applicable, by LESSEE, and notwithstanding anything to the contrary herein, LESSEE shall have no obligation to make any payment(s) until Rental Documentation has been supplied to LESSEE.

The option may be exercised at any time on or prior to twelve (12) months after the date of this Agreement. If the option has not been so exercised, it shall be automatically extended for one additional period of twelve (12) months, unless LESSEE gives written notice to the LESSOR of the intent not to extend prior to the end of the initial option period. If the option is extended, LESSEE shall make an additional payment of [REDACTED] to LESSOR within thirty (30) days of the option being extended, provided LESSOR has supplied to LESSEE the Rental Documentation, as defined in and in accordance with Paragraph 3 of the Agreement below. The time during which the option may be exercised may be further extended by mutual agreement in writing. If during said option period, or during the term of the lease, if the option is exercised, the LESSOR decides to subdivide, sell or change the status of the Property or his property contiguous

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thereto he shall immediately notify LESSEE in writing so that LESSEE can take steps necessary to protect LESSEE's interest in the Premises.

This option may be sold, assigned or transferred by the LESSEE without any approval or consent of the LESSOR to the LESSEE's principal, affiliates, subsidiaries of its principal; to any entity which acquires all or substantially all of LESSEE's assets in the market defined by the Federal Communications Commission in which the Property is located by reason of a merger, acquisition or other business reorganization; or to any entity which acquires or receives an interest in the majority of communication towers of the LESSEE in the market defined by the Federal Communications Commission in which the Property is located. As to other parties, this Agreement may not be sold, assigned or transferred without the written consent of the LESSOR, which such consent will not be unreasonably withheld, delayed or conditioned. No change of stock ownership, partnership interest or control of LESSEE or transfer upon partnership or corporate dissolution of LESSEE shall constitute an assignment hereunder.

Should LESSEE fail to exercise this option or any extension thereof within the time herein limited, all rights and privileges granted hereunder shall be deemed completely surrendered, this option terminated, and LESSOR shall retain all money paid for the option, and no additional money shall be payable by either Party to the other.

LESSOR shall cooperate with LESSEE in its effort to obtain all certificates, permits and other approvals that may be required by any Federal, State or Local authorities which will permit LESSEE use of the Premises. LESSOR shall take no action which would adversely affect the status of the Property with respect to the proposed use by LESSEE.

The LESSOR shall permit LESSEE, during the option period, free ingress and egress to the Premises to conduct such surveys, inspections, structural strength analysis, subsurface soil tests, and other activities of a similar nature as LESSEE may deem necessary, at the sole cost of LESSEE.

LESSOR agrees to execute a Memorandum of this Option to Lease Agreement which LESSEE may record with the appropriate Recording Officer. The date set forth in the Memorandum of Option to Lease is for recording purposes only and bears no reference to commencement of either term or rent payments.

Notice of the exercise of the option shall be given by LESSEE to the LESSOR in writing by certified mail, return receipt requested. Notice shall be deemed effective on the date it is posted and thereupon the following agreement shall take effect:

LAND LEASE AGREEMENT

This Agreement, made this day of , 2009 between James John Medlyn, an individual, with an address at 710 Leetes Island Road, Branford CT, 06405, hereinafter designated LESSOR and Cellico Partnership d/b/a Verizon Wireless, with its principal office located at One

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Verizon Way, Mail Stop 4AW100, Basking Ridge, New Jersey 07920 (telephone number 866-862-4404), hereinafter designated LESSEE. The LESSOR and LESSEE are at times collectively referred to hereinafter as the "Parties" or individually as the "Party".

1. PREMISES. LESSOR hereby leases to LESSEE a portion of that certain parcel of property (the entirety of LESSOR's property is referred to hereinafter as the Property), located at 723 Leetes Island Road, Branford, Connecticut, 06405, as shown on the Tax Map of the Town of Branford as Section K09, Block 004, Lot 008, and being described as a 100' by 100' parcel containing 10,000 square feet (the "Land Space"), together with the non-exclusive right (the "Rights of Way") for ingress and egress, seven (7) days a week twenty-four (24) hours a day, on foot or motor vehicle, including trucks over or along a thirty (30') foot wide right-of-way extending from the nearest public right-of-way, Leetes Island Road, to the Land Space, and for the installation and maintenance of utility wires, poles, cables, conduits, and pipes over, under, or along one or more rights of way from the Land Space, said Land Space and Rights of Way (hereinafter collectively referred to as the "Premises") being substantially as described herein in Exhibit "A" attached hereto and made a part hereof. The Property is also shown on the Tax Map of the Town of Branford as Section K09, Block 004, Lot 008 and is further described in Volume 270 at Page 272 as recorded in the Land Records of the Town of Branford.

In the event any public utility is unable to use the Rights of Way, the LESSOR hereby agrees to grant an additional right-of-way either to the LESSEE or to the public utility at no cost to the LESSEE.

2. SURVEY. LESSOR also hereby grants to LESSEE the right to survey the Property and the Premises, and said survey shall then become Exhibit "B" which shall be attached hereto and made a part hereof, and shall control in the event of boundary and access discrepancies between it and Exhibit "A". Cost for such work shall be borne by the LESSEE.

3. TERM; RENTAL. This Agreement shall be effective as of the date of execution by both Parties, provided, however, the initial term shall be for five (5) years and shall commence on the Commencement Date (as hereinafter defined) at which time rental payments shall commence and be due at a total annual rental of [REDACTED] to be paid in equal monthly installments on the first day of the month, in advance, to James John Medlyn or to such other person, firm or place as LESSOR may, from time to time, designate in writing at least thirty (30) days in advance of any rental payment date by notice given in accordance with Paragraph 23 below. Rent and additional rent as set forth for the each year after the first lease year shall increase by [REDACTED] over the rent for each preceding year of the first Term. Upon agreement of the Parties, LESSEE may pay rent by electronic funds transfer and in such event, LESSOR agrees to provide to LESSEE bank routing information for such purpose upon request of LESSEE. The Commencement Date shall be the first day of the month in which notice of the exercise of the option, as set forth above, is effective. However, LESSOR and LESSEE acknowledge and agree that initial rental payment(s) shall not actually be sent by LESSEE until thirty (30) days after the exercise of the option is effective.

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Upon agreement of the Parties, LESSEE may pay rent by electronic funds transfer and in such event, LESSOR agrees to provide to LESSEE bank routing information for such purpose upon request of LESSEE.

LESSOR hereby agrees to provide to LESSEE certain documentation (the "Rental Documentation") evidencing LESSOR's interest in, and right to receive payments under, this Agreement, including without limitation: (i) documentation, acceptable to LESSEE in LESSEE's reasonable discretion, evidencing LESSOR's good and sufficient title to and/or interest in the Property and right to receive rental payments and other benefits hereunder; (ii) a complete and fully executed Internal Revenue Service Form W-9, or equivalent, in a form acceptable to LESSEE, for any party to whom rental payments are to be made pursuant to this Agreement; and (iii) other documentation requested by LESSEE in LESSEE's reasonable discretion. From time to time during the Term of this Agreement and within thirty (30) days of a written request from LESSEE, LESSOR agrees to provide updated Rental Documentation in a form reasonably acceptable to LESSEE. The Rental Documentation shall be provided to LESSEE in accordance with the provisions of and at the address given in Paragraph 23. Delivery of Rental Documentation to LESSEE shall be a prerequisite for the payment of any rent by LESSEE and notwithstanding anything to the contrary herein, LESSEE shall have no obligation to make any rental payments until Rental Documentation has been supplied to LESSEE as provided herein.

Within fifteen (15) days of obtaining an interest in the Property or this Agreement, any assignee(s) or transferee(s) of LESSOR shall provide to LESSEE Rental Documentation in the manner set forth in the preceding paragraph. From time to time during the Term of this Agreement and within thirty (30) days of a written request from LESSEE, any assignee(s) or transferee(s) of LESSOR agrees to provide updated Rental Documentation in a form reasonably acceptable to LESSEE. Delivery of Rental Documentation to LESSEE by any assignee(s) or transferee(s) of LESSOR shall be a prerequisite for the payment of any rent by LESSEE to such party and notwithstanding anything to the contrary herein, LESSEE shall have no obligation to make any rental payments to any assignee(s) or transferee(s) of LESSOR until Rental Documentation has been supplied to LESSEE as provided herein.

4. EXTENSIONS. This Agreement shall automatically be extended for four (4) additional five (5) year terms unless LESSEE terminates it at the end of the then current term by giving LESSOR written notice of the intent to terminate at least six (6) months prior to the end of the then current term.

5. EXTENSION RENTALS. For each year of extension terms, the rent and additional rent shall increase by [REDACTED] over the rent for each preceding year.

6. ADDITIONAL EXTENSIONS. If at the end of the fourth (4th) five (5) year extension term this Agreement has not been terminated by either Party by giving to the other written notice of an intention to terminate it at least three (3) months prior to the end of such term, this Agreement shall continue in force upon the same covenants, terms and conditions for a further term of five (5) years and for five (5) year terms thereafter until terminated by either Party by giving to the other

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written notice of its intention to so terminate at least three (3) months prior to the end of such term. Annual rental for each such additional five (5) year term shall be equal to the annual rental payable with respect to the immediately preceding five (5) year term. The initial term and all extensions shall be collectively referred to herein as the "Term".

7. TAXES. LESSEE shall have the responsibility to pay any personal property, real estate taxes, assessments, or charges owed on the Property which LESSOR demonstrates is the result of LESSEE's use of the Premises and/or the installation, maintenance, and operation of the LESSEE's improvements, and any sales tax imposed on the rent (except to the extent that LESSEE is or may become exempt from the payment of sales tax in the jurisdiction in which the Property is located), including any increase in real estate taxes at the Property which LESSOR demonstrates arises from the LESSEE's improvements and/or LESSEE's use of the Premises. LESSOR and LESSEE shall each be responsible for the payment of any taxes, levies, assessments and other charges imposed including franchise and similar taxes imposed upon the business conducted by LESSOR or LESSEE at the Property. Notwithstanding the foregoing, LESSEE shall not have the obligation to pay any tax, assessment, or charge that LESSEE is disputing in good faith in appropriate proceedings prior to a final determination that such tax is properly assessed provided that no lien attaches to the Property. Nothing in this Paragraph shall be construed as making LESSEE liable for any portion of LESSOR's income taxes in connection with any Property or otherwise. Except as set forth in this Paragraph, LESSOR shall have the responsibility to pay any personal property, real estate taxes, assessments, or charges owed on the Property and shall do so prior to the imposition of any lien on the Property.

LESSEE shall have the right, at its sole option and at its sole cost and expense, to appeal, challenge or seek modification of any tax assessment or billing for which LESSEE is wholly or partly responsible for payment. LESSOR shall reasonably cooperate with LESSEE at LESSEE's expense in filing, prosecuting and perfecting any appeal or challenge to taxes as set forth in the preceding sentence, including but not limited to, executing any consent, appeal or other similar document. In the event that as a result of any appeal or challenge by LESSEE, there is a reduction, credit or repayment received by the LESSOR for any taxes previously paid by LESSEE, LESSOR agrees to promptly reimburse to LESSEE the amount of said reduction, credit or repayment. In the event that LESSEE does not have the standing rights to pursue a good faith and reasonable dispute of any taxes under this paragraph, LESSOR will pursue such dispute at LESSEE's sole cost and expense upon written request of LESSEE.

8. USE; GOVERNMENTAL APPROVALS. LESSEE shall use the Premises for the purpose of constructing, maintaining, repairing and operating a communications facility and uses incidental thereto. A security fence consisting of chain link construction or similar but comparable construction may be placed around the perimeter of the Premises at the discretion of LESSEE (not including the access easement). All improvements, equipment, antennas and conduits shall be at LESSEE's expense and their installation shall be at the discretion and option of LESSEE. LESSEE shall have the right to replace, repair, add or otherwise modify its utilities, equipment, antennas and/or conduits or any portion thereof and the frequencies over which the equipment operates, whether the equipment, antennas, conduits or frequencies are specified or not on any exhibit

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attached hereto, during the Term. It is understood and agreed that LESSEE's ability to use the Premises is contingent upon its obtaining after the execution date of this Agreement all of the certificates, permits and other approvals (collectively the "Governmental Approvals") that may be required by any Federal, State or Local authorities as well as satisfactory soil boring tests which will permit LESSEE use of the Premises as set forth above. LESSOR shall cooperate with LESSEE in its effort to obtain such approvals and shall take no action which would adversely affect the status of the Property with respect to the proposed use thereof by LESSEE. In the event that (i) any of such applications for such Governmental Approvals should be finally rejected; (ii) any Governmental Approval issued to LESSEE is canceled, expires, lapses, or is otherwise withdrawn or terminated by governmental authority; (iii) LESSEE determines that such Governmental Approvals may not be obtained in a timely manner; (iv) LESSEE determines that any soil boring tests are unsatisfactory; (v) LESSEE determines that the Premises is no longer technically compatible for its use, or (vi) LESSEE, in its sole discretion, determines that the use the Premises is obsolete or unnecessary, LESSEE shall have the right to terminate this Agreement. Notice of LESSEE's exercise of its right to terminate shall be given to LESSOR in writing by certified mail, return receipt requested, and shall be effective upon the mailing of such notice by LESSEE, or upon such later date as designated by LESSEE. All rentals paid to said termination date shall be retained by LESSOR. Upon such termination, this Agreement shall be of no further force or effect except to the extent of the representations, warranties and indemnities made by each Party to the other hereunder. Otherwise, the LESSEE shall have no further obligations for the payment of rent to LESSOR.

~~9. INDEMNIFICATION. Subject to Paragraph 10 below, each Party shall indemnify and hold the other harmless against any claim of liability or loss from personal injury or property damage resulting from or arising out of the negligence or willful misconduct of the indemnifying Party, its employees, contractors or agents, except to the extent such claims or damages may be due to or caused by the negligence or willful misconduct of the other Party, or its employees, contractors or agents.~~

10. INSURANCE.

a. The Parties hereby waive and release any and all rights of action for negligence against the other which may hereafter arise on account of damage to the Premises or to the Property, resulting from any fire, or other casualty of the kind covered by standard fire insurance policies with extended coverage, regardless of whether or not, or in what amounts, such insurance is now or hereafter carried by the Parties, or either of them. These waivers and releases shall apply between the Parties and they shall also apply to any claims under or through either Party as a result of any asserted right of subrogation. All such policies of insurance obtained by either Party concerning the Premises or the Property shall waive the insurer's right of subrogation against the other Party.

b. LESSOR and LESSEE each agree that at its own cost and expense, each will maintain commercial general liability insurance with limits not less than \$1,000,000 for injury to or death of one or more persons in any one occurrence and \$500,000 for damage or

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destruction to property in any one occurrence. LESSOR and LESSEE each agree that it will include the other Party as an additional insured.

11. LIMITATION OF LIABILITY. Except for indemnification pursuant to paragraphs 9 and 29, neither Party shall be liable to the other, or any of their respective agents, representatives, employees for any lost revenue, lost profits, loss of technology, rights or services, incidental, punitive, indirect, special or consequential damages, loss of data, or interruption or loss of use of service, even if advised of the possibility of such damages, whether under theory of contract, tort (including negligence), strict liability or otherwise.

12. ANNUAL TERMINATION. Notwithstanding anything to the contrary contained herein, provided LESSEE is not in default hereunder beyond applicable notice and cure periods, LESSEE shall have the right to terminate this Agreement upon the annual anniversary of the Commencement Date provided that three (3) months prior notice is given to LESSOR.

13. INTERFERENCE. LESSEE agrees to install equipment of the type and frequency which will not cause harmful interference which is measurable in accordance with then existing industry standards to any equipment of LESSOR or other lessees of the Property which existed on the Property prior to the date this Agreement is executed by the Parties. In the event any after-installed LESSEE's equipment causes such interference, and after LESSOR has notified LESSEE in writing of such interference, LESSEE will take all commercially reasonable steps necessary to correct and eliminate the interference, including but not limited to, at LESSEE's option, ~~powering down such equipment and later powering up such equipment for intermittent testing.~~ In no event will LESSOR be entitled to terminate this Agreement or relocate the equipment as long as LESSEE is making a good faith effort to remedy the interference issue. LESSOR agrees that LESSOR and/or any other tenants of the Property who currently have or in the future take possession of the Property will be permitted to install only such equipment that is of the type and frequency which will not cause harmful interference which is measurable in accordance with then existing industry standards to the then existing equipment of LESSEE. The Parties acknowledge that there will not be an adequate remedy at law for noncompliance with the provisions of this Paragraph and therefore, either Party shall have the right to equitable remedies, such as, without limitation, injunctive relief and specific performance.

14. REMOVAL AT END OF TERM. LESSEE shall, upon expiration of the Term, or within ninety (90) days after any earlier termination of the Agreement, remove its building(s), antenna structure(s) (except footings), equipment, conduits, fixtures and all personal property and restore the Premises to its original condition, reasonable wear and tear and casualty damage excepted. LESSOR agrees and acknowledges that all of the equipment, conduits, fixtures and personal property of LESSEE shall remain the personal property of LESSEE and LESSEE shall have the right to remove the same at any time during the Term, whether or not said items are considered fixtures and attachments to real property under applicable Laws (as defined in Paragraph 33 below). If such time for removal causes LESSEE to remain on the Premises after termination of this Agreement, LESSEE shall pay rent at the then existing monthly rate or on the existing monthly pro-rata basis if based upon a longer payment term, until such time as the removal of the building, antenna structure, fixtures and all personal property are completed.

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15. HOLDOVER. LESSEE has no right to retain possession of the Premises or any part thereof beyond the expiration of that removal period set forth in Paragraph 14 herein, unless the Parties are negotiating a new lease or lease extension in good faith. In the event that the Parties are not in the process of negotiating a new lease or lease extension in good faith, LESSEE holds over in violation of Paragraph 14 and this Paragraph 15, then the rent then in effect payable from and after the time of the expiration or earlier removal period set forth in Paragraph 14 shall be equal to the rent applicable during the month immediately preceding such expiration or earlier termination.

16. RIGHT OF FIRST REFUSAL. If LESSOR elects, during the Term (i) to sell or otherwise transfer all or any portion of the Property, whether separately or as part of a larger parcel of which the Property is a part, or (ii) grant to a third party by easement or other legal instrument an interest in and to that portion of the Property occupied by LESSEE, or a larger portion thereof, for the purpose of operating and maintaining communications facilities or the management thereof, with or without an assignment of this Agreement to such third party, LESSEE shall have the right of first refusal to meet any bona fide offer of sale or transfer on the same terms and conditions of such offer. If LESSEE fails to meet such bona fide offer within thirty (30) days after written notice thereof from LESSOR, LESSOR may sell or grant the easement or interest in the Property or portion thereof to such third person in accordance with the terms and conditions of such third party offer. For purposes of this Paragraph, any transfer, bequest or devise of LESSOR's interest in the Property as a result of the death of LESSOR, whether by will or intestate succession, or any conveyance to LESSOR's family members by direct conveyance or by conveyance to a trust for the benefit of family members shall not be considered a sale of the Property for which LESSEE has any right of first refusal.

17. RIGHTS UPON SALE. Should LESSOR, at any time during the Term decide (i) to sell or transfer all or any part of the Property to a purchaser other than LESSEE, or (ii) to grant to a third party by easement or other legal instrument an interest in and to that portion of the Property occupied by LESSEE, or a larger portion thereof, for the purpose of operating and maintaining communications facilities or the management thereof, such sale or grant of an easement or interest therein shall be under and subject to this Agreement and any such purchaser or transferee shall recognize LESSEE's rights hereunder under the terms of this Agreement. To the extent that LESSOR grants to a third party by easement or other legal instrument an interest in and to that portion of the Property occupied by LESSEE for the purpose of operating and maintaining communications facilities or the management thereof and in conjunction therewith, assigns this Agreement to said third party, LESSOR shall not be released from its obligations to LESSEE under this Agreement, and LESSEE shall have the right to look to LESSOR and the third party for the full performance of this Agreement.

18. QUIET ENJOYMENT. LESSOR covenants that LESSEE, on paying the rent and performing the covenants herein, shall peaceably and quietly have, hold and enjoy the Premises.

SITE NAME: Branford South, CT
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19. TITLE. LESSOR represents and warrants to LESSEE as of the execution date of this Agreement, and covenants during the Term that LESSOR is seized of good and sufficient title and interest to the Property and has full authority to enter into and execute this Agreement. LESSOR further covenants during the Term that there are no liens, judgments or impediments of title on the Property, or affecting LESSOR's title to the same and that there are no covenants, easements or restrictions which prevent or adversely affect the use or occupancy of the Premises by LESSEE as set forth above.

20. INTEGRATION. It is agreed and understood that this Agreement contains all agreements, promises and understandings between LESSOR and LESSEE and that no verbal or oral agreements, promises or understandings shall be binding upon either LESSOR or LESSEE in any dispute, controversy or proceeding at law, and any addition, variation or modification to this Agreement shall be void and ineffective unless made in writing signed by the Parties. In the event any provision of the Agreement is found to be invalid or unenforceable, such finding shall not affect the validity and enforceability of the remaining provisions of this Agreement. The failure of either Party to insist upon strict performance of any of the terms or conditions of this Agreement or to exercise any of its rights under the Agreement shall not waive such rights and such Party shall have the right to enforce such rights at any time and take such action as may be lawful and authorized under this Agreement, in law or in equity.

21. GOVERNING LAW. This Agreement and the performance thereof shall be governed, interpreted, construed and regulated by the Laws of the State in which the Property is located.

22. ASSIGNMENT. This Agreement may be sold, assigned or transferred by the LESSEE without any approval or consent of the LESSOR to the LESSEE's principal, affiliates, subsidiaries of its principal or to any entity which acquires all or substantially all of LESSEE's assets in the market defined by the Federal Communications Commission in which the Property is located by reason of a merger, acquisition or other business reorganization. As to other parties, this Agreement may not be sold, assigned or transferred without the written consent of the LESSOR, which such consent will not be unreasonably withheld, delayed or conditioned. No change of stock ownership, partnership interest or control of LESSEE or transfer upon partnership or corporate dissolution of LESSEE shall constitute an assignment hereunder. LESSEE may sublet the Premises within its sole discretion, upon notice to LESSOR. Any sublease that is entered into by LESSEE shall be subject to the provisions of this Agreement and shall be binding upon the successors, assigns, heirs and legal representatives of the respective Parties hereto.

23. NOTICES. All notices hereunder must be in writing and shall be deemed validly given if sent by certified mail, return receipt requested or by commercial courier, provided the courier's regular business is delivery service and provided further that it guarantees delivery to the addressee by the end of the next business day following the courier's receipt from the sender, addressed as follows (or any other address that the Party to be notified may have designated to the sender by like notice):

08/05/09

SITE NAME: Branford South, CT
SITE NUMBER: 2000018270
DATE 8/4/09

LESSOR: James Medlyn
710 Leetes Island Road
Branford, CT 06405

LESSEE: Cellco Partnership
d/b/a Verizon Wireless
180 Washington Valley Road
Bedminster, New Jersey 07921
Attention: Network Real Estate

Notice shall be effective upon actual receipt or refusal as shown on the receipt obtained pursuant to the foregoing.

24. SUCCESSORS. This Agreement shall extend to and bind the heirs, personal representative, successors and assigns of the Parties hereto.

25. SUBORDINATION AND NON-DISTURBANCE. Delete the first sentence of this paragraph if SNDAs for all existing encumbrances are obtained prior to Lease execution. LESSOR shall obtain not later than fifteen (15) days following the execution of this Agreement, a Non-Disturbance Agreement, as defined below, from its existing mortgagee(s), ground lessors and master lessors, if any, of the Property. At LESSOR's option, this Agreement shall be subordinate to any future master lease, ground lease, mortgage, deed of trust or other security interest (a "Mortgage") by LESSOR which from time to time may encumber all or part of the Property or right-of-way; provided, however, as a condition precedent to LESSEE being required to subordinate its interest in this Agreement to any future Mortgage covering the Property, LESSOR shall obtain for LESSEE's benefit a non-disturbance and attornment agreement for LESSEE's benefit in the form reasonably satisfactory to LESSEE, and containing the terms described below (the "Non-Disturbance Agreement"), and shall recognize LESSEE's right to remain in occupancy of and have access to the Premises as long as LESSEE is not in default of this Agreement beyond applicable notice and cure periods. The Non-Disturbance Agreement shall include the encumbering party's ("Lender's") agreement that, if Lender or its successor-in-interest or any purchaser of Lender's or its successor's interest (a "Purchaser") acquires an ownership interest in the Property, Lender or such successor-in-interest or Purchaser will (1) honor all of the terms of the Agreement, (2) fulfill LESSOR's obligations under the Agreement, and (3) promptly cure all of the then-existing LESSOR defaults under the Agreement. Such Non-Disturbance Agreement must be binding on all of Lender's participants in the subject loan (if any) and on all successors and assigns of Lender and/or its participants and on all Purchasers. In return for such Non-Disturbance Agreement, LESSEE will execute an agreement for Lender's benefit in which LESSEE (1) confirms that the Agreement is subordinate to the Mortgage or other real property interest in favor of Lender, (2) agrees to attorn to Lender if Lender becomes the owner of the Property and (3) agrees to accept a cure by Lender of any of LESSOR's defaults, provided such cure is completed within the deadline applicable to LESSOR. In the event LESSOR defaults in the payment and/or other performance of any mortgage or other real property interest encumbering the Property, LESSEE, may, at its sole option and without obligation, cure or correct LESSOR's default and upon doing so, LESSEE shall be subrogated to

08/05/09

SITE NAME: Branford South, CT
SITE NUMBER: 2000018270
DATE 8/4/09

any and all rights, titles, liens and equities of the holders of such mortgage or other real property interest and LESSEE shall be entitled to deduct and setoff against all rents that may otherwise become due under this Agreement the sums paid by LESSEE to cure or correct such defaults.

26. RECORDING. LESSOR agrees to execute a Memorandum of this Agreement which LESSEE may record with the appropriate recording officer. The date set forth in the Memorandum of Lease is for recording purposes only and bears no reference to commencement of either the Term or rent payments.

27. DEFAULT.

a. In the event there is a breach by LESSEE with respect to any of the provisions of this Agreement or its obligations under it, including the payment of rent, LESSOR shall give LESSEE written notice of such breach. After receipt of such written notice, LESSEE shall have fifteen (15) days in which to cure any monetary breach and thirty (30) days in which to cure any non-monetary breach, provided LESSEE shall have such extended period as may be required beyond the thirty (30) days if the nature of the cure is such that it reasonably requires more than thirty (30) days and LESSEE commences the cure within the thirty (30) day period and thereafter continuously and diligently pursues the cure to completion. LESSOR may not maintain any action or effect any remedies for default against LESSEE unless and until LESSEE has failed to cure the breach within the time periods provided in this Paragraph.

~~b. In the event there is a breach by LESSOR with respect to any of the provisions of this Agreement or its obligations under it, LESSEE shall give LESSOR written notice of such breach. After receipt of such written notice, LESSOR shall have thirty (30) days in which to cure any such breach, provided LESSOR shall have such extended period as may be required beyond the thirty (30) days if the nature of the cure is such that it reasonably requires more than thirty (30) days and LESSOR commences the cure within the thirty (30) day period and thereafter continuously and diligently pursues the cure to completion. LESSEE may not maintain any action or effect any remedies for default against LESSOR unless and until LESSOR has failed to cure the breach within the time periods provided in this Paragraph. Notwithstanding the foregoing to the contrary, it shall be a default under this Agreement if LESSOR fails, within five (5) days after receipt of written notice of such breach, to perform an obligation required to be performed by LESSOR if the failure to perform such an obligation interferes with LESSEE's ability to conduct its business on the Property; provided, however, that if the nature of LESSOR's obligation is such that more than five (5) days after such notice is reasonably required for its performance, then it shall not be a default under this Agreement if performance is commenced within such five (5) day period and thereafter diligently pursued to completion.~~

28. REMEDIES. Upon a default, the non-defaulting Party may at its option (but without obligation to do so), perform the defaulting Party's duty or obligation on the defaulting Party's behalf, including but not limited to the obtaining of reasonably required insurance policies. The costs and expenses of any such performance by the non-defaulting Party shall be due and payable by the defaulting Party upon invoice therefor. In the event of a default by either Party with respect to a material provision of this Agreement, without limiting the non-defaulting

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SITE NAME: Branford South, CT
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Party in the exercise of any right or remedy which the non-defaulting Party may have by reason of such default, the non-defaulting Party may terminate the Agreement and/or pursue any remedy now or hereafter available to the non-defaulting Party under the Laws or judicial decisions of the state in which the Premises are located; provided, however, LESSOR shall use reasonable efforts to mitigate its damages in connection with a default by LESSEE. If LESSEE so performs any of LESSOR's obligations hereunder, the full amount of the reasonable and actual cost and expense incurred by LESSEE shall immediately be owing by LESSOR to LESSEE, and LESSOR shall pay to LESSEE upon demand the full undisputed amount thereof with interest thereon from the date of payment at the greater of (i) ten percent (10%) per annum; or (ii) the highest rate permitted by applicable Laws. Notwithstanding the foregoing, if LESSOR does not pay LESSEE the full undisputed amount within thirty (30) days of its receipt of an invoice setting forth the amount due from LESSOR, LESSEE may offset the full undisputed amount, including all accrued interest, due against all fees due and owing to LESSOR until the full undisputed amount, including all accrued interest, is fully reimbursed to LESSEE.

29. ENVIRONMENTAL.

a. LESSOR will be responsible for all obligations of compliance with any and all environmental and industrial hygiene laws, including any regulations, guidelines, standards, or policies of any governmental authorities regulating or imposing standards of liability or standards of conduct with regard to any environmental or industrial hygiene conditions or concerns as may now or at any time hereafter be in effect, that are or were in any way related to activity now conducted in, on, or in any way related to the Property, unless such conditions or concerns are caused by the specific activities of LESSEE in the Premises.

b. LESSOR shall hold LESSEE harmless and indemnify LESSEE from and assume all duties, responsibility and liability at LESSOR's sole cost and expense, for all duties, responsibilities, and liability (for payment of penalties, sanctions, forfeitures, losses, costs, or damages) and for responding to any action, notice, claim, order, summons, citation, directive, litigation, investigation or proceeding which is in any way related to: a) failure to comply with any environmental or industrial hygiene law, including without limitation any regulations, guidelines, standards, or policies of any governmental authorities regulating or imposing standards of liability or standards of conduct with regard to any environmental or industrial hygiene concerns or conditions as may now or at any time hereafter be in effect, unless such non-compliance results from conditions caused by LESSEE; and b) any environmental or industrial hygiene conditions arising out of or in any way related to the condition of the Property or activities conducted thereon, unless such environmental conditions are caused by LESSEE.

30. CASUALTY. In the event of damage by fire or other casualty to the Premises that cannot reasonably be expected to be repaired within forty-five (45) days following same or, if the Property is damaged by fire or other casualty so that such damage may reasonably be expected to disrupt LESSEE's operations at the Premises for more than forty-five (45) days, then LESSEE may, at any time following such fire or other casualty, provided LESSOR has not completed the restoration required to permit LESSEE to resume its operation at the Premises, terminate this Agreement upon fifteen (15) days prior written notice to LESSOR. Any such notice of

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termination shall cause this Agreement to expire with the same force and effect as though the date set forth in such notice were the date originally set as the expiration date of this Agreement and the Parties shall make an appropriate adjustment, as of such termination date, with respect to payments due to the other under this Agreement. Notwithstanding the foregoing, the rent shall abate during the period of repair following such fire or other casualty in proportion to the degree to which LESSEE's use of the Premises is impaired.

31. CONDEMNATION. In the event of any condemnation of all or any portion of the Property, this Agreement shall terminate as to the part so taken as of the date the condemning authority takes title or possession, whichever occurs first. If as a result of a partial condemnation of the Premises or Property, LESSEE, in LESSEE's sole discretion, is unable to use the Premises for the purposes intended hereunder, or if such condemnation may reasonably be expected to disrupt LESSEE's operations at the Premises for more than forty-five (45) days, LESSEE may, at LESSEE's option, to be exercised in writing within fifteen (15) days after LESSOR shall have given LESSEE written notice of such taking (or in the absence of such notice, within fifteen (15) days after the condemning authority shall have taken possession) terminate this Agreement as of the date the condemning authority takes such possession. LESSEE may on its own behalf make a claim in any condemnation proceeding involving the Premises for losses related to the equipment, conduits, fixtures, its relocation costs and its damages and losses (but not for the loss of its leasehold interest). Any such notice of termination shall cause this Agreement to expire with the same force and effect as though the date set forth in such notice were the date originally set as the expiration date of this Agreement and the Parties shall make an appropriate adjustment ~~as of such termination date with respect to payments due to the other under this Agreement.~~ If LESSEE does not terminate this Agreement in accordance with the foregoing, this Agreement shall remain in full force and effect as to the portion of the Premises remaining, except that the rent shall be reduced in the same proportion as the rentable area of the Premises taken bears to the total rentable area of the Premises. In the event that this Agreement is not terminated by reason of such condemnation, LESSOR shall promptly repair any damage to the Premises caused by such condemning authority.

32. SUBMISSION OF AGREEMENT/PARTIAL INVALIDITY/AUTHORITY. The submission of this Agreement for examination does not constitute an offer to lease the Premises and this Agreement becomes effective only upon the full execution of this Agreement by the Parties. If any provision herein is invalid, it shall be considered deleted from this Agreement and shall not invalidate the remaining provisions of this Agreement. Each of the Parties hereto warrants to the other that the person or persons executing this Agreement on behalf of such Party has the full right, power and authority to enter into and execute this Agreement on such Party's behalf and that no consent from any other person or entity is necessary as a condition precedent to the legal effect of this Agreement.

33. APPLICABLE LAWS. During the Term, LESSOR shall maintain the Property in compliance with all applicable laws, rules, regulations, ordinances, directives, covenants, easements, zoning and land use regulations, and restrictions of record, permits, building codes, and the requirements of any applicable fire insurance underwriter or rating bureau, now in effect or which may hereafter come into effect (including, without limitation, the Americans with

08/05/09

SITE NAME: Branford South, CT
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Disabilities Act and laws regulating hazardous substances) (collectively "Laws"). LESSEE shall, in respect to the condition of the Premises and at LESSEE's sole cost and expense, comply with (a) all Laws relating solely to LESSEE's specific and unique nature of use of the Premises (other than general office use); and (b) all building codes requiring modifications to the Premises due to the improvements being made by LESSEE in the Premises.

34. SUBLEASING. LESSEE may sublease any portion of the Premises Land Space at its sole discretion, upon notice to LESSOR. Any sublease that is entered into by LESSEE shall be subject to the provisions of this Agreement and shall be binding upon the successors, assigns, heirs and legal representatives of the respective parties hereto. The term "Sublease", "Sublet", "Sublessee" and any other similar term shall apply to any situation by which LESSEE allows a third party use of the Property for co-location, whether it be by formal sublease, license or other agreement. All rights and responsibilities of LESSEE set forth in this Agreement shall be enjoyed by and binding on any Sublessee.

(a) In the event LESSEE subleases any portion of the Land Space, in accordance with this Agreement, any rental paid by any Sublessee(s) shall be divided between the LESSOR and the LESSEE in the following manner: Ten percent (10%) to LESSOR and Ninety percent (90%) to LESSEE. Any Sublessee shall be instructed to pay the foregoing percentage amounts directly to the LESSOR and the LESSEE. The LESSEE shall not be responsible to the LESSOR for the collection or payment of rents by the Sublessee to the LESSOR, and the LESSEE shall have no liability to the LESSOR in the event of failure of payment by Sublessee.

(b) It is understood and agreed by the Parties that the foregoing rental percentage amounts shall only apply if the LESSEE is able to accommodate all of Sublessee's facilities within LESSEE's Land Space. If the LESSEE is unable to accommodate any or part of Sublessee's facilities within the Premises, then LESSOR may enter into an agreement with the Sublessee for a portion of the property that Sublessee requires to locate its facilities. In this event, LESSEE shall receive 100% of the rental for that portion of the facilities that are located within the limits of the Premises and LESSOR shall receive 100% of the rental, negotiated by the LESSOR and Sublessee, for the portion of Sublessee's facilities that are located on the property outside LESSEE's Premises.

(c) Notwithstanding any other provision of this Agreement, the LESSEE shall not be required to obtain approval from the LESSOR for the Subletting of the Premises or part thereof. The LESSEE shall have the sole right to determine whether it will Sublet any portion of the Premises or whether it will sublease to any specific Sublessee.

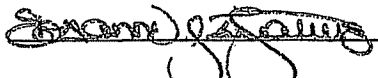

35. SURVIVAL. The provisions of the Agreement relating to indemnification from one Party to the other Party shall survive any termination or expiration of this Agreement. Additionally, any provisions of this Agreement which require performance subsequent to the termination or expiration of this Agreement shall also survive such termination or expiration.

08/05/09

SITE NAME: Branford South, CT
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DATE 8/4/09

36. **CAPTIONS.** The captions contained in this Agreement are inserted for convenience only and are not intended to be part of the Agreement. They shall not affect or be utilized in the construction or interpretation of the Agreement.

IN WITNESS WHEREOF, the Parties hereto have set their hands and affixed their respective seals the day and year first above written.


WITNESS


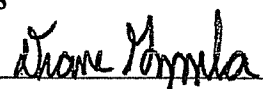
LESSOR: James Medlyn

By: 

Date: 8/10/09

LESSEE: Cellco Partnership d/b/a Verizon Wireless

By: 
David R. Heverling

WITNESS


Its: Area Vice President Network

Date: 102909

08/05/09

SITE NAME: Branford South, CT
SITE NUMBER: 2000018270
DATE 8/4/09

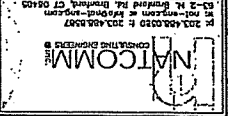
Exhibit "A"

(Sketch of Premises within Property)

08/05/09

DATE	BY	REVISION

DATE: 08/20/18
 BY: J. J. GRIFFIN
 REVISION: 1.0



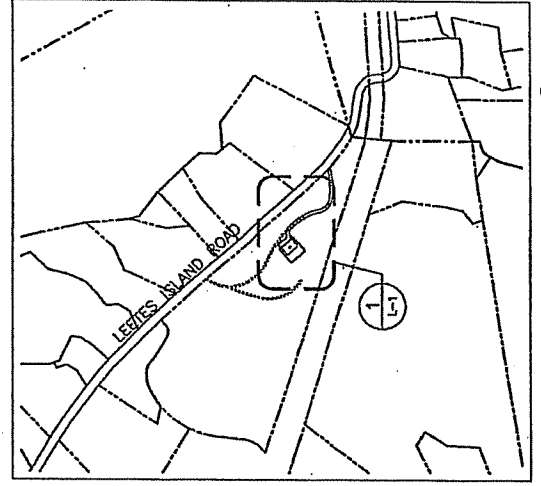
VERIZON WIRELESS
 BRANFORD SOUTH
 723 LEETES ISLAND RD.
 BRANFORD, CT

PROJECT NO.: L-1

LEASE EXHIBIT

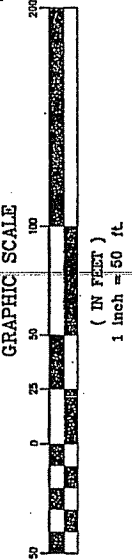
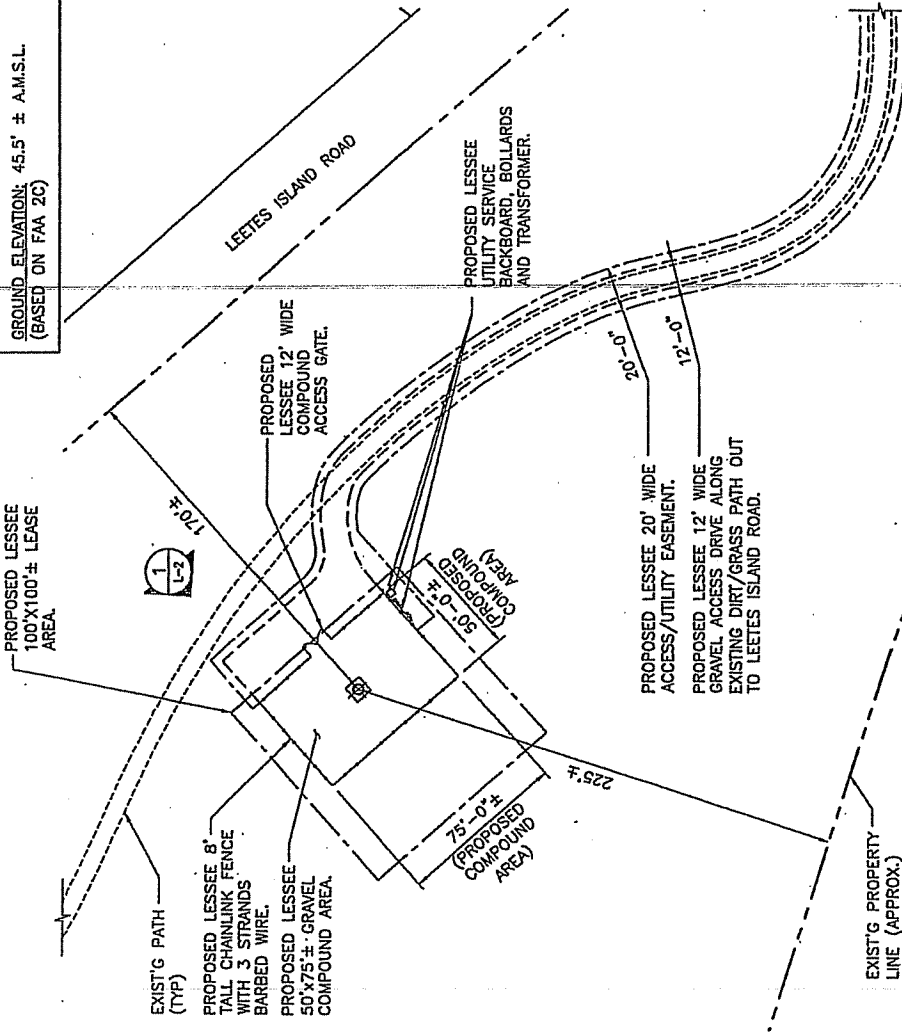
THIS LEASE PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATION FACILITY. THE SITE LAYOUT, INCLUDING STRUCTURAL VERIFICATION WILL BE FINALIZED UPON COMPLETION OF SITE SURVEY AND FACILITY DESIGN.

- NOTES:**
1. THE PROPOSED LESSEE ANTENNA INSTALLATION SHALL INCLUDE (3) SECTORS OF (5) ANTENNAS EACH FOR A TOTAL OF (15) ANTENNAS.
 2. LOCATION OF EXISTING UTILITY DEMARCS TO BE DETERMINED/VERIFIED BY THE LOCAL UTILITY COMPANIES.
 3. PROPERTY LINES SHOWN HEREIN BASED ON TOWN OF BRANFORD ASSESSOR'S MAP.



SITE KEY PLAN
 SCALE: 1" = 600'

PRELIM. SITE COORDINATES: LAT: 41°-15'-58.871"
 (BASED ON FAA ZC) LNG: 72°-43'-59.700"
 GROUND ELEVATION: 45.5' ± A.M.S.L.
 (BASED ON FAA ZC)

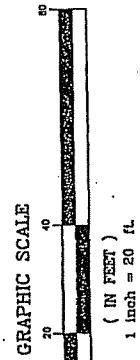
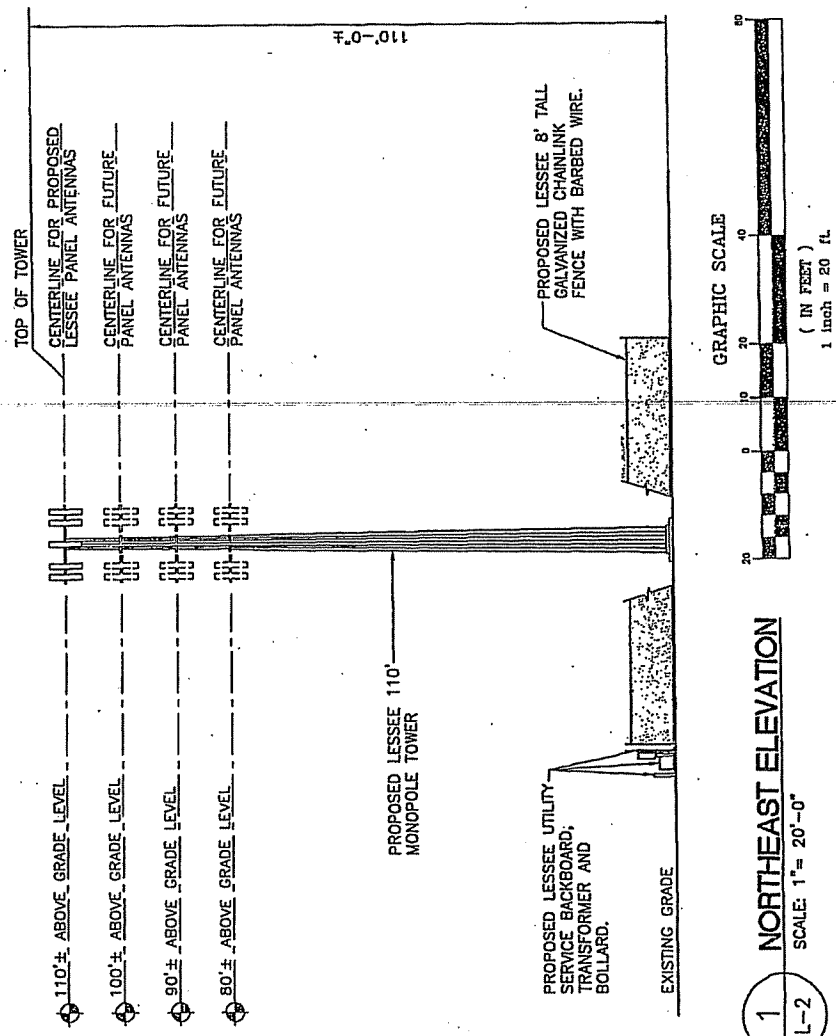


TRUE NORTH
1
COMPOUND PLAN
 SCALE: 1" = 50'-0"

LEASE EXHIBIT

THIS LEASE PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATION FACILITY. THE SITE LAYOUT, INCLUDING STRUCTURAL VERIFICATION WILL BE FINALIZED UPON COMPLETION OF SITE SURVEY AND FACILITY DESIGN.

NOTE:
THE PROPOSED LESSEE ANTENNA INSTALLATION TO INCLUDE FIFTEEN (15) PANEL ANTENNAS.



1 NORTH-EAST ELEVATION
SCALE: 1" = 20'-0"

SITE NAME: Branford South, CT
SITE NUMBER: 2000018270
DATE 12/28/09

FIRST AMENDMENT TO OPTION AND LAND LEASE AGREEMENT

This Agreement, made this 4th day of August, 2010 between James John Medlyn, an individual, with an address at 710 Leetes Island Road, Branford, CT hereinafter designated LESSOR and Cellco Partnership, d/b/a Verizon Wireless, with its principal office located at One Verizon Way, Basking Ridge, Mail Stop 4AW100, New Jersey 07920, hereinafter designated LESSEE. The LESSOR and LESSEE are at times collectively referred to hereinafter as the "Parties" or individually as the "Party".

WHEREAS, the Parties executed that certain Option and Land Lease Agreement, dated October 29, 2009, ("Lease"), for the lease of a portion of the Lessor's Property located at Leetes Island Road in the Town of Branford, State of Connecticut (the "Property").

WHEREAS, the Parties desire to amend the Lease.

NOW THEREFORE, for valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree to amend the Lease as follows:

- 1) The Exhibit A attached to the Lease shall be deleted in its entirety and replaced with the revised Exhibit A attached hereto and incorporated herein.

All other terms and conditions of the Lease not herein modified shall remain in full force and effect.

IN WITNESS WHEREOF, the Parties hereto have set their hands and affixed their respective seals the day and year first above written.

(Signatures contained on following page)

SITE NAME: Branford South, CT
SITE NUMBER: 2000018270
DATE 12/28/09

IN WITNESS WHEREOF, the Parties hereto have set their hands and affixed their respective seals the day and year first above written.

LESSOR: James Medlyn

By: James J. Medlyn

Date: 12/30/09

WITNESS

Basil R. Duncan

Susan A. Lowe

LESSEE: Cellco Partnership d/b/a
Verizon Wireless

By: David R. Heverling

WITNESS

Karen Paul

Karen Paul

Its: Area Vice President Network

Date: 8.4.10

Revised Exhibit "A"

SITE NAME: Branford South, CT
SITE NUMBER: 2000018270
DATE 12/28/09

Revised Exhibit "A"

(Sketch of Premises within Property)

NO.	DATE	DESCRIPTION
1	01/15/09	ISSUED FOR PERMIT REVIEW
2	02/17/09	REVISED PERMIT REVIEW
3	03/17/09	REVISED PERMIT REVIEW
4	04/17/09	REVISED PERMIT REVIEW
5	05/17/09	REVISED PERMIT REVIEW
6	06/17/09	REVISED PERMIT REVIEW
7	07/17/09	REVISED PERMIT REVIEW
8	08/17/09	REVISED PERMIT REVIEW
9	09/17/09	REVISED PERMIT REVIEW
10	10/17/09	REVISED PERMIT REVIEW
11	11/17/09	REVISED PERMIT REVIEW
12	12/17/09	REVISED PERMIT REVIEW
13	01/17/10	REVISED PERMIT REVIEW
14	02/17/10	REVISED PERMIT REVIEW
15	03/17/10	REVISED PERMIT REVIEW
16	04/17/10	REVISED PERMIT REVIEW
17	05/17/10	REVISED PERMIT REVIEW
18	06/17/10	REVISED PERMIT REVIEW
19	07/17/10	REVISED PERMIT REVIEW
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92	08/17/16	REVISED PERMIT REVIEW
93	09/17/16	REVISED PERMIT REVIEW
94	10/17/16	REVISED PERMIT REVIEW
95	11/17/16	REVISED PERMIT REVIEW
96	12/17/16	REVISED PERMIT REVIEW
97	01/17/17	REVISED PERMIT REVIEW
98	02/17/17	REVISED PERMIT REVIEW
99	03/17/17	REVISED PERMIT REVIEW
100	04/17/17	REVISED PERMIT REVIEW

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 BRANFORD, CT 06405

DATE: 07/20/09
 DRAWN BY: J. GARDNER
 CHECKED BY: J. GARDNER
 PROJECT NO.: 09-001

Sheet No. **L-1**

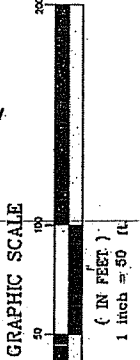
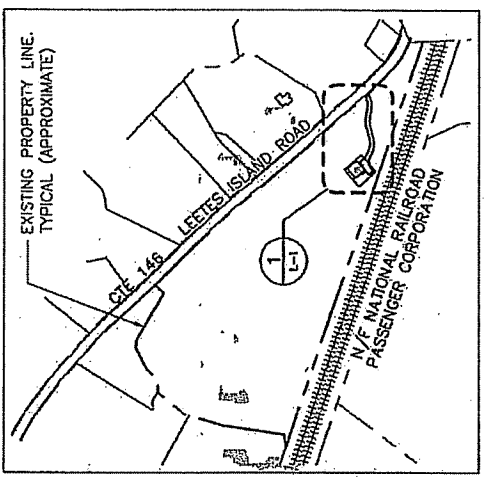
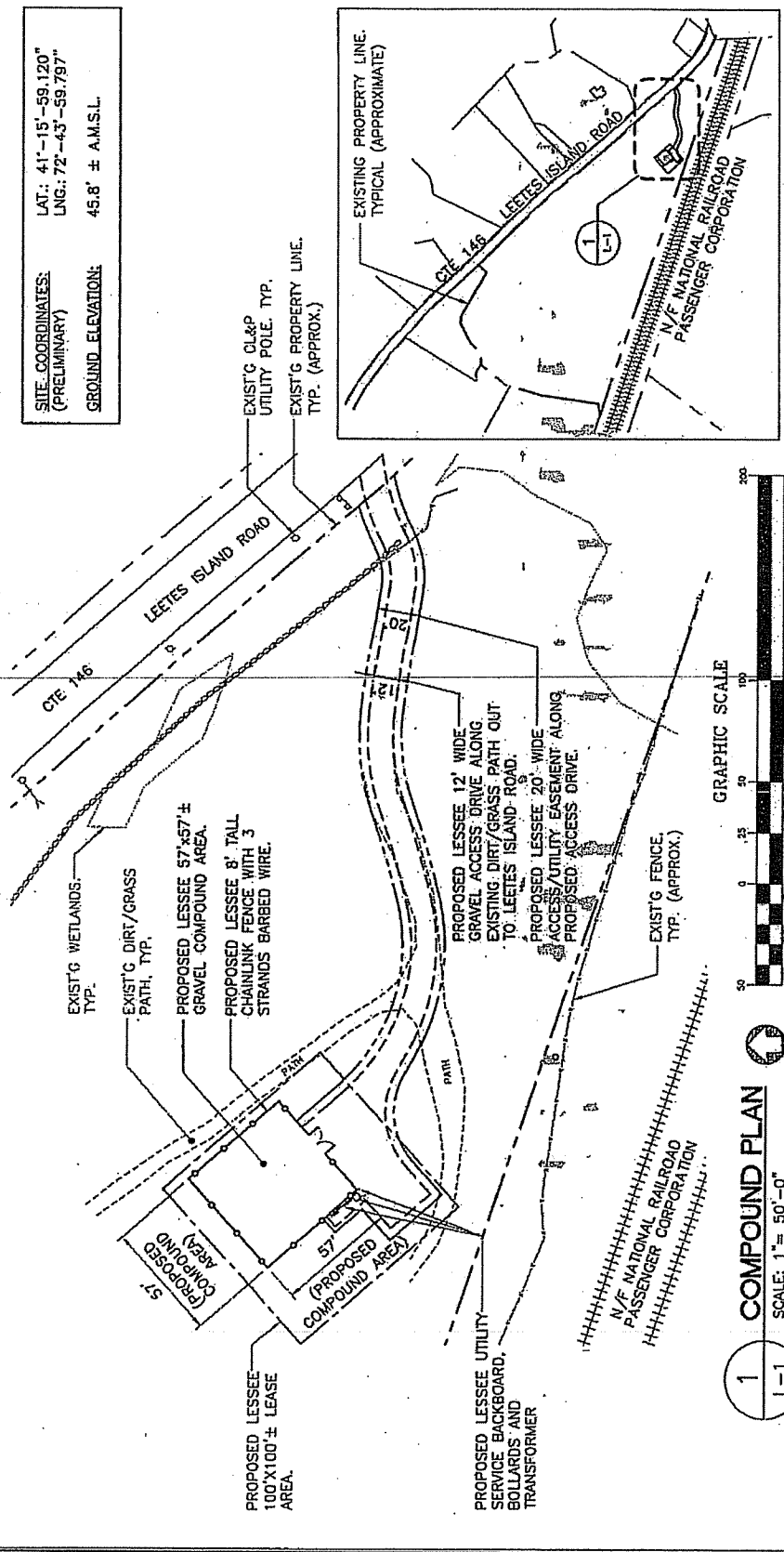
LEASE EXHIBIT

THIS LEASE PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATION FACILITY. THE SITE LAYOUT, INCLUDING STRUCTURAL VERIFICATION, WILL BE FINALIZED UPON COMPLETION OF SITE SURVEY AND FACILITY DESIGN.

SITE COORDINATES:
 (PRELIMINARY)
 LAT.: 41°-15'-59.120"
 LNG.: 72°-43'-59.797"
GROUND ELEVATION: 45.8' ± A.M.S.L.

NOTES:

1. LOCATION OF EXISTING UTILITY DEMARCS TO BE DETERMINED/VERIFIED BY THE LOCAL UTILITY COMPANIES.
2. LESSEE PROPOSING A 99' TALL RF TRANSPARENT WATER TANK/TOWER TO BE LOCATED WITHIN THE PROPOSED LEASE AREA.

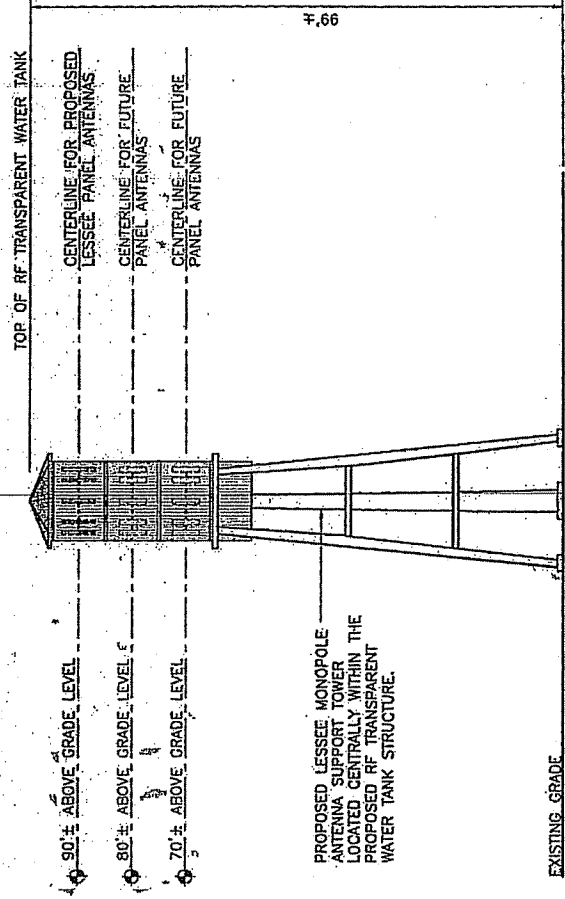


1 COMPOUND PLAN
 SCALE: 1" = 50'-0"
 APPROXIMATE NORTH

1 SITE KEY PLAN
 SCALE: 1" = 500'
 APPROXIMATE NORTH

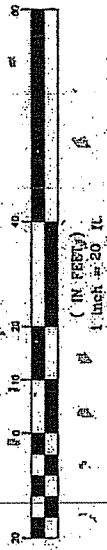
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PROPOSED LESSEE MONOPOLE ANTENNA SUPPORT TOWER LOCATED CENTRALLY WITHIN THE PROPOSED RF TRANSPARENT WATER TANK STRUCTURE.

GRAPHIC SCALE



TOWER ELEVATION

SCALE: 1" = 20'-0"



NO.	DATE	BY	DESCRIPTION
1	07/23/09	JAS	ISSUED FOR PERMIT
2	07/23/09	JAS	ISSUED FOR PERMIT
3	07/23/09	JAS	ISSUED FOR PERMIT
4	07/23/09	JAS	ISSUED FOR PERMIT
5	07/23/09	JAS	ISSUED FOR PERMIT
6	07/23/09	JAS	ISSUED FOR PERMIT
7	07/23/09	JAS	ISSUED FOR PERMIT
8	07/23/09	JAS	ISSUED FOR PERMIT
9	07/23/09	JAS	ISSUED FOR PERMIT
10	07/23/09	JAS	ISSUED FOR PERMIT
11	07/23/09	JAS	ISSUED FOR PERMIT
12	07/23/09	JAS	ISSUED FOR PERMIT
13	07/23/09	JAS	ISSUED FOR PERMIT
14	07/23/09	JAS	ISSUED FOR PERMIT
15	07/23/09	JAS	ISSUED FOR PERMIT
16	07/23/09	JAS	ISSUED FOR PERMIT
17	07/23/09	JAS	ISSUED FOR PERMIT
18	07/23/09	JAS	ISSUED FOR PERMIT
19	07/23/09	JAS	ISSUED FOR PERMIT
20	07/23/09	JAS	ISSUED FOR PERMIT



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