Connecticut Siting Council

APPLICATION OF CELLCO PARTNERSHIP
D/B/A VERIZON WIRELESS

DAYVILLE
520 BAILEY HILL ROAD
KILLINGLY, CONNECTICUT

DOCKET NO. _____

JULY 26, 2016

verizon

TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY i

LOCATION MAP ii

AERIAL PHOTO iii

I. INTRODUCTION 1

A. Authority and Purpose 1

B. The Applicant 2

C. Application Fee 3

II. SERVICE AND NOTICE REQUIRED BY C.G.S. SECTION 16-50*l*(b) 3

III. STATEMENT OF NEED AND BENEFITS FOR THE PROVISION OF ADVANCED AND RELIABLE WIRELESS SERVICES 4

A. Federal Policy 4

B. Public Need and System Design 6

1. Need for the Dayville Facility 6

2. Cell Site Information 7

3. System Design and Cell Site Equipment 9

a. System Design 9

b. Cell Site Equipment 10

4. Technological Alternatives 10

C. Site Selection and Tower Sharing 11

1. Cell Site Selection 11

2. Tower Sharing 12

3. Overall Costs and Benefits 12

4. Environmental Compatibility 13

a. Primary Facility Impact is Visual 13

b. Environmental Reviews and Agency Comments 14

c. Non-Ionizing Radio Frequency Radiation 16

d. Other Environmental Issues 16

5. Consistency with Local Land Use Controls 17

a. Planned and Existing Land Uses 17

b. Plan of Conservation and Development 17

TABLE OF CONTENTS
(continued)

Page

c. Zoning Regulations 17
d. Inland Wetland and Watercourse Regulations 18
6. Local Input 18
7. Consultations With State and Federal Officials 19
a. Federal Communications Commission 19
b. Federal Aviation Administration 19
c. United States Fish and Wildlife Service 19
d. Connecticut Department of Energy and Environmental Protection 20
e. Connecticut State Historic Preservation Officer 20
D. Estimated Cost and Schedule 20
1. Overall Estimated Costs 20
2. Overall Scheduling 21
IV. CONCLUSION 21

LIST OF ATTACHMENTS

1. Dayville Facility – Factual Summary and Project Plans
2. Certificate of Service of Application on Government Officials; and List of Officials Served
3. Legal Notice in *The Bulletin*
4. Notice to Landowners; List of Abutting Landowners; Certificate of Service
5. Federal Communications Commission Licenses
6. Coverage Maps – Location of Dayville and Surrounding Cell Sites
7. Antenna and Equipment Specifications
8. Site Search Summary
9. Visibility Analysis
10. USFWS Compliance Determination and *Northern Long-Eared Bat* Streamlined Consultation
11. NDDB Determination
12. Avian Resources Evaluation
13. Cultural Resources Screen Map
14. General Power Density Table
15. Wetland Inspection Report
16. FEMA – Flood Insurance Rate Maps
17. Federal Airways & Airspace Summary Report
18. Redacted Lease Agreement

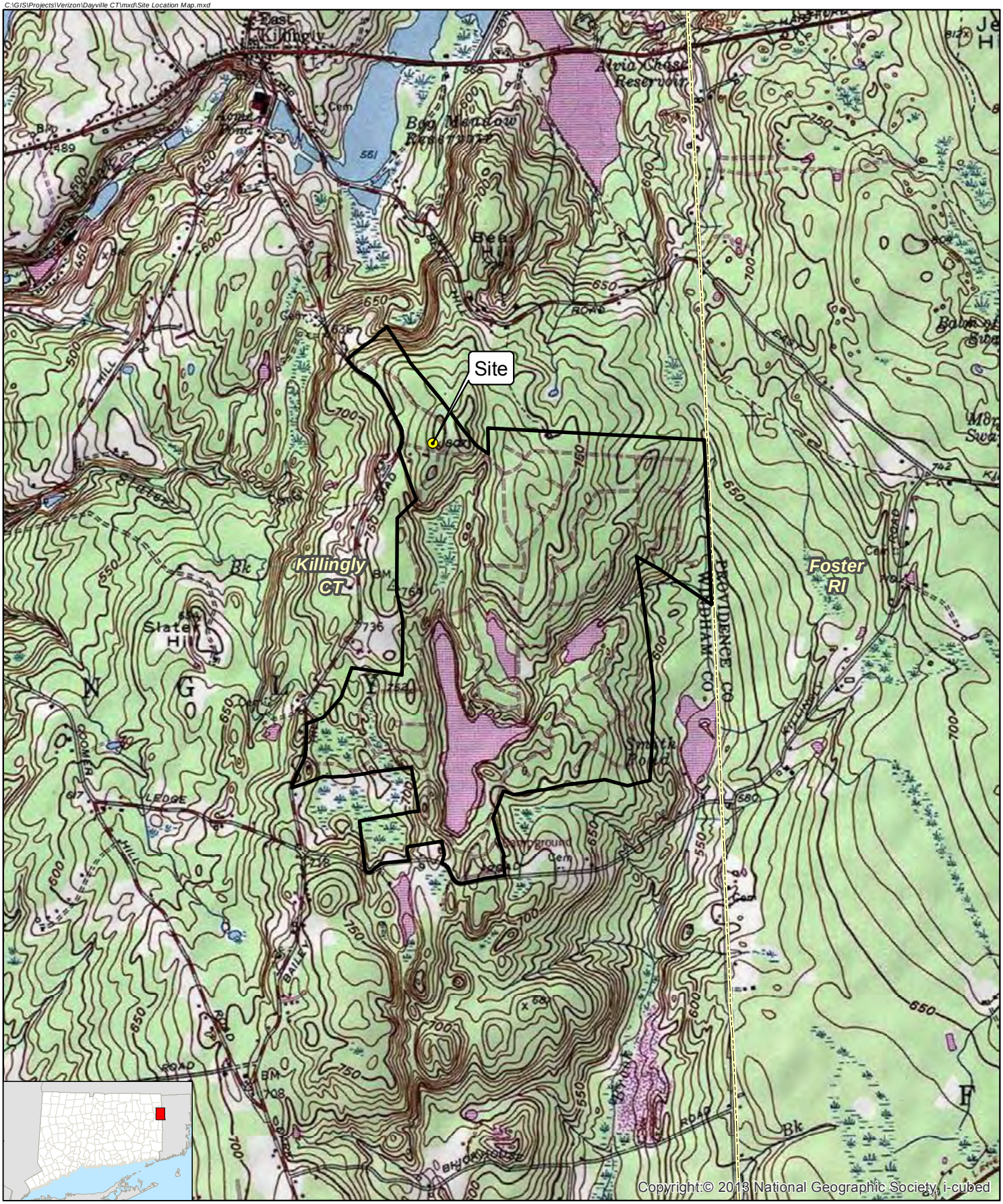
EXECUTIVE SUMMARY

Cellco Partnership d/b/a Verizon Wireless ("Cellco") ("Applicant") proposes to construct a telecommunications tower and related facility in the northwestern portion of a 648-acre parcel at 520 Bailey Hill Road in Killingly, Connecticut. The parcel is owned by Tri Lakes LLC. Cellco refers to this cell site as its "Dayville Facility".

The Dayville Facility will provide improved wireless coverage to existing service gaps in Killingly and capacity relief to Cellco's existing Killingly cell site (Beta sector) that is currently operating at or near its capacity limits.

Cellco proposes the construction of a 150-foot telecommunications tower and install nine (9) panel-type antennas and nine (9) remote radio heads at a centerline height of 150 feet above ground level ("AGL"). Cellco would also install a 10' x 20' steel platform and canopy structure on the ground near the base of the tower to support its radio equipment cabinets and a 15 kW diesel-fueled back-up generator. The tower, equipment cabinets and generator will be located within a 50' x 50' fenced compound and 100' x 100' leased area. Vehicular access to the Facility would extend from Bailey Hill Road over an existing driveway, a distance of approximately 582 feet, then over a new gravel driveway extension an additional distance of approximately 92 feet to the facility compound. Utilities would extend underground from existing service along Bailey Hill Road.

C:\GIS\Projects\Verizon\Dayville CT\mxd\Site Location Map.mxd



Legend

- Proposed Monopole Tower
- Subject Property
- Municipal Boundary

<u>Map Notes:</u>
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Map, East Killingly, CT (1974)
Site located on the East Killingly, CT Quadrangle
Map Scale: 1:24,000
Map Date: May 2016

N
W E
S

1,000 500 0 1,000
Feet

ii

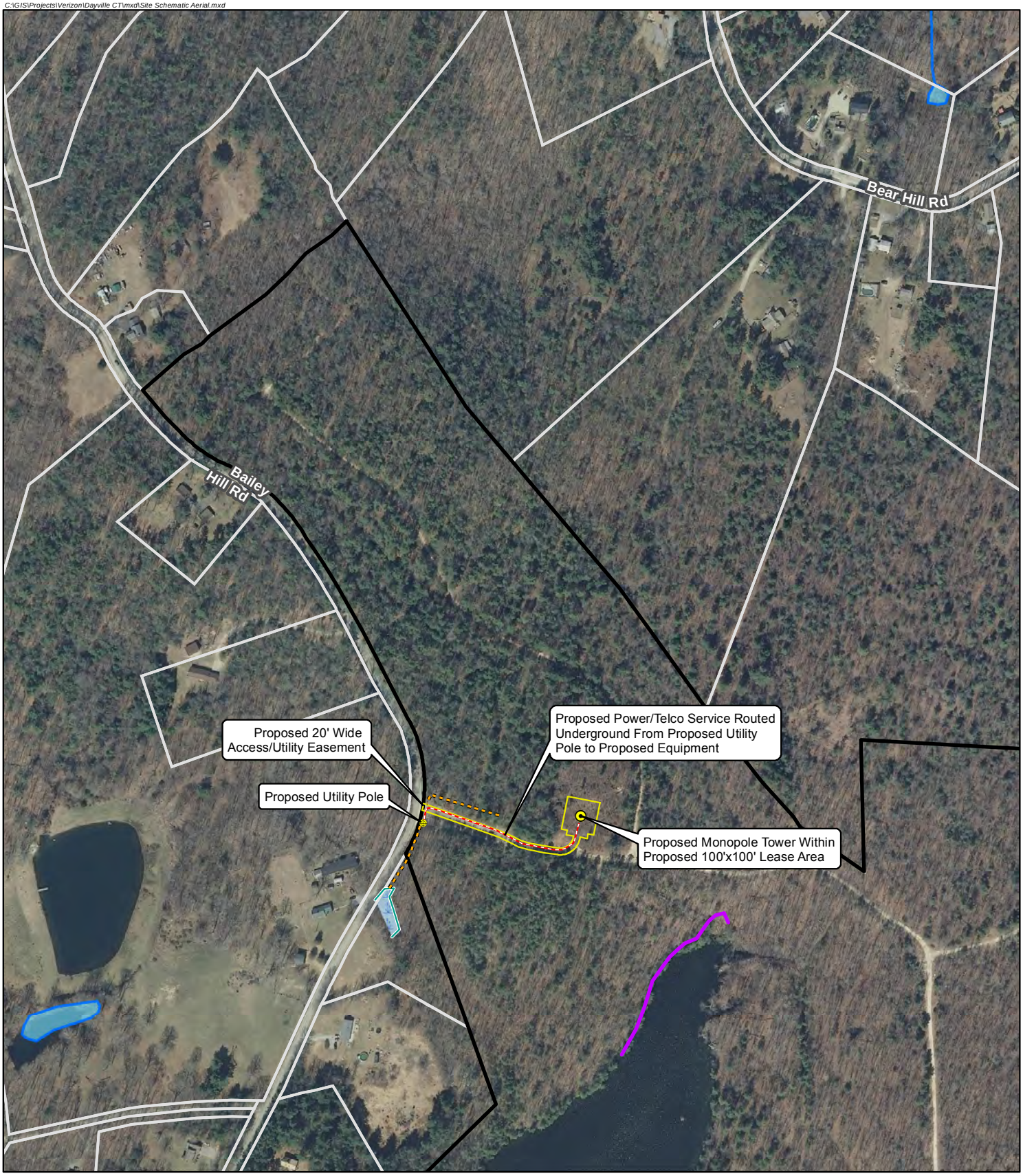
Site Location Map

Proposed Wireless
Telecommunications Facility
Dayville CT
520 Bailey Hill Road
Killingly, Connecticut

verizon

ALL-POINTS TECHNOLOGY CORPORATION

C:\GIS\Projects\Verizon\Dayville CT\mxd\Site Schematic Aerial.mxd



Legend

- Proposed Monopole Tower
- Proposed Utility Pole
- Proposed Facility Layout
- Proposed Power/Telco Service Routed Underground
- Subject Property
- Approximate Parcel Boundary (CTDEEP GIS)
- Watercourse (CTDEEP)
- Open Water (CTDEEP)
- Wetland Boundary
- Dry Drainage Swale
- Field Confirmed Edge of Pond
- Wetland Area

Site Schematic

Proposed Wireless Telecommunications Facility
Dayville CT
520 Bailey Hill Road
Killingly, Connecticut

N
W E
S

400 200 0 400 Feet

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 400 feet
Map Date: May 2016

verizon

ALL-POINTS TECHNOLOGY CORPORATION

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE:	:	
	:	
APPLICATION OF CELLCO	:	**DOCKET NO. ____**
PARTNERSHIP D/B/A VERIZON	:	
WIRELESS FOR A CERTIFICATE OF	:	
ENVIRONMENTAL COMPATIBILITY	:	
AND PUBLIC NEED FOR THE	:	
CONSTRUCTION, MAINTENANCE	:	
AND OPERATION OF A WIRELESS	:	
TELECOMMUNICATIONS FACILITY	:	
AT 520 BAILEY HILL ROAD IN	:	
KILLINGLY, CONNECTICUT	:	**JULY 26, 2016**

APPLICATION FOR CERTIFICATE OF
ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED

I. INTRODUCTION

A. Authority and Purpose

This Application and the accompanying attachments (collectively, the "Application") is submitted by Cellco Partnership d/b/a Verizon Wireless ("Cellco") or the ("Applicant"), pursuant to Chapter 277a, Sections 16-50g et seq. of the Connecticut General Statutes ("C.G.S."), as amended, and Sections 16-50j-1 et seq. of the Regulations of Connecticut State Agencies ("R.C.S.A."), as amended. The Application requests that the Connecticut Siting Council ("Council") issue a Certificate of Environmental Compatibility and Public Need ("Certificate") for the construction, maintenance, and operation of a wireless telecommunications facility at 520 Bailey Hill Road in Killingly, Connecticut (the "Property"). Cellco has designated this cell site as its "Dayville Facility". The proposed Dayville Facility will consist of a 150-foot monopole

tower in the northwesterly portion of a 648-acre parcel. Cellco would install its antennas at the 150-foot level on the tower. Cellco's equipment cabinets and diesel-fueled back-up generator will be installed on a 10' x 20' steel platform with a canopy structure installed near the base of the tower.

Included in this Application, as Attachment 1 is a factual summary and project plans for the proposed Dayville Facility. This summary, along with the other attachments submitted as part of this Application, contain all of the site-specific information required by statute and the regulations of the Council.

B. The Applicant

Cellco is a Delaware Partnership with an administrative office located at 99 East River Drive, East Hartford, CT, 06108. Cellco is licensed by the Federal Communications Commission ("FCC") to operate a wireless telecommunications system in the State of Connecticut within the meaning of C.G.S. Section 16-50i(a)(6). Cellco has extensive national experience in the development, construction and operation of wireless telecommunications systems and the provision of wireless telecommunications service to the public. Operation of the wireless telecommunications systems and related activities are Cellco's sole business in the State of Connecticut.

Correspondence and/or communications regarding this Application may be addressed to:

Cellco Partnership d/b/a Verizon Wireless
99 East River Drive
East Hartford, Connecticut 06108
Attention: Anthony Befera

A copy of all such correspondence or communications should also be sent to:

Robinson & Cole LLP
280 Trumbull Street
Hartford, Connecticut 06103-3597
(860) 275-8200
Attention: Kenneth C. Baldwin, Esq.

C. Application Fee

The estimated total construction cost for the Dayville Facility would be less than $5,000,000. Therefore, pursuant to Section 16-50v-1a(b) of the Regulations of Connecticut State Agencies, an application fee of $1,250 accompanies this Application in the form of a check payable to the Council.

II. SERVICE AND NOTICE REQUIRED BY C.G.S. SECTION 16-50*l*(b)

Copies of this Application have been sent by certified mail, return receipt requested, to municipal, regional, state and federal officials, pursuant to C.G.S. Section 16-50*l*(b). A certificate of service, along with a list of the parties served with a copy of the Application, is included as Attachment 2.

Notice of Cellco's intent to submit this Application was published on July 21 and 22, 2016, by Cellco in *The Bulletin* pursuant to C.G.S. Section 16-50*l*(b). A copy of the published legal notice is included in Attachment 3. A copy of an Affidavit of Publication will be forwarded to the Council as soon as it is available.

Attachment 4 contains a certification that notice of Cellco's intent to file this Application was sent to each person appearing of record as an owner of land that may be considered to abut the Property in accordance with C.G.S. Section 16-50*l*(b), as well as a list of the property owners to whom such notice was sent and a sample notice letter, including attachments.

III. STATEMENT OF NEED AND BENEFITS FOR THE PROVISION OF ADVANCED AND RELIABLE WIRELESS SERVICES

The purpose of this section is to provide an overview and general description of the proposed Dayville Facility.

A. Federal Policy

In 1996, the United States Congress adopted the federal Telecommunications Act (the "Act"). (Pub. L. No. 104-104, 110 Stat. 56). The Act recognized, among other things, an important nationwide need for high-quality wireless telecommunication services of all varieties. The Act also expressly promotes competition and seeks to reduce federal, state and local government regulation in all aspects of the telecommunications industry in order to foster lower prices for consumers and to encourage the rapid deployment of new and advanced wireless service and technologies.

Because the FCC and the United States Congress have determined that there is a pressing public need for high-quality wireless telecommunications service nationwide, the federal government has preempted the determination of public need by states and municipalities, including the Council, with respect to public need for the service to be provided by the facility described in this Application. In addition, the FCC has promulgated regulations containing technical standards for wireless systems, including design standards, in order to ensure the technical integrity of each system and nationwide compatibility among all systems. State and local regulation of these matters is likewise preempted. The FCC has also exercised its jurisdiction over and preempted state and local regulation with respect to radio frequency emission and interference issues by establishing regulations and requirement in these areas as well.

Pursuant to FCC authorizations, Cellco has constructed and currently operates a wireless system throughout Connecticut. This system, together with Cellco's system throughout its New

England and national markets, has been designed and constructed to operate as one integrated, contiguous system, consistent with Cellco's business policy of developing compatibility and continuity of service on a regional and national basis.

Recognizing the public safety benefits that enhanced wireless telecommunications networks can provide, the United States, Congress also enacted the Wireless Communications and Public Safety Act of 1999 to promote and enhance public safety by making 911 the universal emergency assistance number, furthering the deployment of wireless 911 capabilities and further encouraging the construction and operation of seamless, ubiquitous and reliable wireless networks. In 2004, Congress enacted the Enhanced 911 (E-911) Act for the specific purpose of enhancing and promoting Homeland Security, public safety and citizen activated emergency response capabilities. These goals and other related responsibilities imposed on wireless service providers can only be satisfied if Cellco maintains a ubiquitous and reliable wireless network.

In December of 2009, President Obama issued Presidential Proclamation No. 8460 (74 C.F.R. 234 (2009)), which recognizes the need to protect the nation's "critical infrastructure", including, among others, "cellular phone towers". In 2010, the FCC developed a national broadband policy[1] to 1) ensure that all Americans would have access to broadband capability, whether wired or wireless, 2) establish the United States as a leader in wireless service innovation, and 3) establish, in America, the fastest and most extensive wireless network. In an effort to encourage a more timely review and approval of wireless facility siting applications, the FCC, in 2011, established specific time limits for local and State land use decisions on wireless facilities.[2]

[1] Connecting America: The National Broadband Plan, Federal Communications Commission (2010).

[2] FCC Declaratory Ruling WT Docket No. 08-165.

In 2012, Congress passed the Middle Class Tax Relief and Job Creation Act which included a provision (Section 6409) which mandates the approval of certain eligible wireless facility modifications. The provisions of Section 6409 were further clarified in the FCC's October 17, 2014 Report and Order (FCC-14-153) and were specifically designed to accelerate broadband deployment by improving wireless siting policies.

Included as Attachment 5 is a copy of the FCC's authorization issued to Cellco for its wireless service in Windham County, Connecticut. The FCC's rules permit a licensee to modify its system, including the addition of new cell sites, without prior approval by the FCC, as long as the licensee's authorized service area is not enlarged. The Dayville Facility would not enlarge Cellco's authorized service area.

B. Public Need and System Design

1. Need for the Dayville Facility

As noted above, the Act has pre-empted any state or local determination of public need for wireless services. In Windham County, Cellco holds an FCC License to provide wireless services in the 700 MHz, 850 MHz, 1900 MHz and 2100 MHz frequency ranges. Pursuant to its FCC Licenses, Cellco has developed and continues to develop a network of cell sites to serve the demand for enhanced wireless services throughout the nation and more specifically, the State of Connecticut.

Cellco currently provides wireless service in Killingly and the surrounding towns from its existing Killingly, Killingly North, Killingly Center, Danielson, Danielson South and Danielson 2 cell sites. Plots showing the extent of reliable wireless service in the area reveal significant "coverage gaps" in Cellco's operating frequencies. Portions of these coverage gaps will be filled

by service from the Dayville Facility. (*See* Attachment 6). In addition to the coverage benefits, the proposed Dayville Facility will provide capacity relief to Cellco's Killingly cell site (Beta sector).

2. Cell Site Information

The proposed Dayville Facility would be located in the northwesterly portion of an approximately 648 acre parcel at 520 Bailey Hill Road in Killingly. The Property is owned by Tri Lakes LLC. At this site, Cellco would construct a 150-foot self-supporting monopole telecommunications tower. Cellco would install a total of nine (9) panel-type antennas (three (3) 700/1900 MHz antennas; three (3) 850 MHz antennas; and three (3) 2100 MHz antennas) at a centerline height of 150 feet AGL. Equipment associated with Cellco's antennas, including cabinets and a diesel-fueled back-up generator would be located on a 10' x 20' steel platform and canopy structure installed near the base of the tower within a 50' x 50' fenced compound. Vehicular access to the proposed cell site would extend from Bailey Hill Road over an existing gravel driveway a distance of approximately 582 feet then over a new gravel driveway extension an additional 92 feet to the cell site. Utilities will extend underground, to the extent possible, from existing service along Bailey Hill Road.

The proposed Dayville Facility will provide reliable wireless service to a 5.14 mile portion of Route 101, and an overall area of 39.18 square miles at 700 MHz frequencies; a 5.09 mile portion of Route 101, and an overall area of 23.84 square miles at 850 MHz frequencies; a 2.93 mile portion of Route 101, and an overall area of 14.53 square miles at 1900 MHz frequencies; and a 2.87 mile portion of Route 101, and an overall area of 14.94 square miles at 2100 MHz frequencies.

The tower and facility compound area would be designed to accommodate multiple carriers as well as Town of Killingly emergency services antennas and equipment and would be designed to be capable of being extended by 20 feet as is Cellco's practice. As of the date of this filing no other wireless carrier has expressed an interest in the Dayville Facility.

Cellco's equipment cabinets would house radio receiving, transmitting, switching, processing and performance monitoring equipment. A 15 kW back-up generator would also be installed adjacent to the cabinets for use during power outages and periodically for maintenance purposes. The tower and equipment would be enclosed by an 8-foot high security fence and gate. The equipment would remain unstaffed, except as required for maintenance. Once the cell site is operational, maintenance personnel will visit the cell site on a monthly basis. More frequent visits may be required if there are problems with the cell site equipment.

Cellco's proposed Dayville Facility would provide wireless telecommunications service along significant portions of Route 101, as well as local roads, residential areas and commercial areas in eastern portions of Killingly between its existing Killingly, Killingly North, Killingly Center, Danielson, Danielson South and Danielson 2 cell sites.

Cellco's existing Killingly cell site consists of antennas at the 262-foot level of a 288-foot tower at 1380 North Road in Killingly. The Killingly cell site is located approximately 2.8 miles north of the proposed Dayville Facility. Cellco's existing Killingly North cell site consists of antennas at the 75-foot level on an existing water tank at 190 Louisa Veins Drive in Killingly. The Killingly North cell site is located approximately 5.0 miles northwest of the proposed Dayville Facility. Cellco's existing Killingly Center cell site consists of antennas at the 108-foot level of a 150-foot tower at 79 Putnam Pike in Killingly. The Killingly Center cell site is located

approximately 3.6 miles west of the proposed Dayville Facility. Cellco's existing Danielson cell site consists of antennas at the 155-foot level of a 160-foot tower at 246 East Franklin Street in Killingly. The Danielson cell site is located approximately 4.0 miles southwest of the proposed Dayville Facility. Cellco's existing Danielson South cell site consists of antennas at the 100-foot level of a 120-foot tower at 280 Ross Road in Killingly. The Danielson South cell site is located approximately 4.8 miles southwest of the proposed Dayville Facility. Cellco's existing Danielson 2 cell site consists of antennas at the 145-foot level of a 190-foot tower at 812 Providence Pike in Killingly. The Danielson 2 cell site is located approximately 2.8 miles south of the proposed Dayville Facility.

3. System Design and Cell Site Equipment

a. System Design

Cellco's wireless system in general and the proposed Dayville Facility, in particular, have been designed and developed to allow Cellco to achieve and to maintain high quality, reliable wireless service. The system design is capable of orderly expansion and is compatible with other wireless systems. The resulting quality of service compares favorably with the quality of service provided by conventional wireline telephone service. The wireless system is designed to assure a true cellular configuration of base transmitters and receivers in order to cover the proposed service area effectively while providing the highest quality of service possible.

Mobile telephone switching offices ("MTSOs") in Windsor and Wallingford are interconnected and operate Cellco's wireless systems in Connecticut as a single network, offering the subscriber uninterrupted use of the system while traveling throughout the State. This network is further interconnected with the local exchange company and long distance carrier networks.

Cellco has designed its wireless system in conformity with applicable standards and constraints for wireless systems. Cellco's system is also designed to minimize the need for additional cell sites in the absence of additional demand or unforeseen circumstances.

b. Cell Site Equipment

The key elements of the cellular system are the two MTSOs located in Windsor and Wallingford and the various connector cell sites around the state. The major electronic components of each cell site are radio frequency transmission and receiving equipment and cell site controller equipment. This equipment is capable of expanding in modules to meet system growth needs. The cell site equipment primarily provides for: message control on the calling channel; call setup and supervision; radio frequency equipment control; internal diagnostics; response to remote and local test commands; data from the mobile or portable unit in both directions and on all channels; scan receiver control; transmission of power control commands; rescanning of all timing; and commands and voice channel assignment.

In addition to the ground-mounted radio equipment, Cellco intends to install nine (9) panel-type transmit/receive antennas; nine (9) remote radio heads (RRHs); two (2) HYBRIFLEX™ fiber optic antenna cables; and a GPS antenna. Back-up power to the Dayville Facility will be provided by a 15 kW, diesel-fueled generator. Specifications for Cellco's antennas, RRHs, antenna cables and generator are included in Attachment 7.

4. Technological Alternatives

Pursuant to authorization by the FCC, Cellco is authorized to provide wireless telecommunications services throughout the State of Connecticut. Cellco submits that there are no equally effective technological alternatives to the proposal contained herein. In fact, Cellco's

wireless system represents state-of-the-art technology offering high-quality service. Cellco is aware of no viable and currently available alternatives to its system design for carriers licensed by the FCC.

C. Site Selection and Tower Sharing

1. Cell Site Selection

Cellco's goal in selecting cell sites, like the ones described above, is to locate a facility in such a manner as to allow it to build and to operate a high-quality wireless system with the least environmental impact. Cellco has determined that the proposed Dayville Facility would satisfy this goal and provide high-quality reliable wireless service along portions of Route 101 and local roads, as well as residential and commercial land uses in the area.

The methodology of cell site selection for a wireless system generally limits the search for possible locations to a specific site search area established by Cellco's Radio Frequency (RF) Engineers and network designers. In any search area, Cellco first examines the use of existing towers or other sufficiently tall structures that might help satisfy its coverage objectives. A list of existing towers or other non-tower structures considered is included in Attachment 8. Cellco currently shares all of these existing towers, all of which are within approximately five (5) miles of the Dayville Facility location. These existing sites are identified on the coverage maps included in Attachment 6. These adjacent cell sites cannot, however, satisfy the coverage objectives for the Dayville Facility search area.

Cellco also regularly investigates the use of existing, non-tower structures in an area, when available, as an alternative to building a new tower. No such non-tower structures of suitable height were available to lease in eastern Killingly. Cellco initiated a site search process for the Dayville

cell site in March 2015, and identified the Property as a viable candidate for a cell site. Cellco determined that an antenna height of 150 feet at this location would satisfy its wireless service objectives in the area. The Site Search Summary (Attachment 8) together with the site information contained in Attachment 1 support Cellco's position that the sites selected represent the most feasible alternative of the sites investigated.

2. Tower Sharing

The Applicant will design the approved facility tower and compound to be shared by a minimum of four (4) wireless carriers, and the Town, or local emergency service providers if a need exists and will design and build a tower that is capable of being extended by 20 feet. This type of tower sharing arrangement would reduce, if not eliminate, the need for these other carriers or municipal entities to develop a separate tower in this same area in the future. As of the date of this filing, no other wireless carrier has yet expressed any interest in the Dayville Facility.

3. Overall Costs and Benefits

Aside from the limited visual impacts discussed further below, the Applicant believes that there are no significant costs attendant to the construction, maintenance, and operation of the proposed cell site. In fact, the public will benefit substantially from its increased ability to receive high-quality, reliable wireless service in the Town of Killingly.[3] The Dayville Facility would be a part of a communications system that addresses the public need identified by the FCC and the United States Congress for high-quality, competitive mobile and portable wireless service.

[3] Businesses and individuals across the country have become much more dependent on wireless services especially in emergency situations. The public safety benefits of wireless telephone service are illustrated by the Connecticut State Police Enhanced 911 emergency calling system. The E-911 emergency calling system is available statewide to all wireless telephone users. Numerous other emergency service organizations have turned to wireless telephone service for use during natural disasters and severe storms when wireline service is interrupted or unavailable.

Moreover, the proposed cell site would be part of a system designed to limit the need for additional cell sites in the future.

The overall costs to the Applicant for development of the proposed cell site are set forth in Section III.D. of the Application.

4. Environmental Compatibility

Pursuant to Section 16-50p of the General Statutes, in its review of the Application, the Council is required to find and to determine, among other things, the nature of the probable environmental impact, including a specification of every significant adverse effect, whether alone or cumulatively with other effects, on, and conflicting with the policies of the state concerning the natural environment, ecological balance, public health and safety, scenic, historic and recreational values, forests and parks, air and water purity and fish and wildlife.

a. Primary Facility Impact is Visual

The wireless system of which the proposed Dayville Facility would be a part has been designed to meet the public need for high-quality, reliable wireless service while minimizing, to the extent possible, any potential adverse environmental impacts. In part because there are few, if any other adverse impacts, the primary impact of facilities such as this is visual. This visual impact will vary from location to location around a proposed tower site, depending upon factors such as vegetation, topography, the distance of nearby properties from the tower and the location of buildings and roadways in a "sight line" toward the tower. Similarly, visual impact of a tower facility can be further reduced through the proper use of alternative tower structures; so-called "stealth installations." Where appropriate, telecommunications towers camouflaged as trees, for example, can help to further reduce visual impacts associated with these structures. Attachment 9

contains Visibility Analysis prepared by All-Points Technology Corporation for the Dayville Facility. The Visibility Analysis assesses the visual impact of the tower on the surrounding areas and includes photosimulations for the Council's review and consideration.

According to the Visibility Analysis, areas where the tower would be visible above the tree canopy comprise approximately 23.5 acres, or 0.3 percent of the 8,042 acre study area. Year-round visibility of the Dayville Facility tower are limited to locations on and in the immediate vicinity of the Property. Areas where seasonal views are anticipated comprise approximately 238 additional acres.

There are approximately six (6) residences within 1,000 feet of the Dayville Facility. The closest off-site residence is located at 721 Bailey Hill Road, approximately 690 feet to the west. Weather permitting, the Applicant will raise balloons with a diameter of at least three (3) feet at the Dayville Facility location on the day of the Council's hearing on this Application, or at a time otherwise specified by the Council.

b. Environmental Reviews and Agency Comments

Section 16-50j of the General Statutes requires the Council to consult with and to solicit comments on the Application from the Commissioners of the Departments of Energy and Environmental Protection, Public Health, Public Utility Regulatory Authority, Economic Development, and Transportation, the Council on Environmental Quality, and the Office of Policy and Management, Energy Division. In addition to the Council's solicitation of comments, Cellco, as a part of the National Environmental Policy Act ("NEPA") Checklist, solicits comments on the proposed Dayville Facility from the U.S. Department of the Interior, Fish and Wildlife Service ("USFWS"), Environmental and Geographic Information Center of the Connecticut Department of

Energy Environmental Protection ("DEEP") and the Connecticut Historical Commission, State Historic Preservation Officer ("SHPO").

(1) USFWS Compliance Determination and *Northern Long-Eared Bat* Streamlined Consultation

According to the USFWS Compliance Determination dated May 3, 2016, two (2) federally listed "threatened" species, the *Northern Long-Eared Bat* (NLEB) and *Small Whorled Pogonia* (flowering plant) may occur in Killingly, Connecticut. In response to this determination, Dean Gustafson with APT Corporation prepared a NLEB Streamlined Consultation report and submitted that report to the USFWS. This report concludes that the proposed Dayville Facility "is not likely to adversely affect" an NLEB or *Small Whorled Pogonia*". (*See* USFWS Compliance Determination and NLEB Streamlined Consultation report – Attachment 10).

(2) DEEP Natural Diversity Database Review

According to its May 19, 2016 determination, DEEP does not anticipate negative impacts to State-listed species resulting from the construction of the proposed Dayville Facility. As discussed in Section III.C.5.d. below, the proposed Dayville Facility will have no direct impact on Federal or State wetlands in the area. (*See* NDDB Related Correspondence – Attachment 11).

(3) Avian Resources Evaluation

The proposed Dayville Facility is not proximate to Important Bird Areas and complies with the USFWS Guidelines for minimizing impact on birds. Cellco does not anticipate that the proposed tower will impact migratory bird species. (*See* Avian Resources Evaluation – Attachment 12).

(4) State Historic Preservation Officer

According to a Cultural Resources Screen Map prepared by APT for the Dayville Facility, there are no historic resources on or eligible for listing on the State or National Register of Historic Places within one-half mile of the proposed Dayville Facility. (*See* Attachment 13). The SHPO's review of the tower proposal is on-going. A copy of the SHPO's final comments on this proposal will be filed with the Council as soon as they are available.

c. Non-Ionizing Radio Frequency Radiation

The FCC has adopted standards for exposure to Radio Frequency ("RF") emissions from telecommunications facilities like those proposed in the Application. To ensure compliance with the applicable standards, Cellco has performed a general power density calculation for the proposed Dayville Facility according to the methodology prescribed by the FCC Office of Engineering and Technology Bulletin No. 65, Edition 97-01 (August 1997) ("OET Bulletin 65"). The calculation is a conservative, worst-case approximation for RF emissions at the closest accessible point to the antennas, in this case the base of the tower, and assumes that all antennas are transmitting simultaneously, on all channels, at full power. Even under these absolute worst-case conditions, the calculations indicate that the maximum permissible exposure level for Cellco's antennas at the proposed Dayville Facility would remain well below (19.81%) the FCC's Standard. Actual RF emissions levels from the proposed facility would be far below these "worst-case" calculations. A worst-case General Power Density table is included in Attachment 14.

d. Other Environmental Issues

No sanitary facilities are required for the Dayville Facility. The operations at the Dayville Facility will not cause any significant air, water, noise or other environmental impacts, or hazard to

human health.

Based on agency comments received and field investigations by the Cellco project team, the Applicant submits that the proposed Dayville Facility will have no significant adverse effect on scenic, natural, historic or recreational features, and that none of the potential effects alone or cumulatively with other effects is sufficient reason to deny this Application.

5. Consistency with Local Land Use Controls

The Council Application Guide for Community Antenna Television and Telecommunication Facilities, as amended in July 2012, requires the inclusion of a narrative summary of the project's consistency with the Town's Plan of Conservation and Development (the "Plan") and Zoning Regulations, as well as a description of planned and existing uses of the site location and surrounding properties.

a. Planned and Existing Land Uses

The proposed Dayville Facility would be located on an approximately 648-acre parcel owned by the Town. The Property is zoned Rural Development. With the exception of the access driveway described above, the Property remains undeveloped.

b. Plan of Conservation and Development

The Town of Killingly Plan of Conservation & Development (Adopted March 30, 2010) (the "Plan"), does not identify telecommunications facilities as a land use consistent or inconsistent with the general planning and conservation principles or policies of the Town. Four (4) copies of the Plan were filed, in bulk, with the Council.

c. Zoning Regulations

According to the Town's Zoning Map, the Property is located in the Rural Development

Zone. "Telecommunications tower" is not identified as a use permitted by right or by Special Permit in the Killingly Zoning Regulations.

d. Inland Wetland and Watercourse Regulations

The Killingly Regulations for the Protection and Preservation of Inland Wetlands and Watercourses (the "IWW Regulations") define Regulated Activity as any operation within, or use of, a wetland or watercourse involving removal or deposition of material, or any obstruction, construction, alteration or pollution of the land of such wetlands or watercourses as well as areas within 200 feet of such wetland area. Four (4) copies of the Killingly IWW Regulations were filed, in bulk, with the Council. Dean Gustafson, Professional Soil Scientist with VHB, Inc., conducted a field investigation and completed a Wetlands Inspection report for the project. A copy of the Wetlands Inspection report is included in Attachment 15. The nearest wetland area to the proposed Dayville Facility is on an adjacent parcel more than 500 feet to the southwest.

According to the Federal Emergency Management Agency Flood Insurance Rate Map ("FIRM"), Community Panel Number 0901360020B (Effective January 3, 1985) the Dayville Facility would be located in Flood Zone X, an area outside the 500 year flood zone. A copy of the FIRM is also included in Attachment 16.

6. Local Input

Section 16-50*l*(e) of the Connecticut General Statutes, as amended, requires local input on matters before the Council. On December 1, 2015, Cellco representatives met with Killingly's Town Manager, Sean Hendricks to commence the ninety (90) day municipal consultation process. Mr. Hendricks received a copy of technical information summarizing Cellco's plans to establish a telecommunications facility as described above. At the request of the Town, Cellco representatives

hosted a Public Information Meeting ("PIM") at Killingly Town Hall on June 16, 2016.[4] At this meeting, Cellco discussed, in detail, the aspects of the proposed Dayville Facility, the need for wireless service in Killingly and the Connecticut Siting Council application process. Notice of the PIM was sent to the owners of property whose land abuts the Property and on May 31, 2016, was published in *The Bulletin.*

7. Consultations With State and Federal Officials

Attachments 10, 11 and 16 and Section III.C-4. of the Application describes consultations with state and federal officials regarding the proposed Dayville Facility.

a. Federal Communications Commission

The FCC did not review this particular proposal. As discussed above, FCC approval is not required where the authorized service area is not enlarged.

b. Federal Aviation Administration

As it does with all of its tower applications, Cellco conducted on air-space analyses for the proposed Dayville Facility to determine if the proposed tower would constitute an obstruction or hazard to air navigation. This analysis has confirmed, pursuant to FAA standards and guidelines, that the proposed tower would not constitute an obstruction or hazard to air navigation. Therefore, no obstruction marking or lighting would be required. A copy of the Federal Airways and Airspace Summary Report is included in Attachment 17.

c. United States Fish and Wildlife Service

See Section III.C.4.b.(1) above.

[4] Shortly after meeting with the Town Manager, Cellco placed the Dayville Facility "on-hold" and postponed the local input meeting originally scheduled for February 8, 2016.

d. Connecticut Department of Energy and Environmental Protection

(1) Natural Diversity Data Base

See Section III.C.4.b.(2) above.

(2) Bureau of Air Management

Pursuant to R.C.S.A. § 22a-174-3, the on-site emergency back-up generator proposed as a part of this Application will require the issuance of a permit from the DEEP Bureau of Air Management. As proposed, this emergency generator will be run only during the interruption of utility service to the cell site and periodically as required for maintenance purposes. Cellco will obtain the necessary permit prior to installing the generator at the Dayville Facility.

e. Connecticut State Historic Preservation Officer

See Section III.C.4.b.(4) above.

D. Estimated Cost and Schedule

1. Overall Estimated Costs

The total estimated cost of construction for the Dayville Facility is $675,000. This estimate includes:

(1)	Cell site radio equipment of approximately	$450,000
(2)	Tower, coax and antenna costs of approximately	115,000
(3)	Power systems costs of approximately	40,000
(4)	Equipment and platform costs of approximately	25,000
(5)	Miscellaneous costs (including site preparation and installation) of approximately	45,000

2. Overall Scheduling

Site preparation and engineering would commence following Council approval of Cellco's Development and Maintenance ("D&M") Plan and are expected to be completed within two to four weeks. Equipment installation is expected to take an additional four weeks after installation of the building and installation of the tower. Cell site integration and system testing is expected to require two weeks after equipment installation.

IV. CONCLUSION

Based on the facts contained in this Application, Cellco submits that the establishment of the Dayville Facility will not have any substantial adverse environmental effects. A public need exists for high quality reliable wireless service in the Town of Killingly and throughout Windham County, as determined by the FCC and the United States Congress, and a competitive framework for providing such service has been established by the FCC and the Telecommunications Act of 1996. Cellco submits that the need far outweighs any possible environmental effects resulting from the construction of the proposed cell site.

WHEREFORE, Cellco respectfully requests that the Council grant this Application for a Certificate of Environmental Compatibility and Public Need for the proposed Dayville Facility.

Respectfully submitted,

CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS

By: _____

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, Connecticut 06103-3597
(860) 275-8200
Attorneys for the Applicant

DAYVILLE

520 Bailey Hill Road
Killingly, Connecticut

Description of Proposed Cell Site

Cellco Partnership d/b/a Verizon Wireless
99 East River Drive
East Hartford, CT 06108

TABLE OF CONTENTS

Page

GENERAL CELL SITE DESCRIPTION 1

U.S.G.S. TOPOGRAPHIC MAP 2

AERIAL PHOTOGRAPH 3

SITE EVALUATION REPORT 4

FACILITIES AND EQUIPMENT SPECIFICATION 6

ENVIRONMENTAL ASSESSMENT STATEMENT 7

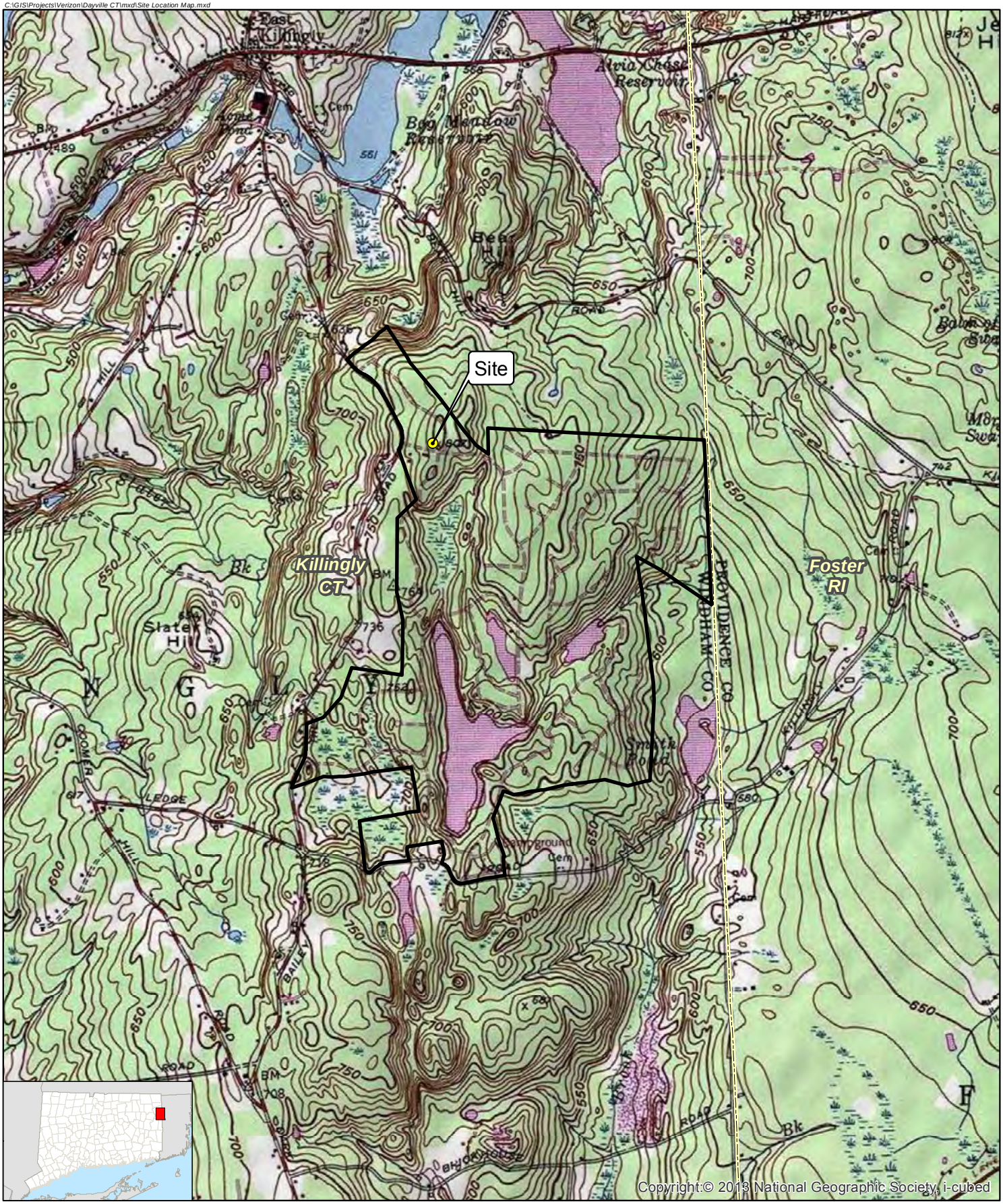
SITE NAME: DAYVILLE – 520 BAILEY HILL ROAD, KILLINGLY, CT

GENERAL CELL SITE DESCRIPTION

The proposed Dayville cell site would be located in the northwesterly portion of an approximately 648-acre parcel owned by Tri Lakes LLC. The facility would consist of a 150-foot telecommunications tower and a 10' x 20' equipment steel platform located near the base of the tower for its equipment cabinets and a diesel-fueled back-up generator. The tower and equipment will be located within a 50' x 50' fenced compound and leased area.

Cellco would attach nine (9) antennas and nine (9) remote radio heads to a low-profile platform at a centerline height of 150 feet above ground level. The top of Cellco's antennas would extend above the top of the tower to an overall height of approximately 153 feet. Vehicular access to the site would extend from Bailey Hill Road over an existing gravel driveway a distance of 582 feet and new gravel driveway extension an additional 92 feet. Utility service would extend from existing service along Bailey Hill Road.

C:\GIS\Projects\Verizon\Dayville CT\mxd\Site Location Map.mxd



Legend

- Proposed Monopole Tower
- Subject Property
- Municipal Boundary

Map Notes:
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Map, East Killingly, CT (1974)
Site located on the East Killingly, CT Quadrangle
Map Scale: 1:24,000
Map Date: May 2016

N
W E
S

1,000 500 0 1,000
Feet

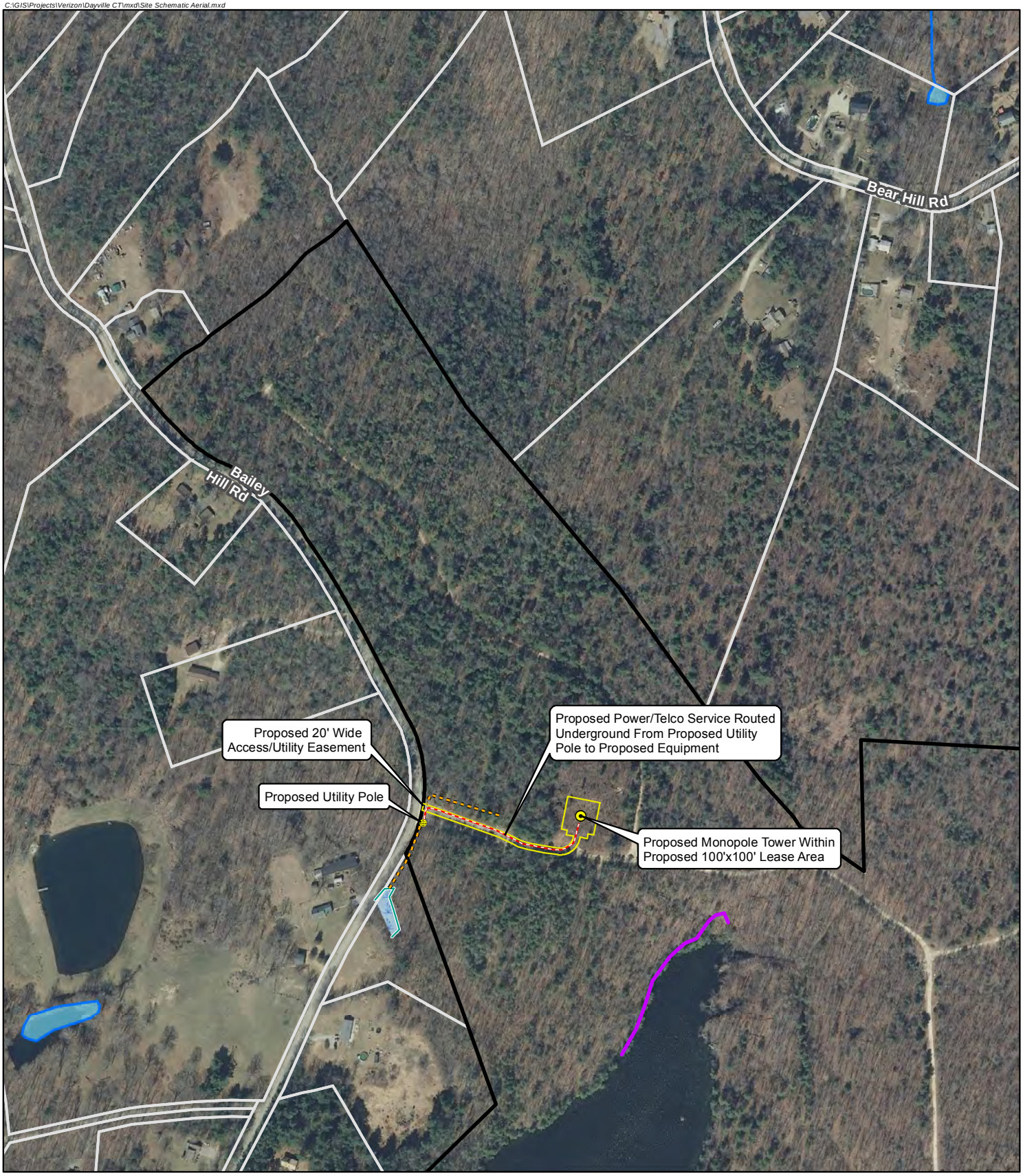
Site Location Map

Proposed Wireless
Telecommunications Facility
Dayville CT
520 Bailey Hill Road
Killingly, Connecticut

verizon

ALL-POINTS TECHNOLOGY CORPORATION

C:\GIS\Projects\Verizon\Dayville CT\mxd\Site Schematic Aerial.mxd



Legend

- Proposed Monopole Tower
- Proposed Utility Pole
- Proposed Facility Layout
- Proposed Power/Telco Service Routed Underground
- Subject Property
- Approximate Parcel Boundary (CTDEEP GIS)
- Watercourse (CTDEEP)
- Open Water (CTDEEP)
- Wetland Boundary
- Dry Drainage Swale
- Field Confirmed Edge of Pond
- Wetland Area

Site Schematic

Proposed Wireless Telecommunications Facility
Dayville CT
520 Bailey Hill Road
Killingly, Connecticut

N
W E
S

400 200 0 400 Feet

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 400 feet
Map Date: May 2016

verizon

ALL-POINTS TECHNOLOGY CORPORATION

SITE EVALUATION REPORT

SITE NAME: DAYVILLE – 520 BAILEY HILL ROAD, KILLINGLY, CT

I. TOWER LOCATION

A. COORDINATES: 41°-49'-56.76" N 71°-48'-33.23" W

B. GROUND ELEVATION: Approximately 799± feet AMSL

C. U.S.G.S. QUADRANGLE MAP: Killingly, CT

D. SITE ADDRESS: 520 Bailey Hill Road, Killingly, CT

E. ZONING WITHIN 1/4 MILE OF SITE: Land within ¼ mile of the cell site is in Rural Development.

II. DESCRIPTION

A. SITE SIZE: 50' x 50' Compound Area
100' x 100' Leased Area

B. LESSOR'S PARCEL: Approximately 648 acres

C. TOWER TYPE/HEIGHT: 150' Monopole Tower
153' Top of Antennas

D. SITE TOPOGRAPHY AND SURFACE: The 12-foot wide gravel access drive will extend up a gentle slope from Bailey Hill Road to the tower site. No trees will need to be removed to construct the access drive, facility compound or related improvements. Minimal grading for drainage of the compound will be required.

E. SURROUNDING TERRAIN, VEGETATION, WETLANDS, OR WATER: The tower would be located in the northwesterly portion of an approximately 648 acre undeveloped parcel. The closest wetland area is located more than 500 feet to the southwest of the cell site.

F. LAND USE WITHIN 1/4 MILE OF SITE: The 648 acre subject parcel is surrounded by undeveloped land and low-density residential uses. (*See* Aerial Photograph and U.S.G.S. Topographic Map at pp. 2 and 3).

III. FACILITIES

A. POWER COMPANY: Eversource

B. POWER PROXIMITY TO SITE: Approximately 674 feet at Bailey Hill Road to the east of the facility compound.

C. TELEPHONE COMPANY: Frontier Communications

D. PHONE SERVICE PROXIMITY: Same as power

E. VEHICLE ACCESS TO SITE: Vehicle access to the site would extend from Bailey Hill Road over an existing gravel driveway (582') and new gravel driveway extension (92').

F. CLEARING AND FILL REQUIRED: No tree clearing and minimal grading would be required for construction of the site compound. Detailed construction plans would be developed if this location is approved by the Siting Council.

IV. LEGAL

A. PURCHASE [ ] LEASE [X]

B. OWNER: Tri Lakes LLC

C. ADDRESS: 520 Bailey Hill Road, Killingly, CT

D. DEED ON FILE AT:

Town of Killingly, CT Land Records

Vol. 753 Page 204

FACILITIES AND EQUIPMENT SPECIFICATION
(NEW TOWER & EQUIPMENT BUILDING)

SITE NAME: DAYVILLE – 520 BAILEY HILL ROAD, KILLINGLY, CT

I. TOWER SPECIFICATIONS:

A. MANUFACTURER: To be determined

B. TYPE: Self-supporting monopole

C. TOWER HEIGHT: 150' DIMENSIONS: Approx. 57" base

Approx. 20" top

II. TOWER LOADING:

A. CELLCO EQUIPMENT:

1. Antennas (9)
Six (6) Model Comscope SBNHH-1D65B, 700/1900 and 2100 MHz
Three (3) Model Comscope LNX-6514DS – 850 MHz

2. Remote Radio Heads (RRH) (9)
Nine (9) RRH 2x60 – 700 MHz, 1900 MHz and 2100 MHz

3. GPS Antenna: Mounted on the top of the equipment shelter or tower

4. Transmission Lines:
a. Two (2) Model: HB158-1-08U8-S8J18 HYBRIFLEX™ fiber optic cables

III. ENGINEERING ANALYSIS AND CERTIFICATION:

The towers will be designed in accordance with Electronic Industries Association Standard EIA/TIA-222-F "Structural Standards for Steel Antenna Towers and Antenna Support Structures." The foundation designs would be based on soil conditions at the site. Details for the towers and foundation designs will be provided as a part of the final D&M Plan.

ENVIRONMENTAL ASSESSMENT STATEMENT

SITE NAME: DAYVILLE – 520 BAILEY HILL ROAD, KILLINGLY, CT

I. PHYSICAL IMPACT

A. WATER FLOW AND QUALITY

No water flow and/or water quality changes are anticipated as a result of the construction or operation of the facility. There are no lakes, ponds, rivers, streams, wetlands or other regulated bodies of water located in the area to be used for the access drive, tower or equipment shelter. The equipment used will not discharge any pollutants to area surface or groundwater systems. The closest wetland area is located more than 500 feet to the southwest of the tower site.

B. AIR QUALITY

Under ordinary operating conditions, the Cellco equipment at the Dayville Facility would generate no air emissions. During power outages and periodically for maintenance purposes, Cellco would utilize a diesel-fueled generator to provide emergency back-up power. Cellco's back-up generator will be managed to comply with the "permit by rule" criteria established by the Connecticut Department of Energy and Environmental Protection ("DEEP") Bureau of Air Management, pursuant to R.C.S.A. § 22a-174-36, and therefore is exempt from general air permit requirements.

C. LAND

No tree clearing and minimal grading of the tower compound will be required. The remaining land of the Lessor would remain unchanged by the construction and operation of the cell site.

D. NOISE

The equipment to be in operation at the site after construction would emit no noise of any kind, except for operation of the heating, air conditioning and ventilation systems installed as a part of the prefabricated equipment shelter and the occasional operation of the back-up generator which would only run when power to the facility is interrupted and periodically for maintenance purposes. Some noise is anticipated during cell site construction.

E. POWER DENSITY

The worst-case calculation of power density for Cellco's 700 MHz, 850 MHz, 1900 MHz and 2100 MHz antennas at the Dayville Facility would be 19.81% of the FCC Safety Standard. *See* General Power Density table included in Attachment 14.

F. VISIBILITY

See Visibility Report included as Attachment 9.

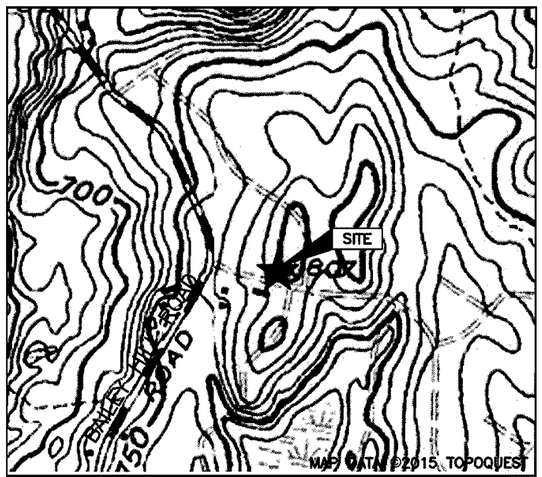
CELLCO PARTNERSHIP

d.b.a. verizon wireless

WIRELESS COMMUNICATIONS FACILITY

DAYVILLE CT

520 BAILEY HILL ROAD
KILLINGLY, CT 06241



VICINITY MAP — SCALE: 1"=500'-0"

DIRECTIONS TO SITE:
99 E RIVER DR, EAST HARTFORD, CT 06108
HEAD NORTHEAST ON E RIVER DR
TURN LEFT ONTO THE CT-2 E RAMP TO NORWICH
FOLLOW I-84 E TO CT-74 E IN TOLLAND.
MERGE ONTO I-84 E
TAKE EXIT 69 FOR CONNECTICUT 74 TOWARD U.S. 44/WILLINGTON/PUTNAM
TURN RIGHT ONTO CT-74 E
TURN LEFT ONTO US-44 E
CONTINUE STRAIGHT ONTO CT-101 E
TURN RIGHT ONTO BAILEY HILL RD
SLIGHT LEFT TO STAY ON BAILEY HILL RD
TURN LEFT, 520 BAILEY HILL RD, DAYVILLE, CT 06241

CONSULTANT TEAM

PROJECT ENGINEER

HUDSON DESIGN GROUP, LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
NORTH ANDOVER, MA 01845
TEL: 1-(978)-557-5553
FAX: 1-(978)-336-5586

MEP ENGINEER

HUDSON DESIGN GROUP, LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
NORTH ANDOVER, MA 01845
TEL: 1-(978)-557-5553
FAX: 1-(978)-336-5586

PROJECT SUMMARY

SITE NAME:	DAYVILLE CT
SITE ADDRESS:	520 BAILEY HILL ROAD KILLINGLY, CT 06241
PROPERTY OWNER:	TRI LAKES, LLC P.O. BOX 28 WATERTOWN, CT 06795
APPLICANT:	CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS 99 EAST RIVER DRIVE EAST HARTFORD, CT 06108
SITE ACQUISITION CONTACT:	STEPHEN SCHADLER STRUCTURE CONSULTING GROUP 99 EAST RIVER DRIVE. 9TH FL EAST HARTFORD, CT 06108
LEGAL/REGULATORY COUNSEL:	KENNETH C. BALDWIN ESQ. ROBINSON + COLE LLP (860)275-8345
LATITUDE:	N41° 49' 56.76"
LONGITUDE:	W71° 48' 33.23"

SHEET INDEX

SHT. NO.	DESCRIPTION
T-1	TITLE SHEET
C-1	ABUTTERS PLAN
C-2	SITE PLAN
A-1	COMPOUND PLAN
A-2	ELEVATION
A-3	CANOPY FRAME & EQUIPMENT FRAME DETAILS

SCOPE OF WORK INFO.

VERIZON WIRELESS IS PROPOSING TO INSTALL THE FOLLOWING IMPROVEMENTS ON PROPOSED TELECOMMUNICATION SITE:

- NEW 50'x50' FENCED COMPOUND WITHIN PROPOSED 100'x100' LEASE AREA.

ON EXISTING PARCEL OF LAND.

- NEW PANEL ANTENNAS: (3) ANTENNA PER SECTOR WITH (3) SECTORS, FOR A TOTAL OF (9) ANTENNAS.
- NEW RRHs: (3) RRHs PER SECTOR WITH (3) SECTORS, FOR A TOTAL OF (9) RRHs
- NEW JUNCTION BOXES: (1) JUNCTION BOX TOTAL.

ITEMS LISTED ABOVE TO BE MOUNTED ON PROPOSED VERIZON MONOPOLE.

- NEW EQUIPMENT CABINETS: (2) CABINETS WITH GENERATOR ON PROPOSED 10'x20' EQUIPMENT STEEL PLATFORM.

ITEMS LISTED ABOVE TO BE INSTALLED WITHIN THE PROPOSED 50'x50' FENCED COMPOUND.

- NEW POWER AND TELCO SERVICES WILL BE ROUTED UNDERGROUND FROM PROPOSED UTILITY POLE TO PROPOSED ELECTRICAL METER AND HOFFMAN BOX ON PROPOSED H-FRAME.
- FINAL UTILITY ROUTING TO BE DETERMINED/VERIFIED BY UTILITY COMPANIES.

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.
verizon

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28554
LICENSED PROFESSIONAL ENGINEER

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

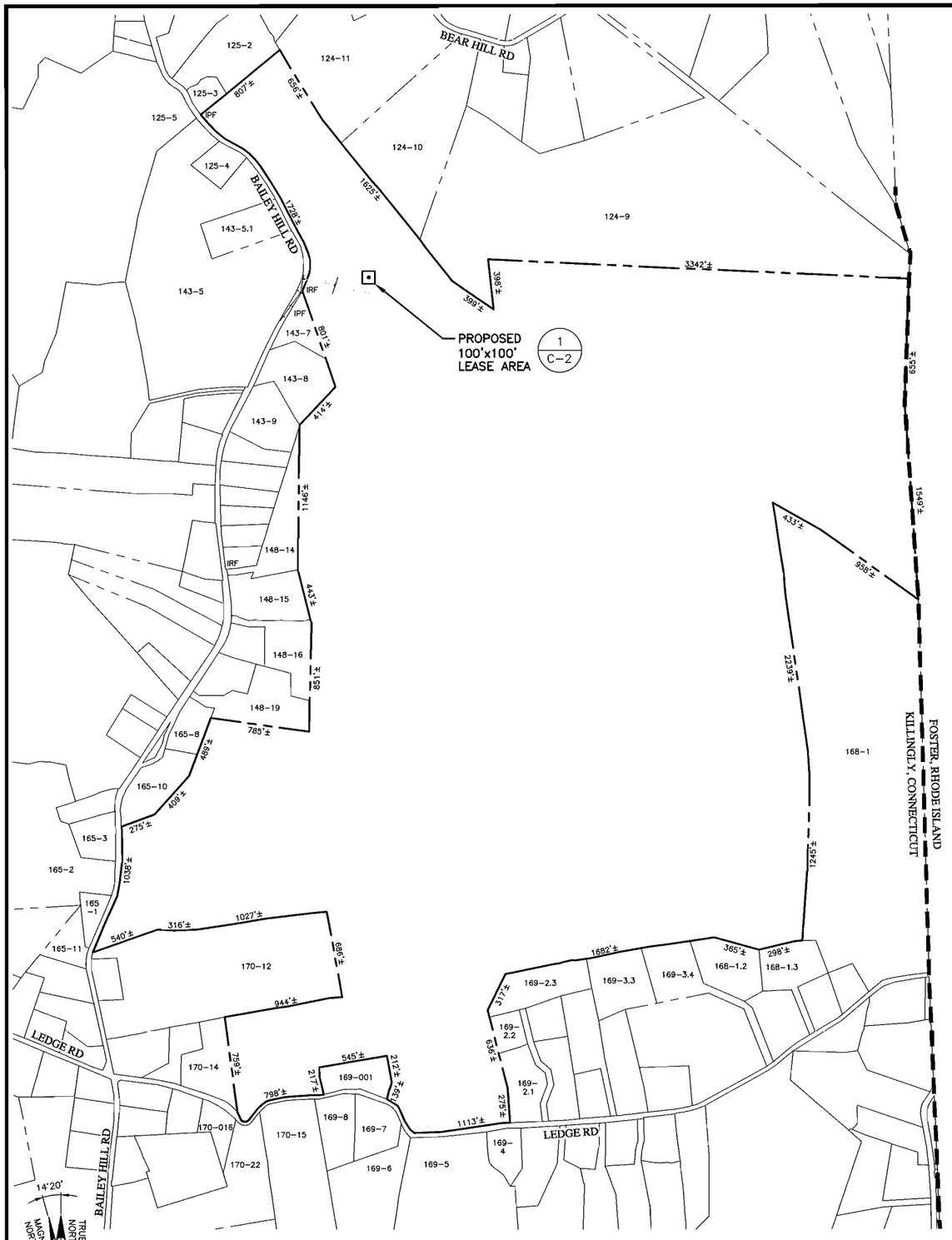
REV.	DATE	DESCRIPTION	BY
5	07/05/16	REVISED PER COMMENTS	SB
4	06/02/16	REVISED PER COMMENTS	GC
3	04/29/16	REVISED PER COMMENTS	JS
2	12/24/15	REVISED PER COMMENTS	MC
1	11/16/15	REVISED PER COMMENTS	MC
0	09/22/15	ISSUED FOR REVIEW	GC

SITE NAME:
DAYVILLE, CT

SITE ADDRESS:
520 BAILEY HILL ROAD
KILLINGLY, CT 06241

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1



ABUTTERS PLAN (1 / C-1)
22x34 SCALE: 1"=500'-0"
11x17 SCALE: 1"=1000'-0"

GRAPHIC SCALE
0 250 500 1000 1500 FEET

ABUTTERS LIST

124-009
239 Bear Hill Rd
Frances E. & Robert Pechie
225 Bear Hill Rd
Dayville, CT 06241

124-010
199 Bear Hill Rd
Julie A. Jussaume
P.O. Box 339
Dayville, CT 06241-0339

124-011
189 Bear Hill Rd
Frances Pechie
225 Bear Hill Rd
Dayville, CT 06241

125-002
810 Bailey Hill Rd
Roland D. Jacques
810 Bailey Hill Rd
Dayville, CT 06241

125-003
806 Bailey Hill Rd
Theresa R. Bernier
806 Bailey Hill Rd
Dayville, CT 06241

125-004
779 Bailey Hill Rd
Robert, Virginia &
Susan Griswold
P.O. Box 273
East Killingly, CT
06243-0273

125-005
817 Bailey Hill Rd
Theresa R. Bernier
806 Bailey Hill Rd
Dayville, CT 06241

143-005
721 Bailey Hill Rd
Walter P. Hall, III
721 Bailey Hill Rd
Dayville, CT 06241

143-5.001
755 Bailey Hill Rd
Walter P. & June R. Hall
P.O. Box 48
East Killingly, CT 06243

143-007
724 Bailey Hill Rd
Walter P. Hall, III
721 Bailey Hill Rd
Dayville, CT 06241

143-008
710 Bailey Hill Rd
Larry V. & Judith Lawrence
710 Bailey Hill Rd
Dayville, CT 06241

143-007
688 Bailey Hill Rd
Walter E. & Debra Gene
Opperman
688 Bailey Hill Rd
Dayville, CT 06241

148-014
642 Bailey Hill Rd
William W. Gould, Jr.
642 Bailey Hill Rd
Dayville, CT 06241

148-015
630 Bailey Hill Rd
Jennifer Chapman
630 Bailey Hill Rd
Dayville, CT 06241

148-016
624 Bailey Hill Rd
Arthur P. & Geraldine Rickey
624 Bailey Hill Rd
Dayville, CT 06241

165-001
509 Bailey Hill Rd
Jean E. & Donald J. Carter
509 Bailey Hill Rd
Dayville, CT 06241

165-002
525 Bailey Hill Rd
Herbert A. & Karen M. Oatley
525 Bailey Hill Rd
Dayville, CT 06241

165-003
539 Bailey Hill Rd
Michael Oatley, Michelle Klein
& Roberta Flaherty
160 Creamery Brook Rd
Brooklyn, CT 06234

165-008
582 Bailey Hill Rd
David T. & Judith E. Rzucidlo
582 Bailey Hill Rd
Dayville, CT 06241

165-010
566 Bailey Hill Rd
Ronald J. & Judith M.
Rousselle
566 Bailey Hill Rd
Dayville, CT 06241

165-011
495 Bailey Hill Rd
Jason Robert & Valerie Smith
495 Bailey Hill Rd
Dayville, CT 06241

148-019
594 Bailey Hill Rd
David T. Rzucidlo
582 Bailey Hill Rd
Dayville, CT 06241

168-1
430 Ledge Rd
George M. & Starlet M. Lenth
375 Ledge Rd
Dayville, CT 06241

168-1.002
402 Ledge Rd
George M. & Starlet M. Lenth
375 Ledge Rd
Dayville, CT 06241

168-1.003
400 Ledge Rd
George M. & Starlet M. Lenth
375 Ledge Rd
Dayville, CT 06241

169-001
226 Ledge Rd
Timothy G. Verraneault
36 Kara Rd
Brooklyn, CT 06234

169-2.001
304 Ledge Rd
Paul J. & Erin A. Romani
304 Ledge Rd
Dayville, CT 06241

169-2.002
306 Ledge Rd
Eric M. Quinn
306 Ledge Rd
Dayville, CT 06241

169-2.003
308 Ledge Rd
Jeffrey Ferron
308 Ledge Rd
Dayville, CT 06241

169-3.003
390 Ledge Rd
George M. & Starlet M. Lenth
375 Ledge Rd
Dayville, CT 06241

169-3.004
386 Ledge Rd
George M. & Starlet M. Lenth
375 Ledge Rd
Dayville, CT 06241

169-004
295 Ledge Rd
Todd & Justin Loomis
265 Ledge Rd
Dayville, CT 06241

169-005
275 Ledge Rd
Harold J. & Patricia S.
Swaine
255 Ledge Rd
Dayville, CT 06241

169-006
255 Ledge Rd
Wendy L. Brennan
255 Ledge Rd
Dayville, CT 06241

169-007
247 Ledge Rd
Harold J. & Patricia S.
Swaine
255 Ledge Rd
Dayville, CT 06241

169-008
225 Ledge Rd
Susan E. Erskine
P.O. Box 606
Dayville, CT 06241-0606

170-012
476 Bailey Hill Rd
Gabrielle Labonte
P.O. Box 709
Brooklyn, CT 06234

170-014
172 Ledge Rd
Joseph G. Keller, Jr.
172 Ledge Rd
Dayville, CT 06241

170-015
203 Ledge Rd
Susan E. Erskine
P.O. Box 606
Dayville, CT 06241-0606

170-016
181 Ledge Rd
Robert J. Gifford &
Elaine E. Nusser
181 LEDGE Rd
Dayville, CT 06241

170-022
406 Bailey Hill Rd
Thomas Cader
406 Bailey Hill Rd
Killingly, CT 06239

SOURCE:

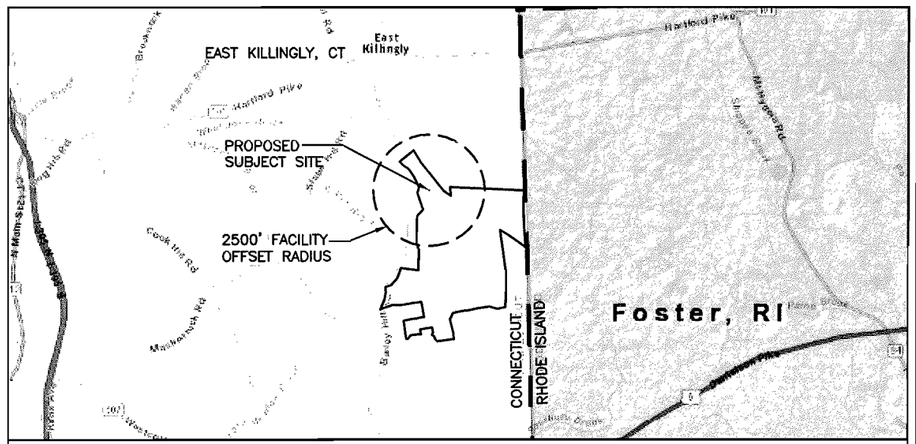
NORTHEAST SURVEY CONSULTANTS, ABUTTERS PLAN AND EXISTING CONDITIONS DATED 8/26/15

SITE SPECIFIC NOTES:

1. VERIFY AZIMUTHS W/ RF ENGINEER.

LEGEND:

- PROPERTY LINE-SUBJECT PARCEL
- PROPERTY LINE-ABUTTERS
- STATE LINE
- CONTOUR LINE
- DELINEATED WETLAND LINE
- (E) BUILDING
- XXX-XX ASSESSORS MAP-BLOCK-LOT NO.
- (E) TREE LINE



MUNICIPALITY NOTIFICATION LIMIT MAP

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.

verizon

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28554
LICENSED PROFESSIONAL ENGINEER

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

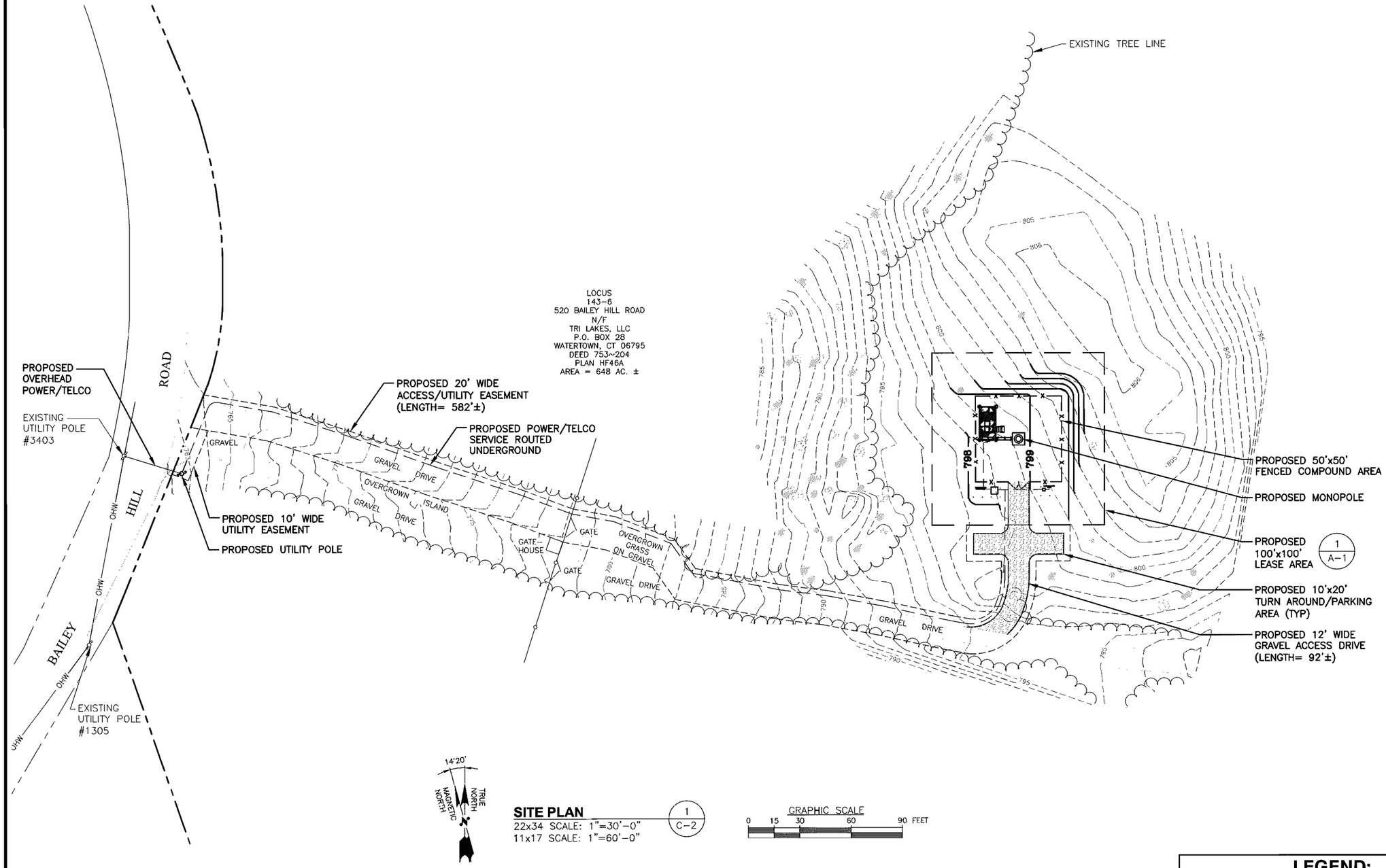
REV.	DATE	DESCRIPTION	BY
5	07/05/16	REVISED PER COMMENTS	SB
4	06/02/16	REVISED PER COMMENTS	GC
3	04/29/16	REVISED PER COMMENTS	JS
2	12/24/15	REVISED PER COMMENTS	MC
1	11/16/15	REVISED PER COMMENTS	MC
0	09/22/15	ISSUED FOR REVIEW	GC

SITE NAME:
DAYVILLE, CT

SITE ADDRESS:
520 BAILEY HILL ROAD
KILLINGLY, CT 06241

SHEET TITLE
ABUTTERS PLAN

SHEET NUMBER
C-1



SITE PLAN 1 / C-2
22x34 SCALE: 1"=30'-0"
11x17 SCALE: 1"=60'-0"

GRAPHIC SCALE
0 15 30 60 90 FEET

LEGEND:

- PROPERTY LINE-SUBJECT PARCEL
- PROPERTY LINE-ABUTTERS
- STATE LINE
- CONTOUR LINE
- DELINEATED WETLAND LINE
- (E) BUILDING
- XXX-XX ASSESSORS MAP-BLOCK-LOT NO.
- (E) TREE LINE

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.

verizon

Hudson Design Group LLC
1400 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

STATE OF CONNECTICUT
DEREK J. CREASER
No. 25351
LICENSED PROFESSIONAL ENGINEER

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

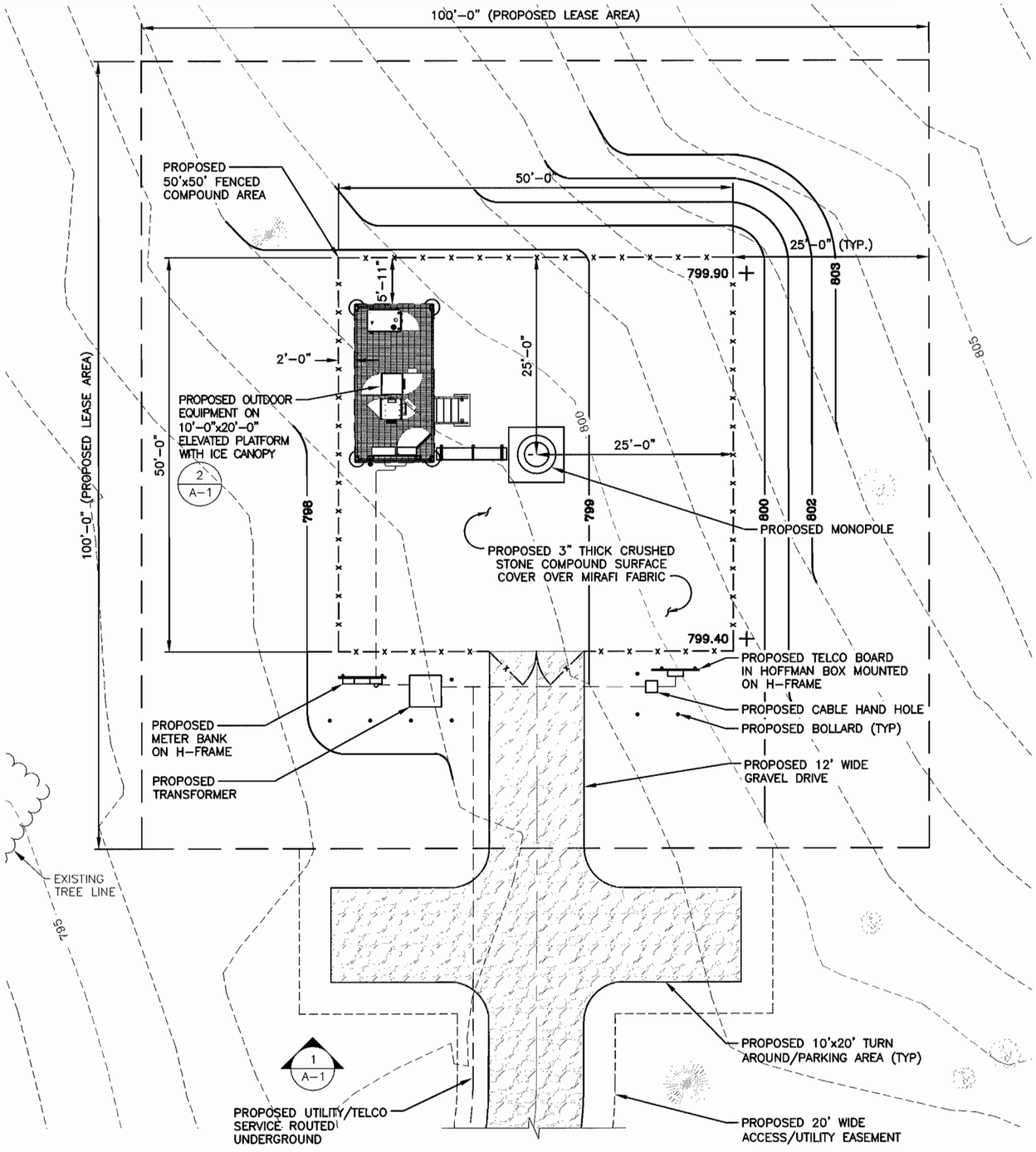
REV.	DATE	DESCRIPTION	BY
5	07/05/16	REVISED PER COMMENTS	SB
4	06/02/16	REVISED PER COMMENTS	GC
3	04/29/16	REVISED PER COMMENTS	JS
2	12/24/15	REVISED PER COMMENTS	MC
1	11/16/15	REVISED PER COMMENTS	MC
0	09/22/15	ISSUED FOR REVIEW	GC

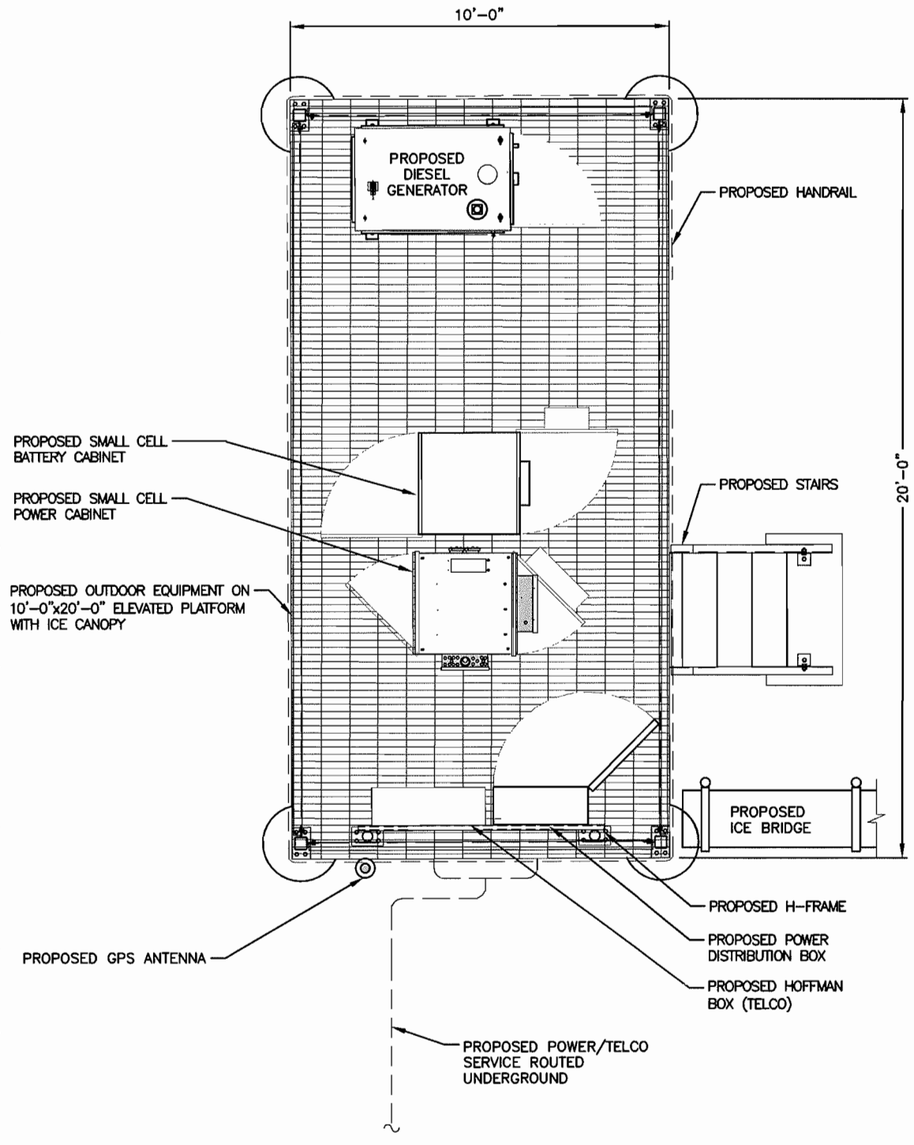
SITE NAME:
DAYVILLE, CT

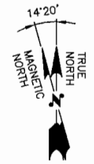
SITE ADDRESS:
520 BAILEY HILL ROAD
KILLINGLY, CT 06241

SHEET TITLE
SITE PLAN

SHEET NUMBER
C-2

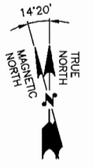






COMPOUND PLAN (1 / A-1)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

GRAPHIC SCALE
0 4 8 16 24 FEET



EQUIPMENT PLAN (2 / A-1)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

GRAPHIC SCALE
0 1 2 4 6 FEET

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.

verizon

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28561
LICENSED PROFESSIONAL ENGINEER

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
5	07/05/16	REVISED PER COMMENTS	SB
4	06/02/16	REVISED PER COMMENTS	GC
3	04/29/16	REVISED PER COMMENTS	JS
2	12/24/15	REVISED PER COMMENTS	MC
1	11/16/15	REVISED PER COMMENTS	MC
0	09/22/15	ISSUED FOR REVIEW	GC

SITE NAME:
DAYVILLE, CT

SITE ADDRESS:
520 BAILEY HILL ROAD
KILLINGLY, CT 06241

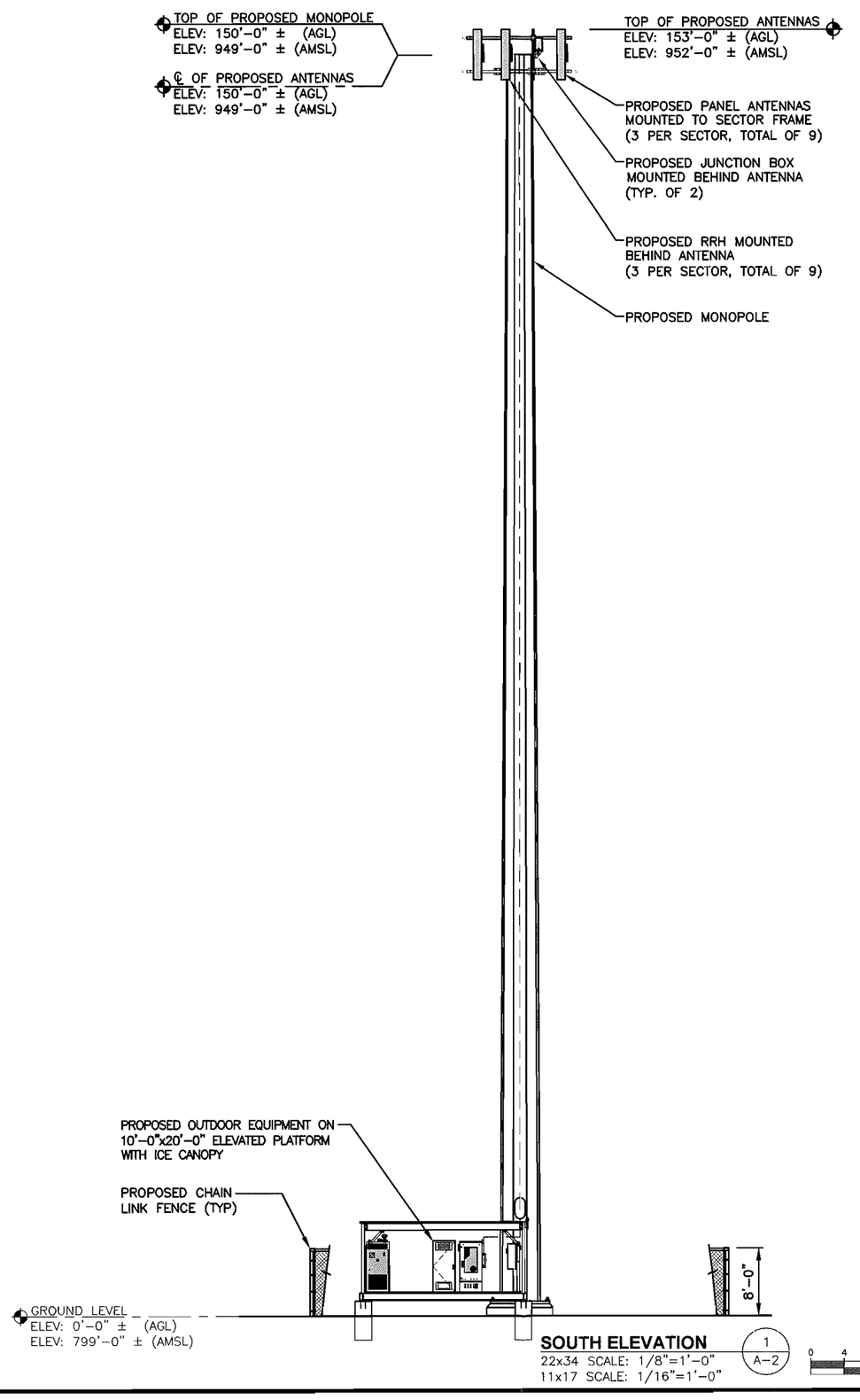
SHEET TITLE
COMPOUND PLAN

SHEET NUMBER
A-1

PROPOSED ANTENNA INFORMATION

SECTOR	STATUS	AZIMUTH	CABLE LENGTH
ALPHA	PROPOSED	0	195
BETA	PROPOSED	120	195
GAMMA	PROPOSED	240	195

NOTE: CABLE LENGTH = EXACT LENGTH PLUS 25'



SOUTH ELEVATION (1 / A-2)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

GRAPHIC SCALE
0 4 8 16 24 FEET

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.
verizon

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28556
LICENSED PROFESSIONAL ENGINEER

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

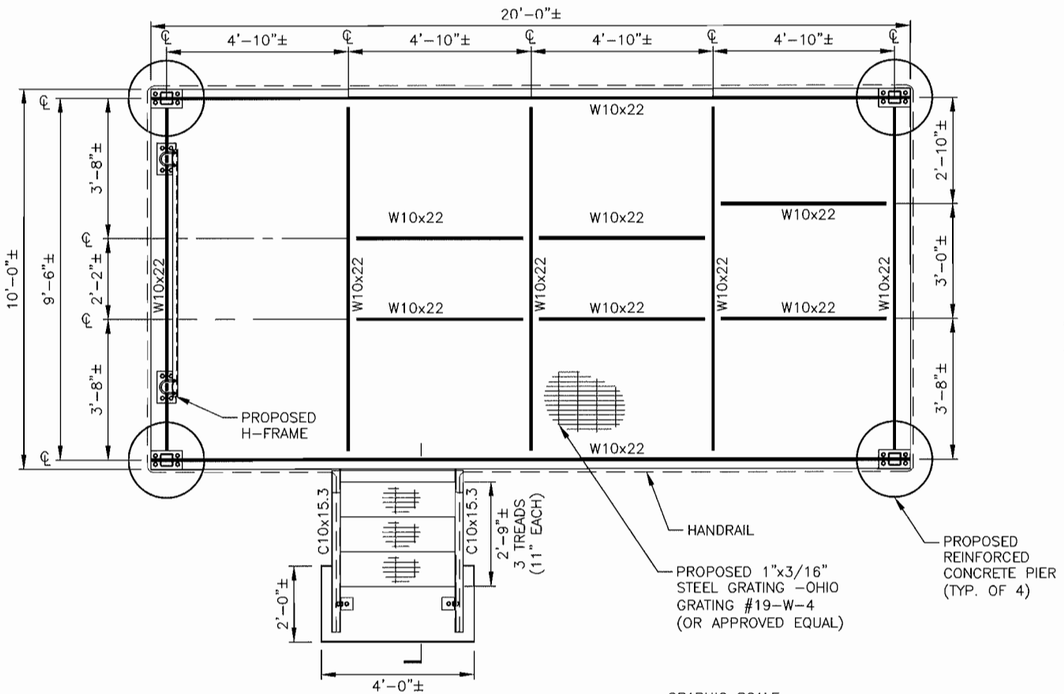
REV.	DATE	DESCRIPTION	BY
5	07/05/16	REVISED PER COMMENTS	SB
4	06/02/16	REVISED PER COMMENTS	GC
3	04/29/16	REVISED PER COMMENTS	JS
2	12/24/15	REVISED PER COMMENTS	MC
1	11/16/15	REVISED PER COMMENTS	MC
0	09/22/15	ISSUED FOR REVIEW	GC

SITE NAME:
DAYVILLE, CT

SITE ADDRESS:
520 BAILEY HILL ROAD
KILLINGLY, CT 06241

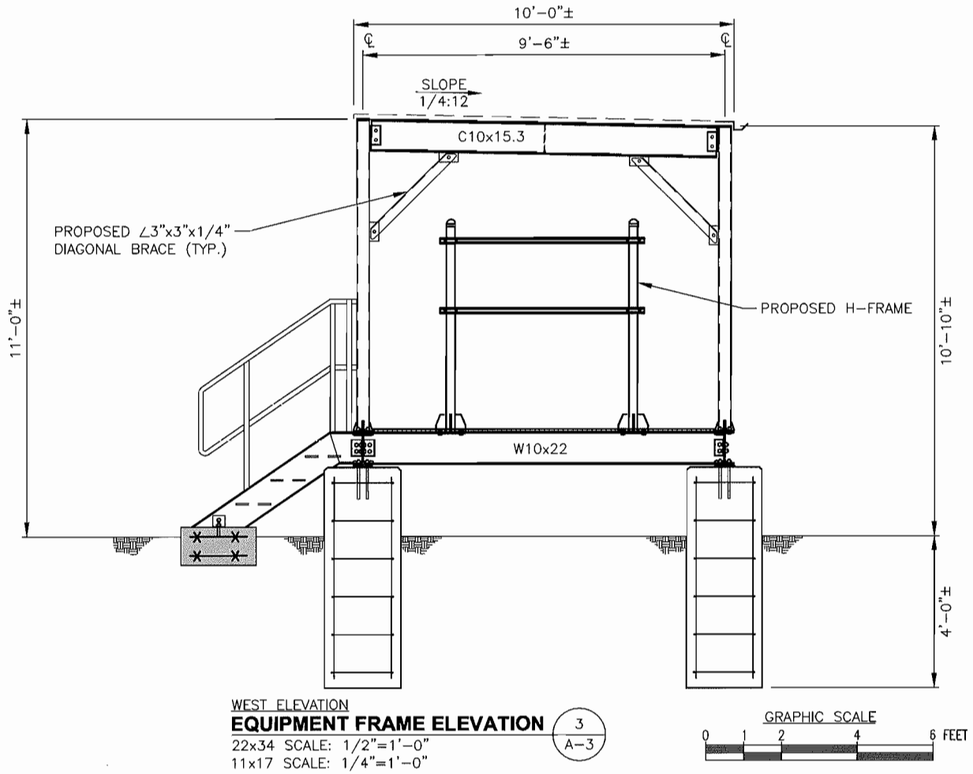
SHEET TITLE
ELEVATION

SHEET NUMBER
A-2



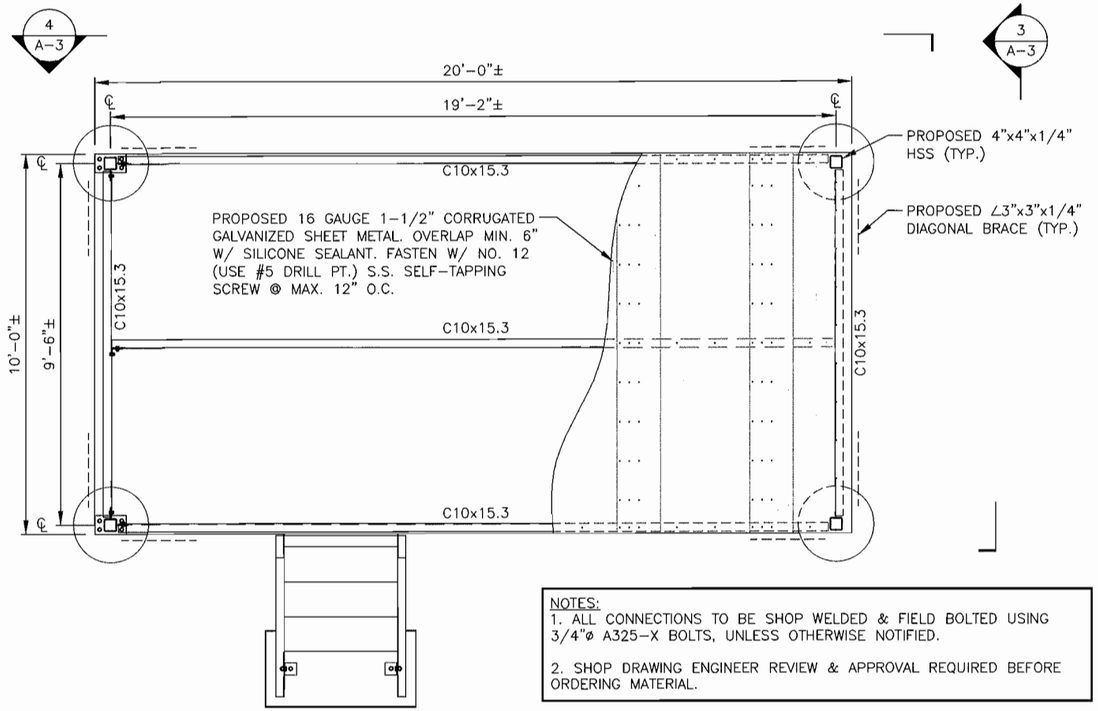
STEEL PLATFORM FRAME PLAN (1 / A-3)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

GRAPHIC SCALE 0 1 2 4 6 FEET



WEST ELEVATION
EQUIPMENT FRAME ELEVATION (3 / A-3)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

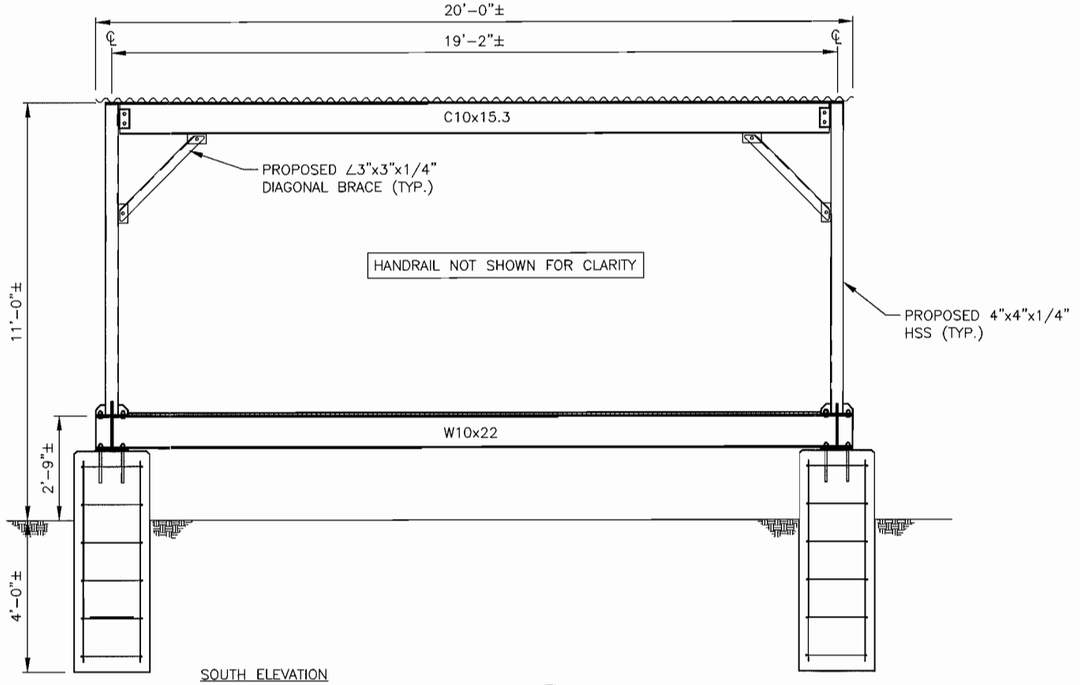
GRAPHIC SCALE 0 1 2 4 6 FEET



ICE CANOPY FRAME PLAN (2 / A-3)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

GRAPHIC SCALE 0 1 2 4 6 FEET

NOTES:
1. ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
2. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.



SOUTH ELEVATION
EQUIPMENT FRAME ELEVATION (4 / A-3)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

GRAPHIC SCALE 0 1 2 4 6 FEET

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.

verizon

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28351
LICENSED PROFESSIONAL ENGINEER

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
5	07/05/16	REVISED PER COMMENTS	SB
4	06/02/16	REVISED PER COMMENTS	GC
3	04/29/16	REVISED PER COMMENTS	JS
2	12/24/15	REVISED PER COMMENTS	MC
1	11/16/15	REVISED PER COMMENTS	MC
0	09/22/15	ISSUED FOR REVIEW	GC

SITE NAME:
DAYVILLE, CT

SITE ADDRESS:
520 BAILEY HILL ROAD
KILLINGLY, CT 06241

SHEET TITLE
CANOPY FRAME & EQUIPMENT FRAME DETAILS

SHEET NUMBER
A-3

CERTIFICATION OF SERVICE

I hereby certify that on this 26th day of July, 2016, copies of the Application and attachments were sent first class mail, postage prepaid, to the following:

STATE OFFICIALS:

The Honorable George Jepsen
Attorney General
Office of the Attorney General
55 Elm Street
Hartford, CT 06106

Dora B. Schriro, Commissioner
Department of Emergency Services and Public Protection
Emergency Management and Homeland Security Division
25 Sigourney Street, 6th Floor
Hartford, CT 06106-5042

Rob Klee, Commissioner
Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106

Raul Pino, M.D., M.P.H., Commissioner
Department of Public Health
410 Capitol Avenue
P.O. Box 340308, MS 13COM
Hartford, CT 06134-0308

Karl J. Wagener, Executive Director
Council on Environmental Quality
79 Elm Street
P.O. Box 5066
Hartford, CT 06106

Arthur House, Chairman
Public Utilities Regulatory Authority
Ten Franklin Square
New Britain, CT 06051

Benjamin Barnes, Secretary
Office of Policy and Management
450 Capitol Avenue
Hartford, CT 06106

Catherine Smith, Commissioner
Department of Economic and Community Development
505 Hudson Street
Hartford, CT 06106

James P. Redeker, Commissioner
Department of Transportation
P.O. Box 317546
2800 Berlin Turnpike
Newington, CT 06131-7546

Christina Newman-Scott
Acting Director of Arts and Historic Preservation
State Historic Preservation Officer
Connecticut Commission on Culture & Tourism
One Constitution Plaza, 2nd Floor
Hartford, CT 06103

Steven K. Reviczky, Commissioner
Department of Agriculture
165 Capital Avenue
Hartford, CT 06106

KILLINGLY TOWN OFFICIALS:

Sean Hendricks, Town Manager
Town of Killingly
172 Main Street
Killingly, CT 06239

The Honorable Mae Flexer
Senator – 29th District
Legislative Office Building
Room 1800
Hartford, CT 06106

The Honorable Christine Randall
Representative – 44th District
Legislative Office Building
Room 4014
Hartford, CT 06106

The Honorable Daniel S. Rovero
Representative – 51st District
Legislative Office Building
Room 4004
Hartford, CT 06106

Elizabeth M. Wilson, Town Clerk
Town of Killingly
172 Main Street
Killingly, CT 06239

Keith Thurlow, Chairperson
Planning and Zoning Commission
Town of Killingly
172 Main Street
Killingly, CT 06239

Ann-Marie L. Aubrey
Director of Planning and Development
Town of Killingly
172 Main Street
Killingly, CT 06239

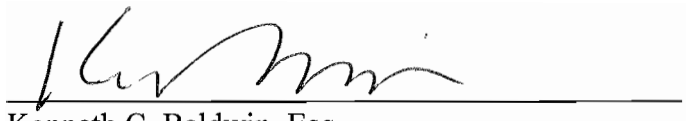
Sandy Eggers, Chair
Inland Wetlands and Watercourses Commission
Town of Killingly
172 Main Street
Killingly, CT 06239

Donna M. Bronwell, Chair
Conservation Commission
Town of Killingly
172 Main Street
Killingly, CT 06239

Northeastern Connecticut Council of Governments
125 Putnam Pike
Dayville, CT 06241

FEDERAL AGENCY:

Federal Communications Commission
445 12th Street SW
Washington, DC 20554



Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103
Telephone: (860) 275-8200
Attorneys for Cellco Partnership d/b/a Verizon Wireless

LEGAL NOTICE

Notice is hereby given, pursuant to Section 16-50*l*(b) of the Connecticut General Statutes and Regulations pertaining thereto, of an Application to be submitted to the Connecticut Siting Council ("Council") on or about July 26, 2016 by Cellco Partnership d/b/a Verizon Wireless ("Cellco" or the "Applicant"). The Application proposes the installation of a wireless telecommunications tower and related facility on an approximately 648- acre parcel at 520 Bailey Hill Road in Killingly, Connecticut. Cellco proposes to construct a 150-foot monopole tower in the north westerly portion of this parcel. Access to the facility compound will extend from Bailey Hill Road. Cellco will also install a new 10' x 20' equipment platform with canopy located near the base of the tower to support its radio equipment and a diesel-fueled back-up generator. The location and other features of the proposed facility are subject to change under provisions of Connecticut General Statutes § 16-50g et. seq.

On the day of the Siting Council public hearing on this proposal, Cellco will fly a balloon at the height of the proposed tower described above. Interested parties and residents of the Town of Killingly are invited to review the Application during normal business hours after July 26, 2016, at any of the following offices:

Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Cellco Partnership d/b/a Verizon Wireless
99 East River Drive
East Hartford, CT 06108
Attn: Anthony Befera

Killingly Town Clerk
Town of Killingly
172 Main Street
Killingly, CT 06239

or the offices of the undersigned. All inquiries should be addressed to the Connecticut Siting Council or to the undersigned.

CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597
(860) 275-8200
Its Attorneys

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

Also admitted in Massachusetts

July 21, 2016

Via Certified Mail Return Receipt Requested

«Name_and_Address»

Re: **Cellco Partnership d/b/a Verizon Wireless – Proposed Telecommunications Facility at 520 Bailey Hill Road, Killingly, Connecticut**

Dear «Salutation»:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") will be submitting an application to the Connecticut Siting Council ("Council") on or about July 26, 2016, for approval of the construction of a telecommunications facility in the Town of Killingly, Connecticut.

The proposed facility would consist of a new 150-foot monopole tower in the north western portion of an approximately 648 acre parcel at 520 Bailey Hill Road in Killingly. Cellco will install nine (9) antennas and nine (9) remote radio heads on a platform at the top of the tower. Radio equipment associated with Cellco's antennas and associated equipment and a diesel-fueled back-up generator would be installed on a 10' x 20' steel platform with canopy near the base of the tower. Access to the facility would extend from Bailey Hill Road along an existing gravel driveway then over a new gravel drive a total distance of approximately 674 feet to the cell site. Site plan drawings for the proposed facility are attached for your review. The location and other features of the proposed facilities are subject to change under the provisions of Connecticut General Statutes § 16-50g et seq.

State law provides that owners of record of property which abuts a parcel on which a facility is proposed to be located must receive notice of the submission of this application. This notice is directed to you either because you may be an abutting land owner or as a courtesy notice.

If you have any questions concerning the application, please direct them to either the Connecticut Siting Council or me. My address and telephone number are listed above. The Siting Council may be reached at its New Britain, Connecticut office at (860) 827-2935.

Very truly yours,

Kenneth C. Baldwin

Attachment

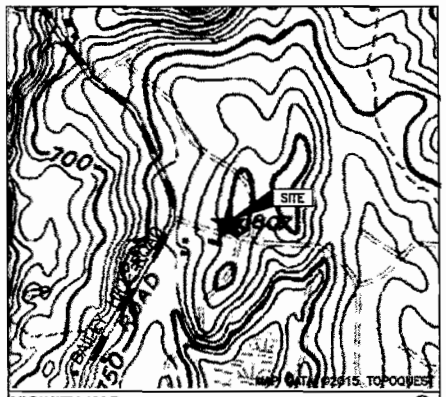
CELLCO PARTNERSHIP

d.b.a. verizon wireless

WIRELESS COMMUNICATIONS FACILITY

DAYVILLE CT

520 BAILEY HILL ROAD
KILLINGLY, CT 06241



VICINITY MAP SCALE: 1"=500'-0"

DIRECTIONS TO SITE:
99 E RIVER DR, EAST HARTFORD, CT 06108
HEAD NORTHEAST ON E RIVER DR
TURN LEFT ONTO THE CT-2 E RAMP TO NORWICH
FOLLOW I-84 E TO CT-74 E IN TOLLAND.
MERGE ONTO I-84 E
TAKE EXIT 69 FOR CONNECTICUT 74 TOWARD U.S. 44/WILLINGTON/PUTNAM
TURN RIGHT ONTO CT-74 E
TURN LEFT ONTO US-44 E
CONTINUE STRAIGHT ONTO CT-101 E
TURN RIGHT ONTO BAILEY HILL RD
SLIGHT LEFT TO STAY ON BAILEY HILL RD
TURN LEFT, 520 BAILEY HILL RD, DAYVILLE, CT 06241

CONSULTANT TEAM

PROJECT ENGINEER

HUDSON DESIGN GROUP, LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
NORTH ANDOVER, MA 01845
TEL: 1-(978)-557-5553
FAX: 1-(978)-336-5586

MEP ENGINEER

HUDSON DESIGN GROUP, LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
NORTH ANDOVER, MA 01845
TEL: 1-(978)-557-5553
FAX: 1-(978)-336-5586

PROJECT SUMMARY

SITE NAME:	DAYVILLE CT
SITE ADDRESS:	520 BAILEY HILL ROAD KILLINGLY, CT 06241
PROPERTY OWNER:	TRI LAKES, LLC P.O. BOX 28 WATERTOWN, CT 06795
APPLICANT:	CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS 99 EAST RIVER DRIVE EAST HARTFORD, CT 06108
SITE ACQUISITION CONTACT:	STEPHEN SCHADLER STRUCTURE CONSULTING GROUP 99 EAST RIVER DRIVE, 9TH FL EAST HARTFORD, CT 06108
LEGAL/REGULATORY COUNSEL:	KENNETH C. BALDWIN ESQ. ROBINSON + COLE LLP (860)275-8345
LATITUDE:	N41° 49' 56.76"
LONGITUDE:	W71° 48' 33.23"

SHEET INDEX

SHT. NO.	DESCRIPTION
T-1	TITLE SHEET
C-1	ABUTTERS PLAN
C-2	SITE PLAN
A-1	COMPOUND PLAN
A-2	ELEVATION
A-3	CANOPY FRAME & EQUIPMENT FRAME DETAILS

SCOPE OF WORK INFO.

VERIZON WIRELESS IS PROPOSING TO INSTALL THE FOLLOWING IMPROVEMENTS ON PROPOSED TELECOMMUNICATION SITE:

- NEW 50'x50' FENCED COMPOUND WITHIN PROPOSED 100'x100' LEASE AREA. ON EXISTING PARCEL OF LAND.
- NEW PANEL ANTENNAS: (3) ANTENNA PER SECTOR WITH (3) SECTORS, FOR A TOTAL OF (9) ANTENNAS.
- NEW RRHs: (3) RRHs PER SECTOR WITH (3) SECTORS, FOR A TOTAL OF (9) RRHs
- NEW JUNCTION BOXES: (1) JUNCTION BOX TOTAL.

ITEMS LISTED ABOVE TO BE MOUNTED ON PROPOSED VERIZON MONOPOLE.

- NEW EQUIPMENT CABINETS: (2) CABINETS WITH GENERATOR ON PROPOSED 10'x20' EQUIPMENT STEEL PLATFORM.

ITEMS LISTED ABOVE TO BE INSTALLED WITHIN THE PROPOSED 50'x50' FENCED COMPOUND.

- NEW POWER AND TELCO SERVICES WILL BE ROUTED UNDERGROUND FROM PROPOSED UTILITY POLE TO PROPOSED ELECTRICAL METER AND HOFFMAN BOX ON PROPOSED H-FRAME.
- FINAL UTILITY ROUTING TO BE DETERMINED/VERIFIED BY UTILITY COMPANIES.

PREPARED FOR: CELLCO PARTNERSHIP D.B.A. verizon

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

STATE OF CONNECTICUT
DEREK J CREASER
No. 21855
LICENSED PROFESSIONAL ENGINEER

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

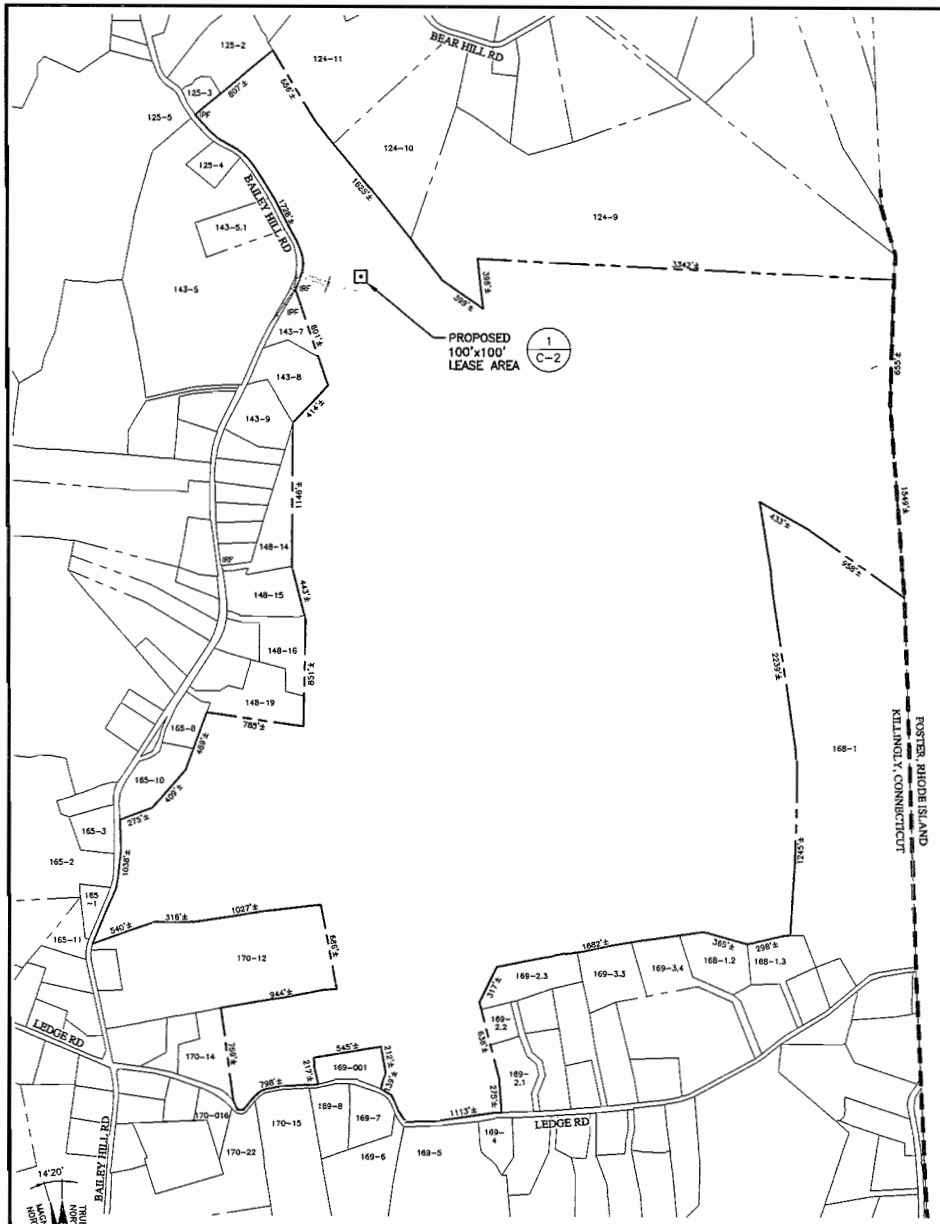
REV.	DATE	DESCRIPTION	BY
5	07/05/16	REVISED PER COMMENTS	SB
4	06/02/16	REVISED PER COMMENTS	GC
3	04/29/16	REVISED PER COMMENTS	JS
2	12/24/15	REVISED PER COMMENTS	MC
1	11/16/15	REVISED PER COMMENTS	MC
0	09/22/15	ISSUED FOR REVIEW	GC

SITE NAME:
DAYVILLE, CT

SITE ADDRESS:
520 BAILEY HILL ROAD
KILLINGLY, CT 06241

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1



ABUTTERS PLAN (1 / C-1)
22x34 SCALE: 1"=500'-0"
11x17 SCALE: 1"=1000'-0"

GRAPHIC SCALE
0 250 500 1000 1500 FEET

ABUTTERS LIST

124-009
239 Bear Hill Rd
Frances E. & Robert Pechie
225 Bear Hill Rd
Dayville, CT 06241

124-010
199 Bear Hill Rd
Julie A. Jussaume
P.O. Box 339
Dayville, CT 06241-0339

124-011
189 Bear Hill Rd
Frances Pechie
225 Bear Hill Rd
Dayville, CT 06241

125-002
810 Bailey Hill Rd
Roland O. Jacques
810 Bailey Hill Rd
Dayville, CT 06241

125-003
806 Bailey Hill Rd
Theresa R. Bernier
806 Bailey Hill Rd
Dayville, CT 06241

125-004
779 Bailey Hill Rd
Robert, Virginia &
Susan Griswold
P.O. Box 273
East Killingly, CT
06243-0273

125-005
817 Bailey Hill Rc
Theresa R. Bernier
806 Bailey Hill Rc
Dayville, CT 06241

143-005
721 Bailey Hill Rc
Walter P. Hall, III
721 Bailey Hill Rc
Dayville, CT 06241

143-5.001
755 Bailey Hill Rd
Walter P. & June R. Hall
P.O. Box 48
East Killingly, CT 06243

143-007
724 Bailey Hill Rd
Walter P. Hall, III
721 Bailey Hill Rd
Dayville, CT 06241

143-008
710 Bailey Hill Rd
Larry V. & Judith Lawrence
710 Bailey Hill Rd
Dayville, CT 06241

143-007
688 Bailey Hill Rd
Walter E. & Debra Gene
Opperman
688 Bailey Hill Rd
Dayville, CT 06241

148-014
642 Bailey Hill Rd
William W. Gould, Jr.
642 Bailey Hill Rd
Dayville, CT 06241

148-015
630 Bailey Hill Rd
Jennifer Chapman
630 Bailey Hill Rd
Dayville, CT 06241

148-016
624 Bailey Hill Rd
Arthur P. & Geraldine Rickey
624 Bailey Hill Rd
Dayville, CT 06241

165-001
509 Bailey Hill Rd
Jean E. & Donald J. Carter
509 Bailey Hill Rd
Dayville, CT 06241

165-002
525 Bailey Hill Rd
Herbert A. & Karen M. Oatley
525 Bailey Hill Rd
Dayville, CT 06241

165-003
539 Bailey Hill Rd
Michael Oatley, Michelle Klein
& Roberta Flaherty
150 Creamery Brook Rd
Brooklyn, CT 06234

165-008
582 Bailey Hill Rd
David T. & Judith E. Rzucidlo
582 Bailey Hill Rd
Dayville, CT 06241

165-010
566 Bailey Hill Rd
Ronald J. & Judith M.
Rousselle
566 Bailey Hill Rd
Dayville, CT 06241

165-011
495 Bailey Hill Rd
Jason Robert & Valerie Smith
495 Bailey Hill Rd
Dayville, CT 06241

148-019
594 Bailey Hill Rd
David T. Rzucidlo
582 Bailey Hill Rd
Dayville, CT 06241

168-1
430 Ledge Rd
George M. & Starlet M. Lenth
375 Ledge Rd
Dayville, CT 06241

168-1.002
402 Ledge Rd
George M. & Starlet M. Lenth
375 Ledge Rd
Dayville, CT 06241

168-1.003
400 Ledge Rd
George M. & Starlet M. Lenth
375 Ledge Rd
Dayville, CT 06241

169-001
226 Ledge Rd
Timothy G. Verroneault
36 Kara Rd
Brooklyn, CT 06234

169-2.001
304 Ledge Rd
Paul J. & Erin A. Ramani
304 Ledge Rd
Dayville, CT 06241

169-2.002
306 Ledge Rd
Eric M. Quinn
306 Ledge Rd
Dayville, CT 06241

169-2.003
308 Ledge Rd
Jeffrey Ferran
308 Ledge Rd
Dayville, CT 06241

169-3.003
390 Ledge Rd
George M. & Starlet M. Lenth
375 Ledge Rd
Dayville, CT 06241

169-3.004
386 Ledge Rd
George M. & Starlet M. Lenth
375 Ledge Rd
Dayville, CT 06241

169-004
295 Ledge Rd
Todd & Justin Loomis
265 Ledge Rd
Dayville, CT 06241

169-005
275 Ledge Rd
Harold J. & Patricia S.
Swaine
255 Ledge Rd
Dayville, CT 06241

169-006
255 Ledge Rd
Wendy L. Brennan
255 Ledge Rd
Dayville, CT 06241

169-007
247 Ledge Rd
Harold J. & Patricia S.
Swaine
255 Ledge Rd
Dayville, CT 06241

169-008
225 Ledge Rd
Susan E. Erskine
P.O. Box 606
Dayville, CT 06241-0606

170-012
476 Bailey Hill Rd
Gabrielle Labonte
P.O. Box 709
Brooklyn, CT 06234

170-014
172 Ledge Rd
Joseph G. Keller, Jr.
172 Ledge Rd
Dayville, CT 06241

170-015
203 Ledge Rd
Susan E. Erskine
P.O. Box 606
Dayville, CT 06241-0606

170-016
181 Ledge Rd
Robert J. Gifford &
Elaine E. Nusser
181 LEDGE Rd
Dayville, CT 06241

170-022
406 Bailey Hill Rd
Thomas Cader
406 Bailey Hill Rd
Killingly, CT 06239

SOURCE:

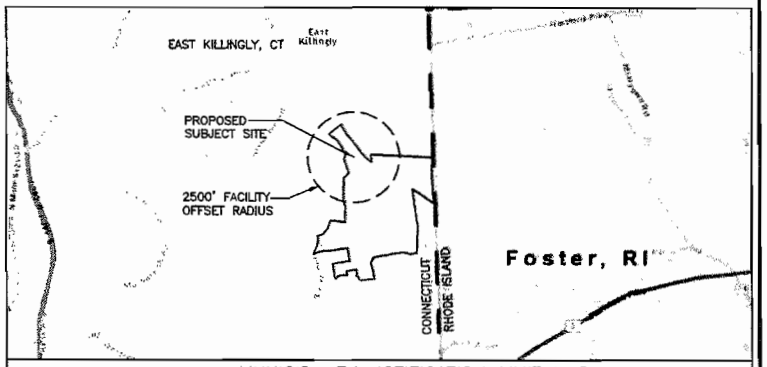
NORTHEAST SURVEY CONSULTANTS, ABUTTERS PLAN AND EXISTING CONDITIONS DATED 8/26/15

SITE SPECIFIC NOTES:

1. VERIFY AZIMUTHS W/ RF ENGINEER.

LEGEND:

- PROPERTY LINE-SUBJECT PARCEL
- PROPERTY LINE-ABUTTERS
- STATE LINE
- CONTOUR LINE
- DELINEATED WETLAND LINE
- (E) BUILDING
- XXX-XX ASSESSORS MAP-BLOCK-LOT NO.
- (E) TREE LINE



MUNICIPALITY NOTIFICATION LIMIT MAP

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.
verizon

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED
PROFESSIONAL ENGINEER

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

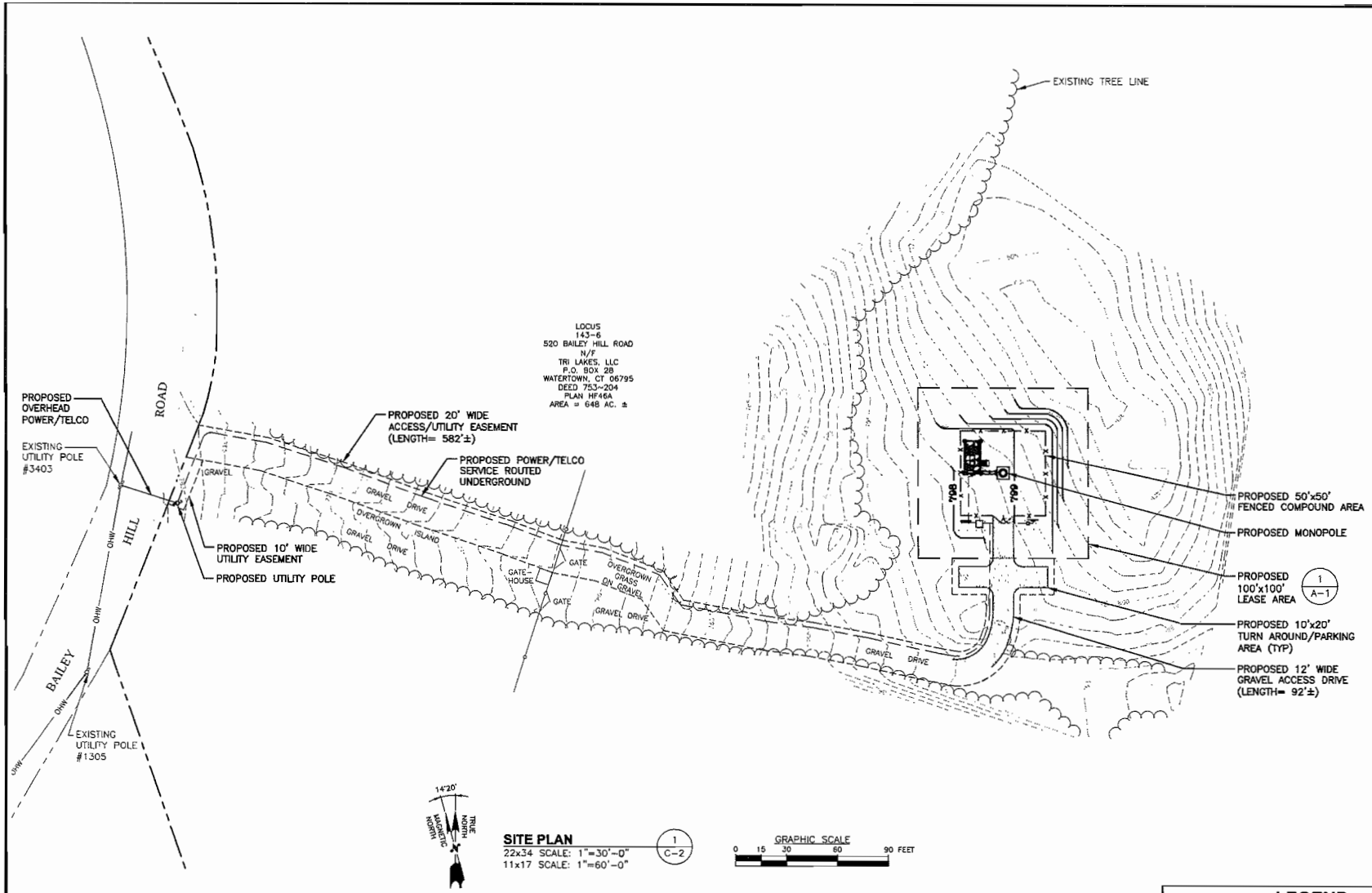
REV.	DATE	DESCRIPTION	BY
5	07/05/16	REVISED PER COMMENTS	SB
4	06/02/16	REVISED PER COMMENTS	GC
3	04/29/16	REVISED PER COMMENTS	JS
2	12/24/15	REVISED PER COMMENTS	NC
1	11/16/15	REVISED PER COMMENTS	NC
0	09/22/15	ISSUED FOR REVIEW	GC

SITE NAME:
DAYVILLE, CT

SITE ADDRESS:
520 BAILEY HILL ROAD
KILLINGLY, CT 06241

SHEET TITLE
ABUTTERS PLAN

SHEET NUMBER
C-1



SITE PLAN (1 / C-2)
22x34 SCALE: 1"=30'-0"
11x17 SCALE: 1"=60'-0"

GRAPHIC SCALE
0 15 30 60 90 FEET

LEGEND:

- PROPERTY LINE-SUBJECT PARCEL
- PROPERTY LINE-ABUTTERS
- STATE LINE
- CONTOUR LINE
- DELINEATED WETLAND LINE
- (E) BUILDING
- xxx-xx ASSESSORS MAP-BLOCK-LOT NO.
- (E) TREE LINE

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.

verizon

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28956
LICENSED PROFESSIONAL ENGINEER

CHECKED BY: DJR

APPROVED BY: CPH

SUBMITTALS

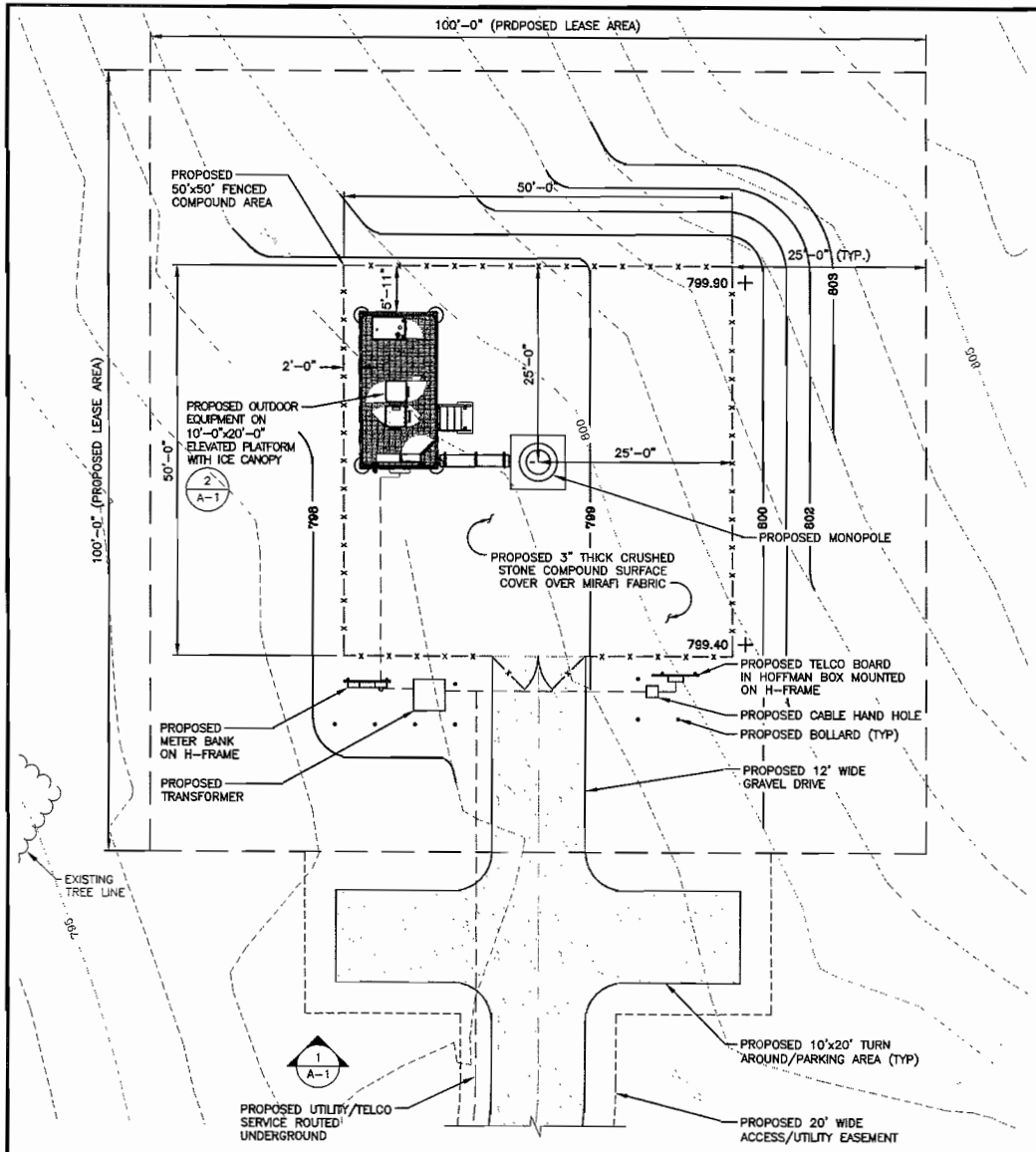
REV.	DATE	DESCRIPTION	BY
5	07/05/16	REVISED PER COMMENTS	SB
4	06/02/16	REVISED PER COMMENTS	GC
3	04/29/16	REVISED PER COMMENTS	JS
2	12/24/15	REVISED PER COMMENTS	MC
1	11/16/15	REVISED PER COMMENTS	MC
0	09/22/15	ISSUED FOR REVIEW	GC

SITE NAME:
DAYVILLE, CT

SITE ADDRESS:
520 BAILEY HILL ROAD
KILLINGLY, CT 06241

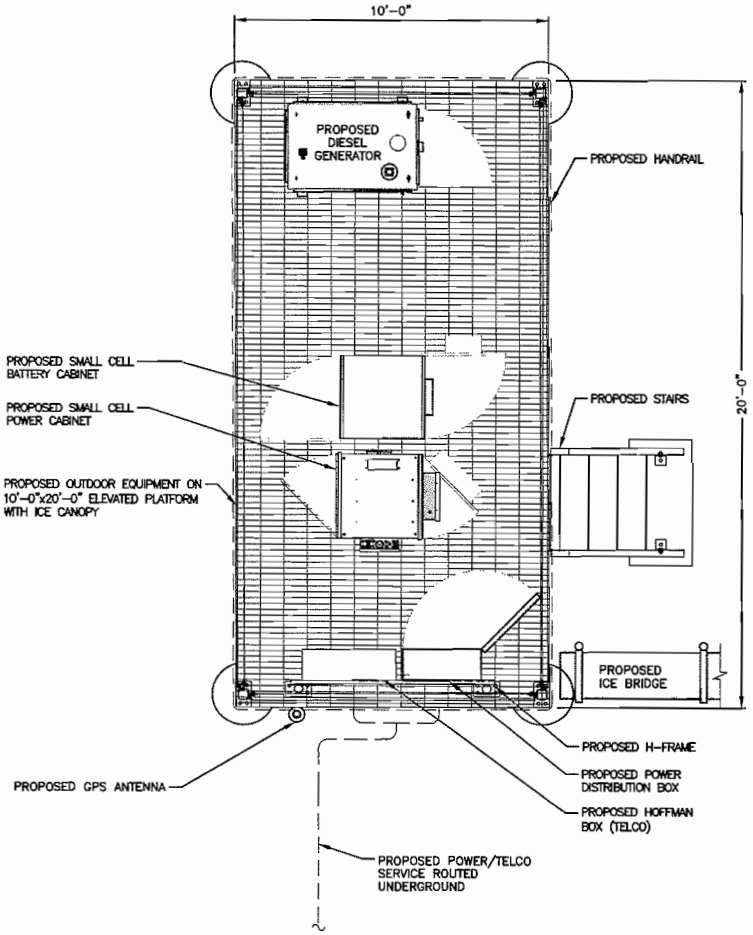
SHEET TITLE
SITE PLAN

SHEET NUMBER
C-2



COMPOUND PLAN (1 / A-1)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

GRAPHIC SCALE
0 4 8 16 24 FEET



EQUIPMENT PLAN (2 / A-1)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

GRAPHIC SCALE
0 1 2 4 6 FEET

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.

verizon

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

STATE OF CONNECTICUT
DEREK J. CREASER
No. 23551
LICENSED
PROFESSIONAL ENGINEER

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
5	07/05/16	REVISED PER COMMENTS	SB
4	06/02/16	REVISED PER COMMENTS	GC
3	04/29/16	REVISED PER COMMENTS	JS
2	12/24/15	REVISED PER COMMENTS	MC
1	11/16/15	REVISED PER COMMENTS	MC
0	09/22/15	ISSUED FOR REVIEW	GC

SITE NAME:
DAYVILLE, CT

SITE ADDRESS:
520 BAILEY HILL ROAD
KILLINGLY, CT 06241

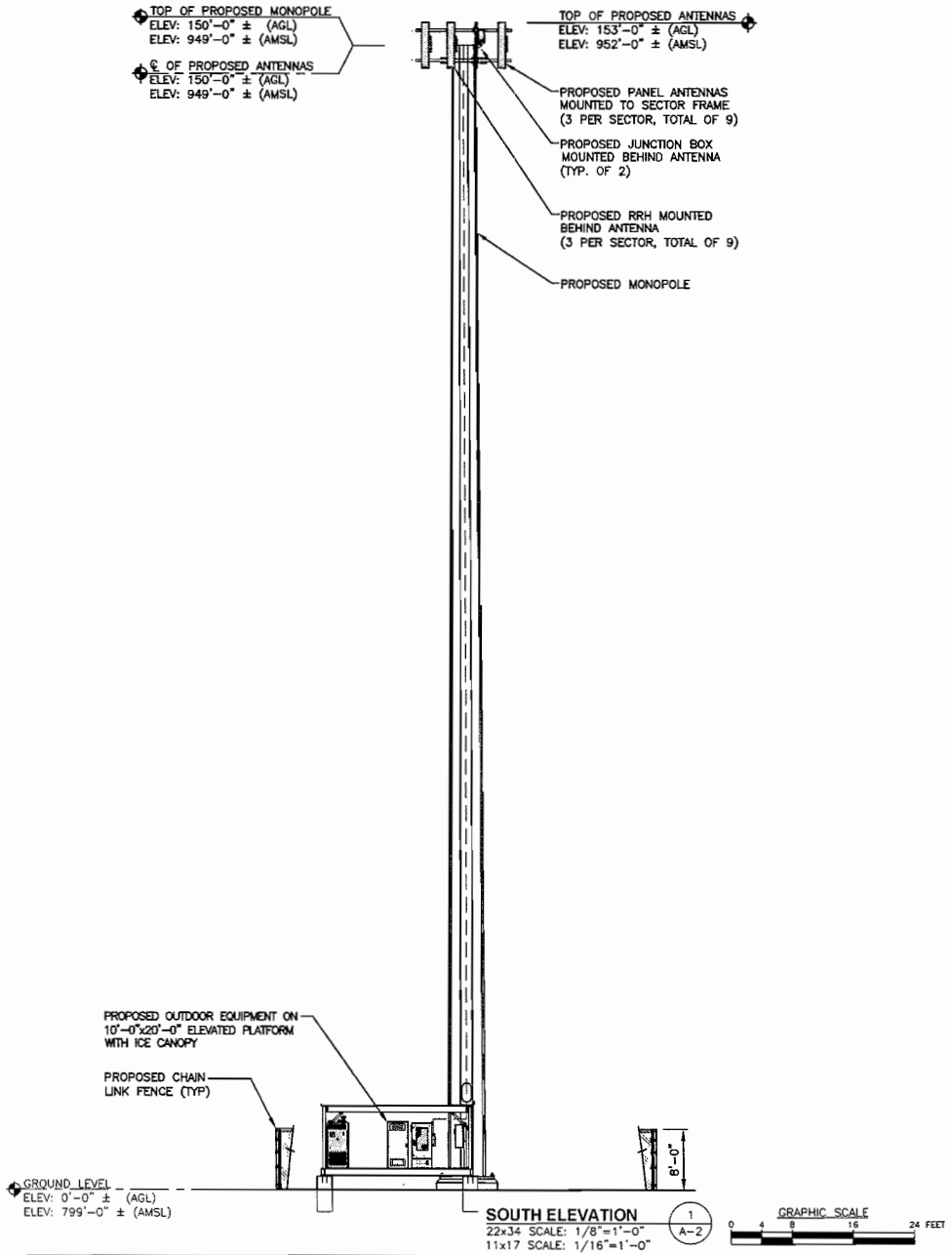
SHEET TITLE
COMPOUND PLAN

SHEET NUMBER
A-1

PROPOSED ANTENNA INFORMATION

SECTOR	STATUS	AZIMUTH	CABLE LENGTH
ALPHA	PROPOSED	0	195
BETA	PROPOSED	120	195
GAMMA	PROPOSED	240	195

NOTE: CABLE LENGTH = EXACT LENGTH PLUS 25'



SOUTH ELEVATION (1 / A-2)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

GRAPHIC SCALE
0 4 8 16 24 FEET

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.
verizon

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

STATE OF CONNECTICUT
DEREK J. CREASER
No. 23554
LICENSED PROFESSIONAL ENGINEER

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

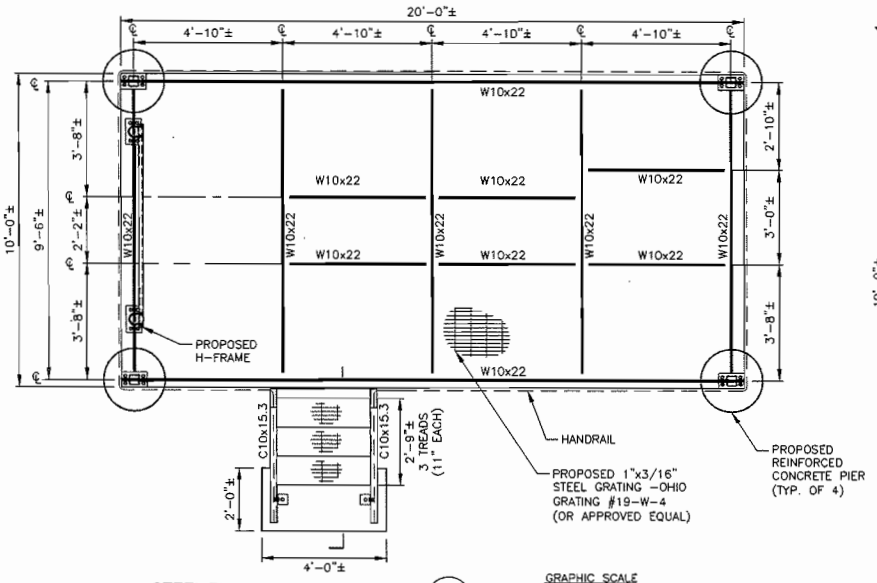
REV.	DATE	DESCRIPTION	BY
5	07/05/16	REVISED PER COMMENTS	SB
4	06/02/16	REVISED PER COMMENTS	GC
3	04/29/16	REVISED PER COMMENTS	JS
2	12/24/15	REVISED PER COMMENTS	MC
1	11/16/15	REVISED PER COMMENTS	MC
0	09/22/15	ISSUED FOR REVIEW	GC

SITE NAME:
DAYVILLE, CT

SITE ADDRESS:
520 BAILEY HILL ROAD
KILLINGLY, CT 06241

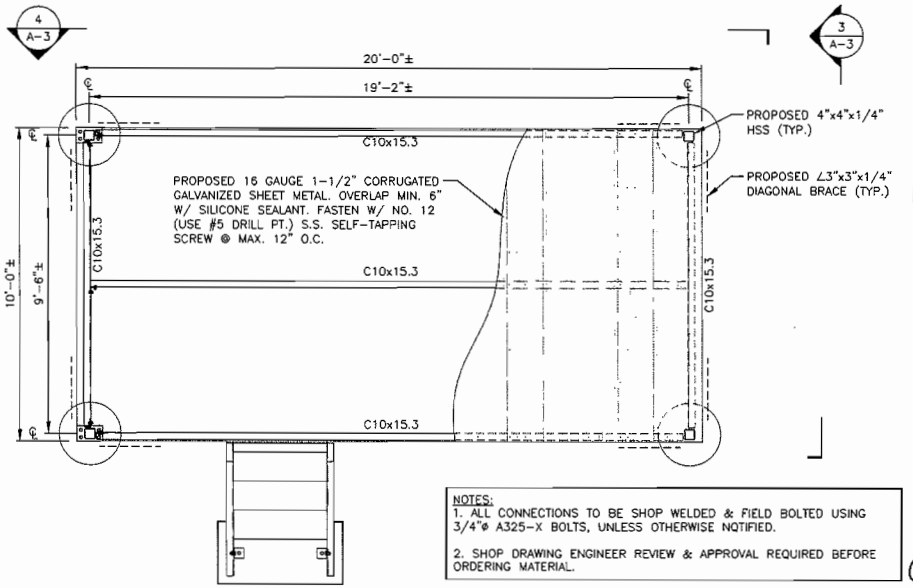
SHEET TITLE
ELEVATION

SHEET NUMBER
A-2



STEEL PLATFORM FRAME PLAN (1 / A-3)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

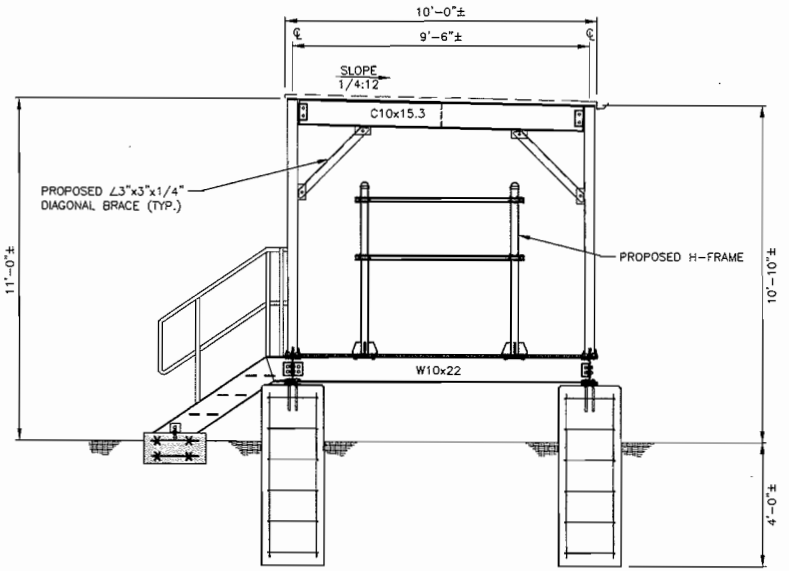
GRAPHIC SCALE 0 1 2 4 6 FEET



NOTES:
1. ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"Φ A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
2. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.

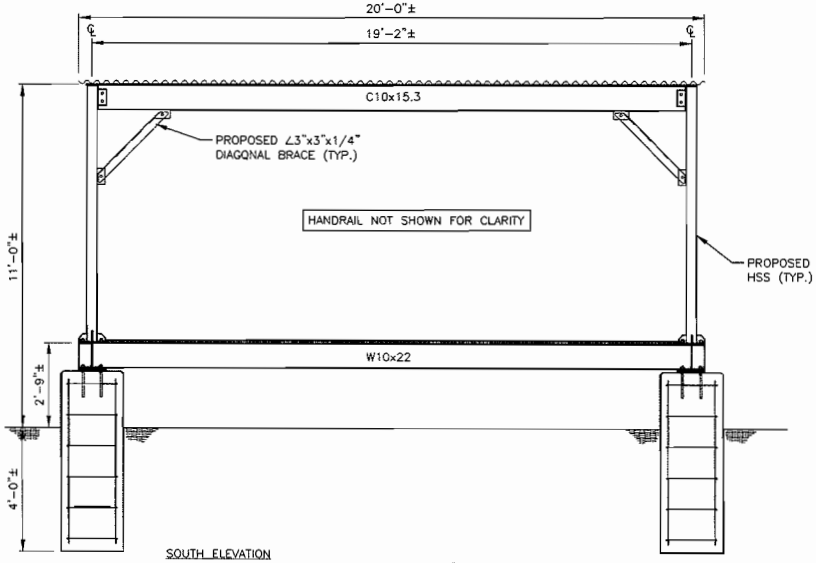
ICE CANOPY FRAME PLAN (2 / A-3)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

GRAPHIC SCALE 0 1 2 4 6 FEET



WEST ELEVATION
EQUIPMENT FRAME ELEVATION (3 / A-3)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

GRAPHIC SCALE 0 1 2 4 6 FEET



SOUTH ELEVATION
EQUIPMENT FRAME ELEVATION (4 / A-3)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

GRAPHIC SCALE 0 1 2 4 6 FEET

PREPARED FOR: CELLCO PARTNERSHIP D B.A.

verizon

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
5	07/05/16	REVISED PER COMMENTS	SB
4	06/02/16	REVISED PER COMMENTS	GC
3	04/29/16	REVISED PER COMMENTS	JS
2	12/24/15	REVISED PER COMMENTS	MC
1	11/16/15	REVISED PER COMMENTS	MC
0	09/22/15	ISSUED FOR REVIEW	GC

SITE NAME:
DAYVILLE, CT

SITE ADDRESS:
520 BAILEY HILL ROAD
KILLINGLY, CT 06241

SHEET TITLE
CANOPY FRAME & EQUIPMENT FRAME DETAILS

SHEET NUMBER
A-3

ADJACENT PROPERTY OWNERS

SITE NAME: DAYVILLE

OWNER NAME: TRI LAKES LLC

OWNER ADDRESS: P.O. BOX 28, WATERTOWN, CT 06795

ASSESSOR'S REFERENCE: MAP: 143 LOT: 6

THE FOLLOWING INFORMATION WAS COLLECTED FROM THE TAX ASSESSOR'S RECORDS AND LAND RECORDS OF KILLINGLY TOWN HALL. THE INFORMATION IS CURRENT AS OF JULY 18, 2016.

THE PARCEL IS ZONED RD (RURAL DEVELOPMENT).

	Property Address	**Owners and Mailing Address**
1.	806 Bailey Hill Road	Theresa R. Bernier 806 Bailey Hill Road Dayville, CT 06241
2.	810 Bailey Hill Road	Roland D. Jacques 810 Bailey Hill Road Dayville, CT 06241
3.	189 Bear Hill Road	Frances Pechie 225 Bear Hill Road Dayville, CT 06241
4.	199 Bear Hill Road	Julie A. Jussaume P.O. Box 339 Dayville, CT 06241
5.	239 Bear Hill Road	Frances and Robert E. Pechie, Jr. 225 Bear Hill Road Dayville, CT 06241
6.	430 Ledge Road	Starlet M. and George M. Lenth III 375 Ledge Road Dayville, CT 06241
7.	400 Ledge Road	Starlet M. and George M. Lenth III 375 Ledge Road Dayville, CT 06241

	Property Address	Owners and Mailing Address
8.	402 Ledge Road	Starlet M. and George M. Lenth III 375 Ledge Road Dayville, CT 06241
9.	386 Ledge Road	Starlet M. and George M. Lenth III 375 Ledge Road Dayville, CT 06241
10.	390 Ledge Road	Starlet M. and George M. Lenth III 375 Ledge Road Dayville, CT 06241
11.	308 Ledge Road	Jeffrey Ferron 308 Ledge Road Dayville, CT 06241
12.	306 Ledge Road	Eric M. Quinn 306 Ledge Road Dayville, CT 06241
13.	304 Ledge Road	Paul J. and Erin A. Romani 304 Ledge Road Dayville, CT 06241
14.	295 Ledge Road	Todd and Justin Loomis 265 Ledge Road Dayville, CT 06241
15.	275 Ledge Road	Harold J. and Patricia Swaine 255 Ledge Road Dayville, CT 06241
16.	255 Ledge Road	Wendy L. Brennan 255 Ledge Road Dayville, CT 06241
17.	247 Ledge Road	Harold J. and Patricia Swaine 255 Ledge Road Dayville, CT 06241
18.	226 Ledge Road	Timothy G. Verraneault 36 Kara Road Brooklyn, CT 06234

	Property Address	Owners and Mailing Address
19.	225 Ledge Road	Susan E. Erskine P.O. Box 606 Dayville, CT 06241
20.	203 Ledge Road	Susan E. Erskine P.O. Box 606 Dayville, CT 06241
21.	406 Bailey Hill Road	Thomas Cader 406 Bailey Hill Road Killingly, CT 06239
22.	181 Ledge Road	Robert J. Gifford and Elaine E. Nusser 181 Ledge Road Dayville, CT 06241
23.	172 Ledge Road	Joseph G. Keller, Jr. 172 Ledge Road Dayville, CT 06241
24.	476 Bailey Hill Road	Pauline C. Twerlinger c/o Gabrielle Labonte P.O. Box 709 Brooklyn, CT 06234
25.	495 Bailey Hill Road	Jason Robert and Valerie Smith 495 Bailey Hill Road Dayville, CT 06241
26.	509 Bailey Hill Road	Donald J. and Jean E. Carter 509 Bailey Hill Road Dayville, CT 06241
27.	525 Bailey Hill Road	Herbert A. and Karen M. Oatley 525 Bailey Hill Road Dayville, CT 06241
28.	539 Bailey Hill Road	Michael Oatley, Michele Klein and Roberta Flaherty 160 Creamery Brook Road Brooklyn, CT 06234
29.	566 Bailey Hill Road	Ronald J. and Judith M. Rousselle 566 Bailey Hill Road Dayville, CT 06241

	Property Address	Owners and Mailing Address
30.	582 Bailey Hill Road	David T. and Judith E. Rzucidlo 582 Bailey Hill Road Dayville, CT 06241
31.	594 Bailey Hill Road	David T. Rzucidlo 582 Bailey Hill Road Dayville, CT 06241
32.	624 Bailey Hill Road	Arthur P. and Geraldine Rickey 624 Bailey Hill Road Dayville, CT 06241
33.	630 Bailey Hill Road	Jennifer Chapman 630 Bailey Hill Road Dayville, CT 06241
34.	642 Bailey Hill Road	William W. Gould, Jr. 642 Bailey Hill Road Dayville, CT 06241
35.	688 Bailey Hill Road	Debra Gene and Walter E. Opperman, Sr. 688 Bailey Hill Road Dayville, CT 06241
36.	710 Bailey Hill Road	Larry V. and Judith Lawrence 710 Bailey Hill Road Dayville, CT 06241
37.	724 Bailey Hill Road	Walter P. Hall III 721 Bailey Hill Road Dayville, CT 06241
38.	721 Bailey Hill Road	Walter P. Hall III 721 Bailey Hill Road Dayville, CT 06241
39.	755 Bailey Hill Road	June R. and Walter P. Hall, Jr. P.O. Box 48 East Killingly, CT 06243
40.	779 Bailey Hill Road	Robert, Virginia and Susan Griswold P.O. Box 273 East Killingly, CT 06243

	Property Address	Owners and Mailing Address
41.	817 Bailey Hill Road	Theresa Bernier 806 Bailey Hill Road Dayville, CT 06241

CERTIFICATION OF SERVICE

I hereby certify that a copy of the foregoing letter was sent by certified mail, return receipt requested, to each of the parties on the attached list of abutting landowners.

7-21-16
Date

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103

Attorneys for CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY, #150 GASA5REG
ALPHARETTA, GA 30009-7630

Call Sign	File Number
WQGA715	0005272585
Radio Service AW - AWS, 1710-1755/2110-2155 MHz bands	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
11-29-2006	08-23-2012	11-29-2021	10-02-2012

Market Number	Channel Block	Sub-Market Designator
REA001	F	1

Market Name
Northeast

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

AWS operations must not cause harmful interference across the Canadian or Mexican Border. The authority granted herein is subject to future international agreements with Canada or Mexico, as applicable.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY, #150 GASA5REG
ALPHARETTA, GA 30009-7630

Call Sign	File Number
WQGA715	0005272585
Radio Service	
AW - AWS, 1710-1755/2110-2155 MHz bands	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
11-29-2006	08-23-2012	11-29-2021	10-02-2012

Market Number	Channel Block	Sub-Market Designator
REA001	F	1

Market Name
Northeast

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

AWS operations must not cause harmful interference across the Canadian or Mexican Border. The authority granted herein is subject to future international agreements with Canada or Mexico, as applicable.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY, #150 GASA5REG
ALPHARETTA, GA 30009-7630

Call Sign	File Number
WQGA715	0005272585
Radio Service	
AW - AWS, 1710-1755/2110-2155 MHz bands	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
11-29-2006	08-23-2012	11-29-2021	10-02-2012

Market Number	Channel Block	Sub-Market Designator
REA001	F	1

Market Name
Northeast

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

AWS operations must not cause harmful interference across the Canadian or Mexican Border. The authority granted herein is subject to future international agreements with Canada or Mexico, as applicable.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: LICENSING MANAGER
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY, STE 150 GASA5REG
ALPHARETTA, GA 30009

Call Sign	File Number
WQGA906	50000AWAA12
Radio Service	
AW - AWS, 1710-1755/2110-2155 MHz bands	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
11-29-2006	08-23-2012	11-29-2021	10-02-2012

Market Number	Channel Block	Sub-Market Designator
BEA010	B	15

Market Name
New York-No. New Jer.-Long Isl

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY #150 - GASA5REG
ALPHARETTA, GA 30004

Call Sign	File Number
WQJQ689	0003382444
Radio Service	
WU - 700 MHz Upper Band (Block C)	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
11-26-2008	11-26-2008	02-17-2019	12-03-2008

Market Number	Channel Block	Sub-Market Designator
REA001	C	0

Market Name
Northeast

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
02-17-2013	02-17-2019		

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

This authorization is conditioned upon compliance with section 27.16 of the Commission's rules.

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

To view the geographic areas associated with the license, go to the Universal Licensing System (ULS) homepage at http://wireless.fcc.gov/uls and select "License Search". Follow the instructions on how to search for license information.

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY #150 - GASA5REG
ALPHARETTA, GA 30004

Call Sign	File Number
WQJQ696	0003382435
Radio Service	
WY - 700 MHz Lower Band (Blocks A, B, E)	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
11-26-2008	11-26-2008	02-17-2019	12-03-2008

Market Number	Channel Block	Sub-Market Designator
BEA010	A	0

Market Name
New York-No. New Jer.-Long Isl

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
02-17-2013	02-17-2019		

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

To view the geographic areas associated with the license, go to the Universal Licensing System (ULS) homepage at http://wireless.fcc.gov/uls and select "License Search". Follow the instructions on how to search for license information.

FCC 601-MB
August 2007

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY #150 - GASA5REG
ALPHARETTA, GA 30004

Call Sign	File Number
WQJQ689	0003382444
Radio Service	
WU - 700 MHz Upper Band (Block C)	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
11-26-2008	11-26-2008	02-17-2019	12-03-2008

Market Number	Channel Block	Sub-Market Designator
REA001	C	0

Market Name
Northeast

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
02-17-2013	02-17-2019		

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

This authorization is conditioned upon compliance with section 27.16 of the Commission's rules.

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

To view the geographic areas associated with the license, go to the Universal Licensing System (ULS) homepage at http://wireless.fcc.gov/uls and select "License Search". Follow the instructions on how to search for license information.

FCC 601-MB
August 2007

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY #150 - GASA5REG
ALPHARETTA, GA 30004

Call Sign	File Number
WQJQ696	0003382435
Radio Service	
WY - 700 MHz Lower Band (Blocks A, B, E)	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
11-26-2008	11-26-2008	02-17-2019	12-03-2008

Market Number	Channel Block	Sub-Market Designator
BEA010	A	0

Market Name
New York-No. New Jer.-Long Isl

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
02-17-2013	02-17-2019		

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

To view the geographic areas associated with the license, go to the Universal Licensing System (ULS) homepage at http://wireless.fcc.gov/uls and select "License Search". Follow the instructions on how to search for license information.

FCC 601-MB
August 2007

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY, #150 GASA5REG
ALPHARETTA, GA 30009-7630

Call Sign	File Number
KNKN862	
Radio Service CL - Cellular	
Market Numer CMA358	**Channel Block** A
Sub-Market Designator 0	

FCC Registration Number (FRN): 0003290673

Market Name
Connecticut 2 - Windham

Grant Date	Effective Date	Expiration Date	Five Yr Build-Out Date	Print Date
08-30-2011	12-17-2013	10-01-2021		

Site Information:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
2	41-58-44.2 N	071-51-09.0 W	175.9	78.0	1054728

Address: (Thompson) 61 LOWELL DAVIS ROAD
City: THOMPSON **County:** WINDHAM **State:** CT **Construction Deadline:**

Antenna: 2 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	82.300	76.500	91.700	64.700	98.000	118.500	91.600	72.500
Transmitting ERP (watts)	69.140	109.590	12.020	0.260	0.260	0.260	0.260	3.550
Antenna: 3 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	82.300	76.500	91.700	64.700	98.000	118.500	91.600	72.500
Transmitting ERP (watts)	0.270	0.270	12.720	113.390	74.920	3.500	0.270	0.270
Antenna: 4 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	82.300	76.500	91.700	64.700	98.000	118.500	91.600	72.500
Transmitting ERP (watts)	0.780	0.270	0.270	0.270	0.970	35.040	136.330	35.040

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKN862 **File Number:** **Print Date:**

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
3	41-40-28.4 N	071-52-43.3 W	170.4	50.9	

Address: (Plainfield) SPAULDING ROAD
City: Putnam **County:** WINDHAM **State:** CT **Construction Deadline:**

Antenna: 4 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	115.600	52.900	58.800	76.500	101.300	146.900	119.400	117.200
Transmitting ERP (watts)	291.110	34.560	0.890	0.890	0.890	2.590	81.010	389.230
Antenna: 5 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	115.600	52.900	58.800	76.500	101.300	146.900	119.400	117.200
Transmitting ERP (watts)	1.120	16.120	40.500	16.500	1.140	0.100	0.100	0.100
Antenna: 6 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	115.600	52.900	58.800	76.500	101.300	146.900	119.400	117.200
Transmitting ERP (watts)	0.200	0.200	0.200	7.680	66.160	86.430	20.190	1.000

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
4	41-50-52.9 N	072-07-17.0 W	233.5	95.4	1061102

Address: 353 PUMPKIN HILL ROAD
City: ASHFORD **County:** WINDHAM **State:** CT **Construction Deadline:**

Antenna: 2 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	83.100	102.700	135.100	154.400	178.900	174.800	147.300	96.000
Transmitting ERP (watts)	30.200	37.150	10.960	0.590	0.100	0.100	0.110	5.620
Antenna: 3 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	83.100	102.700	135.100	154.400	178.900	174.800	147.300	96.000
Transmitting ERP (watts)	0.100	0.620	11.750	37.150	29.510	5.010	0.110	0.100
Antenna: 4 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	83.100	102.700	135.100	154.400	178.900	174.800	147.300	96.000
Transmitting ERP (watts)	1.910	0.100	0.100	0.100	2.090	20.890	39.810	19.500

Control Points:

Control Pt. No. 3

Address: 500 W. Dove Rd
City: Southlake **County:** TARRANT **State:** TX **Telephone Number:** (800)264-6620

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKN862 **File Number:** **Print Date:**

Waivers/Conditions:

License renewal granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

ULS License

PCS Broadband License - KNLH263 - Cellco Partnership

Call Sign	KNLH263	Radio Service	CW - PCS Broadband
Status	Active	Auth Type	Regular

Market

Market	BTA319 - New London-Norwich, CT	Channel Block	F
Submarket	0	Associated Frequencies (MHz)	001890.00000000-001895.00000000 001970.00000000-001975.00000000

Dates

Grant	07/23/2007	Expiration	06/27/2017
Effective	07/23/2007	Cancellation	

Buildout Deadlines

1st	06/27/2002	2nd	

Notification Dates

1st	05/29/2002	2nd	

Licensee

FRN	0003290673	Type	Joint Venture

Licensee

Cellco Partnership
1120 Sanctuary Pkwy, #150 GASA5REG
Alpharetta, GA 30004
ATTN Regulatory

P:(770)797-1070
F:(770)797-1036
E:Network.Regulatory@VerizonWireless.com

Contact

Verizon Wireless
Sonya R Dutton
1120 Sanctuary Pkwy, #150 GASA5REG
Alpharetta, GA 30004
ATTN Regulatory

P:(770)797-1070
F:(770)797-1036
E:Network.Regulatory@VerizonWireless.com

Ownership and Qualifications

Radio Service Type Mobile

Regulatory Status Common Carrier Interconnected Yes

Alien Ownership

Is the applicant a foreign government or the representative of any foreign government?	No
Is the applicant an alien or the representative of an alien?	No
Is the applicant a corporation organized under the laws of any foreign government?	No

Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	No
Is the applicant directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country?	**Yes**
If the answer to the above question is 'Yes', has the applicant received a ruling(s) under Section 310(b)(4) of the Communications Act with respect to the same radio service involved in this application?	

Basic Qualifications
The Applicant answered "No" to each of the Basic Qualification questions.

Tribal Land Bidding Credits
This license did not have tribal land bidding credits.

Demographics

Race

Ethnicity Gender

Existing Verizon Wireless 700 MHz Coverage
Killingly, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss

KILLINGLY NORTH CT
KILLINGLY CT
KILLINGLY CENTER CT
DAYVILLE CT
DANIELSON CT
DANIELSON 2 CT
DANIELSON SOUTH CT
PUTNAM
KILLINGLY
BROOKLYN
HAMPTON
PLAINFIELD
STERLING
FOSTER
GLOCESTER

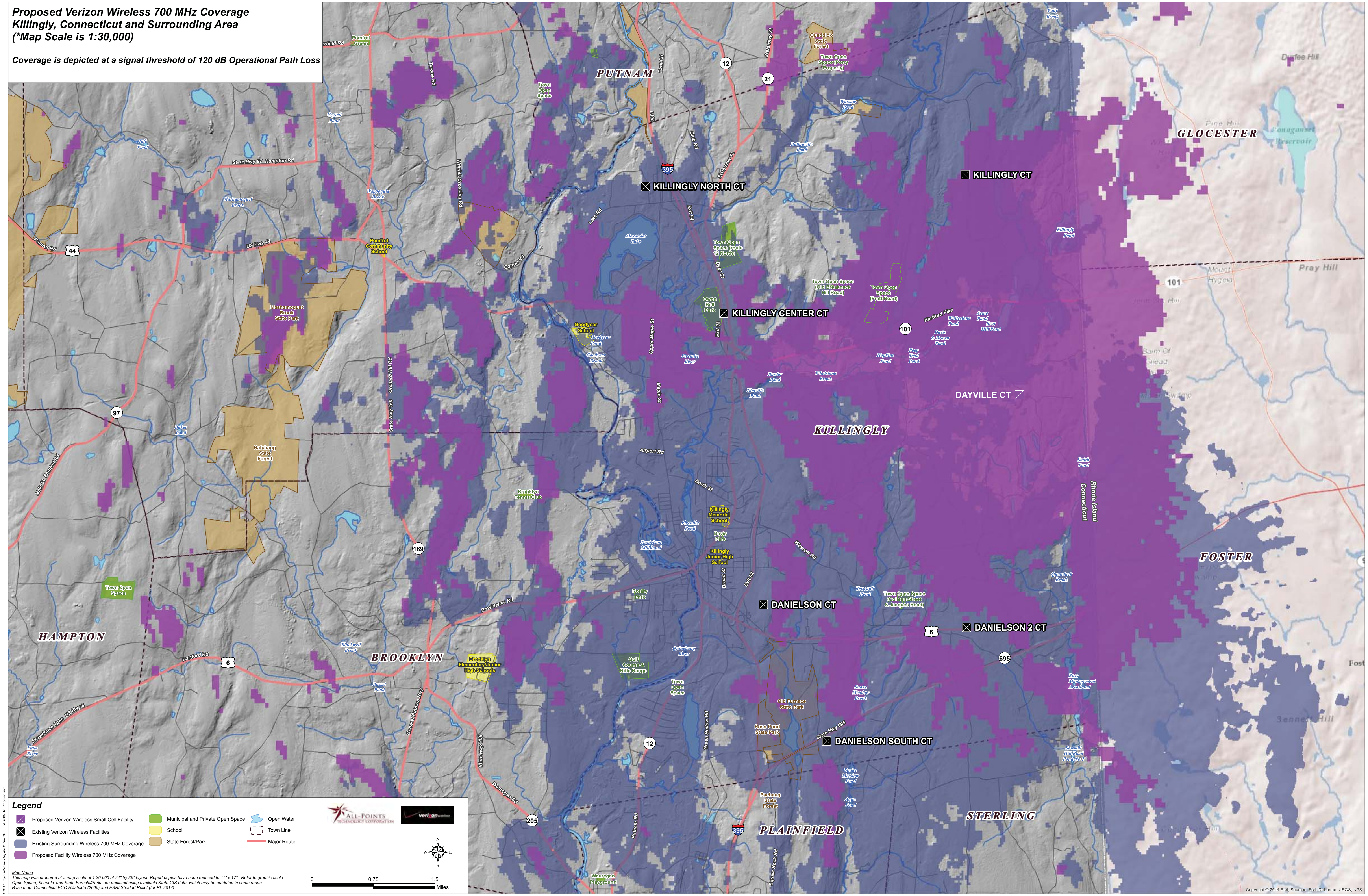
Legend

- Proposed Verizon Wireless Small Cell Facility
- Existing Verizon Wireless Facilities
- Existing Surrounding Wireless 700 MHz Coverage
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line
- Major Route

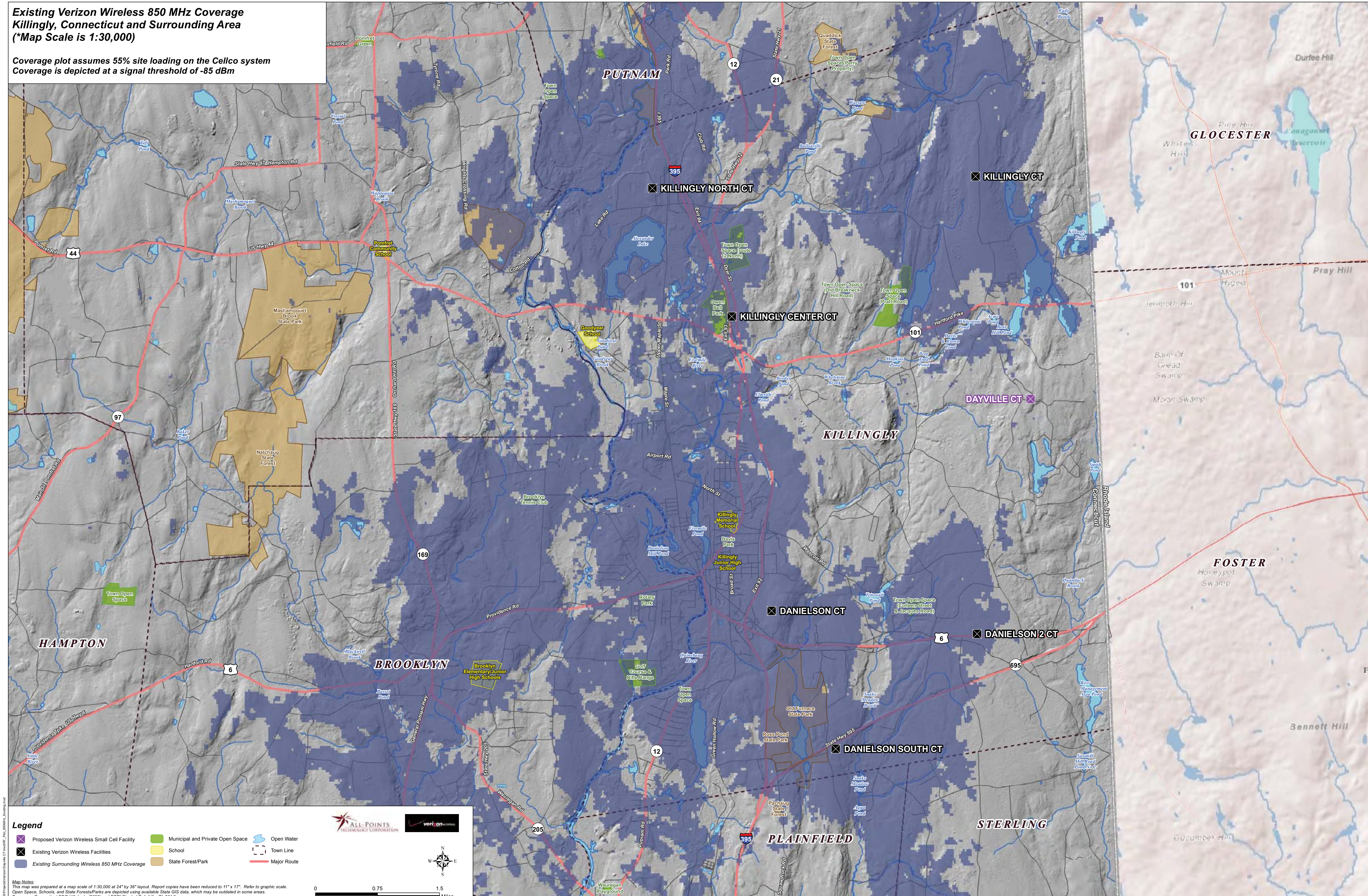
Map Notes:
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale. Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas. Base map: Connecticut ECO Hillshade (2000) and ESRI Shaded Relief (for RI; 2014)

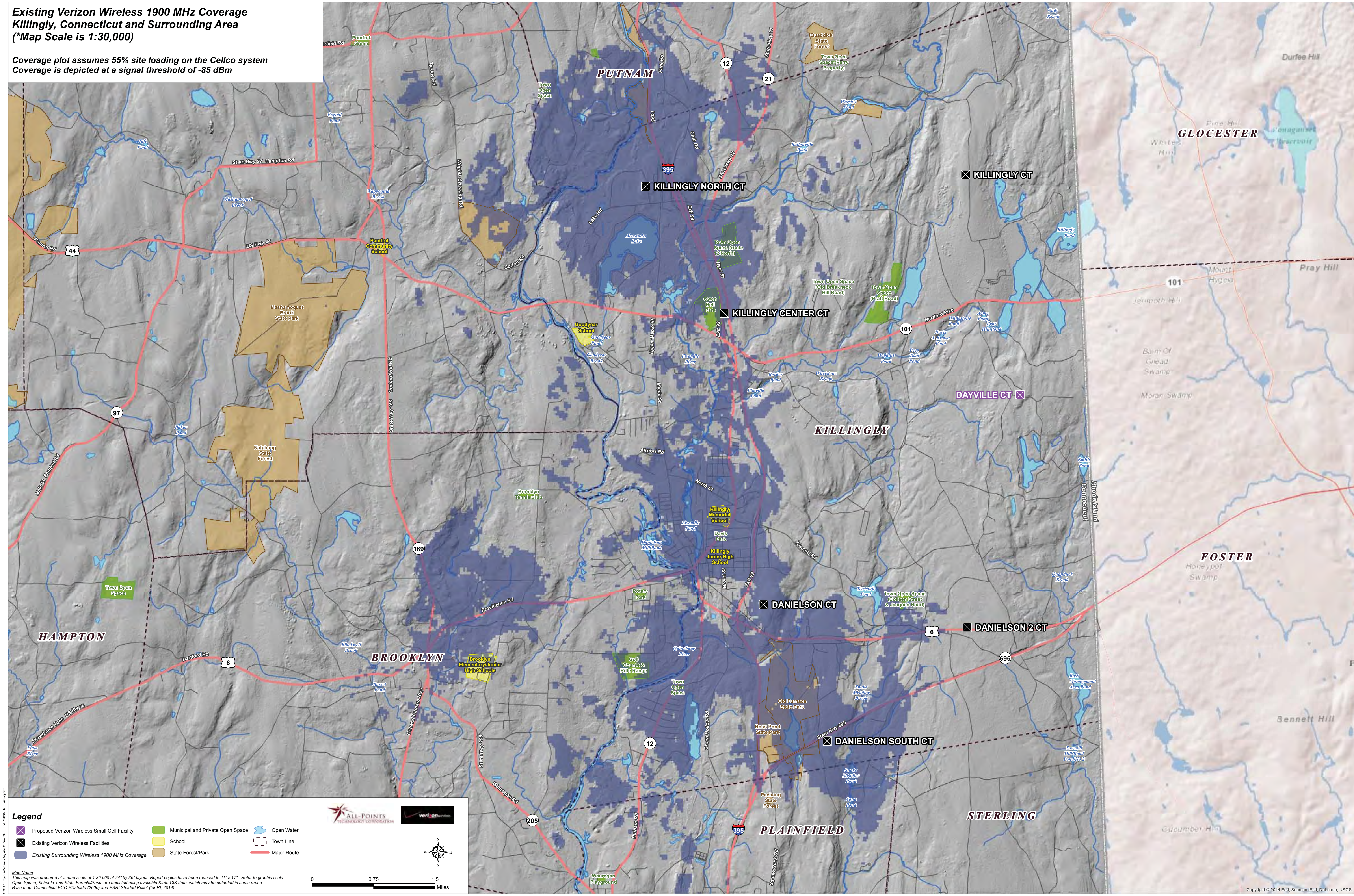
0 0.75 1.5 Miles

C:\GIS\Projects\Verizon\Dayville CT\mxd\RF_Plot_700MHz_Existing.mxd

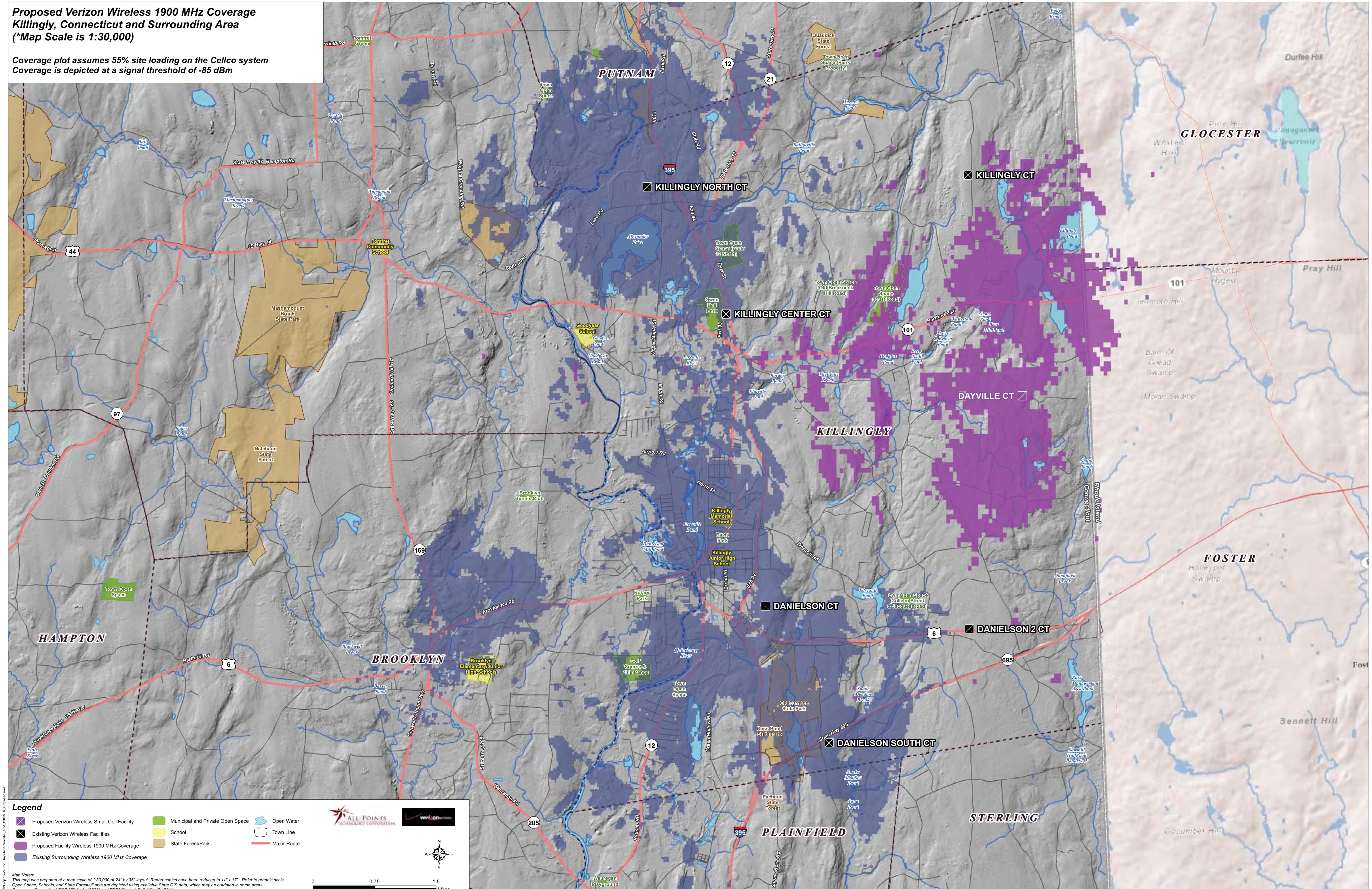


Proposed Verizon Wireless 700 MHz Coverage
Killingly, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)
Coverage is depicted at a signal threshold of 120 dB Operational Path Loss
PUTNAM
GLOCESTER
KILLINGLY NORTH CT
KILLINGLY CT
KILLINGLY CENTER CT
DAYVILLE CT
KILLINGLY
FOSTER
DANIELSON CT
DANIELSON 2 CT
DANIELSON SOUTH CT
HAMPTON
BROOKLYN
STERLING
PLAINFIELD
Rhode Island
Connecticut
Legend
Proposed Verizon Wireless Small Cell Facility
Existing Verizon Wireless Facilities
Existing Surrounding Wireless 700 MHz Coverage
Proposed Facility Wireless 700 MHz Coverage
Municipal and Private Open Space
School
State Forest/Park
Open Water
Town Line
Major Route
ALL-POINTS TECHNOLOGY CORPORATION
Map Notes:
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: Connecticut ECO Hillshade (2000) and ESRI Shaded Relief (for RI; 2014)
0 0.75 1.5 Miles
C:\GIS\Projects\Verizon\Dayville CT\mxd\RF_Plot_700MHz_Proposed.mxd
Copyright © 2014 Esri. Sources: Esri, DeLorme, USGS, NPS

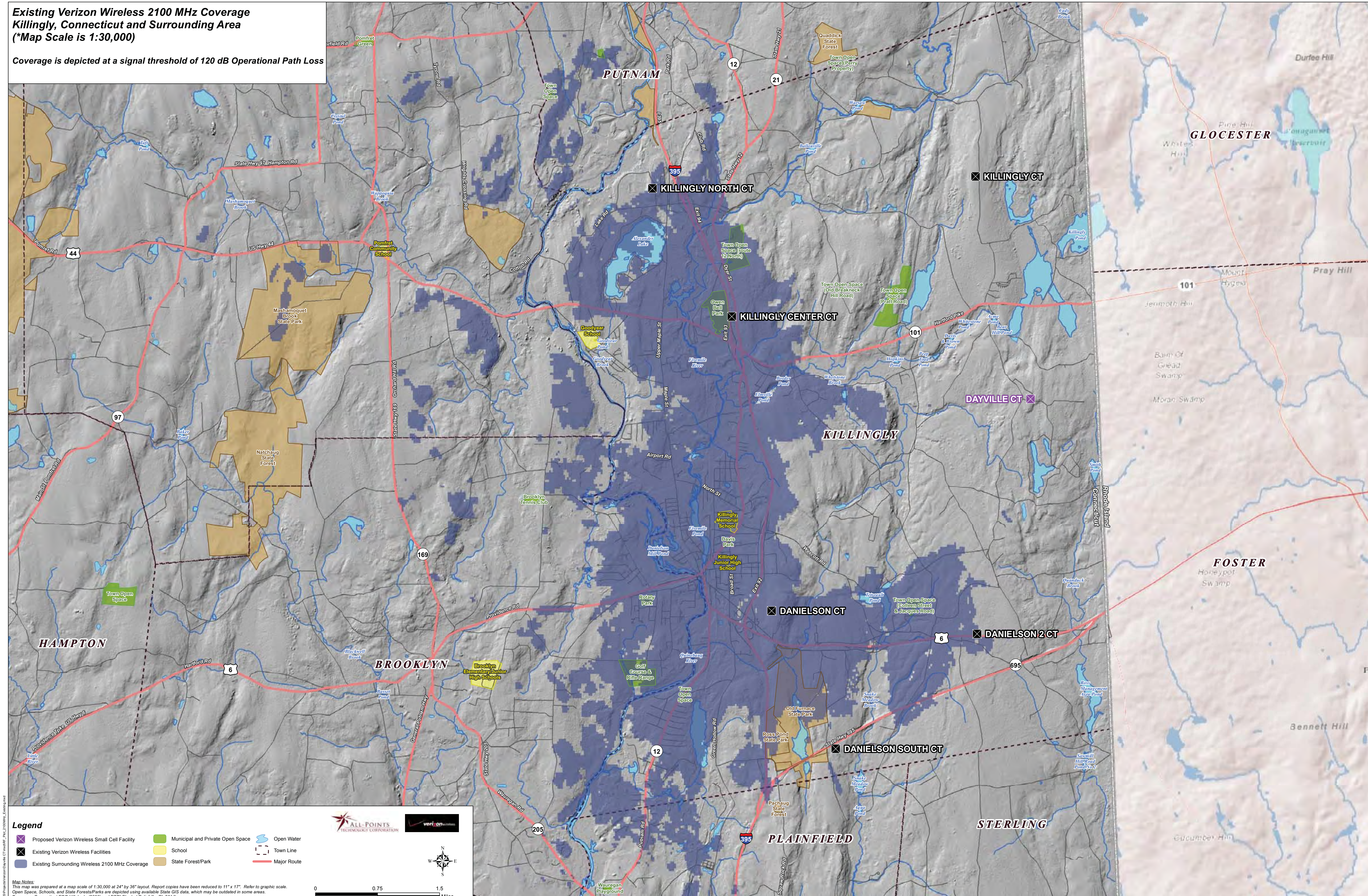

Existing Verizon Wireless 850 MHz Coverage
Killingly, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)
Coverage plot assumes 55% site loading on the Cellco system
Coverage is depicted at a signal threshold of -85 dBm
PUTNAM
KILLINGLY NORTH CT
KILLINGLY CT
KILLINGLY CENTER CT
DAYVILLE CT
KILLINGLY
GLOCESTER
FOSTER
HAMPTON
BROOKLYN
DANIELSON CT
DANIELSON 2 CT
DANIELSON SOUTH CT
STERLING
PLAINFIELD
Mashamoquet Brook State Park
Natchaug State Forest
Old Furnace State Park
Alexander Lake
Legend
Proposed Verizon Wireless Small Cell Facility
Existing Verizon Wireless Facilities
Existing Surrounding Wireless 850 MHz Coverage
Municipal and Private Open Space
School
State Forest/Park
Open Water
Town Line
Major Route
Map Notes:
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: Connecticut ECO Hillshade (2000) and ESRI Shaded Relief (for RI; 2014)
0
0.75
1.5
Miles
C:\GIS\Projects\Verizon\Dayville CT\mxd\RF_Plot_850MHz_Existing.mxd
Copyright © 2014 Esri, Sources: Esri, DeLorme, USGS, NPS



Existing Verizon Wireless 1900 MHz Coverage
Killingly, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)
Coverage plot assumes 55% site loading on the Cellco system
Coverage is depicted at a signal threshold of -85 dBm
PUTNAM
GLOCESTER
KILLINGLY
FOSTER
HAMPTON
BROOKLYN
STERLING
PLAINFIELD
KILLINGLY NORTH CT
KILLINGLY CT
KILLINGLY CENTER CT
DAYVILLE CT
DANIELSON CT
DANIELSON 2 CT
DANIELSON SOUTH CT
Alexander Lake
Mashamoquet Brook State Park
Natchaug State Forest
Quaddick State Forest
Old Furnace State Park
Ross Pond State Park
Pachaug State Forest
Killingly Memorial School
Killingly Junior High School
Brooklyn Elementary/Junior High Schools
Goodyear School
Pomfret Community School
Rhode Island
Connecticut
Legend
Proposed Verizon Wireless Small Cell Facility
Existing Verizon Wireless Facilities
Existing Surrounding Wireless 1900 MHz Coverage
Municipal and Private Open Space
School
State Forest/Park
Open Water
Town Line
Major Route
Map Notes:
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: Connecticut ECO Hillshade (2000) and ESRI Shaded Relief (for RI; 2014)
0
0.75
1.5
Miles
C:\GIS\Projects\Verizon\Dayville CT\mxd\RF_Plot_1900MHz_Existing.mxd
Copyright © 2014 Esri. Sources: Esri, DeLorme, USGS, NPS



Proposed Verizon Wireless 1900 MHz Coverage
Killingly, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)
Coverage plot assumes 55% site loading on the Cellco system
Coverage is depicted at a signal threshold of -85 dBm
PUTNAM
GLOCESTER
KILLINGLY
FOSTER
HAMPTON
BROOKLYN
STERLING
PLAINFIELD
KILLINGLY NORTH CT
KILLINGLY CT
KILLINGLY CENTER CT
DAYVILLE CT
DANIELSON CT
DANIELSON 2 CT
DANIELSON SOUTH CT
Mashamoquet Brook State Park
Natchaug State Forest
Quaddick State Forest
Old Furnace State Park
Ross Pond State Park
Pachaug State Forest
Alexander Lake
Killingly Pond
Rhode Island
Connecticut
Legend
Proposed Verizon Wireless Small Cell Facility
Existing Verizon Wireless Facilities
Proposed Facility Wireless 1900 MHz Coverage
Existing Surrounding Wireless 1900 MHz Coverage
Municipal and Private Open Space
School
State Forest/Park
Open Water
Town Line
Major Route
ALL-POINTS TECHNOLOGY CORPORATION
verizon wireless
N
S
E
W
Map Notes:
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: Connecticut ECO Hillshade (2000) and ESRI Shaded Relief (for RI; 2014)
0
0.75
1.5
Miles
C:\GIS\Projects\Verizon\Dayville CT\mxd\RF_Plot_1900MHz_Proposed.mxd
Copyright © 2014 Esri, Sources: Esri, DeLorme, USGS, NPS

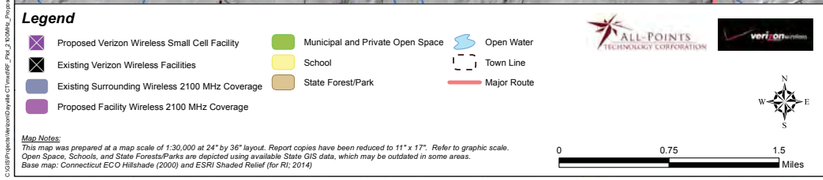


Existing Verizon Wireless 2100 MHz Coverage
Killingly, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)
Coverage is depicted at a signal threshold of 120 dB Operational Path Loss
PUTNAM
GLOCESTER
KILLINGLY
FOSTER
HAMPTON
BROOKLYN
STERLING
PLAINFIELD
KILLINGLY NORTH CT
KILLINGLY CT
KILLINGLY CENTER CT
DAYVILLE CT
DANIELSON CT
DANIELSON 2 CT
DANIELSON SOUTH CT
Mashamoquet Brook State Park
Natchaug State Forest
Alexander Lake
Goodyear School
Killingly Memorial School
Killingly Junior High School
Brooklyn Elementary/Junior High Schools
Old Furnace State Park
Ross Pond State Park
Quaddick State Forest
Pachaug State Forest
Pomfret Community School
Rhode Island
Connecticut
Legend
Proposed Verizon Wireless Small Cell Facility
Existing Verizon Wireless Facilities
Existing Surrounding Wireless 2100 MHz Coverage
Municipal and Private Open Space
School
State Forest/Park
Open Water
Town Line
Major Route
Map Notes:
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: Connecticut ECO Hillshade (2000) and ESRI Shaded Relief (for RI; 2014)
0
0.75
1.5
Miles
C:\GIS\Projects\Verizon\Dayville CT\mxd\RF_Plot_2100MHz_Existing.mxd
Copyright © 2014 Esri, Sources: Esri, DeLorme, USGS, NPS

Proposed Verizon Wireless 2100 MHz Coverage
Killingly, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss

PUTNAM
KILLINGLY
GLOCESTER
HAMPTON
BROOKLYN
PLAINFIELD
STERLING
FOSTER
KILLINGLY NORTH CT
KILLINGLY CT
KILLINGLY CENTER CT
DAYVILLE CT
DANIELSON CT
DANIELSON 2 CT
DANIELSON SOUTH CT
Pomfret Community School
Goodyear School
Killingly Memorial School
Killingly Junior High School
Brooklyn Elementary/Junior High Schools
Mashamoquet Brook State Park
Natchaug State Forest
Pachaug State Forest
Old Furnace State Park
Rose Pond State Park
Town Open Space
Golf Course & Rifle Range
Brooklyn Tennis Club
Wauregan Playground
Durfee Hill
Pine Hill
Mount Hygeia
Pray Hill
Barn Of Great Swamp
Moran Swamp
Honeypot Swamp
Bennett Hill
Cucumber Hill
Quaddick State Forest
Town Open Space (Perry Property)
Town Open Space (Old Breakneck Hill Road)
Town Open Space (Pratt Road)
Town Open Space (Colleen Street & Jacques Road)
Town Open Space Route 12 North)
Owen Ball Park
Davis Park
Rotary Park
Pomfret Green
Pomfret Rd
State Hwy 97 Hampton Rd
US Hwy 44
Conroy Rd
Wrights Crossing Rd
Tyron Rd
Park Rd
State Hwy 21
Cady Brook
Lake Rd
Alden Rd
Davis St
Exit 84
Exit 83
Exit 93
Upper Maple St
Maple St
Orchard Hill Rd
State Hwy 169
Airport Rd
North St
Broad St
Wescott Rd
Providence Rd
Hartford Rd
Providence Pike US Hwy 6
Canterbury Turnpike
State Hwy 205
Wauregan Rd
Putnam Rd
Green Hollow Rd
State Hwy volunteer
Snake Meadow Brook
Quinebaug River
Fivemile River
Tenmile River
Whetstone Brook
Hopkins Pond
Peg Trail Pond
Killingly Pond
Alexander Lake
Wappogunis Brook
Mashamoquet Brook
Quinebaug Pond
Natchaug River
Little River
Blackwell Brook
Basset Pond
Baker Pond
Goodyear Pond
Goodyear Brook
Davisville Pond
Waterbury Pond
Balbaville Pond
Tetreault Pond
Rose Management Area Pond
Sawmill Hill Road Pond
Aqua Pond
Snake Meadow Pond
Quinebaug Brook
Rhode Island
Connecticut
395
12
21
44
97
169
205
6
695
101



Map Notes:
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: Connecticut ECO Hillshade (2000) and ESRI Shaded Relief (for RI; 2014)

C:\GIS\Projects\Verizon\Killingly-CT\mxd\RF_Prop_2_KillMtg_Proposed.mxd

Product Specifications

COMMSCOPE®

POWERED BY ANDREW.

LNX-6514DS-VTM

Andrew® Antenna, 698–896 MHz, 65° horizontal beamwidth, RET compatible

- Great solution to maximize network coverage and capacity
- Excellent gain, VSWR, front-to-back ratio, and PIM specifications for robust network performance
- Ideal choice for site collocations and tough zoning restrictions
- Excellent solution for site sharing and maximizing capacity
- Fully compatible with Andrew remote electrical tilt system for greater OpEx savings
- The RF connectors are designed for IP67 rating and the radome for IP56 rating

Electrical Specifications

Frequency Band, MHz	**698–806**	**806–896**
Gain, dBi	15.8	15.9
Beamwidth, Horizontal, degrees	65	64
Beamwidth, Vertical, degrees	12.4	11.2
Beam Tilt, degrees	0–10	0–10
USLS (First Lobe), dB	17	18
Front-to-Back Ratio at 180°, dB	32	30
CPR at Boresight, dB	23	23
CPR at Sector, dB	12	10
Isolation, dB	30	30
VSWR | Return Loss, dB	1.4 | 15.6	1.4 | 15.6
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153
Input Power per Port, maximum, watts	400	400
Polarization	±45°	±45°
Impedance	50 ohm	50 ohm

Electrical Specifications, BASTA*

Frequency Band, MHz	**698–806**	**806–896**
Gain by all Beam Tilts, average, dBi	15.6	15.7
Gain by all Beam Tilts Tolerance, dB	±0.4	±0.5
Gain by Beam Tilt, average, dBi	0 ° | 15.7	0 ° | 15.9
	5 ° | 15.7	5 ° | 15.8
	10 ° | 15.3	10 ° | 15.3
Beamwidth, Horizontal Tolerance, degrees	±0.9	±1.4
Beamwidth, Vertical Tolerance, degrees	±0.8	±0.6
USLS, beampeak to 20° above beampeak, dB	18	20
Front-to-Back Total Power at 180° ± 30°, dB	25	23
CPR at Boresight, dB	25	24
CPR at Sector, dB	15	12

* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, download the whitepaper Time to Raise the Bar on BSAs.

General Specifications

Antenna Brand	Andrew®
Antenna Type	DualPol®
Band	Single band
Brand	DualPol® | Teletilt®

Product Specifications

LNX-6514DS-VTM

Operating Frequency Band	698 – 896 MHz
Performance Note	Outdoor usage

Mechanical Specifications

Color	Light gray
Lightning Protection	dc Ground
Radiator Material	Aluminum
Radome Material	Fiberglass, UV resistant
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, total	2
Wind Loading, maximum	617.7 N @ 150 km/h 138.9 lbf @ 150 km/h
Wind Speed, maximum	241 km/h | 150 mph

Dimensions

Depth	180.5 mm | 7.1 in
Length	1851.0 mm | 72.9 in
Width	301.0 mm | 11.9 in
Net Weight	14.2 kg | 31.3 lb

Remote Electrical Tilt (RET) Information

Model with Factory Installed AISG 2.0 Actuator	LNX-6514DS-A1M
RET System	Teletilt®

Packed Dimensions

Depth	284.0 mm | 11.2 in
Length	2163.0 mm | 85.2 in
Width	411.0 mm | 16.2 in
Shipping Weight	32.3 kg | 71.2 lb

Regulatory Compliance/Certifications

Agency	Classification
RoHS 2011/65/EU	Compliant by Exemption
China RoHS SJ/T 11364-2006	Above Maximum Concentration Value (MCV)
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system

Included Products

DB380 — Pipe Mounting Kit for 2.4"-4.5" (60-115mm) OD round members on wide panel antennas. Includes 2 clamp sets and double nuts.

Product Specifications

LNX-6514DS-VTM

DB5083 — Downtilt Mounting Kit for 2.4"-4.5" (60 - 115 mm) OD round members. Includes a heavy-duty, galvanized steel downtilt mounting bracket assembly and associated hardware. This kit is compatible with the DB380 pipe mount kit for panel antennas that are equipped with two mounting brackets.

* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance

Product Specifications

COMMSCOPE®

SBNHH-1D65B

Andrew® Tri-band Antenna, 698–896 and 2x 1695–2360 MHz, 65° horizontal beamwidth, internal RET. Both high bands share the same electrical tilt.

- Interleaved dipole technology providing for attractive, low wind load mechanical package

Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	14.9	14.7	17.7	18.2	18.6	18.6
Beamwidth, Horizontal, degrees	68	66	69	66	63	58
Beamwidth, Vertical, degrees	12.1	10.7	5.6	5.2	5.0	4.5
Beam Tilt, degrees	0–14	0–14	0–7	0–7	0–7	0–7
USLS (First Lobe), dB	14	13	15	15	15	13
Front-to-Back Ratio at 180°, dB	27	29	28	28	28	27
CPR at Boresight, dB	20	23	20	20	17	21
CPR at Sector, dB	14	10	12	10	9	1
Isolation, dB	25	25	25	25	25	25
Isolation, Intersystem, dB	30	30	30	30	30	30
VSWR | Return Loss, dB	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350	350	350	300
Polarization	±45°	±45°	±45°	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm

Electrical Specifications, BASTA*

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain by all Beam Tilts, average, dBi	14.5	14.3	17.4	17.9	18.2	18.3
Gain by all Beam Tilts Tolerance, dB	±0.5	±0.8	±0.4	±0.3	±0.5	±0.3
Gain by Beam Tilt, average, dBi	0 ° | 14.6	0 ° | 14.5	0 ° | 17.4	0 ° | 17.8	0 ° | 18.1	0 ° | 18.2
	7 ° | 14.6	7 ° | 14.4	3 ° | 17.5	3 ° | 17.9	3 ° | 18.3	3 ° | 18.4
	14 ° | 14.2	14 ° | 13.6	7 ° | 17.4	7 ° | 17.9	7 ° | 18.2	7 ° | 18.4
Beamwidth, Horizontal Tolerance, degrees	±2.2	±3.4	±2	±4.6	±5.7	±4.3
Beamwidth, Vertical Tolerance, degrees	±0.8	±1	±0.3	±0.2	±0.3	±0.2
USLS, beampeak to 20° above beampeak, dB	16	14	16	16	16	15
Front-to-Back Total Power at 180° ± 30°, dB	25	26	27	26	26	26
CPR at Boresight, dB	22	23	21	20	20	22
CPR at Sector, dB	13	11	16	12	11	4

* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, download the whitepaper Time to Raise the Bar on BSAs.

General Specifications

Antenna Brand	Andrew®
Antenna Type	DualPol® multiband with internal RET
Band	Multiband
Brand	DualPol®
Operating Frequency Band	1695 – 2360 MHz | 698 – 896 MHz
Performance Note	Outdoor usage

Product Specifications

SBNHH-1D65B

Mechanical Specifications

Color	Light gray
Lightning Protection	dc Ground
Radiator Material	Aluminum | Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, total	6
Wind Loading, frontal	618.0 N @ 150 km/h 138.9 lbf @ 150 km/h
Wind Loading, lateral	197.0 N @ 150 km/h 44.3 lbf @ 150 km/h
Wind Loading, rear	728.0 N @ 150 km/h 163.7 lbf @ 150 km/h
Wind Speed, maximum	241 km/h | 150 mph

Dimensions

Depth	180.0 mm | 7.1 in
Length	1851.0 mm | 72.9 in
Width	301.0 mm | 11.9 in
Net Weight, without mounting kit	18.4 kg | 40.6 lb

Remote Electrical Tilt (RET) Information

Input Voltage	10–30 Vdc
Internal RET	High band (1) | Low band (1)
Power Consumption, idle state, maximum	2.0 W
Power Consumption, normal conditions, maximum	13.0 W
Protocol	3GPP/AISG 2.0 (Multi-RET)
RET Interface	8-pin DIN Female | 8-pin DIN Male
RET Interface, quantity	1 female | 1 male

Packed Dimensions

Depth	299.0 mm | 11.8 in
Length	1970.0 mm | 77.6 in
Width	409.0 mm | 16.1 in
Shipping Weight	31.0 kg | 68.3 lb

Regulatory Compliance/Certifications

Agency	Classification
RoHS 2011/65/EU	Compliant by Exemption
China RoHS SJ/T 11364-2006	Above Maximum Concentration Value (MCV)
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system

Product Specifications

SBNHH-1D65B

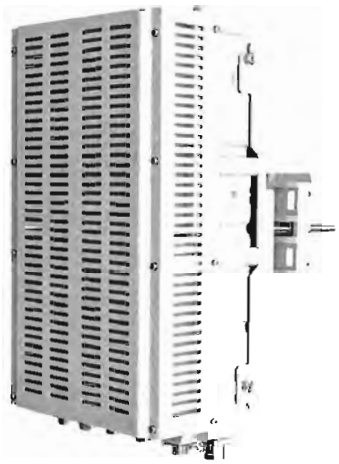
Included Products

BSAMNT-1 — Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance

ALCATEL-LUCENT B13 RRH 4X30



Alcatel-Lucent B13 Remote Radio Head 4x30 is the newest addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering.

Supporting 2Tx/4Tx MIMO and 4-way Rx diversity, Alcatel-Lucent B13 RRH 4x30 allows operators to have a compact radio solution to deploy LTE in the 700U band (700 MHz, 3GPP band 13), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B13 RRH 4x30 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x60 W or 4x30 W RF output power. It also supports 4-way Rx diversity at 10MHz instantaneous bandwidth.

The Alcatel-Lucent B13 RRH 4x30 is a near zero-footprint solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

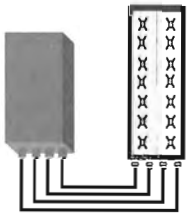
Its compactness and slim design makes the Alcatel-Lucent B13 RRH 4x30 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

FEATURES

- Supporting LTE in 700 MHz band (700U, 3GPP band 13)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- 10MHz LTE carrier with 4Rx Diversity
- Convection-cooled (fan-less)
- Supports AISG 2.0 ALD devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in 700U band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through MIMO4
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall



4x30W with 4T4R
or
2x60W with 2T4R

Can be switched between modes via SW w/o site visit

Alcatel·Lucent

Features & performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R by SW)
Frequency band	U700 (C) (3GPP bands 13): DL: 746 - 756 MHz / UL: 777 - 787 MHz
Instantaneous bandwidth - #carriers	10MHz – 1 LTE carrier (in 10MHz occupied bandwidth)
LTE carrier bandwidth	10 MHz
RF output power	2x60W or 4x30W (by SW)
Noise figure – RX Diversity scheme	2 dB typ. (<2.5 dB max) – 2 or 4 way Rx diversity
Sizes (HxWxD) in mm (in.) **Volume in L** **Weight in kg (lb) (w/o mounting HW)**	530 x 300 x 190 (20.9" x 11.8" x 7.5") (with solar shield); 525 x 290 x 175 (20.7" x 11.4" x 6.9") (w/o solar shield) 30.2 (with solar shield) 25.2kg (55.6lb) (with solar shield)
DC voltage range **DC power consumption**	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 520W typical @100% RF load (in 2Tx or 4TX mode); 380W @50% RF load; Add 50W for 2A*24V for AISG
Environmental conditions **Wind load (@150km/h or 93mph)**	-40°C (-40°F) /+55°C (+131°F) IP65 Frontal:<200N / Lateral :<150N
Antenna ports	4 ports 7/16 DIN female (50 ohms) VSWR < 1.5
CPRI ports	2 CPRI ports (HW ready for Rate7, 9.8 Gbps) SFP single mode dual fiber
AISG interfaces	1 AISG2.0 output (RS485) Integrated Smart Bias Tees (x2)
Misc. Interfaces	4 external alarms (1 connector) – 4 RF Tx & 4 RF Rx monitor ports - 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27

ALCATEL-LUCENT B25 RRH4X30

Alcatel-Lucent Band 25 Remote Radio Head 4x30W is the new addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering.

Supporting 2Tx/4Tx MIMO and 4-way Rx diversity, Alcatel-Lucent B25 RRH4x30 allows operators to have a compact radio solution to deploy LTE in the PCS band (1.9 GHz, 3GPP band 25), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B25 RRH4x30 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x60 W or 4x30 W RF output power. It supports also 4-way Rx diversity, LTE carriers from 3 MHz up to 20 MHz and up to 65 MHz instantaneous bandwidth.

The Alcatel-Lucent B25 RRH4x30 is a near zero-footprint solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

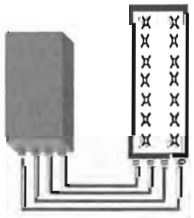
Its compactness and slim design makes the Alcatel-Lucent B25 RRH4x30 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

FEATURES

- Supporting LTE in 1.9 GHz band (PCS, 3GPP band 2 & 25)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- Ready for 3, 5, 10, 15 or 20MHz LTE carrier operation with 4Rx Diversity
- Ready to support up to 4 carriers anywhere in 65MHz instantaneous bandwidth
- Convection-cooled (fan-less)
- Supports AISG 2.0 devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in PCS band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Full flexibility for multiple carriers operation over entire PCS spectrum
- Improves downlink spectral efficiency and cell edge throughput through MIMO4
- Increases LTE coverage thanks to 4-way Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options (Pole or Wall)



4x30W with 4T4R
or
2x60W with 2T4R

Can be switched between modes via SW w/o site visit

Alcatel·Lucent

TECHNICAL SPECIFICATIONS

Features & performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R by SW)
Frequency band	3GPP bands 2 & 25 (PCS-G) DL: 1930 - 1995 MHz UL: 1850 - 1915 MHz
Instantaneous bandwidth - #carriers	65MHz – Up to 4 LTE carriers (in 40MHz occupied bandwidth)
LTE carrier bandwidth	3, 5, 10, 15 or 20 MHz
RF output power	2x60W or 4x30W (by SW)
Noise figure (3GPP band 2) **RX Diversity scheme**	2.0 dB typ. (<2.5 dB max) 2 or 4 way Rx diversity
Sizes (HxWxD)(w/ solar shield) in mm (in.) **Volume (w/ solar shield) in L** **Weight (w/ solar shield) in kg (lb)**	538 x 304 x 182 (21.2" x 12.0" x 7.2") 30 24 (53)
DC voltage range **DC power consumption**	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 580W typical @100% RF load
Environmental conditions **Wind load (@150km/h or 93mph)**	-40°C (-40°F) /+55°C (+131°F) IP65 Frontal: <200N / Lateral : <150N
Antenna ports	4 ports 7/16 DIN female (50 ohms) VSWR < 1.5 (> 14dB)
CPRI ports	2 CPRI ports (HW ready for Rate7 / 9.8 Gbps)
AISG interfaces	1 AISG2.0 output (RS485), +24V/2A DC power Integrated Smart Bias Tees (x2)
Misc. Interfaces	1 external alarms connector (4 alarms) 4 RF Tx & 4 RF Rx monitor ports 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27

ALCATEL-LUCENT
WIRELESS PRODUCT DATASHEET
B4 RRH2X60-4R FOR AWS BAND APPLICATIONS

The Alcatel-Lucent B4 RRH2x60-4R is a high power, small form factor Remote Radio Head operating in the AWS frequency band (3GPP Band 4) for LTE technology. It is designed with an eco-efficient approach, providing operators with the means to achieve high quality and high capacity coverage with minimum site requirements and efficient operation.

A distributed Node B expands the deployment options by using two components, a Base Band Unit (BBU) containing the digital assets and a separate RRH containing the radio-frequency (RF) elements. This modular design optimizes available space and allows the main components of a Node B to be installed separately, within the same site or several kilometers apart.

The Alcatel-Lucent B4 RRH2x60-4R is linked to the BBU by an optical-fiber connection carrying downlink and uplink digital radio signals along with operations, administration and maintenance (OA&M) information.

SUPERIOR RF PERFORMANCE

The Alcatel-Lucent B4 RRH2x60-4R integrates all the latest technologies. This allows operators to offer best-in-class characteristics.

It delivers an outstanding 120 watts of total RF power thanks to its two transmit RF paths of 60 W each.

It is ideally suited to support multiple-input multiple-output (MIMO) 2x2 operation.

It includes four RF receivers to natively support 4-way uplink reception diversity. This improves the radio uplink coverage and this can be used to extend the cell radius commensurate with 2x2MIMO 2x60 W for the downlink.

It supports multiple discontinuous LTE carriers within an instantaneous bandwidth of 45 MHz corresponding to the entire AWS B4 spectrum.

The latest generation power amplifiers (PA) used in this product achieve high efficiency (>40%), resulting in improved power consumption figures.

OPTIMIZED TCO

The Alcatel-Lucent B4 RRH2x60-4R is designed to make available all the benefits of a distributed Node B, with excellent RF characteristics, with low capital expenditures (CAPEX) and low operating expenditures (OPEX).

The Alcatel-Lucent B4 RRH2x60-4R is a very cost-effective solution to deploy LTE MIMO.

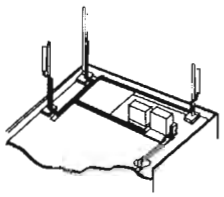
EASY INSTALLATION

The B4 RRH2x60-4R includes a reversible mounting bracket which allows for ease of installation behind an antenna, or on a rooftop knee wall while providing easy access to the mid body RF connectors.

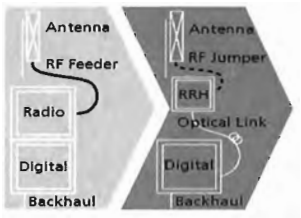
The limited space available in some sites may prevent the installation of traditional single-cabinet BTS equipment. However, many of these sites can host an Alcatel-Lucent B4 RRH2x60-4R installation, providing more flexible site selection and improved network quality along with greatly reduced installation time and costs.

The Alcatel-Lucent B4 RRH2x60-4R is a zero-footprint solution and is convection cooled without fans for silent operation, simplifying negotiations with site property owners and minimizing environmental impacts.

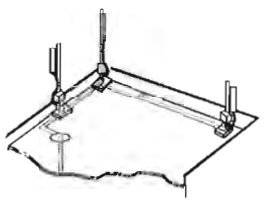
Installation can easily be done by a single person as the Alcatel–Lucent B4 RRH2x60-4R is compact and weighs about 25 kg, eliminating the need for a crane to hoist the BTS cabinet to the rooftop. A site can be in operation in less than one day.



Macro



RRH for space-constrained cell sites



Distributed

FEATURES

- B4 RRH2x60-4R integrates two power amplifiers of 60W rating (at each antenna connector)
- Support multiple carriers over the entire 3GPP band 4
- B4 RRH2x60-4R is optimized for LTE operation
- B4 RRH2x60-4R is a very compact and lightweight product
- Advanced power management techniques are embedded to provide power savings, such as PA bias control

BENEFITS

- MIMO LTE operation with only one single unit per sector
- Improved uplink coverage with built-in 4-way receive diversity capability
- RRH can be mounted close to the antenna, eliminating nearly all losses in RF cables and thus reducing power consumption by 50% compared to conventional solutions
- Distributed configurations provide easily deployable and cost-effective solutions, near zero footprint and silent solutions, with minimum impact on the neighborhood, which ease the deployment
- RETA and TMA support without additional hardware thanks to the AISG v2.0 port and the integrated Bias-Tees. Bias-Tees support AISG DC supply and signaling.

TECHNICAL SPECIFICATIONS

Specifications listed are hardware capabilities. Some capabilities depend on support in a specific software release or future release.

Dimensions and weights

- HxWxD : 930x270x146 mm (with solar shield)
- Weight : 25 kg (55 lbs) (with solar shield)

Electrical Data

- Power Supply : -48V DC (-38 to -57V)
- Power Consumption: 346W typ. @2x30W (100%RF), 560W typ. @2x60W (100%RF)

RF Characteristics

- Frequency band: 1710-1755, UL / 2110-2155 MHz, DL (3GPP band 4)
- Output power: 2x60W at antenna connectors
- Technology supported: LTE
- Instantaneous bandwidth: 45 MHz
- Rx diversity: 2-way and 4-way uplink reception
- Typical sensitivity without Rx diversity: -105 dBm for LTE

Connectivity

- Two CPRI (3-6) optical ports for daisychaining and up to six RRHs per fiber
- Type of optical fiber: Single-Mode (SM) and Multi-Mode (MM) SFPs
- Optical fiber length: up to 300m using MM fiber, up to 15km using SM fiber
- TMA/RETA : AISG 2.0 (RS485 connector and internal Bias-Tee)
- Four external alarms
- Surge protection for all external ports (DC and RF)

Environmental specifications

- Operating temperature: -40°C to 55°C including solar load
- Operating relative humidity: 8% to 100%
- Environmental Conditions : ETS 300 019-1-4 class 4.1E
- Ingress Protection : IEC 60529 IP65
- Acoustic Noise : Noiseless (natural convection cooling)

Safety and Regulatory Data

- EMC : 3GPP 25113, EN 301 489-1, EN 301 489-23, GR 1089, GR 3108, OET-65
- Safety : IEC60950-1, EN 60825-1, UL, ANSI/NFPA 70, CAN/CSA-C22.2
- Regulatory : FCC Part 15 Class B
- Health : EN 50385

Alcatel·Lucent

8220-603 series

Reliability through Simplicity

POLAR POWER INC.

Back-up Diesel DC Generator Set

Founded in 1979 Polar Power specialized in solar photovoltaic systems, solar air conditioning and refrigeration. We developed and provided photovoltaic charging controls for telecommunications in the 1980s along with DC generators for the military. In 1994 we were first to provide DC generators with remote control and monitoring to the telecommunications industry.

Polar's success is based on engineering generators to meet the very specific needs of each application. Telecom site optimization is best met with the DC generator technology as the loads and batteries are DC. It makes no sense to install an AC generator and convert the output to DC. The AC generators are designed for a wide range of applications and they are not specifically produced for telecom applications so there are issues with reliability, space, and fuel efficiency.

Polar can save you considerable time and cost in permitting, installing, purchasing, and maintaining a backup generator. We reduce CAPEX and OPEX costs while improving backup reliability.

Available Models:

- **8220-603-D-10** Diesel 10 kW, -48 VDC
- **8220-603-D-15** Diesel 15 kW -48 VDC

Intertek 4003706
Conforms to UL STD 2200
Certified to CSA STD C22.2 No. 100
Fuel tank is UL 142 Listed

Meets EPA Emission Regulations
CA/MA Emissions Compliant

Made in USA

2 year standard warranty, extended 5-10 year warranty available

The concepts and features behind Polar's backup generator for telecommunications include:

SMALL FOOTPRINT. Polar's DC generator is considerably smaller in size than an AC generator. You can now backup sites that could not accommodate an AC generator. Smaller also means less cost for space leasing.

LONG RESERVE. 48 to 72 hour reserve. Polar's DC generator can provide long reserve times because of very low fuel consumption. This generator should be the first choice for sites exposed to natural disasters requiring backup for weeks or months at a time (fuel consumption 1.02 gallon per hour).

LOW ACOUSTIC NOISE. <66 dBA @ 7 meters, and low vibration so as not to disturb the local residents or building landlords. Quieter than other generators with lower noise ratings.

LIGHTWEIGHT. Up to 1/3 the weight of a comparable AC generator. Facilitates roof top installations.

CORROSION RESISTANT. All-aluminum enclosure with stainless hardware for low maintenance, and long service life.

RODENT RESISTANT. Small animals can quickly destroy a generator set by gnawing on wires, fuel lines, radiator hoses, etc. Cooling air inlets and outlets have perforated aluminum screens to keep small rodents and large insects out. Stainless steel wire braid is placed over fuel and radiator lines for increased reliability and safety.

SUPERCAPACITOR STARTER. Failure to start is the number one problem plaguing generator reliability. Polar's unique design has replaced the starting battery with a Super Capacitor. Capacitors are more reliable and last longer than batteries (10-15 year life).

LONG LIFE. Controls and wire harnesses are designed to exceed a 20 year life. Higher grade, longer life electrical wire (UL 3173), weather tight connectors, gold plated connector pins on signal circuits. Controls and wire harness are easily replaceable.

ADVANCED MONITORING. Remote diagnostics, control, and monitoring. Ethernet and RS232 standard, with optional SNMP.

SIMPLICITY. Transfer switch, rectifier, and starting battery are not required.

249 E. Gardena Blvd, Gardena CA, 90248 | 310.830.9153 | www.polarpower.com | info@polarpowerinc.com

POLAR POWER INC.
application and engineering data

COMPARING THE COST OF AC vs DC

	AC	DC
Transfer switch required	Yes	No
Permitting costs	$$	$
Shipping to site and installation cost	$$	$
Site preparation/reinforcing structures	$$$	$
Ethernet/RS232 remote control and monitoring	Extra	Standard

PERMITTING IS FACILITATED

- Small engine horsepower
- Small 54 gallon diesel fuel tank meets UL 142
- DC generator is fully isolated from the utility grid
- No transfer switch
- Low acoustic noise
- Incorporates all requirements made by local Fire Marshals

8220 ALTERNATOR FEATURES

- No mechanical adjustments
- Very lightweight
- High quality electrical output
- Voltage and current regulation
- Up to 94% efficiency
- Class 220° C insulation
- Anodized type III process for aluminum parts
- Nickel plating for steel parts
- Stator is varnished

8220 ALTERNATOR SPECIFICATIONS

Type	Permanent Magnets, NdFeB
Weight (lb/kg)	46.5/21
Regulation Type	Variable engine speed
Stator	3 phase/32 poles
Overcurrent Protection (A)	10 kW - 250 15 kW - 350
Disconnect Means	Pull fuse block, sized for each generator kW
Voltage Range (VDC)	44 to 62
Alternator Exhaust Flow (cfm/cmm)	130 to 180 / 3.68 to 5.1
MTBF (hr)	100,000+

STARTER SUPERCAPACITOR SPECIFICATIONS

Model	20-16-0001
Storage Rating (Farads)	500
Voltage (VDC)	13-14.4
Weight (lb/kg)	12.1/5.5
Operating Temperature (°C/°F)	-40 to 65 / -40 to 149
Service Life (year)	10 to 15

CHARGER SPECIFICATIONS

Model	00-10-0015
Input Voltage (VDC)	28.8 to 60
Output Voltage (VDC)	14 to 14.4
Recharge time from 0 VDC (min)	10
Recharge time from 8 VDC (min)	2
Weight (lb/kg)	2.2/1

ENCLOSURE

Model	88-25-0603
Type	Weather Protective
Materials	Marine Grade Aluminum
Door Hardware	Three Point with Padlock Hasp, and Removable Side Panels
Mounting	Secure Mounting Tabs

SOUND EMISSIONS

Contact us for current sound data.

WEIGHTS AND DIMENSIONS

	10 kW	15 kW
Dry Weight (lb/kg)	1106/502	1248/566
Dimensions (LxWxH) (in/cm)	32 x 50 x 72 / 81.3 x 127 x 183	

ENGINE SPECIFICATIONS: 10 KW DIESEL

Engine Model	Isuzu 3CA1 or Yanmar 3TNV74
Cylinders	3 In-line
Displacement (L)	0.993
Bore (in./mm)	2.91/74
Stroke (in./mm)	3.03/77
Intake Air System	Naturally Aspirated
Engine HP	18
Emissions Compliance	EPA and CARB Certified
Variable RPM	2300 to 2600

ENGINE SPECIFICATIONS: 15 KW DIESEL

Engine Model	Yanmar 3TNV88
Cylinders	3 In-line
Displacement (L)	1.642
Bore (in./mm)	3.4/88
Stroke (in./mm)	3.5/90
Intake Air System	Naturally Aspirated
Engine HP	24
Emissions Compliance	EPA and CARB Certified
Variable RPM	1500 to 1850

ENVIRONMENTAL

Operating Temperature (°C/°F)	-40 to 72 / -40 to 162
Operating Humidity %	100
Cold Start Aids	Glow Plugs

ENGINE FUEL CONSUMPTION

	Output (kW)	gal/hr	L/hr
3CA1/3TNV74	4	0.35	1.32
	5	0.44	1.66
	6	0.53	2
	7	0.615	2.33
	8	0.7	2.65
	9	0.79	2.99
	10	0.88	3.33
3TNV88	15	1.02	3.86

ENGINE LUBRICATION SYSTEM

Oil Filter Type	Full flow spin-on canister
Oil Capacity	2.8 L - 3CA1/3TNV74 6.7 L - 3TNV88
Oil Pressure Switch	Yes
Oil Pressure Transducer	Optional

ENGINE COOLING SYSTEM

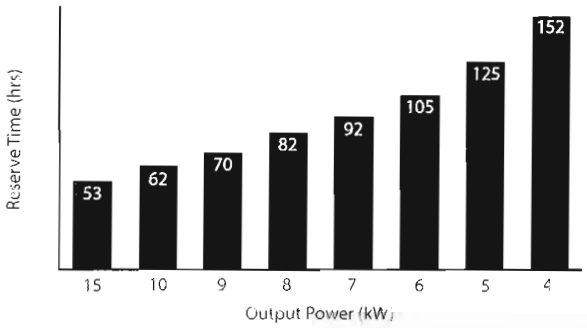
Type	Pressurized Aluminum Radiator
Water Pump	Belt-driven, Pre-lubed, self-sealing
Fan Type	Electric Fans
Airflow CFM or M³/hr	1300 or 2200
Fan Mode	Pusher
Temperature Switch	Yes

DIESEL FUEL SYSTEM

Type	Diesel
Fuel Pump Type	Electrical
Injector Type	Mechanical
Fuel Filtering	Paper element

FUEL TANK SPECIFICATIONS

UL Rated Capacity (gal/L)	54/204
Run Time	see table below
Tank Alarms	Yes
Visual Gages	Yes
Catch Basin (gal/L)	5/19
Listings	UL 142 (double wall)



POWER ADJUSTMENT FOR AMBIENT CONDITIONS

Temperature Deration	1% derate for every 5.6 °C (10 °F) above 25 °C (77 °F)
Altitude Deration	3% derate for every 300 m (1000 ft) above 91 m (300 ft)

POLAR POWER INC.
operating data

ENGINE COOLING

	10 kW	15 kW
System coolant capacity (gal/L)	2.2/8.3	
Maximum operation air temperature on radiator (°C/°F)	50/122	57/135
Maximum ambient temperature (°C/°F)	60/140	60/140

COMBUSTION REQUIREMENTS

	10 kW	15 kW
Flow at rated power (cfm/cmm)	47/1.34	68/1.92

EXHAUST

	10 kW	15 kW
Exhaust flow at rated output (cfm/cmm)	90/2.55	135/3.82
Exhaust temperature at rated output (°C/°F)	480/900	

CONTROLLER FEATURES

Controller Type.....Supra Model 250
4-Line Plain Text LCD Display.....Simple user interface for ease of operation
Engine Run Hours Indication.....Standard
Programmable Start Delay.....Standard
Run/Alarm/Maintenance Logs.....Standard
Engine Start Sequence.....Cyclic cranking: 5 sec on, 45 sec rest (3 attempts maximum)
Starter Supercapacitor Charger.....Standard
Automatic Voltage Regulation with Over and Under Voltage Protection.....Standard
Automatic Low Oil Pressure/High Oil Temperature Shutdown.....Standard
Overcrank/Overspeed.....Standard
Automatic High Engine Temperature Shutdown.....Standard
Field Upgradeable Firmware.....Standard
Glow Plug Delay.....Automatic With Temperature
Engine Start Delay.....Adjustable, Set at 60 sec
Return to Utility Delay.....Adjustable, Set at 60 sec
Engine Cool-down.....Adjustable, Set at 60 sec
Exerciser.....Programmable, weekly/bi-weekly

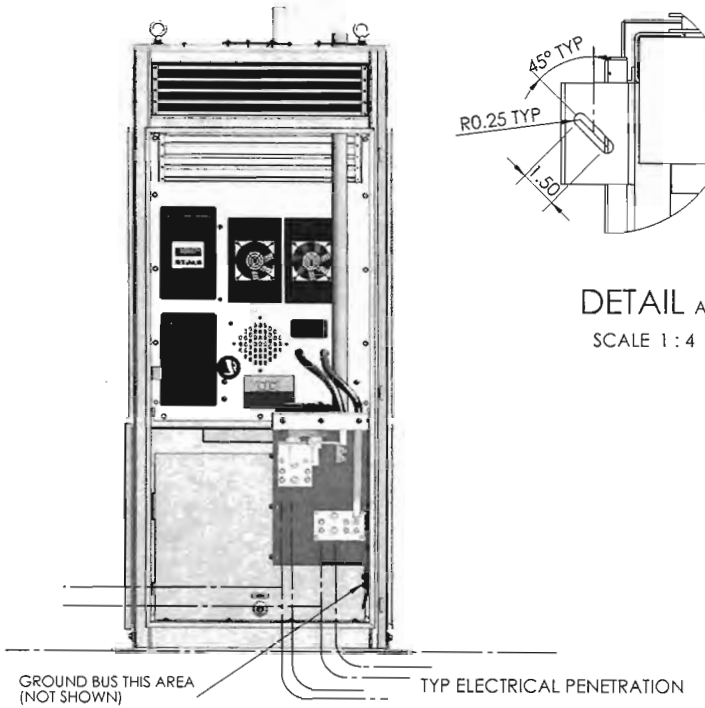
WARNING ALARMS

Low Diesel Fuel Level.....Standard
Diesel Fuel Tank Rapture Basin.....Standard
Low/High Supercapacitor Voltage.....Standard
High Water Temperature.....Standard
Low Oil Pressure.....Standard

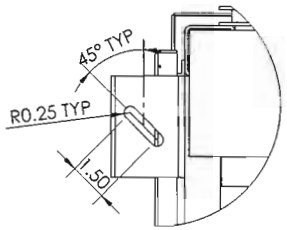
CONTACT CLOSURE FOR REMOTE INDICATION (PN 84-12-0640)

Shutdown Alarm.....Optional
Warning Alarm.....Optional
Engine Run.....Optional
Low Diesel Fuel Level.....Optional
Diesel Fuel Leak.....Optional
E-Stop Depressed.....Optional
Fuel Level Over 90%.....Optional

ENGINE EXHAUST
HOT AIR EXHAUST (FOUR SIDES)
GUARDED EMERGENCY STOP SWITCH
GUARDED LOCKING HANDLE
COLD AIR INLET, FIXED REAR DOOR
COLD AIR INLET, FRONT DOOR FRONT DOOR IS MAIN ACCESS
REMOVABLE DOOR SERVICE ACCESS
FIXED DOOR
49.39
76.53
71.84
31.00
29.62
REMOVABLE DOOR
FIXED DOOR
POLAR POWER INC.
249 E GARDENA AVE. GARDENA CA. 90248
TITLE: ALUMINUM VERTICAL ENCLOSURE, 72 IN
SIZE B
DWG. NO. 88-25-0603
REV A-1
SCALE: 1:24 WEIGHT:
SHEET 1 OF 4
INITIAL RELEASE

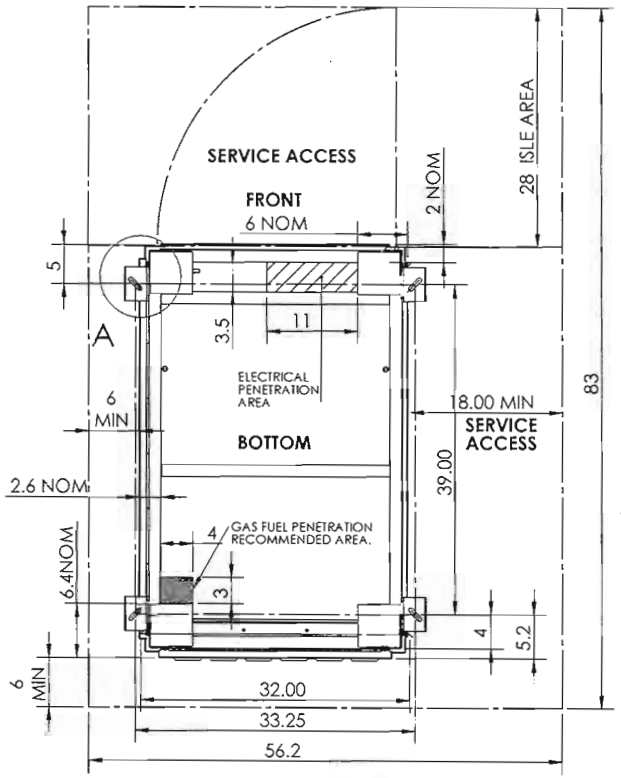


FRONT DOOR REMOVED FOR CLARITY



DETAIL A
SCALE 1 : 4

INSTALLATION FOOTPRINT, BOTTOM VIEW



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS ±1/32" DECIMALS X ±0.1" X.XX±0.03" X.XXX±0.010" ANGLES ±1/2°
MATERIAL
FINISH
NEXT ASSY
USED ON
APPLICATION
DO NOT SCALE DRAWING
CAD GENERATED DRAWING DO NOT MANUALLY UPDATE
APPROVALS DATE
DRAWN 1/22/2015
CHECKED
ENG APPR.
MFG APPR.
Q.A.
COMMENTS:

REV	DESCRIPTION	ECO#	BY	DATE
-	INITIAL RELEASE			

POLAR POWER INC.
249 E GARDENA AVE. GARDENA CA. 90248

TITLE: ALUMINUM VERTICAL ENCLOSURE, 72 IN

SIZE	DWG. NO.	REV
B	88-25-0603	A-1

SCALE: 1:24 WEIGHT: SHEET 2 OF 4

249 E. Gardena Blvd, Gardena CA, 90248 | 310.830.9153 | www.polarpower.com | info@polarpowerinc.com

POLAR POWER INC.
installation layout

Cellco Partnership d/b/a Verizon Wireless
520 Bailey Hill Road
Killingly, Connecticut

Dayville Facility

Site Search Summary

Section 16-50j-74(j) of the Regulations of Connecticut State Agencies requires the submission of a statement that describes "the narrowing process by which other possible sites were considered and eliminated." In accordance with this requirement, descriptions of the general site search process, the identification of the applicable search area and the alternative locations considered for development of the proposed telecommunications facility in eastern Killingly are provided below.

Site Search Process

To initiate its site selection process in an area where wireless service problems have been identified, Cellco first establishes a "site search ring" or "site search area". In any search ring or search area, Cellco seeks to avoid the unnecessary proliferation of towers and to reduce the potential adverse environmental effects of the cell site, while at the same time maximizing the quality of service provided from a particular facility. These objectives are achieved by initially locating existing towers and other sufficiently tall structures within and near the site search area. If any are found, they are evaluated to determine whether they are capable of supporting Cellco's telecommunications antennas and related equipment at a location and elevation that satisfies its technical requirements.

The list of available locations may be further reduced if, after preliminary negotiations, the property owners withdraw a site from further consideration. From among the remaining locations, the proposed sites are selected by eliminating those that have greater potential for adverse environmental effects and fewer benefits to the public (i.e., those requiring taller towers; those with substantial adverse environmental impacts, or in densely populated residential areas; and those with limited ability to share space with other public or private telecommunications service providers). It should be noted that in any given site search, the weight afforded to factors considered in the selection process will vary depending upon the availability and nature of sites within the search area.

Need for the Dayville Facility

Within approximately five (5) miles of the proposed Dayville Facility, Cellco maintains six (6) macro-cell telecommunications facilities and was recently approved to install a new small cell facility. The macro-cell facilities are identified as Cellco's Killingly, Killingly Center, Killingly North, Danielson, Danielson South and Danielson 2 cell sites. Cellco's Killingly facility consists of antennas on a tower at 1375 North Road in Killingly. Cellco's Killingly Center facility consists of antennas on a tower at 79 Putnam Pike in Dayville. Cellco's Killingly North facility consists of antennas on a water tank at 190 Louisa Viens Drive in Dayville.

Cellco's Danielson facility consists of antennas on a tower at 246 East Franklin Street in Danielson. Cellco's Danielson 2 facility consists of antennas on a tower at 812 Providence Pike in Danielson. The Danielson SC2 facility is a 2100 MHz frequency facility that will not interact with the proposed Dayville cell site.

These existing facilities currently provide wireless service in the area around the proposed Dayville Facility location. Cellco's existing facilities are currently operating at or near their current capacity limits, resulting in a significant reduction in reliable wireless service in the area. Unfortunately, there are no other existing towers or other sufficiently tall structures available in this area. Construction of a new tower, therefore, is required to resolve Cellco's wireless service problems. Because the proposed tower site provides, primarily, capacity relief to its network, Cellco can keep the overall height of the structure lower than that which might be needed for a pure "coverage site".

Identification of the Dayville Search Area

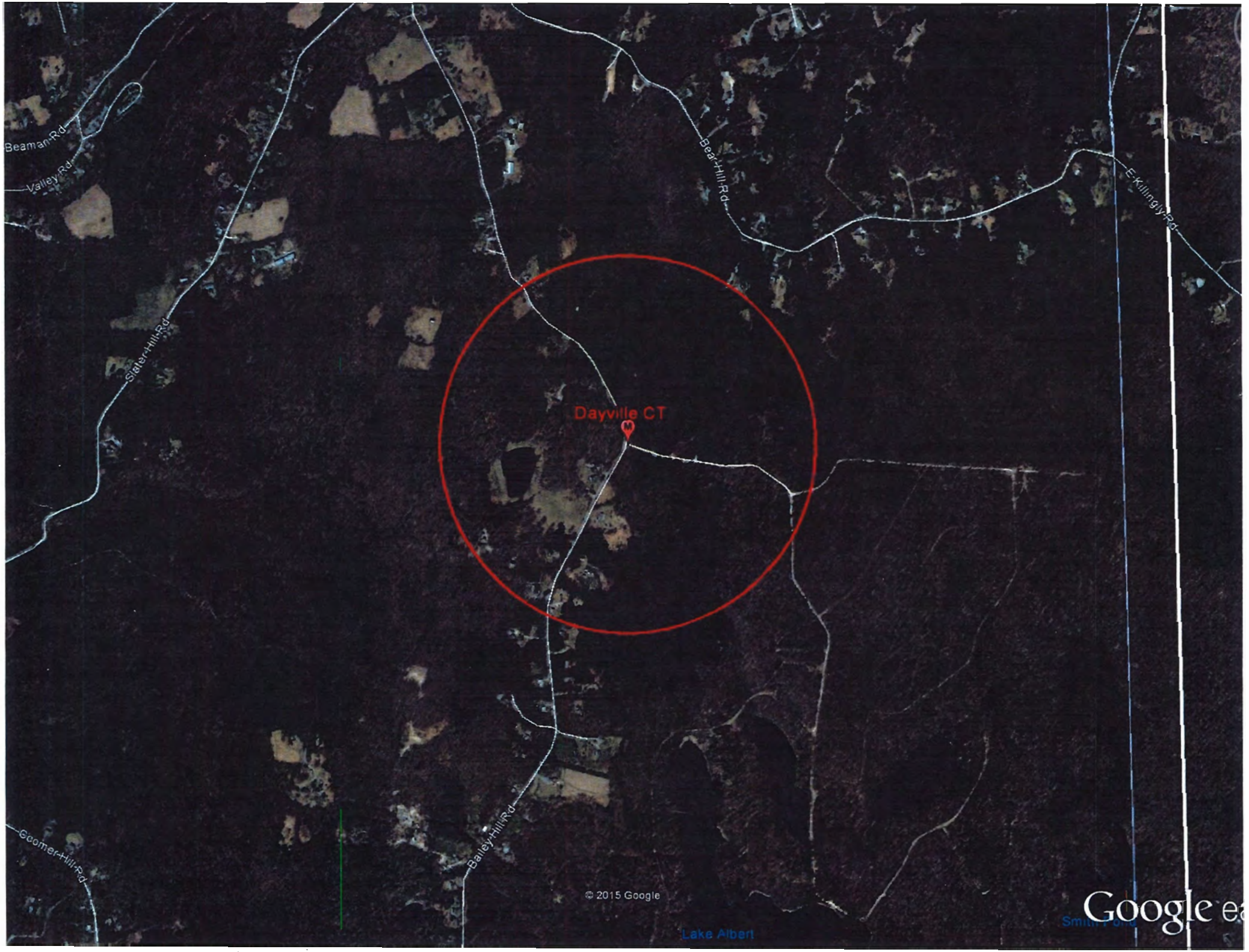
The purpose of the proposed Dayville Facility is to provide additional coverage and network capacity relief in eastern portions of Killingly. (*See* attached Search Area Map).

Sites Investigated

Cellco identified and investigated a total of two (2) parcels in the Dayville search area. A listing of the sites investigated is provided below.

1. **520 Bailey Hill Road, Killingly, CT:** Cellco entered into a lease agreement with the property owner, Tri Lakes LLC for a new tower site on the 648-acre parcel east of Bailey Hill Road.

2. **721 Bailey Hill Road, Killingly, CT:** The owner of this parcel was not interested in leasing ground space to Cellco for a tower site.


Beaman Rd
Valley Rd
Slater Hill Rd
Bear Hill Rd
E Killingly Rd
Dayville CT
Bailey Hill Rd
Goomer Hill Rd
© 2015 Google
Lake Albert

ALL-POINTS TECHNOLOGY CORPORATION

VISIBILITY ANALYSIS

DAYVILLE CT
520 BAILEY HILL ROAD
KILLINGLY, CONNECTICUT

Prepared for:

Verizon Wireless
99 East River Drive
East Hartford CT 06108

Prepared by:

All-Points Technology Corporation, P.C.
3 Saddlebrook Drive
Killingworth, CT 06419

NOVEMBER 2015

Project Introduction

Cellco Partnership d/b/a Verizon Wireless is considering the development of a new wireless communications facility ("Facility") at 520 Bailey Hill Road in Killingly, Connecticut (the "Property"). At the request of Verizon Wireless, All-Points Technology Corporation, P.C. ("APT") prepared this Visibility Analysis to evaluate the potential visual impacts associated with the proposed Facility from within a two-mile radius (the "Study Area"). About one-third of the Study Area falls within the neighboring State of Rhode Island to the east.

Site Description and Setting

The approximately 648-acre Property is located east of Bailey Hill Road in a rural development district of eastern Killingly. The Property consists primarily of undeveloped woods, accessible via a dirt drive off Bailey Hill Road. An abandoned security shed is located immediately east of Bailey Hill Road and a network of overgrown dirt jeep trails traverse the Property.

The area proposed for the Facility (the "Site") is located on the west end of the Property within an overgrown open field, at an approximate ground elevation of 799 feet Above Mean Sea Level ("AMSL"). The proposed Facility would include a 150-foot tall steel monopole surrounded by a 50-foot by 50-foot, gravel base equipment compound. Verizon Wireless would place its antenna array center line at 150 feet above ground level ("AGL") such that the tops of the antennas would extend to approximately 153 feet AGL.

Land use within the immediate vicinity of the Property is a mix of agricultural land, rural residential development and dense woods. The topography within the Study Area is characterized generally by steep to rolling hills and valleys; ground elevations range from approximately 340 feet AMSL to 810 feet AMSL. The tree cover within the Study Area (consisting of mixed deciduous hardwoods with interspersed stands of conifers) occupies approximately 6,407 acres of the 8,042-acre study area (±80%).

Methodology

APT used the combination of a predictive computer model and in-field analysis to evaluate the visibility associated with the proposed Facility on both a quantitative and qualitative basis. The predictive model provides a measurable assessment of potential visibility throughout the entire Study Area including private properties and other areas inaccessible for direct observations. The in-field analyses included a crane test and reconnaissance of the Study Area to record existing conditions, verify results of the model, inventory visible and nonvisible locations, and provide photographic documentation from publicly accessible areas. A description of the procedures used in the analysis is provided below.

Preliminary Computer Modeling

Computer modeling tools were used to predict those areas where at least a portion of the Facility is estimated to be visible including TerrSet, an image analysis program developed by Clark Labs at Clark University. Project- and Study Area-specific data were incorporated into the computer model, including the site location, its ground elevation and the proposed Facility height, as well as the surrounding topography and existing vegetation, which are the primary features that can block direct lines of sight.

Information used in the model included lidar[1]-based digital elevation data and customized land use data layers developed specifically for this analysis. Lidar is a remote-sensing technology that develops elevation data in meters by measuring the time it takes for laser light to return from the surface to the instrument's sensors. The varying reflectivity of objects also means that the returns can be classified based on the characteristics of the reflected light, normally into categories such as "bare earth," "vegetation," "road," or "building." The system is also designed to capture many more data points than older radar-based systems. Thus, lidar-based digital elevation models ("DEM"s) have a much finer resolution and can also identify the different features of the landscape at the time that it was captured.

Viewshed analysis using lidar data provide a much more detailed view of the potential obstacles (especially trees and buildings), and therefore the viewshed modeling produces results with many smaller areas of visibility than those produced by using radar-based DEMs. Its precision makes lidar a superior source of data, but at present it is only available for limited areas of the state. The viewshed results are also checked against the most current aerial photographs in case significant changes (a new housing development, for example) have occurred since the time the lidar data was captured.

The lidar-based DEM created for this analysis represents topographic information for the state of Connecticut that was derived through the spatial interpolation of airborne LiDAR-based data collected in the years 2007 through 2012 and has a horizontal resolution of approximately two (2) feet. In addition, multiple land use data layers were created from the Natural Resources Conservation Service (through the USDA) aerial photography (1-meter resolution, flown in 2012) using IDRISI image processing tools. The IDRISI tools develops light reflective classes defined by statistical analysis of individual pixels, which are then grouped based on common reflective values such that distinctions can be made automatically between deciduous and coniferous tree species, as well as grassland, impervious surface areas, surface water and other distinct land use features.

With these data inputs, the model is then queried to determine where the top of the Facility can be seen from any point(s) within the Study Area, given the intervening existing topography and vegetation. The results of the preliminary analysis are depicted on the attached maps and are intended to provide a representation of those areas where portions of the Facility may potentially be visible to the human eye without the aid of magnification, based on a viewer eye-height of 5 feet above the ground and the combination of intervening

[1] Lidar (a word invented to mean "light radar") may also be referred to as LiDAR, an acronym for Light Detection and Ranging. It is a technology that utilized lasers to determine the distance to an object or surface. LiDAR is similar to radar, but incorporates laser pulses rather than sound waves. It measures the time delay between transmission and reflection of the laser pulse.

topography and tree canopy (year-round) and tree trunks (seasonally, when the leaves are off the deciduous trees). The shaded areas of predicted visibility shown on the map denote locations from within the Study Area which the proposed Facility may potentially be visible year-round (in yellow) above the tree canopy and/or seasonally, through the trees (during "leaf-off" conditions; depicted in orange). The Facility however may not necessarily be visible from all locations within those shaded areas. It is important to note that the computer model cannot account for mass density, the height, diameter and branching variability of the trees, or the degradation of views that occur with distance. In addition, each point – or pixel - represents about one square meter in area, and thus is not predicting visibility from all viewpoints through all possible obstacles. Although large portions of the predicted viewshed may theoretically offer visibility of the Facility, because of these unavoidable limitations the quality of those views may not be sufficient for the human eye to recognize the tower or discriminate it from other surrounding objects. Visibility also varies seasonally with increased, albeit obstructed, views occurring during "leaf-off" conditions. Beyond the density of woodlands found within the given Study Area, each individual tree has its own unique trunk, pole timber and branching pattern characteristics that provide varying degrees of screening in leafless conditions which cannot be precisely modeled.

Once the data layers were entered, image processing tools were applied and overlaid onto USGS topographic base maps and aerial photographs to achieve an estimate of locations where the Facility might be visible. Additional data was reviewed and incorporated into the visibility analysis, including protected private and public open space, parks, recreational facilities, hiking trails, schools, and historic districts. No trail systems are located within the Study Area. Based on a review of publicly-available information, no designated state scenic roads exist within the Study Area.

Field Reconnaissance

To supplement and fine tune the results of the computer modeling efforts, APT completed in-field verification activities consisting of a crane test, vehicular and pedestrian reconnaissance, and photo-documentation.

Crane Test and Field Reconnaissance

A crane test and field reconnaissance were conducted June 25, 2015 to evaluate the visibility associated with the proposed Facility and to obtain photographs for use in this report. The crane test consisted of raising man bucket affixed to the crane's boom arm to a height of 160 feet AGL[2] at the proposed Facility location. Weather conditions were favorable for the in-field activities, with calm winds (less than 5 miles per hour) and mostly sunny skies. Once the boom arm was secured, APT conducted a Study Area reconnaissance by driving along the local and State roads and other publicly accessible locations to document and inventory where the boom/man bucket could be seen above/through the tree canopy. Visual observations from the reconnaissance were also used to evaluate the results of the preliminary visibility mapping and identify any discrepancies in the initial modeling.

[2] The height of 160 feet was used for radio frequency propagation testing.

Photographic Documentation and Simulations

During the crane test and field reconnaissance, APT drove the public roads within the Study Area and recorded observations, including photo-documentation, of those areas where the man-bucket/boom arm was and was not visible. Photographs were obtained from several vantage points to document the views of a proposed Facility. The geographic coordinates of the camera's position at each photo location were logged using global positioning system ("GPS") technology. Photographs were taken with a Canon EOS 6D digital camera body and Canon EF 24 to 105 millimeter ("mm") zoom lens, with the lens set to 50 mm.

> *"The lens that most closely approximates the view of the unaided human eye is known as the normal focal-length lens. For the 35 mm camera format, which gives a 24x36 mm image, the normal focal length is about 50 mm.[3]"*

Final Visibility Mapping

Information obtained during the field reconnaissance was incorporated into the mapping data layers, including observations of the crane test, the photo locations, areas that experienced recent land use changes and those places where the initial model was found to over-predict visibility. Once the additional data was integrated into the model, APT re-calculated the visibility of the proposed Facility from within the Study Area to assist in producing the final viewshed map.

Photographic Simulations

One (1) photographic simulation was generated to portray a scaled rendering of the proposed Facility from where it will be visible on a year-round basis. Using field data, site plan information and 3-dimension (3D) modeling software, spatially referenced models of the site area and Facility were generated and merged. The geographic coordinates obtained in the field for the photograph locations were incorporated into the model to produce virtual camera positions within the spatial 3D model. Photo simulations were then created using a combination of renderings generated in the 3D model and photo-rendering software programs[4].

For presentation purposes in this report, the photographs were taken with a 50 mm focal length and produced in an approximate 7-inch by 10.5-inch format. When viewing in this format size, we believe it is important to provide the largest representational image while maintaining an accurate relation of sizes between objects within the frame of the photograph.

---

[3] Warren, Bruce. Photography, West Publishing Company, Eagan, MN, c. 1993, (page 70).

[4] As a final step, the accuracy and scale of select simulations are tested against photographs of similar existing facilities with recorded camera position, focal length, photo location, and tower location.

Photo-documentation of the crane test and the photo-simulation of the proposed Facility are presented in the attachment at the end of this report. The crane test photos are intended to provide visual reference points for the approximate height and location of the proposed Facility relative to the scene. The photo-simulation is intended to provide the reader with a general understanding of the different views that might be achieved of the Facility.

Photograph Locations

The table below summarizes characteristics of the photographs and simulations presented in the attachment to this report including a description of each location, view orientation, the distance from where the photo was taken relative to the proposed Facility and the general characteristics of that view. The photo locations are depicted on the visibility analysis maps provided as attachments to this report.

View	Location	Orientation	Distance to Site	View Characteristics
1	Bailey Hill Road	East	±500 Feet	Year-round
2	Bailey Hill Road	Northeast	±0.17 Mile	Not Visible
3	Bailey Hill Village	Northeast	±2.16 Miles	Not Visible
4	Mashentuck Road at Cook Hill	Northeast	±2.04 Miles	Not Visible
5	Mountain View Landing	Southeast	±1.60 Miles	Not Visible
6	Slater Hill Road	Southeast	±0.91 Mile	Not Visible
7	Bailey Hill Road	Southeast	±1.03 Miles	Not Visible
8	Bailey Hill Road	Southeast	±1.08 Miles	Not Visible
9	Bailey Hill Road	Southeast	±1.10 Miles	Not Visible
10	Bailey Hill Road	Southeast	±1.23 Miles	Not Visible
11	Hartford Pike	Southeast	±1.20 Miles	Not Visible
12	Hartford Pike	Southeast	±1.14 Miles	Not Visible
13	Pine Knolls Drive	Southwest	±0.79 Mile	Not Visible
14	Quinns Hill Road	Southeast	±1.97 Miles	Not Visible
15	Bear Hill Road	Southeast	±1.01 Miles	Not Visible
16	Bear Hill Road	Southeast	±0.77 Mile	Not Visible
17	Bear Hill Road	Southeast	±0.20 Mile	Not Visible

Visibility Analysis Results

Results of this analysis are graphically displayed on the viewshed maps provided in the attachment at the end of this report. Areas from where the proposed Facility would be visible year-round comprise a total of approximately 23.5 acres and are primarily limited to the Site and surrounding locations on the Property. The one publicly-accessible location where the 160-foot tall boom arm could be seen was at the entrance of the Property at Bailey Hill Road (Photo 1).

When the leaves are off the trees, seasonal views through intervening tree trunks and branches are anticipated to occur over some nearby locations within an area of 238± additional acres. This includes select locations along Bailey Hill Road within approximately 0.25 mile of the Property, private and undeveloped land to the west (including a large portion of the Property), and potentially on the eastern shoulder of Mashentuck Mountain, at distances over 1.75 miles away.

The combination of the dense, mature tree canopy and fairly rugged topography severely limit opportunities for direct lines of sight to the Facility. Although the topography is variable, changes in elevation throughout the Study Area do not rise to sufficient heights in open areas to allow views over the intervening tree line towards the Site. Residential neighbors in the immediate vicinity of the Property have substantial amounts of mature trees and other vegetation that will serve to obstruct the Site and proposed Facility.

Proximity to Schools And Commercial Child Day Care Centers

No views of the proposed Facility would occur at schools or commercial child day care centers. The nearest school, Killingly Central School is located at 60 Soap Street in Dayville, nearly four (4) miles to the northwest. The nearest commercial child day care center, Susan Whites Day Care, is located at 1031 Hartford Pike, approximately 1.9 miles to the northwest.

Limitations

The viewshed maps presented in the attachment to this report depict areas where the proposed Facility may potentially be visible to the human eye without the aid of magnification based on a viewer eye-height of 5 feet above the ground and intervening topography, tree canopy and structures. This analysis may not necessarily account for all visible locations, as it is based on the combination of computer modeling, incorporating 2012 aerial photographs, and in-field observations from publicly-accessible locations. No access to private properties was provided to APT personnel. This analysis does not claim to depict the only areas, or all locations, where visibility may occur; it is intended to provide a representation of those areas where the Facility is likely to be seen.

The simulations provide a representation of the Facility under similar settings as those encountered during the crane test and reconnaissance. Views of the Facility can change throughout the seasons and the time of day, and are dependent on weather and other atmospheric conditions (e.g., haze, fog, clouds); the location, angle and intensity of the sun; and the specific viewer location. Weather conditions on the day of the crane test included mostly sunny skies and the photo-simulation presented in this report provides an accurate portrayal of the Facility during comparable conditions.

ATTACHMENTS

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

PHOTO LOG

Legend

Site ● Photo Location

N W E S

3,000 1,500 0 3,000 Feet

1 inch = 3,000 feet

ALL-POINTS TECHNOLOGY CORPORATION verizon

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
1	**BAILEY HILL ROAD**	**EAST**	**+/- 500 FEET**	**YEAR ROUND**

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
1	**BAILEY HILL ROAD**	**EAST**	**+/- 500 FEET**	**YEAR ROUND**

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
2	**BAILEY HILL ROAD**	**NORTHEAST**	**+/- 0.17 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
3	**BAILEY HILL VILLAGE**	**NORTHEAST**	**+/- 2.16 MILES**	**NOT VISIBLE**

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
4	**MASHENTUCK ROAD AT COOK HILL**	**NORTHEAST**	**+/- 2.04 MILE**	**NOT VISIBLE**

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
5	**MOUNTAIN VIEW LANDING**	**SOUTHEAST**	**+/- 1.60 MILES**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
6	**SLATER HILL ROAD**	**SOUTHEAST**	**+/- 0.91 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
7	**BAILEY HILL ROAD**	**SOUTHEAST**	**+/- 1.03 MILES**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
8	**BAILEY HILL ROAD**	**SOUTHEAST**	**+/- 1.08 MILES**	**NOT VISIBLE**

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
9	**BAILEY HILL ROAD**	**SOUTHEAST**	**+/- 1.10 MILES**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
10	**BAILEY HILL ROAD**	**SOUTHEAST**	**+/- 1.23 MILES**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
11	**HARTFORD PIKE**	**SOUTHEAST**	**+/- 1.20 MILES**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
12	**HARTFORD PIKE**	**SOUTHEAST**	**+/- 1.14 MILES**	**NOT VISIBLE**

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
13	**PINE KNOLLS DRIVE**	**SOUTHWEST**	**+/- 0.79 MILE**	**NOT VISIBLE**

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
14	**QUINNS HILL ROAD**	**SOUTHEAST**	**+/- 1.97 MILES**	**NOT VISIBLE**

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
15	**BEAR HILL ROAD**	**SOUTHEAST**	**+/- 1.01 MILES**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
16	**BEAR HILL ROAD**	**SOUTHEAST**	**+/- 0.77 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

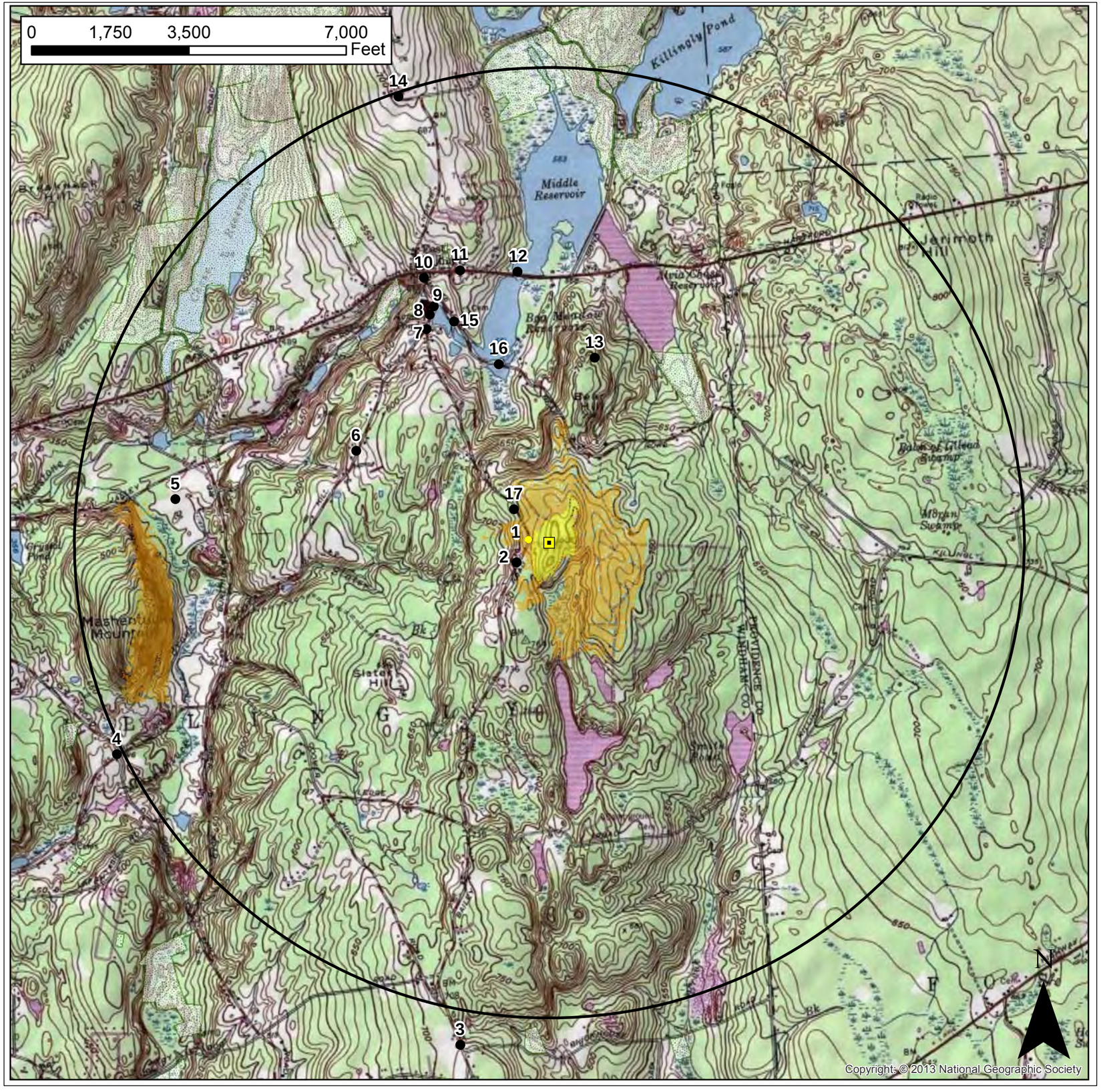
verizon

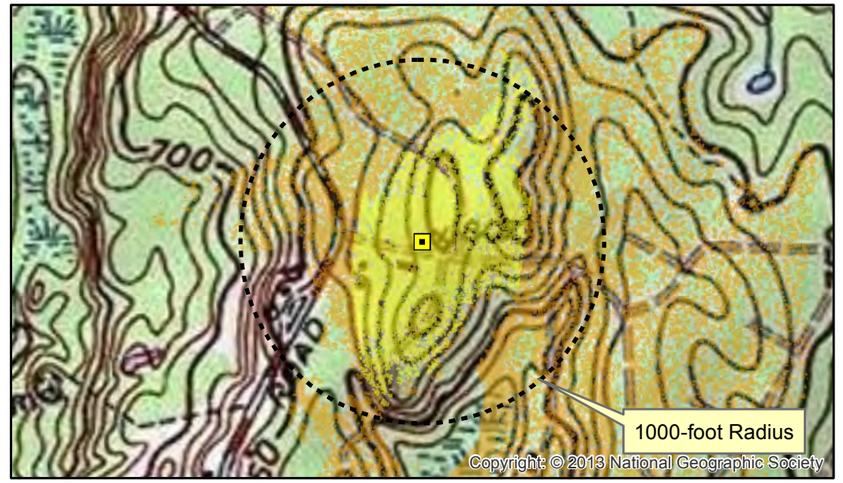
EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
17	**BEAR HILL ROAD**	**SOUTHEAST**	**+/- 0.20 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

verizon





Viewshed Map – Topo Base

Proposed Wireless Telecommunications Facility
Dayville CT
520 Bailey Hill Road, Killingly, CT

Proposed facility height is 150 feet AGL.
Forest canopy height is derived from lidar data.
Study area encompasses a two-mile radius and includes 8,042 acres of land.

Map compiled 10/23/2015

Map information field verified by APT on 06/25/2015.

Only those resources located within the extent of the map are depicted. For a complete list of data sources consulted for this analysis, please refer to the Documentation Page.

Legend

- Proposed Tower

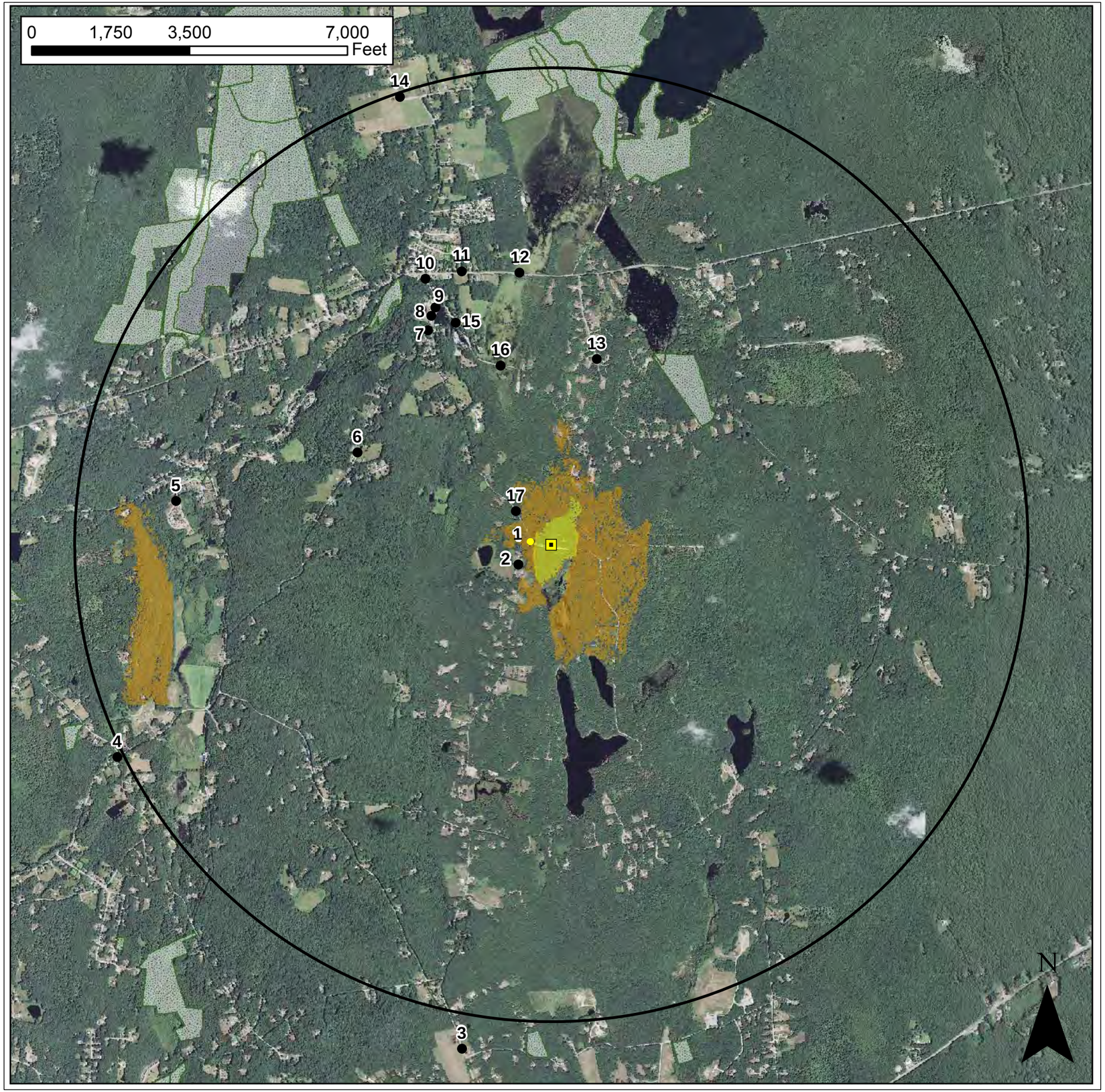
Photo Locations

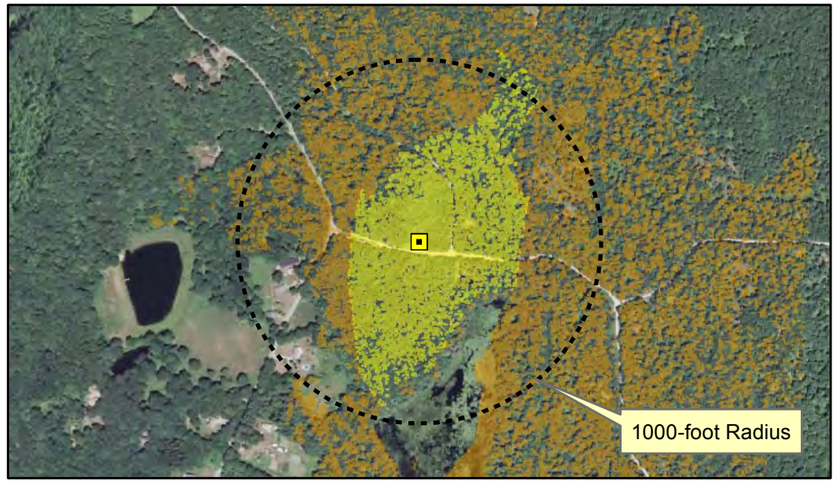
- Not Visible
- Year-round Views
- Predicted Seasonal Visibility (238 Acres)
- Predicted Year-Round Visibility (23.5 Acres)
- Towns
- 2-Mile Study Area
- Open Space

Location

verizonwireless

ALL-POINTS TECHNOLOGY CORPORATION





Viewshed Map – Aerial Base

Proposed Wireless Telecommunications Facility
Dayville CT
520 Bailey Hill Road, Killingly, CT

Proposed facility height is 150 feet AGL.
Forest canopy height is derived from lidar data.
Study area encompasses a two-mile radius and includes 8,042 acres of land.

Map compiled 10/23/2015

Map information field verified by APT on 06/25/2015.

Only those resources located within the extent of the map are depicted. For a complete list of data sources consulted for this analysis, please refer to the Documentation Page.

Legend

- Proposed Tower

Photo Locations

- Not Visible
- Year-round Views
- Predicted Seasonal Visibility (238 Acres)
- Predicted Year-Round Visibility (23.5 Acres)
- Towns
- 2-Mile Study Area
- Open Space

Location

verizon wireless

ALL-POINTS TECHNOLOGY CORPORATION

DOCUMENTATION

SOURCES CONSULTED FOR VIEWSHED MAPS
520 Bailey Hill Road
Dayville, Connecticut

Physical Geography / Background Data
Center for Land Use Education and Research, University of Connecticut (http://clear.uconn.edu)
*Land Use / Land Cover (2006)
*Coniferous and Deciduous Forest (2006)
*LiDAR data – topography (2000)
United States Geological Survey
*USGS topographic quadrangle maps – Danielson (1984)
National Resource Conservation Service
*NAIP aerial photography (2012)
Department of Transportation data
^State Scenic Highways (updated monthly)
Heritage Consultants
^Municipal Scenic Roads

Cultural Resources
Heritage Consultants
^National Register
^ Local Survey Data

Dedicated Open Space & Recreation Areas
Connecticut Department of Energy and Environmental Protection (DEEP)
*DEEP Property (May 2007)
*Federal Open Space (1997)
*Municipal and Private Open Space (1997)
*DEEP Boat Launches (1994)
Connecticut Forest & Parks Association
^Connecticut Walk Books East –
The Guide to the Blue-Blazed Hiking Trails of Eastern Connecticut, 19th Edition, 2006.

Other
^ConnDOT Scenic Strips (based on Department of Transportation data)

*Available to the public in GIS-compatible format (some require fees).
^ Data not available to general public in GIS format. Reviewed independently and, where applicable, GIS data later prepared specifically for this Study Area.

NOTE Not all the sources listed above appear on the Viewshed Maps. Only those features within the scale of the graphic are shown.

LIMITATIONS
The visibility analysis map(s) presented in this report depict areas where the proposed Facility may potentially be visible to the human eye without the aid of magnification based on a viewer eye-height of 5 feet above the ground and intervening topography, tree canopy heights and structures. This analysis may not necessarily account for all visible locations, as it is based on the combination of computer modeling, incorporating 2012 aerial photographs, and in-field observations from publicly-accessible locations. No access to private properties beyond the host Property was provided to APT personnel. This analysis does not claim to depict the only areas, or all locations, where visibility may occur; it is intended to provide a representation of those areas where the Facility is likely to be seen.

The photo-simulations in this report are provided for visual representation only. Actual visibility depends on various environmental conditions, including (but not necessarily limited to) weather, season, time of day, and viewer location.

ALL-POINTS TECHNOLOGY CORPORATION

NLEB Streamlined Consultation

via FedEx

June 27, 2016

APT Project No.: CT1417690

U.S. Fish and Wildlife Service
New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087

Attn: Thomas R. Chapman

Re: Proposed Verizon Wireless
Dayville CT Facility
153' Tall Monopole Tower
520 Bailey Hill Road
Killingly, Windham County, CT
Lat: 41° 49' 56.76"
Long: 71° 48' 33.23"
EnSite No.: 28686

Dear Mr. Chapman,

On behalf of Cellco Partnership and its controlled affiliates doing business as Verizon Wireless, All-Points Technology Corporation, P.C. ("APT") performed an evaluation with respect to possible federally-listed, threatened or endangered species in order to determine if the proposed referenced communications facility ("Facility") would result in a potential adverse effect to federally-listed species. This consultation was completed in accordance with FCC rules implementing the National Environmental Policy Act ("NEPA") and Section 7 of the Endangered Species Act through the U.S. Fish and Wildlife Service's ("USFWS") Information, Planning, and Conservation System ("IPaC")[1] for a proposed Facility at the referenced Site. Refer to the enclosed Site Location Map and Aerial Photograph provided in Attachment 1 and Site Plans provided in Attachment 2 for information regarding the location of the Facility and subject property and details regarding the proposed project.

Northern Long-eared Bat and Small Whorled Pogonia

Two federally-listed[2] threatened species is known to occur in the vicinity of the subject property documented as the northern long-eared bat ("NLEB"; *Myotis septentrionalis*) and small whorled pogonia (*Isotria medeoloides*). A copy of the IPaC report is provided in Attachment 3.

NLEB As a result of this preliminary finding, APT performed an evaluation to determine if the proposed Facility would result in a likely adverse effect to NLEB. This consultation framework allows federal agencies to rely upon the USFWS January 5, 2016, intra-Service Programmatic Biological Opinion ("BO") on the Final

[1] IPaC Consultation Tracking Number: 05E1NE00-2016-SLI-1355, dated May 3, 2016

[2] Listing under the federal Endangered Species Act

[2] National Heritage & Endangered Species Program, Division of Fisheries & Wildlife, MA Rare and Endangered Plants-Small Whorled Pogonia

[2] von Oettingen, S.L. (1992). Small Whorled Pogonia (Isotria medeoloides) Recovery Plan. New England Field Office USFWS.

4(d) Rule for the NLEB for section 7(a)(2) compliance by: (1) notifying the USFWS that an action agency will use the streamlined framework; (2) describing the project with sufficient detail to support the required determination; and (3) enabling the USFWS to track effects and determine if reinitiation of consultation is required per 50 CFR 402.16.

The proposed Facility is located within a cleared area and would not require any tree removal. Consultation with the Connecticut Department of Energy & Environmental Protection ("CTDEEP") Wildlife Division Natural Diversity Data Base ("NDDB") revealed that the proposed Facility is not within 150 feet of a known occupied maternity roost tree and is not within 0.25 mile of a known NLEB hibernaculum. The nearest NLEB habitat resource to the proposed activity is located in East Granby ±47.93 miles to the northwest. Please refer to CTDEEP March 14, 2016 correspondence and the *Northern long-eared bat areas of concern in Connecticut to assist with Federal Endangered Species Act Compliance* map (February 1, 2016) provided in Attachment 4. This map reveals that there are currently no known NLEB maternity roost trees in Connecticut. Therefore, the proposed Facility is not likely to adversely affect NLEB. Please find enclosed the completed USFWS's Northern Long Eared Bat 4(d) Rule Streamlined Consultation Form provided in Attachment 5.

Cellco Partnership understands that if the USFWS does not respond within 30 days from submittal of this form, we may presume that USFWS determination is informed by the best available information and that Cellco Partnership's project responsibilities under 7(a)(2) with respect to the NLEB are fulfilled through the USFWS January 5, 2016, Programmatic BO.

Small Whorled Pogonia Small Whorled Pogonia is a small, perennial orchid of deciduous forests with a grayish-green, smooth stem up to 10 inches tall that bears at its summit a whorl of 5-6 light-green, elliptical, pointed leaves and 1-2 yellow-green flowers that bloom from late spring to early summer[3]. Habitat requirements for this species include flats or slope bases having a moderate to light shrub layer and a relatively open forest canopy[4]. Soil characteristics consistently found within this species' habitat include a sandy loam textured soil type having a fragipan or restrictive layer below the soil surface, allowing for lateral water movement[5].

The proposed communications facility is located in a cleared area consisting of dry upland scrub/meadow habitat with some shrubs and small saplings (<3" DBH). Dominant species include scrub oak, white pine, pitch pine, bracken and sweet ferns, deer-tongue grass, low bush blueberry, huckleberry and gray birch. Soils within the proposed limit of disturbance associated with the referenced Verizon Wireless facility were field confirmed through hand-dug soil pits to consist of Gloucester gravelly sandy loam (soil symbol – 59). The field classification of this soil series is consistent with USDA NRCS Web Soil Survey mapped data. Gloucester soils consist of very deep, somewhat excessively drained soils formed in sandy till that lack a fragipan or restrictive layer. Forested habitat located in the immediate vicinity of the proposed Facility consists of mixed conifers and oaks with an understory of lowbush blueberry and huckleberry, also underlain by Gloucester soils.

Due to the lack of appropriate vegetative cover habitat, suitable soils or hydrology conditions within the location of the proposed Facility, no suitable habitat supportive of Small Whorled Pogonia occurs in this location or in the immediate surrounding area. In addition, according to a May 19, 2016 letter from the DEEP NDDB, no negative impacts to State-listed species would result from the proposed facility; a copy of the NDDB letter is provided in Attachment 6. Please note that the NDDB screening would include possible occurrences of Small Whorled Pogonia since it is also listed as a State Endangered species (in addition to its federal listing). Therefore, the proposed Facility will not result in an adverse effect to this State- and federally-listed species.

[3] USFWS Fact Sheet Small Whorled Pogonia: http://www.fws.gov/midwest/endangered/plants/pdf/smallwhorledpogoniafctsht.pdf

[4] National Heritage & Endangered Species Program, Div. of Fisheries & Wildlife, MA Rare and Endangered Plants-Small Whorled Pogonia

[5] von Oettingen, S.L. (1992). Small Whorled Pogonia (Isotria medeoloides) Recovery Plan. New England Field Office USFWS.

In accordance with USFWS New England Field Office's ("NEFO") Endangered Species Consultation Project Review for Projects with Federal Involvement[6], if the "state Natural Heritage Program or Endangered Species Program [NDDB] does not identify any listed species for the proposed project AND there is no potential habitat for any listed species within the action area, no further coordination with the Service is required". As a result of the above analysis and accordance with the consultation policy, the proposed Facility will not result in an adverse effect to Small Whorled Pogonia and no further coordination with NEFO is required for this species.

Please feel free to contact me with any questions or requests for additional information by phone at (860) 663-1697 ext. 201 or via email at dgustafson@allpointstech.com.

Sincerely,

Dean Gustafson
Senior Environmental Scientist

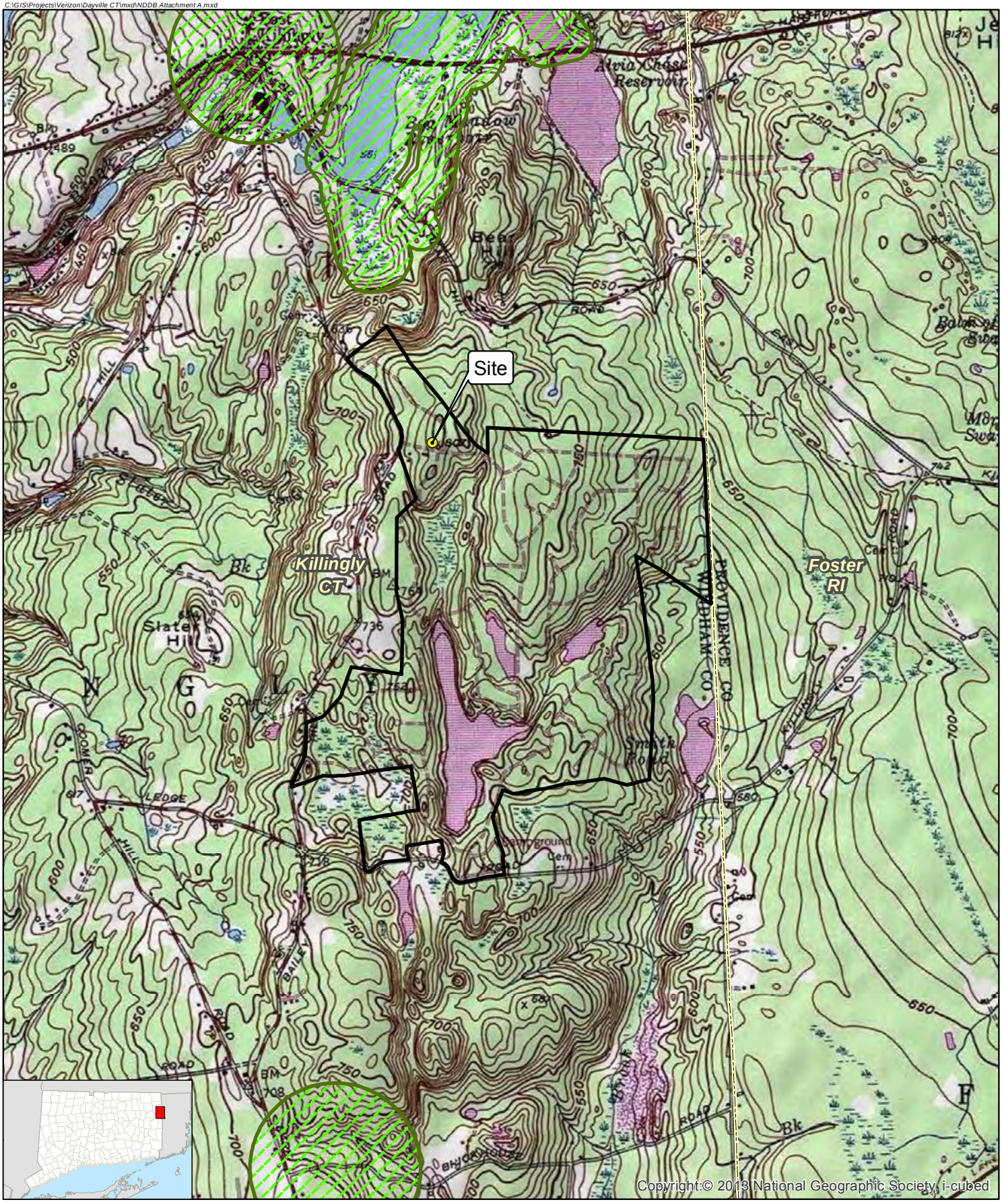
Enclosures
(provided in compact disc)

[6] https://www.fws.gov/newengland/EndangeredSpec-Consultation_Project_Review.htm

Attachment 1

- Site Location Map
- Aerial Map

C:\GIS\Projects\Verizon\Dayville CT\mxd\NDDB Attachment A.mxd



Legend

- Proposed Monopole Tower
- Subject Property
- Natural Diversity Database (updated Sept. 2015)
- Municipal Boundary

Map Notes:
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Map, East Killingly, CT (1974)
Site located on the East Killingly, CT Quadrangle
Map Scale: 1:24,000
Map Date: May 2016

N
W E
S

1,000 500 0 1,000
Feet

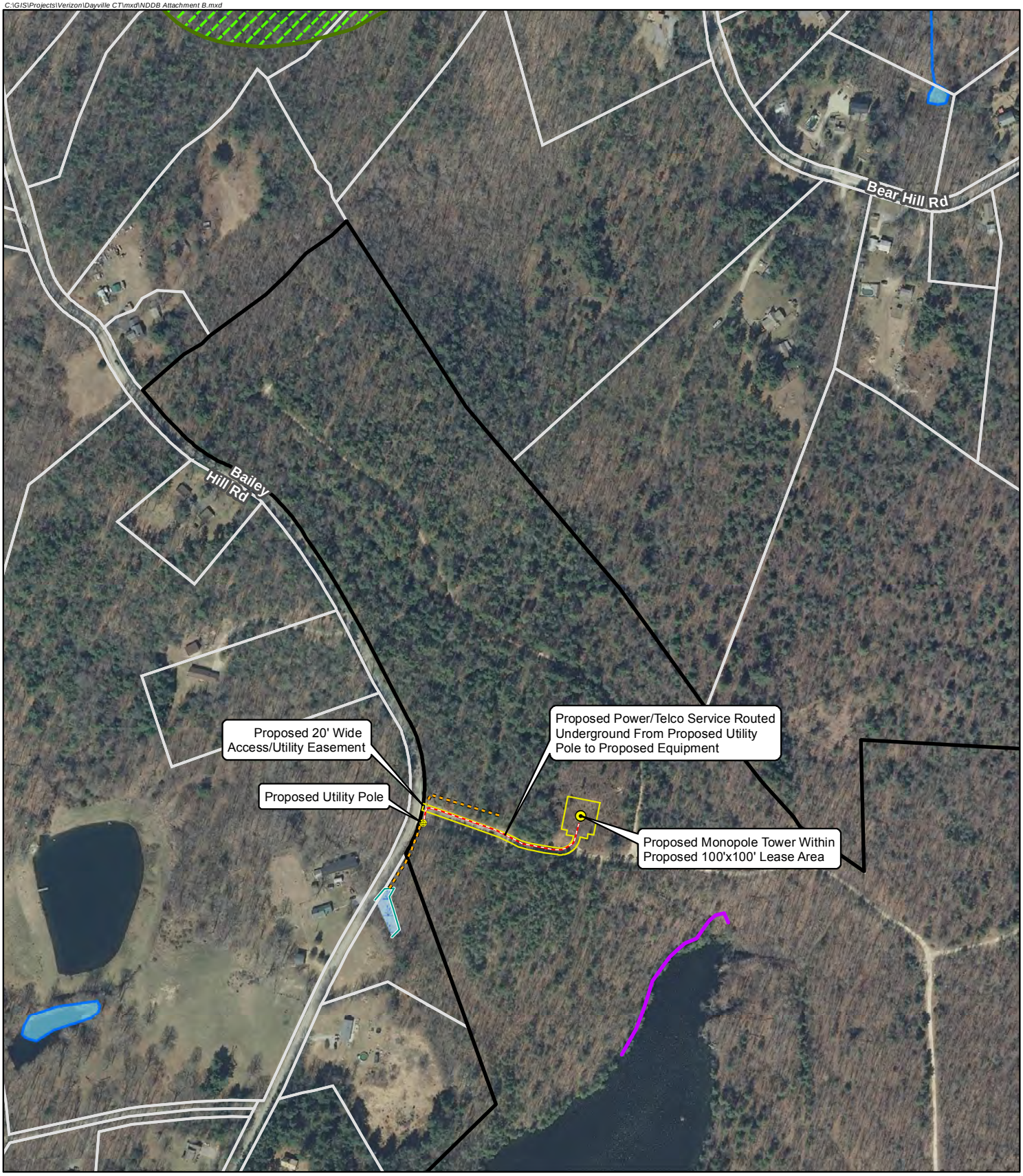
Attachment A: Overview Map

Proposed Wireless Telecommunications Facility
Dayville CT
520 Bailey Hill Road
Killingly, Connecticut

verizon

ALL-POINTS TECHNOLOGY CORPORATION

C:\GIS\Projects\Verizon\Dayville CT\mxd\NDDB Attachment B.mxd



Legend

- Proposed Monopole Tower
- Proposed Utility Pole
- Proposed Facility Layout
- Proposed Power/Telco Service Routed Underground
- Subject Property
- Approximate Parcel Boundary (CTDEEP GIS)
- Watercourse (CTDEEP)
- Open Water (CTDEEP)
- Natural Diversity Database (updated Sept. 2015)
- Wetland Boundary
- Dry Drainage Swale
- Field Confirmed Edge of Pond
- Wetland Area

N
W E
S

400 200 0 400 Feet

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 400 feet
Map Date: May 2016

Attachment B:
Detailed Site Map

Proposed Wireless Telecommunications Facility
Dayville CT
520 Bailey Hill Road
Killingly, Connecticut

verizon

ALL-POINTS TECHNOLOGY CORPORATION

Attachment 2
Site Plans

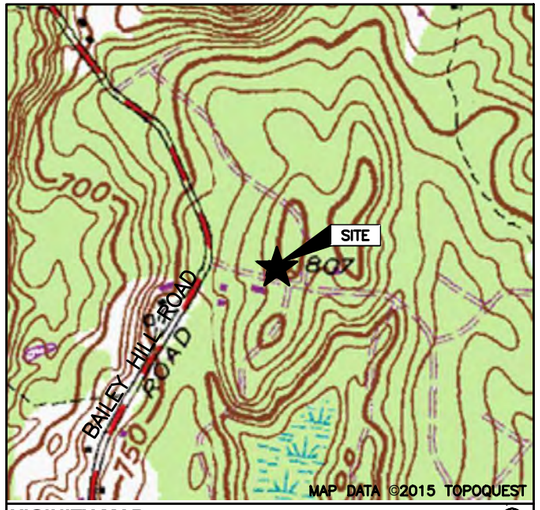
CELLCO PARTNERSHIP

d.b.a. verizon wireless

WIRELESS COMMUNICATIONS FACILITY

DAYVILLE CT

520 BAILEY HILL ROAD
KILLINGLY, CT 06241



VICINITY MAP SCALE: 1"=500'-0"

DIRECTIONS TO SITE:

99 E RIVER DR, EAST HARTFORD, CT 06108
HEAD NORTHEAST ON E RIVER DR
TURN LEFT ONTO THE CT-2 E RAMP TO NORWICH
FOLLOW I-84 E TO CT-74 E IN TOLLAND.
MERGE ONTO I-84 E
TAKE EXIT 69 FOR CONNECTICUT 74 TOWARD U.S. 44/WILLINGTON/PUTNAM
TURN RIGHT ONTO CT-74 E
TURN LEFT ONTO US-44 E
CONTINUE STRAIGHT ONTO CT-101 E
TURN RIGHT ONTO BAILEY HILL RD
SLIGHT LEFT TO STAY ON BAILEY HILL RD
TURN LEFT, 520 BAILEY HILL RD, DAYVILLE, CT 06241

CONSULTANT TEAM

PROJECT ENGINEER

HUDSON DESIGN GROUP, LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
NORTH ANDOVER, MA 01845
TEL: 1-(978)-557-5553
FAX: 1-(978)-336-5586

MEP ENGINEER

HUDSON DESIGN GROUP, LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
NORTH ANDOVER, MA 01845
TEL: 1-(978)-557-5553
FAX: 1-(978)-336-5586

PROJECT SUMMARY

SITE NAME:	DAYVILLE CT
SITE ADDRESS:	520 BAILEY HILL ROAD KILLINGLY, CT 06241
PROPERTY OWNER:	TRI LAKES, LLC P.O. BOX 28 WATERTOWN, CT 06795
APPLICANT:	CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS 99 EAST RIVER DRIVE EAST HARTFORD, CT 06108
SITE ACQUISITION CONTACT:	STEPHEN SCHANDLER STRUCTURE CONSULTING GROUP 99 EAST RIVER DRIVE. 9TH FL EAST HARTFORD, CT 06108
LEGAL/REGULATORY COUNSEL:	KENNETH C. BALDWIN ESQ. ROBINSON + COLE LLP (860)275-8345
LATITUDE:	N41° 49' 56.76"
LONGITUDE:	W71° 48' 33.23"

SCOPE OF WORK INFO.

VERIZON WIRELESS IS PROPOSING TO INSTALL THE FOLLOWING IMPROVEMENTS TO THE EXISTING TELECOMMUNICATION SITE:

- NEW PANEL ANTENNAS: (3) ANTENNA PER SECTOR WITH (3) SECTORS, FOR A TOTAL OF (9) ANTENNAS.
- NEW RRHs: (3) RRHs PER SECTOR WITH (3) SECTORS, FOR A TOTAL OF (9) RRHs

NEW JUNCTION BOXES: (1) JUNCTION BOX TOTAL.
ITEMS LISTED ABOVE TO BE MOUNTED ON PROPOSED MONOPOLE.

- NEW EQUIPMENT CABINETS: (2) CABINETS ON PROPOSED 10'-0"x20'-0" EQUIPMENT CONCRETE PAD W/GENERATOR.

ITEMS LISTED ABOVE TO BE INSTALLED WITHIN PROPOSED 50'x50' FENCED COMPOUND.

- NEW POWER AND TELCO SERVICES WILL BE ROUTED UNDERGROUND FROM PROPOSED UTILITY POLE TO PROPOSED ELECTRICAL METER AND HOFFMAN BOX ON PROPOSED H-FRAME.
- FINAL UTILITY ROUTING TO BE DETERMINED/VERIFIED BY UTILITY COMPANIES.

SHEET INDEX

SHT. NO.	DESCRIPTION
T-1	TITLE SHEET
C-1	ABUTTERS PLAN
C-2	SITE PLAN
A-1	COMPOUND PLAN
A-2	ELEVATION
A-3	CANOPY FRAME & EQUIPMENT FRAME DETAILS

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.

verizon

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

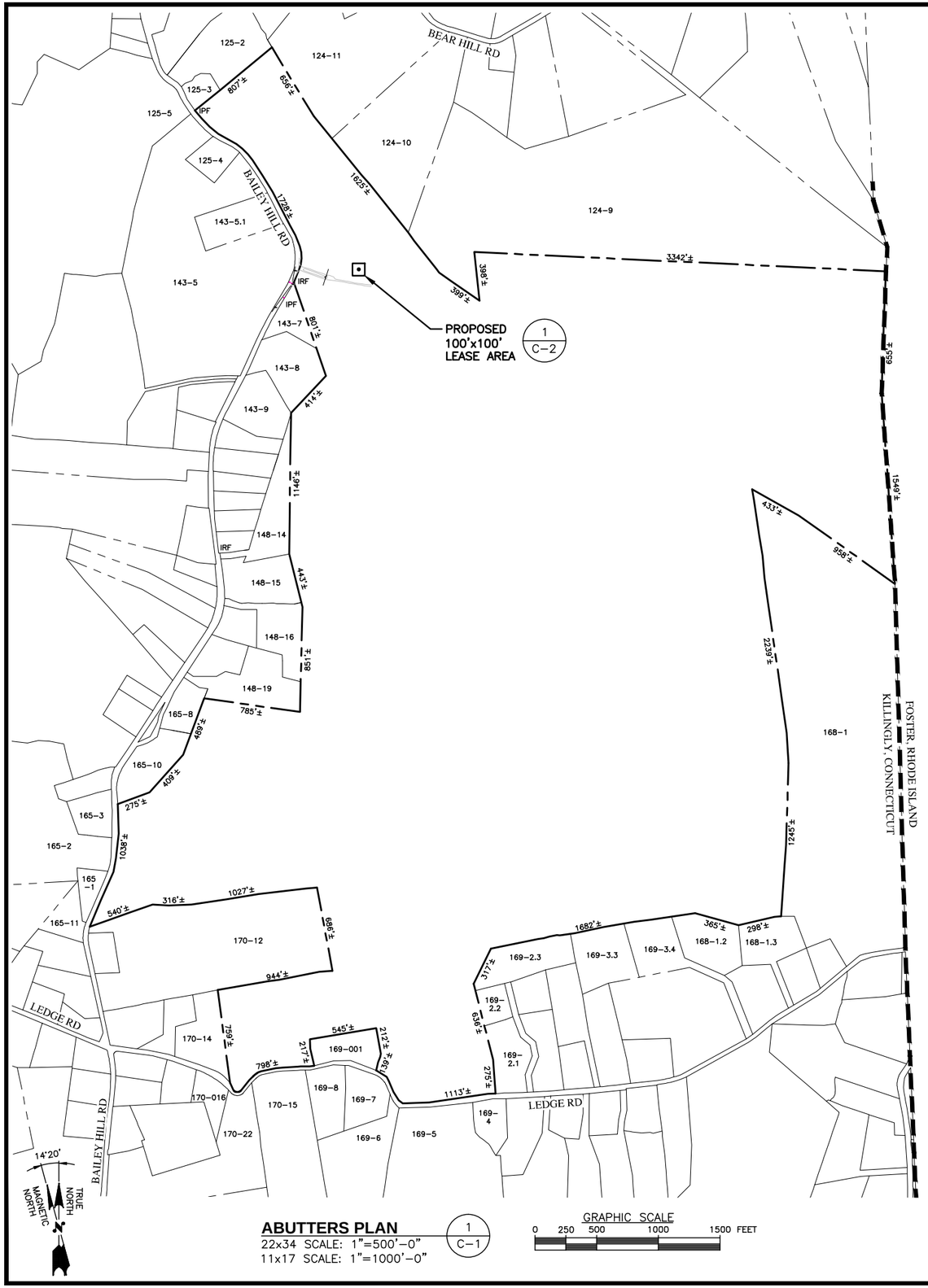
REV.	DATE	DESCRIPTION	BY
4	06/02/16	REVISED PER COMMENTS	GC
3	04/29/16	REVISED PER COMMENTS	JS
2	12/24/15	REVISED PER COMMENTS	MC
1	11/16/15	REVISED PER COMMENTS	MC
0	09/22/15	ISSUED FOR REVIEW	GC

SITE NAME:
DAYVILLE, CT

SITE ADDRESS:
520 BAILEY HILL ROAD
KILLINGLY, CT 06241

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1



ABUTTERS PLAN (1 / C-1)
22x34 SCALE: 1"=500'-0"
11x17 SCALE: 1"=1000'-0"

ABUTTERS LIST

124-009
239 Bear Hill Rd
Frances E. & Robert Pechie
225 Bear Hill Rd
Dayville, CT 06241

124-010
199 Bear Hill Rd
Julia A. Jussaume
P.O. Box 339
Dayville, CT 06241-0339

124-011
189 Bear Hill Rd
Frances Pechie
225 Bear Hill Rd
Dayville, CT 06241

125-002
810 Bailey Hill Rd
Roland D. Jacques
810 Bailey Hill Rd
Dayville, CT 06241

125-003
806 Bailey Hill Rd
Theresa R. Bernier
806 Bailey Hill Rd
Dayville, CT 06241

125-004
779 Bailey Hill Rd
Robert, Virginia &
Susan Griswold
P.O. Box 273
East Killingly, CT
06243-0273

125-005
817 Bailey Hill Rd
Theresa R. Bernier
806 Bailey Hill Rd
Dayville, CT 06241

143-005
721 Bailey Hill Rd
Walter P. Hall, III
721 Bailey Hill Rd
Dayville, CT 06241

143-5.001
755 Bailey Hill Rd
Walter P. & June R. Hall
P.O. Box 48
East Killingly, CT 06243

143-007
724 Bailey Hill Rd
Walter P. Hall, III
721 Bailey Hill Rd
Dayville, CT 06241

143-008
710 Bailey Hill Rd
Larry V. & Judith Lawrence
710 Bailey Hill Rd
Dayville, CT 06241

143-007
688 Bailey Hill Rd
Walter E. & Debra Gene
Opperman
688 Bailey Hill Rd
Dayville, CT 06241

148-014
624 Bailey Hill Rd
William W. Gould, Jr.
624 Bailey Hill Rd
Dayville, CT 06241

148-015
630 Bailey Hill Rd
Jennifer Chapman
630 Bailey Hill Rd
Dayville, CT 06241

148-016
624 Bailey Hill Rd
Arthur P. & Geraldine Rickey
624 Bailey Hill Rd
Dayville, CT 06241

165-001
509 Bailey Hill Rd
Jean E. & Donald J. Carter
509 Bailey Hill Rd
Dayville, CT 06241

165-002
525 Bailey Hill Rd
Herbert A. & Karen M. Oatley
525 Bailey Hill Rd
Dayville, CT 06241

165-003
539 Bailey Hill Rd
Michael Oatley, Michelle Klein
& Roberta Flaherty
160 Creamery Brook Rd
Brooklyn, CT 06234

165-008
582 Bailey Hill Rd
David T. & Judith E. Rzucidlo
582 Bailey Hill Rd
Dayville, CT 06241

165-010
566 Bailey Hill Rd
Ronald J. & Judith M.
Rousselle
566 Bailey Hill Rd
Dayville, CT 06241

165-011
495 Bailey Hill Rd
Jason Robert & Valerie Smith
495 Bailey Hill Rd
Dayville, CT 06241

148-019
594 Bailey Hill Rd
David T. Rzucidlo
582 Bailey Hill Rd
Dayville, CT 06241

168-1
430 Ledge Rd
George M. & Starlet M. Lenth
375 Ledge Rd
Dayville, CT 06241

168-1.002
402 Ledge Rd
George M. & Starlet M. Lenth
375 Ledge Rd
Dayville, CT 06241

168-1.003
400 Ledge Rd
George M. & Starlet M. Lenth
375 Ledge Rd
Dayville, CT 06241

169-001
226 Ledge Rd
Timothy G. Verraneault
36 Kara Rd
Brooklyn, CT 06234

169-2.001
304 Ledge Rd
Paul J. & Erin A. Romani
304 Ledge Rd
Dayville, CT 06241

169-2.002
306 Ledge Rd
Eric M. Quinn
306 Ledge Rd
Dayville, CT 06241

169-2.003
308 Ledge Rd
Jeffrey Ferron
308 Ledge Rd
Dayville, CT 06241

169-3.003
390 Ledge Rd
George M. & Starlet M. Lenth
375 Ledge Rd
Dayville, CT 06241

169-3.004
386 Ledge Rd
George M. & Starlet M. Lenth
375 Ledge Rd
Dayville, CT 06241

169-004
295 Ledge Rd
Todd & Justin Loomis
265 Ledge Rd
Dayville, CT 06241

169-005
275 Ledge Rd
Harold J. & Patricia S.
Swaine
255 Ledge Rd
Dayville, CT 06241

169-006
255 Ledge Rd
Wendy L. Brennan
255 Ledge Rd
Dayville, CT 06241

169-007
247 Ledge Rd
Harold J. & Patricia S.
Swaine
255 Ledge Rd
Dayville, CT 06241

169-008
225 Ledge Rd
Susan E. Erskine
P.O. Box 606
Dayville, CT 06241-0606

170-012
476 Bailey Hill Rd
Pauline C. Terwilliger
492 Bailey Hill Rd
Dayville, CT 06241-1919

170-014
172 Ledge Rd
Joseph G. Keller, Jr.
172 Ledge Rd
Dayville, CT 06241

170-015
203 Ledge Rd
Susan E. Erskine
P.O. Box 606
Dayville, CT 06241-0606

170-016
181 Ledge Rd
Robert J. Gifford &
Elaine E. Nusser
181 LEDGE Rd
Killingly, CT 06241

170-022
406 Bailey Hill Rd
Thomas Cader
406 Bailey Hill Rd
Danielson, CT 06239

SOURCE:

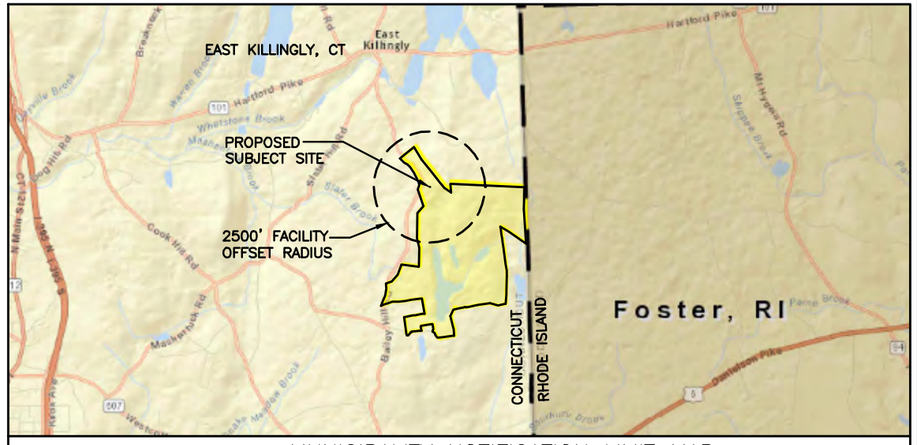
NORTHEAST SURVEY CONSULTANTS, ABUTTERS PLAN AND EXISTING CONDITIONS DATED 8/26/15

SITE SPECIFIC NOTES:

1. VERIFY AZIMUTHS W/ RF ENGINEER.

LEGEND:

- PROPERTY LINE-SUBJECT PARCEL
- PROPERTY LINE-ABUTTERS
- STATE LINE
- CONTOUR LINE
- DELINEATED WETLAND LINE
- (E) BUILDING
- XXX-XX ASSESSORS MAP-BLOCK-LOT NO.
- (E) TREE LINE



MUNICIPALITY NOTIFICATION LIMIT MAP

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.
verizon

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

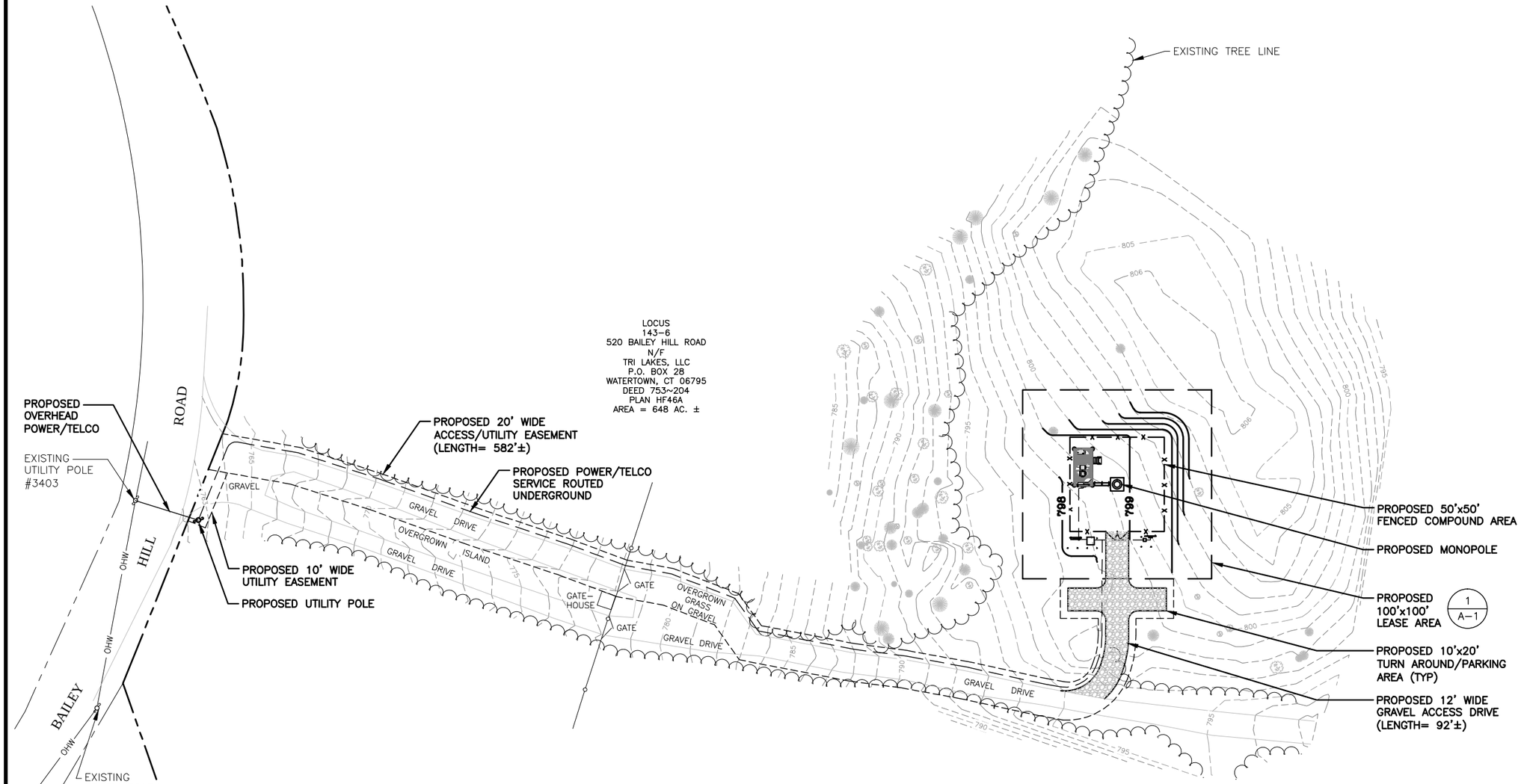
REV.	DATE	DESCRIPTION	BY
4	06/02/16	REVISED PER COMMENTS	GC
3	04/29/16	REVISED PER COMMENTS	JS
2	12/24/15	REVISED PER COMMENTS	MC
1	11/16/15	REVISED PER COMMENTS	MC
0	09/22/15	ISSUED FOR REVIEW	GC

SITE NAME:
DAYVILLE, CT

SITE ADDRESS:
520 BAILEY HILL ROAD
KILLINGLY, CT 06241

SHEET TITLE
ABUTTERS PLAN

SHEET NUMBER
C-1



14°20'
MAGNETIC NORTH
TRUE NORTH

SITE PLAN (1 / C-2)
22x34 SCALE: 1"=30'-0"
11x17 SCALE: 1"=60'-0"

GRAPHIC SCALE
0 15 30 60 90 FEET

LEGEND:

- PROPERTY LINE-SUBJECT PARCEL
- PROPERTY LINE-ABUTTERS
- STATE LINE
- CONTOUR LINE
- DELINEATED WETLAND LINE
- (E) BUILDING
- XXX-XX ASSESSORS MAP-BLOCK-LOT NO.
- (E) TREE LINE

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.

verizon

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

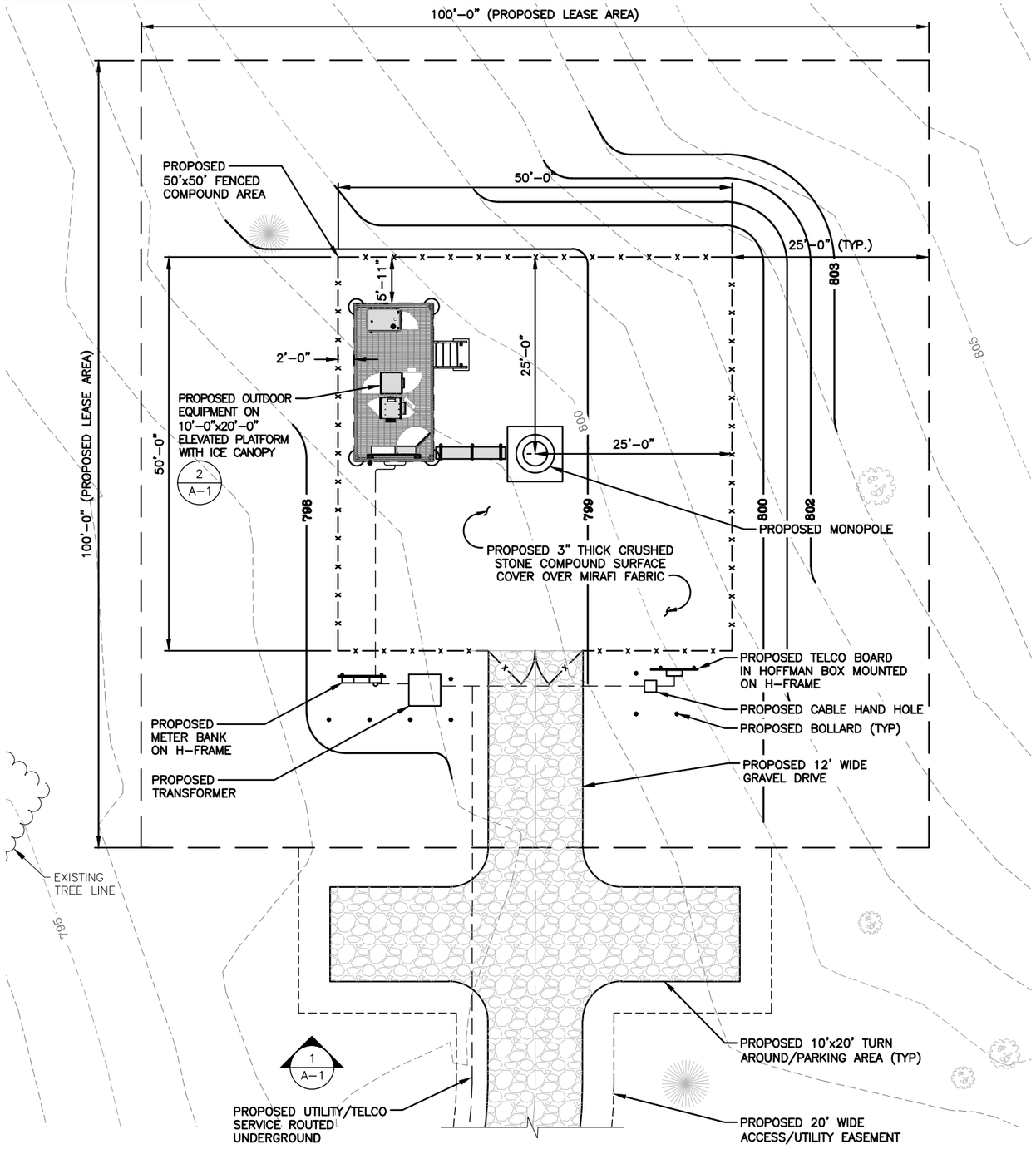
REV.	DATE	DESCRIPTION	BY
4	06/02/16	REVISED PER COMMENTS	GC
3	04/29/16	REVISED PER COMMENTS	JS
2	12/24/15	REVISED PER COMMENTS	MC
1	11/16/15	REVISED PER COMMENTS	MC
0	09/22/15	ISSUED FOR REVIEW	GC

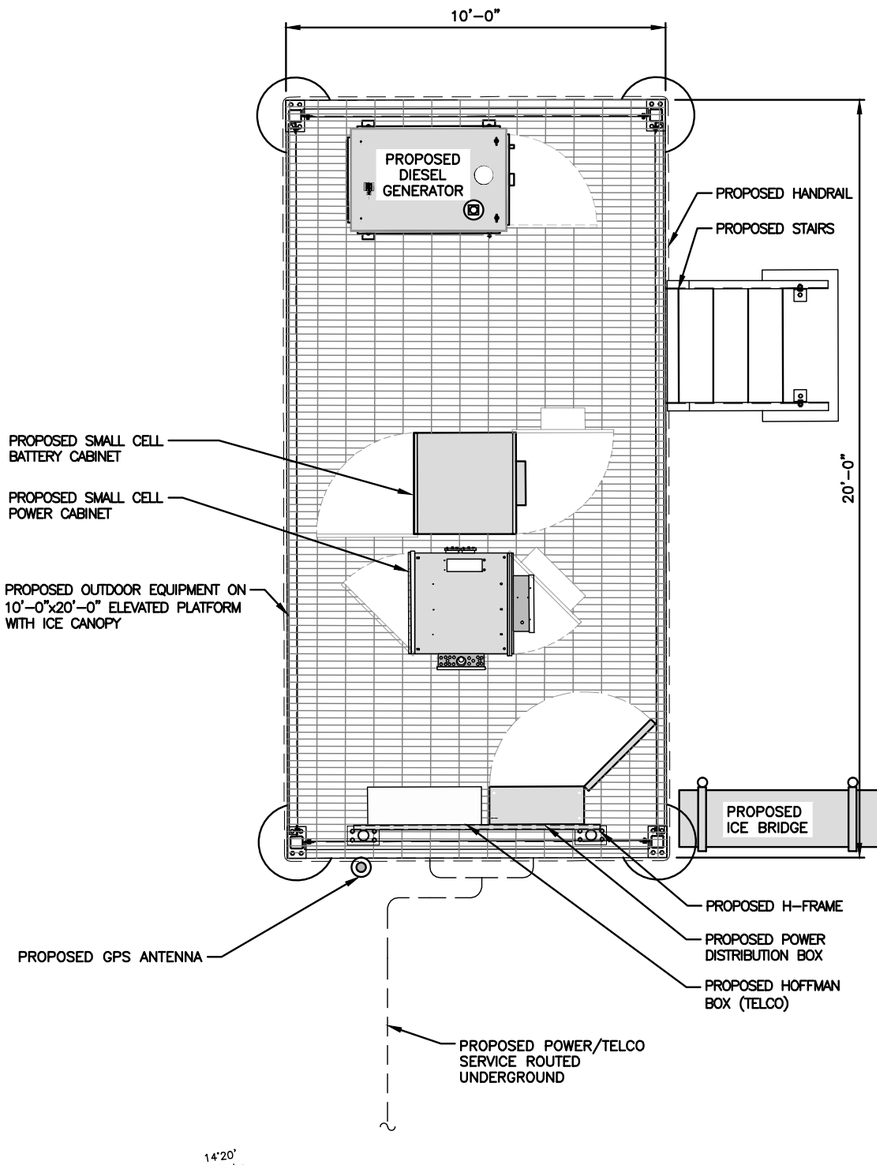
SITE NAME:
DAYVILLE, CT

SITE ADDRESS:
520 BAILEY HILL ROAD
KILLINGLY, CT 06241

SHEET TITLE
SITE PLAN

SHEET NUMBER
C-2





14°20'
MAGNETIC NORTH
TRUE NORTH

COMPOUND PLAN 1 / A-1
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

GRAPHIC SCALE
0 4 8 16 24 FEET

14°20'
MAGNETIC NORTH
TRUE NORTH

EQUIPMENT PLAN 2 / A-1
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

GRAPHIC SCALE
0 1 2 4 6 FEET

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.

verizon

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
4	06/02/16	REVISED PER COMMENTS	GC
3	04/29/16	REVISED PER COMMENTS	JS
2	12/24/15	REVISED PER COMMENTS	MC
1	11/16/15	REVISED PER COMMENTS	MC
0	09/22/15	ISSUED FOR REVIEW	GC

SITE NAME:
DAYVILLE, CT

SITE ADDRESS:
520 BAILEY HILL ROAD
KILLINGLY, CT 06241

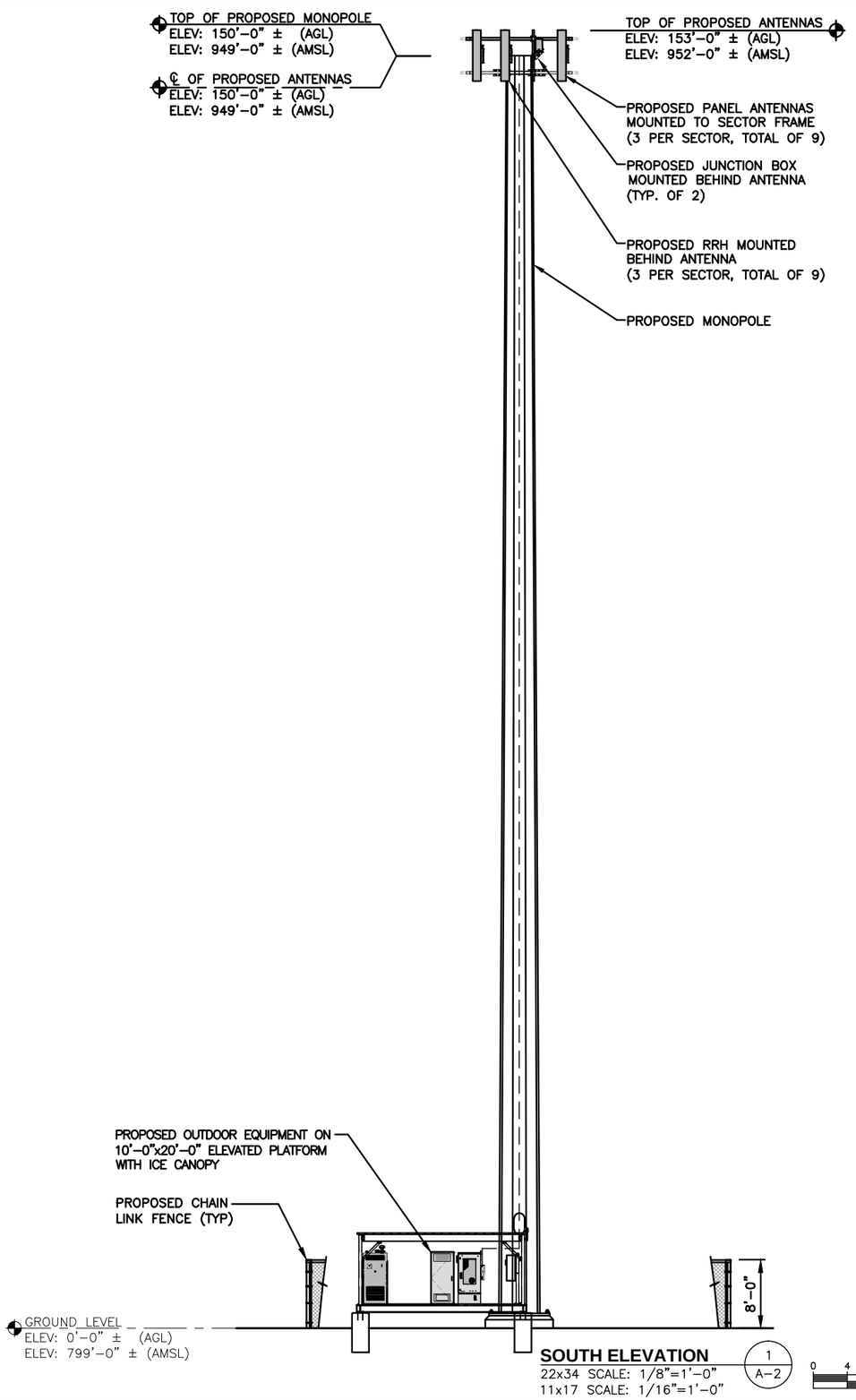
SHEET TITLE
COMPOUND PLAN

SHEET NUMBER
A-1

PROPOSED ANTENNA INFORMATION

SECTOR	STATUS	AZIMUTH	CABLE LENGTH
ALPHA	PROPOSED	0	195
BETA	PROPOSED	120	195
GAMMA	PROPOSED	240	195

NOTE: CABLE LENGTH = EXACT LENGTH PLUS 25'



SOUTH ELEVATION (1 / A-2)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

GRAPHIC SCALE
0 4 8 16 24 FEET

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.
verizon

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

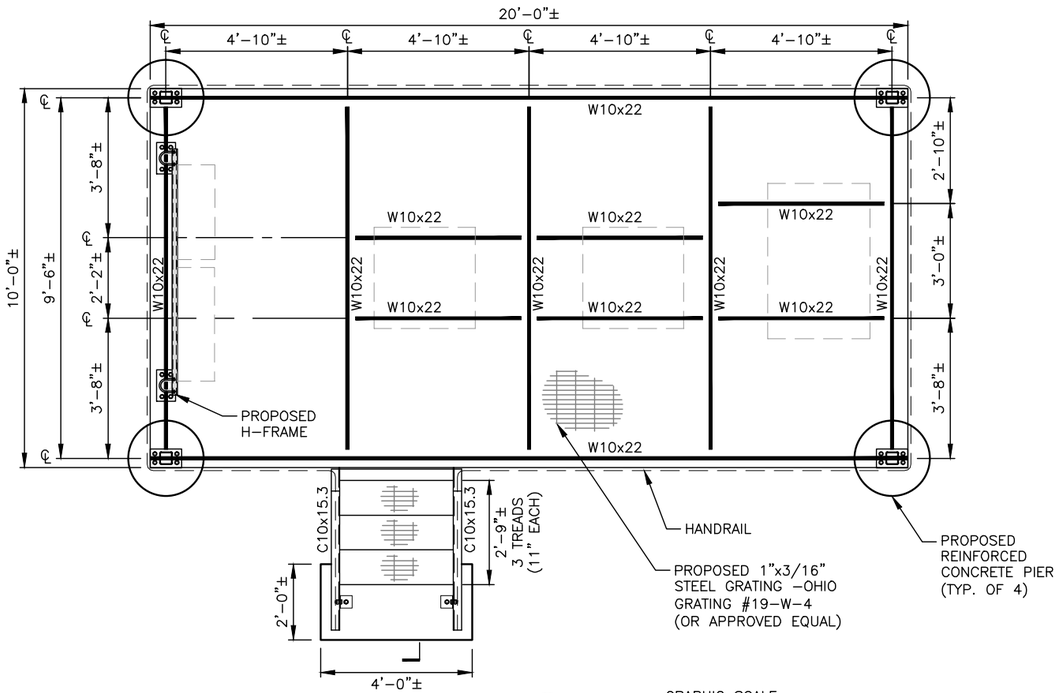
REV.	DATE	DESCRIPTION	BY
4	06/02/16	REVISED PER COMMENTS	GC
3	04/29/16	REVISED PER COMMENTS	JS
2	12/24/15	REVISED PER COMMENTS	MC
1	11/16/15	REVISED PER COMMENTS	MC
0	09/22/15	ISSUED FOR REVIEW	GC

SITE NAME:
DAYVILLE, CT

SITE ADDRESS:
520 BAILEY HILL ROAD
KILLINGLY, CT 06241

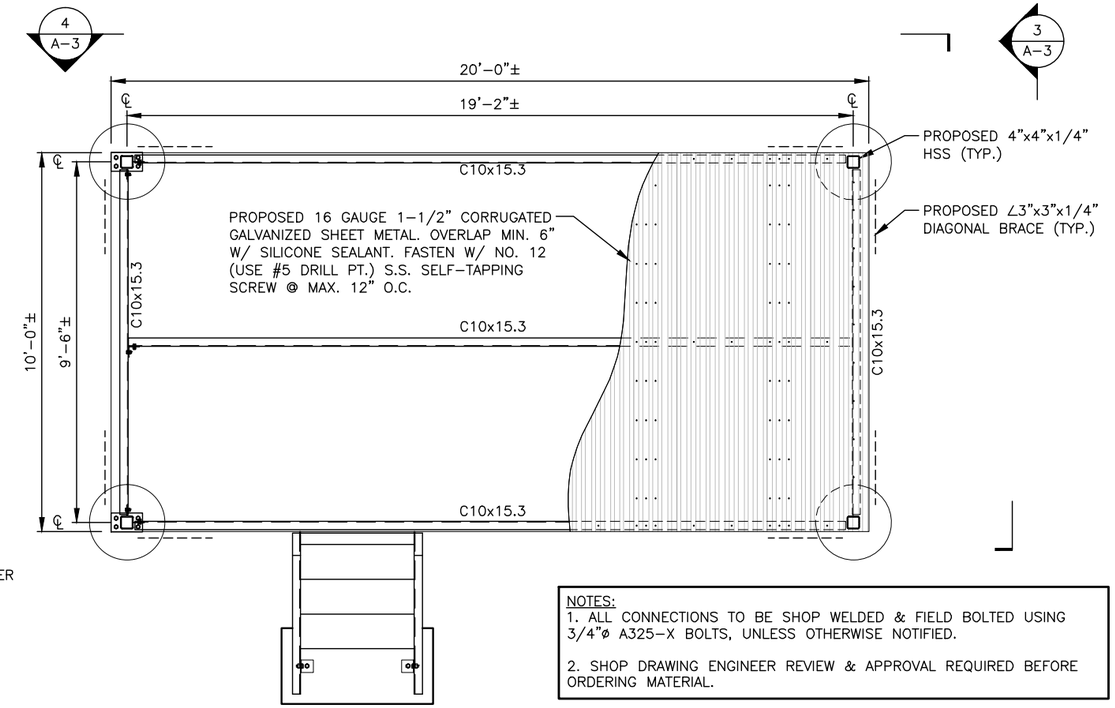
SHEET TITLE
ELEVATION

SHEET NUMBER
A-2



STEEL PLATFORM FRAME PLAN (1 / A-3)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

GRAPHIC SCALE
0 1 2 4 6 FEET

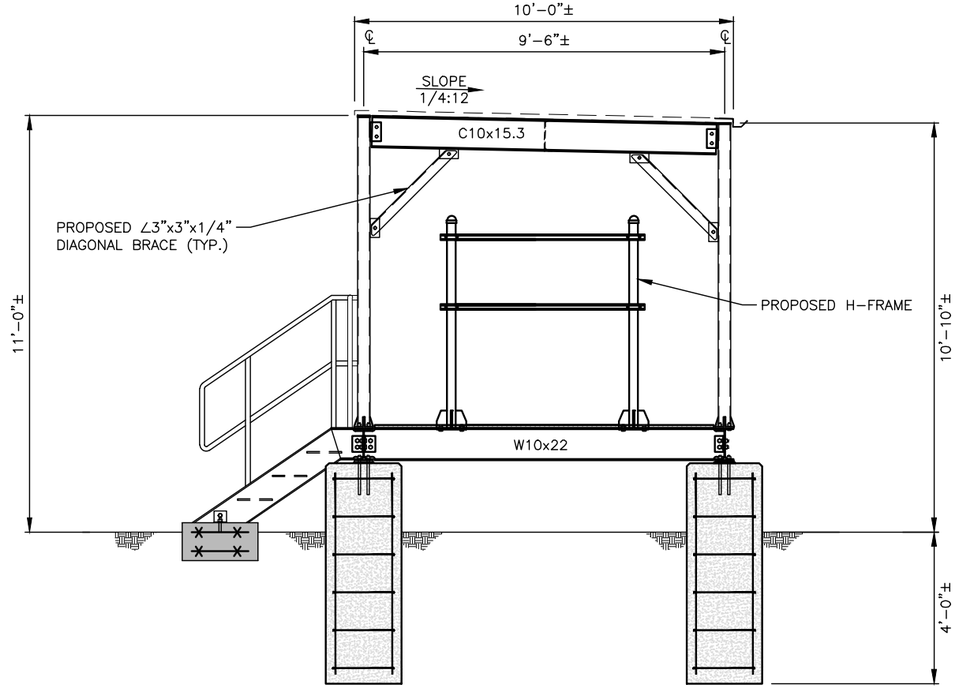


NOTES:
1. ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.

2. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.

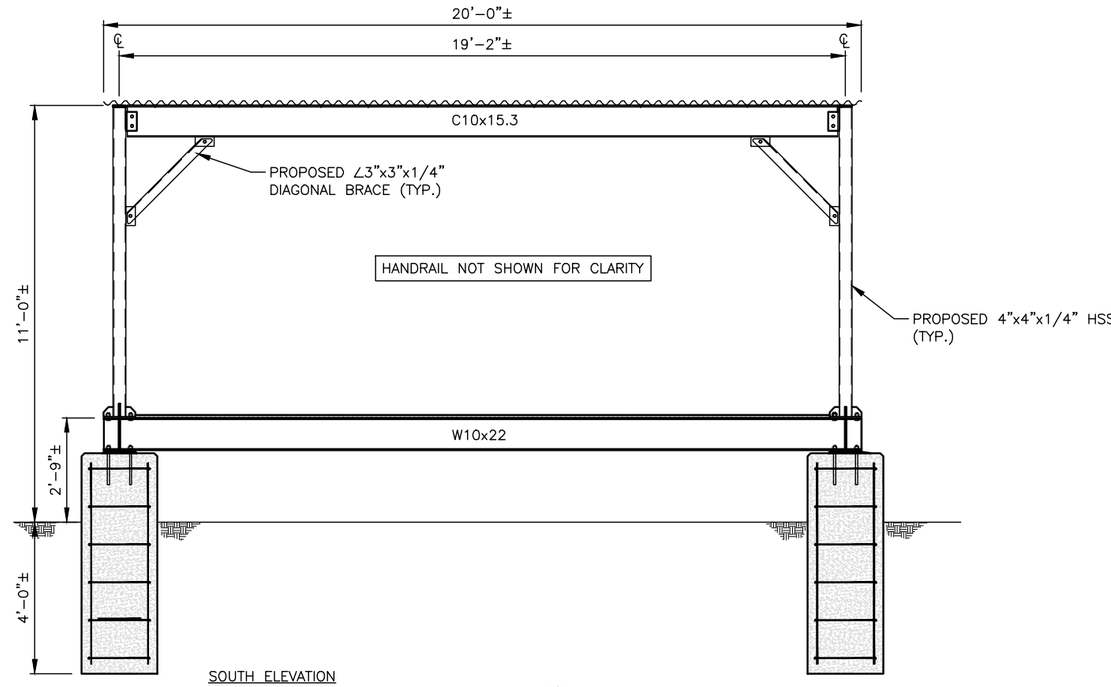
ICE CANOPY FRAME PLAN (2 / A-3)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

GRAPHIC SCALE
0 1 2 4 6 FEET



WEST ELEVATION
EQUIPMENT FRAME ELEVATION (3 / A-3)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

GRAPHIC SCALE
0 1 2 4 6 FEET



SOUTH ELEVATION
EQUIPMENT FRAME ELEVATION (4 / A-3)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

GRAPHIC SCALE
0 1 2 4 6 FEET

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.
verizon

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
4	06/02/16	REVISED PER COMMENTS	GC
3	04/29/16	REVISED PER COMMENTS	JS
2	12/24/15	REVISED PER COMMENTS	MC
1	11/16/15	REVISED PER COMMENTS	MC
0	09/22/15	ISSUED FOR REVIEW	GC

SITE NAME:
DAYVILLE, CT

SITE ADDRESS:
520 BAILEY HILL ROAD
KILLINGLY, CT 06241

SHEET TITLE
CANOPY FRAME & EQUIPMENT FRAME DETAILS

SHEET NUMBER
A-3

Attachment 3
USFWS IPaC Threatened and Endangered Species Report

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 COMMERCIAL STREET, SUITE 300
CONCORD, NH 03301
PHONE: (603)223-2541 FAX: (603)223-0104
URL: www.fws.gov/newengland

Consultation Code: 05E1NE00-2016-SLI-1355 May 03, 2016
Event Code: 05E1NE00-2016-E-01938
Project Name: Verizon Wireless Dayville CT

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: Verizon Wireless Dayville CT

Official Species List

Provided by:

New England Ecological Services Field Office
70 COMMERCIAL STREET, SUITE 300
CONCORD, NH 03301
(603) 223-2541
http://www.fws.gov/newengland

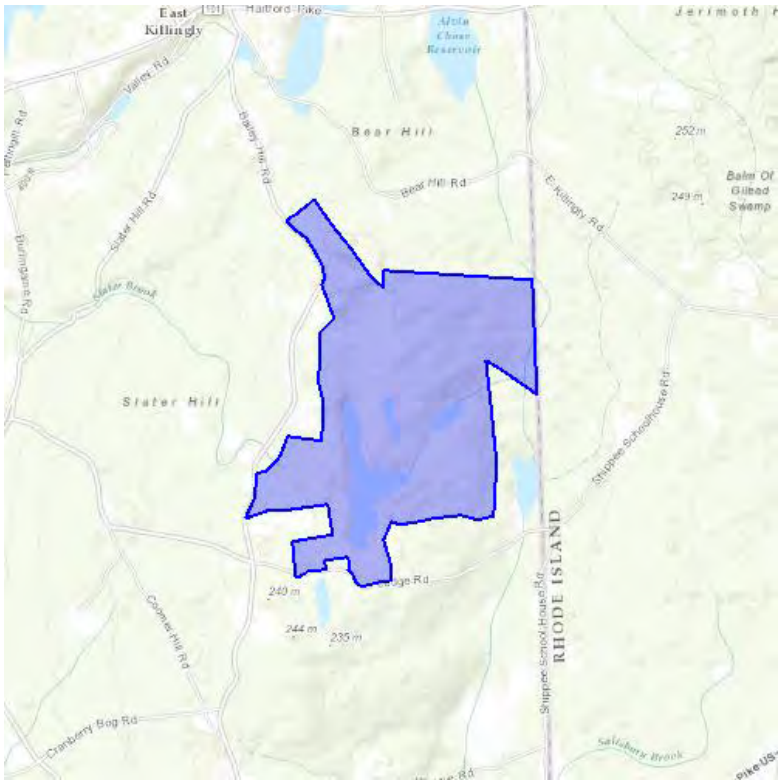
Consultation Code: 05E1NE00-2016-SLI-1355
Event Code: 05E1NE00-2016-E-01938

Project Type: COMMUNICATIONS TOWER

Project Name: Verizon Wireless Dayville CT
Project Description: The Subject Property consists of an approximately 648-acre undeveloped wooded parcel located at 520 Bailey Hill Road in Killingly, Windham County, Connecticut. The proposed Verizon Wireless Facility, consisting of a 153 foot tall monopole within a 50'x50' fenced compound area within a 100'x100' lease area and an approximately 10' x 20' wide turnaround/parking area. The proposed 20' wide access/utilities easement (Length +/- 582'), is located in the western portion of the Subject Property located on the shoulder of the proposed 12' side gravel access drive (Length +/- 92') area.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:



Project Coordinates: The coordinates are too numerous to display here.

Project Counties: Windham, CT

Endangered Species Act Species List

There are a total of 2 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Flowering Plants	**Status**	**Has Critical Habitat**	**Condition(s)**
Small Whorled pogonia *(Isotria medeoloides)*	Threatened		
Mammals			
Northern long-eared Bat *(Myotis septentrionalis)*	Threatened		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Attachment 4
CTDEEP March 14, 2016 correspondence and Northern long-eared bat areas of concern in Connecticut to assist with Federal Endangered Species Act Compliance map

Dean Gustafson

From: DEEP Nddbrequest <DEEP.Nddbrequest@ct.gov>
Sent: Monday, March 14, 2016 11:33 AM
To: Dean Gustafson
Cc: Deb Leonardo
Subject: Re: NDDB No. 201502723 - Proposed Verizon Wireless Facility, 33 Keegan Road, Plymouth - Request for NLEB Hibernaculum & Known Maternity Roost Tree Proximity Habitat Info
Attachments: image001.jpg

Hi Dean,

I can confirm that the referenced project, Proposed Verizon Wireless Facility, 33 Keegan Road, Plymouth, that we reviewed as part of NDDB 201502723 is

*NOT within 150 of a known occupied maternity roost tree; and is

*NOT within 0.25 miles and 5 miles from a known bat hibernaculum.

Just for a side note, we have published a map on our NDDB page that shows towns in CT that have known bat hibernaculum and information about maternity colonies/trees. The link is here: http://www.ct.gov/deep/lib/deep/endangered_species/images/nleb_approved2_16.pdf

Take care,

Dawn
Dawn M. McKay
Wildlife Division
Bureau of Natural Resources
Connecticut Department of Energy and Environmental Protection
79 Elm Street, Hartford, CT 06106-5127
P: 860.424.3592 | E: dawn.mckay@ct.gov<mailto:dawn.mckay@ct.gov>

_____

From: Dean Gustafson <dgustafson@allpointstech.com>
Sent: Monday, March 14, 2016 10:39 AM
To: DEEP Nddbrequest
Cc: Deb Leonardo
Subject: NDDB No. 201502723 - Proposed Verizon Wireless Facility, 33 Keegan Road, Plymouth - Request for NLEB Hibernaculum & Known Maternity Roost Tree Proximity Habitat Info

Good morning Dawn,

Verizon Wireless previously consulted with NDDB regarding the referenced facility in Plymouth.

Although no bats were identified in the NDDB letter (April 20, 2015), we respectfully request information on proximity to Northern Long-eared Bat ("NLEB") habitat (see below) as required under the USFWS consultation process per the Final 4(d) Rule for NLEB.

The 4(d) Rule Keys (for both Federal Actions and Non-Federal Activities) requires determining if a project is located in proximity to the following NLEB habitats:

* Within 150 feet of a known occupied maternity roost tree; and,

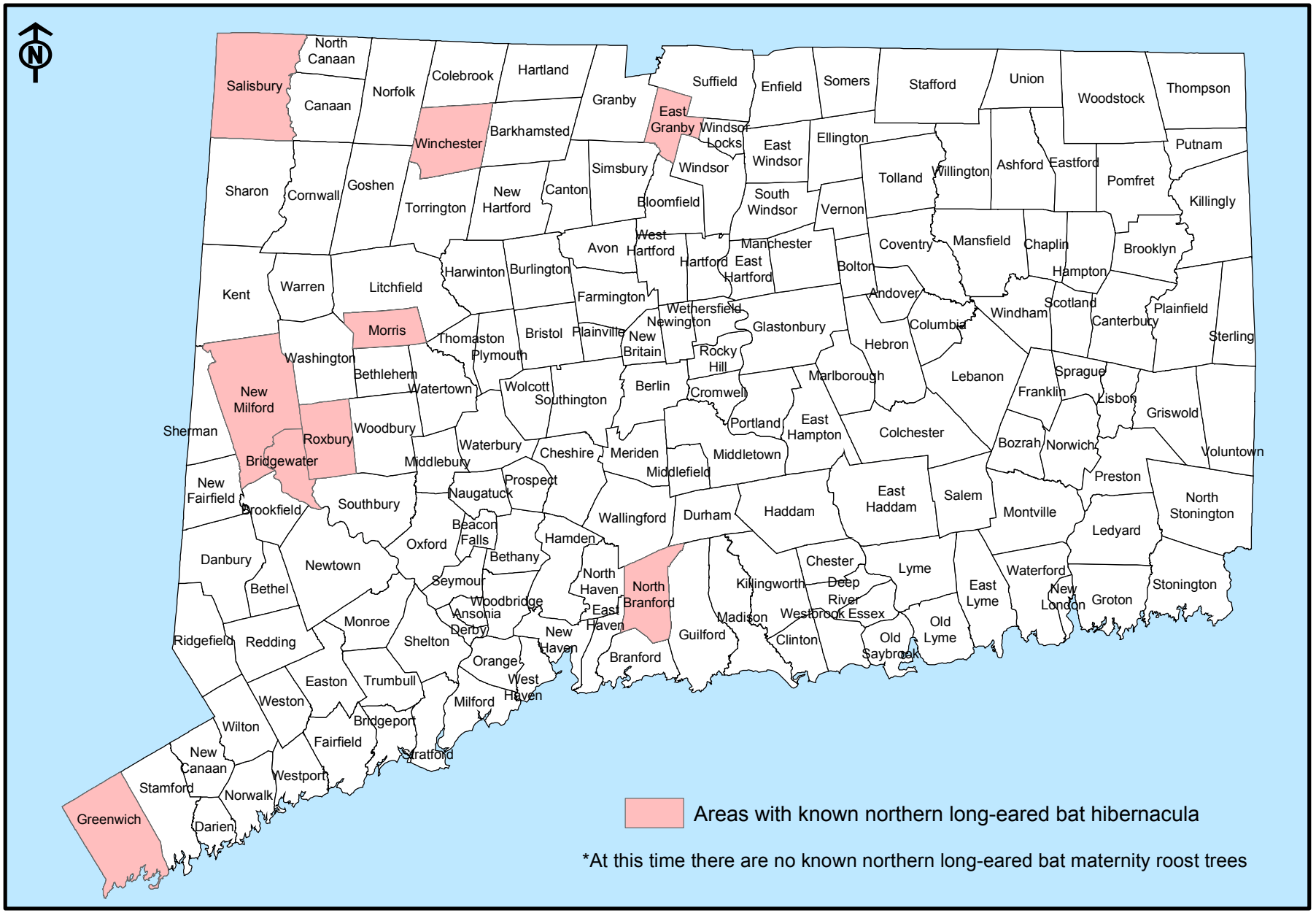
* Within 0.25 mile and 5 miles from a hibernacula.

Please feel free to contact me with any questions and thank you for your prompt consideration of this request.

Thank you,
Dean

Dean E. Gustafson
Senior Environmental Scientist
[cid:image004.jpg@01D09D27.E1152890]
3 Saddlebrook Drive
Killingworth, CT 06419
860.663.1697 ext. 201 (office)
860.984.9515 (mobile)
dgustafson@allpointstech.com<mailto:dgustafson@allpointstech.com>

Northern long-eared bat areas of concern in Connecticut to assist with Federal Endangered Species Act Compliance



February 1, 2016

For information on federal requirements visit http://www.fws.gov/midwest/endangered/mammals/nleb/

Attachment 5
Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form

Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form

Federal agencies should use this form for the optional streamlined consultation framework for the northern long-eared bat (NLEB). This framework allows federal agencies to rely upon the U.S. Fish and Wildlife Service's (USFWS) January 5, 2016, intra-Service Programmatic Biological Opinion (BO) on the final 4(d) rule for the NLEB for section 7(a)(2) compliance by: (1) notifying the USFWS that an action agency will use the streamlined framework; (2) describing the project with sufficient detail to support the required determination; and (3) enabling the USFWS to track effects and determine if reinitiating of consultation is required per 50 CFR 402.16.

This form is not necessary if an agency determines that a proposed action will have no effect to the NLEB or if the USFWS has concurred in writing with an agency's determination that a proposed action may affect, but is not likely to adversely affect the NLEB (i.e., the standard informal consultation process). Actions that may cause prohibited incidental take require separate formal consultation. Providing this information does not address section 7(a)(2) compliance for any other listed species.

Information to Determine 4(d) Rule Compliance:	**YES**	**NO**
1. Does the project occur wholly outside of the WNS Zone[1]?	☐	☒
2. Have you contacted the appropriate agency[2] to determine if your project is near known hibernacula or maternity roost trees?	☒	☐
3. Could the project disturb hibernating NLEBs in a known hibernaculum?	☐	☒
4. Could the project alter the entrance or interior environment of a known hibernaculum?	☐	☒
5. Does the project remove any trees within 0.25 miles of a known hibernaculum at any time of year?	☐	☒
6. Would the project cut or destroy known occupied maternity roost trees, or any other trees within a 150-foot radius from the maternity roost tree from June 1 through July 31.	☐	☒

You are eligible to use this form if you have answered yes to question #1 **or** yes to question #2 **and** no to questions 3, 4, 5 and 6. The remainder of the form will be used by the USFWS to track our assumptions in the BO.

Agency and Applicant[3] Cellco Partnership and its controlled affiliates doing business as Verizon Wireless, 1500 Solana Boulevard, Building 6, Suite 500, Westlake, TX 76262. Attention: Robin Haeffner, NEPA Regulatory Compliance.

Project Name: Verizon Wireless Dayville CT Facility

Project Location: 520 Bailey Hill Road, Killingly, CT (Lat: 41° 49' 56.76" Long: -71° 48' 33.23")

Basic Project Description: The Subject Property consists of an approximately 648-acre undeveloped wooded parcel located at 520 Bailey Hill Road in Killingly, Windham County, Connecticut. The proposed Verizon Wireless Facility, consisting of a 153 foot monopole (overall tower height) within a 50'x50' fenced compound area within a 100'x100' lease area and an approximately 10'x20' wide turnaround/parking area. The proposed 20' wide access/utilities easement (length = ±582'), is located in the western portion of the Subject Property located along an existing gravel drive. A proposed 12' wide gravel access drive (length = ±92') would be located on the north side of the existing gravel drive to access the proposed compound. The proposed gravel access drive and compound are located within a cleared area consisting of dry upland scrub habitat with some shrubs and small saplings (<3" DBH).

[1] http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/WNSZone.pdf
[2] See http://www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html
[3] If applicable - only needed for federal actions with applicants (e.g., for a permit, etc.) who are party to the consultation.

General Project Information	YES	NO
Does the project occur within 0.25 miles of a known hibernaculum?	☐	☒
Does the project occur within 150 feet of a known maternity roost tree?	☐	☒
Does the project include forest conversion[4]? (if yes, report acreage below)	☐	☒
Estimated total acres of forest conversion	±0.0 ac.	
If known, estimated acres[5] of forest conversion from April 1 to October 31	±0.0 ac.	
If known, estimated acres of forest conversion from June 1 to July 31[6]	±0.0 ac.	
Does the project include timber harvest? (if yes, report acreage below)	☐	☒
Estimated total acres of timber harvest		
If known, estimated acres of timber harvest from April 1 to October 31		
If known, estimated acres of timber harvest from June 1 to July 31		
Does the project include prescribed fire? (if yes, report acreage below)	☐	☒
Estimated total acres of prescribed fire		
If known, estimated acres of prescribed fire from April 1 to October 31		
If known, estimated acres of prescribed fire from June 1 to July 31		
Does the project install new wind turbines? (if yes, report capacity in MW below)	☐	☒
Estimated wind capacity (MW)		

Agency Determination:

By signing this form, the action agency determines that this project may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the final 4(d) rule.

If the USFWS does not respond within 30 days from submittal of this form, the action agency may presume that its determination is informed by the best available information and that its project responsibilities under 7(a)(2) with respect to the NLEB are fulfilled through the USFWS January 5, 2016, Programmatic BO. The action agency will update this determination annually for multi-year activities.

The action agency understands that the USFWS presumes that all activities are implemented as described herein. The action agency will promptly report any departures from the described activities to the appropriate USFWS Field Office. The action agency will provide the appropriate USFWS Field Office with the results of any surveys conducted for the NLEB. Involved parties will promptly notify the appropriate USFWS Field Office upon finding a dead, injured, or sick NLEB.

Signature: _____ Date Submitted: 6/27/16

[4] Any activity that temporarily or permanently removes suitable forested habitat, including, but not limited to, tree removal from development, energy production and transmission, mining, agriculture, etc. (see page 48 of the BO).
[5] If the project removes less than 10 trees and the acreage is unknown, report the acreage as less than 0.1 acre.
[6] If the activity includes tree clearing in June and July, also include those acreage in April to October.

Attachment 6
DEEP NDDB May 19, 2016 Letter

Connecticut Department of

ENERGY &
ENVIRONMENTAL
PROTECTION

May 19, 2016

Dean Gustafson
All-Points Technology Corporation, P.C.
30 Bogg Lane
Lebanon, CT 06249
dgustafson@allpointstech.com

Project: New Construction of a Verizon Wireless Telecommunications Dayville Facility at 520 Bailey Hill Road in Killingly
NDDB Determination No.: 201606405

Dear Dean Gustafson,

I have reviewed Natural Diversity Data Base (NDDB) maps and files regarding the area delineated on the map provided for the proposed New Construction of a Verizon Wireless Telecommunications Dayville Facility at 520 Bailey Hill Road in Killingly, Connecticut. I do not anticipate negative impacts to State-listed species (RCSA Sec. 26-306) resulting from your proposed activity at the site based upon the information contained within the NDDB. The result of this review does not preclude the possibility that listed species may be encountered on site and that additional action may be necessary to remain in compliance with certain state permits. This determination is good for one year. Please re-submit an NDDB Request for Review if the scope of work changes or if work has not begun on this project by May 19, 2017.

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 of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, 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 (860) 424-3592, or dawn.mckay@ct.gov . Thank you for consulting the Natural Diversity Data Base.

Sincerely,

Dawn M. McKay

Dawn M. McKay
Environmental Analyst 3

Connecticut Department of

ENERGY &
ENVIRONMENTAL
PROTECTION

May 19, 2016

Dean Gustafson
All-Points Technology Corporation, P.C.
30 Bogg Lane
Lebanon, CT 06249
dgustafson@allpointstech.com

Project: New Construction of a Verizon Wireless Telecommunications Dayville Facility at 520 Bailey Hill Road in Killingly
NDDB Determination No.: 201606405

Dear Dean Gustafson,

I have reviewed Natural Diversity Data Base (NDDB) maps and files regarding the area delineated on the map provided for the proposed New Construction of a Verizon Wireless Telecommunications Dayville Facility at 520 Bailey Hill Road in Killingly, Connecticut. I do not anticipate negative impacts to State-listed species (RCSA Sec. 26-306) resulting from your proposed activity at the site based upon the information contained within the NDDB. The result of this review does not preclude the possibility that listed species may be encountered on site and that additional action may be necessary to remain in compliance with certain state permits. This determination is good for one year. Please re-submit an NDDB Request for Review if the scope of work changes or if work has not begun on this project by May 19, 2017.

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 of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, 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 (860) 424-3592, or dawn.mckay@ct.gov . Thank you for consulting the Natural Diversity Data Base.

Sincerely,

Dawn M. McKay

Dawn M. McKay
Environmental Analyst 3

ALL-POINTS TECHNOLOGY CORPORATION

AVIAN RESOURCES EVALUATION

June 28, 2016

Verizon Wireless
99 East River Drive
East Hartford, Connecticut 06108

APT Project No.: CT1417690

Re: Proposed Dayville Facility
520 Bailey Hill Road
Dayville, Connecticut

Cellco Partnership d/b/a Verizon Wireless proposes to construct a new wireless telecommunications Facility at 520 Bailey Hill Road in Dayville, Connecticut (the "Host Property"). The Host Property consists of an approximately 648-acre undeveloped forested parcel. The area proposed for the Facility is located in the northwestern portion of the Host Property in an area that is currently comprised of open upland old field. Verizon Wireless proposes to install a 150-foot tall monopole tower and ground equipment enclosure within a 50-foot by 50-foot gravel compound area surrounded with an 8-foot tall chain link fence ("Facility"). A proposed 20-foot wide access and utility easement would follow an existing gravel drive off of Bailey Hill Road in order to gain access and provide electric and telco services to the proposed Facility.

The purpose of this evaluation is to document the proposed Facility's proximity to avian resource areas and its compliance with recommended guidelines of the United States Fish and Wildlife Service ("USFWS") for minimizing the potential for telecommunication towers to impact bird species.

All-Points Technology Corporation, P.C. ("APT") reviewed several publicly-available sources of avian data for the state of Connecticut to provide the following information with respect to potential impacts on migratory birds associated with the proposed development. This desktop analysis and attached graphics identify avian resources and their proximities to the Host Property. Information within an approximate 3-mile radius of the Host Property is graphically depicted on the attached Avian Resources Map. Some of the avian data referenced herein are not located in proximity to the Host Property and are therefore not visible on the referenced map due to its scale. However, in those cases the distances separating the Host Property from the resources are identified in the discussions below.

Proximity to Important Bird Areas

The National Audubon Society has identified 27 Important Bird Areas ("IBAs") in the state of Connecticut. IBAs are sites that provide essential habitat for breeding, wintering, and/or migrating birds. To achieve this designation, an IBA must support species of conservation concern, restricted-range species, species vulnerable due to concentration in one general habitat type or biome, or species vulnerable due to their

occurrence at high densities as a result of their congregatory behavior[1]. The closest IBA to the Host Property is the Bafflin Sanctuary Complex which is located approximately 6.2 miles northwest of the proposed tower in the town of Pomfret, Connecticut. Due to its distance from the site, this IBA would not experience an adverse impact resulting from the proposed development of the Facility.

Supporting Migratory Bird Data

Beyond Audubon's IBAs, the following analysis and attached graphics also identify several additional avian resources and their proximities to the Host Property. Although these data sources may not represent habitat indicative of important bird areas, they may indicate possible bird concentrations[2] or migratory pathways.

Critical Habitat

Connecticut Critical Habitats depict the classification and distribution of 25 rare and specialized wildlife habitats in the state. It represents a compilation of ecological information collected over many years by state agencies, conservation organizations and individuals. Critical habitats range in size from areas less than one acre to areas that are tens of acres in extent. The Connecticut Critical Habitats information can serve to highlight ecologically significant areas and to target areas of species diversity for land conservation and protection but may not necessarily be indicative of habitat for bird species. The nearest Critical Habitat to the proposed Facility is a palustrine forested acidic Atlantic white cedar swamp associated with Middle Reservoir located approximately 0.62 mile to the northwest. Based on the distance separating this resource from the proposed Facility, no adverse impacts are anticipated.

Avian Survey Routes and Points

Breeding Bird Survey Route

The North American Breeding Bird Survey is a cooperative effort between various agencies and volunteer groups to monitor the status and trends of North American bird populations. Routes are randomly located to sample habitats that are representative of an entire region and do not necessarily represent concentrations of avifauna or identification of critical avian habitats. Each year during the height of the avian breeding season (June for most of the United States) participants skilled in avian identification collect bird population data along roadside survey routes. Each survey route is approximately 24.5 miles long and contains 50 stops located at 0.5-mile intervals. At each stop, a three-minute count is conducted. During each count, every bird seen or heard within a 0.25-mile radius is recorded. The resulting data is used by conservation managers, scientists, and the general public to estimate population trends and relative abundances and to assess bird conservation priorities. The nearest Breeding Bird Survey Route to the Host Property is the Pulaski Route (Number 77102), located 4.2 miles to the east in Foster, Rhode Island. In addition, the Woodstock Route (Number 18005) is located 12.6 miles to the west of the Host Property in Eastford, Connecticut. Since bird

[1] http://web4.audubon.org/bird/iba/iba_intro.html

[2] "bird concentrations" is related to the USFWS *Revised Voluntary Guidelines for communication Tower Design, Siting, Construction, Operation, Retrofitting, and Decommissioning* (September 27, 2013) analysis provided at the end of this document

survey routes represent randomly selected data collection areas, they do not necessarily represent a potential restriction to development projects, including the proposed Facility.

Hawk Watch Site

The Hawk Migration Association of North America ("HMANA") is a membership-based organization committed to the conservation of raptors through the scientific study, enjoyment and appreciation of raptor migration. HMANA collects hawk count data from almost 200 affiliated raptor monitoring sites throughout the United States, Canada and Mexico, identified as "Hawk Watch Sites." In Connecticut, Hawk Watch Sites are typically situated on prominent hills and mountains that tend to concentrate migrating raptors. The nearest Hawk Watch Site, Beelzebub Street, is located in South Windsor, approximately 36.6 miles to the southwest of the proposed Facility. Based on the distance separating this possible raptor migratory route from the proposed Facility, no adverse impacts are anticipated.

Most hawks migrate during the day (diurnal) to take advantage of two theorized benefits: (1) diurnal migration allows for the use of updrafts or rising columns of air called thermals to gain lift without flapping thereby reducing energy loss; and, (2) day migrants can search for prey and forage as they migrate. Therefore, no adverse impacts to migrating hawks are anticipated with development of the Facility, based on the ±36.6-mile separation distance to the nearest Hawk Watch Site and hawk migration behavior occurring during the daytime under favorable weather conditions when thermals form.

Bald Eagle Survey Route

Bald Eagle Survey Routes consist of locations of midwinter Bald Eagle counts from 1986 to 2005 with an update provided in 2008. This survey was initiated in 1979 by the National Wildlife Federation. This database includes information on statewide, regional and national trends. Survey routes are included in the database only if they were surveyed consistently in at least four years and where at least four eagles were counted in a single year. The nearest Bald Eagle Survey Route is the Thames River Survey Route #17 located in the Town of Norwich along the Thames River approximately 25.5 miles southwest of the Host Property.

Bald eagle migration patterns are complex, dependent on age of the individual, climate (particularly during the winter) and availability of food.[3] Adult birds typically migrate alone and generally as needed when food becomes unavailable, although concentrations of migrants can occur at communal feeding and roost sites. Migration typically occurs during the middle of day (10:30–17:00) as thermals provide for opportunities to soar up with limited energetic expense; Bald Eagle migration altitudes are estimated to average 1,500–3,050 m by ground observers.[4] Four adults tracked by fixed-wing aircraft

---

[3] Buehler, David A. 2000. Bald Eagle (*Haliaeetus leucocephalus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/506 [Accessed 09/09/13].

[4] Harmata, A. R. 1984. Bald Eagles of the San Luis valley, Colorado: their winter ecology and spring migration. Ph.D. Thesis. Montana State Univ. Bozeman.

in Montana averaged 98 km/d during spring migration and migrated at 200–600 m above ground (McClelland et al. 1996).[5]

In addition, the USFWS's *National Bald Eagle Management Guidelines* (May 2007) recommends a 660 foot buffer to bald eagle nests if the activity will be visible from the nest with an additional management practice recommendation of retaining mature trees and old growth stands, particularly within 0.5 mile from water. No known bald eagle nests occur in the vicinity of the Host Property.

Therefore, no adverse impacts to migrating Bald Eagle are anticipated with development of the Facility. This conclusion is based on the short (150-foot) height of the Facility, eagle migration patterns during the daytime under favorable weather conditions when thermals form and compliance with USFWS bald eagle management guidelines.

Flyways

The Host Property is located in Windham County, approximately 36 miles north of Long Island Sound. The Connecticut coast lies within the Atlantic Flyway, one of four generally recognized regional primary migratory bird flyways (Mississippi, Central and Pacific being the others). This regional flyway is used by migratory birds travelling to and from summering and wintering grounds. The Atlantic Flyway is particularly important for many species of migratory waterfowl and shorebirds, and Connecticut's coast serves as vital stopover habitat. Migratory land birds also stop along coastal habitats before making their way inland. Smaller inland migratory flyways ("secondary flyways") are often concentrated along major riparian areas as birds use these valuable stopover habitats to rest and refuel as they make their way further inland to their preferred breeding habitats. The Connecticut Migratory Bird Stopover Habitat Project (Stokowski, 2002)[6] identified potential flyways along the Housatonic, Naugatuck, Thames, and Connecticut Rivers. This study paralleled a similar earlier study conducted by the Silvio O. Conte National Fish & Wildlife Refuge (Neotropical Migrant Bird Stopover Habitat Survey[7]), which consisted of collection of migratory bird data along the Connecticut River and the following major Connecticut River tributaries: Farmington, Hockanum, Scantic, Park, Mattabesset, Salmon, and Eight Mile Rivers. Of these potential flyways, the nearest to the Host Property is the Thames River, located approximately 25.5 miles to the southwest. The Quanduck Brook riparian corridor, located 0.77 mile east of the Host Property, is not identified as a potential flyway but potentially forms a secondary flyway as birds move northward from the Thames River drainage basin during the spring migration. These major riparian corridors may provide secondary flyways as they likely offer more food and protection than more exposed upland sites, particularly during the spring migration[8].

Siting of tower structures within flyways can be a concern, particularly for tall towers and even more particularly for tall towers with guy wires and lighting. The majority of studies on bird mortality due to

---

[5] Mcclelland, B. R., P. T. McClelland, R. E. Yates, E. L. Caton, and M. E. McFadden. 1996. Fledging and migration of juvenile Bald Eagles from Glacier National Park, Montana. J. Raptor Res. 30:79-89.

[6] Stokowski, J.T. 2002. Migratory Bird Stopover Habitat Project Finishes First Year. Connecticut Wildlife, November/December 2002. P.4.

[7] The Silvio O. Conte National Fish & Wildlife Refuge Neotropical Migrant Bird Stopover Habitat Survey http://www.science.smith.edu/stopoverbirds/index.html

[8] The Silvio O. Conte National Fish & Wildlife Refuge Neotropical Migrant Bird Stopover Habitat Survey. http://www.science.smith.edu/stopoverbirds/Chapter5_Conclusions&Recommendations.html

towers focuses on very tall towers (greater than 1000 feet), illuminated with non-flashing lights, and guyed. These types of towers, particularly if sited in major migratory pathways, do result in significant bird mortality (Manville, 2005)[9]. The proposed Facility is not this type of tower, being an unlit, unguyed monopole structure only 150 feet in height. More recent studies of short communication towers (<300 feet) reveal that they rarely kill migratory birds[10]. Studies of mean flight altitude of migrating birds reveal flight altitudes of 410 meters (1350 feet), with flight altitudes on nights with bad weather between 200 and 300 meters above ground level (656 to 984 feet)[11].

No adverse impacts to migrating bird species are anticipated with development of the Facility, based on its design (unlit and unguyed) and relatively short (150-foot) height, and the distances separating the Host Property from the potential Thames River flyway. The design and height of the proposed Facility would also mitigate the potential for migratory bird impacts should the Quanduck Brook be used as a secondary flyway.

Waterfowl Focus Areas

The Atlantic Coast Joint Venture ("ACJV") is an affiliation of federal, state, regional and local partners working together to address bird conservation planning along the Atlantic Flyway. The ACJV has identified waterfowl focus areas recognizing the most important habitats for waterfowl along the Atlantic Flyway. Connecticut contains several of these waterfowl focus areas. The nearest waterfowl focus area to the Host Property is the Lower Thames River System area, located approximately 22.5 miles to the southwest. Please refer to the attached Connecticut Waterfowl Focus Areas Map. Based on the distance of this waterfowl focus area to the Host Property, no impact to migratory waterfowl would result from development of the proposed Facility.

CTDEEP Migratory Waterfowl Data

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

The nearest migratory waterfowl area, the Poquetanuck Cove in Preston/Ledyard, is located approximately 26.7 miles to the southwest of the Host Property. The associated species are identified as American black duck, bufflehead, goldeneye, mallard, red-breasted merganser, and Canada goose. Based on the distance

---

[9] Manville, A.M. II. 2005. Bird strikes and electrocutions at power lines, communications towers, and wind turbines: state of the art and state of the science - next steps toward mitigation. Bird Conservation Implementation in the Americas: Proceedings 3rd International Partners in Flight Conference 2002. C.J. Ralph and T.D. Rich, editors. USDA Forest Service General Technical Report PSW-GTR-191. Pacific Southwest Research Station, Albany CA. pp. 1-51-1064.

[10] Kerlinger, P. 2000. Avian Mortality at Communication Towers: A Review of Recent Literature, Research, and Methodology. Prepared for U.S. Fish and Wildlife Service Office of Migratory Bird Management.

[11] Mabee, T.J., B.A. Cooper, J.H. Plissner, D.P. Young. 2006. Nocturnal bird migration over an Appalachian ridge at a proposed wind power project. Wildlife Society Bulletin 34:682-690.

of this migratory waterfowl area to the Host Property, no impact to migratory waterfowl would result from development of the proposed Facility.

CTDEEP Natural Diversity Data Base

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

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

According to a May 19, 2016 letter from the CTDEEP NDDB, no negative impacts to State-listed species (RCSA Sec. 26-306) are anticipated as a result of the proposed activity at the Host Property.

USFWS Communications Towers Compliance

In 2013, the USFWS prepared its *Revised Voluntary Guidelines for communication Tower Design, Siting, Construction, Operation, Retrofitting, and Decommissioning*[12] which recommends the 13 voluntary guidelines below. These voluntary guidelines are designed to assist tower companies in developing their communication systems in a way which minimizes the risk to migratory birds and threatened and endangered species. APT offers the following responses to each of the USFWS recommendations which are abridged from the original document.

1. *Collocation of the communications equipment on an existing communication tower or other structure (e.g., billboard, water and transmission tower, distribution pole, or building mount) is strongly recommended. Depending on tower load factors and communication needs, from 6 to 10 providers should collocate on an existing tower or structure.*

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

2. *If collocation is not feasible and a new tower or towers are to be constructed, it is strongly recommended that the new tower(s) should be not more than 199 feet above ground level ("AGL"),*

[12] Manville, A.M., Ph.D., C.W.B. Suggestions Based on Previous USFWS Recommendations to FCC Regarding WT Docket No. 03-187, FCC 06-164, Notice of Proposed Rulemaking, "Effects of Communication Towers on Migratory Birds" (2007), Docket No. 08-61, FCC's Antenna Structure Registration Program (2011), Service 2012 Wind Energy Guidelines, and Service 2013 Eagle Conservation Plan Guidance. September 27, 2013.

and that construction techniques should not require wires. Such towers should be unlighted if Federal Administration ("FAA") regulations and lighting standards permit. If lighting is required, no red-steady lights should be used. USFWS considers towers that are unlit, unguyed, monopole or lattice, and less than 200 feet AGL to be the environmentally preferred "gold standard".

The proposed Facility would consist of a 150-foot monopole structure which requires neither guy wires nor lighting and is therefore consistent with USFWS' environmentally preferred "gold standard".

3. *If constructing multiple towers, the cumulative impacts of all the towers to migratory birds – especially to Birds of Conservation Concern[13] and threatened and endangered species, as well as the impacts of each individual tower, should be considered during development of a project.*

   Multiple towers are not proposed as part of this project.

4. *The topography of the proposed tower site and surrounding habitat should be clearly noted, especially in regard to surrounding hills, mountains, mountain passes, ridge lines, rivers, lakes, wetlands, and other habitat types used by raptors, Birds of Conservation Concern, and state and federally listed species, and other birds of concern. Active raptor nests, especially those of Bald Eagles, should be noted, including known or suspected distances from proposed tower sites to nest locations.*

   The topography of the proposed tower site and surrounding habitat is provided in the attached Avian Resources Map. No Bald Eagle nests, foraging areas or roost sites are known to be located within 660 feet of the proposed tower site.[14] A Bald Eagle survey route associated with the Thames River, portions of which likely provide foraging and roosting habitat and potential nesting habitat, is located approximately 25.5 miles southwest of the Host Property.

5. *If at all possible, new towers should be sited within existing "antenna farms" (i.e., clusters of towers), in degraded areas (e.g., strip mines or other heavily industrialized areas), in commercial agricultural lands, in Superfund sites, or other areas where bird habitat is poor or marginal. Towers should not be sited in or near wetlands, or other known bird concentration areas (e.g., state or Federal refuges, staging areas, rookeries, and Important Bird Areas), in known migratory or daily movement flyways, areas of breeding concentration, in habitat of threatened or endangered species, or key habitats for Birds of Conservation Concern. Additionally, towers should not be sited in areas with a high incidence of fog, mist, and low ceilings.*

   There are no existing "antenna farms", degraded or commercial areas in the vicinity of the proposed tower site that would satisfy the RF coverage objectives. The proposed Facility is not within wetlands, known bird concentration area, migratory or daily movement flyway, and habitat of threatened/endangered species or result in fragmentation of a core forest habitat that could potentially provide habitat for Birds of Conservation Concern. According to a May 19, 2016 letter from the CTDEEP NDDB, no negative impacts to State-listed species (RCSA Sec. 26-306) are anticipated as a result of the proposed activity at the Host Property.

---

[13] U.S. Fish and Wildlife Service. 2008. Birds of Conservation Concern 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, VA. 85 pp. http://www.fws.gov/migratorybirds/>

[14] U.S. Fish and Wildlife Service. 2007. National Bald Eagle Management Guidelines. United States Department of Interior, Fish and Wildlife Service, 23 pp. http://www.fws.gov/southdakotafieldoffice/NationalBaldEagleManagementGuidelines.pdf

In Connecticut, seasonal atmospheric conditions can occasionally produce fog, mist and/or low ceilings. However, high incidences of these meteorological conditions, relative to the region, are not known to exist in the vicinity of the Host Property.

6. *If taller (>199 feet AGL) towers requiring lights for aviation safety must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA should be used. The use of solid (non-flashing) warning lights at night should be avoided to minimize bird fatalities.*

   The proposed Facility height (150 feet AGL) is less than 199 feet and would not require any aviation safety lighting.

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

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

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

   The proposed Facility is sited, designed, and would be constructed to accommodate proposed equipment and to allow for future collocations within the smallest footprint possible. The Facility would be located within an existing cleared upland area on an undeveloped generally forested property. Therefore, the proposed Facility would not result in habitat fragmentation or the creation of barriers or excessive disturbance.

9. *If, prior to tower design, siting and construction, it has been determined that a significant number of breeding, feeding, or roosting birds, especially of Birds of Conservation Concern, state or federally-listed bird species, and eagles are known to habitually use the proposed tower construction area, relocation to an alternate site is highly recommended. If this is not an option, seasonal; restrictions on construction may be advisable in order to avoid disturbance, site and nest abandonment, especially during breeding, rearing and other periods of high bird activity.*

   Significant numbers of breeding, feeding, or roosting Birds of Conservation Concern, state or federally-listed bird species, or eagles are not known to habitually use the proposed tower construction areas at the Host Property.

10. *Security lighting for on-ground facilities, equipment and infrastructure should be motion- or heat-sensitive, down-shielded, and of a minimum intensity to reduce nighttime bird attraction and eliminate constant nighttime illumination, but still allow for safe nighttime access to the site.*[15][16]

---

[15] Manville, A.M., II. 2011. Comments of the U.S. Fish and Wildlife Service's Division of Migratory Bird Management Filed Electronically on WT Docket No. 08-61 and WT Docket No. 03-187, Regarding the Environmental Effects of the Federal Communication's Antenna Structure Registration Program. January 14, 2011. 12 pp.

[16] U.S. Fish and Wildlife Service. 2012. U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines. March, 82 pp.

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

11. *Representatives from the USFWS or researchers from the Research Subcommittee of the Communication Tower Working Group ("CTWG") should be allowed access to the site to evaluate bird use; conduct dead-bird searches; place above ground net catchments below the towers; and to perform studies using radar, Global Positioning System, infrared, thermal imagery, and acoustical monitoring equipment, as necessary to assess and verify bird movements and to gain information on the impacts of various tower sizes, configurations, and lighting systems.*

    With prior written notification to and approval by Verizon Wireless, USFWS or CTWG research personnel would be allowed access to the proposed Facility to conduct evaluations.

12. *Towers no longer in use, not re-licensed by the FCC for use, or determined to be obsolete should be removed within 12 months of cessation of use.*

    If the proposed Facility was no longer in use, not re-licensed by the FCC for use, or determined to be obsolete, it would be removed within 12 months of cessation of use.

13. *In order to obtain information on the usefulness of these guidelines in preventing bird strikes and better understanding impacts from habitat fragmentation, please advise USFWS personnel of the final location and specifications of the proposed tower, and which measures recommended in these guidelines were implemented.*

    The location and specification of the proposed Facility have been provided in this report and accompanying maps. A detailed review of implemented measures recommended in the *Revised Voluntary Guidance for Communication Tower Design, Siting, Construction, Operation, Retrofitting, and Decommissioning* (September 27, 2013) are provided herein. The proposed Facility is not proximate to an Important Bird Area and would comply with the USFWS guidelines for minimizing the potential impacts to birds being an unlit, unguyed monopole structure only 150 feet in height. APT recommends that a copy of this report be submitted to USFWS if the proposed Facility is constructed. Should the final location and specification of the proposed Facility be modified as part of the siting process, this report will be updated accordingly.

Summary and Conclusions

Based on the results of this desk-top evaluation, no migratory bird species are anticipated to be impacted by Verizon Wireless's proposed development. The proposed Facility is not proximate to an Important Bird Area and would comply with the USFWS guidelines for minimizing the potential impacts to bird species.

Figures

- Avian Resources Map
- Connecticut Waterfowl Focus Areas Map

Avian Resources Map

Proposed Wireless
Telecommunications Facility
Dayville CT
520 Bailey Hill Road
Killingly, Connecticut

Legend

- Proposed Facility
- Hawk Watch Site*
- Important Bird Area
- Bald Eagle Survey Route*
- Breeding Bird Survey Route
- Natural Diversity Database (CTDEEP, 9/2015)
- Critical Habitat (CTDEEP, 07/2009)
- Migratory Waterfowl (CTDEEP, 1999)*
- Protected Open Space (CTDEEP, 2011)
- Federal Open Space (CTDEEP, 2004)*

CT DEP Property (CT DEEP, 12/2010)

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

*None within mapped extents

Avian Source Information:
Bald Eagle Sites: U.S. Geological Survey, National Biological Information Infrastr, 2008, Midwinter Bald Eagle Counts, 1986-2005 (update 2008).
Hawk Watch Sites: Hawk Migration Association of North America (HMANA), Hawk Count website: http://hawkcount.org/sitesel.php?country=USA&stateprov=Connecticut
Migratory Waterfowl: CTDEEP GIS, 1999
Important Bird Sites/Areas: National Audubon Society, Audbon Connecticut
http://ct.audubon.org/BirdSci_IBAs.html
Breeding Bird Survey Routes: Patuxent Wildlife Research Center of the U.S. Geological Survey and the Canadian Wildlife Service's National Wildlife Research Centre
http://www.nationalatlas.gov/mld/bbsrtsl.html

Base Map Source: 2012 aerial photograph (CTECO map service)

Map Date: May 2016

N W E S

0.5 0.25 0 0.5 Miles

ALL-POINTS TECHNOLOGY CORPORATION

verizon

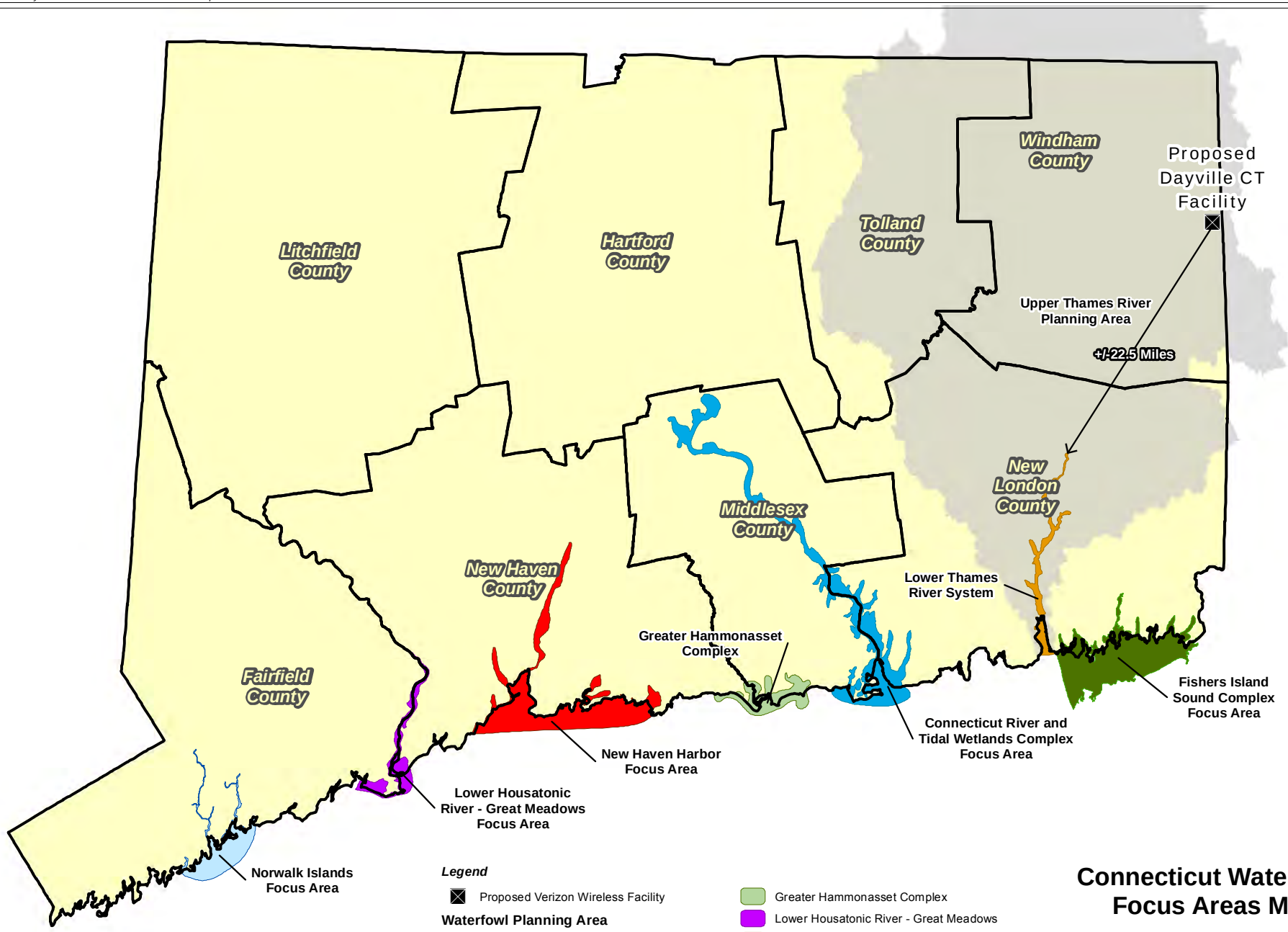
C:\GIS\Projects\Verizon\Dayville CT\mxd\Avian_Resources Shaded Relief.mxd

Proposed Dayville CT Facility
Lat: 41-49-56.76
Long: 71-48-33.23
800' AMSL

PUTNAM
KILLINGLY
GLOCESTER
POMFRET
BROOKLYN
FOSTER

Airline State Park Trail (Northern Section)
Carpenter Pond
Carpenter Brook
Wheatons Pond
Old Daniels Dam
Quaddick State Forest
Yankee Airstrip
Horse Hill 541.2' AMSL
Bear Hill 587.12' AMSL
Ballouville Pond
Chestnut Hill 731.44' AMSL
Killingly Pond State Park Scenic Reserve
Eddy Pray Reservoir Dam
Killingly Pond
Killingly Pond Dam
Bafflin Sanctuary Complex
Golden Hill 469.04' AMSL
Pomfret Rod and Gun Club
Bruce Ponds
Durkee Brook
Natchaug State Forest
Day Brook
Wappoquia Brook
Bosworth Meadows
Attawaugan Brook
Alexander Lake
Breakneck Hill 639.6' AMSL
Chase Reservoir
Alvia Chase Reservoir
Middle Reservoir
Alva Pond Hill 646.16' AMSL
Wolf Den Brook
Mashamoquet Brook State Park
Unknown
Dayville Pond
Prym Manufacturing Company Dam
Mashamoquet Brook
White Brook
Chase Reservoir Dam
Acme Pond Dam
Whetstone Brook Reservoir
Bear Hill 705.2' AMSL
Rogers Corporation Pond
Warren Brook
Mashentuck Brook
Crystal Pond Dam
Slater Brook
Mashentuck Mountain 587.12' AMSL
Slater Hill 652.72' AMSL
The Vanentine Tract
Barrett Ledge Brook
Whetstone Brook Reservoir
Cook Hill 564.16' AMSL
Davis Brook
Danielson Airport
Lions Park
Long Brook
Lake Albert
Smith Pond Dam
Davis Park
Fivemile Pond Dam
Rajak Dam
Quinebaug River Trail
Tetreault Pond
Tetreault Pond
Salisbury Brook
Gray Mare Hill 455.92' AMSL
Prince Hill 436.24' AMSL
Prince Hill Park
Fall Brook
Half Hill Brook
Old Furnace State Park
Phillips Brook
Talcott Reservoir Dike Number 2
Tanner Brook
Stony Brook
Basset Pond
Natchaug Hospital
Brooklyn Fairgrounds
Dyer Dam
Quinebaug Lake State Park Scenic Reserve
Furnace Pond
Ross Pond State Park
Norton Brook
Ross Marsh Wildlife Area
Ross Marsh Wildlife Area
Rhode Island
Connecticut

C:\GIS\Projects\Verizon\Dayville CT\mxd\Waterfowl Focus Areas Map.mxd



Legend

- Proposed Verizon Wireless Facility

Waterfowl Planning Area

- Upper Thames River

Waterfowl Focus Areas

- Connecticut River and Tidal Wetlands Complex
- Fishers Island Sound Complex
- Greater Hammonasset Complex
- Lower Housatonic River - Great Meadows
- Lower Thames River System
- New Haven Harbor
- Norwalk Islands

N W E S

10 5 0 10 Miles

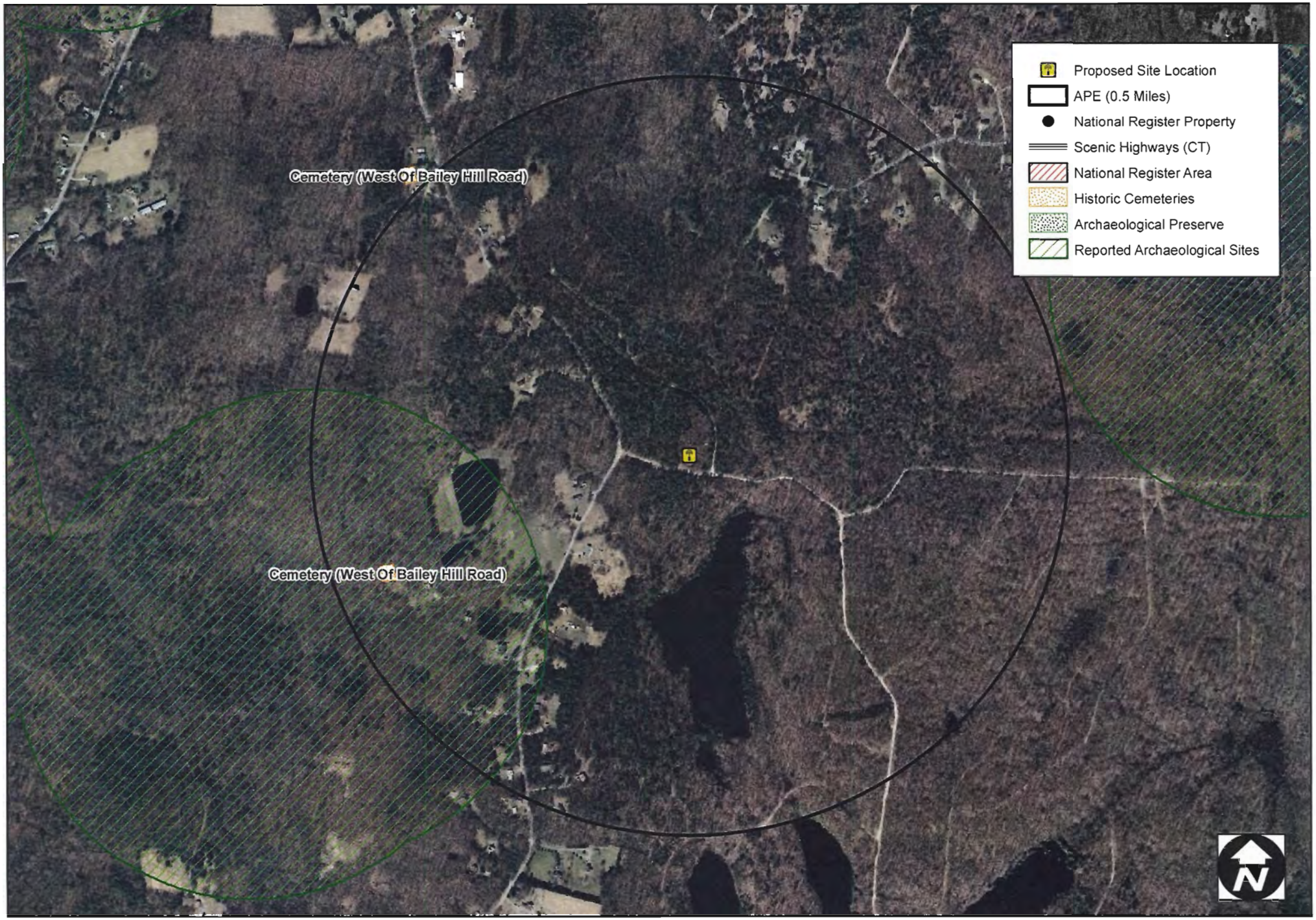
Connecticut Waterfowl Focus Areas Map

Proposed Wireless Telecommunications Facility
Dayville CT
520 Bailey Hill Road
Killingly, Connecticut

Waterfowl Data Source: Atlantic Coast Joint Venture Partnership
Map Date: May 2016

ALL POINTS TECHNOLOGY CORPORATION

verizon



Cultural Resources Screen
CT1417690 Dayville -520 Bailey Hill Rd, Killingly , CT
June 9, 2016 \ USGS QUAD: East Killingly

0 500 1,000 2,000 Feet

Prepared for All-Points Technology Corp. by Heritage Consultants, 2016.

Site Name: Dayville, CT
Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissable Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
VZW PCS	1970	1	3133	3133.15	150	0.0501	1.0	5.01%
VZW Cellular	869	9	348	3128.978	150	0.0500	0.579333333	8.63%
VZW AWS	2145	1	1750	1750	150	0.0280	1.0	2.80%
VZW 700	746	1	1050	1050	150	0.0168	0.497333333	3.37%

Total Percentage of Maximum Permissible Exposure 19.81%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz
mW/cm^2 = milliwatts per square centimeter
ERP = Effective Radiated Power

Absolute worst case maximum values used.

ALL-POINTS TECHNOLOGY CORPORATION

WETLAND INSPECTION

September 16, 2015 **APT Project No.: CT1417690**

Prepared For: Verizon Wireless
99 East River Drive
East Hartford, CT 06108
Attn: Hollis Redding

Verizon Wireless Site Name: Dayville CT

Site Address: 520 Bailey Road
Killingly, Connecticut

Date(s) of Investigation: 8/30/2015

Field Conditions: **Weather:** sunny, mid 70's
Soil Moisture: dry

Wetland/Watercourse Delineation Methodology*:

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

Municipal Upland Review Area/Buffer Zone:

Wetlands: 200 feet
Watercourses: 200 feet

The wetlands inspection was performed by†:

Dean Gustafson

Dean Gustafson, Professional Soil Scientist

Enclosures: Wetland Delineation Field Form & Wetland Inspection Map

This report is provided as a brief summary of findings from APT's wetland investigation of the referenced Study Area that consists of proposed development activities and areas generally within 200 feet.‡ If applicable, APT is available to provide a more comprehensive wetland impact analysis upon receipt of site plans depicting the proposed development activities and surveyed location of identified wetland and watercourse resources.

---

* *Wetlands and watercourses were delineated in accordance with applicable local, state and federal statutes, regulations and guidance.*

† *All established wetlands boundary lines are subject to change until officially adopted by local, state, or federal regulatory agencies.*

‡ *APT has relied upon the accuracy of information provided by Verizon Wireless and its contractors regarding proposed lease area and access road/utility easement locations for identifying wetlands and watercourses within the study area.*

Attachments

- Wetland Delineation Field Form
- Wetland Inspection Map

Wetland Delineation Field Form

Wetland I.D.:	Wetland 1	
Flag #'s:	WF 1-01 to 1-07	
Flag Location Method:	Site Sketch ☒	GPS (sub-meter) located ☒

WETLAND HYDROLOGY:

NONTIDAL ☒

Intermittently Flooded ☐	Artificially Flooded ☐	Permanently Flooded ☐
Semipermanently Flooded ☐	Seasonally Flooded ☐	Temporarily Flooded ☐
Permanently Saturated ☐	Seasonally Saturated – seepage ☐	Seasonally Saturated - perched ☒
Comments: None		

TIDAL ☐

Subtidal ☐	Regularly Flooded ☐	Irregularly Flooded ☐
Irregularly Flooded ☐		
Comments: None		

WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☐	Palustrine ☒
Lacustrine ☐	Marine ☐	
Comments: None		

CLASS:

Emergent ☐	Scrub-shrub ☒	Forested ☒
Open Water ☐	Disturbed ☐	Wet Meadow ☐
Comments: None		

WATERCOURSE TYPE:

Perennial ☐	Intermittent ☐	Tidal ☐
Watercourse Name: None		
Comments: None		

Wetland Delineation Field Form (Cont.)

SPECIAL AQUATIC HABITAT:

Vernal Pool Yes ☐ No ☒ Potential ☐	Other ☐
Vernal Pool Habitat Type: None	
Comments: None	

SOILS:

Are field identified soils consistent with NRCS mapped soils?	Yes ☒	No ☐
If no, describe field identified soils		

DOMINANT PLANTS:

Lowbush Blueberry (Vaccinium angustifolium)	Red Maple (Acer rubrum)
Yellow Birch (Betula alleghaniensis)	Greenbrier (Smilax rotundifolia)
Cinnamon Fern (Osmunda cinnamomea)	Hayscented Fern (Dennstaedtia punctilobula)

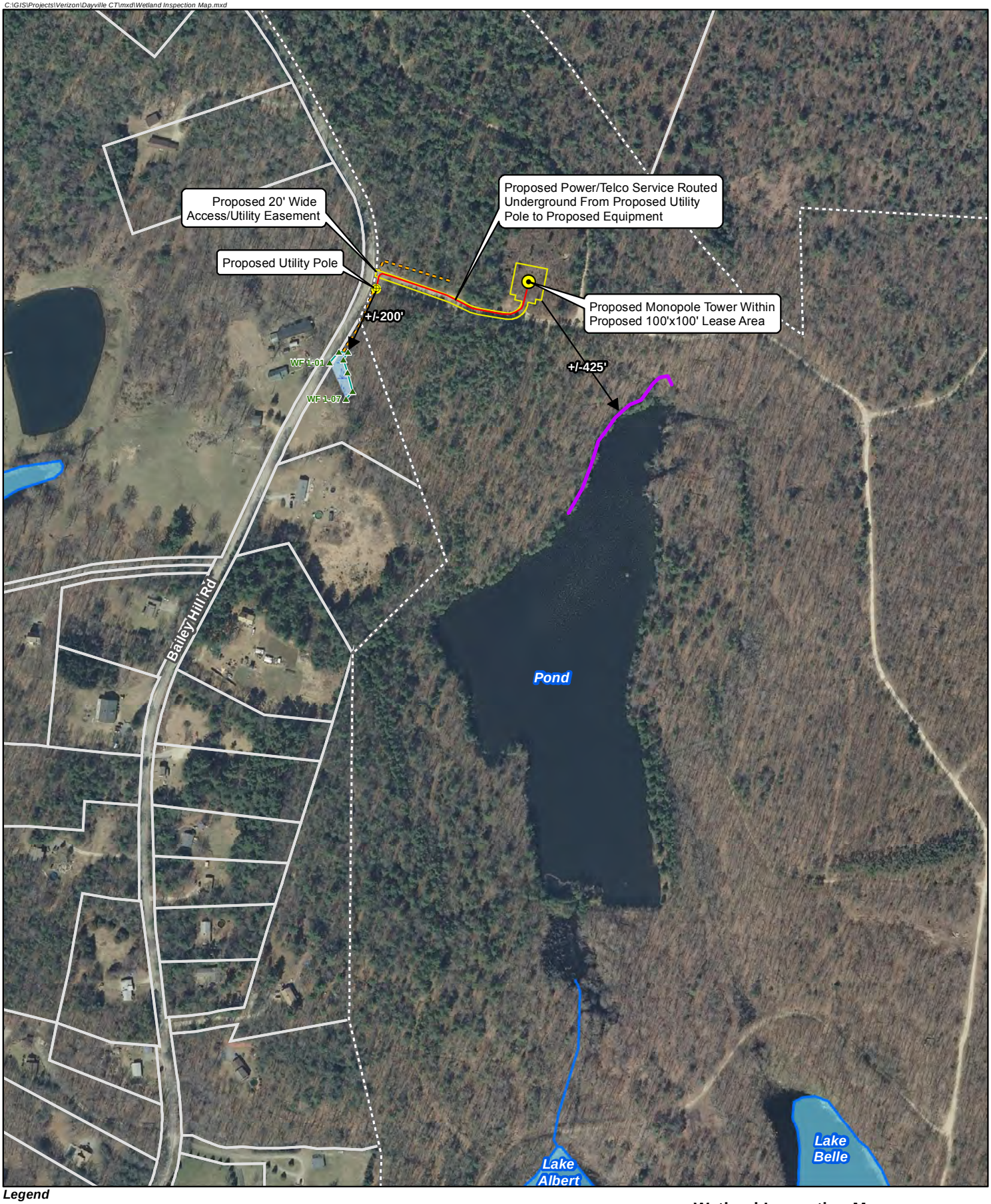
* denotes Connecticut Invasive Species Council invasive plant species

GENERAL COMMENTS:

APT understands that Verizon Wireless proposes a wireless telecommunications facility in an existing clearing within an upland forested area in the northern portion of the Subject Property. A gravel road provides access to the Subject Property off Bailey Hill Road, which will be used to access the Verizon Wireless facility area with the addition of a short proposed 12-foot wide gravel access.

The nearest wetland to the proposed Verizon Wireless development is identified as Wetland 1 located on the adjoining parcel south of the Subject Property near Bailey Hill Road. The proposed wireless telecommunications facility is located more than 500 feet northeast of Wetland 1. The closest development activities to Wetland 1 consist of a proposed utility pole ±200 feet north of Wetland 1 to provide underground utility service to the proposed Verizon Wireless facility. The nearest wetland/watercourse resource located on the Subject Property to the proposed Verizon Wireless development is a pond located ±425 feet to the southeast. Due to the distance separating the proposed development from these wetland resource areas, no likely adverse impact to wetlands or watercourses is anticipated from the proposed Verizon Wireless development.

C:\GIS\Projects\Verizon\Dayville CT\mxd\Wetland Inspection Map.mxd



Legend

- Proposed Monopole Tower
- Proposed Utility Pole
- Proposed Facility Layout
- Proposed Power/Telco Service Routed Underground
- Subject Property
- Approximate Parcel Boundary (CTDEEP GIS)
- Wetland Flag
- Wetland Boundary
- Dry Drainage Swale
- Field Confirmed Edge of Pond
- Wetland Area
- Watercourse (CTDEEP)
- Open Water (CTDEEP)

N W E S

400 200 0 400 Feet

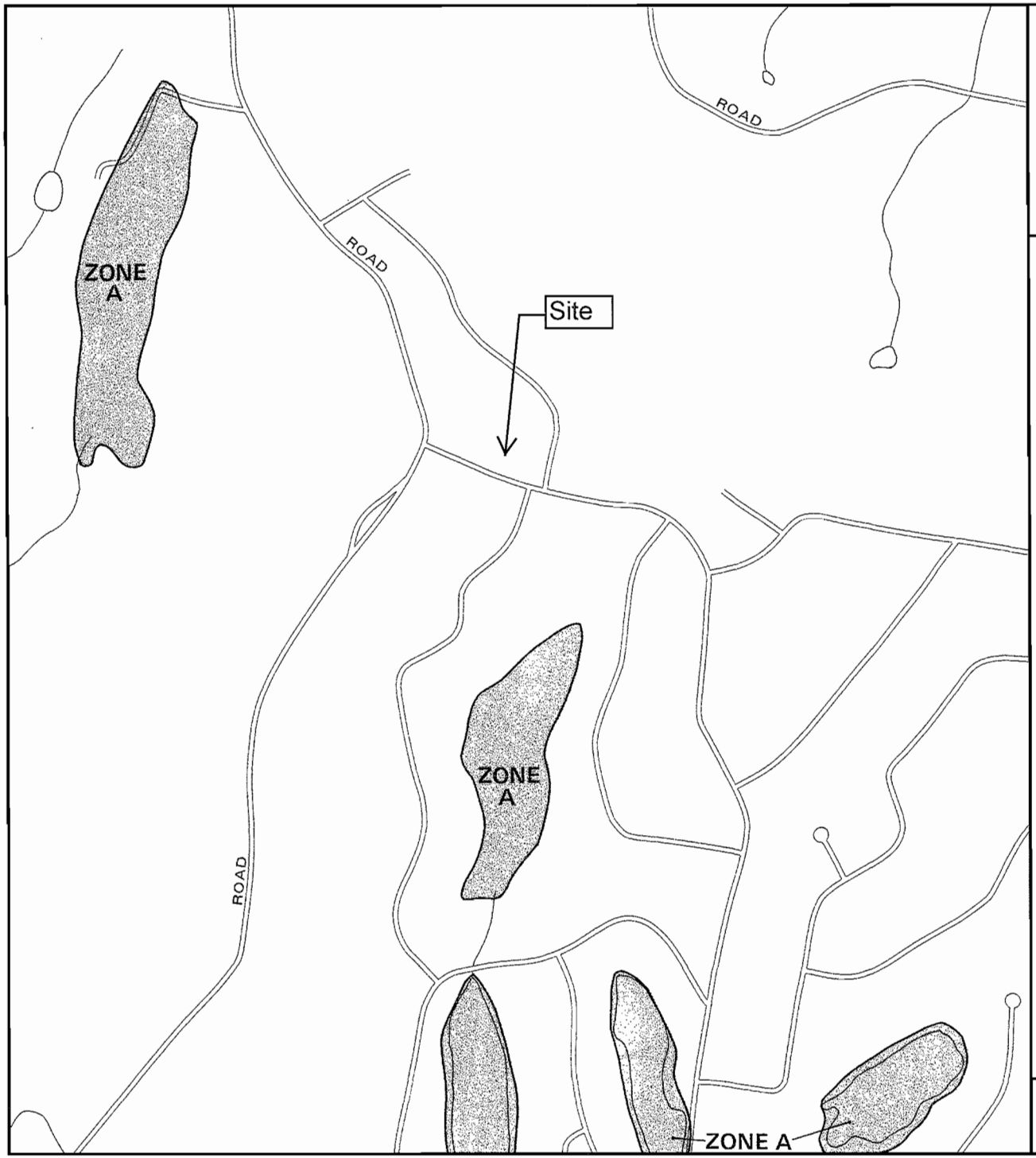
Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 400 feet
Map Date: June 2016

Wetland Inspection Map

Proposed Wireless Telecommunications Facility
Dayville CT
520 Bailey Hill Road
Killingly, Connecticut

verizon

ALL-POINTS TECHNOLOGY CORPORATION



N

APPROXIMATE SCALE

800 0 800 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
KILLINGLY,
CONNECTICUT
WINDHAM COUNTY

PANEL 20 OF 30
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
090136 0020 B

EFFECTIVE DATE:
JANUARY 3, 1985

Federal Emergency Management Agency

```
**************************************************
*            Federal Airways & Airspace          *
*         Summary Report: New Construction       *
*                Antenna Structure               *
**************************************************

Airspace User: Your Name

File: DAYVILLE_CT

Location:  Danielson, CT

Latitude:  41°-49'-56.76"          Longitude: 71°-48'-33.23"

SITE ELEVATION AMSL.....799 ft.
STRUCTURE HEIGHT.....153 ft.
OVERALL HEIGHT AMSL.....952 ft.

NOTICE CRITERIA
  FAR 77.9(a): NNR (DNE 200 ft AGL)
  FAR 77.9(b): NNR (DNE Notice Slope)
  FAR 77.9(c): NNR (Not a Traverse Way)
  FAR 77.9:    NNR FAR 77.9 IFR Straight-In Notice Criteria for LZD
  FAR 77.9:    NNR (No Expected TERPS® impact C44)
  FAR 77.9(d): NNR (Off Airport Construction)

  NR  = Notice Required
  NNR = Notice Not Required
  PNR = Possible Notice Required (depends upon actual IFR procedure)
        For new construction review Air Navigation Facilities at bottom
        of this report.

  Notice to the FAA is not required at the analyzed location and height for
  slope, height or Straight-In procedures. Please review the 'Air Navigation'
  section for notice requirements for offset IFR procedures and EMI.


OBSTRUCTION STANDARDS
  FAR 77.17(a)(1): DNE 499 ft AGL
  FAR 77.17(a)(2): DNE - Airport Surface
  FAR 77.19(a): DNE - Horizontal Surface
  FAR 77.19(b): DNE - Conical Surface
  FAR 77.19(c): DNE - Primary Surface
  FAR 77.19(d): DNE - Approach Surface
  FAR 77.19(e): DNE - Transitional Surface

VFR TRAFFIC PATTERN AIRSPACE FOR: LZD: DANIELSON
Type: A   RD: 24410.84   RE: 233.8
  FAR 77.17(a)(1):        DNE
  FAR 77.17(a)(2):        Does Not Apply.
  VFR Horizontal Surface: DNE
  VFR Conical Surface:    DNE
  VFR Approach Slope:     DNE
  VFR Transitional Slope: DNE

VFR TRAFFIC PATTERN AIRSPACE FOR: C44: TOUTANT
Type: A   RD: 79663.81   RE: 756.1
  FAR 77.17(a)(1):        DNE
  FAR 77.17(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 77.17(a)(3) Departure Surface Criteria (40:1)
The Maximum Height Permitted is 844 ft AMSL

MINIMUM OBSTACLE CLEARANCE ALTITUDE (MOCA)
FAR 77.17(a)(4) MOCA Altitude Enroute Criteria
The Maximum Height Permitted is 1500 ft AMSL

PRIVATE LANDING FACILITIES

FACIL IDENT	TYP	NAME	BEARING To FACIL	RANGE IN NM	DELTA ARP ELEVATION	FAA IFR
CT13	AIR	YANKEE AIRSTRIP	354.23	3.07	+232	

Possible Impact to Private Landing Facility
Exceeds 207 ft VFR Transitional Surface (N/A Private Airport).

CT10	HEL	FLAT ROCK FARM	181.56	5.38	+302	

No Impact to Private Landing Facility
Structure is beyond notice limit by 27689 feet.

31CT	HEL	QUIET CORNER	284.09	5.51	+684	

No Impact to Private Landing Facility
Structure is beyond notice limit by 28479 feet.

AIR NAVIGATION ELECTRONIC FACILITIES

FAC IDNT	TYPE	ST AT	FREQ	VECTOR	DIST (ft)	DELTA ELEVA	ST	LOCATION	GRND APCH ANGLE	BEAR
LZD	CO	Y	119.12	260.49	25167	+653	CT	DANIELSON	1.49	
PUT	VOR/DME	R	117.4	348.06	45818	+300	CT	PUTNAM	.38	
PVD	RADAR	Y	2735.	125.34	70443	+376	RI	THEODORE FRANCIS	.31	

No Impact. This structure does not require Notice based upon EMI.
The studied location is within 20 NM of a Radar facility.
The calculated Radar Line-Of-Sight (LOS) distance is: 67 NM.
This location and height is within the Radar Line-Of-Sight.

PVD	VORTAC	R	115.6	110.95	110787	+903	RI	PROVIDENCE	.47	
ORW	VOR/DME	I	110.0	207.24	113197	+642	CT	NORWICH	.32	
ORH	RADAR WXL	Y		354.03	161002	-51	MA	WORCESTER	-.02	
BOX	RADAR WXL	Y		75.98	188507	+720	MA	TAUNTON	.22	
GON	VOR/DME	R	110.8	199.87	194617	+943	CT	GROTON	.28	
BDL	RADAR	ON		279.53	240918	+716	CT	BRADLEY INTL	.17	

CFR Title 47, §1.30000-§1.30004
AM STUDY NOT REQUIRED: Structure is not near a FCC licensed AM station.
Movement Method Proof as specified in §73.151(c) is not required.
Please review 'AM Station Report' for details.

Nearest AM Station: WINY @ 10556 meters.

Airspace® Summary Version 16.3.410

05-13-2016
08:45:08

SITE NAME: Dayville, CT
SITE NUMBER: 20151233009
ATTY/DATE DG 6-10-15

LAND LEASE AGREEMENT

This Agreement, made this 27th day of October, 2015, between Tri Lakes, LLC, a New York limited liability company with its principal offices located at c/o MGRE Co. LLC, PO Box 28, Watertown, CT 06795, hereinafter designated LESSOR and Cellco Partnership a Delaware general partnership d/b/a Verizon Wireless, with its principal office 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".

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 520 Bailey Hill Road, Killingly, Windham County, Connecticut, 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 twenty (20) foot wide right-of-way extending from the nearest public right-of-way, Bailey Hill 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 Killingly as Map 143, Lot 6 and is further described in Deed Book 753 at Page 204 as recorded in the Town of Killingly Land Records.

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.

a. 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 for the first lease year of [redacted] to be paid in equal monthly installments on the first day of the month, in advance, to Lessor 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 for each year after the first lease year shall increase by [redacted] over the rent for each preceding year. The Agreement shall commence based upon the

date LESSEE is granted a building permit by the governmental agency charged with issuing such permits, or the date of execution of the Agreement by the Parties, whichever is later. In the event the date at which LESSEE is granted a building permit or the date of execution of the Agreement, whichever is applicable, falls between the 1st and 15th of the month, the Agreement shall commence on the 1st of that month and if such date falls between the 16th and 31st of the month, then the Agreement shall commence on the 1st day of the following month (either the "Commencement Date"). LESSOR and LESSEE acknowledge and agree that initial rental payment(s) shall not actually be sent by LESSEE until thirty (30) days after the Commencement Date. By way of illustration of the preceding sentence, if the Commencement Date is January 1, LESSEE shall send to the LESSOR the rental payments for January 1 and February 1 by February 1.

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.

b. 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), transferee(s) or other successor(s) in interest 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), transferee(s) or other successor(s) in interest 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), transferee(s) or other successor(s) in interest 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 the extension terms, the 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 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 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. Notwithstanding the indemnity in section 10, 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. LESSEE will maintain at its own cost;

   i. 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 destruction to property in any one occurrence

   ii. Commercial Auto Liability insurance on all owned, non-owned and hired automobiles with a minimum combined limit of not less than one million ($1,000,000) per occurrence

   iii. Workers Compensation insurance providing the statutory benefits and not less than one million ($1,000,000) of Employers Liability coverage.

   LESSEE will include the LESSOR as an additional insured on the Commercial General Liability and Auto Liability policies.

c. LESSOR will maintain at its own cost 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 destruction to property in any one occurrence. LESSOR will include the LESSEE as an additional insured.

d. In addition, LESSOR shall obtain and keep in force during the Term a policy or policies insuring against loss or damage to the Building with a commercially reasonable valuation, as the same shall exist from time to time without a coinsurance feature. LESSOR's policy or policies shall insure against all risks of direct physical loss or damage (except the perils of flood and earthquake unless required by a lender or included in the base premium), including coverage for any additional costs resulting from debris removal and reasonable amounts of coverage for the enforcement of any ordinance or law regulating the reconstruction or replacement of any undamaged sections of the Building required to be demolished or removed by reason of the enforcement of any building, zoning, safety or land use laws as the result of a covered loss, but not including plate glass insurance.

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. 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.

13. 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), 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.

14. 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 equal to the rent applicable during the month immediately preceding such expiration or earlier termination.

15. 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.

16. 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.

17. 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.

18. 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 or in a written acknowledgment in the case provided in Paragraph 3. 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.

19. 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.

20. ASSIGNMENT/SUBLEASING. 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 sublease any portion of the Property 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 Property, in accordance with this Agreement, commencing with the second sublease, any rental paid by any Sublessee(s) other than the first sublessee, shall be divided between the LESSOR and the LESSEE in the following manner: [redacted] to LESSOR and [redacted] 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 Property. If the LESSEE is unable to accommodate any or part of Sublessee's facilities within the Property, 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 [redacted] of the rental for that portion of the facilities that are located within the limits of the Property and LESSOR shall receive [redacted] 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 Property.

(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 Property or part thereof. The LESSEE shall have the sole right to determine whether it will Sublet any portion of the Property or whether it will sublease to any specific Sublessee.

21. 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):

LESSOR: Tri Lakes LLC
c/o Mark Greenberg
184 Fern Avenue
Litchfield, CT 06759

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.

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

23. SUBORDINATION AND NON-DISTURBANCE. 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 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.

24. 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.

25. 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.

26. 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 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.

27. 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.

28. 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 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.

29. 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.

30. 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.

31. 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 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.

32. 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.

33. 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.

LESSOR: Tri Lakes, LLC

By: Twice Willingly, Member

By: Mark Greenberg, Member

Paula K. Farrington

WITNESS TO BOTH

Date: 8/26/15

LESSEE: Cellco Partnership d/b/a Verizon Wireless

By:

David R. Heverling

Its: Area Vice President Network

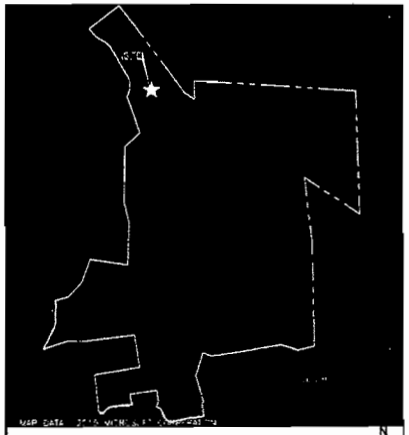
Date: 10 27 15

WITNESS

Exhibit "A"

(Sketch of Premises within Property)

LEASE EXHIBIT

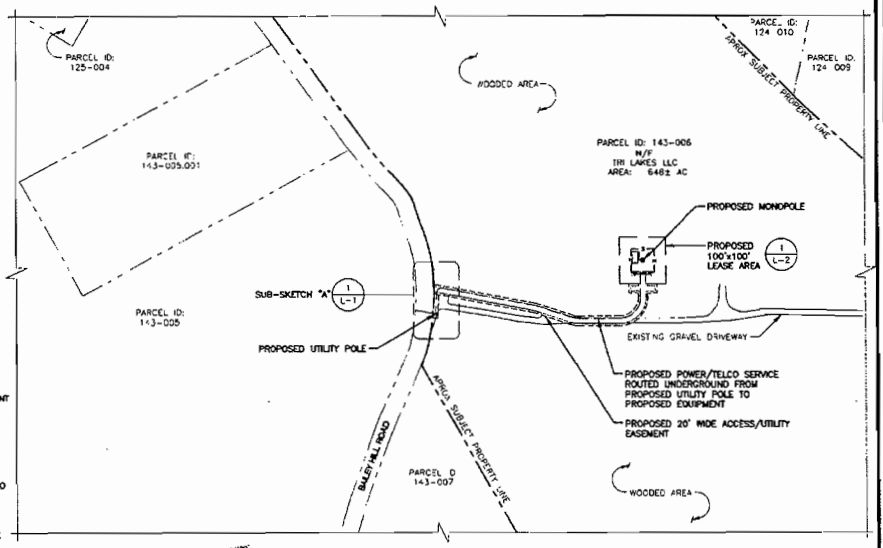


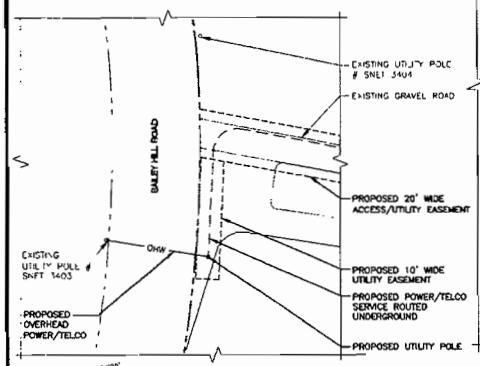
LOCUS MAP SCALE: N.T.S.

APPROXIMATE TOWER COORDINATES: LAT: N41° 49' 56.17" LONG: W71° 48' 33.52"

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 WILL BE FINALIZED UPON COMPLETION OF SITE SURVEY AND FACILITY DESIGN.





SUB SKETCH "A" 1 L-1
22x34 SCALE: 1"=20'-0"
11x17 SCALE: 1"=40'-0"
GRAPHIC SCALE 0 10 20 40 60 FEET

SITE PLAN 2 L-1
22x34 SCALE: 1"=100'-0"
11x17 SCALE: 1"=200'-0"
GRAPHIC SCALE 0 50 100 200 300 FEET

PREPARED FOR: CELLCO PARTNERSHIP D.B.A. Verizon wireless

Hudson Design Group LLC

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	08/05/15	ISSUED FOR REVIEW	DJH

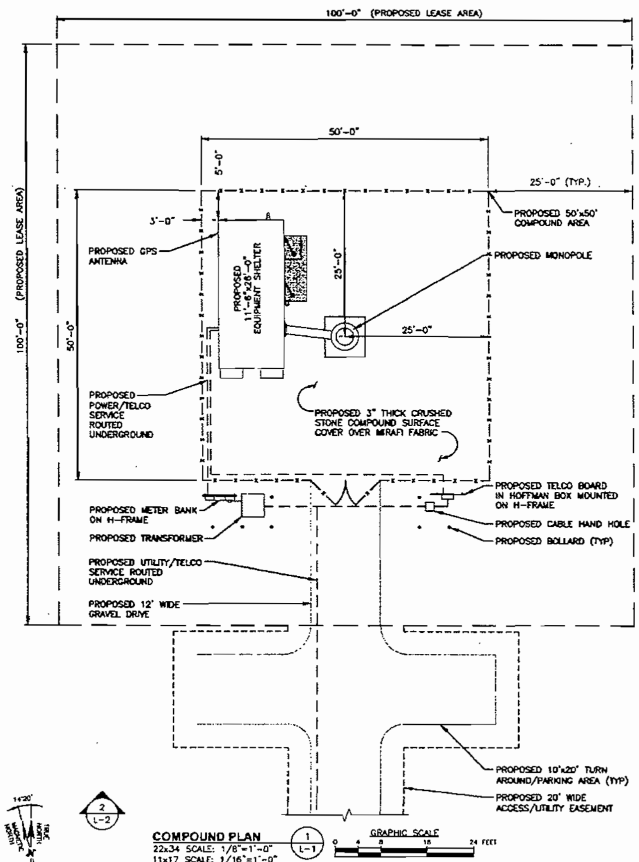
SITE NAME: DAYVILLE CT

SITE ADDRESS: 520 BAILEY HILL ROAD KILLINGLY, CT. 06241

SHEET TITLE: SITE PLAN

SHEET NUMBER: L-1

LEASE EXHIBIT



COMPOUND PLAN (1 / L-1)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

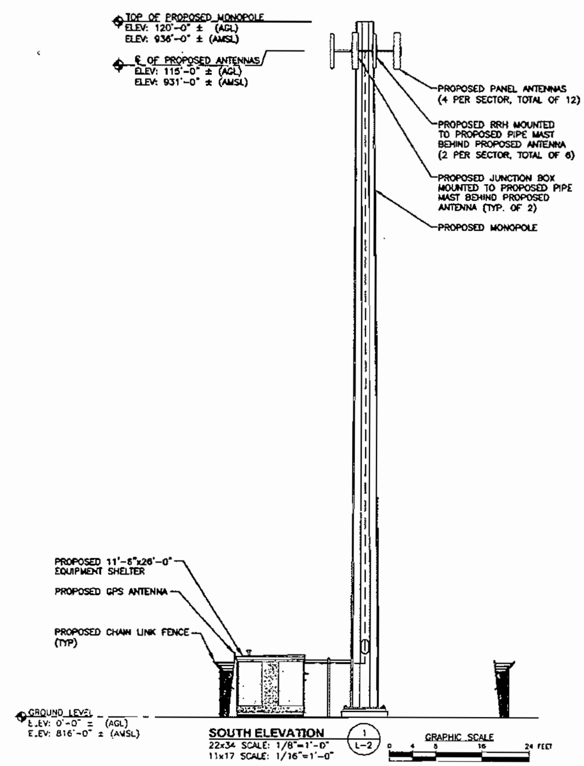
PROPOSED ANTENNA INFORMATION

SECTOR	STATUS	AZIMUTH	CABLE LENGTH
ALPHA	PROPOSED	0	152
BETA	PROPOSED	120	152
GAMMA	PROPOSED	240	152

NOTE: CABLE LENGTH = EXACT LENGTH PLUS 25'

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 WILL BE FINALIZED UPON COMPLETION OF SITE SURVEY AND FACILITY DESIGN.



SOUTH ELEVATION (1 / L-2)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.
Verizon wireless

Hudson Design Group LLC

CHECKED BY: DJR
APPROVED BY: DPH

SUBMITTALS

REV	DATE	DESCRIPTION	BY
0	08/05/15	ISSUED FOR REVIEW	SJM

SITE NAME: DAYVILLE CT

SITE ADDRESS: 520 BAILEY HILL ROAD KILLINGLY, CT. 06241

SHEET TITLE: COMPOUND PLAN AND ELEVATION

SHEET NUMBER: L-2

Dayville, CT

NOTICE OF LEASE

Pursuant to section 47-19 of the General Statutes of Connecticut (1958 Revision as amended), the undersigned hereby give notice of the following:

1. Parties to Lease Agreement ("Lease"):
   Lessor:
   Tri Lakes, LLC
   c/o Mark Greenberg
   184 Fern Avenue
   Litchfield, CT 06759

   Lessee:
   Cellco Partnership
   d/b/a Verizon Wireless
   180 Washington Valley Road
   Bedminster, NJ 07921

2. Date of Execution of said Lease:
   As of October 27, 2015

3. Description of Premises, in the form contained in said Lease:
   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 520 Bailey Hill Road, Killingly, Windham County, Connecticut, 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 twenty (20) foot wide right of way extending from the nearest public right of way, Bailey Hill 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 Killingly as Map 143, Lot 6 and is further described in Deed Book 753 at Page 204 as recorded in the Town of Killingly Land Records.

4. Term of Lease:
   The Lease shall be for an initial term of five (5) years.

5. Rights of Extension or Renewal:
This Agreement shall automatically be extended for four (4) additional five (5) year terms unless the Lessee terminates it at the end of the then current term by giving the Lessor written notice of the intent to terminate at least six (6) months prior to the end of the then current term.

This Notice of Lease has been executed pursuant to the Lease for recording purposes only, does not purport to include all the provisions of the Lease, and is not intended nor deemed to amend, supplement or vary the terms and provisions of the Lease. In the event of any conflict between the provisions of this Notice of Lease and the provisions of the Lease, the provisions of the Lease shall control.

IN WITNESS WHEREOF, Lessor and Lessee have executed this Notice of Lease under seal as of the ~~26th~~ day of ~~August,~~ 2015.
27th October

LESSOR: Tri Lakes, LLC

By: Twice Willingly, Member

By: Mark Greenberg, Member

Date: 8/26/15

WITNESS TO BOTH

Paula K. Farrington

LESSEE: Cellco Partnership d/b/a Verizon Wireless

By:
David R. Heverling
Its: Area Vice President Network

Date: 10 27 15

WITNESS

STATE OF CONNECTICUT

COUNTY OF Litchfield , SS

On this 26th day of August , 2015, before me came the above named Twice Willingly, Member, to me known, whom being duly sworn, did acknowledge the foregoing instrument to be his free act and deed for its intended purpose, on behalf of Tri Lakes, LLC.

Paula K. Farrington

Notary Public
My Commission Expires:

PAULA K. FARRINGTON
NOTARY PUBLIC
MY COMMISSION EXPIRES AUG. 31, 2018

STATE OF CONNECTICUT

COUNTY OF Litchfield , SS

On this 26th day of August , 2015, before me came the above named Mark Greenberg, Member, to me known, whom being duly sworn, did acknowledge the foregoing instrument to be his free act and deed for its intended purpose, on behalf of Tri Lakes, LLC.

Paula K. Farrington

Notary Public
My Commission Expires:

PAULA K. FARRINGTON
NOTARY PUBLIC
MY COMMISSION EXPIRES AUG. 31, 2018

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF Worcester

On this 21st day of OCT. 2015, before me came the above named David R. Heverling, Area Vice President Network, of Cellco Partnership d/b/a Verizon Wireless, to me known, whom being duly sworn, did acknowledge that the foregoing instrument to be his free act and deed and the free act and deed of Cellco Partnership.

DIANE GAZZOLA
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
November 04, 2016

Diane Gazzola

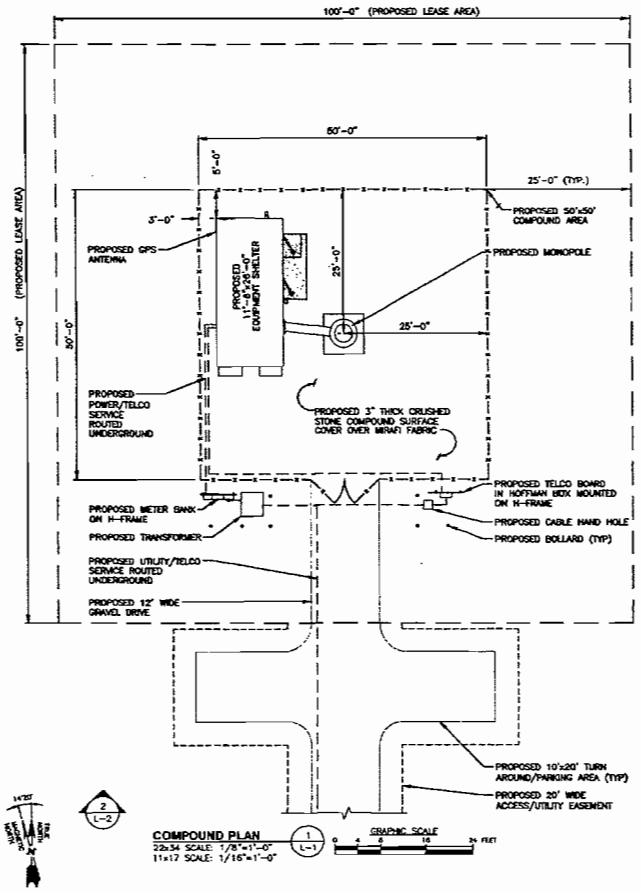
Notary Public
My Commission Expires:

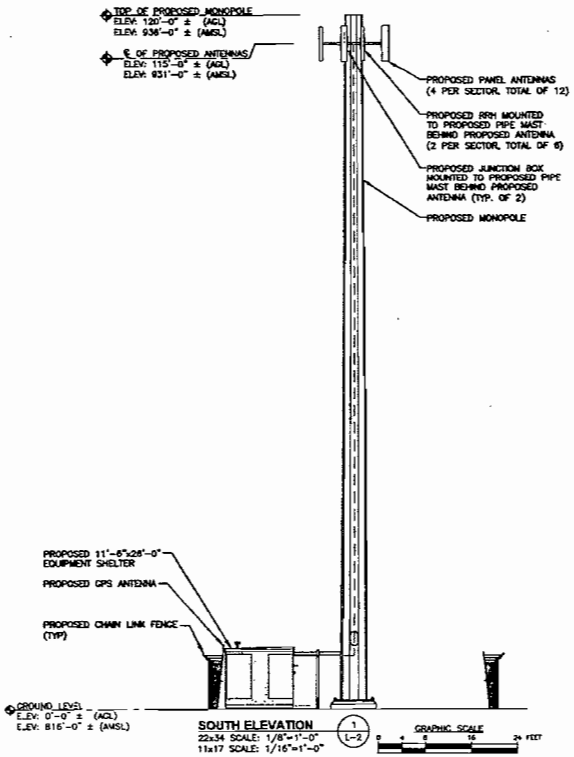
PROPOSED ANTENNA INFORMATION			
SECTOR	STATUS	AZIMUTH	CABLE LENGTH
ALPHA	PROPOSED	0	152
BETA	PROPOSED	120	152
GAMMA	PROPOSED	240	152

NOTE: CABLE LENGTH = EXACT LENGTH PLUS 25'

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 WILL BE FINALIZED UPON COMPLETION OF SITE SURVEY AND FACILITY DESIGN.





PREPARED FOR: CELLCO PARTNERSHIP D/B/A
Verizon wireless

Hudson Design Group LLC

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

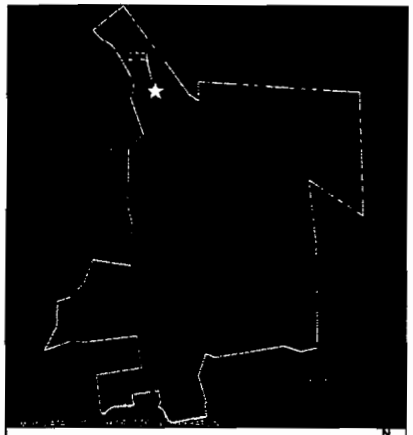
REV	DATE	DESCRIPTION	BY
0	04/03/15	ISSUED FOR REVIEW	DJH

SITE NAME:
DAYVILLE CT

SITE ADDRESS:
520 BAILEY HILL ROAD
KILLINGLY, CT. 06241

SHEET TITLE
COMPOUND PLAN AND ELEVATION

SHEET NUMBER
L-2



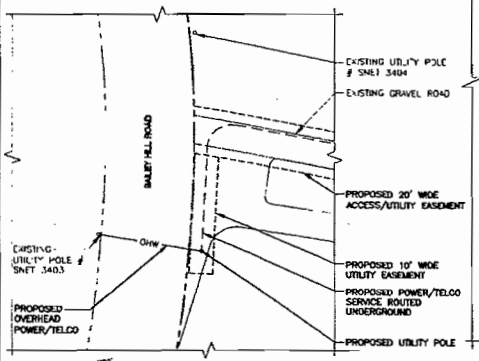
LOCUS MAP SCALE: N.T.S.

APPROXIMATE TOWER COORDINATES: LAT: N41° 49' 56.17" LONG: W71° 48' 33.52"

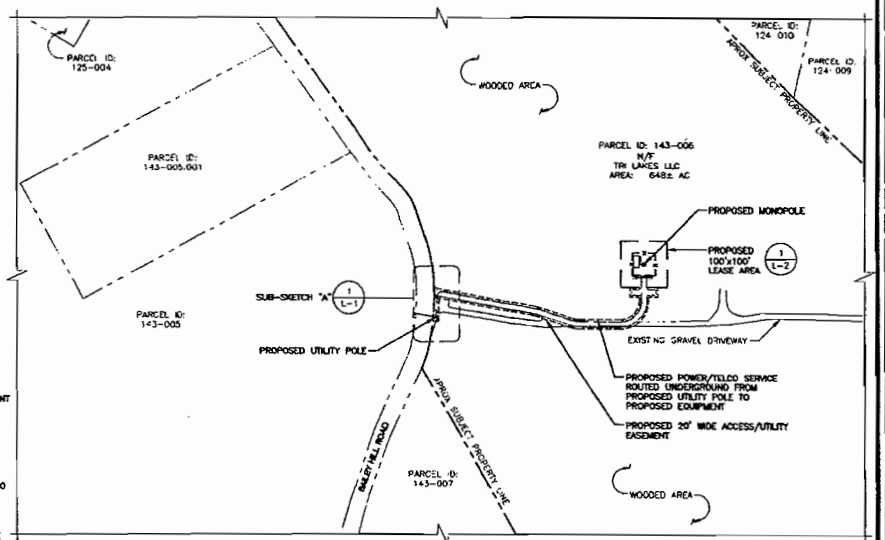
LEASE EXHIBIT

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 WILL BE FINALIZED UPON COMPLETION OF SITE SURVEY AND FACILITY DESIGN.

LEASE EXHIBIT



SUB SKETCH "A" (1/L-1)
22x34 SCALE: 1"=20'-0"
11x17 SCALE: 1"=40'-0"
GRAPHIC SCALE 0 10 20 40 80 FEET



SITE PLAN (2/L-1)
22x34 SCALE: 1"=100'-0"
11x17 SCALE: 1"=200'-0"
GRAPHIC SCALE 0 50 100 200 300 FEET

PREPARED FOR: CELLCO PARTNERSHIP D/B/A verizonwireless

Hudson Design Group LLC

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	08/05/15	ISSUED FOR REVIEW	BAR

SITE NAME: DAYVILLE CT

SITE ADDRESS: 520 BAILEY HILL ROAD KILLINGLY, CT. 06241

SHEET TITLE: SITE PLAN

SHEET NUMBER: L-1