CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS

# Connecticut Siting Council

APPLICATION OF CELLCO PARTNERSHIP
D/B/A VERIZON WIRELESS

BURLINGTON SOUTH FACILITY

DOCKET NO. _____

AUGUST 17, 2012

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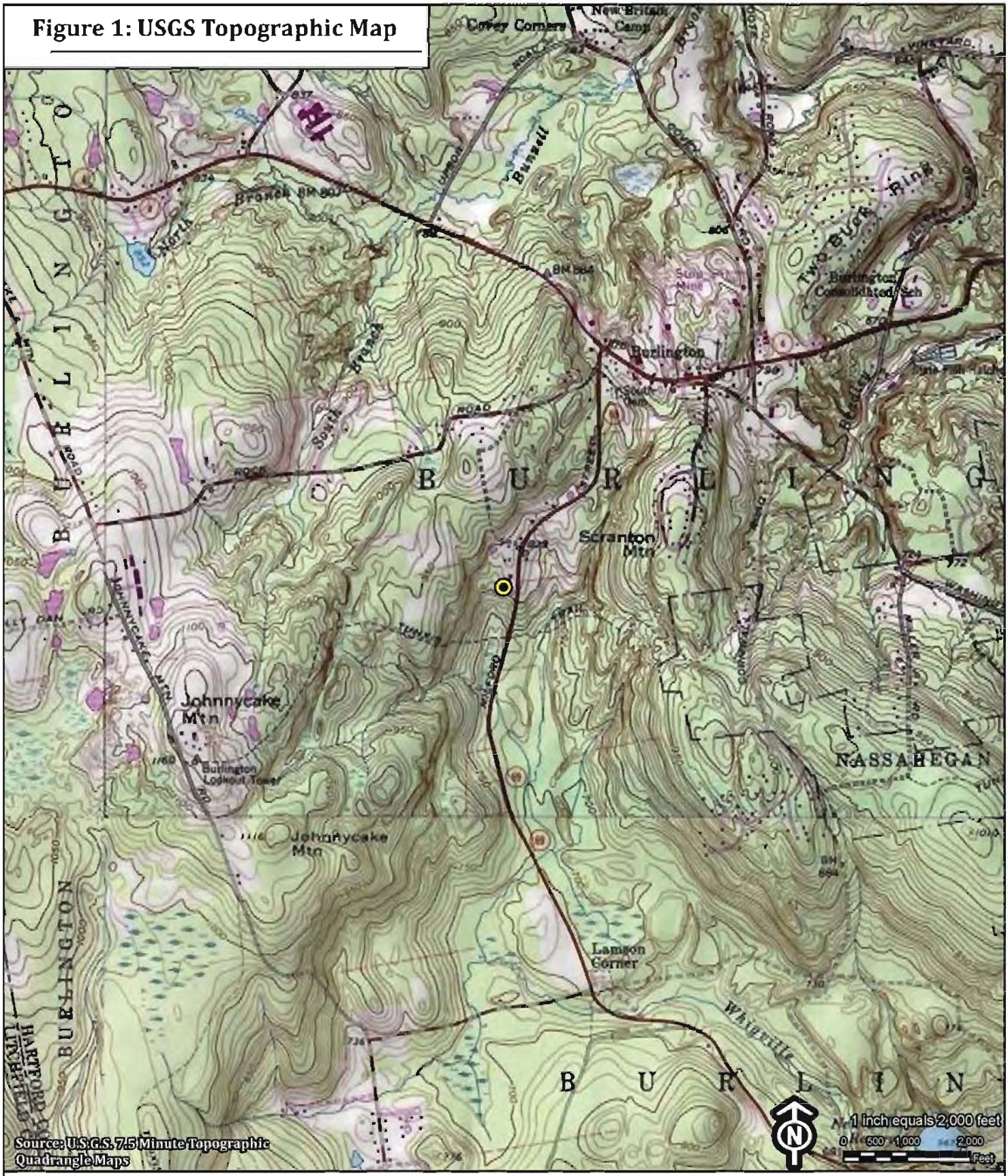
# EXECUTIVE SUMMARY

Cellco Partnership d/b/a Verizon Wireless ("Cellco" or "Applicant"), proposes to construct a telecommunications tower and related facility in the southerly portion of an approximately nine (9) acre parcel at 77 Milford Street (State Route 69) in the Town of Burlington (the "Property"). Cellco has identified this cell site as its "Burlington South Facility". The Burlington South Facility will provide reliable wireless service to Cellco customers along significant portions of State Route 69 and local roads in the area, as well as residential and industrial land uses and open space and recreational parcels in central and southern portions of Burlington.

At the Burlington South Facility, Cellco proposes to construct a 110-foot tall monopole telecommunications tower. Cellco will install fifteen (15) panel-type antennas at the top of the tower and a 12' x 30' shelter on the ground near the base of the tower. The shelter will house Cellco's radio equipment and a propane-fueled back-up generator. The tower, equipment shelter and 1,000 gallon propane tank will be maintained inside a fenced facility compound in the southern-most portion of the Property. Vehicular access to the Burlington South Facility would extend from Milford Street, over a partially developed gravel driveway, a total distance of approximately 675 feet to the cell site. Utilities will extend from existing service along Milford Street approximately 180 feet to the east of the cell site.

## Figure 1: USGS Topographic Map




**Proposed Verizon Wireless Telecommunications**
**Burlington South Facility**
**77 Milford Street**
**Burlington, Connecticut**

Legend
Proposed Tower Location

verizon wireless

ALL-POINTS TECHNOLOGY CORPORATION

**Friday, July 27, 2012**

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## Figure 2: Aerial Map


**Proposed Verizon Wireless Telecommunications**
**Burlington South Facility**
**77 Milford Street**
**Burlington, Connecticut**

Legend
Proposed Tower Location

**Friday, July 27, 2012**

verizon wireless
ALL-POINTS TECHNOLOGY CORPORATION

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STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

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| **IN RE:** | : | |
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| **APPLICATION OF CELLCO 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 77 MILFORD STREET, BURLINGTON , CONNECTICUT** | : | **DOCKET NO. ____** |
| | : | **AUGUST 17, 2012** |

## 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 "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 77 Milford Street in the Town of Burlington, Connecticut (the "Burlington South Facility"). The proposed Burlington South Facility would provide reliable wireless telecommunications service to Cellco customers traveling along southerly portions of Route 69 and local roads in the area, as

well as residential and industrial land uses and open space and recreational parcels in central and southerly portions of Burlington.

Cellco currently maintains three (3) wireless facilities within approximately four (4) miles of the proposed Burlington South Facility. These facilities, identified as Cellco's Burlington, Burlington West and Bristol North cell sites, cannot provide reliable service to Cellco's existing gaps in the along Route 69 and local roads in the southerly portion of Burlington.

Cellco's existing Burlington cell site consists of antennas at the 160-foot level of a 180-foot tower at the Burlington Fire Department, 719 George Washington Parkway in Burlington, approximately one mile northeast of the proposed Burlington South Facility. Cellco's existing Burlington West cell site consists of antennas at the 100-foot level of a 120-foot tower at 12 Nepaug Road, Burlington, approximately 1.6 miles northwest of the proposed Burlington South Facility. Cellco's existing Bristol North cell site[1] consists of antennas at the 100-foot level on an existing 106-foot water tank at 80 Princeton Drive in Bristol, approximately 3.3 miles south of the Burlington South Facility.

The proposed Burlington South Facility would be located in the southerly portion of an approximately 9-acre parcel at 77 Milford Street (the "Property"). The Property is zoned "Industrial" and is used as an active lumber yard and saw mill. At this site, Cellco proposes to construct a 110-foot self-supporting monopole telecommunications tower. Cellco would install a total of fifteen (15) panel-type antennas (six (6) cellular (850 MHz) antennas; six (6) PCS (1900 MHz) antennas and three (3) LTE (700 MHz) antennas) at the top of the tower at a centerline height of 110-feet above ground level ("AGL"). The top of Cellco's antennas would extend to an

[1] Cellco has completed construction of its Bristol North facility and anticipates activating the cell site in August, 2012.

overall height of approximately 113 AGL. Equipment associated with Cellco's antennas and a propane fueled back-up generator would be located inside a 12' x 30' shelter installed near the base of the tower. The tower, equipment shelter and a 1,000 gallon propane tank will be located within a fenced facility compound. Vehicular access to the cell site would extend from Milford Street over a gravel access driveway, a distance of approximately 675 feet. Utilities will extend underground from existing service along Milford Street approximately 180 feet to the east.

The proposed Burlington South Facility will provide reliable wireless service to a 3.12 mile portion of Route 69 and an overall area of 4.01 square miles at 850 MHz frequencies; a 2.46 mile portion of Route 69, and an overall area of 1.19 square miles at 1900 MHz frequencies; and a 3.13 mile portion of Route 69, and an overall area of 3.76 square miles at 700 MHz frequencies.

The tower and facility compound would be designed to accommodate additional carriers as well as state or local emergency services antennas and equipment. As of the date of this filing no State or local emergency service providers, or any other commercial wireless service providers have committed to share the proposed facility.

Cellco's equipment shelter would house radio and related equipment, including (a) receiving, transmitting, switching, processing and performance monitoring equipment; and (b) automatic heating and cooling equipment. A propane-fuel back-up generator would also be installed in a segregated generator room within the shelter for use during power outages and periodically for maintenance purposes. A 1,000 gallon propane tank would be located within the fenced compound adjacent to the shelter.

The tower, equipment shelter and propane tank would be enclosed by an 8-foot high security fence and gate. Cellco's equipment building would be equipped with a silent intrusion and systems alarm and will be monitored on a 24-hour basis to receive and to respond to incoming alarms or other technical problems. The equipment building 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.

Included in this Application, as Attachment 1, is a factual summary and project plans for the proposed Burlington South 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:

Sandy Carter, Regulatory Manager
Verizon Wireless
99 East River Drive
East Hartford, Connecticut 06108

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 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 August 14 and 15, 2012, by Cellco in the *Hartford Courant* pursuant to C.G.S. Section 16-50*l*(b). A copy of the published legal notice is included as Attachment 3. An Affidavit of Publication will be submitted as soon as it is available.

Attachment 4 contains a certification that notices were sent to each person appearing of record as an owner of property that may be considered to abut the land on which the facility would be located 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.

## III. REQUIRED INFORMATION: PROPOSED WIRELESS FACILITY

The purpose of this section is to provide an overview and general description of the facility proposed to be installed in Burlington.

### A. General Information

Prior to the 1980's, mobile telephone service was characterized by insufficient frequency availability, inefficient use of available frequencies and poor quality of service. These limitations generally resulted in problems of congestion, blocking of transmissions, interference, lack of coverage and relatively high cost. Consequently, the FCC, in its Report and Order released May 4, 1981 in FCC Docket No. 79-318, recognized the public need for technical improvement, wide-area coverage, high quality service and a degree of competition in mobile telephone service.

More recently, the federal Telecommunications Act of 1996 (the "Act") emphasized and expanded on these aspects of the FCC's 1981 decision. Among other things, the Act recognized an important nationwide public need for high-quality wireless telecommunication services of all varieties. The Act also expressly promotes competition and seeks to reduce regulation in all aspects of the telecommunications industry in order to foster lower prices for consumers and to encourage the rapid deployment of new telecommunications technologies.

The proposed Burlington South Facility would be part of Cellco's expanding wireless telecommunications network envisioned by the Act and has been developed to help meet these

nationwide goals. In particular, Cellco's system has been designed, and the cell sites proposed in this Application have been selected, so as to maximize the geographical coverage and quality of service while minimizing the total number of cell sites required.

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 proposed facility. 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 interference issues by establishing regulations in this area 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 east coast and nationwide 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 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.

Included as Attachment 5 is a copy of the FCC's authorization issued to Cellco for its wireless service in Hartford 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 Burlington South Facility would not enlarge Cellco's authorized service area.

## B. Public Need and System Design

### 1. Public Need

As noted above, the Act has pre-empted any state or local determination of public need for wireless services. In Hartford County, Cellco holds an FCC License to provide wireless services. Pursuant to its FCC Licenses, Cellco has developed and continues to develop a network of cell sites to serve the demand for wireless service in the area. Cellco's network currently provides coverage in portions of Burlington and the surrounding towns from its existing cell sites in the area. Plots showing coverage from Cellco's existing surrounding facilities alone and together with the coverage from the proposed Burlington South Facility are included as Attachment 6.

### 2. System Design and Equipment

#### a. System Design

Cellco's wireless system in general and the proposed Burlington South Facility, in

particular, have been designed and developed to allow Cellco to achieve and to maintain high quality, reliable wireless service without interruption from dropped calls and interference.

The system design provides for frequency reuse and hand-off, 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. Cell site transmissions are carefully tailored to the FCC's technical standards with respect to coverage and interference and to minimize the amount of power that is radiated.

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 ("LEC") and inter-lata (long distance) carriers network.

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. Cellular System 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. Cellco's CDMA wireless networks are deployed on two platforms: the earlier AUTOPLEX system, using Series II base stations, and the newer FLEXENT CDMA system, using smaller, more compact modular base

stations. Because the Series II base stations are no longer manufactured, the newer CDMA systems, using smaller, more compact modular base stations are used for all current installations.

The major electronic components of each cell site are radio frequency transmission and receiving equipment and cell site controller equipment. Cellco's cellular system uses Lucent Flexent® Modular Cell 4.0B cell site equipment to provide complete cell site control and performance monitoring. 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. Additional information with respect to the Lucent Flexent® Modular Cell 4.0B equipment is contained in Attachment 7.

### 3. Technological Alternatives

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. Cellco is unaware of any specific manufacturer's safety standards that relate to the structures or equipment to be installed at the Burlington South Facility. The facility described in this Application will be designed and constructed in accordance with the appropriate State Building Code requirements and Electronic Industries Association standards.

## C. Site Selection and Tower Sharing

### 1. Cell Site Selection

The goal in selecting cell sites such as the one proposed in Burlington 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. The Applicant has determined that the proposed Burlington South Facility will satisfy this goal and is necessary to resolve existing coverage problems and to provide high-quality reliable service primarily along portions of Route 69 and local roads in the area, as well as residential, open space, commercial and industrial land uses in south Burlington.

The methodology of cell site selection for a wireless system generally limits the search for possible locations to specific locations on the overall grid for the area. A list of existing towers or other non-tower structures considered is included in Attachment 8. Cellco currently shares the existing towers and utilizes existing structures in the area including those sites identified on the coverage maps. (See Attachment 6). Cellco cannot satisfy its coverage objectives in southerly portions of Burlington from these existing cell sites. 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 existing non-tower structures of suitable height exist in Burlington. Cellco initiated a site search process for the Burlington South Facility in 2007, and identified the Property as a viable candidate for a cell site. Cellco determined that an antenna centerline height of 110 feet at this location would satisfy its wireless service objectives in the area. To avoid interfering with the active lumber yard and saw mill use, the owner initially offered a tower site to Cellco in the northerly portion of the Property. In an effort to address neighbors' concerns following Cellco's initial local input hearing, alternative cell site locations both on and off the Property were examined. As more fully described in the Site Search Summary (Attachment 8), Cellco considered

more than forty (40) alternative site locations before settling on the tower location in the southern-most portion of the Property. The Site Search Summary in Attachment 8, together with the site information contained in Attachment 1 support Cellco's position that the site selected represents 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 wireless carriers, and the Town, if a need exists. If deemed necessary, Cellco would also design the tower so that it could be extended by up to 20 feet; at total height of 130 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 carrier has expressed any interest in Cellco's Burlington South Facility.

## D. Cell Site Information

### 1. Land Permit Restrictions

The southern-most portion of the Property is subject to certain Land Permit restrictions imposed by the Connecticut Department of Public Health ("DPH"). These restrictions prohibit the storage of fuels, pesticides and chemicals; the installation of septic disposal systems; the keeping of livestock; and the construction of buildings; and are all designed to limit the potential for environmental impacts on New Britain Water Department ("NBWD") watershed land located to the south, east and west of the Property. In February 2012, Cellco and the NBWD filed a joint application with the DPH to modify the existing Land Permit restrictions and allow for installation of the proposed Cellco cell site. Four (4) copies of Land Permit Modification

Applications were filed, in bulk, with the Council.[2] As a part of its Land Permit Modification Application, Cellco committed to improving certain existing site conditions on adjacent NBWD land that will ultimately improve the water quality of the public water supply watershed. These improvements include the removal of certain debris and saw dust piles, the installation of stormwater control measures, the restoration of wetland buffer areas and the stabilization of significantly eroded slopes. (See Attachment 14).

**2. Cell Site Installation**

At the proposed cell site, the Applicant would construct a new 110-foot tall monopole tower and install fifteen (15) panel-type directional antennas at the top of the tower. Cellco's antennas would maintain an antenna centerline height of 110 feet and would extend above the top of the tower. Cellco would install a 12' x 30' single-story shelter near the base of the tower to house its receiving, transmitting, switching, processing and performance monitoring equipment and the required heating and cooling equipment. A propane-fueled generator would also be installed inside a segregated 10' x 12' generator room in Cellco's equipment shelter for use during power outages and periodically for maintenance purposes. A 1,000 gallon propane tank would be located adjacent to and west of Cellco's equipment shelter. The tower, equipment shelter and propane tank would be surrounded by an 8-foot high security fence and gate. (See Attachment 1).

The equipment shelter would be equipped with silent intrusion and systems performance alarms. Cellco personnel will be available on a 24-hour basis to receive and to respond to incoming alarms. The equipment building will remain unstaffed, except as required for periodic maintenance

[2] Pursuant to a request from DPH, the original land permit modification application, filed in February, 2012, was split into two separate modification applications, one for the southerly portion of the B&R parcel and one for the adjacent NBWD land to the south. The water quality improvements that Cellco has committed to make occur on both parcels.

purposes.

### 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 Burlington.[3] The Burlington South 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. 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.E. 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 of the proposed facility, 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.

[3] Businesses across the State have become more dependent on wireless telecommunication services. The public safety benefits of wireless telephone service are illustrated by the improved Connecticut State Police 911 emergency calling system. The 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. As a deterrent to crime, the general public will further benefit from the Cellular Telecommunications Industry Association's donation of more than 50,000 cellular phones to "Neighborhood Watch" groups nationwide.

### a. Visual Impact and Aesthetics

The wireless system of which the proposed Burlington South Facility would be a part has been designed to meet the public need for high-quality, reliable wireless service while minimizing any potential adverse environmental impact. 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 tower, 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 facility design options so-called "stealth installations." In the appropriate setting and where technologically feasible, telecommunications towers camouflaged as pine trees, flagpoles, bell towers, water tanks and other similar structures can help to further reduce aesthetic impacts associated with these structures. Attachment 9 contains a Visibility Analysis, prepared by Michael Libertine at All-Points Technology Corporation. (the "APT Report") for the proposed facility. The report includes photosimulations for the Council's review and consideration.

#### (1) Visibility

According to the APT Report, areas where the tower would be visible above the tree canopy (year-round visibility) comprise approximately twenty-one (21) acres or approximately one-quarter of one percent of the 8,042 acre study area. Most of the areas of potential year-round visibility associated with the tower occur in the general vicinity of the Property. Areas where seasonal views are anticipated comprise of approximately twenty-five (25) additional acres and, again, are located in the general vicinity of the proposed Burlington South Facility.

There are seven (7) residences within 1,000 feet of the facility. The closest residence is

located at 5 Saw Mill Road, approximately 630 feet to the northwest of the site compound. The property at 5 Saw Mill Road is listed on Cellco's abutting properties list behind Attachment 4 of this Application.

Weather permitting, the Applicant will raise balloons with a diameter of at least three (3) feet at the proposed tower location on the day of the Council's hearing on this Application, or at a time otherwise specified by the Council.

**(2) Facility Design Options**

In an effort to minimize aesthetic and environmental impacts of a new tower site, Cellco regularly considers alternative facility design options. When evaluating these design options, Cellco will consider not only views of tower structures from locations around the site where it may be visible, but also the character and uses of the parcel on which the tower is to be located. For example, the active industrial use (lumber yard and saw mill) at the Property may be a more appropriate location for a traditional monopole tower rather than a stealth alternative structure. Aesthetics in the area immediately surrounding the Property are not a significant concern given the nature of the existing land use. A tree tower may, however, fit into the landscape of the southerly portion of the Property and may soften the visual impacts from some of the more distant residential areas around the Property on a seasonal basis.

Other tower design options were considered and rejected. Due to ground space limitations in the compound area, for example, design options requiring a larger structure footprint (e.g. water tank; bell towers; etc.) are simply not feasible. As referenced below, flagpole towers, brown sticks or similar low profile structures present technological challenges that will result in the need for taller structures to enhance system performance, and limit or eliminate tower sharing possibilities.

### (3) Proximity to Schools and Commercial Day Care Facilities

There are no schools or commercial day care centers located within 250 feet of the proposed Burlington South Facility. The closest school is located approximately 1.75 miles to the northwest. The nearest commercial day care facility is located at 264 Spielman Highway, approximately 0.75 miles to the northeast.

### (4) Technological Limitations

As discussed at length in prior Council proceedings, Cellco's preferred cell site antenna configuration allows for the installation of fifteen (15) antennas, five (5) antennas per sector, attached to a triangular low-profile antenna platform or T-arms. Any deviation from this preferred antenna configuration will result in compromises to the reliability of Cellco's network in a particular area. Operating antennas in a flush-mounted or flagpole configuration results in a loss of two to three db of coverage, thereby shrinking the coverage footprint from a particular cell site. To make up for this loss of coverage, Cellco would need to increase the centerline height of all of its antennas by a minimum of ten feet. The flush-mounted or flagpole configuration also requires the installation of antennas at three (3) different levels rather than one antenna centerline height resulting in an increase in height of a proposed tower structure and the reduction or elimination of co-location opportunities.

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

**(1) USFWS Compliance Determination**

According to the USFWS Compliance Determination dated July 29, 2012, there are no federally-listed endangered or threatened species known to occur in the Town of Burlington. As such, the proposed development will not have any adverse effect to any federally listed, endangered or threatened species. (See Attachment 10).

**(2) DEEP Natural Diversity Database Review**

In its comment letter dated June 23, 2012, the DEEP stated that its records indicate that populations of the Eastern Box Turtle, a state species of special concern, have been "documented on or in the vicinity of the site". (See Attachment 11, DEEP letter dated June 23, 2012). The DEEP letter goes on to offer several recommendations designed to limit the impact facility construction activity may have on the Eastern Box Turtle. As indicated in the July 29, 2012 letter from Dean Gustafson, Senior Environmental Scientist with APT, Cellco is willing to implement these recommendations in its Development and Management Plan if the Burlington South Facility is approved by the Council.

**(3) State Historic Preservation Officer**

Included in Attachment 12 is correspondence from the SHPO confirming that the proposed

facility will have no adverse effect on the historic setting of the area around the cell site, including "what appears to be an historic barn" on the east side of Milford Street. The SHPO goes on to confirm that the proposed facility will also have no effect on archeological resources listed on or eligible for listing on the National Register of Historic Places.

### (4) Avian Resource Evaluation

Included in Attachment 13 is an Avian Resources Evaluation prepared by APT. This report concludes that no adverse impacts to migratory birds or avian resources would result from the development of the Burlington South Facility and that the siting, construction and operation of the facility would comply with USFWS guidelines for minimizing potential bird strikes.

### (5) Public Water Supply Assessment

The Property is located in the Wigville Reservoir public water supply watershed area. This watershed area is owned and operated by the NBWD. As mentioned in Section III.D. above, the DPH and NBWD have imposed certain land use restrictions on the southerly portion of the Property designed to protect this watershed area. Cellco and the NBWD have jointly filed a request to modify these land use restrictions to allow for the development of the Burlington South Facility provided Cellco incorporates a series of site improvements and protective measures as well as monitoring and notification procedures, into its Development and Management Plan for the site. These measures are shown on the Burlington South Facility project plans included in Attachment 1 and described in detail in a July 29, 2012 Public Water Supply Assessment prepared by Dean Gustafson at APT. (Attachment 14).

## c. Non-Ionizing Radio Frequency Radiation

The FCC has adopted a standard for exposure to Radio Frequency ("RF") emissions from

telecommunications facilities like the one proposed in this Application. To ensure compliance with the applicable standards, Cellco has performed maximum power density calculations for the proposed cell site 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 power density levels at the closest accessible point to the antennas, in this case the base of the tower, and with all antennas transmitting simultaneously on all channels at full power. The calculations indicate that the maximum power density level for Cellco's 850 MHz, 1900 MHz and 700 MHz antennas would be 30.01% of the Standard. A General Power Density Table is included in Attachment 15.

**d. Other Environmental Issues**

No sanitary facilities are required for the proposed facility. The operations at the Burlington South 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 facility will have no significant adverse effect on scenic, natural, historic or recreational features, and that none of the potential effects, either 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 on July, 2012, requires the inclusion of a narrative summary of the project's consistency with the Town's Plan of Conservation and Development and Planning 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 facility would be located on an approximately 8.85 acre parcel owned by B&R Corporation. The Property is zoned Industrial and is an active saw mill and lumber yard. Cellco is unaware of any planned changes to the existing land use at the Property.

### b. Burlington Plan of Conservation and Development

The 2009 Town of Burlington Plan of Conservation and Development (the "Plan"), does not identify telecommunications towers as a land use consistent or inconsistent with the general planning and conservation policies of the Town of Burlington. The Plan does, however, recognize that new wireless communications are expanding throughout the Town and that the two existing cell phone towers in Burlington provide "sporadic" wireless service. (See Plan, p. 110). Four (4) copies of the Plan were filed, in bulk, with the Council.

### c. Zoning Regulations

According to the Town of Burlington Zoning Map, the Property is located in the Industrial zone district. Pursuant to Section IX.F. of the Burlington Zoning Regulations, the Town of Burlington (the "Zoning Regulations") recognizes the Council's exclusive jurisdiction over wireless telecommunications towers and describes them as exempt from local zoning authority. That said, the Zoning Regulations identify telecommunication facilities in the Industrial and Business zone districts as the highest priority in the Town's "Siting Hierarchy". (See Section IX.F.3. of the Zoning Regulations). Pursuant to Section IX.F.5. of the Zoning Regulations, towers may not be more than 200 feet tall and must maintain a setback equal to 125% of the height of the structure for all property lines. The Zoning Regulations restrict the equipment shelter size to 250 square feet and limit antenna height to 60 inches.

The Burlington South Facility tower is set back 63 feet from the southern property boundary; 103 feet from the western property boundary; 180 feet from the easterly property boundary; and 850 feet from the northerly property boundary. Cellco intends to install a 360 square foot equipment shelter inside the fenced facility compound. All of Cellco's antennas will exceed 60 inches in height.

Four (4) copies of the Burlington Zoning Regulations were filed, in bulk, with the Council.

**d. Inland Wetland and Watercourses Regulations**

The Town of Burlington Inland Wetlands and Watercourses Regulations (the "Wetland 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 such wetlands or watercourses. The Wetland Regulations establish a 100-foot upland review area from any wetland or watercourse boundary. As described in the Wetland Assessment included in Attachment 16, work associated with development of the Burlington South Facility and related on and off-site improvements are proposed in proximity to nearby wetland resources. No direct wetland impacts, however, are proposed as part of the site improvement plan. Four (4) copies of the Wetland Regulations were filed, in bulk, with the Council.

In accordance with the Connecticut Soil Erosion Control Guidelines, as established by the Council for Soil and Water Conservation, adequate and appropriate soil erosion and sedimentation control measures will be established and maintained throughout the construction period. In addition, the Applicant will employ appropriate construction management practices to

ensure that no pollutants would be discharged to any nearby watercourse or wetland areas or to area groundwater during the construction process. (See also Attachment 14).

According to the Federal Emergency Management Agency Flood Insurance Rate Map ("FIRM"), Map Community Panel Number 090145C0315F (Map Effective: 09/2008), the proposed Burlington South Facility would be located in Flood Zone X (unshaded). A copy of a Flood Zone Map is included in Attachment 17.

**6. Local Input**

Section 16-50*l*(e) of the Connecticut General Statutes, as amended, requires local input on matters before the Council. On May 26, 2010, Cellco representatives met with Burlington First Selectwoman Catherine Bergstrom to commence the sixty (60) day municipal consultation process.[4] Ms. Bergstrom received copies of technical information summarizing Cellco's plans to establish a telecommunications facility at the Property. At the Town's request, Cellco hosted a public information meeting at Burlington Town Hall on June 29, 2010. Notice of this meeting was sent to abutting property owners and were published in the *Hartford Courant*. Following that meeting and at the recommendation of the Town, Cellco continued its search for alternative cell site locations in the southerly portion of the Property and further south on land owned by the NBWD and others. Throughout this extended site search process, Cellco representatives met and communicated with Ms. Bergstrom on its efforts to identify alternative site locations. As a part of this effort, Cellco was given several Town-owned alternative sites to consider. Cellco's Site Search Summary includes a listing of all alternative sites investigated including Town-owned and privately

[4] Cellco commenced the local input process long before the effective date of P.A. 12-165 which extends the local input process from 60 to 90 days. Regardless, the local input process for the Burlington South Facility commenced well more than 90 days prior to the filing of this Application.

owned parcels, State Park and Forest land and NBWD watershed land.

As described in the Site Search Summary (Attachment 8), Cellco investigated more than forty (40) alternative site locations. On February 17, 2012, at the end of the extended site search effort, Cellco representatives met with the newly-elected First Selectman Ted Shafer to discuss status of the Burlington South tower proposal. Mr. Shafer was informed of Cellco's site search efforts and its application for Land Permit modification with the DPH to permit the use of the southerly portion of the Property. (See Section III.D.1. above). On May 21, 2012, a supplemental package of technical information was provided to Mr. Shafer, including revised site plans, a visibility analysis and a complete site search summary. A second public information meeting was held on June 21, 2012. As with the first public information session, notice of the meeting was sent to all abutting land owners and was published in the *Hartford Courant*. At this second meeting, Cellco described its additional site search efforts and its plan to relocate the cell site to the southerly portion of the Property. On July 3, 2012, Cellco provided Mr. Shafer with a memorandum responding to certain requests for additional information following the second public meeting. Four (4) copies of the May 26, 2010 Technical Report, the May 21, 2012 Supplemental Technical Information package and the July 3, 2012 memorandum were filed, in bulk, with the Council.

### 7. Consultations With State and Federal Officials

Section III.D.4(b) of the Application describe Cellco's consultations with state and federal officials regarding Cellco's proposed 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

Cellco conducted a TOWAIR analysis for the proposed 110-foot tower to determine if the proposed structure would constitute an obstruction or hazard to air navigation. The analysis has confirmed, pursuant to FAA standards and guidelines, that the proposed tower would not constitute an obstruction or hazard to air navigation and does not require FAA notification. No obstruction marking or lighting would, therefore, be required at the proposed tower location. Copies of the TOWAIR analysis are included in Attachment 18.

### c. United States Fish and Wildlife Service

See Section III.D.4.(b)(1) above. (See Attachment 10).

### d. Connecticut Department of Energy and Environmental Protection

#### (1) Environmental and Geographic Information Center

See Section III.D.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 meet the conditions of the permit by rule from the DEP 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 make the necessary permit by rule filing with DEEP prior to installing the generator at the Burlington South Facility.

### e. Connecticut State Historic Preservation Officer

See Section III.D.4.(b)(3) above.

## E. Estimated Cost and Schedule

### 1. Overall Estimated Costs

The total estimated cost of construction for the Burlington South Facility is $800,000. This estimate includes:

| | | |
|---|---|---|
| (1) | Cell site radio equipment of approximately | $450,000 |
| (2) | Tower, coax and antenna costs of approximately | 150,000 |
| (3) | Power systems costs of approximately | 20,000 |
| (4) | Equipment building costs of approximately | 50,000 |
| (5) | Miscellaneous costs (including site preparation and installation) of approximately | 130,000 |

### 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. Due to the delivery schedules of the manufacturers, installation of the building and installation of the tower are expected to take an additional two weeks. Equipment installation is expected to take an additional two 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 Burlington South Facility, will not have any substantial adverse environmental effects. A public need exists for high quality reliable wireless service in the Town of Burlington and throughout Hartford 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 public 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 Burlington South 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

# BURLINGTON SOUTH

**77 Milford Street**
**Burlington, Connecticut**

Description of Proposed Cell Site

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

## TABLE OF CONTENTS

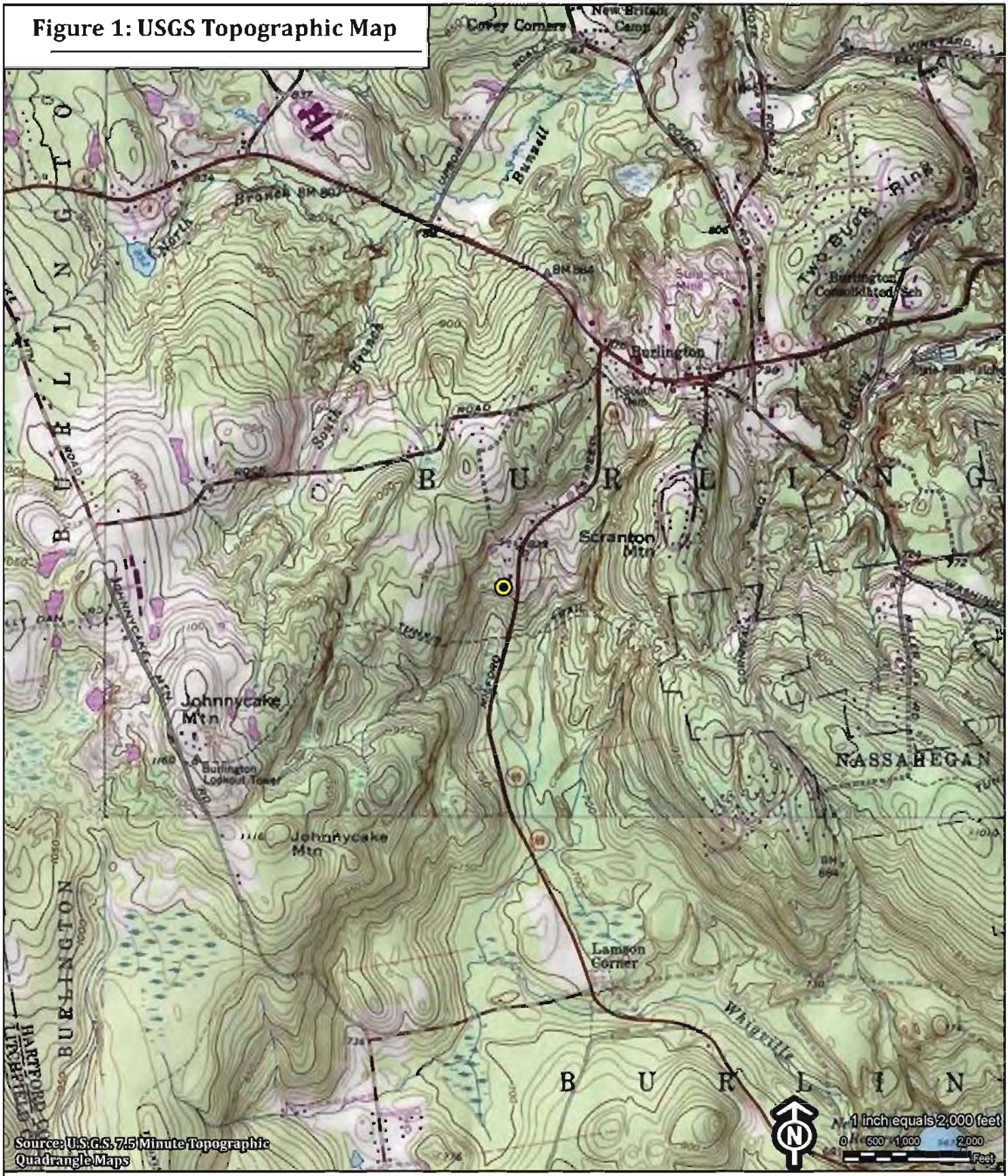
**Page**

SITE NAME: BURLINGTON SOUTH – 77 Milford Street, Burlington, CT

GENERAL CELL SITE DESCRIPTION

The proposed cell site would be located within a 2,965 square-foot fenced compound in the southerly portion of an approximately 8.85 acre parcel at 77 Milford Street ("Property"), owned by B&R Corporation. The cell site is known as Cellco's "Burlington South Facility". The Burlington South Facility would consist of a 110-foot telecommunications tower. Cellco's antennas will be mounted at a center-line height of 110 feet above ground level ("AGL"). The top of Cellco's antennas will extend above the height of the tower. Equipment associated with Cellco's antennas will be located in a 12' x 30' shelter located near the base of the tower. Vehicular access to the site would extend from Milford Street over a portion of an existing driveway, to be improved, a distance of approximately 675 feet to the site compound. Utility service would extend underground from existing service along Milford Street.

## Figure 1: USGS Topographic Map




**Proposed Verizon Wireless Telecommunications**
**Burlington South Facility**
**77 Milford Street**
**Burlington, Connecticut**

Legend
Proposed Tower Location

**Friday, July 27, 2012**

verizon wireless

ALL-POINTS TECHNOLOGY CORPORATION

Path: C:\All_Points_Tech\Projects\Client\Verizon\CT14165D(BurlingtonS)\GIS\Maps\Figure1_USGSMap.mxd

## Figure 2: Aerial Map


**Proposed Verizon Wireless Telecommunications**
**Burlington South Facility**
**77 Milford Street**
**Burlington, Connecticut**

Legend
Proposed Tower Location

**Friday, July 27, 2012**

verizonwireless
ALL-POINTS TECHNOLOGY CORPORATION

Path: C:\All_Points_Tech\Projects\Client\Verizon\CT1416S0(BurlingtonS)\GIS\Maps\Figure2_AerialMap.mxd

SITE EVALUATION REPORT

SITE NAME: BURLINGTON SOUTH – 77 Milford Street, Burlington, CT

I. LOCATION

A. COORDINATES: 41°-45'-35.876" N 72°-58'-35.260" W

B. GROUND ELEVATION: Existing – Approximately 816.4± feet AMSL
Proposed – Approximately 813.7± feet AMSL

C. USGS MAP: Burlington, CT

D. SITE ADDRESS: 77 Milford Street, Burlington, CT

E. ZONING WITHIN 1/4 MILE OF SITE: Land within 1/4 mile of the cell site is in the Industrial and (R-44), Residential zone districts.

II. DESCRIPTION

A. SITE SIZE: 2,965 Square Foot Fenced Compound

B. LESSOR'S PARCEL: 8.85 acres

C. TOWER TYPE/HEIGHT: 110' Monopole Tower

D. SITE TOPOGRAPHY AND SURFACE: The southerly portion of the B&R parcel slopes down from north to south. A portion of the access driveway will be graded to facilitate certain drainage improvements on the subject parcel and on adjacent property owned by the NBWD. No tree clearing will be required to construct the proposed facility.

E. SURROUNDING TERRAIN, VEGETATION, WETLANDS, OR WATER: The tower will be located in the southerly portion of the 8.85 acre parcel. There are not wetland or watercourse areas within or near the facility compound. The closest wetland area is located approximately 180 feet south of the proposed tower location.

F. LAND USE WITHIN 1/4 MILE OF SITE: The Burlington South Facility is located on a 8.85 acre parcel, used for industrial purposes, including a lumber yard and saw mill. The property is surrounded by a mix of residential uses, industrial and commercial uses and open space and watershed lands. (See Aerial Photograph at p. 3).

III. FACILITIES

A. POWER COMPANY: Connecticut Light and Power

B. POWER PROXIMITY TO SITE: Approximately 180 feet east along Milford Street.

C. TELEPHONE COMPANY: AT&T

D. PHONE SERVICE PROXIMITY: Same as power

E. VEHICLE ACCESS TO SITE: Vehicle access to the site compound would extend from Milford Street over an existing gravel driveway, to be improved, a distance of 675 feet.

F. CLEARING AND FILL REQUIRED: No tree clearing and minimal grading would be required for construction of the site compound and access driveway. Detailed construction plans would be developed after approval by the Siting Council.

IV. LEGAL

A. PURCHASE [ ] LEASE [X]

B. OWNER: B&R Corporation

C. ADDRESS: 77 Milford Street, Burlington, CT 06013

D. DEED ON FILE AT: Town of Burlington, CT Land Records

Deed Book 290 Page 754

FACILITIES AND EQUIPMENT SPECIFICATION
(NEW TOWER & EQUIPMENT BUILDING)

SITE NAME: BURLINGTON SOUTH – 77 Milford Street, Burlington, CT

I. TOWER SPECIFICATIONS:

A. MANUFACTURER: To be determined

B. TYPE: Self-supporting monopole tower

C. TOWER HEIGHT: 110' Top of monopole

II. TOWER LOADING:

A. CELLCO EQUIPMENT:

1. Antennas (15)
Six (6) Model LPA-80063/6CF (850 MHz)
Six (6) Model LPA-171063/12CF (1900 MHz)
Three (3) Model BXA-70063/6CF (700 MHz)
Antenna Centerline 110' AGL

2. GPS Antenna: Mounted on the top of the equipment shelter

3. Transmission Lines:
a. MFG/Model: Andrews LDF5-50A
b. Size: 1 5/8"

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: BURLINGTON SOUTH – 77 Milford Street, Burlington, 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. There are no wetland or watercourse areas located on the Property. The closest wetland area is located on the adjacent parcel to the south and would not be directly impacted by construction of the Burlington South Facility. Certain of site improvements associated with this project will impact areas closer to adjacent wetland areas. (See Attachments 14 and 16).

B. AIR QUALITY

Under ordinary operating conditions, the equipment that would be used at the site would emit no air pollutants of any kind. For limited periods during power outages and periodically for maintenance purposes, minor levels of emissions from the on-site generator would result.

Pursuant to R.C.S.A. § 22a-174-3, the on-site back-up generator proposed as a part of this application would require the issuance of a Connecticut Department of Environmental Protection Air Bureau permit for potential emissions. Cellco would obtain this permit prior to installing the generator at the approved cell site.

C. LAND

No tree clearing and some grading of the facility compound and adjacent areas will be required. Certain drainage and water quality improvements will be made to portions of the Property and adjacent land owned by the NBWD. (See Project Plans and Attachments 14 and 16).

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 installed heating, air conditioning and ventilation systems and occasional operation of a back-up generator which

would be run during power failures and periodically for maintenance purposes. Some noise is anticipated during cell site construction, which is expected to take approximately four to six weeks.

E. POWER DENSITY

The worst-case calculation of power density for Cellco's cellular, PCS and LTE antennas at the Burlington South Facility would be 30.01% of the FCC Standard. (See Attachment 15).

F. VISIBILITY

See Visibility Analysis included as Attachment 9.

# Cellco Partnership

# d.b.a. verizon wireless

# WIRELESS COMMUNICATIONS FACILITY

# BURLINGTON SOUTH
# 77 MILFORD STREET
# BURLINGTON, CT 06013

## SITE DIRECTIONS

| FROM: | 88 EAST RIVER DRIVE<br>EAST HARTFORD, CONNECTICUT | TO: | 77 MILFORD STREET<br>BURLINGTON, CONNECTICUT |
|---|---|---|---|

| | | |
|---|---|---|
| 1. | Start out going EAST on EAST RIVER DRIVE toward DARLIN STREET | 0.3 MI |
| 2. | Turn LEFT to stay on EAST RIVER DRIVE | 0.1 MI |
| 3. | Turn LEFT onto CONNECTICUT BLVD/US-44. | 0.2 MI |
| 4. | Turn LEFT onto ramp. | 0.1 MI |
| 5. | Merge onto I-84 W/US-5 W. | 8.6 MI |
| 6. | Merge onto US-6 W via EXIT 38 toward BRISTOL | 7.3 MI |
| 7. | Turn RIGHT onto MIX STREET. | 1.0 MI |
| 8. | MIX STREET becomes MAPLE AVENUE. | 1.0 MI |
| 9. | Turn RIGHT onto BURLINGTON AVENUE/CT-69. Continue to follow CT-69. | 4.7 MI |
| 10. | End at 77 MILFORD STREET, on the left. | 0.0 MI |

## GENERAL NOTES

1. PROPOSED ANTENNA LOCATIONS AND HEIGHTS PROVIDED BY CELLCO PARTNERSHIP.

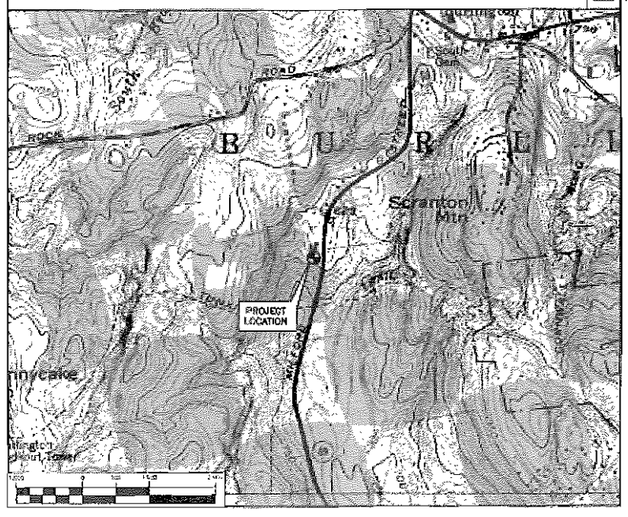
## SITE INFORMATION

THE SCOPE OF WORK SHALL INCLUDE:

1. THE CONSTRUCTION OF A ±2,865 SQUARE FOOT FENCED WIRELESS COMMUNICATIONS COMPOUND WITHIN A 100'X100' LEASE AREA.
2. A TOTAL OF UP TO FIFTEEN (15) DIRECTIONAL PANEL ANTENNAS ARE PROPOSED TO BE MOUNTED AT A CENTERLINE ELEVATION OF 110'-0"± AGL ON A 110'-0"± PROPOSED STEEL MONOPOLE TOWER.
3. TOTAL ACCESS DRIVE LENGTH IS 825'± OFF OF MILFORD STREET. APPROXIMATELY 320'± OF THE EXISTING DRIVE WILL BE IMPROVED AS AN 18' WIDE REINFORCED GRAVEL DRIVEWAY.
4. POWER AND TELCO UTILITIES SHALL BE ROUTED UNDERGROUND FROM A PROPOSED UTILITY POLE WITHIN THE MILFORD STREET R.O.W. TO THE PROPOSED UTILITY BACKBOARD LOCATED ADJACENT TO THE PROPOSED FENCED COMPOUND. FINAL POLE LOCATION AND UTILITY ROUTING TO WILL BE VERIFIED/DETERMINED BY LOCAL UTILITY COMPANIES. UTILITIES WILL BE ROUTED UNDERGROUND FROM UTILITY BACKBOARD TO THE PROPOSED NOMINAL 12'x30' WIRELESS EQUIPMENT SHELTER LOCATED WITHIN FENCED COMPOUND AREA.
5. FINAL DESIGN FOR TOWER AND ANTENNA MOUNTS SHALL BE INCLUDED IN THE CONSTRUCTION PLANS.
6. THE PROPOSED WIRELESS FACILITY INSTALLATION WILL BE DESIGNED IN ACCORDANCE WITH THE 2003 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2009 CONNECTICUT SUPPLEMENT.
7. THERE WILL NOT BE ANY LIGHTING UNLESS REQUIRED BY THE FCC OR THE FAA.
8. THERE WILL NOT BE ANY SIGNS OR ADVERTISING ON THE ANTENNAS OR EQUIPMENT.

## VICINITY MAP

SCALE: 1" = 1000'




## PROJECT SUMMARY

| | |
|---|---|
| SITE NAME: | BURLINGTON SOUTH |
| SITE ADDRESS: | 77 MILFORD STREET<br>BURLINGTON, CT 06013 |
| PROPERTY OWNER: | B & R CORPORATION<br>216 BOGUE ROAD<br>HARWINTON, CT 06791 |
| LESSEE/TENANT: | CELLCO PARTNERSHIP<br>d.b.a. VERIZON WIRELESS<br>88 EAST RIVER DRIVE<br>EAST HARTFORD, CT 06108 |
| CONTACT PERSON: | SANDY CARTER<br>CELLCO PARTNERSHIP<br>(860) 603-8219 |
| ENGINEER: | CENTEK ENGINEERING<br>63-2 NORTH BRANFORD ROAD<br>BRANFORD, CT 06405<br>(203) 488-0580 |
| TOWER COORDINATES: | LATITUDE 41°-45'-35.876"<br>LONGITUDE 72°-59'-35.260"<br>EXISTING GROUND ELEVATION: 815.4'± A.M.S.L.<br>PROPOSED GROUND ELEVATION: 813.7' ± A.M.S.L.<br>COORDINATES AND GROUND ELEVATION REFERENCED FROM FAA 1-A SURVEY CERTIFICATION PREPARED BY MARTINEZ COUCH AND ASSOCIATES LLC, DATED MAY 11, 2012. |

## SHEET INDEX



| | |
|---|---|
| DESIGNED BY: | CJC |
| DRAWN BY: | KAW |
| CHK'D BY: | CMD |

| REV. | DATE | DRAWN BY | CHK'D BY | DESCRIPTION |
|---|---|---|---|---|
| 5 | 08/09/13 | CMD | CJC | REVISED FOR DPH LAND PERMIT |
| 4 | 07/16/13 | CMD | CJC | ISSUED FOR DPH LAND PERMIT |
| 3 | 06/01/13 | CMD | CJC | ISSUED FOR LAND USE MODIFICATION PERMIT - REVISED SHELTER |
| 2 | 08/24/11 | CMD | CJC | ISSUED FOR LAND USE MODIFICATION PERMIT - OWNER REVIEW |
| 1 | 06/02/11 | CMD | CJC | ISSUED FOR LAND USE MODIFICATION PERMIT - OWNER REVIEW |
| 0 | 05/17/11 | CMD | CJC | ISSUED FOR LAND USE MODIFICATION PERMIT - INTERNAL REVIEW |

Professional Engineer

Cellco Partnership d.b.a. Verizon Wireless

CENTEK engineering
Centered on Solutions
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

Cellco Partnership d/b/a Verizon Wireless
WIRELESS COMMUNICATIONS FACILITY
BURLINGTON SOUTH
77 MILFORD STREET
BURLINGTON, CT 06013

DATE: 05/17/11
SCALE: AS NOTED
JOB NO. 09041

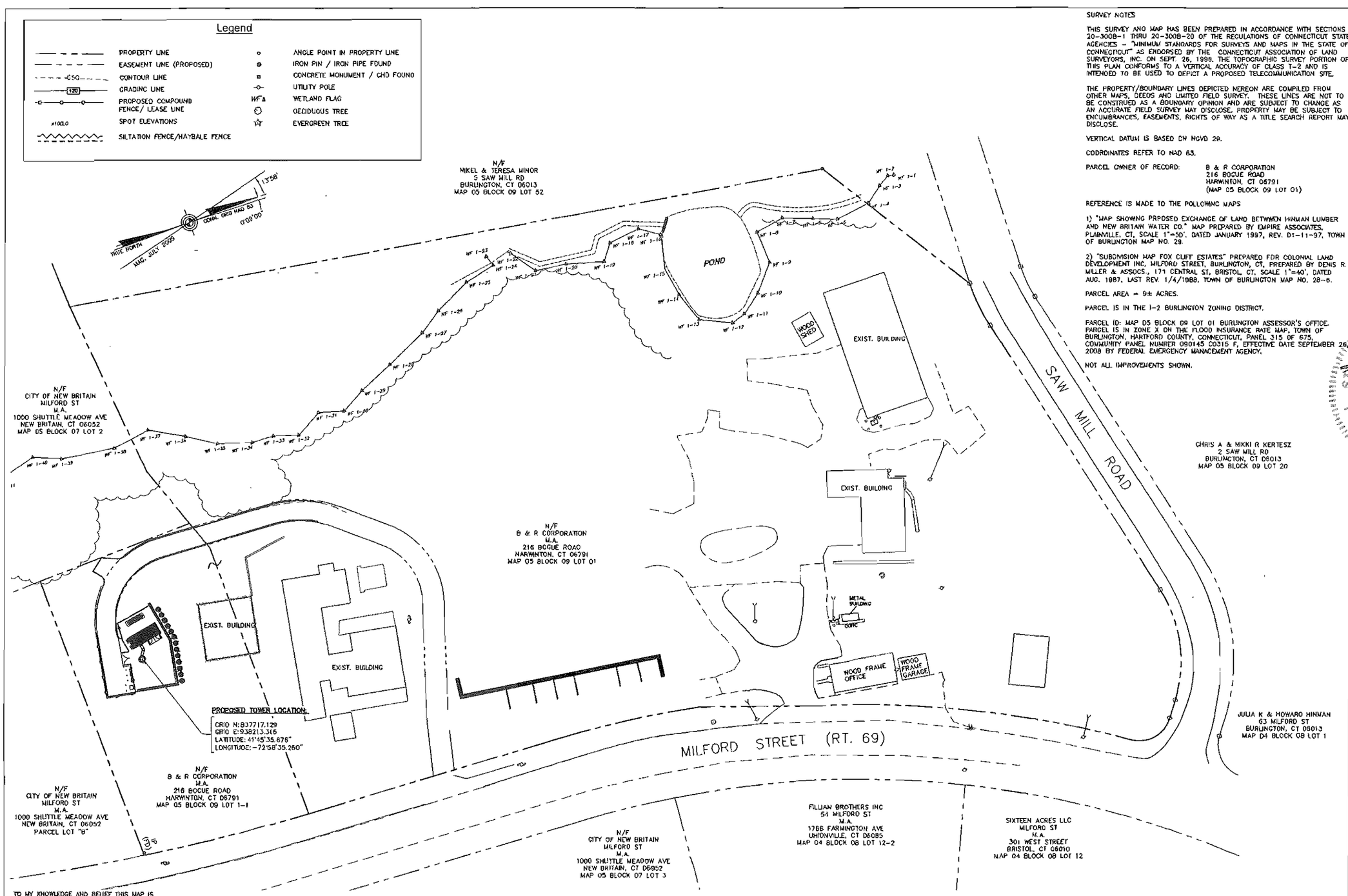
TITLE SHEET

T-1

Sheet No. 1 of 8

## Legend

| | | | |
|---|---|---|---|
| ——— | PROPERTY LINE | ○ | ANGLE POINT IN PROPERTY LINE |
| - - - - | EASEMENT LINE (PROPOSED) | ⊕ | IRON PIN / IRON PIPE FOUND |
| ---050--- | CONTOUR LINE | ■ | CONCRETE MONUMENT / CHD FOUND |
| ———120——— | GRADING LINE | -o- | UTILITY POLE |
| -o-o-o- | PROPOSED COMPOUND FENCE/ LEASE LINE | WF1 | WETLAND FLAG |
| x100.0 | SPOT ELEVATIONS | ◯ | DECIDUOUS TREE |
| | | ☆ | EVERGREEN TREE |
| ~~~~~ | SILTATION FENCE/HAYBALE FENCE | | |




### SURVEY NOTES

THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300B-1 THRU 20-300B-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES – "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPT. 26, 1998. THE TOPOGRAPHIC SURVEY PORTION OF THIS PLAN CONFORMS TO A VERTICAL ACCURACY OF CLASS T-2 AND IS INTENDED TO BE USED TO DEPICT A PROPOSED TELECOMMUNICATION SITE.

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

VERTICAL DATUM IS BASED ON NGVD 29.

COORDINATES REFER TO NAD 83.

PARCEL OWNER OF RECORD: B & R CORPORATION
216 BOGUE ROAD
HARWINTON, CT 06791
(MAP 05 BLOCK 09 LOT 01)

REFERENCE IS MADE TO THE FOLLOWING MAPS

1) "MAP SHOWING PROPOSED EXCHANGE OF LAND BETWEEN HINMAN LUMBER AND NEW BRITAIN WATER CO." MAP PREPARED BY EMPIRE ASSOCIATES, PLAINVILLE, CT, SCALE 1"=50', DATED JANUARY 1997, REV. 01-11-97, TOWN OF BURLINGTON MAP NO. 29.

2) "SUBDIVISION MAP FOX CLIFF ESTATES" PREPARED FOR COLONIAL LAND DEVELOPMENT INC, MILFORD STREET, BURLINGTON, CT, PREPARED BY DENIS R. MILLER & ASSOCS., 171 CENTRAL ST, BRISTOL CT, SCALE 1"=40', DATED AUG. 1987, LAST REV. 1/4/1988, TOWN OF BURLINGTON MAP NO. 28-8.

PARCEL AREA = 9± ACRES.

PARCEL IS IN THE I-2 BURLINGTON ZONING DISTRICT.

PARCEL ID: MAP 05 BLOCK 09 LOT 01 BURLINGTON ASSESSOR'S OFFICE. PARCEL IS IN ZONE X ON THE FLOOD INSURANCE RATE MAP, TOWN OF BURLINGTON, HARTFORD COUNTY, CONNECTICUT, PANEL 315 OF 675, COMMUNITY PANEL NUMBER 090145 0031S F, EFFECTIVE DATE SEPTEMBER 26, 2008 BY FEDERAL EMERGENCY MANAGEMENT AGENCY.

NOT ALL IMPROVEMENTS SHOWN.

TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON

THIS MAP IS NOT VALID WITHOUT A LIVE SIGNATURE AND SEAL

A. RAFAEL MARTINEZ LLS #18833 DATE

1 / C-1.0 SITE PLAN / ABUTTERS MAP
SCALE: 1" = 40'

GRAPHIC SCALE
( IN FEET )
1 inch = 40 ft.

| | |
|---|---|
| DESIGNED BY: | DMD |
| DRAWN BY: | DMD |
| CHK'D BY: | CFC |

| NO. | DATE | DRAWN BY | CHK'D BY | DESCRIPTION |
|---|---|---|---|---|
| 8 | 08/02/12 | DMD | CFC | REVISED PER DPH LAND PERMIT |
| 7 | 07/16/12 | DMD | CFC | ISSUED FOR DPH LAND PERMIT |
| 6 | 06/01/12 | DMD | CFC | ISSUED FOR LAND USE MODIFICATION PERMIT - REVISED SHELTER |
| 5 | 05/24/11 | DMD | CFC | ISSUED FOR LAND USE MODIFICATION PERMIT - OWNER REVIEW |
| 4 | 04/07/11 | DMD | CFC | ISSUED FOR LAND USE MODIFICATION PERMIT - OWNER REVIEW |
| 3 | 03/24/11 | DMD | CFC | ISSUED FOR LAND USE MODIFICATION PERMIT - INTERNAL REVIEW |
| 2 | 03/07/11 | DMD | CFC | ISSUED FOR LAND USE MODIFICATION PERMIT - INTERNAL REVIEW |
| 1 | 02/09/11 | DMD | CFC | ISSUED FOR LAND USE MODIFICATION PERMIT - INTERNAL REVIEW |

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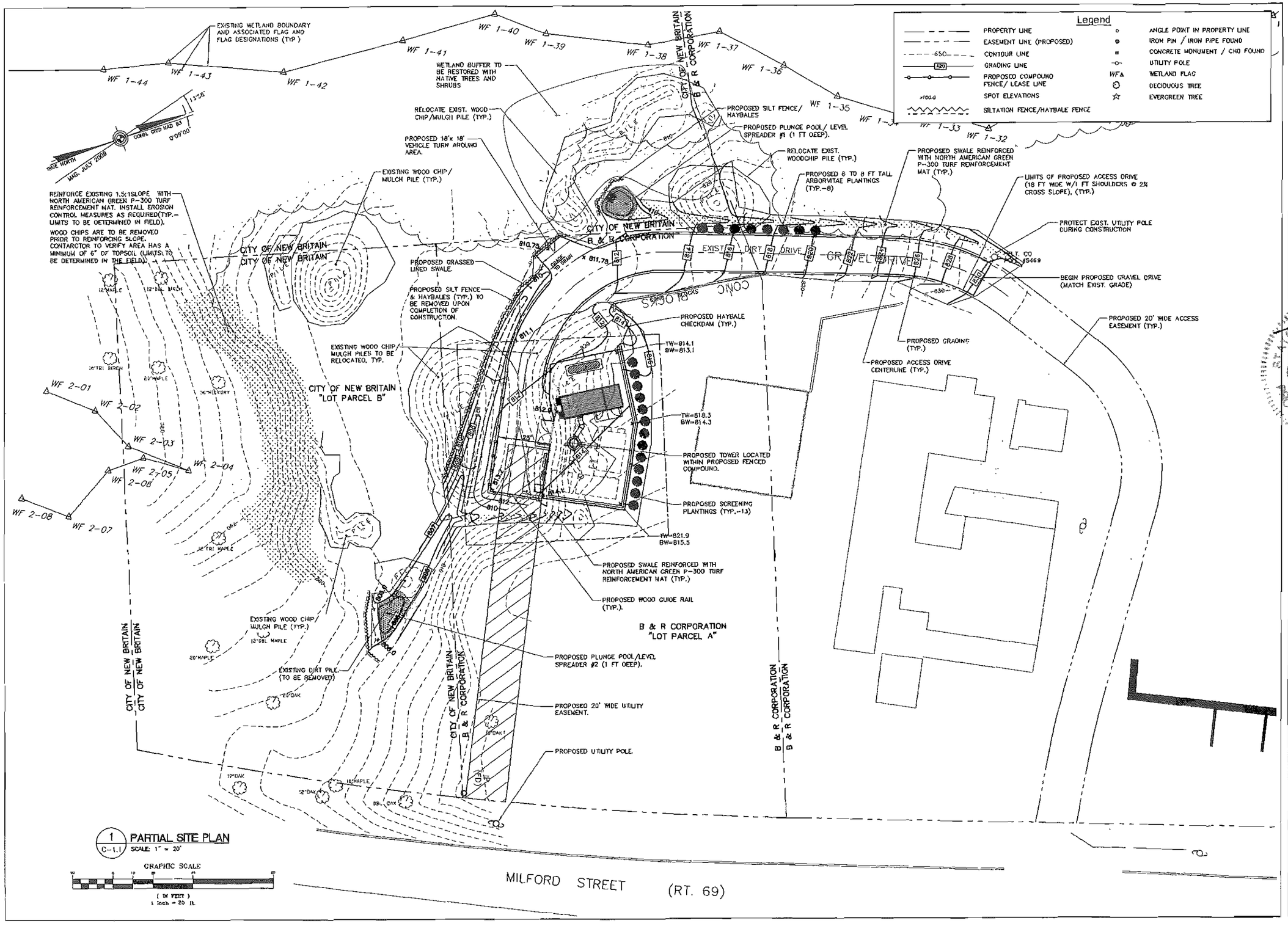
WIRELESS COMMUNICATIONS FACILITY
BURLINGTON SOUTH
77 MILFORD STREET
BURLINGTON, CT 06013

| | |
|---|---|
| DATE: | 05/17/13 |
| SCALE: | AS NOTED |
| JOB NO. | 09041 |

SITE PLAN / ABUTTERS MAP

C-1.0

Sheet No. 2 of 8




| DESIGNED BY: | DMD |
|---|---|
| DRAWN BY: | DMD |
| CHK'D BY: | CFC |

| NO. | DATE | DRAWN BY | CHK'D BY | DESCRIPTION |
|---|---|---|---|---|
| 1 | 05/07/12 | DMD | CFC | REVISED PER DPH LAND PERMIT |
| 2 | 05/17/12 | DMD | CFC | ISSUED FOR DPH LAND PERMIT |
| 3 | 05/01/12 | DMD | CFC | ISSUED FOR LAND USE MODIFICATION PERMIT- REVISED SITE PLAN |
| 4 | 06/24/11 | DMD | CFC | ISSUED FOR LAND USE MODIFICATION PERMIT- OWNER REVIEW |
| 5 | 06/02/11 | DMD | CFC | ISSUED FOR LAND USE MODIFICATION PERMIT - OWNER REVIEW |
| 6 | 05/17/11 | DMD | CFC | ISSUED FOR LAND USE MODIFICATION PERMIT - INTERNAL REVIEW |

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WIRELESS COMMUNICATIONS FACILITY

# BURLINGTON SOUTH

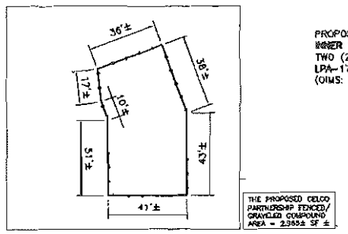
77 MILFORD STREET
BURLINGTON, CT 06013

DATE: 06/17/11
SCALE: AS NOTED
JOB NO. 09041

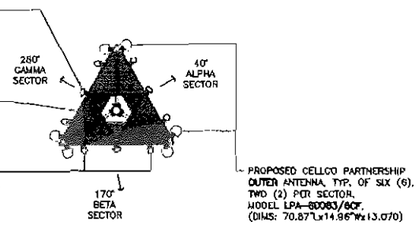
PARTIAL SITE PLAN

C-1.1

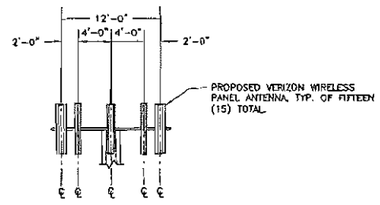
Sheet No. 3 of 8




PROPOSED COMPOUND DIMENSIONS



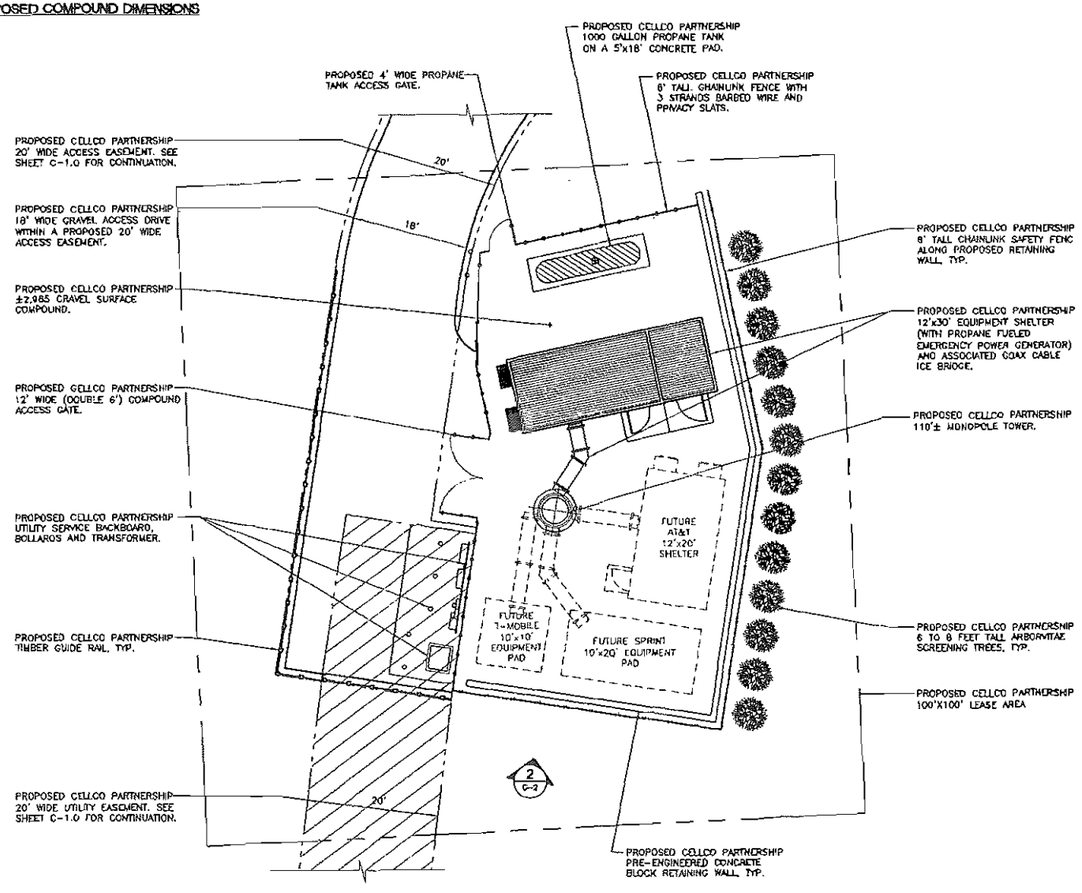

PLAN VIEW




TYPICAL SECTOR ELEVATION

3 C-2 ANTENNA MOUNTING CONFIGURATION

NOT TO SCALE




1 C-2 COMPOUND PLAN

SCALE: 1" = 10'-0"

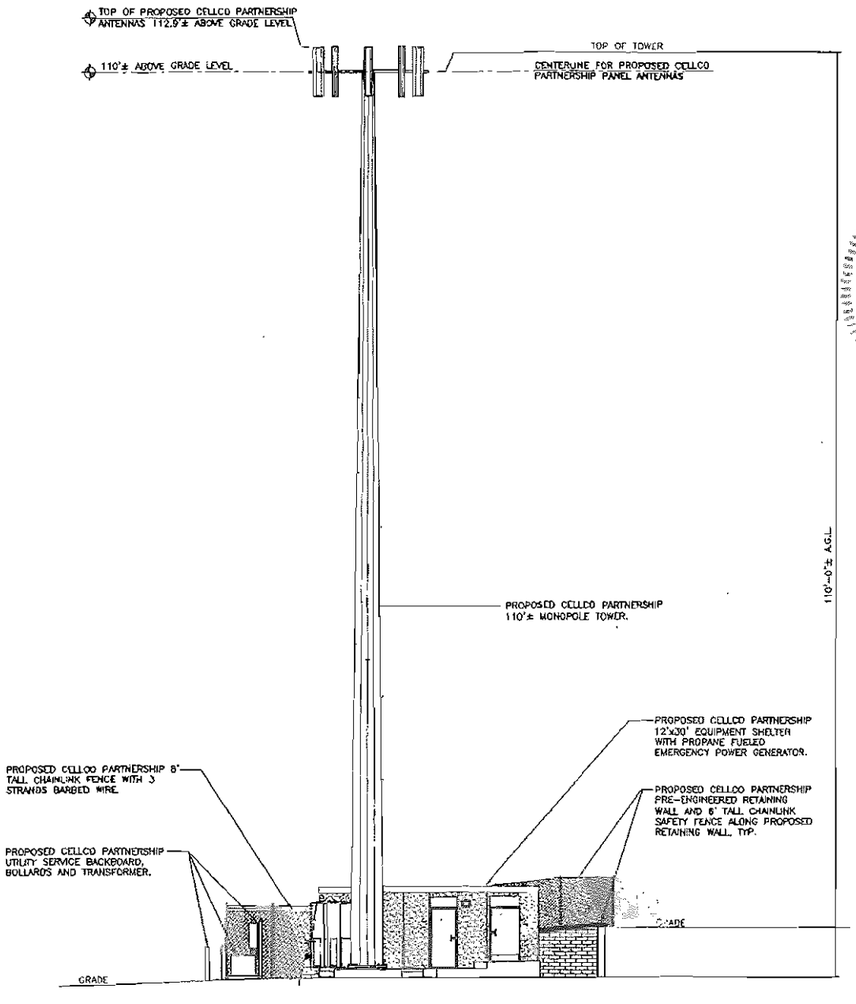
NORTH

GRAPHIC SCALE

10 0 5 10 20 40

( IN FEET )

1 inch = 10 ft.




2 C-2 EAST ELEVATION

SCALE: 1/8" = 1'-0"

GRAPHIC SCALE

8 0 4 8 16 32

( IN FEET )

1 inch = 8 ft.

| | |
|---|---|
| DESIGNED BY: | CFC |
| DRAWN BY: | KMW |
| CHK'D BY: | DMD |

| BY | DESCRIPTION |
|---|---|
| CFC | REVISED FOR SITE LAND USE PERMIT |
| CFC | ISSUED FOR SITE LAND USE PERMIT |
| DMD | ISSUED FOR LAND USE MODIFICATION PERMIT- REVISED SHELTER |
| CFC | ISSUED FOR LAND USE MODIFICATION PERMIT- OWNER REVIEW |
| DMD | ISSUED FOR LAND USE MODIFICATION PERMIT- OWNER REVIEW |
| CFC | ISSUED FOR LAND USE MODIFICATION PERMIT - INTERNAL REVIEW |
| DMD | ISSUED FOR LAND USE MODIFICATION PERMIT - INTERNAL REVIEW |

| NO. | DATE | DRAWN BY | CHK'D BY |
|---|---|---|---|
| 9 | 05/17/13 | DMD | CFC |
| 8 | 04/26/13 | DMD | CFC |
| 7 | 03/14/13 | DMD | CFC |
| 6 | 02/24/11 | DMD | CFC |
| 5 | 01/07/11 | DMD | CFC |
| 4 | 12/16/10 | DMD | CFC |
| 3 | 11/18/10 | DMD | CFC |
| 2 | 10/27/10 | DMD | CFC |
| 1 | 09/27/10 | DMD | CFC |

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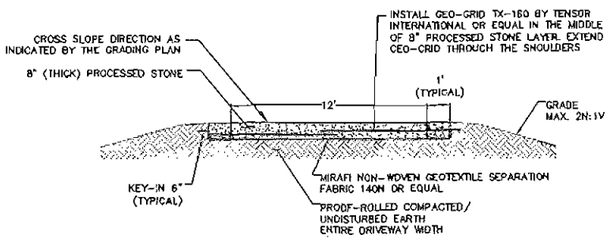
| | |
|---|---|
| DATE: | 05/17/13 |
| SCALE: | AS NOTED |
| JOB NO. | 09041 |

COMPOUND PLAN AND ELEVATION

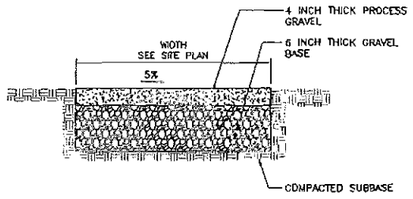
C-2

Sheet No. 4 of 8



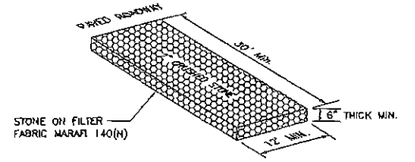

## 1 C-3 REINFORCED PROCESSED STONE ACCESS DRIVE W/ NON-WOVEN GEOTEXTILE SEPARATION FABRIC

NOT TO SCALE



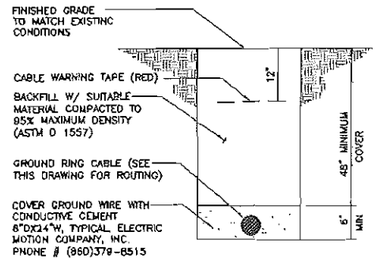

## 2 C-3 GRAVEL PARKING SURFACE

NOT TO SCALE




## 3 C-3 CONSTRUCTION ENTRANCE

NOT TO SCALE

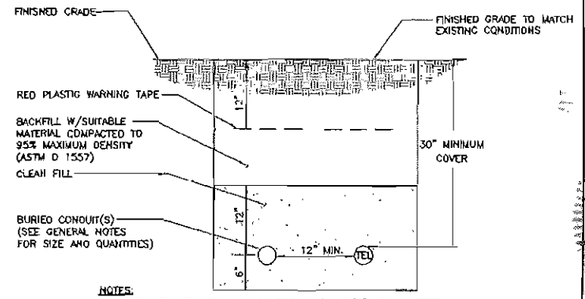



NOTES:

1. BACK FILL SHALL NOT CONTAIN ASHES, CINDERS, SHELLS, FROZEN MATERIAL, LOOSE DEBRIS OR STONES LARGER THAN 2" IN MAXIMUM DIMENSION.
2. WHERE EXISTING UTILITIES ARE LIKELY TO BE ENCOUNTERED, CONTRACTOR SHALL HAND DIG AND PROTECT EXISTING UTILITIES.

## 4 C-3 TYPICAL BURIAL GROUND CABLE DETAIL

NOT TO SCALE

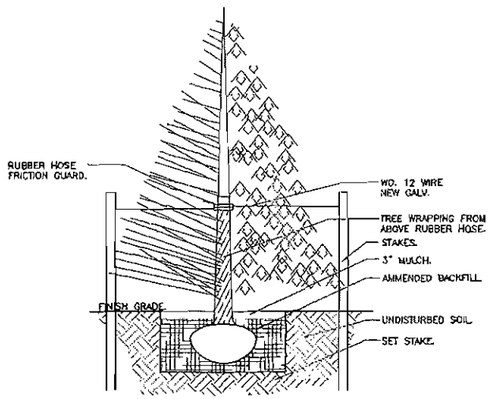



NOTES:

1. THE CLEAN FILL SHALL PASS THROUGH A 3/8" MESH SCREEN AND SHALL NOT CONTAIN SHARP STONES. OTHER BACKFILL SHALL NOT CONTAIN ASHES, CINDERS, SHELLS, FROZEN MATERIAL, LOOSE DEBRIS OR STONES LARGER THAN 2" IN MAXIMUM DIMENSION.
2. WHERE EXISTING UTILITIES ARE LIKELY TO BE ENCOUNTERED, CONTRACTOR SHALL HAND DIG AND PROTECT EXISTING UTILITIES.

## 5 C-3 TYPICAL ELECTRICAL/TEL TRENCH DETAIL

NOT TO SCALE

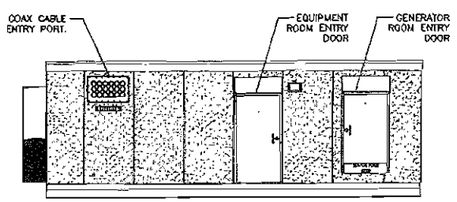



TREE & SHRUB PLANTING SPECIFICATIONS:

1. GUY WIRES (WO.12 NEW GALV.) SHALL BE REQUIRED FOR ALL TREES 3 GAL AND LARGER.
2. SOIL MIX SHALL CONSIST OF: 3 PARTS TOP SOIL 3 PART PEAT MOSS, 1Q ONE PART COMPOSTED COW MANURE, AND 1 OZ. SOIL MOIST PER EVERY 12 IN. OF LINEAR DIA. OF ROOT BALL. COVER WITH LANDSCAPE FABRIC, AND A MINIMUM OF 3" CEDAR MULCH.
3. TREES 6' AND OVER SHALL BE STAKED WITH 2 OAK STAKES 2" X 2" X 6' AND GUY WIRE TO STAKES.
4. ALL TREES AND SHRUBS MUST MEET OR EXCEED STANDARDS SET BY THE NATIONAL ASSOCIATION OF NURSERYMEN, YEAR OF LATEST REVISION.

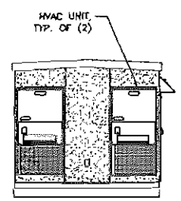
## 6 C-3 TYPICAL TREE PLANTING DETAIL

NOT TO SCALE



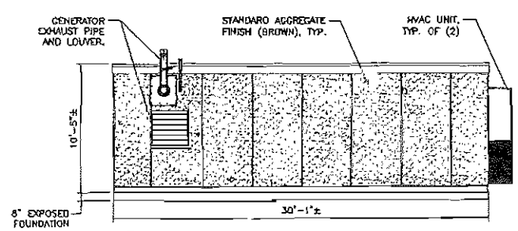

## 7 C-3 NORTH SHELTER ELEVATION

SCALE: 3/16" = 1'-0"



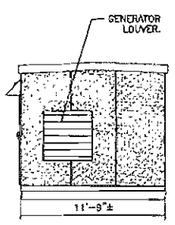

## 8 C-3 EAST SHELTER ELEVATION

SCALE: 3/16" = 1'-0"



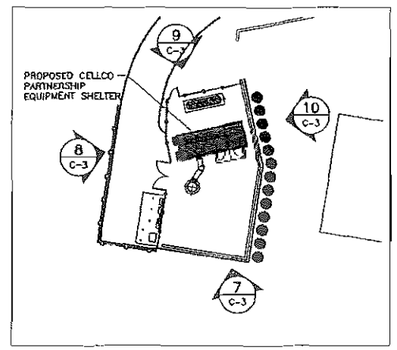

## 9 C-3 SOUTH SHELTER ELEVATION

SCALE: 3/16" = 1'-0"




## 10 C-3 WEST SHELTER ELEVATION

SCALE: 3/16" = 1'-0"




SHELTER ELEVATION KEY PLAN

NOT TO SCALE

NORTH

| | |
|---|---|
| DESIGNED BY: | CFC |
| DRAWN BY: | KMW |
| CHK'D BY: | DWD |

| REV. | DATE | DRAWN BY | CHK'D BY | DESCRIPTION |
|---|---|---|---|---|
| 5 | 08/08/12 | DWD | CFC | REVISED FOR DPH LAND PERMIT |
| 4 | 08/06/12 | DWD | CFC | ISSUED FOR LAND USE MODIFICATION PERMIT - REVISED SHELTER |
| 3 | 06/01/12 | DWD | CFC | ISSUED FOR LAND USE MODIFICATION PERMIT - OWNER REVIEW |
| 2 | 08/24/11 | DWD | CFC | ISSUED FOR LAND USE MODIFICATION PERMIT - OWNER REVIEW |
| 1 | 08/02/11 | DWD | CFC | ISSUED FOR LAND USE MODIFICATION PERMIT - OWNER REVIEW |
| 0 | 05/17/11 | DWD | CFC | ISSUED FOR LAND USE MODIFICATION PERMIT - INTERNAL REVIEW |

PROFESSIONAL ENGINEER — LICENSED — CHRISTOPHER F. CLARK — STATE OF CONNECTICUT

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WIRELESS COMMUNICATIONS FACILITY

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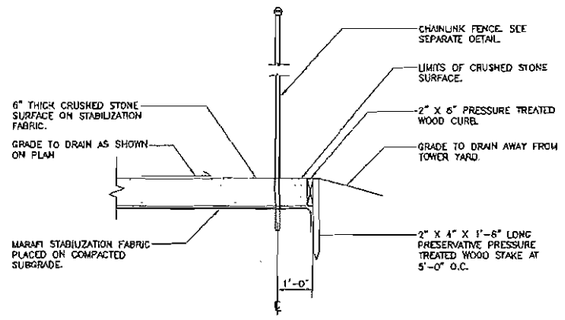
BURLINGTON, CT 06013

| | |
|---|---|
| DATE: | 05/17/11 |
| SCALE: | AS NOTED |
| JOB NO. | 09041 |

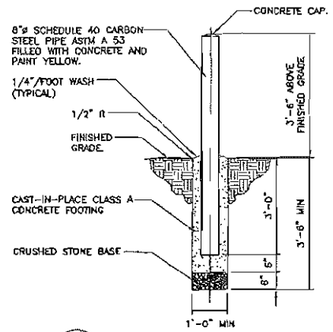
SITE DETAILS AND SHELTER ELEVATIONS

C-3

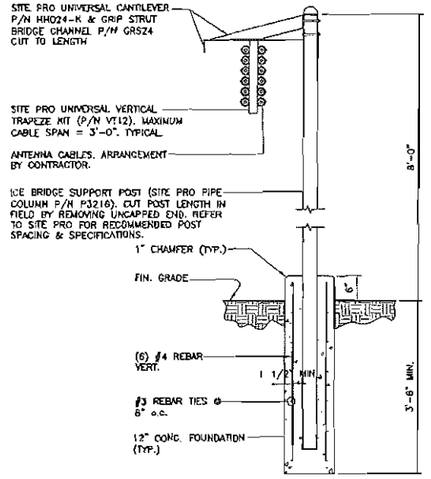
Sheet No. 5 of 8



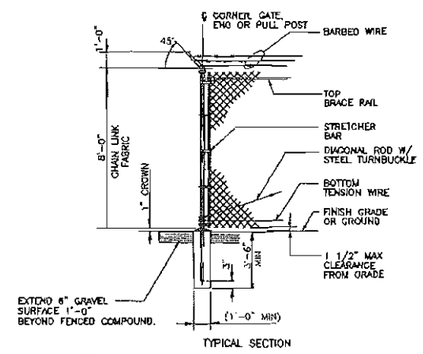

1 / C-4 COMPOUND SURFACING DETAIL
NOT TO SCALE




2 / C-4 BOLLARD DETAIL
NOT TO SCALE




3 / C-4 ICE BRIDGE DETAIL
NOT TO SCALE

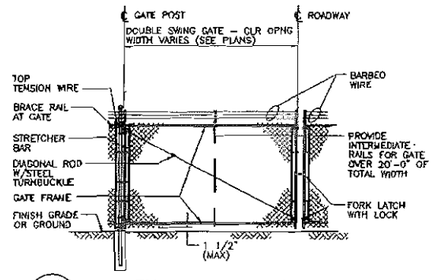



TYPICAL SECTION

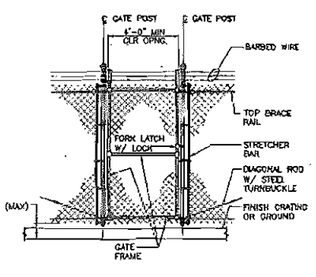
4 / C-4 WOVEN WIRE FENCE DETAIL
NOT TO SCALE

## WOVEN WIRE FENCE NOTES

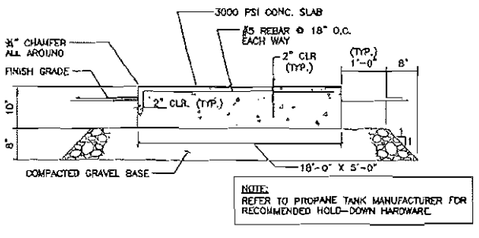
1. GATE POST, CORNER, TERMINAL OR PULL POST 2 1/2" ø SCHEDULE 40 FOR GATE WIDTHS UP THRU 6 FEET OR 12 FEET FOR DOUBLE SWING GATE PER ASTM-F1083.
2. LINE POST: 2" ø SCHEDULE 40 PIPE PER ASTM-F1083.
3. GATE FRAME: 1 1/2" ø SCHEDULE 40 PIPE PER ASTM-F1083.
4. TOP RAIL & BRACE RAIL: 1 1/2" ø SCHEDULE 40 PIPE PER ASTM-F1083.
5. FABRIC: 12 GA. CORE WIRE SIZE 2" MCSH, CONFORMING TO ASTM-A392.
6. TIE WIRE: MINIMUM 11 GA. GALVANIZED STEEL AT POSTS AND RAILS A SINGLE WRAP OF FABRIC TIE AND AT TENSION WIRE BY HOG RINGS SPACED MAX 24" INTERVALS.
7. TENSION WIRE: 7 GA. GALVANIZED STEEL.
8. BARBED WIRE: DOUBLE STRAND 12-1/2" B.G. TWISTED WIRE TO MATCH W/FABRIC 14 GA., 4 PT. BARBS SPACED ON APPROXIMATELY 5" CENTERS.
9. GATE LATCH: DROP DOWN LOCKABLE FORK LATCH AND LOCK, KEYED ALIKE FOR ALL SITES IN A GIVEN MTA.
10. LOCAL ORDINANCE OF BARBED WIRE PERMIT REQUIREMENT SHALL BE COMPLIED WITH IF REQUIRED.
11. HEIGHT = 8' VERTICAL + 1' BARBED WIRE VERTICAL DIMENSION.
12. ALL FENCE AND GATE SECTIONS TO RECEIVE BLACK VINYL PRIVACY SLATS.




4A / C-4 WOVEN WIRE SWING GATE-DOUBLE
NOT TO SCALE

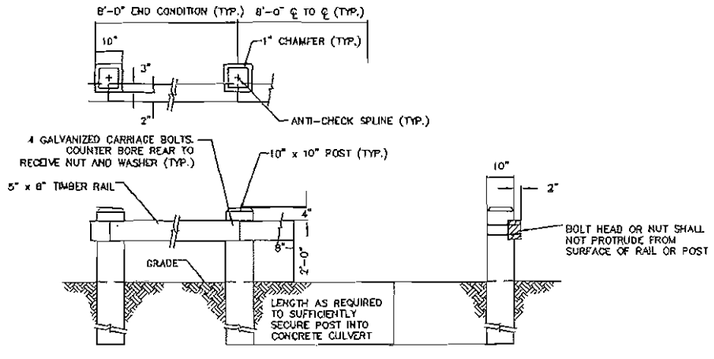



4B / C-4 WOVEN WIRE SINGLE SWING GATE
NOT TO SCALE



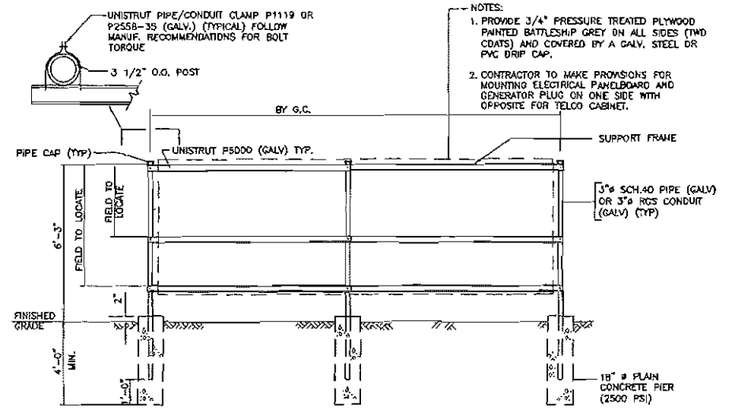

NOTE:
REFER TO PROPANE TANK MANUFACTURER FOR RECOMMENDED HOLD-DOWN HARDWARE.

5 / C-4 PROPANE TANK PAD DETAIL
NOT TO SCALE




NOTE:
1. ALL TIMBER TO BE PRESSURE TREATED

6 / C-4 TIMBER GUIDE RAIL
NOT TO SCALE




7 / C-4 UTILITY SUPPORT FRAME (TYP)
NOT TO SCALE

| DESIGNED BY: | CFC |
|---|---|
| DRAWN BY: | KMW |
| CHK'D BY: | DMD |

| NO. | BY | DATE | DESCRIPTION |
|---|---|---|---|
| A | CFC | 08/02/12 | REVISED FOR DPH LAND PERMIT |
| B | DMD | 07/16/12 | ISSUED FOR DPH LAND PERMIT |
| C | CFC | 06/01/12 | ISSUED FOR LAND USE MODIFICATION PERMIT- REVISED SHELTER |
| D | DMD | 05/24/11 | ISSUED FOR LAND USE MODIFICATION PERMIT- OWNER REVIEW |
| E | DMD | 05/20/11 | ISSUED FOR LAND USE MODIFICATION PERMIT- OWNER REVIEW |
| F | CFC | 05/17/11 | ISSUED FOR LAND USE MODIFICATION PERMIT – INTERNAL REVIEW |

Professional Engineer Seal — Cellco Partnership d/b/a Verizon Wireless

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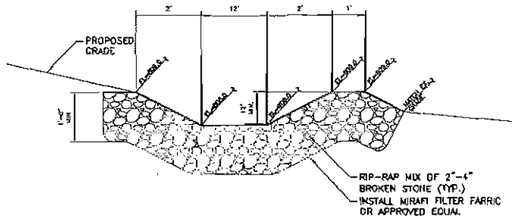
DATE: 05/17/11
SCALE: AS NOTED
JOB NO. 09041

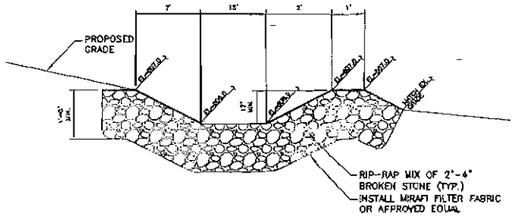
SITE DETAILS

C-4
Sheet No. 5 of 8



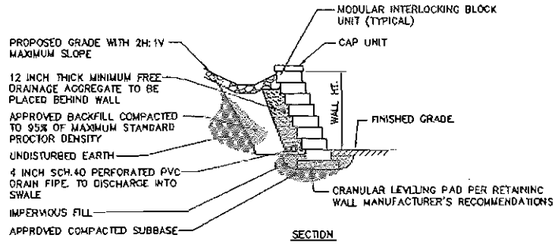

1 C-5 PLUNGE POOL/LEVEL SPREADER #1 TYPICAL SECTION

NOT TO SCALE



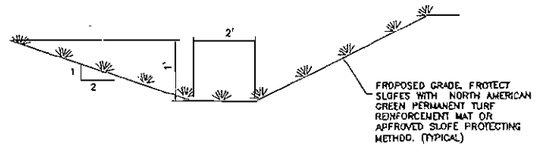

2 C-5 PLUNGE POOL/LEVEL SPREADER #2 TYPICAL SECTION

NOT TO SCALE



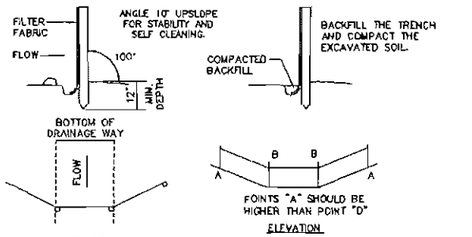

3 C-5 TYPICAL RETAINING WALL

NOT TO SCALE




4 C-5 GRASS SWALE - TYPICAL SECTION

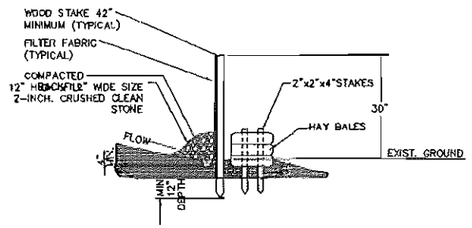
NOT TO SCALE




SOURCE: U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, STORRS, CONNECTICUT

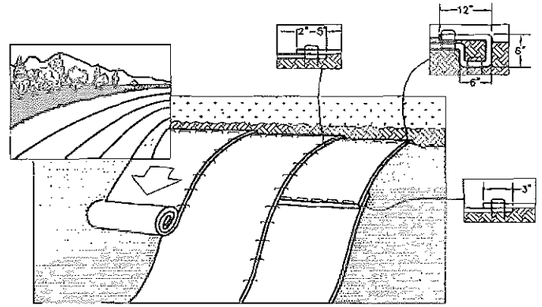
5 C-5 PLACEMENT AND CONSTRUCTION SILTATION FENCE

NOT TO SCALE




5A C-4 TYP. SILTATION FENCE/HAYBALE EROSION CONTROL DETAIL

NOT TO SCALE



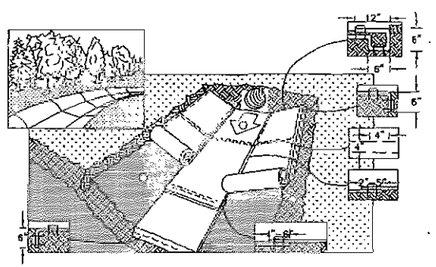

6 C-5 REINFORCEMENT BLANKET INSTALLATION ON SLOPE (TYPICAL)

NOT TO SCALE

NOTES:

1. SLOPE APPLICATIONS:
   - A. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. SEED TO BE USED IN ALL DISTURBED AREAS TO BE VEGITATED SHALL CONSIST OF NEW ENGLAND CONSERVATION/WILDLIFE SEED MIX PROVIDED BY NEW ENGLAND WETLAND PLANTS, INC., OR APPROVED EQUIVALENT. THIS NATIVE SEED MIX PROVIDES A PERMANENT COVER OF GRASSES, FORBS, WILDFLOWERS, LEGUMES AND GRASSES TO PROMOE BOTH GOOD EROSION CONTROL AND WILDLIFE HABITAT VALUE AND IS DESIGNED TO BE A NO MAINTENANCE SEEDING APPROPRIATE FOR CUT AND FILL SLOPES.
   - B. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLE/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
   - C. ROLL THE BLANKET DOWN OR HORIZONTALLY ACROSS THE SLOPE. BLANKET WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL ROLLED EROSION CONTROL BLANKETS MUST BE SECUNELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM(TM), STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
   - D. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY A 2"- 5" OVERLAP DEPENDING ON BLANKET TYPE.
   - E. CONSECUTIVE ROLLED EROSION CONTROL BLANKET SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP, STAPLE THROUGH OVERLAPPED AREA. APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.

     *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKET.
   - F. REFER TO MANUFACTURERS STAPLE GUIDE FOR CORRECT STAPLE PATTERN. MINIMUM 4 SPIKES PER ONE SQ. FT.
2. THE CONTRACTOR SHALL MAINTAIN THE BLANKET UNTIL ALL WORK ON THE CONTRACT HAS BEEN COMPLETED AND ACCEPTED. MAINTENANCE SHALL CONSIST OF THE REPAIR OF AREAS WHERE DAMAGED BY ANY CAUSE. ALL DAMAGED AREAS SHALL BE REPAIRED TO REESTABLISH THE CONDITIONS AND GRADE OF THE SOIL PRIOR TO APPLICATION OF THE COVERING AND SHALL BE REFERTILIZED, RESEEDED, AND REMULCHED AS DIRECTED.




7 C-5 REINFORCEMENT BLANKET INSTALLATION IN CHANNEL (TYPICAL)

NOT TO SCALE

NOTES:

1. CHANNEL APPLICATIONS:
   - A. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
   - B. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLE/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
   - C. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM(TM), STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
   - D. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4"- 6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE BLANKETS.
   - E. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP BY 6" WIDE TRENCH, BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
   - F. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 2"- 5" AND STAPLED TO ENSURE PROPER SEAM ALIGNMENT. PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH(TM) ON THE BLANKET BEING OVERLAPPED.
   - G. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP BY 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
   - H. REFER TO MANUFACTURERS STAPLE GUIDE FOR CORRECT STAPLE PATTERN. MINIMUM 4 SPIKES PER ONE SQ. FT. THE CONTRACTOR SHALL MAINTAIN THE BLANKET UNTIL ALL WORK ON THE CONTRACT HAS BEEN COMPLETED AND ACCEPTED. MAINTENANCE SHALL CONSIST OF THE REPAIR OF AREAS WHERE DAMAGED BY ANY CAUSE. ALL DAMAGED AREAS SHALL BE REPAIRED TO REESTABLISH THE CONDITIONS AND GRADE OF THE SOIL PRIOR TO APPLICATION OF THE COVERING AND SHALL BE REFERTILIZED, RESEEDED, AND REMULCHED AS DIRECTED.

## EROSION CONTROL

### GENERAL CONSTRUCTION SEQUENCE

THIS IS A GENERAL CONSTRUCTION SEQUENCE OUTLINE SOME ITEMS OF WHICH MAY NOT APPLY TO PARTICULAR SITES.

1) CUT AND STUMP AREAS OF PROPOSED CONSTRUCTION.
2) INSTALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES AS REQUIRED.
3) REMOVE AND STOCKPILE TOPSOIL. STOCKPILE SHALL BESEEDED TO PREVENT EROSION.
4) CONSTRUCT CLOSED DRAINAGE SYSTEM. FRECEPT CULVERT INLETS AND CATCH BASINS WITH SEDIMENTATION BARRIERS.
5) CONSTRUCT ROADWAYS AND PERFORM SITE GRADING, PLACING HAY BALES AND SILTATION FENCES AS REQUIRED TO CONTROL SOIL EROSION.
6) INSTALL UNDERGROUND UTILITIES.
7) BEGIN TEMPORARY AND PERMANENT SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED OR MULCHED IMMEDIATELY AFTER THEIR CONSTRUCTION. NO AREA SHALL BE LEFT UNSTABILIZED FOR A TIME PERIOD OF MORE THAN 30 DAYS.
8) DAILY, OR AS REQUIRED, CONSTRUCT, INSPECT, AND IF NECESSARY, RECONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, SILT FENCES AND SEDIMENT TRAPS INCLUDING MULCHING AND SEEDING.
9) BEGIN EXCAVATION FOR AND CONSTRUCTION OF TOWERS AND FLATFORMS.
10) FINISH PAVING ALL ROADWAYS, DRIVES, AND PARKING AREAS.
11) COMPLETE PERMANENT SEEDING AND LANDSCAPING.
12) NO FLOW SHALL BE DIVERTED TO ANY WETLANDS UNTIL A HEALTHY STAND OF GRASS HAS BEEN ESTABLISHED IN REGARDED AREAS.
13) AFTER GRASS HAS BEEN FULLY CERMINATED IN ALL SEEDED AREAS, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.

### CONSTRUCTION SPECIFICATIONS - SILT FENCE

1) THE GEOTEXTILE FARRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.
2) THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
3) WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES OR STAPLES.
4) FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOF, MID-SECTION AND BOTTOM.
5) WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED.
6) FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 16 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.
7) MAINTENANCE SHALL BE PERFORMED AS NEEDED TO FREVENT BUILD UP IN THE SILT FENCE DUE TO DEPOSITION OF SEDIMENT.

### MAINTENANCE - SILT FENCE

1) SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2) IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3) SEDIMENT SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACHED APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
4) SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOFOGRAPHY AND VEGETATED.

### SUGGESTED CELL SITE - DRIVEWAY AND DRAINAGE SWALES AND LEVEL SPREADER INSPECTION AND MAINTENANCE PROGRAM

1) THE APPOINTED PERSON, VISITING THE SITE ON A ROUTINE BASIS, SHALL PERFORM GENERAL INSPECTION OF THE CONDITION OF THE SITE DRIVEWAY, THREE (3) DRAINAGE SWALES AND THE TWO (2) LEVEL SPREADER STRUCTURES. THE DATE AND TIME OF THESE INSPECTIONS AND OBSERVATIONS SHALL BE RECORDED IN A LOG BOOKLET KEPT AT THE SITE IN THE VERIZON SHELTER OR OTHER AGREED LOCATION.
2) AT EACH SITE VISIT THE INSPECTORS SHALL NOTE THE CONDITION OF THE SURFACE OF THE DRIVEWAY AND ANY RUTTING OR EROSION GULLIES THAT ARE DEVELOPING OR HAVE DEVELOPED.
3) AFTER SIGNIFICANT RAINFALL AND RUNOFF EVENTS THE "LEVEL SPREADERS" SHALL BE INSPECTED FOR ACCUMULATION OF LEAF LITTER, STICKS AND VEGETATION THAT WOULD DISRUPT UNIFORM FLOW OF WATER ALONG THE LENGTH OF THE LEVEL SPREADER AS WELL AS PREVENT THE UNIFORM EVEN FLOW OF WATER OUT ACROSS THE LENGTH OF THE DOWN SLOPE LIP OF THE SPREADERS. SUCH MATERIALS SHALL BE REMOVED BY THE INSPECTOR AND CAST UPSLOPE OF THE LEVEL SPREADER. THE PRESENCE AND ANY ACCUMULATIONS OF SOIL SEDIMENTS SHALL BE NOTED BY THE INSPECTORS.
4) AT EACH OF THESE INSPECTIONS THE INSPECTORS SHALL ALSO NOTE THE CONDITION OF THE LEVEL SPREADER'S SHAPE AND DOWNSLOPE LIP, NOTING ANY POINTS WHERE THE STRUCTURE MAY NEED RESHAPING AND/OR RELEVELING. ANY SIGNS OF CONCENTRATED FLOW PASSING OVER SPOTS AND EROSION OF THE SLOPE DOWN SLOPE FROM THE LEVEL SPREADERS SHALL BE NOTED.

SCHEDULED SPECIAL MAINTENANCE

1) IN ADDITION PERFORMING DIRECT CORRECTIONS AND RECORDING IN THE ON-SITE LOG BOOK, WHEN EROSION OR RUTTING OF THE DRIVEWAY, LEVEL SPREADER SHAPE DISRUPTION, DOWNSLOPE EROSION OR ACCUMULATION OF SOIL SEDIMENTS IS NOTED, THESE CONDITIONS SHALL BE REPORTED TO THE APPROPRIATE REPRESENTATIVE RESPONSIBLE FOR UPKEEP AND MAINTENANCE. OTHER CONDITIONS, WHICH CANNOT BE PROPERLY ADDRESSED BY THE INSPECTORS, SHALL ALSO BE REPORTED TO THE MAINTENANCE REPRESENTATIVE FOR CORRECTION.
2) THE RESPONSIBLE MAINTENANCE PERSON SHALL SCHEDULE CORRECTIVE ACTION BY CONTRACT PERSONNEL EXPERIENCED IN THE MEANS, METHODS AND REQUIREMENTS OF SUCH REPAIR WORK. AFTER CORRECTIVE ACTION HAS BEEN TAKEN, THE PERSON RESPONSIBLE FOR MAINTENANCE, OR THEIR AGENT, SHALL VISIT THE SITE, INSPECT THE REPAIRS/RESTORATIONS AND NOTE THE DATE AND ACCEPTABILITY OF SAID REPAIRS IN THE LOG BOOK.
3) THE KNOWLEDGEABLE MAINTENANCE PERSON, OR THEIR APPOINTED AGENT, SHALL MAKE SCHEDULED INSPECTIONS OF ALL ABOVE LISTED SITE FEATURES AT LEAST TWICE A YEAR, ONCE AFTER THE SPRING THAW AND ONCE IN THE FALL AFTER THE LEAVES HAVE FALLEN, TO CHECK OF THE SITE FEATURES, SCHEDULE ANY REQUIRED MAINTENANCE AND REVIEW LOG BOOKS TO CHECK THAT INTERIM INSPECTIONS ARE BEING PERFORMED AND NOTED.
4) FREQUENT INSPECTIONS AND ROUTINE MINOR CORRECTIVE ACTIONS ARE KEY TO KEEPING GRAVEL DRIVEWAYS AND OPEN LAND DRAINAGE FEATURES IN GOOD CONDITION AND FUNCTIONING PROPERLY.

| | |
|---|---|
| DESIGNED BY: | CFC |
| DRAWN BY: | KMW |
| CHK'D BY: | DMD |

| NO. | DATE | DRAWN BY | CHK'D BY | DESCRIPTION |
|---|---|---|---|---|
| 0 | 05/17/11 | DMD | CFC | ISSUED FOR LAND USE MODIFICATION PERMIT - UNIVERSAL REVIEW |
| 1 | 06/02/11 | DMD | CFC | ISSUED FOR LAND USE MODIFICATION PERMIT- OWNER REVIEW |
| 2 | 06/07/11 | DMD | CFC | ISSUED FOR LAND USE MODIFICATION PERMIT- REVISED SHELTER |
| 3 | 07/07/11 | DMD | CFC | ISSUED FOR DPH LAND PERMIT |
| 4 | 08/02/11 | DMD | CFC | REVISED FOR DPH LAND PERMIT |

Cellco Partnership d/b/a Verizon Wireless

WIRELESS COMMUNICATIONS FACILITY

BURLINGTON SOUTH

77 MILFORD STREET
BURLINGTON, CT 06013

DATE: 05/17/11
SCALE: AS NOTED
JOB NO. 00041

SITE DETAILS AND NOTES

C-5

Sheet No. 7 of 8


CENTEK engineering
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63-2 North Branford Road
Branford, CT 06405
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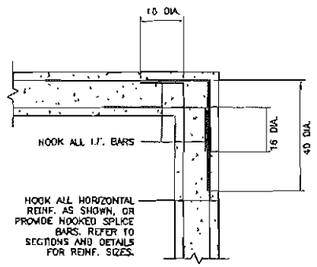
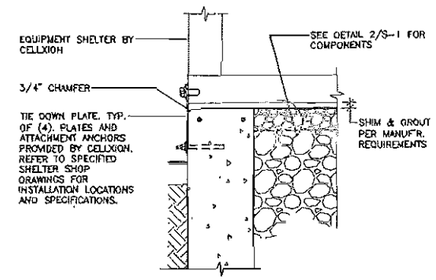
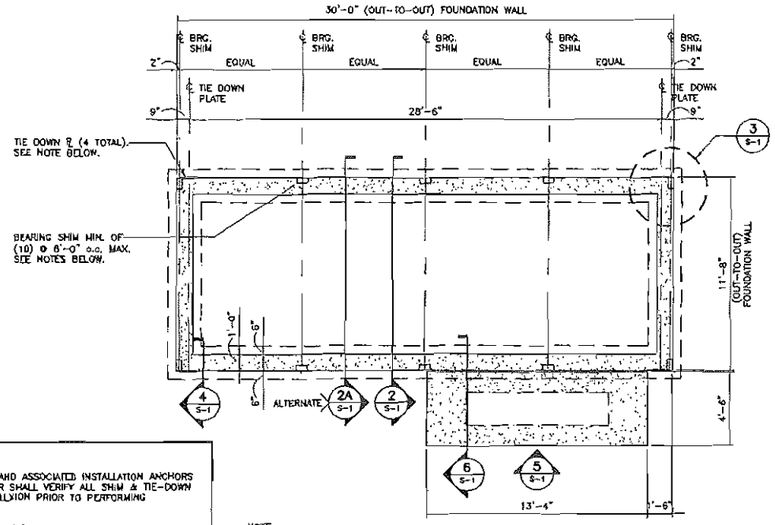
Cellco Partnership d/b/a Verizon Wireless




3 / S-1 PLAN DETAIL
NOT TO SCALE



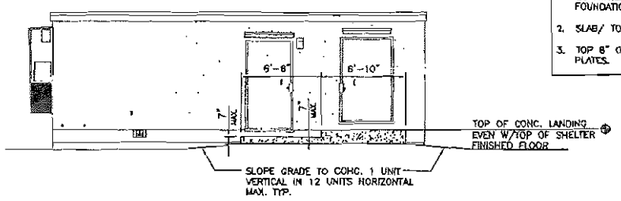

4 / S-1 BUILDING TIE DOWN
SCALE: 1"=1'-0"



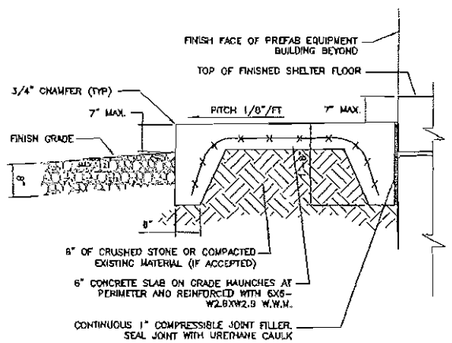

NOTE:
1. B/FTG. ELEVATION AT 3'-6" MINIMUM BELOW FINISHED GRADE. (TYP)

1 / S-1 FOUNDATION PLAN
SCALE: 1/4"=1'-0"
TRUE NORTH

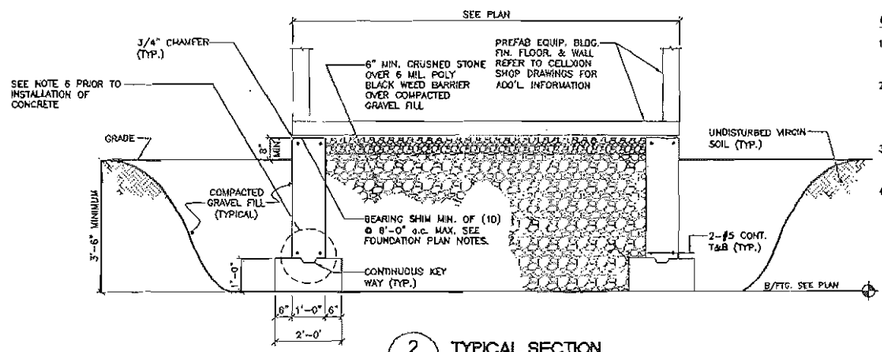
**NOTES:**
1. BEARING SHIMS, TIE-DOWN PLATES AND ASSOCIATED INSTALLATION ANCHORS PROVIDED BY CELLXION. CONTRACTOR SHALL VERIFY ALL SHIM & TIE-DOWN QUANTITIES AND LOCATIONS WITH CELLXION PRIOR TO PERFORMING FOUNDATION WORK.
2. SLAB/ TOP OF WALL TOLERANCE IS 1/4"±
3. TOP 8" OF FOUNDATION SIDES MUST BE FORMED FLAT TO ACCEPT TIE-DOWN PLATES.



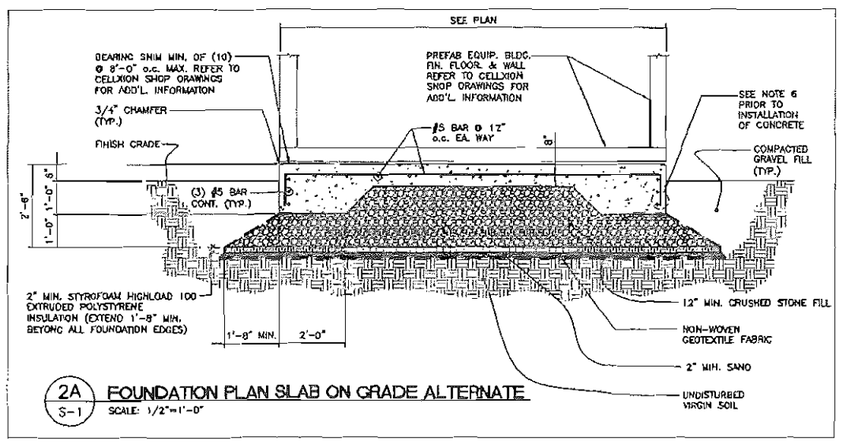

5 / S-1 ENTRY STOOP DETAIL - ELEVATION
SCALE: 3/16"=1'-0"




6 / S-1 ENTRY STOOP DETAIL - SECTION
SCALE: 3/16"=1'-0"




2 / S-1 TYPICAL SECTION
SCALE: 1/2"=1'-0"




2A / S-1 FOUNDATION PLAN SLAB ON GRADE ALTERNATE
SCALE: 1/2"=1'-0"

**EQUIPMENT SHELTER BY CELLXION. VERIFY ALL SHELTER DIMENSIONS, EQUIPMENT DIMENSIONS, EQUIPMENT LOCATIONS AND UTILITY OPENINGS WITH BUILDING SHOP DRAWINGS PRIOR TO COMMENCEMENT OF WORK.**

## FOUNDATION NOTES:

1. IF ANY FIELD CONDITIONS EXIST WHICH PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
2. DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST THE PRE MANUFACTURED EQUIPMENT BUILDING SHOP DRAWINGS.
3. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.
4. REFER TO DRAWING T1 FOR ADDITIONAL NOTES AND REQUIREMENTS.

## SITE NOTES:

1. THE CONTRACTOR SHALL CALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.
2. ACTIVE EXISTING UTILITIES, WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY, PRIOR TO PROCEEDING, SHOULD ANY UNCOVERED EXISTING UTILITY PRECLUDE COMPLETION OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
3. ALL RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED OFF SITE AND BE LEGALLY DISPOSED, AT NO ADDITIONAL COST.
4. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE EQUIPMENT AND TOWER AREAS.
5. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
6. THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
7. THE AREAS OF THE COMPOUND DISTURBED BY THE WORK SHALL BE RETURNED TO THEIR ORIGINAL CONDITION.
8. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
9. IF ANY FIELD CONDITIONS EXIST WHICH PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL PROCEED WITH AFFECTED WORK AFTER CONFLICT IS SATISFACTORILY RESOLVED.
10. DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST THE PRE MANUFACTURED EQUIPMENT BUILDING SHOP DRAWINGS.
11. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.

## COMPACTED GRAVEL FILL:

1. COMPACTED GRAVEL FILL SHALL BE FURNISHED AND PLACED AS A FOUNDATION FOR STRUCTURES, WHERE SHOWN ON THE CONTRACT DRAWINGS OR DIRECTED BY THE ENGINEER.
2. GRAVEL SHALL CONFORM TO THE REQUIREMENTS OF ARTICLE M.02.02 OF THE CONNECTICUT D.O.T. STANDARD SPECIFICATIONS. ADMIXTURES AND SURFACE PROTECTIVE MATERIALS USED TO PREVENT THE GRAVEL FROM FREEZING MUST MEET THE APPROVAL OF THE ENGINEER. THE LARGEST STONE SIZE SHALL BE 3-1/2 INCHES.
3. SAMPLES OF THE MATERIAL TO BE USED SHALL BE DELIVERED TO THE JOB SITE 5 DAYS PRIOR TO ITS INTENDED USE SO IT MAY BE TESTED FOR APPROVAL.
4. AFTER ALL EXCAVATION HAS BEEN COMPLETED, GRAVEL SHALL BE DEPOSITED IN LAYERS NOT EXCEEDING EIGHT (8) INCHES IN DEPTH OVER THE AREAS. IN EXCEPTIONAL CASES, THE ENGINEER MAY PERMIT THE FIRST LAYER TO BE THICKER THAN EIGHT (8) INCHES. EACH LAYER SHALL BE LEVELED OFF BY SUITABLE EQUIPMENT. THE ENTIRE AREA OF EACH LAYER SHALL BE COMPACTED BY USE OF APPROVED VIBRATORY, PNEUMATIC-TIRED OR TREAD-TYPE COMPACTION EQUIPMENT. COMPACTION SHALL BE CONTINUED UNTIL THE DRY DENSITY OVER THE ENTIRE AREA OF EACH LAYER IS NOT LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY ACHIEVED BY AASHTO T-99 METHOD C. THE MOISTURE CONTENT OF THE GRAVEL SHALL NOT VARY BY MORE THAN 3 %+ FROM ITS OPTIMUM MOISTURE CONTENT. NO SUBSEQUENT LAYER SHALL BE DEPOSITED UNTIL THE SPECIFIED COMPACTION IS ACHIEVED FOR THE PREVIOUS LAYER. IF NECESSARY TO OBTAIN THE REQUIRED COMPACTION, WATER SHALL BE ADDED AND GENTLE PUDDLING PERFORMED IF AUTHORIZED. COMPACTED GRAVEL FILL SHALL BE PREVENTED FROM FREEZING BY USE OF APPROVED ADMIXTURES OR BY USE OF APPROVED PROTECTIVE MATERIALS ON THE SURFACE, OR BOTH.

## CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318.
2. ALL CONCRETE SHALL BE NORMAL WEIGHT, 6% AIR ENTRAINED WITH A MAXIMUM SLUMP OF 4", AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, DEFORMED BARS. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 WELDED STEEL WIRE FABRIC. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD UNLESS OTHERWISE INDICATED.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS OTHERWISE NOTED ON THE DRAWINGS:

   CONCRETE CAST AGAINST EARTH.....3 IN.

   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 AND LARGER.....2 IN.
   #5 AND SMALLER & WWF.....1 1/2 IN.

   CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL.....3/4 IN.
   BEAMS AND COLUMNS.....1 1/2 IN.
5. ALL EXPOSED EDGES OF CONCRETE TO RECEIVE A 3/4" CHAMFER IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
6. CONCRETE EQUIPMENT PAD TO RECEIVE A BRUSHED FINISH.
7. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT DURING DRILLING WITHOUT PRIOR REVIEW BY THE ENGINEER.

| | |
|---|---|
| DESIGNED BY: | CFC |
| DRAWN BY: | KMW |
| CHK'D BY: | DMD |

| DESCRIPTION | DRAWN BY | CHK'D BY | DATE |
|---|---|---|---|
| REVISED FOR DPH LAND USE | DMD | CFC | 08/06/12 |
| REVISED FOR LAND USE MODIFICATION PERMIT - REVISED SHELTER | DMD | CFC | 06/01/12 |
| ISSUED FOR LAND USE MODIFICATION PERMIT - OWNER REVIEW | CFC | DMD | 04/24/12 |
| ISSUED FOR LAND USE MODIFICATION PERMIT - OWNER REVIEW | DMD | CFC | 08/06/11 |
| ISSUED FOR LAND USE MODIFICATION PERMIT - INTERNAL REVIEW | CFC | DMD | 05/17/11 |
| 0 | 1 | 2 | 3 |


CENTEK engineering
Centered on Solutions
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com


Cellco Partnership d/b/a Verizon Wireless
WIRELESS COMMUNICATIONS FACILITY
BURLINGTON SOUTH
77 MILFORD STREET
BURLINGTON, CT 06013

| | |
|---|---|
| DATE: | 05/17/11 |
| SCALE: | AS NOTED |
| JOB NO. | 02041 |

SHELTER FOUND. PLAN, DETAILS AND NOTES

C-6

Sheet No. 3 of 3

## CERTIFICATION OF SERVICE

I hereby certify that on this 17th day of August, 2012, 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

Reuben F. Bradford, Commissioner
Department of Emergency Management and Homeland Security
25 Sigourney Street, 6th Floor
Hartford, CT 06106-5042

Daniel C. Esty, Commissioner
Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106

Jewel Mullen, M.D., M.P.H., M.P.A., 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
Hartford, CT 06106

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

David Bahlman, Division Director
State Historic Preservation Officer
Connecticut Commission on Culture & Tourism
Historic Preservation and Museum Division
One Constitution Plaza, 2nd Floor
Hartford, CT 06103

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

Capitol Region Council of Governments
241 Main Street, 4th Floor
Hartford, CT 06106-5310

**BURLINGTON TOWN OFFICIALS:**

Theodore C. Shafer
First Selectman
Town of Burlington
200 Spielman Highway
Burlington, CT 06013

The Honorable John E. Piscopo
Representative – 76th District
Legislative Office Building
Room 4200
Hartford, CT 06106

The Honorable Beth Bye
Senator – 5th District
Legislative Office Building
Room 3100
Hartford, CT 06106

Cynthia M. Kosher
Town Clerk
Town of Burlington
200 Spielman Highway
Burlington, CT 06013

Robert M. Angelillo, Chairman
Planning and Zoning Commission
Town of Burlington
200 Spielman Highway
Burlington, CT 06013

Gregory M. Szydlo, Chairman
Zoning Board of Appeals
Town of Burlington
200 Spielman Highway
Burlington, CT 06013

David Elder, Town Planner/Zoning Official
Zoning Enforcement
Town of Burlington
200 Spielman Highway
Burlington, CT 06013

Aniello L. DePascale, Chairman
Inland Wetland and Watercourses Commission
Town of Burlington
200 Spielman Highway
Burlington, CT 06013

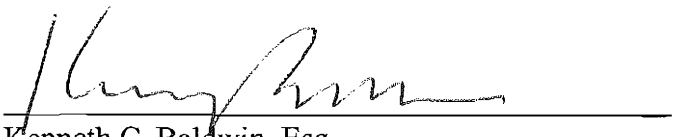
**FEDERAL OFFICIALS:**

The Honorable Richard Blumenthal
United States Senator
702 Hart Senate Office Building
Washington, DC 20510

The Honorable Joseph Lieberman
United States Senator
706 Hart Senate Office Building
Washington, DC 20510

The Honorable Christopher S. Murphy
Congressman
114 West Main Street, Suite 206
New Britain, CT 06051

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 August 17, 2012, by Cellco Partnership d/b/a Verizon Wireless ("Cellco" or the "Applicant"). The Application proposes the installation of a wireless telecommunications facility on an 8.85 acre parcel at 77 Milford Street in Burlington, Connecticut. Cellco proposes to construct a 110-foot monopole tower in the southerly portion of this parcel. Access to the facility compound will extend from Milford Street. Cellco will also install a new 12' x 30' shelter located near the base of the tower to house its radio equipment and a 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 Burlington are invited to review the Application during normal business hours after August 17, 2012, 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

Town Clerk
Town of Burlington
200 Spielman Highway
Burlington, CT 06013-1701

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

August 13, 2012

***Via Certified Mail Return Receipt Requested***

«Name_and_Address»

Re: **Cellco Partnership d/b/a Verizon Wireless**
**Proposed Telecommunications Facility**
**77 Milford Street, Burlington, 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 August 17, 2012, for approval of the construction of a telecommunications facility in Burlington, Connecticut.

The proposed facility location would consist of a new 110-foot telecommunications tower located on an 8.85 acre parcel at 77 Milford Street. This parcel is owned by B&R Corporation. Cellco's radio equipment and a backup generator would be installed inside a 12' x 30' equipment shelter. Access to the facility would extend from Milford Street over a gravel access driveway a distance of 675 feet to the cell site. A set of the project plans for the Cellco proposal are attached for your review.

The location and other features of the proposed facility 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 the proposed facility may 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

KCB/kmd
Attachment

## ADJACENT PROPERTY OWNERS

SITE NAME: BURLINGTON SOUTH

OWNER NAME: B&R CORPORATION

OWNER ADDRESS: 77 MILFORD STREET, BURLINGTON, CONNECTICUT 06013

ASSESSOR'S REFERENCE: MAP: 5-9 LOT: 1

THE FOLLOWING INFORMATION WAS COLLECTED FROM THE TAX ASSESSOR'S RECORDS AND LAND RECORDS OF BURLINGTON TOWN HALL. THE INFORMATION IS CURRENT AS OF JUNE 21, 2012.

THE PARCEL IS ZONED INDUSTRIAL.

| | Map/Lot | Property Address | Property Owner |
|---|---|---|---|
| 1. | 5-7/2 | Milford Street | City of New Britain<br>Attn: Gil Bligh, Director<br>1000 Shuttle Meadow Road<br>New Britain, CT 06052 |
| 2. | 5-7/3 | Milford Street | City of New Britain<br>Attn: Gil Bligh, Director<br>1000 Shuttle Meadow Road<br>New Britain, CT 06052 |
| 3. | 4-8/12-2 | 54 Milford Street | Fillian Brothers, Inc.<br>1766 Farmington Avenue<br>Unionville, CT 06085 |
| 4. | 4-8/12-10 | 7 Hinman Meadow Road | Brycorp Builders LLC<br>P.O. Box 1436<br>Burlington, CT 06013 |
| 5. | 4-8/12-6 | 3 Hinman Meadow Road | Lynn Buthe<br>3 Hinman Meadow Road<br>Burlington, CT 06013 |
| 6. | 4-8/1 | 63 Milford Street | Julia K. and Howard Hinman<br>63 Milford Street<br>Burlington, CT 06013 |

| | | | |
|---|---|---|---|
| 7. | 5-9/20 | 2 Saw Mill Road | Chris A. and Nikki R. Kertesz<br>2 Saw Mill Road<br>Burlington, CT 06013 |
| 8. | 5-9/52 | 5 Saw Mill Road | Mikel and Teresa Minor<br>5 Saw Mill Road<br>Burlington, CT 06013 |

## 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.

8-13-12
Date

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

Attorneys for CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

ULS License

# Cellular License - KNKA404 - Cellco Partnership

| | | | |
|---|---|---|---|
| Call Sign | KNKA404 | Radio Service | CL - Cellular |
| Status | Active | Auth Type | Regular |

**Market**

| | | | |
|---|---|---|---|
| Market | CMA032 - Hartford-New Britain-Bristol, CT | Channel Block | A |
| Submarket | 0 | Phase | 2 |

**Dates**

| | | | |
|---|---|---|---|
| Grant | 02/05/2008 | Expiration | 01/22/2018 |
| Effective | 02/08/2008 | Cancellation | |

**Five Year Buildout Date**

10/16/1992

**Control Points**

| | |
|---|---|
| **1** | 500 W. Dove Rd., TARRANT, Southlake, TX<br>P: (800)264-6620 |

**Licensee**

| | | | |
|---|---|---|---|
| FRN | 0003290673 | Type | General Partnership |

**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 Network 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 | **Yes** |

representative thereof, or by any corporation organized under the laws of a foreign country?

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? **Yes**

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

**Demographics**

Race

Ethnicity Gender

ULS License

# Cellular License - KNKA404 - Cellco Partnership - Frequencies

Call Sign KNKA404 Radio Service CL - Cellular

Return to Main

**A Block**

824.04 - 834.99 paired with 869.04 - 879.99

845.01 - 846.48 paired with 890.01 - 891.48

ULS License

# PCS Broadband License - KNLH251 - Cellco Partnership

| | | | |
|---|---|---|---|
| Call Sign | KNLH251 | Radio Service | CW - PCS Broadband |
| Status | Active | Auth Type | Regular |

**Market**

| | | | |
|---|---|---|---|
| Market | BTA184 - Hartford, 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 | 05/17/2002 | 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 | No |

| | |
|---|---|
| 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? | |
| 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

# 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).

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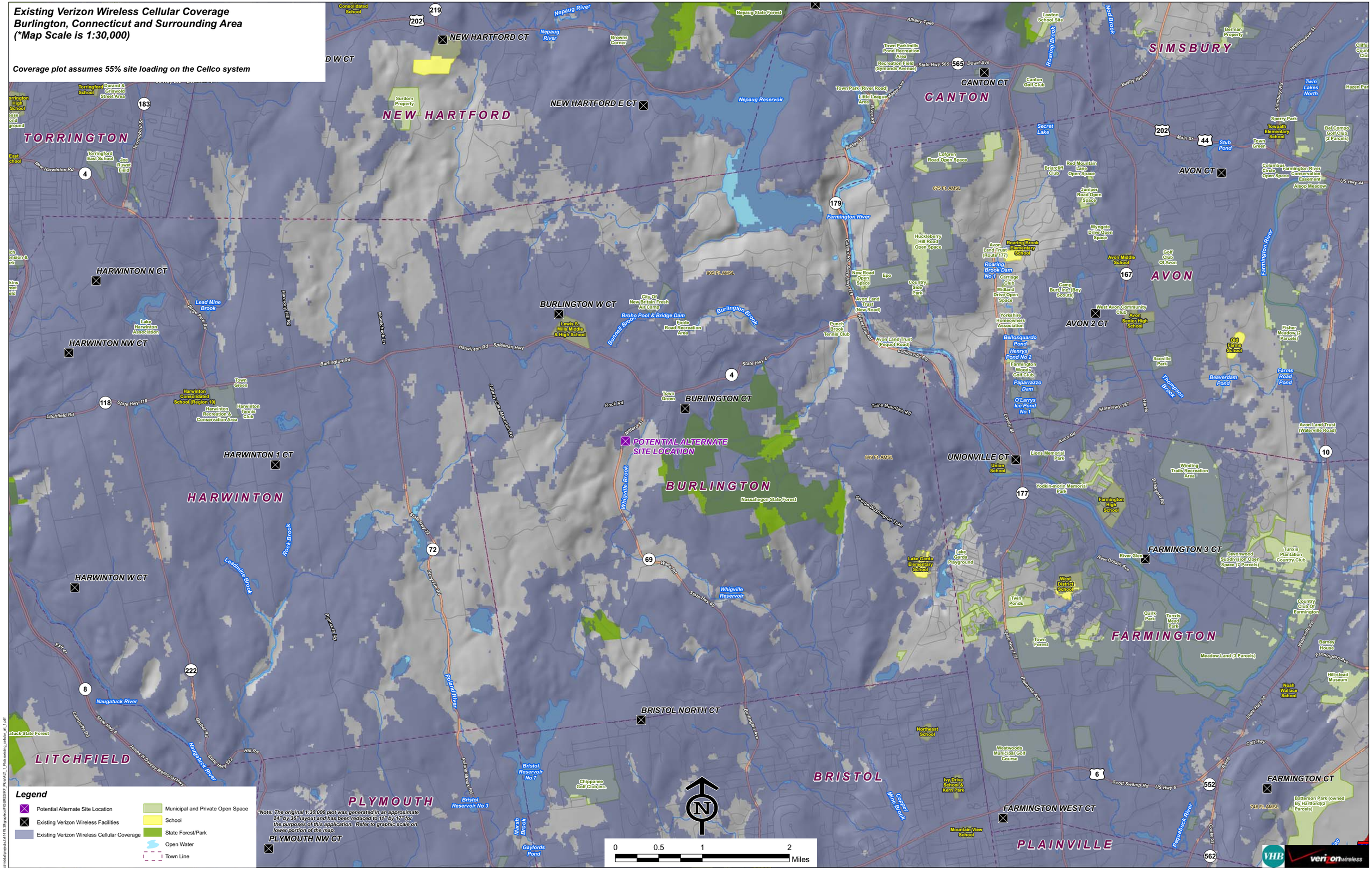
To view the geographic areas associated with the license, go to the Universal Licensing System (ULS) homepage at http://wireless.fcc.gov/uls and select "License Search". Follow the instructions on how to search for license information.



FCC 601-MB
August 2007


Existing Verizon Wireless Cellular Coverage
Burlington, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)
Coverage plot assumes 55% site loading on the Cellco system
NEW HARTFORD CT
NEW HARTFORD E CT
NEW HARTFORD
TORRINGTON
HARWINTON N CT
HARWINTON NW CT
HARWINTON 1 CT
HARWINTON
HARWINTON W CT
LITCHFIELD
PLYMOUTH
PLYMOUTH NW CT
BURLINGTON W CT
BURLINGTON CT
POTENTIAL ALTERNATE SITE LOCATION
BURLINGTON
BRISTOL NORTH CT
BRISTOL
CANTON CT
CANTON
SIMSBURY
AVON CT
AVON 2 CT
AVON
UNIONVILLE CT
FARMINGTON 3 CT
FARMINGTON
FARMINGTON CT
FARMINGTON WEST CT
PLAINVILLE
Nepaug River
Nepaug Reservoir
Nepaug State Forest
Farmington River
Burlington Brook
Whigville Brook
Whigville Reservoir
Rock Brook
Leadmine Brook
Pequabuck River
Poland River
Naugatuck River
Roaring Brook
Thompson Brook
Beaverdam Pond
Bellosquardo Pond
Henrys Pond No 2
Paparrazzo Dam
O'Larrys Ice Pond No 1
Stub Pond
Secret Lake
Lake Garda Playground
Lake Garda Elementary School
Chippanee Golf Club, inc.
Bristol Reservoir No 7
Bristol Reservoir No 3
Gaylords Pond
Mountain View School
Northeast School
Ivy Drive School & Kerri Park
Westwoods Municipal Golf Course
Farmington High School
Union School
Avon Middle School
Roaring Brook Elementary School
Avon Senior High School
West Avon Community Club
Golf Club Of Avon
Avon Land Trust (Route 177)
Avon Land Trust (New Road)
Avon Land Trust (Pequot Road)
Avon Land Trust (Waterville Road)
Lewis S. Mills Middle & High School
Harwinton Consolidated School (Region 10)
Torrington High School
Torringford East School
Torringford Durand & Griswold Street Area
Joe Ruwet Field
Lake Harwinton Association
Harwinton Recreation & Conservation Area
Harwinton Tennis Club
Town Green
Lead Mine Brook
Burr Pond Rd
Litchfield Rd
Burlington Rd
Harwinton Rd
Spimman Hwy
Rock Rd
Milmac Rd
Johnny Cake Mountain Rd
Wickstrack Dr
Harrison Hill Rd
Taine Mountain Rd
Gilletteville Rd
Avon Rd
New Britain Ave
Brickyard Rd
Waterville Rd
Scott Swamp Rd
Colt Hwy
Farmington Ave
Plainville Ave
Bunnell Brook Rd
Poland Brook Rd
Copper Mine Brook
Marsh Brook
Cooper St
Hill Rd
Pequabuck Rd
Cedarcrest Rd
James H Dorcey Memorial Hwy
Bridge St
River Rd
Main St
Dowd Ave
Albany Tpke
George Washington Tpke
Spur Hwy 72
Spur Hwy 177
State Hwy 4
State Hwy 8
State Hwy 10
State Hwy 69
State Hwy 118
State Hwy 167
State Hwy 179
State Hwy 222
State Hwy 565
US Hwy 6
US Hwy 44
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Legend
Potential Alternate Site Location
Existing Verizon Wireless Facilities
Existing Verizon Wireless Cellular Coverage
Municipal and Private Open Space
School
State Forest/Park
Open Water
Town Line
*Note: The original 1:30,000 plot was generated in an approximate 24" by 36" layout and has been reduced to 11" by 17" for the purposes of this application. Refer to graphic scale on lower portion of the map.
0
0.5
1
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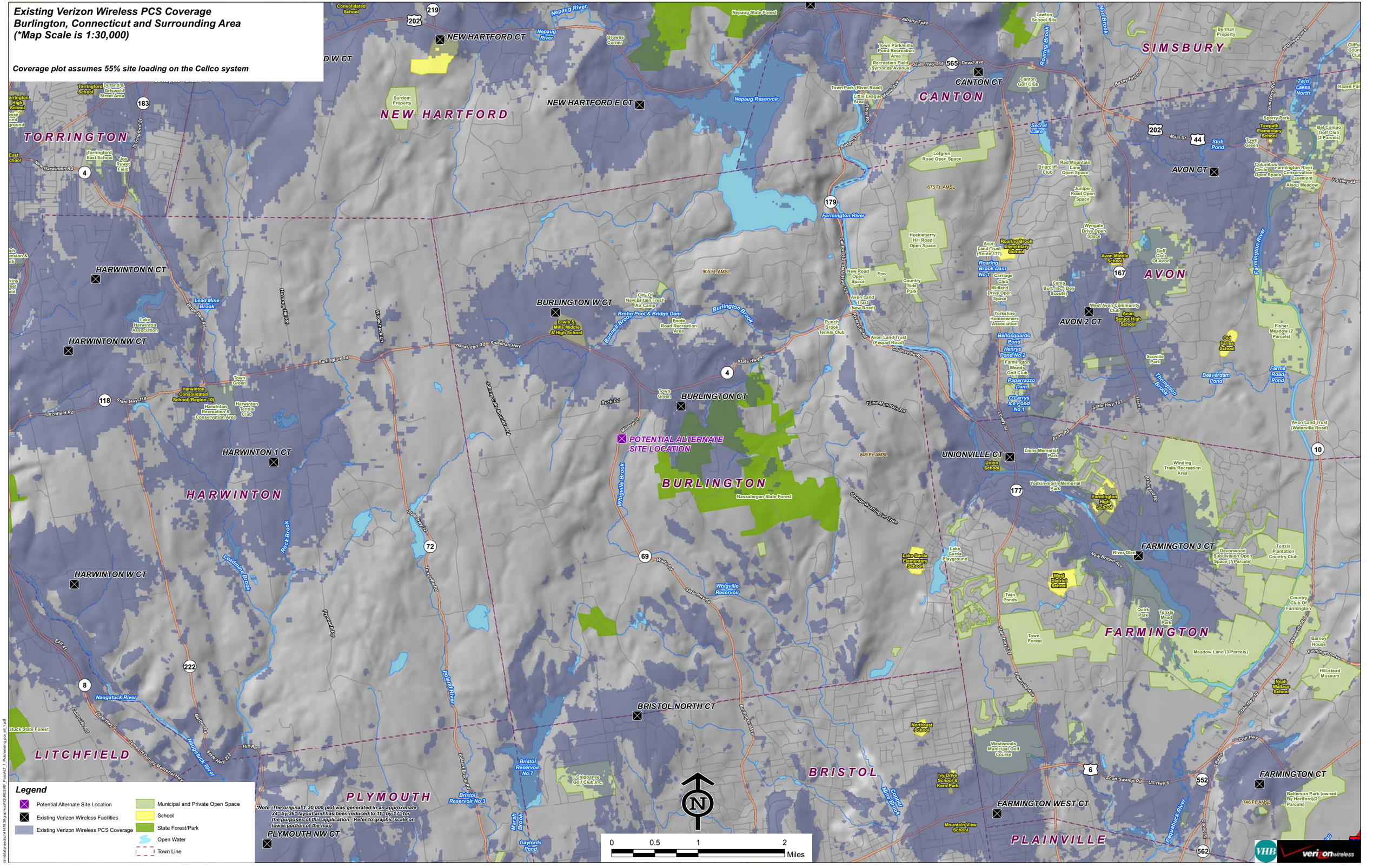
VHB
verizonwireless


Existing Verizon Wireless PCS Coverage
Burlington, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)
Coverage plot assumes 55% site loading on the Cellco system
NEW HARTFORD CT
NEW HARTFORD E CT
NEW HARTFORD
TORRINGTON
HARWINTON N CT
HARWINTON NW CT
HARWINTON 1 CT
HARWINTON
HARWINTON W CT
LITCHFIELD
BURLINGTON W CT
BURLINGTON CT
POTENTIAL ALTERNATE SITE LOCATION
BURLINGTON
BRISTOL NORTH CT
BRISTOL
PLYMOUTH
PLYMOUTH NW CT
CANTON CT
CANTON
SIMSBURY
AVON CT
AVON
AVON 2 CT
UNIONVILLE CT
FARMINGTON 3 CT
FARMINGTON
FARMINGTON CT
FARMINGTON WEST CT
PLAINVILLE
Nepaug Reservoir
Whigville Reservoir
Bristol Reservoir No.7
Bristol Reservoir No.3
Nepaug River
Farmington River
Naugatuck River
Pequabuck River
Nepaug State Forest
Nassahegon State Forest
Legend
Potential Alternate Site Location
Existing Verizon Wireless Facilities
Existing Verizon Wireless PCS Coverage
Municipal and Private Open Space
School
State Forest/Park
Open Water
Town Line
*Note: The original 1:30,000 plot was generated in an approximate 24" by 36" layout and has been reduced to 11" by 17" for the purposes of this application. Refer to graphic scale on lower portion of the map.
0
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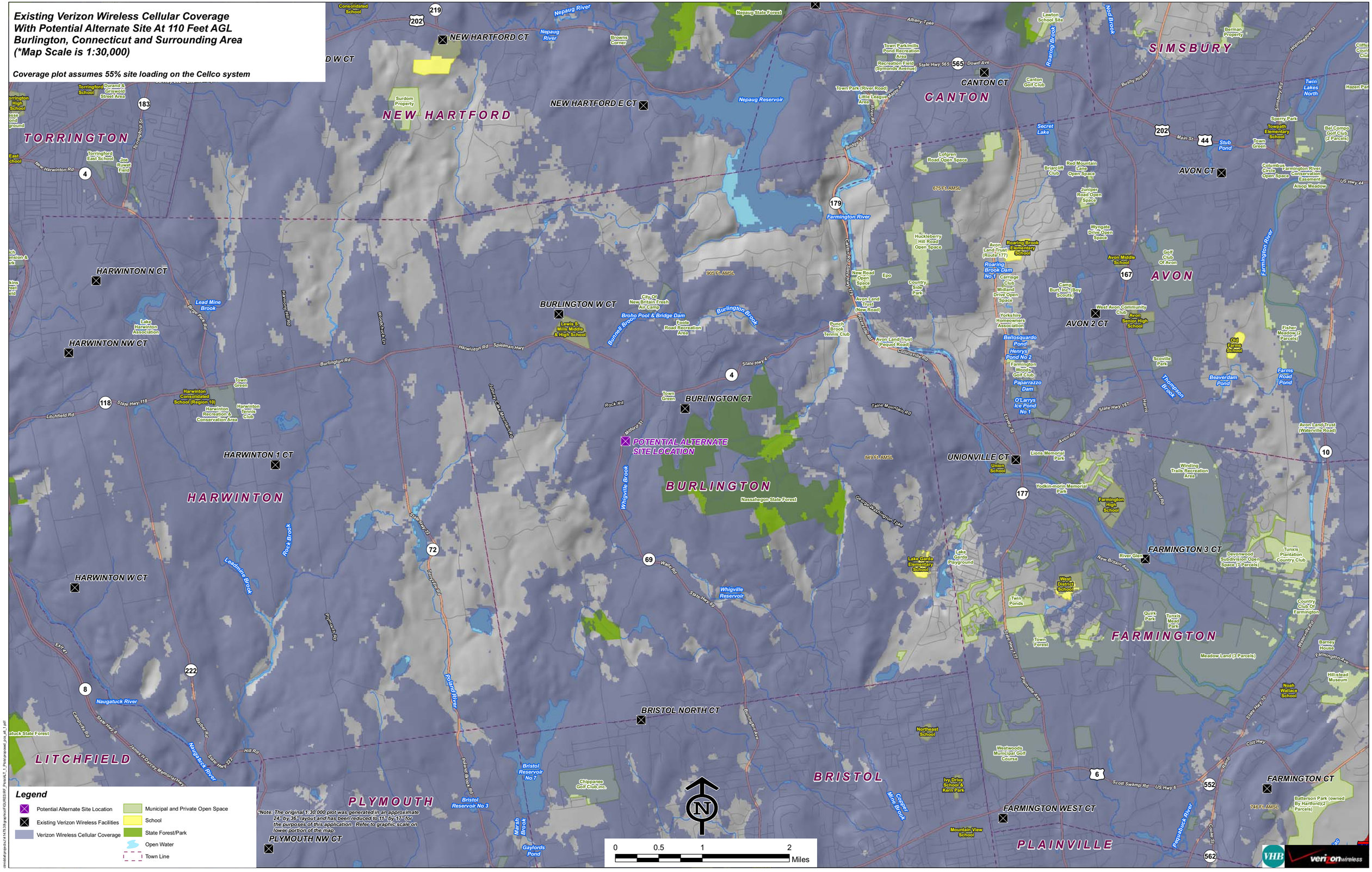
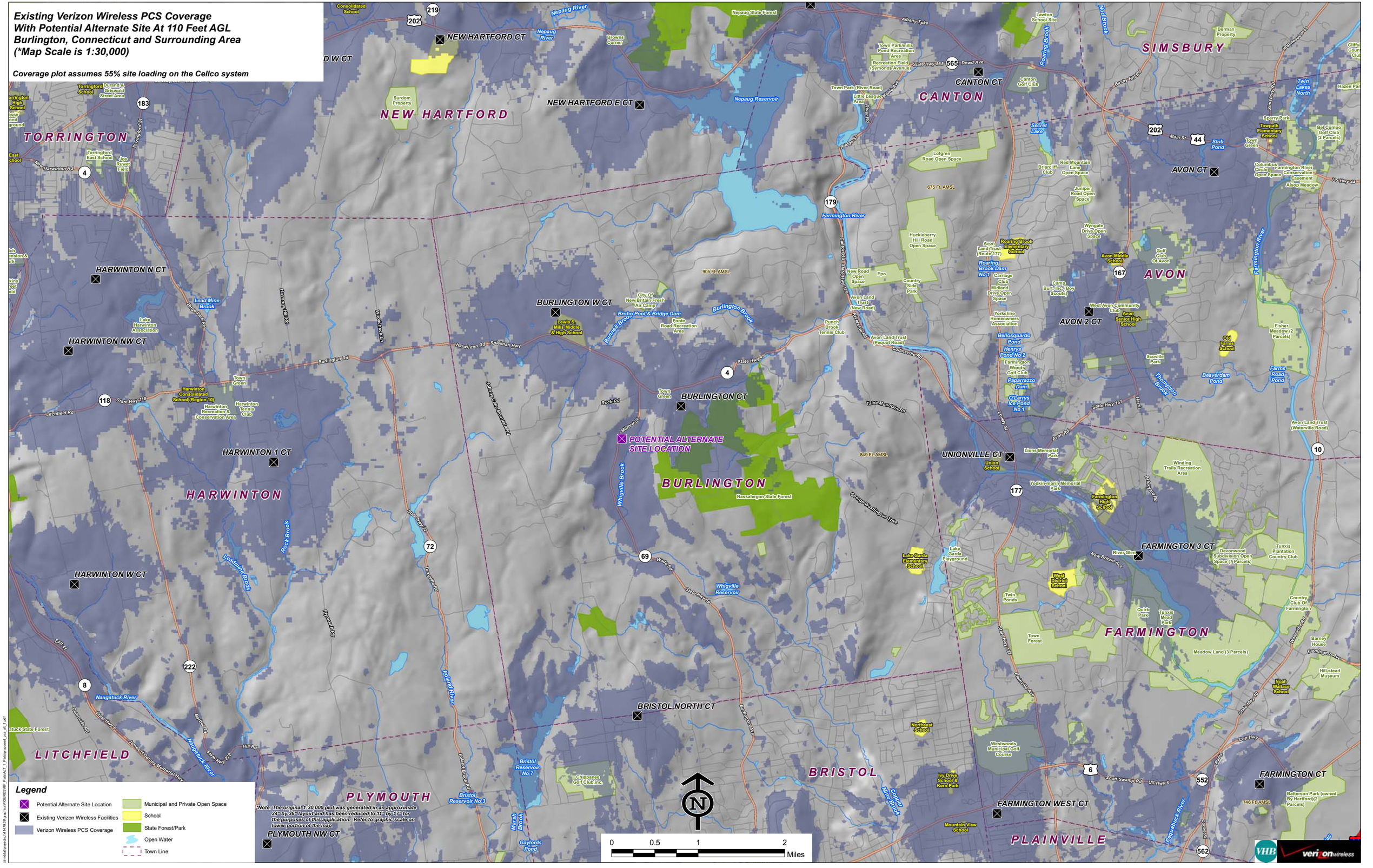
1
2
Miles
N
VHB
verizonwireless


Existing Verizon Wireless Cellular Coverage
With Potential Alternate Site At 110 Feet AGL
Burlington, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)
Coverage plot assumes 55% site loading on the Cellco system
NEW HARTFORD CT
NEW HARTFORD E CT
NEW HARTFORD
TORRINGTON
CANTON CT
CANTON
SIMSBURY
AVON CT
AVON
AVON 2 CT
HARWINTON N CT
HARWINTON NW CT
HARWINTON 1 CT
HARWINTON
HARWINTON W CT
BURLINGTON W CT
BURLINGTON CT
BURLINGTON
POTENTIAL ALTERNATE SITE LOCATION
UNIONVILLE CT
FARMINGTON 3 CT
FARMINGTON
FARMINGTON CT
FARMINGTON WEST CT
BRISTOL NORTH CT
BRISTOL
PLYMOUTH
PLYMOUTH NW CT
LITCHFIELD
PLAINVILLE
Nepaug River
Nepaug Reservoir
Nepaug State Forest
Farmington River
Whigville Brook
Whigville Reservoir
Burlington Brook
Rock Brook
Leadmine Brook
Pequabuck River
Naugatuck River
Poland River
Bristol Reservoir No 7
Bristol Reservoir No 3
Lake Garda
Nassahegon State Forest
Roaring Brook
Thompson Brook
Beaverdam Pond
Secret Lake
Stub Pond
Twin Lakes North
Sperry Park
Towpath Elementary School
Columbus Circle Open Space
Farmington River Conservation Easement
Alsop Meadow
Juniper Road Open Space
Red Mountain Lane Open Space
Briarcliff Club
Lofgren Road Open Space
Huckleberry Hill Road Open Space
Wyngate Drive Open Space
Roaring Brook Elementary School
Avon Land Trust (Route 177)
Roaring Brook Dam No 1
Carriage Club
Midland Drive Open Space
Yorkshire Homeowners Association
Bellosquardo Pond
Henrys Pond No 2
Farmington Woods Golf Club
Paparrazzo Dam
O'Larrys Ice Pond No 1
Avon Middle School
Golf Club of Avon
Camp Burt Inc (Boy Scouts)
West Avon Community Club
Avon Senior High School
Old Farms School
Fisher Meadow (2 Parcels)
Farms Road Pond
Scoville Park
Avon Land Trust (Waterville Road)
Lions Memorial Park
Union School
Yodkin-morin Memorial Park
Winding Trails Recreation Area
Farmington High School
Devonwood Subdivision Open Space (7 Parcels)
Tunxis Plantation Country Club
River Glen
West District School
Twin Ponds
Quirk Park
Tunxis Mead Park
Town Forest
Meadow Land (3 Parcels)
Country Club of Farmington
Barney House
Hill-stead Museum
Noah Wallace School
Lake Garda Playground
Lake Garda Elementary School
Northeast School
Westwoods Municipal Golf Course
Ivy Drive School & Kerri Park
Mountain View School
Chippanee Golf Club, inc.
Batterson Park (owned By Hartford)(2 Parcels)
Lead Mine Brook
Lake Harwinton Association
Harwinton Consolidated School (Region 10)
Harwinton Recreation & Conservation Area
Harwinton Tennis Club
Town Green
Lewis S. Mills Middle & High School
City Of New Britain Fresh Air Camp
Broho Pool & Bridge Dam
Foote Road Recreation Area
Punch Brook Tennis Club
Avon Land Trust (Pequot Road)
New Road Open Space
Epo
Country Club Park
Surdom Property
Browns Corner
Town Park/mills Pond Recreation Area
Recreation Field (Symonds Avenue)
Little League Baseball Area
Lewton School Site
Berman Property
Canton Golf Club
Bel Compo Golf Club (2 Parcels)
Torrington High School
Torringford Durand & Griswold Street Area
Torringford East School
Joe Ruwet Field
Consolidated School
Union Cemetery
Johnny Cake Mountain Rd
Taine Mountain Rd
Gilletteville Rd
Spencer Rd
Miller St
Rock Rd
Burlington Rd
Harwinton Rd
Spielman Hwy
Litchfield Rd
Lead Mine Rd
Woodchuck Ln
Harrison Hill Rd
Pequabuck Rd
Plank Rd
Hill Rd
Cadillac Dr
Bridge St
Albany Tpke
Dowd Ave
Bushy Hill Rd
Simsbury Rd
Hopmeadow St
Main St
New Harwinton Rd
Torringford St
Lovely St
Avon Rd
Brickyard Rd
Waterville Rd
Farmington Ave
New Britain Ave
Colt Hwy
Scott Swamp Rd
US Hwy 6
US Hwy 44
State Hwy 4
State Hwy 8
State Hwy 10
State Hwy 69
State Hwy 72
State Hwy 118
State Hwy 167
State Hwy 177
George Washington Tpke
Exit 41
Cadillac Brook State Park
Nassahegon State Forest
Naugatuck State Forest
Meadow Land (3 Parcels)
746 Ft. AMSL
905 Ft. AMSL
849 Ft. AMSL
674 Ft. AMSL
*Note: The original 1:30,000 plot was generated in an approximate 24" by 36" layout and has been reduced to 11" by 17" for the purposes of this application. Refer to graphic scale on lower portion of the map.
Legend
Potential Alternate Site Location
Existing Verizon Wireless Facilities
Verizon Wireless Cellular Coverage
Municipal and Private Open Space
School
State Forest/Park
Open Water
Town Line
0
0.5
1
2
Miles
N
VHB
verizon wireless

***Existing Verizon Wireless PCS Coverage***
***With Potential Alternate Site At 110 Feet AGL***
***Burlington, Connecticut and Surrounding Area***
***(*Map Scale is 1:30,000)***

***Coverage plot assumes 55% site loading on the Cellco system***


NEW HARTFORD CT
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TORRINGTON
HARWINTON N CT
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LITCHFIELD
BURLINGTON W CT
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BURLINGTON
POTENTIAL ALTERNATE SITE LOCATION
Nassahegon State Forest
CANTON CT
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UNIONVILLE CT
FARMINGTON 3 CT
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FARMINGTON CT
FARMINGTON WEST CT
PLAINVILLE
BRISTOL NORTH CT
BRISTOL
PLYMOUTH
PLYMOUTH NW CT
Nepaug Reservoir
Whigville Reservoir
Bristol Reservoir No.7
Bristol Reservoir No.3
Nepaug River
Farmington River
Naugatuck River
Pequabuck River
Rock Brook
Whigville Brook
Burlington Brook
Broad Brook
Roaring Brook
Thompson Brook
Beaverdam Pond
Secret Lake
Stub Pond
Whigville Reservoir
Gaylords Pond
Mirror Lake
Lake Garda
Lake Harwinton Association
Nepaug State Forest
Lofgren Road Open Space
Huckleberry Hill Road Open Space
Juniper Road Open Space
Wyngate Drive Open Space
Red Mountain Lane Open Space
Briarcliff Club
Canton Golf Club
Golf Club Of Avon
Avon Land Trust (Route 177)
Roaring Brook Dam No.1
Roaring Brook Elementary School
Avon Middle School
Avon Senior High School
Yorkshire Homeowners Association
Bellosquardo Pond
Henrys Pond No.2
Farmington Woods Golf Club
Paparrazzo Dam
O'Larrys Ice Pond No.1
Avon Land Trust (Pequot Road)
Avon Land Trust (New Road)
Avon Land Trust (Waterville Road)
Old Farms School
Fisher Meadow (2 Parcels)
Farms Road Pond
Twin Lakes North
Towpath Elementary School
Columbus Circle Open Space
Farmington River Conservation Easement
Alsop Meadow
Sperry Park
Hazen Park
Berman Property
Lawton School Site
Town Park/mills Pond Recreation Area
Recreation Field (Symonds Avenue)
Town Park (River Road)
Little League Area
Surdom Property
Browns Corner
Torrington High School
Torrington East School
Durand & Griswold Street Area
Joe Ruwet Field
Lead Mine Brook
Harwinton Consolidated School (Region 10)
Harwinton Recreation & Conservation Area
Harwinton Tennis Club
Town Green
Lewis S. Mills Middle & High School
City Of New Britain Fresh Air Camp
Broho Pool & Bridge Dam
Foote Road Recreation Area
Punch Brook Tennis Club
Camp Burt Inc. (Boy Scouts)
Scoville Park
Lions Memorial Park
Union School
Yodkin-morin Memorial Park
Winding Trails Recreation Area
Farmington High School
Lake Garda Playground
Lake Garda Elementary School
West District School
River Glen
Devonwood Subdivision Open Space (7 Parcels)
Tunxis Plantation Country Club
Twin Ponds
Quirk Park
Tunxis Mead Park
Country Club Of Farmington
Town Forest
Meadow Land (3 Parcels)
Barney House
Hill-stead Museum
Noah Wallace School
Northeast School
Westwoods Municipal Golf Course
Ivy Drive School & Kerri Park
Chippanee Golf Club, Inc.
Mountain View School
Batterson Park (owned By Hartford)(2 Parcels)
746 Ft. AMSL
675 Ft. AMSL
905 Ft. AMSL
849 Ft. AMSL
Consolidated School
Nepaug River
Albany Tpke
Dowd Ave
State Hwy 565
Main St
Bridge St
Farmington River
New Road Open Space
Epo
Country Sub Park
Avon Land Trust (New Road)
Punch Brook Tennis Club
Avon Land Trust (Pequot Road)
Golfview Rd
Talcott Mountain Rd
Lovely St
Avon Rd
Old Farms Rd
Hopmeadow St
Simsbury Rd
Stratton Brook Rd
Hartford Tpke
Harwinton Rd
Spielman Hwy
Burlington Rd
Litchfield Rd
Lead Mine Rd
Hemlock Hill Rd
Wolcott Rd
Johnson Creek Rd
Rock Rd
Milford St
State Hwy 4
State Hwy 118
State Hwy 8
State Hwy 69
State Hwy 72
State Hwy 177
State Hwy 167
State Hwy 10
Torrington Rd
Prospect Rd
Pequabuck Rd
Forestville Ave
Farmington Ave
Scott Swamp Rd
US Hwy 6
Cook Hill Rd
Goat Hwy
Exit 41
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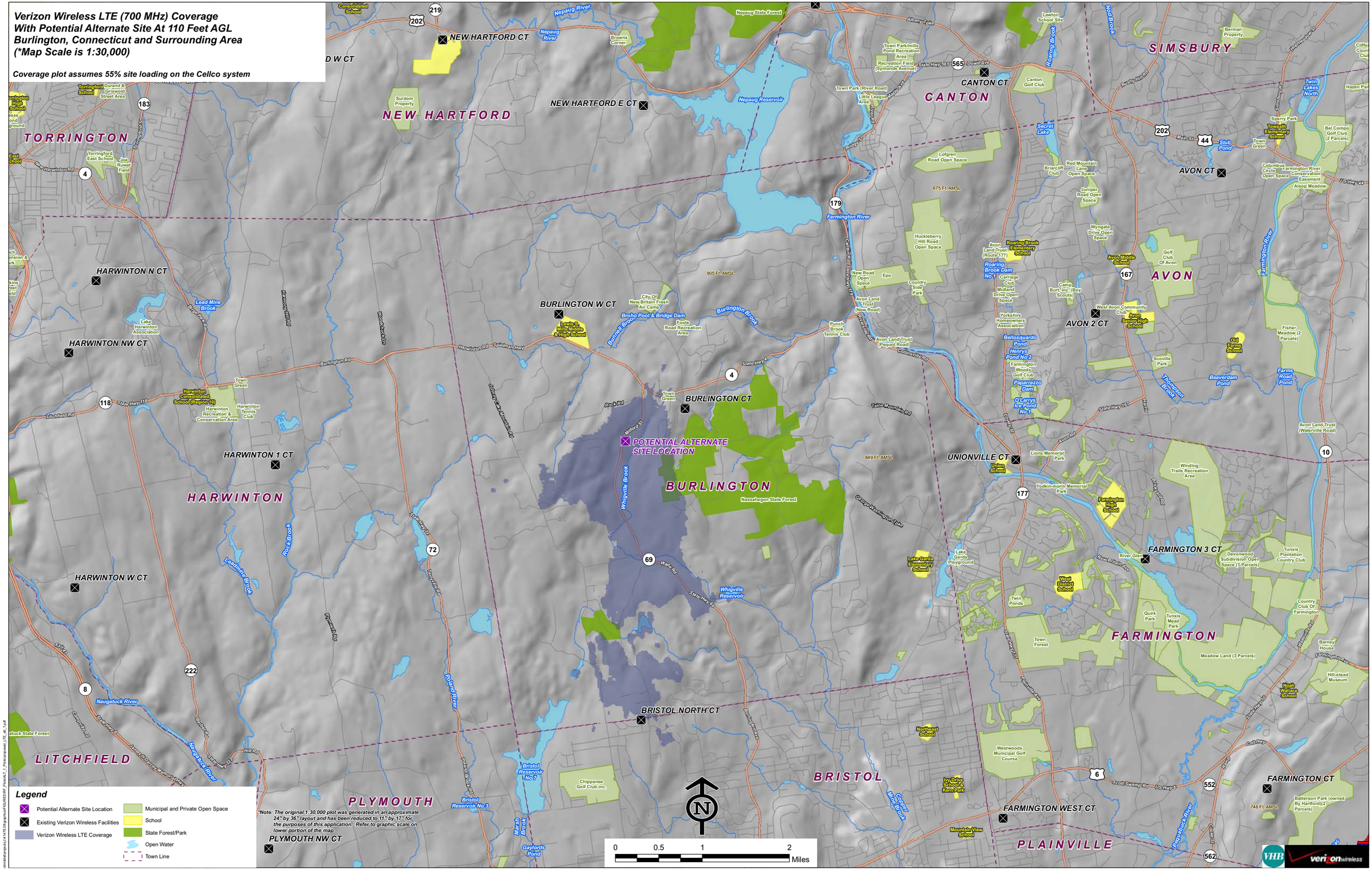
Verizon Wireless LTE (700 MHz) Coverage
With Potential Alternate Site At 110 Feet AGL
Burlington, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)
Coverage plot assumes 55% site loading on the Cellco system
NEW HARTFORD CT
NEW HARTFORD E CT
NEW HARTFORD
TORRINGTON
HARWINTON N CT
HARWINTON NW CT
HARWINTON 1 CT
HARWINTON
HARWINTON W CT
LITCHFIELD
BURLINGTON W CT
BURLINGTON CT
POTENTIAL ALTERNATE SITE LOCATION
BURLINGTON
BRISTOL NORTH CT
BRISTOL
PLYMOUTH
PLYMOUTH NW CT
CANTON CT
CANTON
SIMSBURY
AVON CT
AVON 2 CT
AVON
UNIONVILLE CT
FARMINGTON 3 CT
FARMINGTON
FARMINGTON CT
FARMINGTON WEST CT
PLAINVILLE
Nepaug Reservoir
Whigville Reservoir
Bristol Reservoir No.7
Bristol Reservoir No.3
Nepaug State Forest
Nassahegon State Forest
Farmington River
Nepaug River
Naugatuck River
Pequabuck River
Rock Brook
Leadmine Brook
Whigville Brook
Burlington Brook
Broad Brook
Roaring Brook
Thompson Brook
Beaverdam Pond
Lake Garda Playground
Chippanee Golf Club,inc.
Gaylords Pond
Legend
Potential Alternate Site Location
Existing Verizon Wireless Facilities
Verizon Wireless LTE Coverage
Municipal and Private Open Space
School
State Forest/Park
Open Water
Town Line
*Note: The original 1:30,000 plot was generated in an approximate 24" by 36" layout and has been reduced to 11" by 17" for the purposes of this application. Refer to graphic scale on lower portion of the map.
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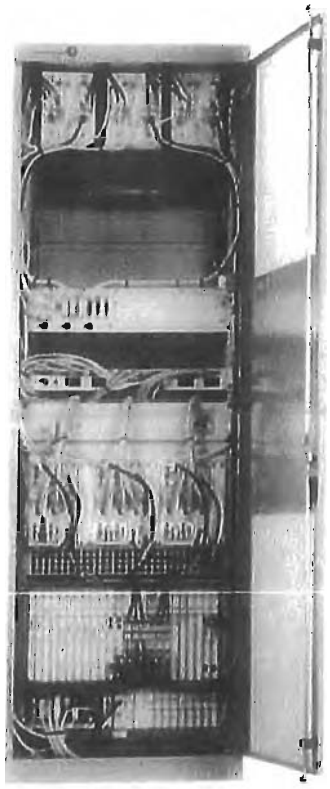
0.5
1
2
Miles
N

# Lucent CDMA Modular Cell 4.0B Indoor

## For CDMA Networks



Lucent CDMA Modular Cell 4.0B is a high capacity base station equipped with the state-of-the-art technologies developed by Bell Labs. The product brings you outstanding carrier density and immediate OPEX savings. This indoor product can support up to 8 carriers/3 sectors per frame. It is twice the density of Modular Cell 4.0 (indoor). Modular Cell 4.0B offers full spectrum coverage in a single frame, dramatically simplifying growth patterns. As the leader in spread spectrum technology, Lucent Technologies continues to introduce innovations to the market: Multi-Carrier Radio (15MHz), Block Filters/Wideband Filters, and 40W Power Amplifier Modules are the latest assets integrated in the base station.

### Features

The Modcell 4.0B indoor version offers a small footprint with exceptional carrier density in a standard ETSI cabinet.

- Indoor Single Frame Configuration
- 1-8 carriers per frame at 3 sectors (will support up to 11 carriers with Auxiliary Amplifier Frame)
- Dual Band: one cell to the ECP & mobile
- Close Loop Gain Control
- Timing and Controller Redundancy
- Integrated Power option
- Support CDMA2000™1X, and EV-DO Rev.0, with future support to EV-DO Rev. A
- IP Backhaul and Ethernet Backhaul capable
- 6-Sector option ready
- Intelligent Antenna option ready

### Benefits

- Optimized for highest carrier density, smooth growth in one frame
- Conserves indoor footprint, reducing hardware and floor space requirements
- Minimizes configuration complexity
- Software-Only Carrier Add at certain carrier counts
- Flexible channel growth planning
- Designed to use existing power supply
- Grow CDMA carriers on only 2 antennas/sector
- Multi-Carrier Radio (15MHz), Block Filters/ Wideband Filters, and 40W Power Amplifier Modules

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Bell Labs Innovations

## Technical Specifications

| Description | Specification |
|---|---|
| 1. **Configurations** | |
| a. Sectors | 3, 4 and 6 |
| b. Carriers | 1–8 per frame at 3 sectors (up to 11 with Auxiliary Amplifier Frame) |
| 2. **CDMA Channel Card Capacity** | 12 slots; CMU IVB capable |
| 3. **T1, E1 Facilities** | Maximum of 20 per cabinet when equipped with URC-II's |
| 4. **User Alarms** | 7 Power Alarms, 25 User Alarms |
| 5. **GPS Antenna** | Yes |
| 6. **Air Interface Standards** | T1A/E1A 95-A plus TSB-74; T1A/E1A 95-B for 850 MHz; CDMA 2000 |
| 7. **Frequency Bands** | 850MHz/1900 MHz;<br>300 to 2100 MHz capable |
| 8. **Vocoder** | 8 Kbps; 8 Kbps EVRC; 13 Kbps; SMV-ready |
| 9. **Environmental Cabinet Housing** | Standard ETSI cabinet; UL50 compliant; zero rear clearance |
| 10. **Cabinet Access** | Front Access |
| 11. **Operating Temperature Range** | Range: -5 to +40°C (continuous) |
| 12. **Dimensions** | 600 mm W x 600 mm D x 1880 mm H<br>(23.6 x 23.6 x 74) inches |
| 13. **Estimated Installed Weight** | 365 kg (785 lbs.) DC [8 carriers in one cabinet] |
| 14. **Power Options** | Integrated Power, AC 120/240 Volt Input, -48V or +24 V DC Conversion<br>Non-integrated Power requires either + 24 VDC Input or - 48 VDC Input |
| 15. **Power Consumption** | |
| a. 3 Carrier/3 Sectors | 2167 W |
| b. 6 Carrier/3 Sectors | 5449 W |
| c. 11 Carrier/3 Sectors | 10026 W |
| 16. **RF Power (at J4)** | 25 W per carrier (850) FCC Rated short-term average<br>20 W per carrier (850) FCC Rated long-term average<br>20 W per carrier (1900) FCC Rated short-term average<br>16 W per carrier (1900) FCC Rated long-term average |
| 17. **Minimal Antenna Configuration** | 2 antennas/sector |
| 18. **Filter** | Block and Wide Band Dual Duplex |
| 19. **Growth Frame** | PCS AUX Frame, Dual Band Growth Frame |
| 20. **Operational Accessories** | Integrated Power |
| 21. **Channel Elements** | Channel pooling across sectors or carriers |

To learn more about our comprehensive portfolio, please contact your Lucent Technologies Sales Representative or visit our web site at http://www.lucent.com.



MOB-Mod4B-i 0106

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# LPA-80063-6CF-EDIN-X

V-Pol | Log Periodic | 63° | 14.5 dBd

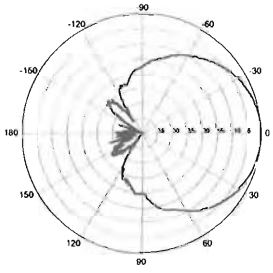
Replace "-X" with desired electrical downtilt.

Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.

| Electrical Characteristics | | |
|---|---|---|
| Frequency bands | 806-960 MHz | |
| Polarization | Vertical | |
| Horizontal beamwidth | 63° | |
| Vertical beamwidth | 10° | |
| Gain | 14.5 dBd (16.6 dBi) | |
| Electrical downtilt (X) | 0, 2, 4, 5, 6, 8, 10 | |
| Impedance | 50Ω | |
| VSWR | ≤1.4:1 | |
| Null fill | 5% (-26.02 dB) | |
| Input power | 500 W | |
| Lightning protection | Direct Ground | |
| Connector(s) | 1 Port / EDIN or NE / Female / Center (Back) | |
| **Mechanical Characteristics** | | |
| Dimensions Length x Width x Depth | 1805 x 385 x 332 mm | 71.1 x 15.2 x 13.1 in |
| Depth of antenna with z-bracket | 372 mm | 14.6 in |
| Weight without mounting brackets | 12.3 kg | 27 lbs |
| Survival wind speed | > 201 km/hr | > 125 mph |
| Wind area | Front: 0.70 m² Side: 0.59 m² | Front: 7.5 ft² Side: 6.3 ft² |
| Wind load @ 161 km/hr (100 mph) | Front: 885 N Side: 757 N | Front: 199 lbf Side: 170 lbf |

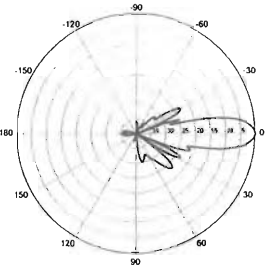
| Mounting Options | Part Number | Fits Pipe Diameter | Weight |
|---|---|---|---|
| 3-Point Mounting & Downtilt Bracket Kit (0-20°) | 21700000 | 50-102 mm 2.0-4.0 in | 11 kg 25 lbs |
| Lock-Down Brace | If the lock-down brace is used, the maximum diameter of the mounting pipe is 88.9 mm or 3.5 in. | | |

**LPA-80063-6CF-EDIN-X**



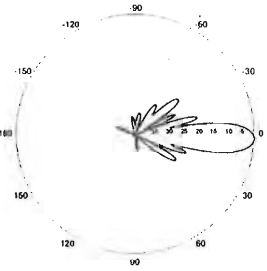
Horizontal

**LPA-80063-6CF-EDIN-0**



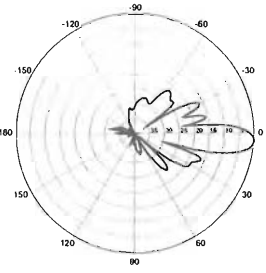
0° | Vertical

**LPA-80063-6CF-EDIN-2**



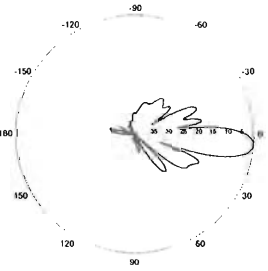
2° | Vertical

**LPA-80063-6CF-EDIN-4**



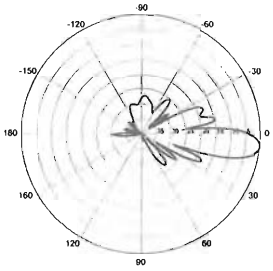
4° | Vertical

**LPA-80063-6CF-EDIN-5**



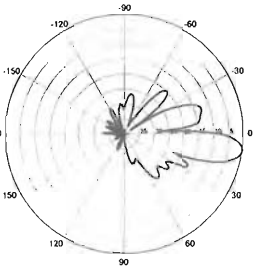
5° | Vertical

**LPA-80063-6CF-EDIN-6**



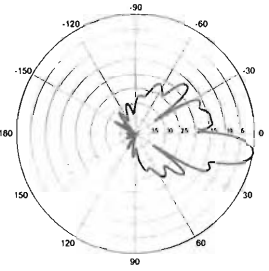
6° | Vertical

**LPA-80063-6CF-EDIN-8**



8° | Vertical

**LPA-80063-6CF-EDIN-10**



10° | Vertical

# LPA-171063-12CF-EDIN-X

V-Pol | Log Periodic | 63° | 18.5-19.0 dBi

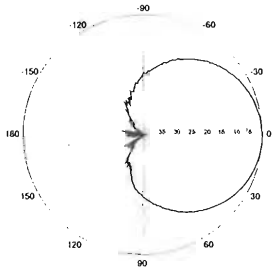
Replace "X" with desired electrical downtilt.

Antenna is available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.

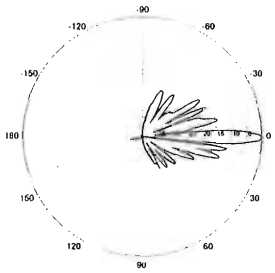
| Electrical Characteristics | 1710-2170 MHz | | |
|---|---|---|---|
| Frequency bands | 1710-1755 MHz | 1850-1990 MHz | 1920-2170 MHz |
| Polarization | Vertical | | |
| Horizontal beamwidth | 60° | 63° | 65° |
| Vertical beamwidth | 3° | 4° | 3° |
| Gain | 16.4 dBd (18.5 dBi) | 16.9 dBd (19.0 dBi) | 16.4 dBd (18.5 dBi) |
| Electrical downtilt (X) | 0, 2 | | |
| Impedance | 50Ω | | |
| VSWR | ≤ 1.5:1 | | |
| Null fill | 5-10% (-26.02 to -20.0dB) | | |
| Input power | 250 W | | |
| Lightning protection | Direct Ground | | |
| Connector(s) | 1 Port / EDIN or NE / Female / Center (Back) | | |
| **Mechanical Characteristics** | | | |
| Dimensions Length x Width x Depth | 1876 x 200 x 202 mm | 73.9 x 7.9 x 8.0 in | |
| Weight without mounting brackets | 5.2 kg | 11.5 lbs | |
| Survival wind speed | >201 km/hr | >125 mph | |
| Wind area | Front: 0.31 m² Side: 0.38 m² | Front: 4.0 ft² Side: 4.1 ft² | |
| Wind load @ 161 km/hr (100 mph) | Front: 182 N Side: 586 N | Front: 41 lbf Side: 132 lbf | |

| Mounting Options | Part Number | Fits Pipe Diameter | Weight |
|---|---|---|---|
| 2-Point Mounting Bracket Kit | 26799997 | 50-102 mm 2.0-4.0 in | 2.3 kg 5.0 lbs |
| 2-Point Mounting and Downtilt Bracket Kit | 26799999 | 50-102 mm 2.0-4.0 in | 2.3 kg 5.0 lbs |

**1710-1880 MHz**

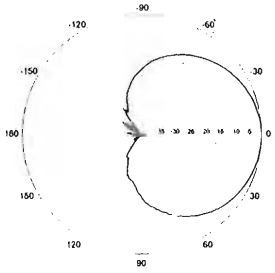


Horizontal



0° | Vertical

**1850-1990 MHz**



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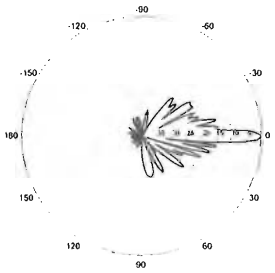
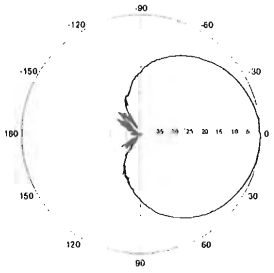
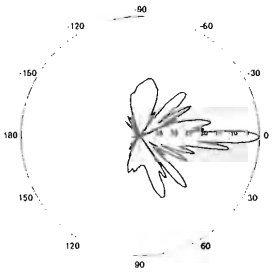


0° | Vertical

**1920-2170 MHz**



Horizontal



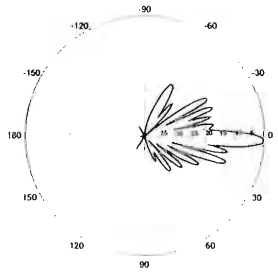
0° | Vertical

Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.

# LPA-171063-12CF-EDIN-X

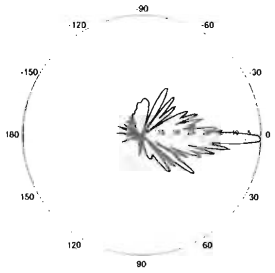
V-Pol | Log Periodic | 63° | 18.5-19.0 dBi

**1710-1880 MHz**



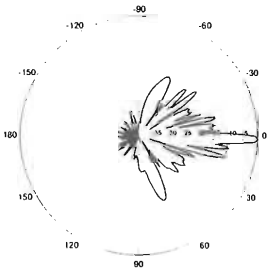
2° | Vertical

**1850-1990 MHz**



2° | Vertical

**1920-2170 MHz**



2° | Vertical

# BXA-70063-6CF-EDIN-X

X-Pol | FET Panel | 63° | 14.5 dBd

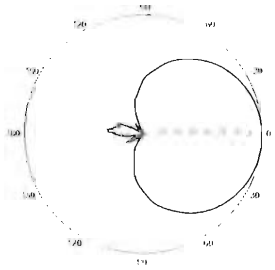
Replace "X" with desired electrical downtilt.

Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.

| Electrical Characteristics | 696-900 MHz | |
|---|---|---|
| Frequency bands | 696-806 MHz | 806-900 MHz |
| Polarization | ±45° | |
| Horizontal beamwidth | 65° | 63° |
| Vertical beamwidth | 13° | 11° |
| Gain | 14.0 dBd (16.1 dBi) | 14.5 dBd (16.6 dBi) |
| Electrical downtilt (X) | 0, 2, 3, 4, 5, 6, 8, 10 | |
| Impedance | 50Ω | |
| VSWR | ≤1.35:1 | |
| Upper sidelobe suppression (0°) | -18.3 dB | -18.2 dB |
| Front-to-back ratio (+/-30°) | -33.4 dB | -36.3 dB |
| Null fill | 5% (-26.02 dB) | |
| Isolation between ports | < -25 dB | |
| Input power with EDIN connectors | 500 W | |
| Input power with NE connectors | 300 W | |
| Lightning protection | Direct Ground | |
| Connector(s) | 2 Ports / EDIN or NE / Female / Center (Back) | |
| **Mechanical Characteristics** | | |
| Dimensions Length x Width x Depth | 1804 x 285 x 132 mm | 71.0 x 11.2 x 5.2 in |
| Depth with z-brackets | 172 mm | 6.8 in |
| Weight without mounting brackets | 7.9 kg | 17 lbs |
| Survival wind speed | > 201 km/hr | > 125 mph |
| Wind area | Front: 0.51 $m^2$ Side: 0.24 $m^2$ | Front: 5.5 $ft^2$ Side: 2.6 $ft^2$ |
| Wind load @ 161 km/hr (100 mph) | Front: 759 N Side: 391 N | Front: 169 lbf Side: 89 lbf |

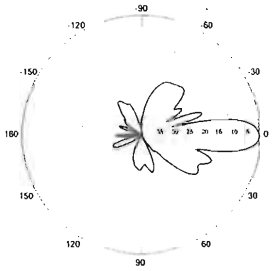
| Mounting Options | Part Number | Fits Pipe Diameter | Weight |
|---|---|---|---|
| 3-Point Mounting & Downtilt Bracket Kit | 36210008 | 40-115 mm 1.57-4.5 in | 6.9 kg 15.2 lbs |
| Concealment Configurations | For concealment configurations, order BXA-70063-6CF-EDIN-X-FP | | |

**BXA-70063-6CF-EDIN-X**



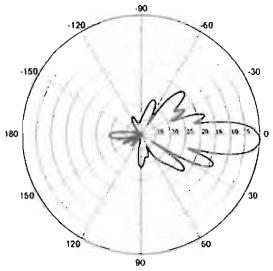
Horizontal | 750 MHz

**BXA-70063-6CF-EDIN-0**

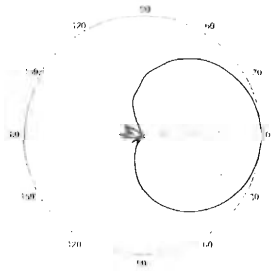


0° | Vertical | 750 MHz

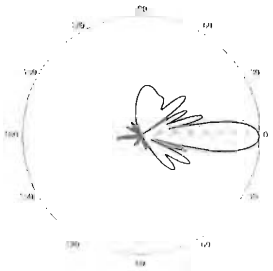
**BXA-70063-6CF-EDIN-2**



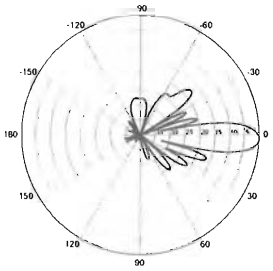
2° | Vertical | 750 MHz



Horizontal | 850 MHz



0° | Vertical | 850 MHz



2° | Vertical | 850 MHz

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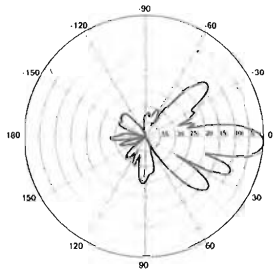
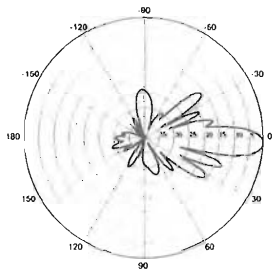
# BXA-70063-6CF-EDIN-X

X-Pol | FET Panel | 63° | 14.5 dBd

**BXA-70063-6CF-EDIN-3**

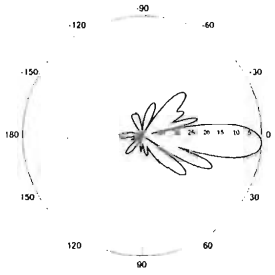


3° | Vertical | 750 MHz

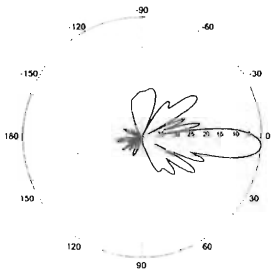


3° | Vertical | 850 MHz

**BXA-70063-6CF-EDIN-4**

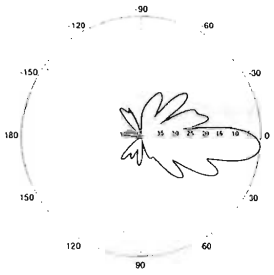


4° | Vertical | 750 MHz

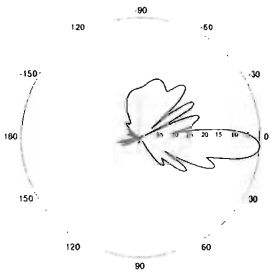


4° | Vertical | 850 MHz

**BXA-70063-6CF-EDIN-5**

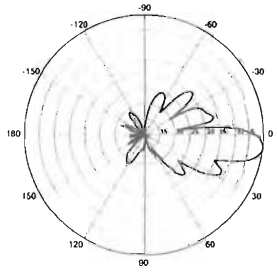


5° | Vertical | 750 MHz

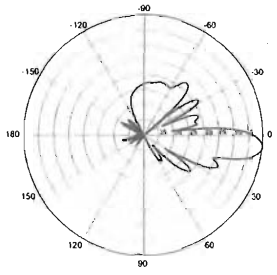


5° | Vertical | 850 MHz

**BXA-70063-6CF-EDIN-6**

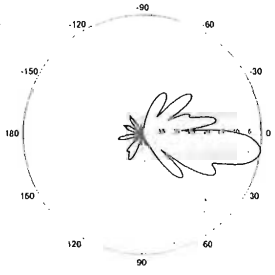


6° | Vertical | 750 MHz

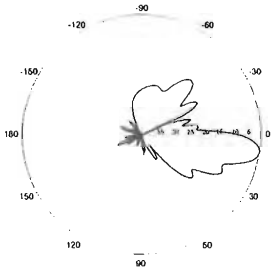


6° | Vertical | 850 MHz

**BXA-70063-6CF-EDIN-8**

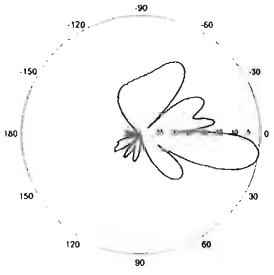


8° | Vertical | 750 MHz

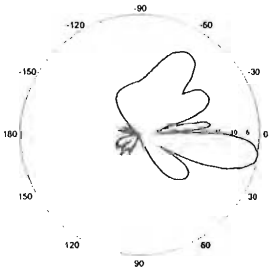


8° | Vertical | 850 MHz

**BXA-70063-6CF-EDIN-10**



10° | Vertical | 750 MHz



10° | Vertical | 850 MHz

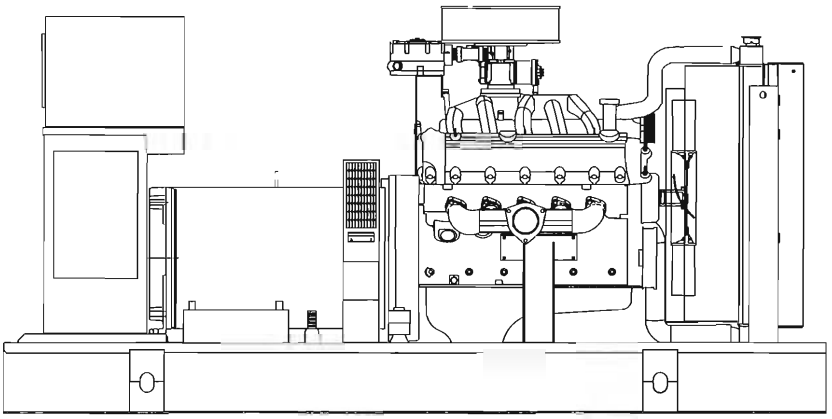
# SG050

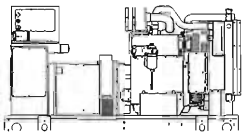
GENERAC® | INDUSTRIAL POWER

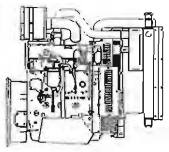
## Industrial Gaseous Generator Set

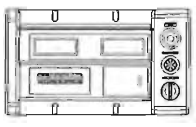
**EPA NSPS Emission Regulations**
US EPA SI Stationary Emission Regulation 40CFR, Part 60, Subpart JJJ

Standby Power Rating
**50kW 60 Hz**









| features | benefits |
|---|---|
| **Generator Set** | |
| • PROTOTYPE & TORSIONALLY TESTED | ▶ PROVIDES A PROVEN UNIT |
| • UL2200 TESTED | ▶ ENSURES A QUALITY PRODUCT |
| • RHINOCOAT PAINT SYSTEM | ▶ IMPROVES RESISTANCE TO ELEMENTS |
| • WIDE RANGE OF ENCLOSURES AND TANKS | ▶ PROVIDES A SINGLE SOURCE SOLUTION |
| **Engine** | |
| • EPA COMPLIANT | ▶ ENVIRONMENTALLY FRIENDLY |
| • INDUSTRIAL TESTED, GENERAC APPROVED | ▶ ENSURES INDUSTRIAL STANDARDS |
| • POWER-MATCHED OUTPUT | ▶ ENGINEERED FOR PERFORMANCE |
| • INDUSTRIAL GRADE | ▶ IMPROVES LONGEVITY AND RELIABILITY |
| **Alternator** | |
| • TWO-THIRDS PITCH | ▶ ELIMINATES HARMFUL 3RD HARMONIC |
| • LAYER WOUND ROTOR & STATOR | ▶ IMPROVES COOLING |
| • CLASS H MATERIALS | ▶ HEAT TOLERANT DESIGN |
| • DIGITAL 3-PHASE VOLTAGE CONTROL | ▶ FAST AND ACCURATE RESPONSE |
| **Controls** | |
| • ENCAPSULATED BOARD W/ SEALED HARNESS | ▶ EASY, AFFORDABLE REPLACEMENT |
| • 4-20mA VOLTAGE-TO-CURRENT SENSORS | ▶ NOISE RESISTANT 24/7 MONITORING |
| ○ SURFACE-MOUNT TECHNOLOGY | ▶ PROVIDES VIBRATION RESISTANCE |
| • ADVANCED DIAGNOSTICS & COMMUNICATIONS | ▶ HARDENED RELIABILITY |

**primary codes and standards**

NEMA c UL us LISTED NFPA ASME ISO

GENERAC | INDUSTRIAL POWER

# SG050 application and engineering data

## ENGINE SPECIFICATIONS

### General

| | | |
|---|---|---|
| Make | Generac | |
| EPA Emissions Compliance | Stationary Emergency | |
| EPA Emissions Engine Reference | See Emissions Data Sheet | |
| Cylinder # | 10 | |
| Type | V | |
| Displacement - L (Cu. In.) | 6.8 | (414.96) |
| Bore - mm (in.) | 90.17 | (3.55) |
| Stroke - mm (in.) | 105.92 | (4.17) |
| Compression Ratio | 9:1 | |
| Intake Air Method | Naturally Aspirated | |
| Number of Main Bearings | 7 | |
| Connecting Rods | Forged | |
| Cylinder Head | Aluminum | |
| Cylinder Liners | No | |
| Ignition | High Energy | |
| Pistons | Alum Alloy | |
| Crankshaft | Steel | |
| Lifter Type | Overhd Cam | |
| Intake Valve Material | Steel Alloy | |
| Exhaust Valve Material | Steel Alloy | |
| Hardened Valve Seats | Yes | |

### Lubrication System

| | | |
|---|---|---|
| Oil Pump Type | Gear | |
| Oil Filter Type | Full-flow spin-on cartridge | |
| Crankcase Capacity - L (qts) | 5.7 | (6) |

### Cooling System

| | | |
|---|---|---|
| Cooling System Type | Closed | |
| Water Pump Flow | 38 gal/min | |
| Fan Type | Pusher | |
| Fan Speed | 0 | |
| Fan Diameter mm (in.) | 558.8 | (22) |
| Coolant Heater Wattage | 1500 | |
| Coolant Heater Standard Voltage | 120V | |
| Coolant Flow - gal/min | 39 | |

### Fuel System

| | |
|---|---|
| Fuel Type | l gas, propane vapor, liquid p |
| Carburetor | Down Draft |
| Secondary Fuel Regulator | Standard |
| Fuel Shut Off Solenoid | Standard |
| Operating Fuel Pressure | 11" - 14" H2O |

### Engine Electrical System

| | |
|---|---|
| System Voltage | 12VDC |
| Battery Charging Alternator (Amps) | 30 |
| Battery Size | 525CCA |
| Battery Group | 24F |
| Battery Voltage | 12VDC |
| Ground Polarity | Negative |

## ALTERNATOR SPECIFICATIONS

| | |
|---|---|
| Standard Model | 390 |
| Poles | 4 |
| Field Type | Revolving |
| Insulation Class - Rotor | H |
| Insulation Class - Stator | H |
| Total Harmonic Distortion | <3.5% |
| Telephone Interference Factor (TIF) | <50 |
| Standard Excitation | PMG or Brushless |
| Bearings | Sealed Ball |
| Coupling | Direct |
| Load Capacity - Standby | 100% |
| Prototype Short Circuit Test | Yes |

| | |
|---|---|
| Voltage Regulator Type | Full Digital |
| Number of Sensed Phases | 3 |
| Regulation Accuracy (Steady State) | +/- 0.25% |

### Engine Governing

| | |
|---|---|
| Governor | Electronic |
| Frequency Regulation (Steady State) | +/- 0.25% |

## CODES AND STANDARDS COMPLIANCE (WHERE APPLICABLE)

NFPA 99
NFPA 110
ISO 8528-5
ISO 1708A.5
ISO 3046
BS5514
SAE J1349
DIN6271
IEEE C62.41 TESTING
NEMA ICS 1

Rating Definitions:
Standby – Applicable for a varying emergency load for the duration of a utility power outage with no overload capability. (Max. load factor = 70%)
Prime – Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. (Max. load factor = 80%) A 10% overload capacity is available for 1 out of every 12 hours.

## POWER RATINGS (kW)

| | Natural Gas | | | Propane Vapor | | |
|---|---|---|---|---|---|---|
| Single-Phase 120/240VAC @1.0pf | 50 | Amps: | 208 | 50 | Amps: | 208 |
| Three-Phase 120/208VAC @0.8pf | 50 | Amps: | 173 | 50 | Amps: | 173 |
| Three-Phase 120/240VAC @0.8pf | 50 | Amps: | 150 | 50 | Amps: | 150 |
| Three-Phase 277/480VAC @0.8pf | 50 | Amps: | 75 | 50 | Amps: | 75 |
| Three-Phase 346/600VAC @0.8pf | 50 | Amps: | 60 | 50 | Amps: | 60 |

## STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip

| | | 480VAC | | | | | | 208/240VAC | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alternator* | kW | 10% | 15% | 20% | 25% | 30% | 35% | 10% | 15% | 20% | 25% | 30% | 35% |
| Standard | 50 | 34 | 52 | 69 | 86 | 103 | 120 | 26 | 39 | 52 | 65 | 77 | 90 |
| Upsize 1 | 0 | | | | | | | | | | | | |
| Upsize 2 | 0 | | | | | | | | | | | | |

*All Generac Industrial alternators utilize Class H insulation materials. Standard alternator provides less than or equal to Class B temperature rise. Upsize 1 provides less than or equal to Class B temperature rise. Upsize 2 provides less than or equal

## FUEL

Fuel Consumption Rates

| | Natural Gas | | | | Propane Vapor | | | |
|---|---|---|---|---|---|---|---|---|
| Percent Load | cu ft/hr | | | | Percent Load | cu ft/hr | | |
| 25% | 258 | | | | 25% | 107 | | |
| 50% | 425 | | | | 50% | 176 | | |
| 75% | 592 | | | | 75% | 245 | | |
| 100%* | 760 | | | | 100% | 315 | | |

## COOLING

| | | STANDBY |
|---|---|---|
| Air Flow (inlet air combustion and radiator) | m3/hr (cfm) | 158.57(5600) |
| System Coolant Capacity | Liters(Gal) | 23.85(6.3) |
| Heat Rejection to Coolant | BTU/hr | 182,000 |
| Max. Operating Air Temp on Radiator | °F (°C) | 140(60) |
| Max. Ambient Temperature | °F (°C) | 122(50) |
| Coolant System Capacity | Liters(Gal) | 23.85(6.3) |
| Maximum Radiator Backpressure | | 0.074(0.25) |

## COMBUSTION AIR REQUIREMENTS

| | | STANDBY |
|---|---|---|
| Intake Flow at Rated Power | cfm | 160 |

## EXHAUST

| | | STANDBY |
|---|---|---|
| Exhaust Flow (Rated Output) | m3/hr (cfm) | 12.88(455) |
| Maximum Recommended Back Pressure | inHg (Kpa) | 0.074(0.25) |
| Exhaust Temp (Rated Output) | °F (°C) | 1000(537.78) |
| Exhaust Outlet Size - N.P.T. (female) | mm (in) | 64(2.5) |

## ENGINE

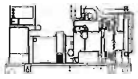
| | | | STANDBY |
|---|---|---|---|
| Rated Engine Speed | | rpm | 1800 |
| Horsepower at Rated kW** | | hp | 80 |
| Temperature Deration | | | Consult Factory |
| Altitude Deration | | | Consult Factory |

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions. Please consult a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards.

GENERAC | INDUSTRIAL POWER

# SG050 standard features and options

## GENERATOR SET



| | |
|---|---|
| Genset Vibration Isolation | Std |
| Seismic Rated Vibration Isolators | Opt |
| Extended warranty | Std |
| Gen-Link Communications Software | Opt |
| Steel Enclosure (Enclosed Models) | Std |
| Remote Emergency Shutdown | Opt |
| Factory Testing | Std |
| Padlockable Doors | Opt |

## ENGINE SYSTEM

**General**

| | |
|---|---|
| Oil Drain Extension | Std |
| Air Cleaner | Std |
| Industrial Exhaust Silencer (Open Sets) | Std |
| Critical Exhaust Silencer (Enclosed Sets) | Std |
| Stainless steel flexible exhaust connection | Std |

**Fuel System**

| | |
|---|---|
| Fuel Lockoff Solenoid | Std |
| Secondary Fuel Regulator | Std |
| Flexible Fuel Lines | Opt |
| LP Liquid Withdrawal | Opt |
| Automatic Gaseous Dual Fuel | Opt |

**Cooling System**

| | |
|---|---|
| 120VAC Coolant Heater (3-wire connection cord) | Std |
| 208VAC Coolant Heater | Opt |
| 50%/50% Propylene Glycol Coolant | Std |
| Level 1 Guarding (Open Sets) | Std |
| Closed Coolant Recovery System | Std |
| UV/Ozone resistant hoses | Std |
| Factory-Installed Radiator | Std |
| Radiator Drain Extension | Std |
| Fan guard | Std |
| Radiator duct adapter (Open Sets) | Std |

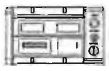
**Engine Electrical System**

| | |
|---|---|
| Battery charging alternator | Std |
| Battery cables | Std |
| Battery tray | Std |
| Battery box | Opt |
| 75W 120VAC Battery heater | Opt |
| Solenoid activated starter motor | Std |
| 2A 120VAC battery charger | Std |
| 10A UL float/equalize battery charger w/ 3-wire cord | Std |
| Rubber-booted engine electrical connections | Std |
| GFIC Convenience Outlet | Opt |
| Battery heater | Opt |

## ALTERNATOR SYSTEM

| | |
|---|---|
| UL2200 GENprotect™ | Std |
| 100% Rated 200A Main Line Circuit Breaker | Std |
| 2nd Circuit Breaker | - |
| 3rd Circuit Breaker | - |
| Alternator Upsizing | Opt |
| Anti-Condensation Heater | Opt |
| Tropical coating | Opt |

## CONTROL SYSTEM



**Control Panel**

| | |
|---|---|
| Digital H Control Panel - Dual 4x20 Display | Std |
| Digital G-100 Control Panel - Touchscreen | - |
| Digital G-200 Paralleling Control Panel - Touchscreen | - |
| Programmable Crank Limiter | Std |
| 21-Light Remote Annunciator | Std |
| Remote Relay Panel (8 function) | Std |
| 7-Day Programmable Exerciser | Std |
| Special Applications Programmable PLC | Std |
| RS-232 | Std |
| RS-485 | Std |
| All-Phase Sensing DVR | Std |
| Full System Status | Std |
| Utility Monitoring (Req. H-Transfer Switch) | Std |
| 2-Wire Start Compatible | Std |
| Power Output (kW) | Std |
| Power Factor | Std |
| Reactive Power | Std |
| All phase AC Voltage | Std |
| All phase Currents | Std |
| Oil Pressure | Std |
| Coolant Temperature | Std |
| Coolant Level | Std |
| Oil Temperature | - |
| Fuel Pressure | Std |
| Engine Speed | Std |
| Battery Voltage | Std |
| Frequency | Std |
| Date/Time Fault History (Event Log) | Std |
| UL2200 GENprotect™ | Std |
| Low-Speed Exercise | - |
| Isochronous Governor Control | Std |
| -40deg C - 70deg C Operation | Std |
| Waterproof Plug-In Connectors | Std |
| Audible Alarms and Shutdowns | Std |
| Not in Auto (Flashing Light) | Std |
| On/Off/Manual Switch | Std |
| E-Stop (Red Mushroom-Type) | Std |
| Remote E-Stop (Break Glass-Type, Surface Mount) | - |
| Remote E-Stop (Red Mushroom-Type, Surface Mount) | - |
| Remote E-Stop (Red Mushroom-Type, Flush Mount) | - |
| NFPA 110 Level I and II (Programmable) | Std |
| Remote Communication - RS232 | Std |
| Remote Communication - Modem | - |
| Remote Communication - Ethernet | - |
| 10A Run Relay | - |
| Autosynchronizer for paralleling | - |
| Isochronous Load Sharing Module | - |
| Reverse Power Protection Relay | - |
| Dead Bus Sensing | - |
| Sync Check Relay | - |

**Alarms (Programmable Tolerances, Pre-Alarms and Shutdowns)**

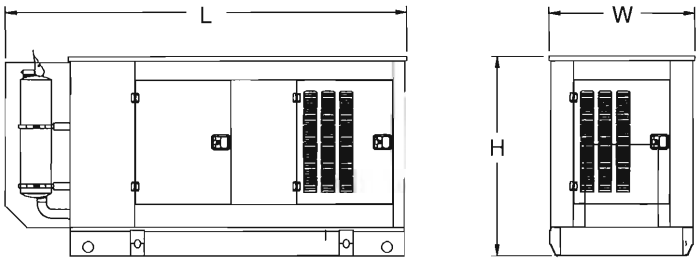
| | |
|---|---|
| Oil Pressure (Pre-programmed Low Pressure Shutdown) | Std |
| Coolant Temperature (Pre-programmed High Temp Shutdo | Std |
| Coolant Level (Pre-programmed Low Level Shutdown) | Std |
| Fuel Pressure | Std |
| Engine Speed (Pre-programmed Overspeed Shutdown) | Std |
| Voltage (Pre-programmed Overvoltage Shutdown) | Std |
| Battery Voltage | Std |

Other Options

Single Side Service

HUIO Control Module for additional digital I/O

# dimensions, weights and sound levels




**OPEN SET (includes exhaust flex)**

| L | W | H | WT | dBA* |
|---|---|---|---|---|
| 85.12 | 39.99 | 53.66 | 1930 | 84.1 |

**WEATHERPROOF ENCLOSURE**

| L | W | H | WT | dBA* |
|---|---|---|---|---|
| 111.42 | 39.99 | 53.66 | 2529 | 76.5 |

**LEVEL 1 SOUND ENCLOSURE**

| L | W | H | WT | dBA* |
|---|---|---|---|---|
| 128.74 | 39.99 | 53.66 | 2644 | 73 |

**LEVEL 2 SOUND ENCLOSURE**

TANK SIZE

| L | W | H | WT | dBA* |
|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 |

*Weights consider steel enclosure. Sound levels measured at 23ft (7m) and does not account for ambient site conditions.

| YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER |
|---|
| |

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.

Site Search Summary
Burlington South

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 Burlington South telecommunications facility are provided below.

Site Search Process

To initiate its site selection process in an area where a coverage or capacity problem has been identified, Cellco first establishes a "site search area." In any 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 such structures are found, they are evaluated to determine whether they are capable of supporting Cellco's telecommunications equipment at a location and elevation that satisfies its technical requirements.

Cellco has identified seven (7) existing communications facilities within approximately four (4) miles of the proposed Burlington South Facility. These facilities, however, cannot provide the coverage or capacity relief needed in the identified problem areas, along Route 69 and local roads in southerly portions of Burlington.

Existing Cellco Facilities

| | OWNER/OPERATOR (CELLCO SITE NAME) | FACILITY TYPE | LOCATION | CELLCO ANTENNA HEIGHT |
|---|---|---|---|---|
| 1. | Town of Burlington Fire Department (Burlington) | 180' Monopole | 719 George Washington Turnpike Burlington, CT | 160' |
| 2. | AT&T Wireless (Burlington West) | 120' Monopole | Nepaug and Lyons Road Burlington, CT | 99' |
| 3. | WJMJ | 100' Lattice | Johnny Cake Mountain Burlington, CT | N/A |
| 4. | Buckley Broadcasting (Harwinton 1) | 180' Monopole | 64 Hungerford Lane Harwinton, CT | 168' |

| | OWNER/OPERATOR (CELLCO SITE NAME) | FACILITY TYPE | LOCATION | CELLCO ANTENNA HEIGHT |
|---|---|---|---|---|
| 5. | Bay Communications (New Hartford East) | 160' Monopole | 47 Garrett Ridge Drive New Hartford, CT | 160' |
| 6. | TowerCo, LLC | 100' Wood Pole | 277 Huckleberry Hill Avenue Avon, CT | N/A |
| 7. | Bristol Water Department (Bristol North) | 106' Water Tank | 80 Princeton Drive Bristol, CT | 100' |

If existing towers or other tall structures are not available or technically feasible, other locations are investigated where the construction of a new tower is required to provide adequate elevation to satisfy Cellco's 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, possibly with lights; those with substantial adverse impacts on densely populated residential areas; and those with limited ability to share space with other public or private telecommunications entities). 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.

Identification of the Burlington South Search Area

The purpose of the proposed Burlington South Facility is to provide reliable cellular, PCS and LTE service to a significant coverage gap that have been identified along Route 69, as well as local roads in southerly portions of Burlington. These coverage gaps were identified using best server propagation modeling tools. These tools are fine-tuned regularly through the use of base-line drive data.

Cellco began its Burlington South site search effort early in 2007 and spent the better part of three years identifying and evaluating alternative site locations. As a matter of practice, Cellco's initial site search effort focuses on municipal or other quasi-public properties that might be available and appropriate locations for a telecommunications facility. If no public properties are available, Cellco investigates private land within or near the designated search area.

Sites Investigated in the Burlington Area

In addition to the existing communications facilities listed above, Cellco identified and investigated more than forty (40) alternative site locations on thirty-five (35) separate parcels in Burlington. (See attached Site Search Summary Map).

1. B&R Corporation, 77 Milford Street – Cellco investigated and signed a lease for use of a 100' x 100' area in the northerly portion of this approximately 10 acre parcel at the southwest corner of Milford Street (Route 69) and Saw Mill Road (a/k/a Hinman Lumber property). Cellco can satisfy its coverage objectives at this site with antennas at a height of 110 feet above ground level (AGL).

2. B&R Corporation, 77 Milford Street – In response to concerns raised by area residents and the Town, Cellco explored the use of the southerly portion of the 10-acre B&R Corporation parcel as an alternative to the cell site location. Cellco can satisfy its coverage objectives at the southerly end of the B&R Property with antennas at a height of 110 feet AGL. Although privately owned, the southerly portion of the B&R parcel, adjacent to New Britain Water Department ("NBWD") property, is subject to certain land use restrictions designed to protect watershed lands to the south. Cellco, along with the NBWD has asked the Connecticut Department of Health and Addition Services to modify these restrictions to permit the development of the proposed cell site.

3. City of New Britain Water Department Property – The NBWD owns several large acres of land, along both the east and west sides of Milford Street between the B&R Corporation property and the Sessions Woods Wildlife Area approximately 2.7 miles to the south. According to NBWD Officials this property is designated either Class I or Class II watershed land and is not available for leasing or purchase and may not be developed for commercial telecommunications purposes.

4. City of New Britain Water Department Property – The NBWD owns property on the west side of West Chippens Hill Road, off Johnnycake Mountain Road near its intersection with Scoville Road and along Route 69 north of the B&R Corporation parcel. The NBWD identified these parcels as Class III watershed land. These parcels were rejected by Cellco because they are located too far from Route 69, Cellco's primary coverage objective or they are located too close to Cellco's existing Burlington cell site.

5. City of New Britain Water Department Property – The NBWD owns property on the north side of Stony Hill Road more than one-half mile east of Route 69. The NBWD identified this parcel as Class III watershed land. This parcel was rejected by Cellco because it is located too far to the east to satisfy Cellco's coverage objectives along Route 69.

6. State of Connecticut – Nassahegon State Forest – Cellco investigated the use of a portion of the Nassahegon State Forest. Pursuant to State policy, State Forest land is not available to lease for wireless telecommunications tower development.

7. Town of Burlington (Twenty-Three) Parcels – At the request of Burlington First Selectwoman Cathy Bergstrom, Cellco's real estate representatives investigated

twenty-three (23) separate Town-owned parcels as a part of its site search process. Fifteen (15) of the twenty-three (23) parcels were located in the southeast corner of Burlington and well outside of Cellco's Burlington South search area. The remaining eight (8) parcels are located in the area along Route 4, close to the Town Fire Department, the current location of Cellco's Burlington cell site. None of these parcels would satisfy Cellco's coverage objectives along Route 69.

8. Burlington Cemetery Association Property – Cellco investigated the use of a 1.3 acre parcel at the northeast corner of Milford Street (Route 69) and Main Street. Adequate ground space was not available on this parcel for development of a telecommunications facility.

9. 17 Reservoir Road – Cellco investigated the use of a parcel located between Reservoir Road and Milford Street. Cellco determined that it could not satisfy its coverage objectives along Route 69 to the north toward the center of Burlington.

10. East Chippens Hill Road – Cellco investigated the use of an approximately two-acre parcel located west of East Chippens Hill Road near its intersection with Hull Road. This site was rejected because Cellco could not satisfy its coverage objectives along Route 69 to the north and east of this location.

11. 356 Milford Street – Cellco investigated the use of this 16 acre parcel located on the east side of Milford Street (Route 69) south of Reservoir Road. This site was rejected because Cellco could not satisfy its coverage objectives along Route 69 to the north toward the center of Burlington.

12. 79 Greer Road – Cellco investigated the use of this 11 acre parcel located on the south side of Greer Road west of West Chippens Hill Road. This site was rejected because Cellco could not satisfy its coverage objectives along Route 69 to the east and north and would not connect with service from Cellco's existing Burlington cell site.

13. 200 Johnny Cake Mountain Road – Cellco investigated the use of this small residential parcel. This site was rejected by Cellco because it is too far west of Route 69 and Cellco could not satisfy its coverage objectives in the area from this location.

14. 54 Milford Street – Cellco investigated the use of this one acre parcel, on the east side of Milford Street, across the street from the B&R Corporation parcel. Cellco rejected this site due to concerns for visual impacts a tower might have on area residences to the north and west; the same visibility concerns Cellco sought to address by moving the cell site to the southerly reaches of the B&R parcel.

# Proposed Verizon Wireless Facility
# Burlington South
# Alternate Sites Investigated

**Legend**

- Sites Investigated
- Verizon Facility
- City of New Britain Water Department Property (approximate)
- Municipal and Private Open Space
- School
- State Forest/Park
- Sessions Woods Wildlife Area
- Open Water
- Town of Burlington
- Town Line

0.5 0.25 0 0.5 Miles

N

CANTON
NEW HARTFORD
HARWINTON
BURLINGTON
AVON
FARMINGTON
BRISTOL
PLYMOUTH

Verizon Burlington West
Verizon Burlington
Verizon Bristol North

1 B&R Corporation 77 Milford Street
2 B&R Corporation 77 Milford Street
3 City of New Britain Water Department Property
3 City of New Britain Water Department Property
4 City of New Britain Water Department Property
5 City of New Britain Water Department Property
6 Nassahegon State Forest
7 Town of Burlington Properties
7 Town of Burlington Properties
8 Burlington Cemetery Association Property
9 356 Milford Street
10 East Chippins Hill Road
11 17 Reservoir Road
12 79 Greer Road
13 200 Johnny Cake Mountain Road
14 54 Milford Street

Nepaug Reservoir
Nepaug River
Farmington River
Broho Pool & Bridge Dam
Burnell Brook
Burlington Brook
Punch Brook
Rock Brook
Whigville Brook
Cornwall Rd
Stone Rd
Whigville Reservoir
Bristol Reservoir No 4
Bristol Reservoir No 7
Copper Mine Brook
Roaring Brook
Hart Brook
Thompson Brook
Leadmine Brook

Harmony Hill Rd
Woodchuck Ln
Harwinton Rd
Spielman Hwy
Burlington Rd
Johnny Cake Mountain Rd
Rock Rd
State Hwy 4
Town Green
Taine Mountain Rd
George Washington Tpke
State Hwy 72
Torrington Rd
Scoville Rd
Milford St
Wade Rd
State Hwy 69
Stafford Rd
Riverside Rd
Canton Rd
Collinsville Rd
State Hwy 179
Avon Rd
Loxley St
State Hwy 167
Main St
Farmington Ave
New Britain Ave
Brickyard Rd
Plainville Ave
Burlington Ave

179
4
72
69
167
177

Town Green
Harwinton Recreation & Conservation Area
Harwinton Tennis Club
Lewis S. Mills Middle & High School
City Of New Britain Fresh Air Camp
Foote Road Recreation Area
Punch Brook Tennis Club
Avon Land Trust (New Road)
New Road Open Space
Epo
Country Side Park
Huckleberry Hill Road Open Space
Lofgren Road Open Space
Secret Lake
Briarcliff Club
Red Mountain Lane Open Space
Juniper Road Open Space
Wyngate Drive Open Space
Avon Land Trust (Route 177)
Roaring Brook Elementary School
Roaring Brook Dam No 1
Avon Middle School
Golf Club Of Avon
Carriage Club Midland Drive Open Space
Camp Burt, Inc. (Boy Scouts)
West Avon Community Club
Avon Senior High School
Yorkshire Homeowners Association
Bellosguardo Pond
Henrys Pond No 2
Sycamore Hills Park
Scoville Park
Paparrazzo Dam
Farmington Woods Golf Club
O'Larrys Ice Pond No 1
Lions Memorial Park
Union School
Winding Trails Recreation Area
Yodkin-morin Memorial Park
Farmington High School
Lake Garda Elementary School
Lake Garda Playground
West District School
Tunxis Mead Park
Twin Ponds
Quirk Park
Meadow Land (3 Parcels)
Coppermine Village Open Space
Town Forest
Northeast School
Westwoods Municipal Golf Course
Sessions Woods Wildlife Area

VHB
verizon wireless

# Visibility Analysis

Proposed Verizon Wireless Facility
Burlington South
77 Milford Street
Burlington, Connecticut

*Prepared in July 2012 by:*
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3 Saddlebrook Drive
Killingworth, CT 06141

ALL-POINTS
TECHNOLOGY CORPORATION

# Project Introduction

Cellco Partnership d/b/a Verizon Wireless is pursuing a Certificate of Environmental Compatibility and Public Need ("Certificate") from the Connecticut Siting Council ("Council") for the construction, maintenance and operation of a wireless communications facility ("Facility") at 77 Milford Street (Route 69) in Burlington, Connecticut (identified herein as the " host Property"). The proposed Verizon Wireless Burlington South Facility would provide much needed wireless service in the central and southern portions of the Town of Burlington ("Town"), particularly along Route 69 and the surrounding local road system.

The proposed Facility would be located in the southern portion of the host Property and includes a 110-foot tall monopole tower. Verizon Wireless would install a total of fifteen (15) panel-type antennas that would extend slightly above the top of the tower to an overall height of 113 feet above ground level ("AGL"). Supporting ground equipment would be housed within a 12-foot by 30-foot free-standing equipment shelter located near the base of the monopole. The entire Facility would be enclosed within a fenced compound measuring approximately 53 feet by 66 feet. The Facility would be located at a ground elevation of approximately 820 feet Above Mean Sea Level ("AMSL"). Access to the Facility would extend to the site compound over the land owner's existing paved/gravel driveway a distance of approximately 675 feet from its entrance off Milford Street.

At the request of Verizon Wireless, All-Points Technology Corporation, P.C. ("APT") prepared this Visibility Analysis to evaluate potential views associated with the Facility from within a two-mile radius ("Study Area"). In addition to the Town of Burlington, a narrow portion of the adjoining municipality of Harwinton is located along the western edge of the Study Area.

## Site Description and Setting

The 8.85-acre host Property is owned by B&R Corporation and identified in Burlington land records as Map 5, Block 9, Lot 1. Located in the Town's Industrial Zone District, the host Property is developed with an active lumber and sawmill business owned and operated by Supreme Industries (formerly Hinman Lumber).

Three buildings are located in the northern portion of the host Property; exterior product and raw materials are stored in the center of the yard; and, a fourth, larger building is located to the south. The proposed Facility would be located farther south beyond sawmill operations.

Land use within the vicinity of the host Property is a mix of commercial and industrial uses, medium-density residential development and undeveloped wood lands. The host Property is abutted to the west/northwest by a wooded slope that rises to a residential development (Fox Glenn Road and Sawmill Road) consisting of approximately 34 homes located anywhere from approximately 630 feet to over 0.5 mile away from the proposed Facility. Undeveloped forested land owned by the City of New Britain lies to the south and east, as well as to the north beyond Sawmill Road and its approach to Milford Street. Hinman Meadows (a residential development under various stages of construction) lies across Milford Street to the northeast. Segments of State Routes 69 and 4 are located within the Study Area, which contains a total of approximately 54 miles of paved roadways.

The topography within the Study Area is generally characterized by gently rolling to steep hills with ground elevations that range from approximately 450 feet AMSL to a height of approximately 1160 feet AMSL (on Johnnycake Mountain, located approximately one mile southwest of the host Property). The tree cover within the Study Area consists mainly of mixed deciduous hardwood species with some stands of intermixed conifers that occupy approximately 6,520 acres of the 8,042-acre study area (81%). The Study Area contains approximately 33 acres of surface water, primarily unnamed ponds located in its western portion.

# METHODOLOGY

APT used the combination of a predictive computer model and in-field analysis to evaluate the visibility associated with the proposed Facility. The predictive model provides an assessment of potential visibility throughout the entire Study Area, including private properties and other areas inaccessible for direct observations. A balloon float was also conducted to field verify results of the model, inventory visible and nonvisible locations, and to provide photographic documentation from publicly accessible areas. A description of the procedures used in the analysis is provided below.

## Preliminary Computer Modeling

APT uses ArcGIS® Spatial Analyst, a computer modeling tool developed by Environmental Systems Research Institute, Inc. to calculate those areas from which at least the top of the proposed Facility is estimated to be visible. Project- and Study Area-specific data were incorporated into the computer model, including the Facility's location, height, and ground elevation, as well as the surrounding topography and existing vegetation which are two primary features that might serve to prohibit direct lines of sight. Information used in the model included Connecticut LiDAR[1]-based digital elevation data and a digital forest (or tree canopy) layer developed specifically for the Study Area. The LiDAR-based Digital Elevation Model ("DEM") represents topographic information for the state of Connecticut that was derived through the spatial interpolation of airborne LiDAR-based data collected in the year 2000 and has a horizontal resolution of ten (10) feet. The data was edited in 2007 and made available by the University of Connecticut through its Center for Land Use Education and Research. Mature trees and woodland areas depicted on digital ortho-(aerial) photographs (with one-foot pixel resolution) were manually digitized (hand-traced) in ArcGIS®, creating a geographic data layer for inclusion in the computer model. The digital aerial photographs, obtained from the University of Connecticut Map and Geographic Information Center (MAGIC) and ESRI (included as part of ArcGIS® version 10), were flown in 2004 and 2010, respectively and depict pre-leaf emergence (i.e., "leaf-off") conditions.

Once the data layers were entered, the ArcGIS® Spatial Analyst Viewshed tool was applied to achieve an estimate of locations where the Facility might be visible. First, only topography was used as a possible visual constraint; the tree canopy was omitted to evaluate potential visibility with no intervening vegetative screening. The initial omission of this data layer results in an excessive over-prediction, but provides an opportunity to identify and evaluate those areas with direct sight lines towards the Facility and gain some insight regarding potential seasonal views. Visibility varies seasonally with increased, albeit mostly obstructed, views occurring during "leaf-off" conditions. Each individual Study Area includes mature vegetation with a unique and variable composition and density of woodlands, with mast or pole timber and branching providing the majority of screening in leafless conditions. Because tree spacing, dimensions and branching patterns and the understory vary greatly, creating an accurate Study Area-specific "leaf-off" tree density data layer is not realistic. Considering that any given Study Area has its own discrete forest characteristics, modeling for seasonal variations of visibility is problematic and, in our experience, even when incorporating conservative constraints into the model, the results over-predict visibility in "leaf-off" conditions. Eliminating the tree canopy altogether, as performed in the preliminary analysis, exaggerates areas of

[1] LiDAR is 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.

visibility because it assumes unobstructed sight lines everywhere. However, using this technique allows us to initially identify areas where seasonal visibility may occur and is especially useful during the in-field activities (described below) to further evaluate "leaf-off" scenarios. A conservative average tree canopy height of 50 feet was then incorporated into the forest data layer and added to the DEM, thus providing a baseline assessment of intervening vegetation. These preliminary visibility maps were used during the in-field activities to compare the outcome of the initial computer modeling with direct observations of the balloon float.

Additional data layers are incorporated into the preliminary visibility map, including protected and private, state and federal open space, obtained from the State of Connecticut Department of Energy and Environmental Protection ("CTDEEP"), which depict various land and water resources such as parks and forests, recreational facilities, dedicated open space, hiking and multi-use trails, public boat launches and schools, among other categories. A review of the Connecticut Walk Book© West[2] revealed that the Tunxis Mainline Trail and numerous spurs are located within the Study Area, including:

- Tunxis Main Trail (extending for a total of 4.0 miles in the eastern portion of the Study Area);
- Tunxis Red Dot Trail (0.06 mile in the easternmost portion of the Study Area);
- Tunxis Yellow Dot Trail (1.0 mile located in the southwestern portion of the Study Area); and,
- White Dot Trail (traversing 4.0 miles east-to-west, passing just south of the host Property).

Lastly, based on a review of published information, no local or State-designated scenic roadways are present within the Study Area.

## In-Field Activities

To supplement and substantiate the results of the computer modeling efforts, APT completed in-field verification activities consisting of multiple balloon floats, vehicular and pedestrian reconnaissance, and photo-documentation.

### Balloon Float and Field Reconnaissance

Balloon floats were conducted on July 28, 2010 March 15, 2012, respectively. The 2010 balloon float was coordinated with Town officials and neighbors, two of which provided access to their properties (at #2 and #6 Sawmill Road, respectively). The balloon floats consisted of raising an approximately four-foot diameter, helium-filled balloon tethered to a height of 110 feet AGL at the proposed Facility location. Once the balloon was secured at the proposed Facility height, a Study Area reconnaissance was performed by driving along the local and State roads and locations where the balloon could be seen above/through the tree mast and canopy were inventoried. 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. On July 28, 2010 weather conditions included partly sunny skies with a temperature of approximately 80 degrees Fahrenheit and calm winds (less than 5 mph). Weather conditions on March 15, 2012 also included partly sunny skies and calm winds (around 5 mph), with a temperature of approximately 55 degrees Fahrenheit.

During the balloon float, several trees were randomly surveyed using a hand-held infrared laser range finder and Suunto clinometer to ascertain their heights. Numerous locations were selected to obtain tree

[2] Connecticut Walk Book© West, The Guide to the Blue-Blazed Hiking Trails of Western Connecticut, including the Metacomet and Mattabesett Trails, 19th Edition, Connecticut Forest & Park Association, 2006.

canopy heights, including along roadways, wooded lots, and high- and low-lying areas to provide for the irregularities associated with different land characteristics and uses found within the Study Area. The average canopy height was developed based on measurements and comparative observations, in this case approximately 65 feet AGL. Throughout Connecticut, the tree canopy height varies from about 55 feet to in excess of 80 feet (where eastern white pine becomes a dominant component of the forest type, average tree heights may be even slightly higher). This general uniformity is most likely the result of historic state-wide clear cutting of forests for charcoal production in the late 1800s and early 1900s. Approximately 69% of Connecticut's forests are characterized as mature[3].

Information obtained during the balloon float was subsequently incorporated into the computer model to refine the visibility map.

## Photographic Documentation

During the balloon float, a field reconnaissance was completed by driving the public roads within the Study Area and recording observations, including photo-documentation, of those areas where the balloon was and was not visible. Portions of the Tunxis Trail system were also walked as part of the in-field reconnaissance. Photographs were obtained from several vantage points to document the view towards the proposed Facility. At each photo location, the geographic coordinates of the camera's position were logged using global positioning system ("GPS") equipment technology.

Photographs were taken with a Nikon D-3000 digital camera body and Nikon 18 to 135 mm zoom lens. For the majority of views the lens was set to 50mm. Eight (8) photographs were taken using either a 35 mm (6 photos) or 24 mm (2 photos) focal length in order to provide a greater depth of field for presentation in this report. Focal lengths ranging from 24 mm to 50 mm approximate views similar to that achieved by the human eye. However, two key aspects of an image can be directly affected by the specific focal length that is selected: field of view and relation of sizes between objects in the frame. In this analysis, a 24 mm focal length provides a wider field of view, representative of the extent the human eyes may see (including some peripheral vision), but the relation of sizes between objects at the edges of the photos can become minimally skewed. A 50 mm focal length has a narrower field of view than the human eye but the relation of sizes between objects is represented similar to what the human eye might perceive.

> *"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.[4]"*

When taking photographs for these analyses, APT prefers a focal length of 50 mm; however there are times when wider views (requiring the use of the 24 mm and 35 mm lens setting) can better reflect "real world" viewing conditions by providing greater context to the scene. Regardless of the lens setting, the scale of subject in the photo (the Facility) remains proportional to its surroundings.

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[3] USDA Resource Bulletin NE-160, 2004.

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

The table below summarizes characteristics of the photographs presented in the attachment to this report including a description of each location, view orientation and the distance from where the photo was taken relative to the proposed Facility.

| Photo No. | Location | View Orientation | Distance to Facility |
|---|---|---|---|
| 1 | Adjacent to #125 Johnnycake Mountain Road | Southeast | ± 1.20-Mile |
| 2 | Rock Road East of Johnnycake Mountain Road | Southeast | ± 1.15-Mile |
| 3 | Adjacent to #51 Route 69 | Southwest | ± 0.25-Mile |
| 4 | Adjacent to #1 Hinman Meadows | Southwest | ± 0.27-Mile |
| 5 | End of Hinman Meadows | Southwest | ± 0.24-Mile |
| 6 | Route 69 at Host Property | Southwest | ± 0.08-Mile |
| 7 | Route 69 at Sawmill Road | Southwest | ± 0.19-Mile |
| 8 | Adjacent to #2 Sawmill Road | Southeast | ± 0.17-Mile |
| 9 | Adjacent to #5 Sawmill Road | Southeast | ± 0.14-Mile |
| 10 | Adjacent to #12 Sawmill Road | Southeast | ± 0.23-Mile |
| 11 | Adjacent to #3 Fox Glenn Road | Southeast | ± 0.20-Mile |
| 12 | Fox Glenn Road | Southeast | ± 0.25-Mile |
| 13 | Lamson Cemetery | Northwest | ± 1.20-Mile |
| 14 | Milford Road (Route 69) at Lamson Cemetery | Northwest | ± 1.19-Mile |
| 15 | Milford Road (Route 69) | North | ± 0.55-Mile |
| 16 | Milford Road (Route 69) | North | ± 0.39-Mile |
| 17 | Tunxis Trail System – White Dot Trail | Northwest | ± 0.23-Mile |
| 18 | Tunxis Trail – White Dot Trail | Northwest | ± 0.11-Mile |
| 19 | Tunxis Trail – White Dot Trail | Northwest | ± 0.10-Mile |
| 20 | Tunxis Trail – White Dot Trail | Northeast | ± 0.06-Mile |
| 21 | Tunxis Trail – White Dot Trail | Northeast | ± 0.15-Mile |
| 22 | Tunxis Trail – White Dot Trail | Northeast | ± 0.17-Mile |
| 23 | Rear yard of #2 Sawmill Road (7-28-2010) | Southeast | ± 0.20-Mile |
| 24 | Rear yard of #6 Sawmill Road (7-28-2010) | Southeast | ± 0.17-Mile |

## Final Visibility Mapping

Field data and observations were incorporated into the mapping data layers, including the photo locations, areas that experienced land use changes since the 2010 aerial photo flight, and those places where the initial model was found to either under or over-predict visibility.

The revised average tree canopy height data layer (using 65 feet AGL) was merged with the DEM and added to the base ground elevations. As a final step, forested areas were extracted from areas of potential visibility, assuming that a person standing within a forest would not be able to view the Facility from beyond a certain distance due to the presence of intervening tree mast and/or understory. APT elected to use a distance of 500 feet for this analysis. Each location is dependent on the specific density and composition of the surrounding woodlands, and it is understood that some locations within this distance could provide visibility of at least portions of the Facility at any time of the year. In "leaf-on" conditions, this distance may be overly conservative as the deciduous vegetation would substantially hinder direct views in many cases at close range. However, even in "leaf off" conditions when views expand, tree mast can still serve to block lines of sight, even at distances less than 500 feet. For purposes of this analysis, it was reasoned that contiguous forested land beyond 500 feet of the Facility would consist of light-impenetrable trees of a uniform height.

Once the additional data was integrated into the model, APT re-calculated the visibility of the Facility from within the Study Area to produce the final visibility map.

# Photographic Simulations

Simulations of the proposed Facility were generated for those photographs where the balloon was visible during the in-field activities and portray scaled renderings of the Facility from these locations. 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[5].

A photolog map (depicting the photo locations), photo-documentation and simulations are presented in the attachment at the end of this report. The photographs of the balloon are included to provide visual reference points for the location, height and proportions of the proposed Facility relative to the scene.

As stated earlier, APT has elected to use a 50 mm focal length whenever possible; however, there are occasions when the use of a wider-angle lens setting is preferred. For presentation purposes in this report, the photographs are produced in an approximate 7" by 10.5" 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. Eight of the photographs presented in this report were taken with either a 24 mm or 35 mm focal length to balance preserving the integrity of the scene's setting while depicting the subject (the Facility location) in a way similar to what an observer might see, to the greatest extent possible.

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

# Visibility Analysis Results

Results of this analysis are graphically displayed on the visibility analysis map provided in the attachment at the end of this report. A total of 21± acres within the Study Area would have some visibility of the proposed Facility above the tree canopy year-round (that is, during both "leaf-off" and "leaf-on" conditions). This represents about one-quarter of one percent of the 8,042-acre Study Area. As depicted on the visibility analysis map, year-round views of the proposed Facility are expected to be confined to locations within the immediate area of the host Property and extending approximately1,000 feet northward. Twelve (12) residential properties located within the Study Area are expected to have at least partial views of the Facility during "leaf-on" conditions. In general, year-round views of the Facility would be limited to a modest geographic footprint by the combination of the relatively short height of the monopole and the intervening topography and mature vegetation that dominates the Study Area.

Based on the results of this analysis, we estimate that approximately 25 additional acres have the potential to offer some views of the Facility through the trees during "leaf-off" conditions. Most of the potential seasonal visibility appears limited to within approximately 1,500 feet of the proposed Facility location. At least seven (7) additional residential properties within the Study Area could have at least partial views of the Facility through the intervening trees during "leaf-off" conditions. Portions of the nearby Tunxis Trail system that pass immediately to the south of the host Property's sawmill operations are also expected to have some limited seasonal views of the Facility (as seen in Photo numbers 17, 19, 20 and 21). Several structures and exterior storage areas associated with the sawmill operations are also visible from these and/or nearby locations along the trail.

The table below presents an inventory of residential properties[6] and other areas of interest within the Study Area that have the potential for views of the Project.

| Street | Year-round Visibility | Seasonal Visibility |
|---|---|---|
| Sawmill Road | 2 | 3 |
| Milford Road (Route 69) | 5 | 1 |
| Fox Glenn | 0 | 3 |
| Hinman Meadows | 5 | 0 |
| Tunxis Trail – White Dot Trail/Tunxis Spur | No | Yes (select locations) |

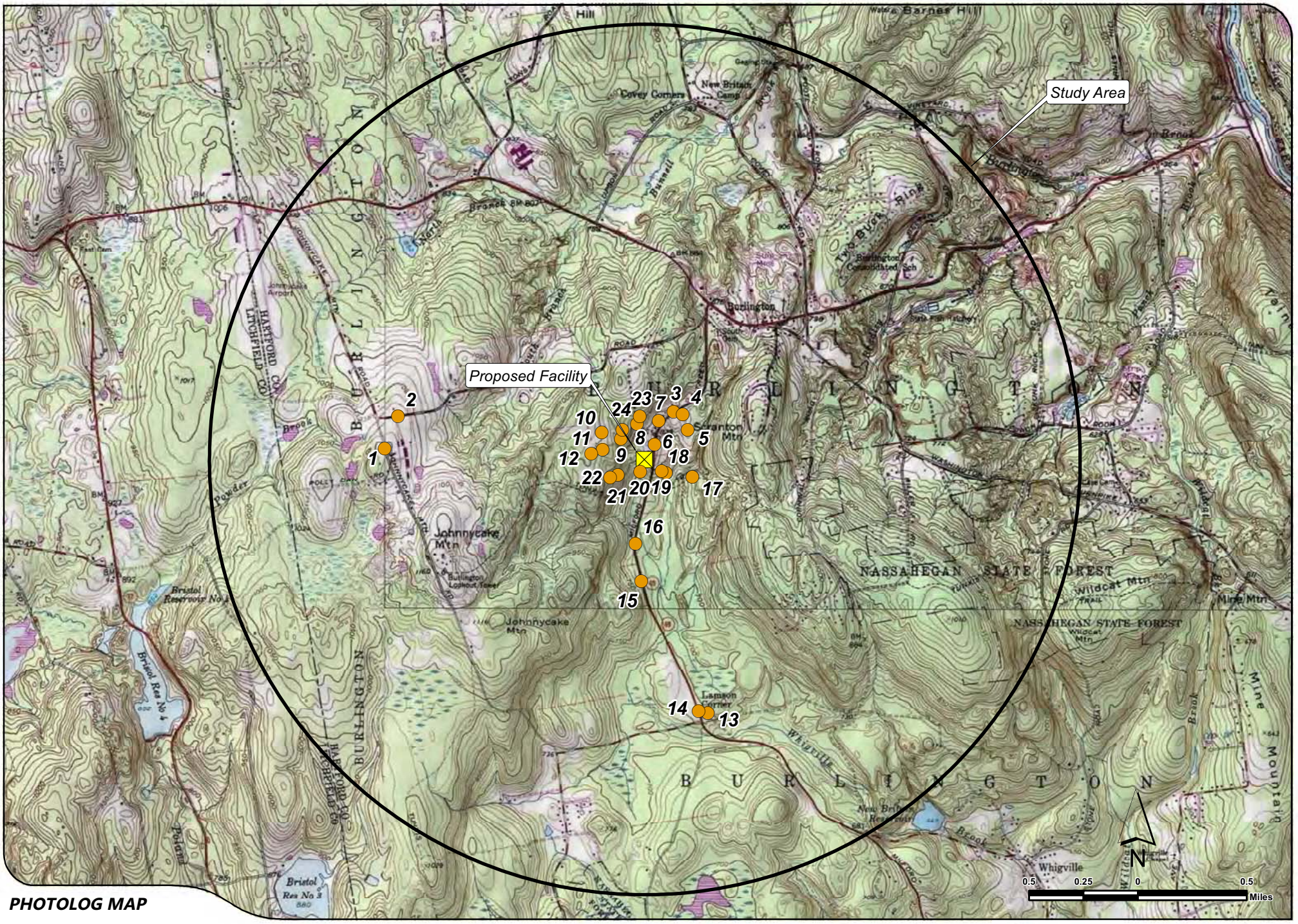
Note: Seasonal visibility denotes residential properties in addition to those with potential year-round views.

## Proximity to Schools And Commercial Child Day Care Centers

No schools or commercial child day care centers are located within 250 feet of the host Property. The nearest school (Har-Bur Middle School) is located approximately 1.75 miles to the northwest and the nearest commercial child day care centers (Young Beginnings Children's at 264 Spielman Highway and Kordas Korner LLC at 267 Spielman Highway) are located approximately 0.75 mile to the northeast. Neither of these locations would have views of the proposed Facility

[6] For purposes of this analysis, the term "residential property" may, in addition to parcels occupied by homes, also include agricultural land, forested tracts with some clearing, and/or parcels with uninhabited structures. Potential visibility identified on a residential property does not necessarily mean that views would be achieved from within dwellings, or on exterior decks, porches or patios that might be associated with a parcel.

# ATTACHMENTS




**PHOTOLOG MAP**

ALL-POINTS TECHNOLOGY CORPORATION

verizon wireless

## *DOCUMENTATION*

| PHOTO | LOCATION | ORIENTATION | DISTANCE TO SITE | VISIBILITY |
|---|---|---|---|---|
| 1 | **ADJACENT TO #125 JOHNNYCAKE MOUNTAIN ROAD** | **SOUTHEAST** | **+/- 1.20 MILES** | **NOT VISIBLE** |

## *DOCUMENTATION*

| PHOTO | LOCATION | ORIENTATION | DISTANCE TO SITE | VISIBILITY |
|---|---|---|---|---|
| **2** | **ROCK ROAD EAST OF JOHNNYCAKE MOUNTAIN ROAD** | **SOUTHEAST** | **+/- 1.15 MILES** | **NOT VISIBLE** |

## *DOCUMENTATION*

| PHOTO | LOCATION | ORIENTATION | DISTANCE TO SITE | VISIBILITY |
|---|---|---|---|---|
| **3** | **ADJACENT TO #51 ROUTE 69** | **SOUTHWEST** | **+/- 0.25 MILE** | **YEAR-ROUND** |

***SIMULATION***

| PHOTO | LOCATION | ORIENTATION | DISTANCE TO SITE | VISIBILITY |
|---|---|---|---|---|
| **3** | **ADJACENT TO #51 ROUTE 69** | **SOUTHWEST** | **+/- 0.25 MILE** | **YEAR-ROUND** |

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## *DOCUMENTATION*

| PHOTO | LOCATION | ORIENTATION | DISTANCE TO SITE | VISIBILITY |
|---|---|---|---|---|
| **4** | **ADJACENT TO #1 HINMAN MEADOWS** | **SOUTHWEST** | **+/- 0.27 MILE** | **YEAR-ROUND** |

***SIMULATION***

| PHOTO | LOCATION | ORIENTATION | DISTANCE TO SITE | VISIBILITY |
|---|---|---|---|---|
| **4** | **ADJACENT TO #1 HINMAN MEADOWS** | **SOUTHWEST** | **+/- 0.27 MILE** | **YEAR-ROUND** |

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## *DOCUMENTATION*

| PHOTO | LOCATION | ORIENTATION | DISTANCE TO SITE | VISIBILITY |
|---|---|---|---|---|
| **5** | **END OF HINMAN MEADOWS** | **SOUTHWEST** | **+/- 0.24 MILE** | **YEAR-ROUND** |

***SIMULATION***

| PHOTO | LOCATION | ORIENTATION | DISTANCE TO SITE | VISIBILITY |
|---|---|---|---|---|
| **5** | **END OF HINMAN MEADOWS** | **SOUTHWEST** | **+/- 0.24 MILE** | **YEAR-ROUND** |

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## *DOCUMENTATION*

| PHOTO | LOCATION | ORIENTATION | DISTANCE TO SITE | VISIBILITY |
|---|---|---|---|---|
| **6** | **ROUTE 69 AT HOST PROPERTY** | **SOUTHWEST** | **+/- 0.08 MILE** | **YEAR-ROUND** |


***SIMULATION***

| PHOTO | LOCATION | ORIENTATION | DISTANCE TO SITE | VISIBILITY |
|---|---|---|---|---|
| **6** | **ROUTE 69 AT HOST PROPERTY** | **SOUTHWEST** | **+/- 0.08 MILE** | **YEAR-ROUND** |

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## *DOCUMENTATION*

| PHOTO | LOCATION | ORIENTATION | DISTANCE TO SITE | VISIBILITY |
|---|---|---|---|---|
| **7** | **ROUTE 69 AT SAW MILL ROAD** | **SOUTHWEST** | **+/- 0.19 MILE** | **YEAR-ROUND** |


***SIMULATION***

| PHOTO | LOCATION | ORIENTATION | DISTANCE TO SITE | VISIBILITY |
|---|---|---|---|---|
| **7** | **ROUTE 69 AT SAW MILL ROAD** | **SOUTHWEST** | **+/- 0.19 MILE** | **YEAR-ROUND** |

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## *DOCUMENTATION*

| PHOTO | LOCATION | ORIENTATION | DISTANCE TO SITE | VISIBILITY |
|---|---|---|---|---|
| **8** | **ADJACENT TO #2 SAW MILL ROAD** | **SOUTHEAST** | **+/- 0.17 MILE** | **SEASONAL** |

***SIMULATION***

| PHOTO | LOCATION | ORIENTATION | DISTANCE TO SITE | VISIBILITY |
|---|---|---|---|---|
| **8** | **ADJACENT TO #2 SAW MILL ROAD** | **SOUTHEAST** | **+/- 0.17 MILE** | **SEASONAL** |

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## *DOCUMENTATION*

| PHOTO | LOCATION | ORIENTATION | DISTANCE TO SITE | VISIBILITY |
|---|---|---|---|---|
| **9** | **ADJACENT TO #5 SAW MILL ROAD** | **SOUTHEAST** | **+/- 0.14 MILE** | **SEASONAL** |

***SIMULATION***

| PHOTO | LOCATION | ORIENTATION | DISTANCE TO SITE | VISIBILITY |
|---|---|---|---|---|
| **9** | **ADJACENT TO #5 SAW MILL ROAD** | **SOUTHEAST** | **+/- 0.14 MILE** | **SEASONAL** |

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## *DOCUMENTATION*

| PHOTO | LOCATION | ORIENTATION | DISTANCE TO SITE | VISIBILITY |
|---|---|---|---|---|
| **10** | **ADJACENT TO #12 SAW MILL ROAD (35mm focal length)** | **SOUTHEAST** | **+/- 0.23 MILE** | **NOT VISIBLE** |