

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE:	:	
	:	
A PETITION OF CELLCO PARTNERSHIP	:	PETITION NO. _____
D/B/A VERIZON WIRELESS FOR A	:	
DECLARATORY RULING ON THE NEED TO	:	
OBTAIN A SITING COUNCIL CERTIFICATE	:	
FOR THE INSTALLATION OF A SMALL	:	
CELL TELECOMMUNICATIONS FACILITY	:	
ATTACHED TO A BUILDING AT LAKE	:	
COMPOUNCE AMUSEMENT PARK,	:	
MOUNT VERNON ROAD IN	:	
SOUTHINGTON, CONNECTICUT	:	JULY 17, 2015

PETITION FOR A DECLARATORY RULING:
INSTALLATION HAVING NO
SUBSTANTIAL ADVERSE ENVIRONMENTAL EFFECT

I. Introduction

Pursuant to Sections 16-50j-38 and 16-50j-39 of the Regulations of Connecticut State Agencies (“R.C.S.A.”), Cellco Partnership d/b/a Verizon Wireless (“Cellco”) hereby petitions the Connecticut Siting Council (the “Council”) for a declaratory ruling (“Petition”) that no Certificate of Environmental Compatibility and Public Need (“Certificate”) is required under Section 16-50k(a) of the Connecticut General Statutes (“C.G.S.”) to install a new “small cell” telecommunications tower, attached to an existing building at the Lake Compounce Amusement Park (Bear Creek Campground) in Southington, Connecticut (the “Property”). The Lake Compounce Amusement Park is owned by Festival Fun Parks. Cellco has designated this site as its Lake Compounce SC2 Facility.

II. Factual Background

The new Lake Compounce Bear Creek Campground area is located on an 84.26-acre

parcel to the east of the amusement park and south of Enterprise Drive. The campground is surrounded by industrial uses and undeveloped land. See Attachment 1 – Site Vicinity Map and Site Schematic (Aerial Photograph).

Cellco is licensed to provide wireless telecommunications services in the 700 MHz, 850 MHz, 1900 MHz and 2100 MHz frequency ranges in Southington and Bristol and throughout the State of Connecticut. Initially, the proposed Lake Compounce SC2 Facility will provide wireless service in Cellco’s 2100 MHz frequency range only and provide capacity relief to Cellco’s surrounding cell sites.

III. Proposed “Small Cell” Facility

The proposed Lake Compounce SC2 Facility would consist of a small tower, attached to the eastern side of the existing building in the Bear Creek Campground. The tower would support a single canister-type antenna and a Remote Radio Head (“RRH”) and would extend approximately 5’-4” above the peak of the roof of the building (approximately 27’-6” above grade). Equipment associated with the Lake Compounce SC2 Facility will be located on an 8’ x 8’ concrete pad located on the ground near the southeast corner of the building. The equipment will be surrounded by an 8-foot wood shadow board fence and gate. Power and telephone service to the Lake Compounce SC2 Facility will extend from existing service inside the building. (See Cellco’s Project Plans included in Attachment 2). Specifications for the “small cell” antenna (Commscope Model NH360QS-DG-F0M) and RRH (Model 2X60-AWS) are included in Attachment 3.

IV. Discussion

A. The Proposed Facility Modifications Will Not Have A Substantial Adverse Environmental Effect

The Public Utility Environmental Standards Act (the “Act”), C.G.S. § 16-50g et seq.,

provides for the orderly and environmentally compatible development of telecommunications towers¹ in the state to avoid “a significant impact on the environment and ecology of the State of Connecticut.” C.G.S. § 16-50g. To achieve these goals, the Act established the Council, and requires a Certificate of Environmental Compatibility and Public Need for the construction of cellular telecommunication towers “that may, as determined by the council, have a substantial adverse environmental effect”. C.G.S. § 16-50k(a).

1. Physical Environmental Effects

Cellco respectfully submits that the installation of a small tower attached to the building at the Property, supporting a single “small cell” canister-type antenna and RRH and the placement of an equipment cabinet on an 8-foot by 8-foot concrete pad near the southeast corner of the building, will not involve a significant alteration in the physical and environmental characteristics of the Property or the surrounding campground area. Ground disturbance associated with the equipment pad will occur in a previously disturbed area immediately adjacent to the building. No trees or significant vegetation of any kind will need to be removed to install the small cell improvements.

2. Visual Effects

The installation of a small tower, a single canister-type antenna and RRH attached to the existing campground building at the Property, would have minimal visual effects on the Property and its surroundings. (See Limited Visual Assessment and Photo-Simulations (“Visual Report”) included in Attachment 4). As concluded in the Visual Report, visibility of the proposed small cell facility would be limited to locations in the immediate vicinity of the campground and would

¹ Tower is defined as a structure, whether free standing or attached to a building or another structure, that has a height greater than its diameter and that is high relative to its surroundings and used to support antennas for sending or receiving radio signals. (See R.C.S.A. Section 16-50j-2a(23)).

not extend to nearby public streets. Overall, the installation at the Property would not be highly visible nor have a significant impact on aesthetics in the area.

3. FCC Compliance

Radio frequency (“RF”) emissions from the proposed small cell installation will be far below the standard adopted by the Federal Communications Commission (“FCC”). Included in Attachment 5 is a worst-case General Power Density table demonstrating that Cellco’s “small cell” facility will operate well within the FCC safety standard.

4. FAA Summary Report

Included in Attachment 6 is a Federal Airways & Airspace Summary Report verifying that the new tower mast and antenna installation attached to the building at the Property would not constitute an obstruction or hazard to air navigation and that notification to the FAA is not required.

B. Notice to the Town, Property Owner and Abutting Landowners

On July 17, 2015, a copy of this Petition was sent to Southington’s Town Manager Garry Brumback, Bristol Mayor Kenneth B. Cockayne and Festival Fun Parks LLC, the owner of the Property. Included in Attachment 7 is a copy of the letters sent to Mr. Brumback, Mayor Cockayne and Festival Fun Parks LLC. A copy of the Petition was also sent to the owners of land that abuts the Property. A sample abutter’s letter, and the list of those abutting landowners who received a copy of the Petition is included in Attachment 8.

V. Conclusion

Based on the information provided above, Cellco respectfully requests that the Council issue a determination in the form of a declaratory ruling that the installation of a tower, attached to the building, and supporting a small cell canister antenna and a RRH will not have a

substantial adverse environmental effect and does not require the issuance of a Certificate of Environmental Compatibility and Public Need pursuant to § 16-50k of the General Statutes.

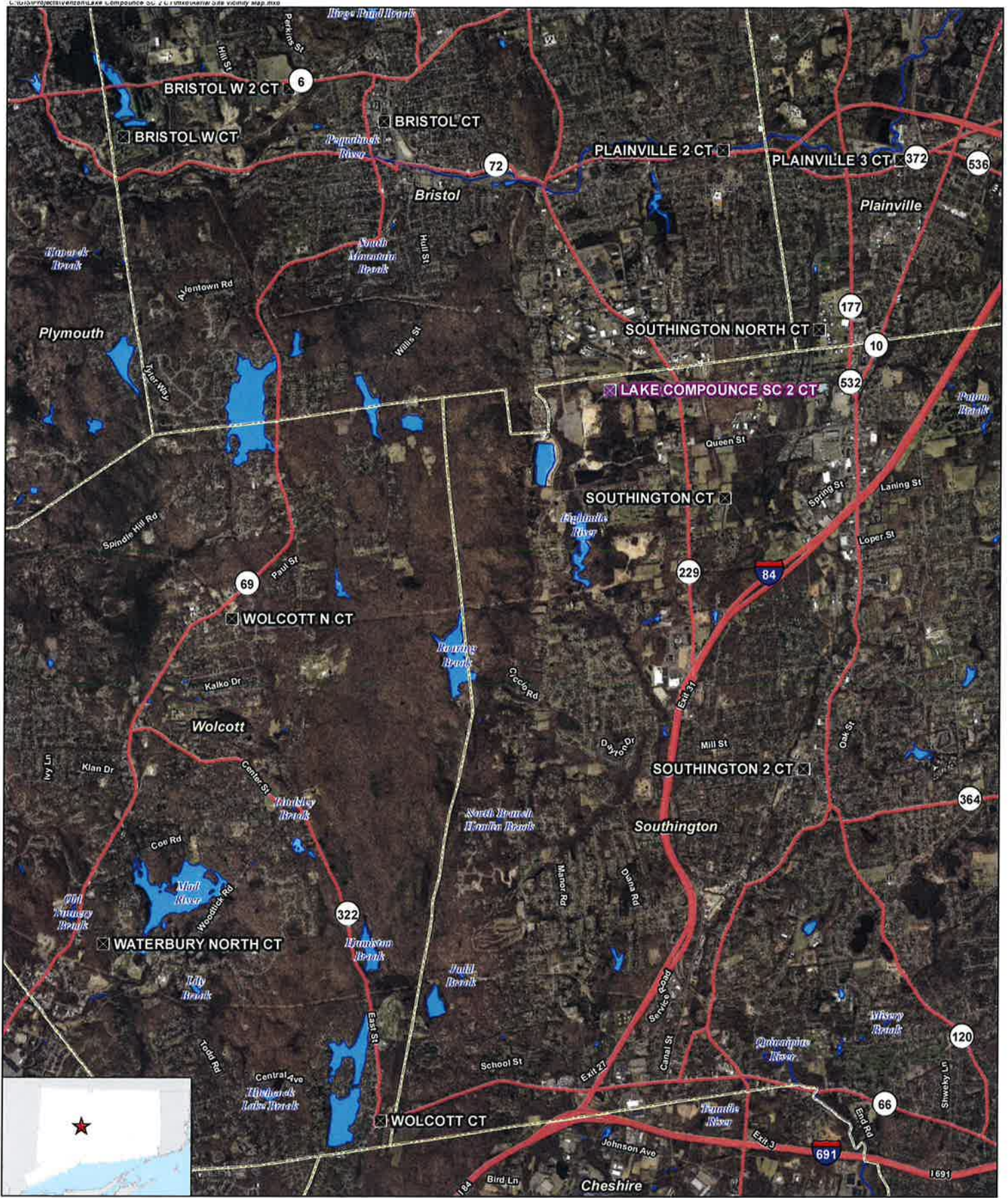
Respectfully submitted,

CELLCO PARTNERSHIP d/b/a VERIZON
WIRELESS

By 

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

ATTACHMENT 1



- Legend**
- Proposed Verizon Wireless Small Cell Facility
 - Surrounding Verizon Wireless Facilities
 - Municipal Boundary
 - Waterbody

Site Vicinity Map

Proposed Small Cell Installation
 Lake Componce SC 2 CT
 Mount Vernon Road
 Southington, Connecticut

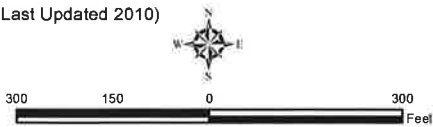
Base Map Source: 2012 Aerial Photograph (CTECO)
 Map Scale: 1 inch = 5,500 feet
 Map Date: June 2015





- Legend**
- Approximate Subject Property
 - Approximate Layout of Existing Development (2014)
 - Proposed Lease Area
 - Approximate Parcel Boundary (CTDEEP GIS Parcels Last Updated 2010)

Map Notes:
 Base Map Source: 2012 Aerial Photograph (CTECO)
 Map Scale: 1 inch = 300 feet
 Map Date: June 2015



Site Schematic

Proposed Small Cell Installation
 Lake Compounce SC 2 CT
 Mount Vernon Road
 Southington, Connecticut



ATTACHMENT 2

Cellco Partnership

d.b.a. **verizon** wireless

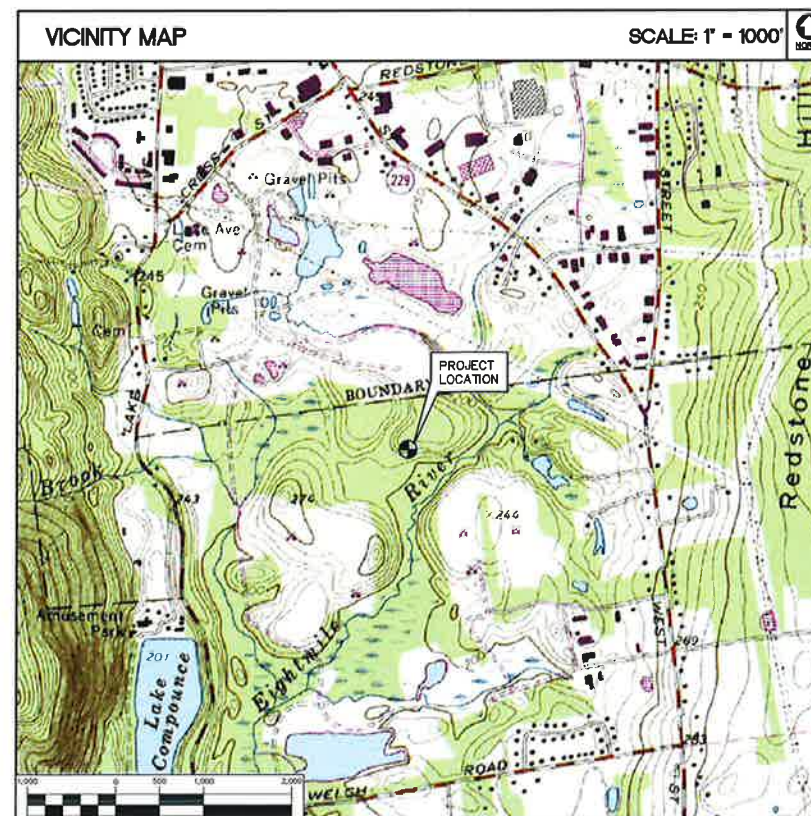
WIRELESS COMMUNICATIONS FACILITY

LAKE COMPOUNCE SC2
MOUNT VERNON ROAD
SOUTHINGTON, CT 06489

SITE DIRECTIONS		
FROM:		TO:
99 EAST RIVER DRIVE EAST HARTFORD, CONNECTICUT		MOUNT VERNON ROAD SOUTHINGTON, CONNECTICUT
1. HEAD NORTHEAST ON E RIVER DR TOWARD DARLIN ST	0.3 MI.	
2. TURN LEFT TO STAY ON E RIVER DR	354 FT.	
3. TURN LEFT AT THE 1ST CROSS STREET ONTO CONNECTICUT BLVD	0.2 MI.	
4. TURN LEFT ONTO THE I-84 W RAMP TO HARTFORD/I-91	482 FT.	
5. MERGE ONTO I-84	18.3 MI.	
6. TAKE EXIT 31 FOR CT-229/WEST STREET	0.1 MI.	
7. TURN RIGHT ONTO CT-229 N	1.5 MI.	
8. TURN LEFT ONTO WELCH RD	1.1 MI.	
9. TURN RIGHT ONTO LAKE AVE/MT VERNON RD	0.6 MI.	

GENERAL NOTES
1. PROPOSED ANTENNA LOCATIONS AND HEIGHTS PROVIDED BY CELCO PARTNERSHIP.

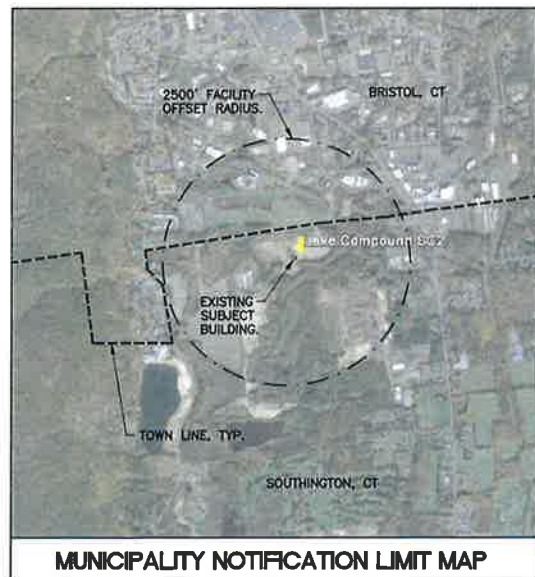
SITE INFORMATION
THE SCOPE OF WORK SHALL INCLUDE:
1. THE INSTALLATION OF PROPOSED CELCO PARTNERSHIP EQUIPMENT CABINETS LOCATED WITHIN A PROPOSED ±8'x8' FENCED LEASE AREA .
2. A TOTAL OF ONE (1) PROPOSED CELCO PARTNERSHIP ANTENNA AND ASSOCIATED APPURTENANCES ARE PROPOSED TO BE MOUNTED ON A PIPE MAST ATTACHED TO EXTERIOR BUILDING WALL AT A CENTERLINE ELEVATION OF ±26.4' AGL.
3. POWER AND TELCO UTILITIES SHALL BE ROUTED FROM DEMARCS LOCATED WITHIN OR ADJACENT TO THE EXISTING BUILDING TO THE PROPOSED CELCO PARTNERSHIP EQUIPMENT CABINET. ROUTING SHOWN HEREIN IS TENTATIVE. FINAL UTILITY DEMARC LOCATIONS AND ROUTING TO BE DETERMINED DURING CONSTRUCTION DOCUMENT PHASE OF THE PROJECT, AND WILL BE COORDINATED WITH BUILDING OWNER AND LOCAL UTILITY COMPANY REQUIREMENTS.
4. FINAL DESIGN OF ANTENNA MOUNTS SHALL BE INCLUDED IN THE CONSTRUCTION PLANS.
5. THE PROPOSED WIRELESS FACILITY INSTALLATION WILL BE DESIGNED IN ACCORDANCE WITH THE 2003 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2009 CONNECTICUT SUPPLEMENT.



PROJECT SUMMARY	
SITE NAME:	LAKE COMPOUNCE SC2
SITE ADDRESS:	MOUNT VERNON ROAD SOUTHINGTON, CT 06489
PROPERTY OWNER:	FESTIVAL FUN PARKS LLC 4590 MACARTHUR BLVD STE. 400 NEWPORT BEACH, CA 92660
APPLICANT:	CELCO PARTNERSHIP d.b.a. VERIZON WIRELESS 99 EAST RIVER DRIVE EAST HARTFORD, CT 06108
VERIZON SITE ACQUISITION CONTACT:	STEVE SCHADLER CELCO PARTNERSHIP (508) 887-0357
LEGAL/REGULATORY COUNSEL:	KENNETH C. BALDWIN, ESQ. ROBINSON & COLE (860) 257-8345
TOWER COORDINATES:	LATITUDE 41°-38'-42.296" LONGITUDE 72°-54'-44.109" GROUND ELEVATION: 209.7± A.M.S.L. COORDINATES AND GROUND ELEVATION REFERENCED FROM FAA 1-A SURVEY CERTIFICATION AS PREPARED BY MARTINEZ COUCH AND ASSOCIATES L.L.C., DATED MARCH 4, 2015.

SHEET INDEX		
SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	0
C-1	ABUTTERS MAP	0
C-2	PARTIAL SITE PLAN, ELEVATION AND ANTENNA MOUNTING CONFIGURATION	0

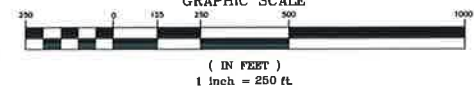
PROFESSIONAL ENGINEER SEAL	ISSUED FOR CS# - CLIENT REVIEW
DATE	06/25/15
DRAWN BY	HAR
CHECKED BY	DMD
DESCRIPTION	
 d.b.a. verizon wireless	
 (203) 468-0350 4590 MacArthur Blvd Ste. 400 Newport Beach, CT 06489 www.CentekEng.com	
Cellco Partnership d/b/a Verizon Wireless WIRELESS COMMUNICATIONS FACILITY LAKE COMPOUNCE SC2 MOUNT VERNON ROAD SOUTHINGTON, CT 06489	
DATE:	06/25/15
SCALE:	AS NOTED
JOB NO.	15039.000
TITLE SHEET	
T-1	
Sheet No. 1 of 3	



MUNICIPALITY NOTIFICATION LIMIT MAP



1
C-1
ABUTTERS MAP
SCALE: 1" = 250'



REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	06/25/15	HMR	DMD	ISSUED FOR CSC - CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

Calico Partnership
d/b/a. Verizon Wireless

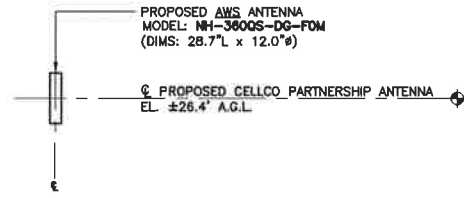
CEN TEK engineering
Communications Solutions
203 488-0390
203 488-6597 Fax
1000 Water Road
Bristol, CT 06035
www.centekeing.com

Calico Partnership d/b/a Verizon Wireless
WIRELESS COMMUNICATIONS FACILITY
LAKE COMPOUND SC2
MOUNT VERNON ROAD
SOUTHINGTON, CT 06489

DATE: 06/25/15
SCALE: AS NOTED
JOB NO. 15039.000

ABUTTERS MAP

C-1
Sheet No. 2 of 3

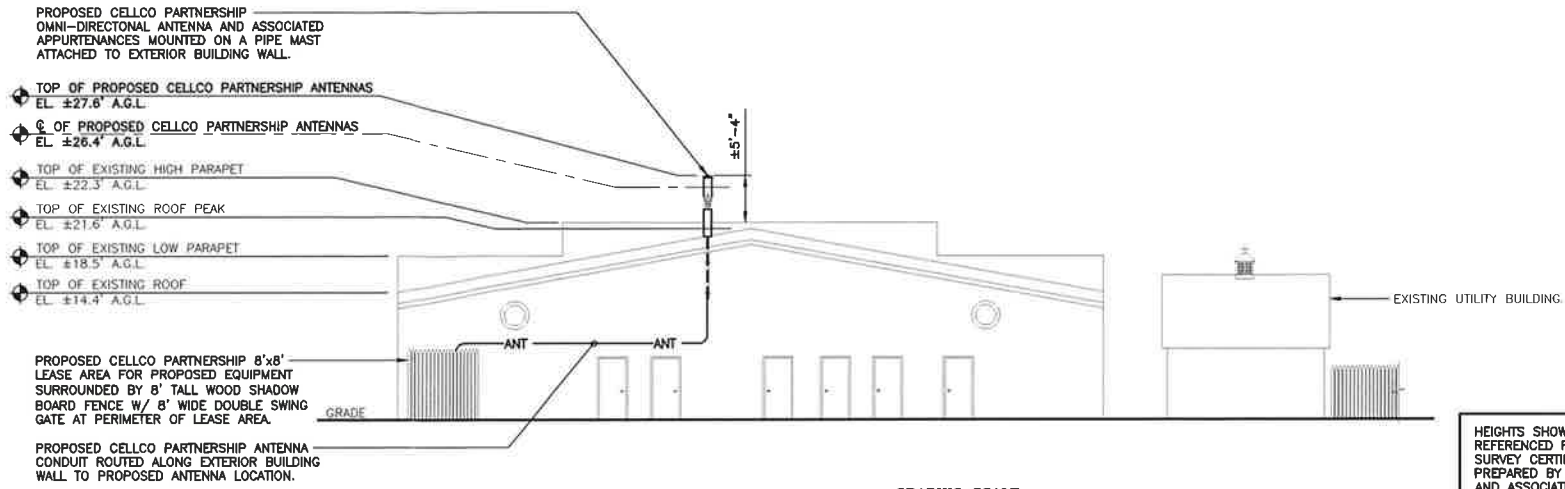


RRH MOUNTING NOTE

- AWS RRH (MODEL: ALU RRH 2x60-AWS)
(DIMS: 36.7'L x 10.6'W x 5.8'D)
(TYP. OF 1 PER SECTOR)

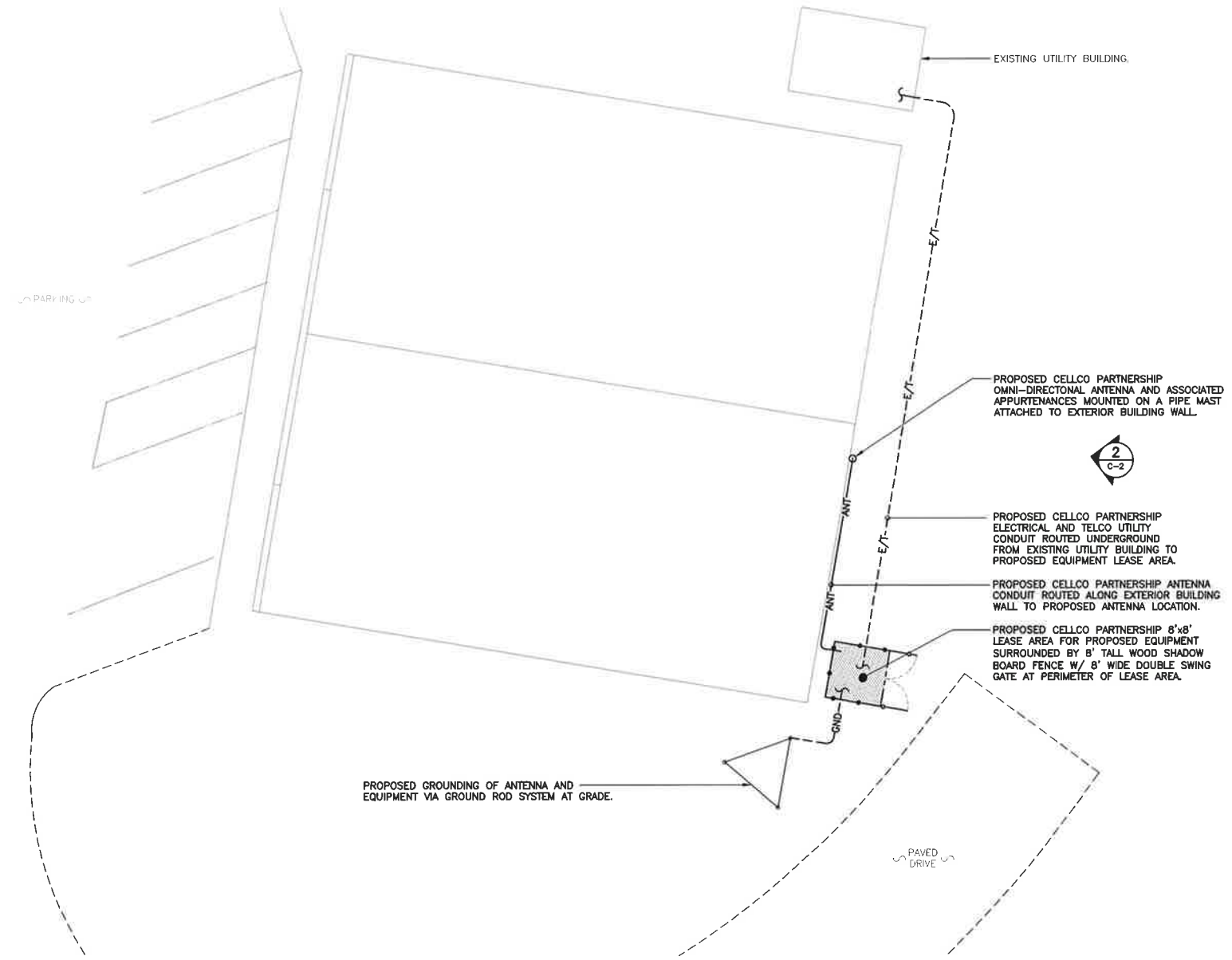
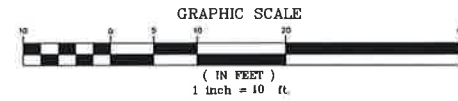
MOUNTED TO PIPE MAST.

3 ANTENNA MOUNTING CONFIGURATION
SCALE: 1/4" = 1'

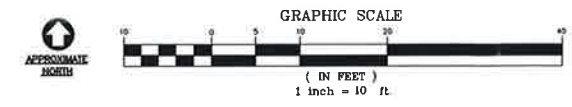


HEIGHTS SHOWN HEREIN ARE REFERENCED FROM FAA 1-A SURVEY CERTIFICATION AS PREPARED BY MARTINEZ COUCH AND ASSOCIATES L.L.C., DATED MARCH 4, 2015.

2 EAST ELEVATION
SCALE: 1" = 10'



1 PARTIAL SITE PLAN
SCALE: 1" = 10'



NOTES

- LOCATION OF PROPOSED CELLICO PARTNERSHIP ANTENNA MAST SUBJECT TO STRUCTURAL REVIEW OF HOST BUILDING CONSIDERING EXISTING AND PROPOSED LOADINGS.
- ROUTING OF POWER AND TELCO CONDUITS SHOWN HEREIN IS TENTATIVE. FINAL ROUTING TO BE DETERMINED AT THE CONSTRUCTION DOCUMENT PHASE OF THE PROJECT.

PROFESSIONAL ENGINEER SEAL	DATE: 06/25/15
 d.b.a. Verizon Wireless	SCALE: AS NOTED
	JOB NO. 15039.000
 203 468-0380 203 468-0397 Fax 652 North Branford Road Branford, CT 06405 www.CentekEng.com	LAKE COMPOUNCE SC2 MOUNT VERNON ROAD SOUTHINGTON, CT 06489
Cellico Partnership d/b/a Verizon Wireless WIRELESS COMMUNICATIONS FACILITY	PARTIAL SITE PLAN, ELEVATION AND ANTENNA MOUNTING CONFIG.
C-2	
Sheet No. 3 of 3	

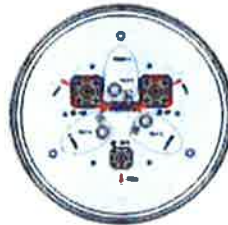
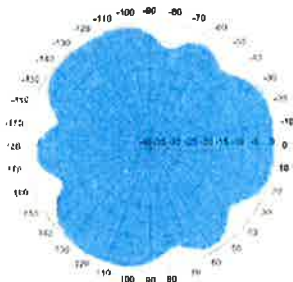
ATTACHMENT 3

Metro Cell Antennas with Internal Diplexer and GPS Antenna

Dualband Quasi-Omni (360°), Metro Cell Antenna

NH360QS-DG-F0M

NH360QT-DG-F0



ELECTRICAL SPECIFICATIONS

Operating Frequency Range	698 - 896 and 1710 - 2170 MHz					698 - 896 and 1710 - 2170 MHz				
	698 - 806	806 - 896	1710 - 1880	1850 - 1990	1920 - 2170	698 - 806	806 - 896	1710 - 1880	1850 - 1990	1920 - 2170
Frequency Bands, MHz	698 - 806	806 - 896	1710 - 1880	1850 - 1990	1920 - 2170	698 - 806	806 - 896	1710 - 1880	1850 - 1990	1920 - 2170
Polarization	±45°	±45°	±45°	±45°	±45°	±45°	±45°	±45°	±45°	±45°
Gain, dBi	4.3	5.3	8.0	8.1	8.5	1.3	2.3	4.0	4.2	4.5
Beamwidth, Horizontal, degrees	360	360	360	360	360	360	360	360	360	360
Beamwidth, Vertical, degrees	30.0	24.0	16.0	15.0	14.0	60.0	55.0	32.5	30.0	28.5
USLS, dB	12	12	14	13	13	-	-	14	12	11
Beam Tilt, degrees	0	0	0-16	0-16	0-16	0	0	0	0	0
Isolation, dB	25	25	25	25	25	25	25	25	25	25
VSWR (Return Loss, dB)	1.5 (14.0)	1.5 (14.0)	1.5 (14.0)	1.5 (14.0)	1.5 (14.0)	1.5 (14.0)	1.5 (14.0)	1.5 (14.0)	1.5 (14.0)	1.5 (14.0)
PIM, 3rd Order, 2 x 20 W, dBc	-150	-150	-150	-150	-150	-150	-150	-150	-150	-150
Input Power per Port, maximum, watts	250	250	250	250	250	250	250	250	250	250

MECHANICAL SPECIFICATIONS

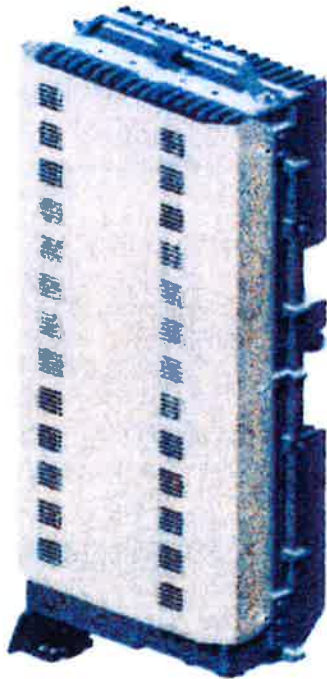
Connector Interface	7 - 16 DIN Female	7 - 16 DIN Female
Connector Quantity, Location	2, Bottom	2, Bottom
GPS Connector Interface	4.1/9.5 DIN Female	4.1/9.5 DIN Female
GPS Connector Quantity, Location	1, Bottom	1, Bottom
Length, mm (inch)	730 (28.7)	360 (14.2)
Outer Diameter, mm (inch)	305 (12.0)	305 (12.0)
Wind Speed, maximum, km/h (mph)	241.4 (150)	241.4 (150)
Net Weight, kg (lb)	20.0 (44.1)	12.0 (26.5)

AVAILABILITY

Expected Ready Date for Manufacturing	March 2014	June 2014
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ALCATEL-LUCENT WIRELESS PRODUCT DATA SHEET RRH2x60-AWS

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



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

The Alcatel-Lucent RRH2x60-AWS is linked to the BBU by an optical-fiber connection carrying downlink and uplink digital radio signals

along with operations, administration and maintenance (OA&M) information.

The Alcatel-Lucent RRH2x60-AWS integrates all the latest technologies. This allows to offer best-in-class characteristics.

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

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

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

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

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

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

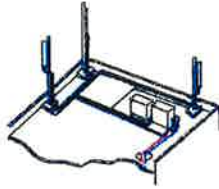
The Alcatel-Lucent RRH2x60-AWS is a very cost-effective solution to deploy LTE MIMO.

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

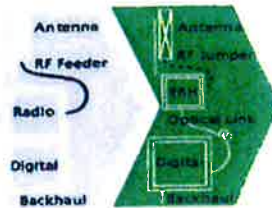
The limited space available in some sites may prevent the installation of traditional single-cabinet BTS equipment. However, many of these sites can host an Alcatel-Lucent RRH2x60-AWS installation, providing more flexible site selection and improved network quality along with greatly reduced installation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

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

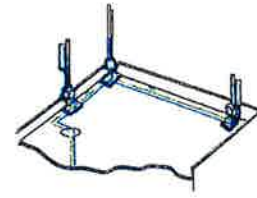
Installation can easily be done by a single person as the Alcatel-Lucent RRH2x60-AWS is compact and weighs about 20 kg, eliminating the need for a crane to hoist the BTS cabinet to the rooftop. A site can be in operation in less than one day.



Macro



RRH for space-constrained cell sites



Distributed

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

- MIMO LTE operation with only one single unit per sector
- Improved uplink coverage with built-in 4-way receive diversity capability
- RRH can be mounted close to the antenna, eliminating nearly all losses in RF cables and thus reducing power consumption by 50% compared to conventional solutions
- Distributed configurations provide easily deployable and cost-effective solutions, near zero footprint and

- silent solutions, with minimum impact on the neighborhood, which ease the deployment
- RETA and TMA support without additional hardware thanks to the AISG v2.0 port and the integrated Bias-Tees. Bias-Tees support AISG DC supply and signaling.

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

Dimensions and weights

- HxWxD : 510x285x186mm (27 l with solar shield)
- Weight : 20 kg (44 lbs)

Electrical Data

- Power Supply : -48V DC (-40.5 to -57V)
- Power Consumption (ETSI average traffic load reference) : 250W @2x60W

RF Characteristics

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

Connectivity

- Two CPRI optical ports for daisy chaining and up to six RRHs per fiber
- Type of optical fiber: Single-Mode (SM) and Multi-Mode (MM) SFPs
- Optical fiber length: up to 500m using MM fiber, up to 20km using SM fiber
- TMA/RETA : AISG 2.0 (RS485 connector and internal Bias-Tee)
- Six external alarms
- Surge protection for all external ports (DC and RF)

Environmental specifications

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


Safety and Regulatory Data

- EMC : 3GPP 25113, EN 301 489-1, EN 301 489-23, GR 1089, GR 3108, OET-65
- Safety : IEC60950-1, EN 60825-1, UL, ANSI/NFPA 70, CAN/CSA-C22.2
- Regulatory : FCC Part 15 Class B, CE Mark – European Directive : 2002/95/EC (ROHS); 2002/96/EC (WEEE); 1999/5/EC (R&TTE)
- Health : EN 50385

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AT THE SPEED OF IDEAS™

Alcatel-Lucent 

ATTACHMENT 4

Limited Visual Assessment and Photo-Simulations

LAKE COMPOUNCE SC 2
822 LAKE AVENUE
BRISTOL, CT 06489



Prepared in June 2015 by:
All-Points Technology Corporation, P.C.
3 Saddlebrook Drive
Killingworth, CT 06141

Prepared for Verizon Wireless



LIMITED VISUAL ASSESSMENT & PHOTO-SIMULATIONS

At the request of Cellco partnership LLC d/b/a Verizon Wireless, All-Points Technology Corporation, P.C. ("APT") completed a limited visual assessment and prepared computer-generated photo-simulations depicting the proposed installation of a small cell wireless telecommunications Facility at 822 Lake Avenue in Bristol, Connecticut (the "Property").

Project Setting

The Property is located east of Lake Avenue and is part of the Lake Compounce amusement park complex. The Property is accessed by a park road (Bear Creek Highway) and is currently improved with a campground, including multiple cabins and a main camp store building. The proposed Facility would include the installation of a single canister omni-directional antenna and remote radio head pipe-mounted to the east side of the camp store building. The top of the antenna would extend approximately five (5) feet above the roof's peak and to a height of approximately 27.5 feet above ground level. Supporting equipment would be located within an 8-foot by 8-foot fence-enclosure at ground level against the southeast corner. Electrical and telco service cables originating within an existing utility building off the northeast corner of the building would extend underground to the equipment enclosure. A conduit housing these utilities would extend from the equipment enclosure to the pipe mast on the building façade.

Methodology

On June 18, 2015, APT personnel conducted a field reconnaissance to photo-document existing conditions. Four (4) nearby locations were selected to depict representative existing and proposed conditions. At each photo location, the geographic coordinates of the camera's position were logged using global positioning system ("GPS") technology. Photographs were taken with a Canon EOS 6D digital camera body and Canon EF 24 to 105 millimeter ("mm") zoom lens, with the lens set to 50 mm.

"The lens that most closely approximates the view of the unaided human eye is known as the normal focal-length lens. For the 35 mm camera format, which gives a 24x36 mm image, the normal focal length is about 50 mm."¹

Three-dimensional computer models were developed for the building and proposed small cell components from AutoCAD information. Photographic simulations were then generated to portray scaled renderings of the proposed installation. Using field data, site plan information and image editing software, the proposed Facility was scaled to the correct location and height, relative to the existing structure and surrounding area. For presentation purposes in this report, all of the photographs were produced in an approximate 7-inch by 10.5-inch format². A photolog map and copies of the existing conditions and photo-simulations are attached.

¹ Warren, Bruce. *Photography*, West Publishing Company, Eagan, MN, c. 1993, (page 70).

² 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 and depicting the subject in a way similar to

Conclusions

The visibility of the proposed installation would be limited to locations on the Property as camp goers approach the building. Views of the proposed installation would not extend out to Lake Avenue. Based on the results of this assessment, it is APT's opinion that the proposed installation of Verizon Wireless equipment at the Property would not be highly visible nor have a significant impact on aesthetics in the area.

Limitations




This analysis does not claim to depict the only areas, or all locations, where visibility may occur; it is intended to provide a representation of those areas where the Facility is likely to be seen. The photo-simulations provide a representation of the Facility under similar settings as those encountered during the field reconnaissance. Views of the Facility can change throughout the seasons and the time of day, and are dependent on weather and other atmospheric conditions (e.g., haze, fog, clouds); the location, angle and intensity of the sun; and the specific viewer location. Weather conditions on the day of the reconnaissance included mostly sunny skies and the photo-simulations presented in this report provide an accurate portrayal of the Facility during comparable conditions.

ATTACHMENTS



PHOTO LOG

Legend

-  Site
-  Approximate Layout of Existing Development (2014)
-  Photo Location



Base Map Source: 2012 Aerial Photograph (CTECC)





EXISTING

PHOTO

1

LOCATION

HOST PROPERTY

ORIENTATION

NORTHEAST

DISTANCE TO SITE

+/- 200 FEET





PROPOSED

PHOTO

1

LOCATION

HOST PROPERTY

ORIENTATION

NORTHEAST

DISTANCE TO SITE

+/- 200 FEET



EXISTING

PHOTO

2

LOCATION

HOST PROPERTY

ORIENTATION

NORTHWEST

DISTANCE TO SITE

+/- 85 FEET



**ALL-POINTS
TECHNOLOGY CORPORATION**





PROPOSED

PHOTO

2

LOCATION

HOST PROPERTY

ORIENTATION

NORTHWEST

DISTANCE TO SITE

+/- 85 FEET



EXISTING

PHOTO

3

LOCATION

HOST PROPERTY

ORIENTATION

SOUTHWEST

DISTANCE TO SITE

+/- 104 FEET



PROPOSED

PHOTO

3

LOCATION

HOST PROPERTY

ORIENTATION

SOUTHWEST

DISTANCE TO SITE

+/- 104 FEET



EXISTING

PHOTO

4

LOCATION

HOST PROPERTY

ORIENTATION

NORTHEAST

DISTANCE TO SITE

+/- 227 FEET



PROPOSED

PHOTO

4

LOCATION

HOST PROPERTY

ORIENTATION

NORTHEAST

DISTANCE TO SITE

+/- 227 FEET

ATTACHMENT 5

General Power Density

Site Name: Lake Compounce SC 2, CT
 Cumulative Power Density

Operator	Operating Frequency (MHz)	Number of Trans.	ERP Per Trans. (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure* (mW/cm ²)	Fraction of MPE (%)
VZW AWS	2145	1	595	595	26.2	0.3117	1.0	31.17%

Total Percentage of Maximum Permissible Exposure

31.17%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.

ATTACHMENT 6

* Federal Airways & Airspace *
* Summary Report: New Construction *
* Antenna Structure *

*

Airspace User: Mark Brauer

File: LAKE_COMPOUNCE_SC_2_CT

Location: Bristol, CT

Latitude: 41°-38'-42.30" Longitude:
72°-54'-44.11"

SITE ELEVATION AMSL.....210 ft.
STRUCTURE HEIGHT.....28 ft.
OVERALL HEIGHT AMSL.....238 ft.

NOTICE CRITERIA

- FAR 77.9(a): NNR (DNE 200 ft AGL)
- FAR 77.9(b): NNR (DNE Notice Slope)
- FAR 77.9(c): NNR (Not a Traverse Way)
- FAR 77.9: NNR FAR 77.9 IFR Straight-In Notice Criteria for 4B8
- FAR 77.9: NNR FAR 77.9 IFR Straight-In Notice Criteria for N41
- FAR 77.9(d): NNR (Off Airport Construction)

NR = Notice Required
NNR = Notice Not Required
PNR = Possible Notice Required (depends upon actual IFR procedure)
For new construction review Air Navigation Facilities at

bottom

of this report.

Notice to the FAA is not required at the analyzed location and height for slope, height or Straight-In procedures. Please review the 'Air Navigation' section for notice requirements for offset IFR procedures and EMI.

OBSTRUCTION STANDARDS

- FAR 77.17(a)(1): DNE 499 ft AGL
- FAR 77.17(a)(2): DNE - Airport Surface
- FAR 77.19(a): DNE - Horizontal Surface
- FAR 77.19(b): DNE - Conical Surface
- FAR 77.19(c): DNE - Primary Surface
- FAR 77.19(d): DNE - Approach Surface
- FAR 77.19(e): DNE - Transitional Surface

VFR TRAFFIC PATTERN AIRSPACE FOR: 4B8: ROBERTSON FIELD

Type: A RD: 19208.61 RE: 200

- FAR 77.17(a) (1): DNE
- FAR 77.17(a) (2): DNE - Height No Greater Than 200 feet AGL.
- VFR Horizontal Surface: DNE
- VFR Conical Surface: DNE
- VFR Approach Slope: DNE
- VFR Transitional Slope: DNE

VFR TRAFFIC PATTERN AIRSPACE FOR: N41: WATERBURY

Type: A RD: 36902.75 RE: 853.4

- FAR 77.17(a) (1): DNE
- FAR 77.17(a) (2): Does Not Apply.
- VFR Horizontal Surface: DNE
- VFR Conical Surface: DNE
- VFR Approach Slope: DNE
- VFR Transitional Slope: DNE

TERPS DEPARTURE PROCEDURE (FAA Order 8260.3, Volume 4)

- FAR 77.17(a) (3) Departure Surface Criteria (40:1)
- DNE Departure Surface

MINIMUM OBSTACLE CLEARANCE ALTITUDE (MOCA)

- FAR 77.17(a) (4) MOCA Altitude Enroute Criteria
- The Maximum Height Permitted is 1700 ft AMSL

PRIVATE LANDING FACILITIES

ARP FAA	FACIL	BEARING	RANGE	DELTA
ELEVATION IFR	IDENT TYP NAME	To FACIL	IN NM	
-168	CT60 HEL ULTIMATE No Impact to Private Landing Facility Structure 0 ft below heliport.	27.7	2.05	-15
-168	CT03 HEL BRISTOL HOSPITAL No Impact to Private Landing Facility Structure 47 ft below heliport.	329.81	2.13	
-712	CT96 AIR GREEN ACRES No Impact to VFr Transitional Surface. Below surface height of 363 ft above ARP.	325.12	4.63	
	CT73 HEL SOUTH MEADOWS No Impact to Private Landing Facility Structure is beyond notice limit by 26778 feet.	26.66	5.23	+38

AIR NAVIGATION ELECTRONIC FACILITIES									
GRND	FAC		ST			DIST	DELTA		
ANGLE	APCH	IDNT	TYPE	AT	FREQ	VECTOR	(ft)	ELEVA	ST LOCATION
BEAR									
	4B8	CO		Y	A/G	36.63	20955	-22	CT PALINFIELD
-.06									
	HFD	VOR/DME		R	114.9	90.96	99735	-611	CT HARTFORD
-.35									
	BDL	VORTAC		D	109.0	29.42	123890	+78	CT BRADLEY
.04									
	BDL	RADAR		ON		30.29	123946	+2	CT BRADLEY INTL
0.00									
	MAD	VOR/DME		R	110.4	153.52	134927	+18	CT MADISON
.01									
	HVN	VOR/DME		R	109.8	176.96	139671	+232	CT NEW HAVEN
.10									
	BDR	VOR/DME		R	108.8	198.19	185861	+229	CT BRIDGEPORT
.07									
	PWL	VOR/DME		I	114.3	283.82	193357	-1012	NY PAWLING
-.3									
	BAF	VORTAC		R	113.0	15.76	195761	-29	MA BARNES
-.01									

CFR Title 47, §1.30000-§1.30004

AM STUDY NOT REQUIRED: Structure is not near a FCC licensed AM station.

Movement Method Proof as specified in §73.151(c) is not required. Please review 'AM Station Report' for details.

Nearest AM Station: WPRX @ 3229 meters.

Airspace® Summary Version 15.5.391

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06-10-2015
 11:00:53

ATTACHMENT 7

July 17, 2015

Via Certificate of Mailing

Garry Brumback, Town Manager
Town of Southington
75 Main Street
Southington, CT 06489

**Re: Installation of a Small Cell Telecommunications Facility at Lake Compounce
Amusement Park Off Mount Vernon Road, Southington, Connecticut**

Dear Mr. Brumback:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install a “small cell” telecommunications facility at the Bear Creek Campground area at Lake Compounce Amusement Park in Southington (the “Property”).

The proposed “small cell” would consist of a single canister-type antenna and a Remote Radio Head attached to a tower mast on the building. The new mast and antenna will extend approximately 6.5’ above the peak of the roof and approximately 35.2 feet above grade. Equipment associated with the small cell facility will be located in a small cabinet, placed on an 8’ x 8’ concrete pad on the north side of the building. The equipment cabinet will house all of Cellco’s small cell radio equipment and a battery back-up power supply system.

A copy of Cellco’s Petition is attached for your review. Landowners whose property abuts Lake Compounce Amusement Park were also sent a copy of the Petition.

Robinson + Cole

Garry Brumback
July 17, 2015
Page 2

Please contact me if you have any questions regarding this proposal.

Sincerely,



Kenneth C. Baldwin

KCB/kmd
Attachment

July 17, 2015

Via Certificate of Mailing

Kenneth B. Cockayne, Mayor
City of Bristol
City Hall
111 North Main Street
Bristol, CT 06010

Re: **Installation of a Small Cell Telecommunications Facility at Lake Compounce
Amusement Park Off Mount Vernon Road, Southington, Connecticut**

Dear Mr. Cockayne:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install a “small cell” telecommunications facility at the Bear Creek Campground area at Lake Compounce Amusement Park in Southington (the “Property”).

The proposed “small cell” would consist of a single canister-type antenna and a Remote Radio Head attached to a tower mast on the building. The new mast and antenna will extend approximately 6.5’ above the peak of the roof and approximately 35.2 feet above grade. Equipment associated with the small cell facility will be located in a small cabinet, placed on an 8’ x 8’ concrete pad on the north side of the building.. The equipment cabinet will house all of Cellco’s small cell radio equipment and a battery back-up power supply system.

A copy of Cellco’s Petition is attached for your review. Landowners whose property abuts Lake Compounce Amusement Park were also sent a copy of the Petition.

Robinson + Cole

Kenneth B. Cockayne
July 17, 2015
Page 2

Please contact me if you have any questions regarding this proposal.

Sincerely,



Kenneth C. Baldwin

KCB/kmd
Attachment

July 17, 2015

Via Certificate of Mailing

Festival Fun Parks LLC
4590 MacArthur Boulevard, Suite 400
Newport Beach, CA 92660

**Re: Installation of a Small Cell Telecommunications Facility at Lake Compounce
Amusement Park Off Mount Vernon Road, Southington, Connecticut**

Dear Sir or Madam:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install a “small cell” telecommunications facility at the Bear Creek Campground area at Lake Compounce Amusement Park in Southington (the “Property”).

The proposed “small cell” would consist of a single canister-type antenna and a Remote Radio Head attached to a tower mast on the building. The new mast and antenna will extend approximately 6.5’ above the peak of the roof and approximately 35.2 feet above grade. Equipment associated with the small cell facility will be located in a small cabinet, placed on an 8’ x 8’ concrete pad on the north side of the building.. The equipment cabinet will house all of Cellco’s small cell radio equipment and a battery back-up power supply system.

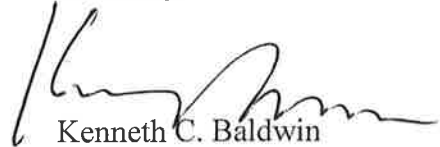
A copy of Cellco’s Petition is attached for your review. Landowners whose property abuts Lake Compounce Amusement Park were also sent a copy of the Petition.

Robinson + Cole

Festival Fun Parks LLC
July 17, 2015
Page 2

Please contact me if you have any questions regarding this proposal.

Sincerely,



Kenneth C. Baldwin

KCB/kmd
Attachment

ATTACHMENT 8

KENNETH C. BALDWIN

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

Also admitted in Massachusetts

July 17, 2015

Via Certificate of Mailing

«Name_and_Address»

Re: **Notice of Intent to File a Petition for Declaratory Ruling with the Connecticut Siting Council for the Installation of a “Small Cell” Telecommunications Facility at Lake Compounce Amusement Park Off Mount Vernon Road, Southington, Connecticut**

Dear «Salutation»:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install a new “small cell” telecommunications facility at Lake Compounce Amusement Park off Mount Vernon Road in Southington (the “Property”).

The proposed “small cell” would consist of a single canister-type antenna and a Remote Radio Head attached to a tower mast on the building. The new mast and antenna will extend approximately 6.5’ above the peak of the roof and approximately 35.2 feet above grade. Equipment associated with the small cell facility will be located in a small cabinet, placed on an 8’ x 8’ concrete pad on the north side of the building.. The equipment cabinet will house all of Cellco’s small cell radio equipment and a battery back-up power supply system. A copy of Cellco’s Petition is attached for your review.

This notice is being sent to you because you are listed as an owner of land that abuts the Property. If you have any questions regarding the Petition, the Council’s process for reviewing the Petition or the details of the filing itself, please feel free to contact me at the number listed above. You may also contact the Council directly at 860-827-2935.

July 17, 2015
Page 2

Sincerely,

A handwritten signature in black ink, appearing to read "Kenneth C. Baldwin". The signature is written in a cursive style with a long horizontal flourish at the end.

Kenneth C. Baldwin

Attachment

CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS

ABUTTERS LIST

MOUNT VERNON ROAD, SOUTHINGTON, CONNECTICUT

SOUTHINGTON

	<u>Property Address</u>	<u>Name and Address</u>
1.	Welch Road	Tilcon PO Box 311228 Newington, CT 06131
2.	West Street	Festival Fun Parks LLC 4590 MacArthur Boulevard, Suite 400 Newport Beach, CA 92880
3.	Depaolo Drive	Town of Southington 75 Main Street Southington, CT 06489
4.	49 Depaolo Drive	B&R Corporation 216 Bogue Road Harwinton, CT 06791
5.	Mount Vernon Road	Tilcon PO Box 311228 Newington, CT 06131

BRISTOL

6.	Lake Avenue	City of Bristol 111 North Main Street Bristol, CT 06010
7.	Lake Avenue	City of Bristol 111 North Main Street Bristol, CT 06010