ROBINSON & COLE LLP

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Also admitted in Massachusetts

January 21, 2014

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Request of Cellco Partnership d/b/a Verizon Wireless for an Order to Approve the Shared Use of an Existing Tower at 17 Cottage Street, Madison, Connecticut**

Dear Ms. Bachman:

Pursuant to Connecticut General Statutes ("C.G.S.") §16-50aa, as amended, Cellco Partnership d/b/a Verizon Wireless ("Cellco") hereby requests an order from the Connecticut Siting Council ("Council") to approve the shared use by Cellco of an existing telecommunications tower, owned by SBA Communications Corporation ("SBA"), at 17 Cottage Street in Madison, Connecticut (the "Property"). Cellco requests that the Council find that the proposed shared use of the SBA tower satisfies the criteria of C.G.S § 16-50aa and issue an order approving the proposed shared use. A copy of this letter is being sent to Madison's First Selectman, Fillmore McPherson and Paul Stonehart, the owner of the Property.

Background

The existing SBA facility consists of a 130-foot self-supporting monopole tower within a fenced compound. The tower is currently being shared by AT&T, with antennas at the 127-foot level and T-Mobile, with antennas at the 117-foot level.

Cellco is licensed by the Federal Communications Commission ("FCC") to provide wireless services throughout the State of Connecticut. Cellco and SBA have agreed to the proposed shared use of the existing tower pursuant to mutually

acceptable terms and conditions, and SBA has authorized Cellco to apply for all necessary permits and approvals that may be required to share the existing tower. (*See* Owner's authorization letter included in Attachment 1).

Cellco proposes to install a total of twelve (12) antennas at the 107-foot level on the tower. Equipment associated with Cellco's antennas and an emergency back-up generator will be located inside a 12' x 24' shelter installed within the existing fenced facility compound. Included in Attachment 2 are Cellco's Project Plans showing the location of all site improvements as well as specifications for Cellco's proposed antennas.

C.G.S. § 16-50aa(c)(1) provides that, upon written request for approval of a proposed shared use, "if the council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns, the council shall issue an order approving such shared use." Cellco respectfully submits that the shared use of the tower satisfies these criteria.

A. Technical Feasibility. The existing tower is structurally capable of supporting Cellco's antennas. The proposed shared use of this tower is, therefore, technically feasible. A Structural Analysis verifying the structural integrity of the tower, and its ability to support Cellco's antennas and related equipment is included in Attachment 3.

B. Legal Feasibility. Under C.G.S. § 16-50aa, the Council has been authorized to issue orders approving the shared use of an existing tower such as the SBA tower in Madison. This authority complements the Council's prior-existing authority under C.G.S. § 16-50p to issue orders approving the construction of new towers that are subject to the Council's jurisdiction. In addition, § 16-50x(a) directs the Council to "give such consideration to other state laws and municipal regulations as it shall deem appropriate" in ruling on requests for the shared use of existing tower facilities. Under the statutory authority vested in the Council, an order by the Council approving the requested shared use would permit the Applicant to obtain a building permit for the proposed installations.

C. Environmental Feasibility. The proposed shared use of the SBA tower would have a minimal environmental effect, for the following reasons:

1. The proposed installation of twelve (12) antennas at the 107-foot level on the tower would have an insignificant incremental visual impact on the area around the SBA tower site. Cellco's proposed shelter would remain within the limits of the existing facility compound. No additional ground disturbance will be required. The shared use of the tower would not cause any significant change or alteration in the physical or environmental characteristics of the existing site.

2. Noise associated with the equipment shelter's air conditioning units was evaluated for compliance with State and/or local noise standards. According to the Noise Compliance Study included in Attachment 4 ("Study"), noise from the shelter's air conditioning units will exceed State and/or local noise limits in a northerly and westerly direction. As such, Cellco has proposed to attach a Sound Seal BBC-EXT-R-2 sound curtain material onto the existing fence in the northwest corner of the compound. As indicated in the Study, this noise mitigation measure will bring the facility into compliance with State and local noise standards. Noise associated with Cellco's emergency back-up generator is exempt from State and local noise standards.

3. Operation of the existing and Cellco's proposed antennas at this site would not exceed the RF emissions standards adopted by the Federal Communications Commission ("FCC"). Included in Attachment 5 is a cumulative worst-case RF emissions calculation for Cellco's proposed antennas and AT&T's and T-Mobile's existing antennas. This attachment demonstrates that the facility will operate well within the FCC standards.

4. Under ordinary operating conditions, the proposed installation would not require the use of any water or sanitary facilities and would not generate air emissions or discharges to water bodies or sanitary facilities. After construction is complete the proposed installations would not generate any increased traffic to the SBA facility other than periodic (monthly) maintenance visits to the cell site.

The proposed shared use of the SBA facility would, therefore, have a minimal environmental effect, and is, therefore, environmentally feasible.

D. Economic Feasibility. As previously mentioned, SBA and Cellco have entered into a lease for the shared use of the existing tower on mutually agreeable terms. The proposed tower sharing is, therefore, economically feasible. (*See* Attachment 1).

E. Public Safety Concerns. As stated above, the SBA tower is structurally capable of supporting Cellco's antennas and related equipment and Cellco is not aware of any public safety concerns relative to the proposed sharing of the existing SBA tower. In fact, the provision of new and improved wireless service through shared use of the existing tower is expected to enhance the safety and welfare of area residents and members of the general public traveling through Madison.

Conclusion

For the reasons discussed above, the proposed shared use of the existing SBA tower at the Property satisfies the criteria stated in C.G.S. § 16-50aa and advances the General Assembly's and the Council's goal of preventing the unnecessary proliferation of towers in Connecticut. The Applicant, therefore, respectfully requests that the Council issue an order approving the proposed shared use of the SBA tower.

Thank you for your consideration of this matter.

Very truly yours,

Kenneth C. Baldwin

Enclosures
Copy to:
Fillmore McPherson, First Selectman
Paul Stonehart
Sandy M. Carter

ATTACHMENT 1

SBA Communications Corporation
5900 Broken Sound Parkway NW
Boca Raton, FL 33487-2797

T + 561.995.7670
F + 561.995.7626

sbasite.com

RE: 17 Cottage Road Madison, CT
SBA Towers II, LLC Site ID: Madison 7 CT13615-A

To whom this may concern,

Please accept this letter as authorization for Verizon Wireless to apply for permit at above mentioned address on behalf of SBA Communications.

Should you have any questions or need further information, please feel free to contact me.

Stephen Roth

Regional Site Manager
CT and SE-NY
SBA COMMUNICATIONS CORPORATION
5900 Broken Sound Parkway NW
Boca Raton, FL 33487-2797
Alternate Address:
105 Kimberly Road
East Granby, CT 06026
860.413.3493 + **T**
860.539.4920 + **C**
sroth@sbasite.com

ATTACHMENT 2

Cellco Partnership

d.b.a. verizon wireless

WIRELESS COMMUNICATIONS FACILITY

MADISON 4
17 COTTAGE STREET
MADISON, CT 06433

SITE DIRECTIONS

FROM: 99 EAST RIVER DRIVE, EAST HARTFORD, CT **TO:** 17 COTTAGE STREET, MADISON, CT 06443

1.	Head east on E River Dr. toward Darlin St.	0.1 mi
2.	Turn right onto Darlin St.	331 ft
3.	Turn right onto Connecticut 2 W ramp to Downtown Hartford	0.1 mi
4.	Merge onto CT-2 W	0.5 mi
5.	Turn left onto Columbus Blvd.	0.3 mi
6.	Turn left to merge onto Conlin-Whitehead Hwy/Whitehead Hwy..	0.2 mi
7.	Keep right at the fork, follow signs for I-91 S/New Haven, merge onto I-91 S	9.9 mi
8.	Take exit 22S on the left to merge onto CT-9 S toward Middletown/Old Saybrook	5.5 mi
9.	Continue onto CT-17 S/CT-9 S	0.8 mi
10.	Continue onto CT-9 S	7.5 mi
11.	Take exit 9 for CT-81 toward Killingworth/Clinton	0.2 mi
12.	Turn right onto CT-81 S/Killingworth Rd.	7.9 mi
13.	At the traffic circle, continue straight onto CT-81 S/Clinton Rd.	5.3 mi
14.	Turn right onto N High St.	0.7 mi
15.	Turn right onto U.S. 1 S/W Main St	1.4 mi
16.	Turn right onto Mill Rd.	466 ft
17.	Take the 1st left onto Cottage Rd. and the destination will be on the right	331 ft

GENERAL NOTES

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

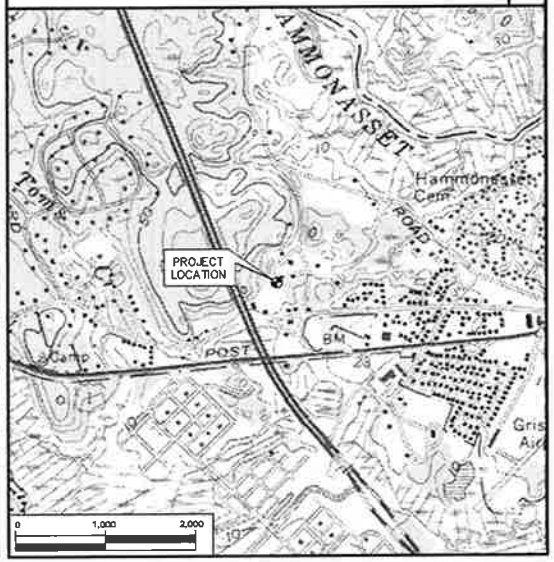
PROJECT SCOPE

1. THE SCOPE OF WORK GENERALLY INCLUDES THE INSTALLATION OF (12) PANEL ANTENNAS MOUNTED TO AN EXISTING 130'-0" TALL MONOPOLE TOWER AT A CENTERLINE ELEVATION OF 117' ABOVE GRADE.

2. AN EQUIPMENT SHELTER WITH DIESEL FUELED EMERGENCY POWER GENERATOR WILL BE INSTALLED AT GRADE.

VICINITY MAP

SCALE: 1" = 2000'



PROJECT SUMMARY

SITE NAME:	MADISON 4
SITE ADDRESS:	17 COTTAGE STREET MADISON, CT 06443
LESSEE/TENANT:	CELLCO PARTNERSHIP d.b.a. CELLCO PARTNERSHIP WIRELESS 99 EAST RIVER DRIVE EAST HARTFORD, CT 06108
CONTACT PERSON:	SANDY CARTER CELLCO PARTNERSHIP (860) 803-8219
ENGINEER:	CENTEK ENGINEERING, INC. 63-2 NORTH BRANFORD ROAD BRANFORD, CT 06405 (203) 488-0580
TOWER COORDINATES:	LATITUDE: 41°-16'-33.64" LONGITUDE: 72°-33'-41.50" GROUND ELEVATION: ±28' A.M.S.L. (REFERENCED FROM CSC DATABASE)

SHEET INDEX

SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	0
C-1	ELEVATION, PLAN AND ANTENNA CONFIG.	0

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	12/20/13	HMR	DMD	ISSUED FOR CSC - CLIENT REVIEW

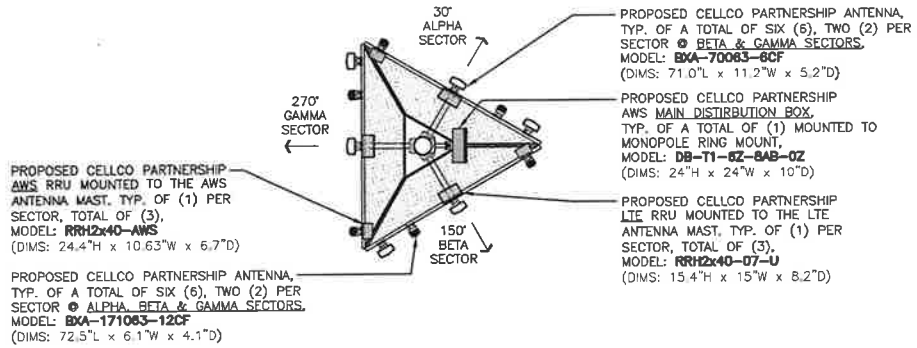
Cellco Partnership d.b.a. verizon wireless

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

Cellco Partnership d/b/a Verizon Wireless
MADISON 4
17 COTTAGE STREET
MADISON, CT 06443
DATE: 12/20/13
SCALE: AS NOTED
JOB NO. 13306.000

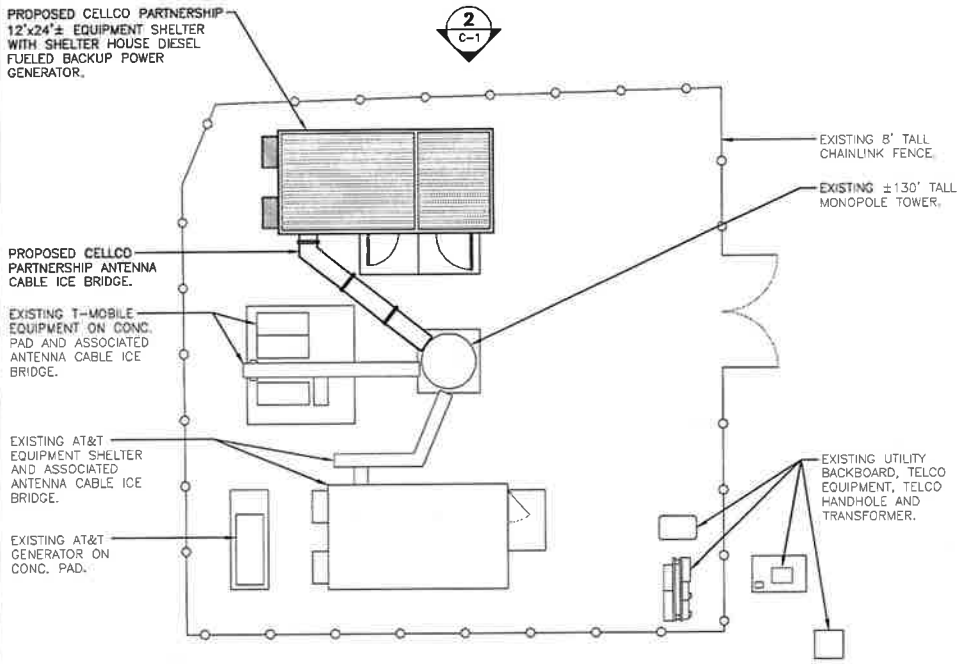
TITLE SHEET

T-1
DWG. 1 OF 2



3 / C-1 **ANTENNA CONFIGURATION - PLAN** (PROPOSED)
SCALE: 3/32" = 1'-0"

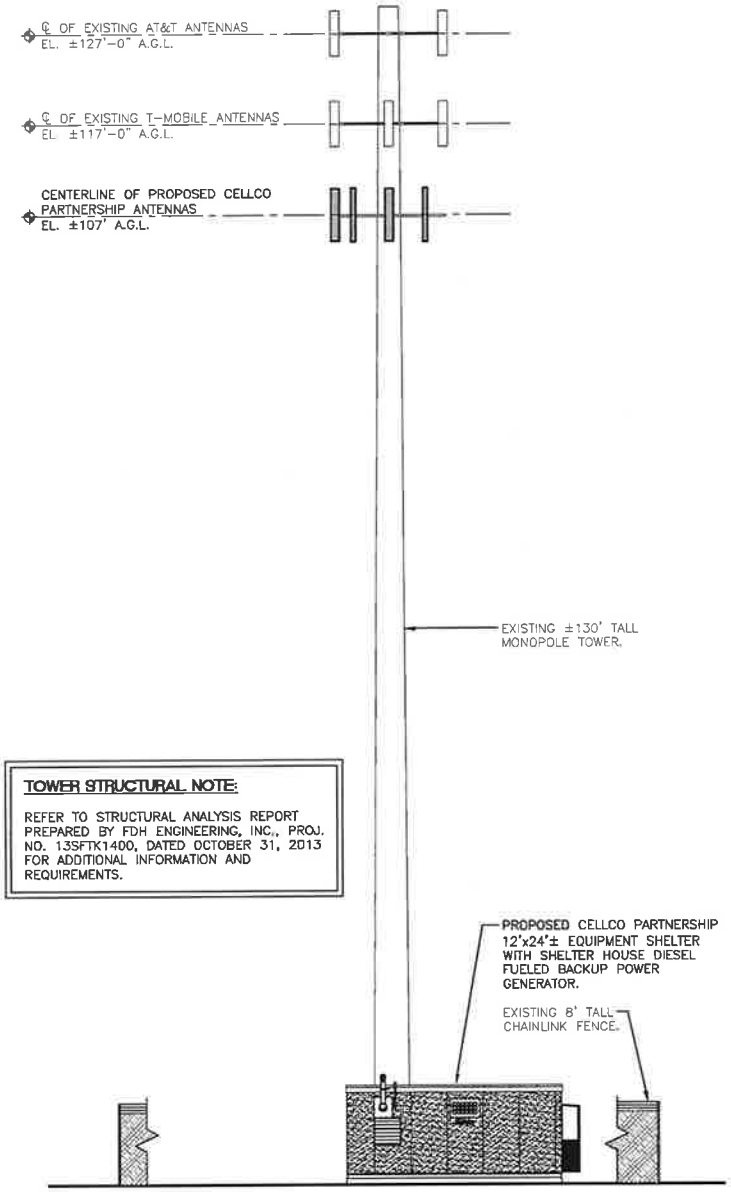
APPROXIMATE NORTH



1 / C-1 **COMPOUND PLAN - PROPOSED**
SCALE: 1" = 20'-0"

APPROXIMATE NORTH

GRAPHIC SCALE
0 10 20
(IN FEET)
1 inch = 20 ft.



TOWER STRUCTURAL NOTE:

REFER TO STRUCTURAL ANALYSIS REPORT PREPARED BY FDH ENGINEERING, INC., PROJ. NO. 13SFTK1400, DATED OCTOBER 31, 2013 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

2 / C-1 **NORTH ELEVATION - PROPOSED**
SCALE: 1" = 20'-0"

GRAPHIC SCALE
0 10 20
(IN FEET)
1 inch = 20 ft.

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	12/20/13	HMR	DMD	ISSUED FOR CSC - CLIENT REVIEW

Cellco Partnership d.b.a. verizon wireless

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

Cellco Partnership d/b/a Verizon Wireless
MADISON 4
17 COTTAGE STREET
MADISON, CT 06443

DATE: 12/20/13
SCALE: AS NOTED
JOB NO. 13306.000

ELEVATION, PLAN AND ANTENNA CONFIG.

C-1
DWG. 2 OF 2

ATTACHMENT 3

FDH Engineering, Inc., 6521 Meridien Drive Raleigh, NC 27616, Ph. 919.755.1012

Structural Analysis for SBA Network Services, Inc.

130' Monopole Tower

SBA Network Services, Inc. Site Name: Madison 7
SBA Network Services, Inc. Site ID: CT13615-A-00

FDH Project Number 13SFTK1400

Analysis Results

Tower Components	44.5%	Sufficient
Foundation	57.1%	Sufficient

Prepared By:

Joshua Packett, EI
Project Engineer

Reviewed By:

J. Darrin Holt, PhD, PE
Principal
CT PE License No. 22988

FDH Engineering, Inc.
6521 Meridien Drive
Raleigh, NC 27616
(919) 755-1012
info@fdh-inc.com

October 31, 2013

Prepared pursuant to TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures and the 2005 Connecticut State Building Code

TABLE OF CONTENTS

EXECUTIVE SUMMARY

At the request of SBA Network Services, Inc., FDH Engineering, Inc. performed a structural analysis of the monopole located in Madison, CT to determine whether the tower is structurally adequate to support both the existing and proposed loads pursuant to the *Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, TIA/EIA-222-F* and *2005 Connecticut Building Code (CBC)*. Information pertaining to the existing/proposed antenna loading, current tower geometry, geotechnical data, foundation dimensions, and member sizes was obtained from:

- Radian Communication Services (Eng. File No. 060-4236) original design drawings dated October 1, 2007
- FDH, Inc. (Job No. 08-07611T) TIA Inspection Report dated September 4, 2008
- JGI Eastern, Inc (Project No. J2075395) Geotechnical Evaluation dated September 10, 2007
- SBA Network Services, Inc.

The *basic design wind speed* per the *TIA/EIA-222-F* standard and *2005 CBC* is 85 mph without ice and 38 mph with 3/4" radial ice. Ice is considered to increase in thickness with height.

Conclusions

With the existing and proposed antennas from Verizon in place at 107 ft, the tower meets the requirements of the *TIA/EIA-222-F* standard and *2005 CBC* provided the **Recommendations** listed below are satisfied. Furthermore, provided the foundation was designed and constructed to support the original design reactions (see Radian Communication Services Eng. File No. 060-4236), the foundations should have the necessary capacity to support the existing and proposed loading. For a more detailed description of the analysis of the tower, see the **Results** section of this report.

Our structural analysis has been performed assuming all information provided to FDH Engineering, Inc. is accurate (i.e., the steel data, tower layout, existing antenna loading, and proposed antenna loading) and that the tower has been properly erected and maintained per the original design drawings.

Recommendations

To ensure the requirements of the *TIA/EIA-222-F* standard and *2005 CBC* are met with the existing and proposed loading in place, we have the following recommendations:

1. The proposed coax should be installed inside the pole's shaft.
2. RRU/RRH Stipulation: The equipment may be installed in any arrangement as determined by the client.

APPURTENANCE LISTING

The proposed and existing antennas with their corresponding cables/coax lines are shown in **Table 1**. *If the actual layout determined in the field deviates from the layout, FDH Engineering, Inc. should be contacted to perform a revised analysis.*

Table 1 - Appurtenance Loading

Existing Loading:

Antenna Elevation (ft)	Description	Feedlines	Carrier	Mount Elevation (ft)	Mount Type
128	(6) Ericsson RRUS-11 RRUs	(12) 1-5/8" (1) 1/2" Fiber (2) 3/4" DC (1) 3" Flex Conduit	AT&T	128	(1) Collar Mount
127	(6) Powerwave P90-15-XLH-RR (3) KMW AM-X-CD-14-65-00T-RET (6) Powerwave TT19-08BP111-001 TMAs (1) Raycap DC6-48-60-18-8F Surge Arrestor			127	(1) Low Profile Platform (Assumed CaAa = 18.01 ft²)
117	(9) RFS APXV18-209014 (3) RFS ATMAA1412D-1A20 TMAs (3) RFS ATMPP1412D-1CWA TMAs	(18) 1-5/8"	T-Mobile	117	(1) 12.5' Low Profile Platform

Proposed Loading:

Antenna Elevation (ft)	Description	Feedlines	Carrier	Mount Elevation (ft)	Mount Type
107	(6) Amphenol BXA-70063-6CF_2 (6) Amphenol BXA-171063-12CF_2 (3) ALU RRH2x40-AWS RRHs (3) ALU RRH2x40-07 RRHs (1) RFS DB-B1-6C-8AB-OZ Surge Suppressor	(2) 1-5/8" Fiber	Verizon	107	(1) Low Profile Platform (Assumed CaAa = 18.01 ft²)

RESULTS

The following yield strength of steel for individual members was used for analysis:

Table 2 - Material Strength

Member Type	Yield Strength
Tower Shaft Sections	65 ksi
Base Plate	50 ksi
Anchor Bolts	105 ksi

Table 3 displays the summary of the ratio (as a percentage) of force in the member to their capacities. Values greater than 100% indicate locations where the maximum force in the member exceeds its capacity. *Note: Capacities up to 100% are considered acceptable.* **Table 4** displays the maximum foundation reactions.

If the assumptions outlined in this report differ from actual field conditions, FDH Engineering, Inc. should be contacted to perform a revised analysis. Furthermore, as no information pertaining to the allowable twist and sway requirements for the existing or proposed appurtenances was provided, deflection and rotation were not taken into consideration when performing this analysis.

See the **Appendix** for detailed modeling information

Table 3 - Summary of Working Percentage of Structural Components

Section No.	Elevation ft	Component Type	Size	% Capacity	Pass Fail
L1	130 - 85.25	Pole	TP38.218x27.01x0.25	35.5	Pass
L2	85.25 - 42	Pole	TP48.39x36.5283x0.375	41.7	Pass
L3	42 - 0	Pole	TP58x46.1573x0.4375	44.5	Pass
		Anchor Bolts	(26) 1.5" on a 63" BC	52.1	Pass
		Base Plate	67" x 1.75" thick PL	57.1	Pass

Table 4 - Maximum Base Reactions

Base Reactions	Current Analysis *(TIA/EIA-222-F)**	Original Design *(TIA/EIA-222-F)*
Axial	34 k	101 k
Shear	24 k	46 k
Moment	2,231 k-ft	5098 k-ft

*Current analysis reactions are based on an allowable stress design which is to be factored by 1.35 per *ANSI/TIA-22-G* standard when the original design reactions are based on a load and a resistance factor design.

GENERAL COMMENTS

This engineering analysis is based upon the theoretical capacity of the structure. It is not a condition assessment of the tower and its foundation. It is the responsibility of SBA Network Services, Inc. to verify that the tower modeled and analyzed is the correct structure (with accurate antenna loading information) modeled. If there are substantial modifications to be made or the assumptions made in this analysis are not accurate, FDH Engineering, Inc. should be notified immediately to perform a revised analysis.

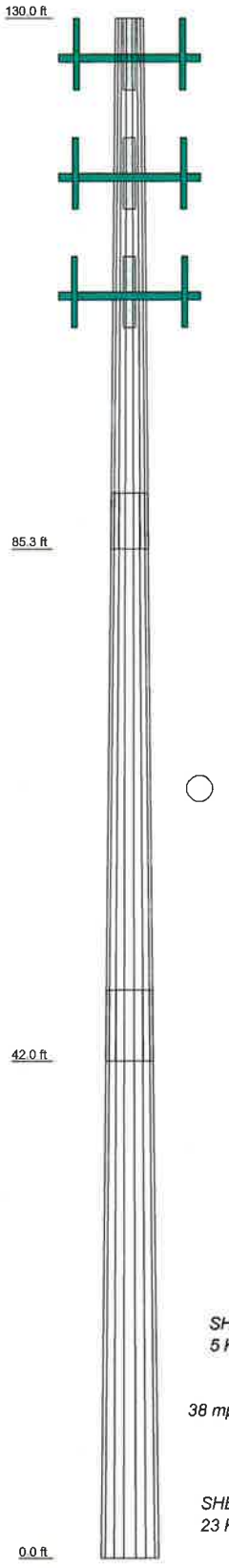
LIMITATIONS

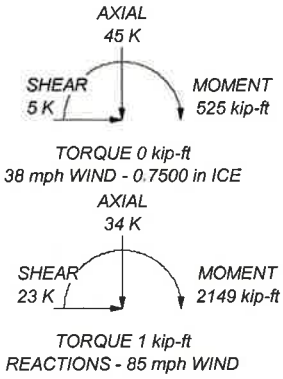
All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of this report. All opinions and conclusions are subject to revision based upon receipt of new or additional/updated information. All services are provided exercising a level of care and diligence equivalent to the standard and care of our profession. No other warranty or guarantee, expressed or implied, is offered. Our services are confidential in nature and we will not release this report to any other party without the client's consent. The use of this engineering work is limited to the express purpose for which it was commissioned and it may not be reused, copied, or distributed for any other purpose without the written consent of FDH Engineering, Inc.

APPENDIX

Section	1	2	3
Length (ft)	44.75	48.00	48.00
Number of Sides	18	18	18
Thickness (in)	0.2500	0.3750	0.4375
Socket Length (ft)	4.75	6.00	
Top Dia (in)	27.0100	36.5283	48.1573
Bot Dia (in)	38.2180	48.3900	58.0000
Grade		A572-65	
Weight (K)	3.9	8.2	11.7

23.8





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	150	ATMPP1412D-1CWA TMA	117
(2) RRUS-11	128	ATMPP1412D-1CWA TMA	117
(2) RRUS-11	128	ATMPP1412D-1CWA TMA	117
(2) RRUS-11	128	LP Platform	117
Collar Mount	128	(2) BXA-70063-6CF-EDIN-X w/ Mount Pipe	107
(2) P90-15-XLH-RR w/Mount Pipe	127	(2) BXA-70063-6CF-EDIN-X w/ Mount Pipe	107
(2) P90-15-XLH-RR w/Mount Pipe	127	(2) BXA-70063-6CF-EDIN-X w/ Mount Pipe	107
(2) P90-15-XLH-RR w/Mount Pipe	127	(2) BXA-171063-12CF-EDIN-X w/ Mount Pipe	107
AM-X-CD-14-65-00T-RET w/mount pipe	127	(2) BXA-171063-12CF-EDIN-X w/ Mount Pipe	107
AM-X-CD-14-65-00T-RET w/mount pipe	127	(2) BXA-171063-12CF-EDIN-X w/ Mount Pipe	107
AM-X-CD-14-65-00T-RET w/mount pipe	127	9442 RRH2x40-AWS	107
(2) TT19-08BP111-001 TMA	127	9442 RRH2x40-AWS	107
(2) TT19-08BP111-001 TMA	127	9442 RRH2x40-AWS	107
(2) TT19-08BP111-001 TMA	127	9442 RRH2x40-07	107
DC6-48-60-18-8F Surge Arrestor	127	9442 RRH2x40-07	107
LP Platform	127	9442 RRH2x40-07	107
(3) APXV18-209014 w/Mount Pipe	117	DB-B1-6C-8AB-02 Diplexer	107
(3) APXV18-209014 w/Mount Pipe	117	LP Platform	107
(3) APXV18-209014 w/Mount Pipe	117		
ATMAA1412D-1A20 TMA	117		
ATMAA1412D-1A20 TMA	117		
ATMAA1412D-1A20 TMA	117		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.

FDH Engineering, Inc.
6521 Meridien Drive, Suite 107
Raleigh, North Carolina
Phone: 9197551012
FAX: 9197551012
Tower Analysis

Job: Madison 7, CT13615-A-00		
Project: 13SFTK1400		
Client: SBA	Drawn by: JPACKETT	App'd:
Code: TIA/EIA-222-F	Date: 10/31/13	Scale: NTS
Path:		Dwg No. E-1

ATTACHMENT 4

HMB

HMB Acoustics LLC 3 Cherry Tree Lane, Avon, Ct. 06001 860-677-5955

January 16, 2014

Doug Drost
Project Engineer, Wireless
Centek Engineering, Inc.
63-2 North Branford Road
Branford, Ct. 06405

Subject: Madison 4 - CSC Noise Compliance Study

Dear Mr. Drost:

The noise levels for the V1, V2, A1, and A2 wall mounted HVAC units were calculated while each one was operating separately. Typically only one of the two units on each equipment shelter operates at any one time. There is no negative carry-over acoustical effect from one shelter to the other due to orientation and distance between the two shelters. The noise level was then projected to each property line. The resultant noise level was compared to the State of Ct. Noise Regulation. The Regulation allows a noise level of 55 dBA (daytime) and 45 dBA (nighttime) when measured at a Residential Receptor's property line. I found that the V1 unit exceeded the Regulation in the Northerly and Westerly direction. The V2 unit exceeded in the Westerly direction. Refer to the attached drawing sheet C-2 for specific sound attenuation material to be installed to bring the site into noise compliance. With the Sound Curtain, the V1 and V2 HVAC units will comply with the noise standards.

Allan Smardin
HMB Acoustics, LLC

PROJECT INFORMATION:	Centek Job #:13306.000
Applicant:	Cellco Partnership d.b.a. Verizon Wireless
Applicant Site ID:	Madison 4
Site Owner:	SBA
Site Address:	17 Cottage Road, Madison, CT
Subject Zoning District:	CA-1: Commercial
Abutting Zoning District(s):	North: Special Exception Area South: R-2 Residential
	East: Special Exception Area West: R-2 Residential

APPLICANT EQUIPMENT:

ID	Noise Emitter	Make/Model	Prop. Line. Dist. (FT)			
			North	South	East	West
V-1	Wall Mounted HVAC	Bard / W61A1-105EPXXXJ	37	342	163	30
V-2	Wall Mounted HVAC	Bard / W61A1-105EPXXXJ	43	335	165	30

EXISTING COLOCATORS:

☒	AT&T	☐	Metro PCS	☐	Other:
☐	Sprint	☒	T Mobile	☐	Other:
☐	Nextel	☐	None	☐	Other:

EXISTING COLOCATOR EQUIPMENT OWNER: AT&T

ID	Noise Emitter	Make/Model	Prop. Line. Dist. (FT)			
			North	South	East	West
A-1	Wall Mounted HVAC	Marvair, ComPac2/AVPA60ACA050CU-100	76	304	169	36
A-2	Wall Mounted HVAC	Marvair, ComPac2/AVPA60ACA050CU-100	82	298	171	36

EXISTING COLOCATOR EQUIPMENT OWNER:

ID	Noise Emitter	Make/Model	Prop. Line. Dist. (FT)			
			North	South	East	West

EXISTING COLOCATOR EQUIPMENT OWNER:						
ID	**Noise Emitter**	**Make/Model**	**Prop. Line. Dist. (FT)**			
			North	**South**	**East**	**West**

EXISTING COLOCATOR EQUIPMENT OWNER:						
ID	**Noise Emitter**	**Make/Model**	**Prop. Line. Dist. (FT)**			
			North	**South**	**East**	**West**

EXISTING COLOCATOR EQUIPMENT OWNER:						
ID	**Noise Emitter**	**Make/Model**	**Prop. Line. Dist. (FT)**			
			North	**South**	**East**	**West**

CONCLUSION:			
Daytime Regulation:	55 dBA	**Nighttime Regulation:**	45 dBA
Compliance:	☐ Yes ☒ No	**Compliance:**	☐ Yes ☒ No

BASIS OF FINDINGS:

North property line: V-1 = 52 dBA; V-2 = 45 dBA; A-1 = 45dBA; A-2 = 42 dBA

South property line: V-1 = 36 dBA; V-2 = 36 dBA; A-1 = 36dBA; A-2 = 39 dBA

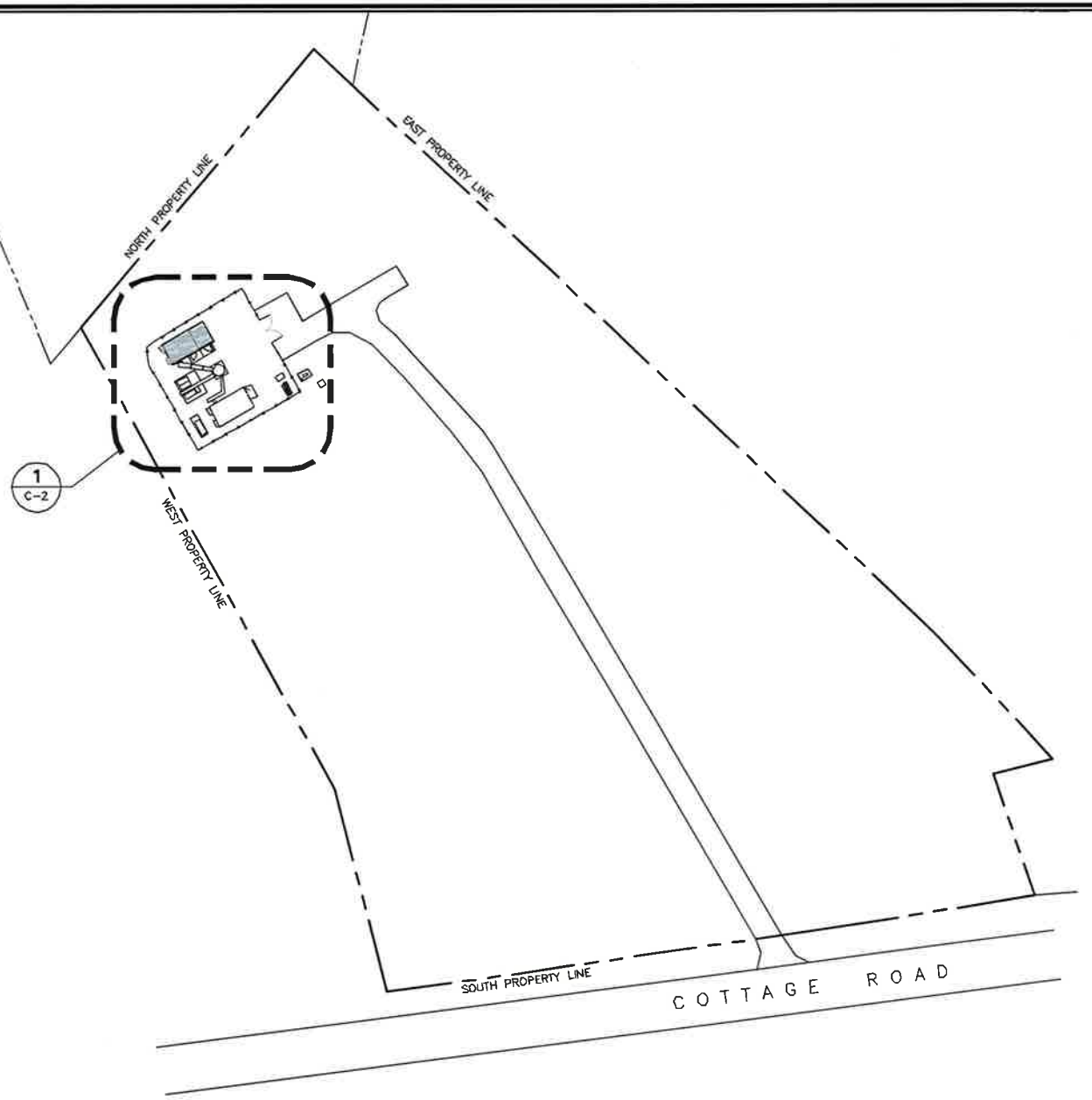
East property line: V-1 = 40 dBA; V-2 = 40 dBA; A-1 = 35dBA; A-2 = 42 dBA

West property line: V-1 = 54 dBA; V-2 = 54 dBA; A-1 = 45dBA; A-2 = 45 dBA

The dBA levels take into account the acoustical shielding effect provided by other structures on the property.

The existing T-Mobile pad mounted equipment is inaudible at a distance of 20 feet.

Prepared By: Alan Smardin, HMB ACOUSTICS LLC Date: 01/16/14



1 / C-1 COMPOUND PLAN - PROPOSED
SCALE: 1" = 80'-0"

APPROXIMATE NORTH

GRAPHIC SCALE
0 40 80
(IN FEET)
1 inch = 80 ft.

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	01/16/14	DMD	CFC	NOISE EMMITER INFORMATION

Cellco Partnership d.b.a. verizon wireless

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

Cellco Partnership d/b/a Verizon Wireless

MADISON 4

17 COTTAGE STREET
MADISON, CT 06443

DATE: 12/20/13
SCALE: AS NOTED
JOB NO. 13306.000

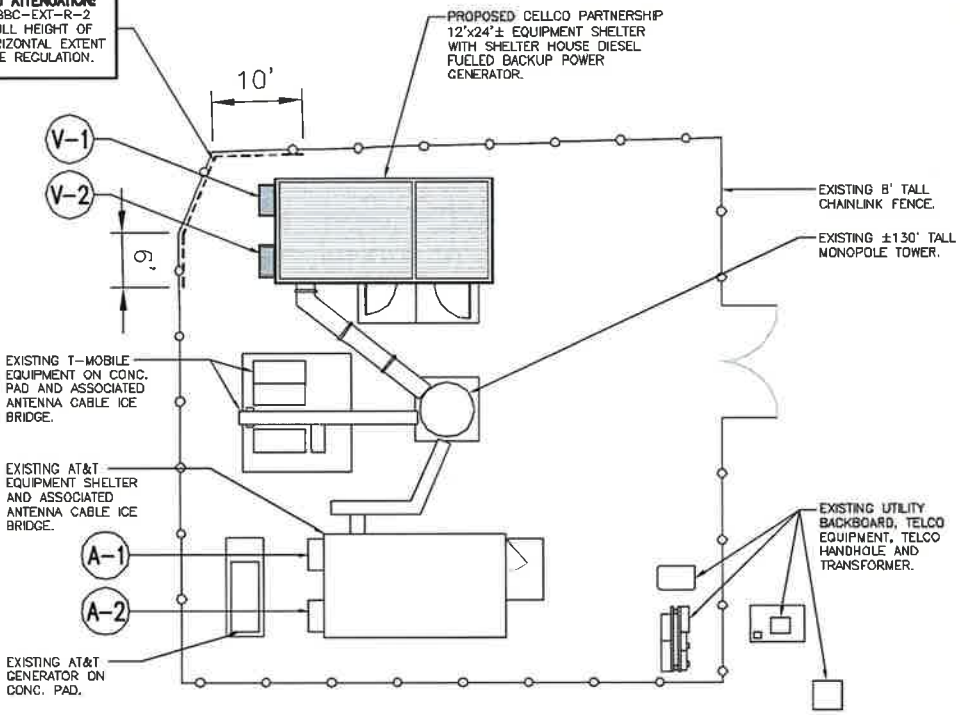
SITE PLAN

C-1
DWG. 1 OF 2

NOISE EMMITTER INFORMATION

- (V-1) WALL MOUNTED HVAC UNIT, MAKE: BARD, MODEL: W61A1-A05EPXXXJ
- (V-2) WALL MOUNTED HVAC UNIT, MAKE: BARD, MODEL: W61A1-A05EPXXXJ
- (A-1) WALL MOUNTED HVAC UNIT, MAKE: MARVAIR, COMPAC 2, MODEL: AVPA60ACA050CU-100
- (A-2) WALL MOUNTED HVAC UNIT, MAKE: MARVAIR, COMPAC 2, MODEL: AVPA60ACA050CU-100

PROPOSED CELLCO PARTNERSHIP SOUND ATTENUATION:
CONTRACTOR TO INSTALL SOUND SEAL BBC-EXT-R-2 SOUND CURTAIN MATERIAL ONTO THE FULL HEIGHT OF THE EXISTING CHAINLINK FENCE TO HORIZONTAL EXTENT AS SHOWN FOR COMPLIANCE WITH NOISE REGULATION.



1 / C-1 COMPOUND PLAN - PROPOSED
SCALE: 1" = 20'-0"

APPROXIMATE NORTH

GRAPHIC SCALE
0 10 20
(IN FEET)
1 inch = 20 ft.

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	01/16/14	DMD	CFC	NOISE EMMITER INFORMATION

Cellco Partnership d.b.a. verizon wireless

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

Cellco Partnership d/b/a Verizon Wireless
MADISON 4
17 COTTAGE STREET
MADISON, CT 06443
DATE: 12/20/13
SCALE: AS NOTED
JOB NO. 13306.000

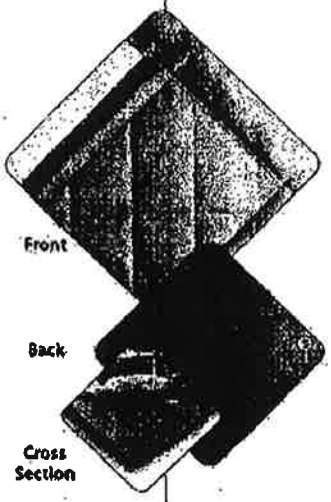
COMPOUND PLAN

C-2
DWG. 2 OF 2

BBC-EXT-R-2"

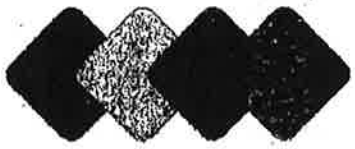
Exterior Noise Barrier/
Sound Absorber Composite

Long - Term, Permanent



BBC- EXT-R- 2" offers the benefits of both a noise barrier and a sound absorber composite in one product for outdoor applications. This barrier backed product consists of an exterior grade, UV resistant heavy-duty faced quilted fiberglass absorber bonded to a one-pound per sq. ft. reinforced loaded vinyl barrier. The heavy-duty facing is a 10 oz. per sq. yd. vinyl-coated-polyester (VCP) quilted to the sound absorber rather than the standard 4.5 oz. facing. Curtain panels are constructed with grommets across the top and bottom and exterior grade Velcro seals along the vertical edges, and are sewn with Gore Tenara exterior grade thread.

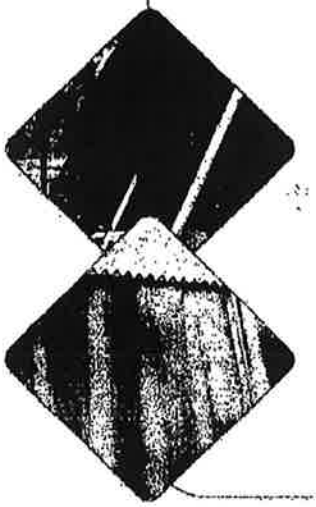
- STC 32 Rating, NRC .85
- Available facing colors on quilt: gray, tan, black
- Available barrier colors: gray, tan, olive drab or blue



Applications:
Typically used as modular curtain panels on long-term construction projects or permanent outdoor applications such as enclosing HVAC equipment, dust collectors or similar machinery behind a manufacturing plant where UV and abuse resistance as well as maximum durability, longevity and noise reduction is required. Also available with a one-inch thick quilted fiberglass absorber, or with a two-pound per sq. ft. reinforced barrier.

Product Data:

Description	Vinyl coated polyester facing on 2" quilted fiberglass/1 Lb-psf reinforced loaded vinyl barrier
Nominal thickness	2.0 inches
Temperature range	-20° to +180° F
Standard panel width	54" wide, lengths as required up to 20 high
Weight	1.45 Lb psf



Acoustical Performance:

Sound Transmission Loss

Octave Band Frequencies (Hz)							
Product	**125**	**250**	**500**	**1000**	**2000**	**4000**	**STC**
BBC-EXT-R-2"	13	20	29	40	50	55	32

ASTM E-90 & E 413

Sound Absorption Performance

Octave Band Frequencies (Hz)							
Product	**125**	**250**	**500**	**1000**	**2000**	**4000**	**NRC**
BBC-EXT-R-2"	.07	.27	.96	1.13	1.08	.99	.85

ASTM C 423

Both "R" and "N" style sound curtains are available with 1.0 inch or 2.0 i

ATTACHMENT 5

	General	Power	Density					
Site Name: Madison 4								
Tower Height: Verizon @ 107'								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**CALC. POWER DENS**	**FREQ.**	**MAX. PERMISS. EXP.**	**FRACTION MPE**	**Total**
*T-Mobile	12	162	117	0.0511	1945	1.0000	5.11%	
*AT&T GSM			127	0.0218	880	0.5867	3.72%	
*AT&T GSM			127	0.0105	1900	1.0000	1.05%	
*AT&T UMTS			127	0.0123	880	0.5867	2.10%	
*AT&T UMTS			127	0.0123	1900	1.0000	1.23%	
*AT&T LTE			127	0.0123	700	0.4667	2.64%	
Verizon	**7**	**506.97**	**107**	**0.1115**	**1970**	**1.0000**	**11.15%**	
Verizon	**9**	**383.79**	**107**	**0.1085**	**869**	**0.5790**	**18.74%**	
Verizon	**1**	**1914.52**	**107**	**0.0601**	**2145**	**1.0000**	**6.01%**	
Verizon	**1**	**690.05**	**107**	**0.0217**	**698**	**0.4650**	**4.66%**	
								56.4%
* Source: Siting Council								