COHEN and WOLF P.C.
ATTORNEYS AT LAW

JULIE D. KOHLER

PLEASE REPLY TO: Bridgeport
WRITER'S DIRECT DIAL: (203) 337-4157
E-Mail Address: jkohler@cohenandwolf.com

September 3, 2014

Attorney Melanie Bachman
Acting Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Notice of Exempt Modification
Florida Tower Partners/ T-Mobile co-location
Site ID CTNH522A
50 Devine Street, North Haven CT

Dear Attorney Bachman:

This office represents T-Mobile Northeast LLC ("T-Mobile") and has been retained to file exempt modification filings with the Connecticut Siting Council on its behalf.

In this case, Florida Tower Partners owns the existing monopole telecommunications tower and related facility at 50 Devine Street, North Haven, Connecticut (Latitude: 41.377810, Longitude: -72.8762). T-Mobile intends to add three antennas and related equipment at this existing telecommunications facility in North Haven ("North Haven Facility"). Please accept this letter as notification, pursuant to R.C.S.A. § 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the First Selectman Michael J. Freda, and the property owner, 424 Chapel Street LLC.

The existing North Haven Facility consists of a 130 foot monopole tower.[1] T-Mobile plans to add three antennas and three remote radio units ("RRU") on T-arm mounts at a centerline of 117 feet. (See the plans revised to August 14, 2014 attached hereto as Exhibit A). T-Mobile will also add an equipment cabinet mounted to an existing railing within the compound and reuse existing coax cables. The existing North Haven Facility is structurally capable of supporting T-Mobile's proposed modifications, as indicated in the structural analysis dated August 25, 2014 and attached hereto as Exhibit B.

[1] The North Haven Facility was approved at a height of 120 feet (Docket 384), and subsequently the subject of a Petition to increase the height of the Facility to 130 feet (Petition 1089). The existing/proposed antenna height and configuration is consistent with the February 25, 2010 Docket 384 Decision and Order.

The planned modifications to the North Haven Facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1 . The proposed modification will not increase the height of the tower. T-Mobile's additional antennas and RRUs will be installed at a centerline of 117 feet. The enclosed tower drawing confirms that the proposed modification will not increase the height of the tower.

2 . The proposed modifications will not require an extension of the site boundaries or lease area, as depicted on Sheets 4 of Exhibit A. T-Mobile's equipment will be located entirely within the existing compound area.

3 . The proposed modification to the North Haven Facility will not increase the noise levels at the existing facility by six decibels or more.

4 . The operation of the replacement antennas will not increase the total radio frequency (RF) power density, measured at the base of the tower, to a level at or above the applicable standard. According to a Radio Frequency Emissions Analysis Report prepared by EBI dated September 2, 2014, T-Mobile's operations would add 9.79% of the FCC Standard. Therefore, the calculated "worst case" power density for the planned combined operation at the site including all of the proposed antennas would be 48.12% of the FCC Standard as calculated for a mixed frequency site as evidenced by the engineering exhibit attached hereto as Exhibit C.

For the foregoing reasons, T-Mobile respectfully submits that the proposed replacement antennas and equipment at the North Haven Facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Upon acknowledgement by the Council of this proposed exempt modification, T-Mobile shall commence construction approximately sixty days from the date of the Council's notice of acknowledgement.

Sincerely,

Julie D. K

Julie D. Kohler, Esq.

cc: Town of North Haven, First Selectman Michael J. Freda
424 Chapel Street LLC
Florida Tower Partners
Sheldon Freincle, NSS

EXHIBIT A

KEY PLAN

N.T.S.

CONFIGURATION

704CU

SUBMITTALS	
LE REV A	08.14.14

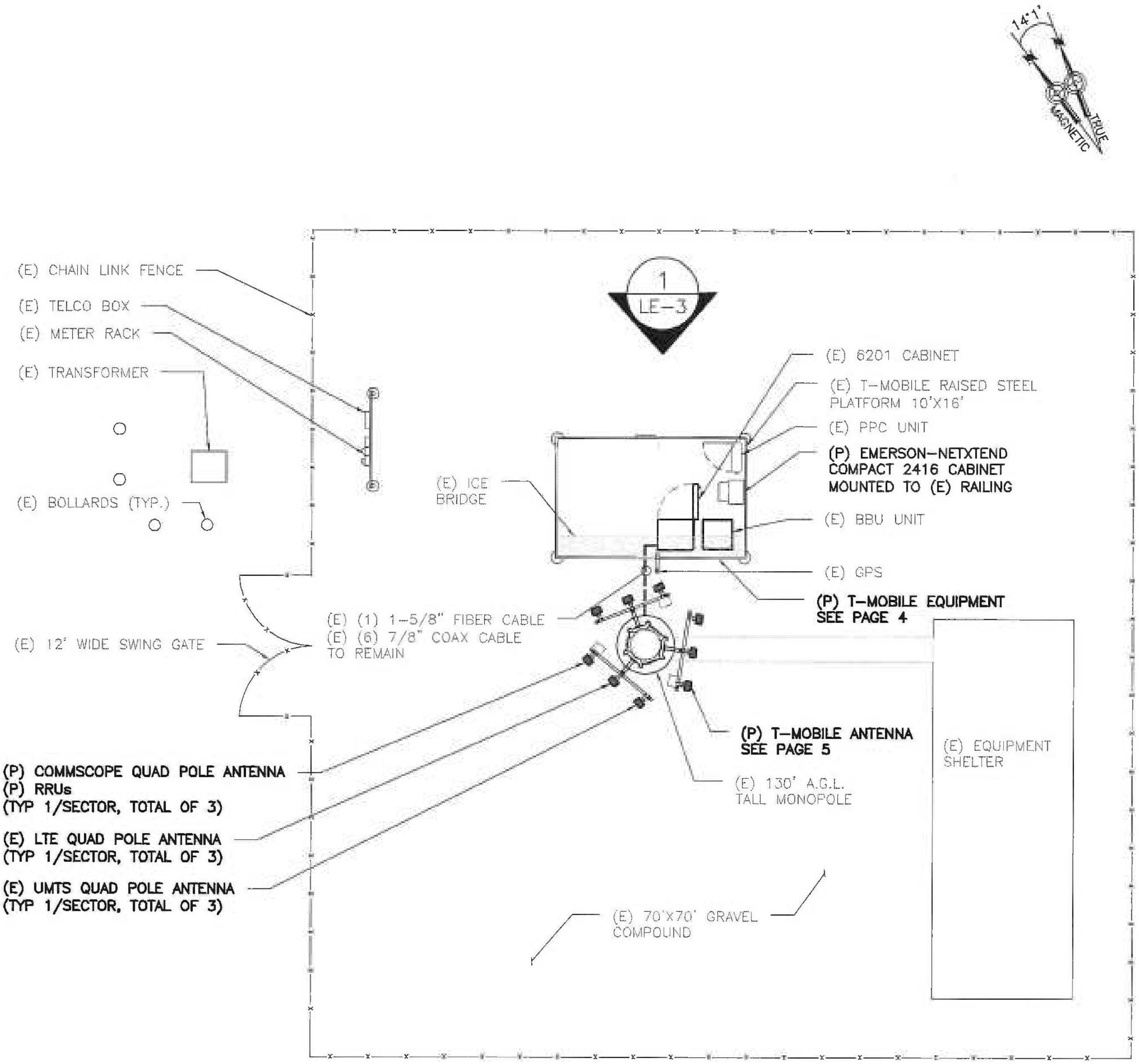
ATLANTIS GROUP
1340 Centre Street
Suite 212
Newton, MA 02459
Office: 617-965-0789
Fax: 617-213-5056

LEASE EXHIBIT

SITE NUMBER:
CTNH522A
SITE NAME:
FLORIDA PARTNERS NORTH HAVEN MONOPOLE
SITE ADDRESS:
50 DEVINE ST,
NORTH HAVEN, CT

NORTHEAST SITE SOLUTIONS
54 MAIN STREET, UNIT 3
STURBRIDGE, MA 01566
(508) 434-5237
FOR
T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
FAX: (860) 692-7159

DRAWN BY: MB | **CHECKED BY: SM**



ALL EQUIPMENT LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO APPROVAL BY LESSEE/LICENSEE'S STRUCTURAL & RF ENGINEERS. LOCATIONS OF POWER & TELEPHONE FACILITIES ARE SUBJECT TO APPROVAL BY UTILITY COMPANIES.

SITE PLAN 1 / LE-2

SCALE: N.T.S.

CONFIGURATION

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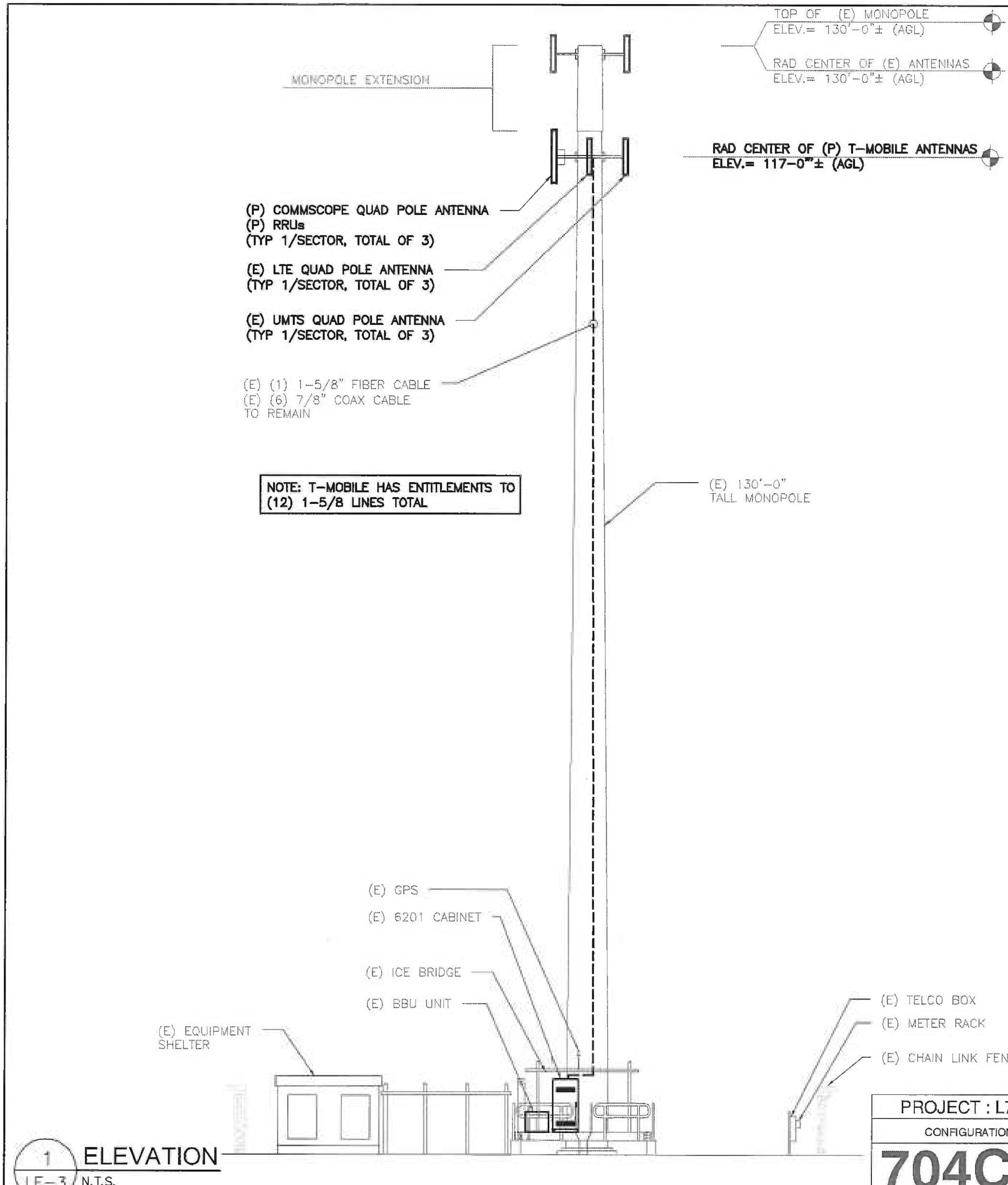

1 LE-3 ELEVATION
N.T.S.

PROJECT : L700

CONFIGURATION

704CU

SUBMITTALS	
LE REV A	08.14.14

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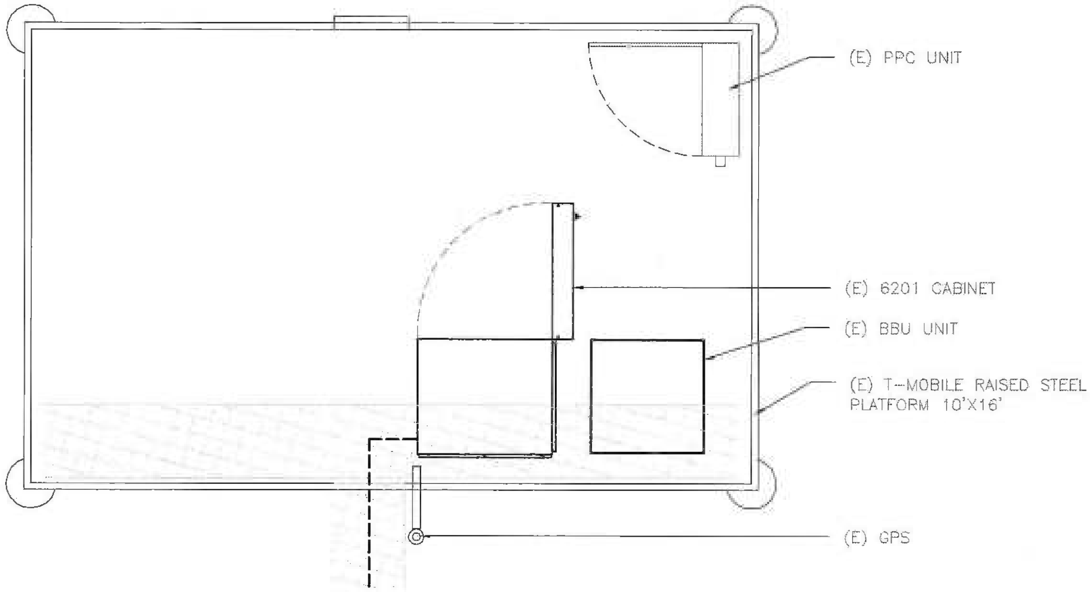
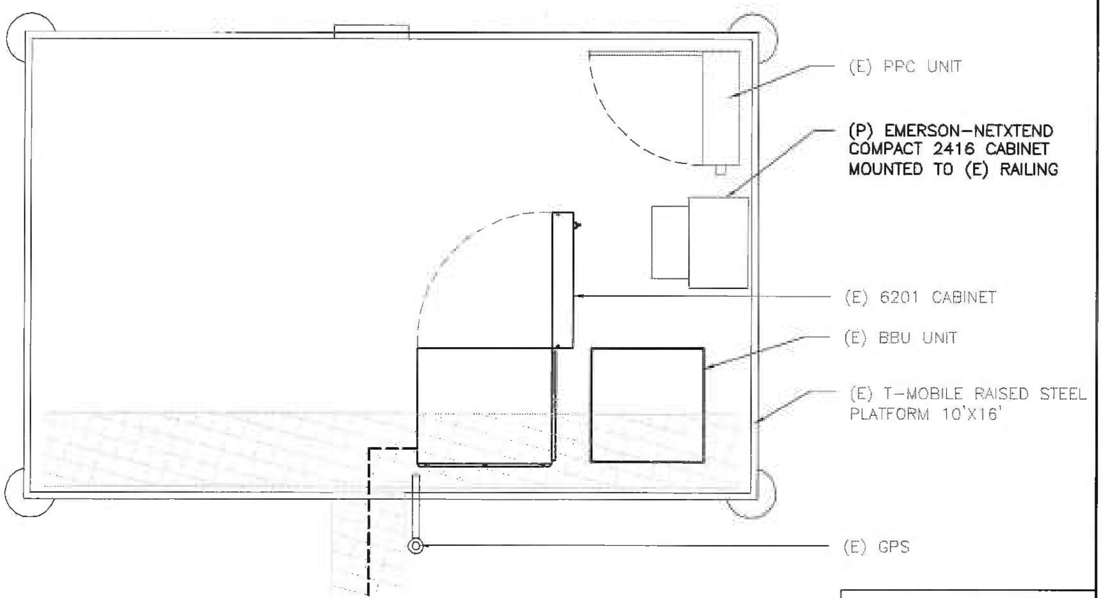


EXISTING EQUIPMENT



PROPOSED EQUIPMENT

CONFIGURATION

704CU

SUBMITTALS	
LE REV A	08.14.14

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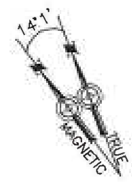
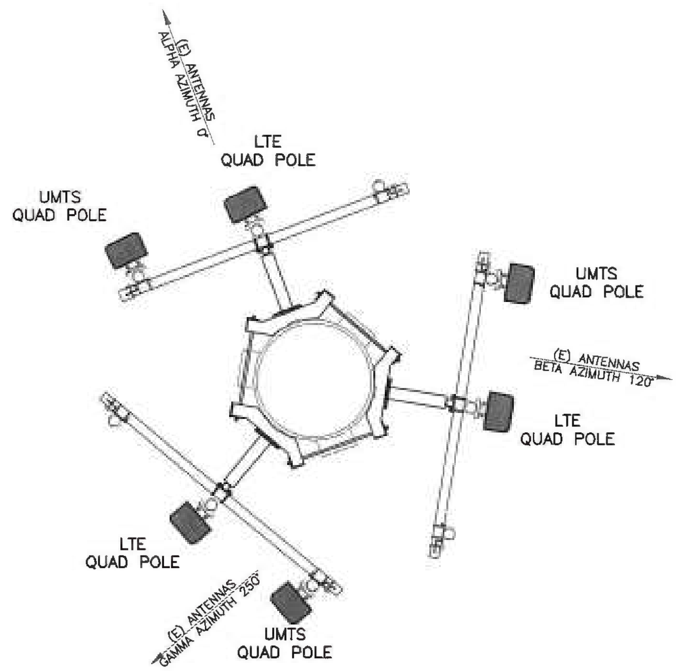
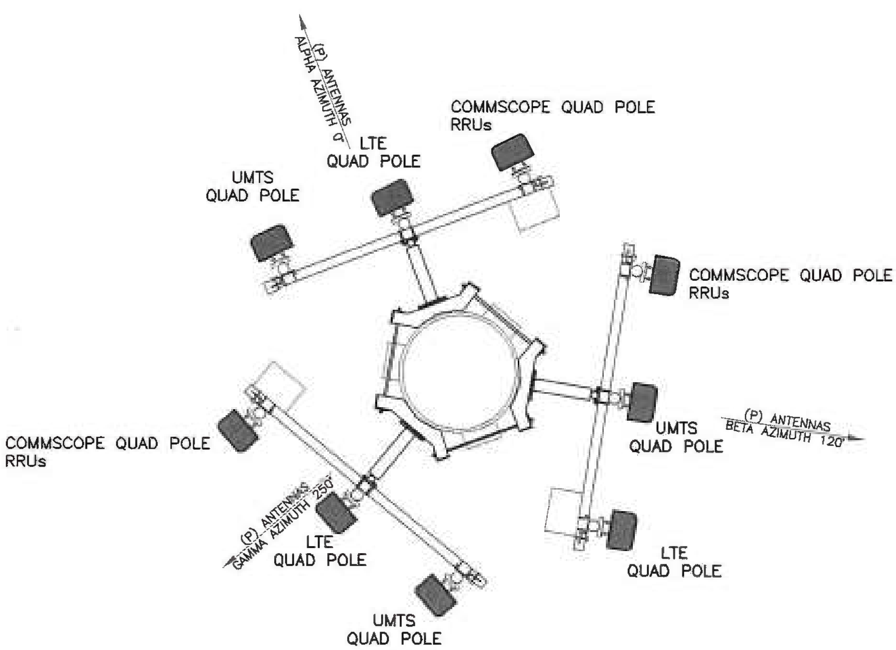




EXISTING ANTENNA CONFIGURATION



PROPOSED ANTENNA CONFIGURATION

CONFIGURATION

704CU

SUBMITTALS	
LE REV A	08.14.14

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DRAWN BY: MB | CHECKED BY: SM

EXHIBIT B

Structural Analysis
130-ft Monopole

Prepared For:
Florida Tower Partners, LLC
1001 3rd Ave. West, Suite 420
Bradenton, FL 34205

MFP Project #40914-090

Site Location:
CT1003 North Haven
New Haven Co., Connecticut
Lat/Long: 41°22'40.1", -72°52'34.1"

Analysis Type:
ANSI/TIA-222-G
Structure Rating: 85.5% Passing

August 25, 2014

8.25.14

Michael F. Plahovinsak, P.E.
18301 State Route 161 W, Plain City, OH 43064
614-398-6250 - mike@mfpeng.com

Project Summary:

We have completed a structural analysis of the existing monopole for the proposed configuration:

MetroPCS/T-Mobile – 117' –

- (6) Ericsson AIR-21 Panel + (3) Andrew LNX-6515DS Panel
- (3) Ericsson RRUS11-B-12 RRU
- & (12) 1 5/8" on T-Arm Mounts

The pole has been analyzed in accordance with the requirements of the **2006 - 2012 International Building Code**, and the recommendations of the Telecommunications Industry Association *"Structural Standard for Steel Antenna Supporting Structures"* **ANSI/TIA-222-G.**

This analysis may be considered a "Rigorous Structural Analysis" as defined in ANSI/TIA-222-G 15.5.2.

As indicated in the conclusions of this analysis, we have determined that the existing pole and foundation have *sufficient capacity* to support the existing, reserved and proposed antenna loads as detailed herein. Based on the results of our analysis, structural modifications are not required at this time.

Source of Data:

Resource	Source	Job Number	Date
Pole and Foundation Drawings	Sabre Towers	11-05062	05/12/10
Geotechnical Report	Terracon	J2105136	04/20/10

Analysis Criteria:

International Building Code (All Versions) Section 3108.4
Structural Standards for Steel Antenna Supporting Structures **ANSI/TIA-222-G 2**

- Basic Wind Speed 115 mph (3-Sec Gust)
- Basic Wind Speed w/ ¾" Ice 50 mph (3-Sec Gust)
- Operational Wind Speed 60 mph (3-Sec Gust)

Structure Class	Exposure Category	Topographic Category
II (I = 1.0)	C	I

Appurtenance Listing:

Status	Elev.	Antenna / Mounting	Coax	Owner
Existing	130'	(1) Antel BXA-70080/6CF + (1) BXA-80080/6CF (4) Antel BXA-70063/6CF + (6) BXA-171063/12CF (6) Lucent 2x40 RRH's & (1) Distribution Box 12' Low Profile Platform	(12) 1 5/8"	Verizon
Proposed	***117'***	***(6) Ericsson AIR-21 + (3) Andrew LNX-6515DS Panel*** ***(3) Ericsson RRUS11-B12 RRU*** ***12' T-Arm Mounts***	***(12) 1 5/8"***	***MetroPCS***
Existing	107'	(12) CCI HPA-65R-BUU-H8 Panel (9) RRUS-11 + (6) RRUS-12 + (6) RRUS-32 + (6) RRUS-A2 (4) Raycap DC6-48-60-18-8F Suppressor 12' T-Arm Mounts	(8) 3/4" + (2) 1/2" + (3) 3/8"	AT&T

All antenna lines assumed internally mounted, not exposed to the wind.

Foundation Analysis:

The existing monopole foundation design was analyzed in conjunction with site specific geotechnical report. The existing foundation has sufficient capacity to support the pole with the proposed antenna configuration.

Conclusion:

We have completed a structural analysis of the existing monopole and foundation in accordance with the project specifics outlined above. Our analysis indicates that the existing monopole and foundation is stressed to a maximum of 85.5% of its usable capacity when considering the existing plus proposed loading. Please refer to the attached calculations for an itemized listing of all member stress ratios. The existing pole is safe and adequate to support the proposed loads, and no structural reinforcing is required to support the above loading.

If you have any questions about the contents of this structural report or require any additional information, please feel free to contact my office.

Sincerely,

Michael F. Plahovinsak, P.E.

mike@mfpeng.com – 614.398-6250

Standard Conditions for Providing Structural Consulting Services on Existing Structures

1. The following standard conditions are a general overview of key issues regarding the work product supplied.

2. If the existing conditions are not as represented in this structural report or attached sketches, we should be contacted to evaluate the significance of the deviation and revise the structural assessment accordingly.

3. The structural analysis has been performed assuming that the structure is in "like new" condition. No allowance was made for excessive corrosion, damaged or missing structural members, loose bolts, etc. If there are any known deficiencies in the structure that potentially compromise structural integrity, we should be made aware of the deficiencies. If we are aware of a deficiency that exists in a structure at the time of our analysis, a general explanation of the structural concern due to the deficiency will be included in the structural report, but the deficiency will not be reflected in capacity calculations.

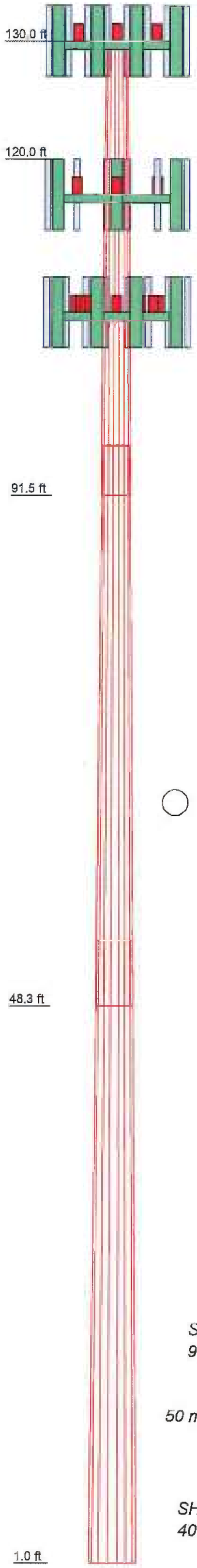
4. The structural analysis provided is an assessment of the primary load carrying capacity of the structure. We provide a limited scope of service in that we have not verified the capacity of every weld, plate, connection detail, etc. In most cases, structural fabrication details are unknown at the time of our analysis, and the detailed field measurement of this information is beyond the scope of our services. In instances where we have not performed connection capacity calculations, it is assumed that existing manufactured connections develop the full capacity of the primary members being connected.

5. The structural integrity of the existing foundation system can only be verified if exact foundation sizes and soils conditions are known. We will not accept any responsibility for the adequacy of the existing foundations unless this site-specific data is supplied.

6. Miscellaneous items such as antenna mounts, coax supports, etc. have not been designed, detailed, or specified as part of our work. It is assumed that material of adequate size and strength will be purchased from a reputable component manufacturer. The attached report and sketches are schematic in nature and should not be used to fabricate or purchase hardware and accessories to be attached to the structure. We recommend field measurement of the structure before fabricating or purchasing new hardware and accessories. We are not responsible for proper fit and clearance of hardware and accessory items in the field.

7. The structural analysis has been performed considering minimum code requirements or recommendations. If alternate wind, ice, or deflection criteria are to be considered, then We shall be made aware of the alternate criteria.

Section	1	2	3	4	
Length (ft)	10.00	28.50	47.50	52.75	
Number of Sides	18	18	18	18	
Thickness (in)	0.1875	0.2500	0.3750	0.4375	
Socket Length (ft)		4.25	5.50		
Top Dia (in)	20.9000	23.1600	28.1396	36.8775	
Bot Dia (in)	23.1600	29.6000	38.8700	48.8000	
Grade	A572-65				
Weight (K)	0.4	2.0	6.4	10.6	19.4



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
(2) Antel BXA-70063/6CF w/ mount pipe (Verizon)	130	(2) Ericsson AIR 21 w/ mount pipe (MetroPCS / T-Mobile)	117
(2) Antel BXA-171063/12CF w/ mount pipe (Verizon)	130	Andrew LNX-6515DS-VTM w/ mount pipe (MetroPCS / T-Mobile)	117
(2) Lucent 2x40 RRH (Verizon)	130	Ericsson RRUS11 B12 (MetroPCS / T-Mobile)	117
(2) Antel BXA-70063/6CF w/ mount pipe (Verizon)	130	12' T-Arm Mounts (MetroPCS / T-Mobile)	117
(2) Antel BXA-171063/12CF w/ mount pipe (Verizon)	130	(4) CCI HPA-65R-BUU-H8 w/ mount pipe (ATT)	107
(2) Lucent 2x40 RRH (Verizon)	130	(3) Ericsson RRUS-11 (ATT)	107
Antel BXA-70080-6CF w/ mount pipe (Verizon)	130	(2) Ericsson RRUS 12 (ATT)	107
Antel BXA-80080/6CF w/ mount pipe (Verizon)	130	(2) Ericsson RRUS-32 (ATT)	107
(2) Antel BXA-171063/12CF w/ mount pipe (Verizon)	130	(2) Ericsson RRUS A2 (ATT)	107
(2) Lucent 2x40 RRH (Verizon)	130	(4) CCI HPA-65R-BUU-H8 w/ mount pipe (ATT)	107
RFS DB-T1-6Z-8AB-OZ Box (Verizon)	130	(3) Ericsson RRUS-11 (ATT)	107
12' Low Profile Platform (Verizon)	130	(2) Ericsson RRUS 12 (ATT)	107
(2) Ericsson AIR 21 w/ mount pipe (MetroPCS / T-Mobile)	117	(2) Ericsson RRUS-32 (ATT)	107
Andrew LNX-6515DS-VTM w/ mount pipe (MetroPCS / T-Mobile)	117	(2) Ericsson RRUS A2 (ATT)	107
Ericsson RRUS11 B12 (MetroPCS / T-Mobile)	117	(4) CCI HPA-65R-BUU-H8 w/ mount pipe (ATT)	107
(2) Ericsson AIR 21 w/ mount pipe (MetroPCS / T-Mobile)	117	(3) Ericsson RRUS-11 (ATT)	107
Andrew LNX-6515DS-VTM w/ mount pipe (MetroPCS / T-Mobile)	117	(2) Ericsson RRUS 12 (ATT)	107
Ericsson RRUS11 B12 (MetroPCS / T-Mobile)	117	(2) Ericsson RRUS-32 (ATT)	107
		(2) Ericsson RRUS A2 (ATT)	107
		(4) Raycap DC6-48-60-18-8F Supressor (ATT)	107
		12' T-Arm Mounts (ATT)	107

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 Exposure C to the TIA-222-G Standard.
3. Tower designed for a 115 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 80.8%

ALL REACTIONS ARE FACTORED

AXIAL 59 K

SHEAR 9 K

MOMENT 844 kip-ft

TORQUE 0 kip-ft

50 mph WIND - 0.7500 in ICE

AXIAL 36 K

SHEAR 40 K

MOMENT 3861 kip-ft

TORQUE 1 kip-ft

REACTIONS - 115 mph WIND

Michael F. Plahovinsak, P.E.
18301 State Route 161 W
Plain City, OH 43064
Phone: 614-398-6250
FAX: mike@mfpeng.com

Job: **130-ft Monopole - MFP #40914-090**			
Project: **CT1003, North Haven**			
Client: Florida Tower Partners	Drawn by: Mike	App'd:	
Code: TIA-222-G	Date: 08/25/14	Scale: NTS	
Path: J:\Projects\409-Misc\40914-090\40914-090.eri		Dwg No. E-1	

Tower Input Data

This tower is designed using the TIA-222-G standard.
The following design criteria apply:

- Tower is located in New Haven County, Connecticut.
- Basic wind speed of 115 mph.
- Structure Class II.
- Exposure Category C.
- Topographic Category 1.
- Crest Height 0.00 ft.
- Nominal ice thickness of 0.7500 in.
- Ice thickness is considered to increase with height.
- Ice density of 56 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Temperature drop of 50 °F.
- Deflections calculated using a wind speed of 60 mph.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.
- Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

Tapered Pole Section Geometry

Section	*Elevation* *ft*	*Section Length* *ft*	*Splice Length* *ft*	*Number of Sides*	*Top Diameter* *in*	*Bottom Diameter* *in*	*Wall Thickness* *in*	*Bend Radius* *in*	*Pole Grade*
L1	130.00-120.00	10.00	0.00	18	20.9000	23.1600	0.1875	0.7500	A572-65 (65 ksi)
L2	120.00-91.50	28.50	4.25	18	23.1600	29.6000	0.2500	1.0000	A572-65 (65 ksi)
L3	91.50-48.25	47.50	5.50	18	28.1396	38.8700	0.3750	1.5000	A572-65 (65 ksi)
L4	48.25-1.00	52.75		18	36.8775	48.8000	0.4375	1.7500	A572-65 (65 ksi)

Tapered Pole Properties

Section	*Tip Dia.* *in*	*Area* in^2	*I* in^4	*r* *in*	*C* *in*	*I/C* in^3	*J* in^4	*It/Q* in^2	*w* *in*	*w/t*
L1	21.2224	12.3265	668.1027	7.3529	10.6172	62.9264	1337.0845	6.1644	3.3484	17.858
	23.5173	13.6715	911.5289	8.1552	11.7653	77.4762	1824.2571	6.8371	3.7462	19.98
L2	23.5173	18.1791	1205.4790	8.1331	11.7653	102.4607	2412.5442	9.0913	3.6362	14.545
	30.0566	23.2892	2534.5957	10.4193	15.0368	168.5595	5072.5265	11.6468	4.7696	19.078
L3	29.5486	33.0469	3218.4903	9.8565	14.2949	225.1489	6441.2155	16.5266	4.2926	11.447
	39.4696	45.8187	8578.0508	13.6657	19.7460	434.4205	17167.3888	22.9137	6.1811	16.483
L4	38.7087	50.6015	8489.0461	12.9362	18.7338	453.1409	16989.2624	25.3056	5.7204	13.075
	49.5528	67.1574	19844.8883	17.1687	24.7904	800.5070	39715.8890	33.5851	7.8188	17.872

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
1 5/8" (Verizon)	C	No	Inside Pole	130.00 - 1.00	12	No Ice	0.00	0.92
						1/2" Ice	0.00	0.92
						1" Ice	0.00	0.92
***								
1 5/8" (MetroPCS / T-Mobile)	C	No	Inside Pole	117.00 - 1.00	12	No Ice	0.00	0.92
						1/2" Ice	0.00	0.92
						1" Ice	0.00	0.92
**								
3/4" (ATT)	C	No	Inside Pole	107.00 - 1.00	8	No Ice	0.00	0.33
						1/2" Ice	0.00	0.33
						1" Ice	0.00	0.33
1/2" (ATT)	C	No	Inside Pole	107.00 - 1.00	2	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
						1" Ice	0.00	0.15
3/8" (ATT)	C	No	Inside Pole	107.00 - 1.00	3	No Ice	0.00	0.08
						1/2" Ice	0.00	0.08
						1" Ice	0.00	0.08

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(2) Antel BXA-70063/6CF w/ mount pipe (Verizon)	A	From Face	3.00	0.0000	130.00	No Ice	7.75	5.18	0.04
			0.00			1/2" Ice	8.29	6.11	0.09
			0.00			1" Ice	8.85	6.92	0.16
(2) Antel BXA-171063/12CF w/ mount pipe (Verizon)	A	From Face	3.00	0.0000	130.00	No Ice	4.98	5.93	0.04
			0.00			1/2" Ice	5.43	6.87	0.08
			0.00			1" Ice	5.89	7.69	0.14
(2) Lucent 2x40 RRH (Verizon)	A	From Face	3.00	0.0000	130.00	No Ice	1.20	2.25	0.01
			0.00			1/2" Ice	1.35	2.45	0.03
			0.00			1" Ice	1.51	2.66	0.05
(2) Antel BXA-70063/6CF w/ mount pipe (Verizon)	B	From Face	3.00	0.0000	130.00	No Ice	7.75	5.18	0.04
			0.00			1/2" Ice	8.29	6.11	0.09
			0.00			1" Ice	8.85	6.92	0.16
(2) Antel BXA-171063/12CF w/ mount pipe (Verizon)	B	From Face	3.00	0.0000	130.00	No Ice	4.98	5.93	0.04
			0.00			1/2" Ice	5.43	6.87	0.08
			0.00			1" Ice	5.89	7.69	0.14
(2) Lucent 2x40 RRH (Verizon)	B	From Face	3.00	0.0000	130.00	No Ice	1.20	2.25	0.01
			0.00			1/2" Ice	1.35	2.45	0.03
			0.00			1" Ice	1.51	2.66	0.05
Antel BXA-70080-6CF w/ mount pipe (Verizon)	C	From Face	3.00	0.0000	130.00	No Ice	5.79	5.99	0.04
			0.00			1/2" Ice	6.25	6.93	0.09
			0.00			1" Ice	6.71	7.74	0.15
Antel BXA-80080/6CF w/ mount pipe (Verizon)	C	From Face	3.00	0.0000	130.00	No Ice	5.79	5.99	0.08
			0.00			1/2" Ice	6.25	6.93	0.13
			0.00			1" Ice	6.71	7.74	0.19
(2) Antel BXA-171063/12CF w/ mount pipe (Verizon)	C	From Face	3.00	0.0000	130.00	No Ice	4.98	5.93	0.04
			0.00			1/2" Ice	5.43	6.87	0.08
			0.00			1" Ice	5.89	7.69	0.14
(2) Lucent 2x40 RRH (Verizon)	C	From Face	3.00	0.0000	130.00	No Ice	1.20	2.25	0.01
			0.00			1/2" Ice	1.35	2.45	0.03

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral Vert* ft ft ft	*Azimuth Adjustment* °	*Placement* ft		C_AA_A *Front* ft^2	C_AA_A *Side* ft^2	*Weight* K
			0.00			1" Ice	1.51	2.66	0.05
RFS DB-T1-6Z-8AB-OZ Box (Verizon)	C	None		0.0000	130.00	No Ice	5.60	2.33	0.04
						1/2" Ice	5.92	2.56	0.08
						1" Ice	6.24	2.79	0.12
12' Low Profile Platform (Verizon)	C	None		0.0000	130.00	No Ice	14.00	14.00	1.10
						1/2" Ice	16.00	16.00	1.70
						1" Ice	18.00	18.00	2.30
***									
(2) Ericsson AIR 21 w/ mount pipe (MetroPCS / T-Mobile)	A	From Face	3.00	0.0000	117.00	No Ice	6.61	5.50	0.11
			0.00			1/2" Ice	7.08	6.22	0.16
			0.00			1" Ice	7.55	6.95	0.22
Andrew LNX-6515DS-VTM w/ mount pipe (MetroPCS / T-Mobile)	A	From Face	3.00	0.0000	117.00	No Ice	11.45	9.60	0.08
			0.00			1/2" Ice	12.06	11.02	0.16
			0.00			1" Ice	12.69	12.29	0.26
Ericsson RRUS11 B12 (MetroPCS / T-Mobile)	A	From Face	3.00	0.0000	117.00	No Ice	3.31	1.36	0.06
			0.00			1/2" Ice	3.55	1.54	0.08
			0.00			1" Ice	3.80	1.73	0.10
(2) Ericsson AIR 21 w/ mount pipe (MetroPCS / T-Mobile)	B	From Face	3.00	0.0000	117.00	No Ice	6.61	5.50	0.11
			0.00			1/2" Ice	7.08	6.22	0.16
			0.00			1" Ice	7.55	6.95	0.22
Andrew LNX-6515DS-VTM w/ mount pipe (MetroPCS / T-Mobile)	B	From Face	3.00	0.0000	117.00	No Ice	11.45	9.60	0.08
			0.00			1/2" Ice	12.06	11.02	0.16
			0.00			1" Ice	12.69	12.29	0.26
Ericsson RRUS11 B12 (MetroPCS / T-Mobile)	B	From Face	3.00	0.0000	117.00	No Ice	3.31	1.36	0.06
			0.00			1/2" Ice	3.55	1.54	0.08
			0.00			1" Ice	3.80	1.73	0.10
(2) Ericsson AIR 21 w/ mount pipe (MetroPCS / T-Mobile)	C	From Face	3.00	0.0000	117.00	No Ice	6.61	5.50	0.11
			0.00			1/2" Ice	7.08	6.22	0.16
			0.00			1" Ice	7.55	6.95	0.22
Andrew LNX-6515DS-VTM w/ mount pipe (MetroPCS / T-Mobile)	C	From Face	3.00	0.0000	117.00	No Ice	11.45	9.60	0.08
			0.00			1/2" Ice	12.06	11.02	0.16
			0.00			1" Ice	12.69	12.29	0.26
Ericsson RRUS11 B12 (MetroPCS / T-Mobile)	C	From Face	3.00	0.0000	117.00	No Ice	3.31	1.36	0.06
			0.00			1/2" Ice	3.55	1.54	0.08
			0.00			1" Ice	3.80	1.73	0.10
12' T-Arm Mounts (MetroPCS / T-Mobile)	C	None		0.0000	117.00	No Ice	12.00	12.00	1.14
						1/2" Ice	18.00	18.00	1.27
						1" Ice	24.00	24.00	0.47
***									
(4) CCI HPA-65R-BUU-H8 w/ mount pipe (ATT)	A	From Face	3.00	0.0000	107.00	No Ice	13.62	9.18	0.10
			0.00			1/2" Ice	14.35	10.58	0.19
			0.00			1" Ice	15.09	11.83	0.29
(3) Ericsson RRUS-11 (ATT)	A	From Face	3.00	0.0000	107.00	No Ice	2.55	0.92	0.05
			0.00			1/2" Ice	2.77	1.07	0.06
			0.00			1" Ice	2.99	1.23	0.08
(2) Ericsson RRUS 12 (ATT)	A	From Face	2.50	0.0000	107.00	No Ice	3.67	1.46	0.06
			0.00			1/2" Ice	3.92	1.64	0.08
			0.00			1" Ice	4.19	1.84	0.11
(2) Ericsson RRUS-32 (ATT)	A	From Face	2.00	0.0000	107.00	No Ice	3.87	2.76	0.08
			0.00			1/2" Ice	4.15	3.02	0.10
			0.00			1" Ice	4.44	3.29	0.14
(2) Ericsson RRUS A2 (ATT)	A	From Face	1.50	0.0000	107.00	No Ice	1.87	0.50	0.03
			0.00			1/2" Ice	2.05	0.62	0.04
			0.00			1" Ice	2.24	0.75	0.05
(4) CCI HPA-65R-BUU-H8 w/ mount pipe (ATT)	B	From Face	3.00	0.0000	107.00	No Ice	13.62	9.18	0.10
			0.00			1/2" Ice	14.35	10.58	0.19
			0.00			1" Ice	15.09	11.83	0.29

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert (ft ft ft)	Azimuth Adjustment (°)	Placement (ft)		C_AA_A Front (ft^2)	C_AA_A Side (ft^2)	Weight (K)
(3) Ericsson RRUS-11	B	From Face	3.00	0.0000	107.00	No Ice	2.55	0.92	0.05
(ATT)			0.00			1/2" Ice	2.77	1.07	0.06
			0.00			1" Ice	2.99	1.23	0.08
(2) Ericsson RRUS 12	B	From Face	2.50	0.0000	107.00	No Ice	3.67	1.46	0.06
(ATT)			0.00			1/2" Ice	3.92	1.64	0.08
			0.00			1" Ice	4.19	1.84	0.11
(2) Ericsson RRUS-32	B	From Face	2.00	0.0000	107.00	No Ice	3.87	2.76	0.08
(ATT)			0.00			1/2" Ice	4.15	3.02	0.10
			0.00			1" Ice	4.44	3.29	0.14
(2) Ericsson RRUS A2	B	From Face	1.50	0.0000	107.00	No Ice	1.87	0.50	0.03
(ATT)			0.00			1/2" Ice	2.05	0.62	0.04
			0.00			1" Ice	2.24	0.75	0.05
(4) CCI HPA-65R-BUU-H8	C	From Face	3.00	0.0000	107.00	No Ice	13.62	9.18	0.10
w/ mount pipe			0.00			1/2" Ice	14.35	10.58	0.19
(ATT)			0.00			1" Ice	15.09	11.83	0.29
(3) Ericsson RRUS-11	C	From Face	3.00	0.0000	107.00	No Ice	2.55	0.92	0.05
(ATT)			0.00			1/2" Ice	2.77	1.07	0.06
			0.00			1" Ice	2.99	1.23	0.08
(2) Ericsson RRUS 12	C	From Face	2.50	0.0000	107.00	No Ice	3.67	1.46	0.06
(ATT)			0.00			1/2" Ice	3.92	1.64	0.08
			0.00			1" Ice	4.19	1.84	0.11
(2) Ericsson RRUS-32	C	From Face	2.00	0.0000	107.00	No Ice	3.87	2.76	0.08
(ATT)			0.00			1/2" Ice	4.15	3.02	0.10
			0.00			1" Ice	4.44	3.29	0.14
(2) Ericsson RRUS A2	C	From Face	1.50	0.0000	107.00	No Ice	1.87	0.50	0.03
(ATT)			0.00			1/2" Ice	2.05	0.62	0.04
			0.00			1" Ice	2.24	0.75	0.05
(4) Raycap DC6-48-60-18-8F	C	None		0.0000	107.00	No Ice	1.47	1.47	0.03
Supressor						1/2" Ice	1.67	1.67	0.05
(ATT)						1" Ice	1.88	1.88	0.07
12' T-Arm Mounts	C	None		0.0000	107.00	No Ice	12.00	12.00	1.14
(ATT)						1/2" Ice	18.00	18.00	1.27
						1" Ice	24.00	24.00	0.47

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 90 deg - No Ice
5	0.9 Dead+1.6 Wind 90 deg - No Ice
6	1.2 Dead+1.6 Wind 180 deg - No Ice
7	0.9 Dead+1.6 Wind 180 deg - No Ice
8	1.2 Dead+1.0 Ice+1.0 Temp
9	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
10	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
11	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
12	Dead+Wind 0 deg - Service
13	Dead+Wind 90 deg - Service
14	Dead+Wind 180 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	130 - 120	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-8.42	0.00	-0.08
			Max. Mx	4	-1.83	-73.97	-0.08
			Max. My	6	-1.88	0.00	-70.73
			Max. Vy	4	7.89	-73.97	-0.08
			Max. Vx	6	7.55	0.00	-70.73
			Max. Torque	4			-1.09
L2	120 - 91.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-27.89	0.00	-0.08
			Max. Mx	4	-9.95	-562.79	-0.13
			Max. My	6	-10.03	0.00	-551.04
			Max. Vy	4	29.20	-562.79	-0.13
			Max. Vx	6	28.85	0.00	-551.04
			Max. Torque	4			-1.09
L3	91.5 - 48.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-39.41	0.00	-0.08
			Max. Mx	4	-19.26	-1895.78	-0.18
			Max. My	6	-19.30	0.00	-1869.05
			Max. Vy	4	34.26	-1895.78	-0.18
			Max. Vx	6	33.91	0.00	-1869.05
			Max. Torque	4			-1.09
L4	48.25 - 1	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-59.35	0.00	-0.08
			Max. Mx	4	-36.31	-3860.53	-0.19
			Max. My	6	-36.31	0.00	-3815.27
			Max. Vy	4	39.91	-3860.53	-0.19
			Max. Vx	6	39.56	0.00	-3815.27
			Max. Torque	4			-1.08

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	130 - 120	15.383	13	1.0220	0.0024
L2	120 - 91.5	13.257	13	1.0029	0.0016
L3	95.75 - 48.25	8.465	13	0.8504	0.0007
L4	53.75 - 1	2.581	13	0.4558	0.0002

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
130.00	(2) Antel BXA-70063/6CF w/ mount pipe	13	15.383	1.0220	0.0024	32999
117.00	(2) Ericsson AIR 21 w/ mount pipe	13	12.629	0.9921	0.0014	14247
107.00	(4) CCI HPA-65R-BUU-H8 w/ mount pipe	13	10.600	0.9371	0.0010	9729

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	130 - 120	101.244	4	6.7328	0.0156
L2	120 - 91.5	87.265	4	6.6077	0.0105
L3	95.75 - 48.25	55.755	4	5.6043	0.0047
L4	53.75 - 1	17.010	4	3.0050	0.0015

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
130.00	(2) Antel BXA-70063/6CF w/ mount pipe	4	101.244	6.7328	0.0156	5158
117.00	(2) Ericsson AIR 21 w/ mount pipe	4	83.142	6.5369	0.0093	2223
107.00	(4) CCI HPA-65R-BUU-H8 w/ mount pipe	4	69.794	6.1748	0.0065	1513

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	130 - 120 (1)	TP23.16x20.9x0.1875	10.00	0.00	0.0	13.6715	-1.83	958.52	0.002
L2	120 - 91.5 (2)	TP29.6x23.16x0.25	28.50	0.00	0.0	22.5272	-9.95	1617.01	0.006
L3	91.5 - 48.25 (3)	TP38.87x28.1396x0.375	47.50	0.00	0.0	44.3398	-19.26	3294.23	0.006
L4	48.25 - 1 (4)	TP48.8x36.8775x0.4375	52.75	0.00	0.0	67.1574	-36.31	4858.33	0.007

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	130 - 120 (1)	TP23.16x20.9x0.1875	73.97	452.66	0.163	0.00	452.66	0.000
L2	120 - 91.5 (2)	TP29.6x23.16x0.25	562.79	943.10	0.597	0.00	943.10	0.000
L3	91.5 - 48.25 (3)	TP38.87x28.1396x0.375	1895.78	2517.97	0.753	0.00	2517.97	0.000
L4	48.25 - 1 (4)	TP48.8x36.8775x0.4375	3860.53	4825.88	0.800	0.00	4825.88	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	130 - 120 (1)	TP23.16x20.9x0.1875	7.89	479.26	0.016	1.09	906.43	0.001
L2	120 - 91.5 (2)	TP29.6x23.16x0.25	29.20	808.51	0.036	1.09	1888.51	0.001
L3	91.5 - 48.25 (3)	TP38.87x28.1396x0.375	34.26	1647.11	0.021	1.09	5042.12	0.000
L4	48.25 - 1 (4)	TP48.8x36.8775x0.4375	39.91	2429.16	0.016	1.08	9663.58	0.000

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Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	130 - 120 (1)	0.002	0.163	0.000	0.016	0.001	0.166 ✔	1.000	4.8.2 ✔
L2	120 - 91.5 (2)	0.006	0.597	0.000	0.036	0.001	0.604 ✔	1.000	4.8.2 ✔
L3	91.5 - 48.25 (3)	0.006	0.753	0.000	0.021	0.000	0.759 ✔	1.000	4.8.2 ✔
L4	48.25 - 1 (4)	0.007	0.800	0.000	0.016	0.000	0.808 ✔	1.000	4.8.2 ✔

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	130 - 120	Pole	TP23.16x20.9x0.1875	1	-1.83	958.52	16.6	Pass
L2	120 - 91.5	Pole	TP29.6x23.16x0.25	2	-9.95	1617.01	60.4	Pass
L3	91.5 - 48.25	Pole	TP38.87x28.1396x0.375	3	-19.26	3294.23	75.9	Pass
L4	48.25 - 1	Pole	TP48.8x36.8775x0.4375	4	-36.31	4858.33	80.8	Pass
							Summary	
						Pole (L4)	80.8	Pass
						RATING =	**80.8**	**Pass**

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Job	130-ft monopole - MFP #40914-090	Page	BP-G
Project	CT1003, North Haven	Date	8/25/2014
Client	FLORIDA TOWER PARTNERS	Designed by	Mike

Anchor Rod and Base Plate Calculation

ANSI/TIA-222-G-2

Factored Base Reactions:		***Pole Shape:***	***Anchor Rods:***	***Base Plate:***
Moment:	3861 ft-kips	18-Sided	(20) 2.25 in. A615 GR. 75	2.75 in. x 58 in. Round
Shear:	40 kips	***Pole Dia. (D_f):***	Anchor Rods Evenly Spaced	fy = 50 ksi
Axial:	36 kips	48.80 in	On a 55.25 in Bolt Circle	

Anchor Rod Calculation According to TIA-222-G section 4.9.9

$\phi =$ 0.80 TIA 4.9.9

$I_{bolts} =$ 7631.41 in^2 Momet of Inertia

$P_u =$ 168 kips Tension Force

$V_u =$ 2 kips Shear Force

$R_{nt} =$ 325.00 kips Nominal Tensile Strength

$\eta =$ 0.50 for detail type (d)

The following Interation Equation Shall Be Satisfied:

$$\left(\frac{P_u + \frac{V_u}{\eta}}{\phi R_{nt}} \right) \leq 1.0$$

$$0.660 \leq 1$$

Base Plate Calculation According to TIA-222-G

$\phi =$ 0.90 TIA 4.7

$M_{PL} =$ 356.0 in-kip Plate Moment

$L =$ 7.7 in Section Length

$Z =$ 14.5 Plastic Section Modulus

$M_P =$ 724.6 in-kip Plastic Moment

$\phi\ M_n =$ 652.2 in-kip Factored Resistance

Calculated Moment vs Factored Resistance

355.99 in-kip $\leq$ 652 in-kip

Anchor Rods Are Adequate	**66.0%**	☑
Base Plate is Adequate	**54.6%**	☑

Monopole Spread Footing Calculation

ANSI/TIA-222-G-2

Factored Base Reactions:		**Footing Dimensions:**		**Concrete:**	
Moment:	3861 ft-kips	24 ft x 24 ft	7 ft Square Pier	f'c = 4000 psi	
Shear:	40 kips	x 2 ft thick	w/6 in Reveal	Steel fy = 60 ksi	
Axial:	36 kips	Bearing 8 ft B.G.	54.5 Yd3 Concrete	f = 0.75	
Soil Backfill	120 pcf	Ultimate Bearing:	6000 psf	Water Table	5.5

Foundation Weight

Weight of Pole	36.0 kips
Weight of Concrete	220.575 kips
Weight of Soil	379.44 kips
Bouyancy of Water	-89.9 kips
Total	546.2 kips

Overturning Resistance:

Overturning Moment (M_u)	4201 ft-kips	ft-kips + (1.05 kips x 0 ft)	
Resisting Moment (R_s)	6553.908 ft-kips	546.159 kips x 24 ft / 2	
ϕ x R_s > M_u	$M_{overturning}$ / f M_{resist}	**85.5%**	**OK**

Soil Bearing Pressure:

Eccentricity (e)	7.69 ft	4201 ft-kips / 546.159 kips	
6(e)	46.2 ft >	24.0 ft	6e > 24
Maximum Soil Bearing	3676.4242 psf	Calculated across corners	
Soil Overburden	-804 psf	Overburden - Bouyancy	
Net Soil Bearing	2872.4242 psf		
Resisting Soil Bearing (R_s)	6000 psf		
Net Soil Bearing < ϕ x R_s	Net Bearing / f R_s	**63.8%**	**OK**

Bending Moment in Pier:

Bending Moment	4121 ft-kips	3861 ft-kips + (40 kips x 6.5 ft)

Bending Moment in Footing:

Max Bending Moment	2383.8318 ft-kips	Σ Moments about pier face
Min. Footing Steel	0.52 in^2/ft	0.18%

EXHIBIT C

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RADIO FREQUENCY EMISSIONS ANALYSIS REPORT EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

T-Mobile Existing Facility

Site ID: CTNH522A

Florida Partners North Haven Monopole
50 Devine Street
North Haven, CT 06473

September 2, 2014

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	48.12 %

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September 2, 2014

T-Mobile USA
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Emissions Analysis for Site: **CTNH522A – Florida Partners North Haven Monopole**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **50 Devine Street, North Haven, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

<u>General population/uncontrolled exposure</u> limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limit for the 700 MHz Band is 467 $\mu W/cm^2$, and the general population exposure limit for the PCS and AWS bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at **50 Devine Street, North Haven, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

1) 2 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel

2) **2** UMTS channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

3) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

4) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.

5) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

6) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

7) The antennas used in this modeling are the **Ericsson AIR21 B4A/B2P** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **Commscope LNX-6515DS-VTM** for 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **Ericsson AIR21 B4A/B2P** has a maximum gain of **15.9 dBd** at its main lobe. The **Commscope LNX-6515DS-VTM** has a maximum gain of **14.6 dBd** at its main lobe. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

8) The antenna mounting height centerline of the proposed antennas is **117 feet** above ground level (AGL).

9) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculations were done with respect to uncontrolled / general public threshold limits.

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T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	117	Height (AGL):	117	Height (AGL):	117
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	2	Channel Count	2	# PCS Channels:	2
Total TX Power:	120	Total TX Power:	120	# AWS Channels:	120
ERP (W):	1,906.06	ERP (W):	1,906.06	ERP (W):	1,906.06
Antenna A1 MPE%	1.36	Antenna B1 MPE%	1.36	Antenna C1 MPE%	1.36
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	117	Height (AGL):	117	Height (AGL):	117
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power:	120	Total TX Power:	120	Total TX Power:	120
ERP (W):	1,906.06	ERP (W):	1,906.06	ERP (W):	1,906.06
Antenna A2 MPE%	1.36	Antenna B2 MPE%	1.36	Antenna C2 MPE%	1.36
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	117	Height (AGL):	117	Height (AGL):	117
Frequency Bands	700 Mhz	Frequency Bands	700 Mhz	Frequency Bands	700 Mhz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power:	30	Total TX Power:	30	Total TX Power:	30
ERP (W):	445.37	ERP (W):	445.37	ERP (W):	445.37
Antenna A3 MPE%	0.54	Antenna B3 MPE%	0.54	Antenna C3 MPE%	0.54

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile	**9.79**
Verizon Wireless	24.90 %
AT&T	13.43 %
Site Total MPE %:	**48.12 %**

T-Mobile Sector 1 Total:	3.26 %
T-Mobile Sector 2 Total:	3.26 %
T-Mobile Sector 3 Total:	3.26 %
Site Total:	48.12 %

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Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general public exposure to RF Emissions.

The anticipated maximum composite contributions from the T-Mobile facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general public exposure to RF Emissions are shown here:

T-Mobile Sector	Power Density Value (%)
Sector 1:	3.26 %
Sector 2:	3.26 %
Sector 3 :	3.26 %
T-Mobile Total:	9.79 %
Site Total:	48.12 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **48.12%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

Scott Heffernan
RF Engineering Director

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