

January 17, 2014

David Martin and
Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Notice of Exempt Modification
350 Burr Mountain Road
Torrington, CT 06790
N 41° 52' 23.72"
W 73° 05' 18.26"

Dear Mr. Martin and Members of the Siting Council:

On behalf of T-Mobile, SBA Communications is submitting an exempt modification application to the Connecticut Siting Council for modification of existing equipment at a tower facility located at 350 Burr Mountain Road, Torrington, CT.

The 350 Burr Mountain Road facility consists of a 196' Monopole Tower owned and operated by SBA Towers, LLC. In order to accommodate technological changes and enhance system performance in the State of Connecticut, T-Mobile plans to modify the equipment configurations at many of its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the chief elected official of the municipality in which the affected cell site is located.

As part of T-Mobile's modernization project, T-Mobile desires to upgrade their equipment to meet the new standards of 4G technology. The new equipment will allow customers to download files and browse the internet at a high rate of speed while also allowing their phones to be compatible with the latest 4G technology.

Attached is a summary of the planned modifications, including power density calculations reflecting the change in T-Mobile's operations at the site along with the required fee of \$625.

The changes to the facility do not constitute modifications as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be

significantly changed or altered. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

1. The overall height of the structure will be unaffected.
2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound other than the new equipment cabinets.
3. The proposed changes will not increase the noise level at the existing facility by six decibels or more.
4. The changes in radio frequency power density will not increase the calculated “worst case” power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

For the foregoing reasons, SBA Communications on behalf of T-Mobile, respectfully submits that he proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (508) 251-0720 x 302 with any questions you may have concerning this matter.

Thank you,

Kri Pelletier
SBA Communications Corporation
33 Boston Post Road West Suite 320
Marlborough, MA 01752
508-251-0720 x 302 + T
508-251-1755 + F
203-446-7700 + C
rwoods@sbsite.com



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T-Mobile Equipment Modification

350 Burr Mountain Road, Torrington, CT 06790
Site number CTNH402A

Tower Owner: SBA Towers, LLC

Equipment Configuration: Monopole Tower

Current and/or approved:

- (9) RFS APX16PV-16PVL-E
- (6) TMAs
- (18) 1-5/8" Coax and Lines

Planned Modifications:

- (3) Ericsson Air B2A B4P
- (3) Ericsson Air B4A B2P
- (3) Ericsson KRY 112 114-1 Double TMAs
- (12) 1-5/8" Coax and Lines
- (1) 1-5/8" Fiber

Structural Information:

The attached structural analysis demonstrates that the tower and foundation will have adequate structural capacity to accommodate the proposed modifications.

Power Density:

The anticipated Maximum Composite contributions from the T-Mobile facility are .47% of the allowable FCC established general public limit. The anticipated composite MPE value for this site assuming all carriers present is 29.570% of the allowable FCC established general public limit sampled at the ground level.

Site Composite MPE %	
Carrier	MPE %
T-Mobile	0.470%
Sprint	1.950%
MetroPCS	3.400%
Verizon Wireless	10.330%
AT&T	10.500%
Nextel	2.920%
Total Site MPE %	29.570%

January 17, 2014

Mayor Elinor Carbone
City of Torrington
Town Hall
140 Main Street
Torrington, CT 06790

RE: Telecommunications Facility @ 350 Burr Mountain Road, Torrington

Dear Mayor Carbone,

In order to accommodate technological changes and enhance system performance in the State of Connecticut, T-Mobile will be changing its equipment configuration at certain cell sites.

As required by Regulations of Connecticut State Agencies (R.C.S.A.) Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review T-Mobile's proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The accompanying letter to the Siting Council fully describes T-Mobile's proposal for the referenced cell site. However, if you have any questions or require any further information on our plans or the Siting Council's procedures, please call me at (508) 614-0389.

Thank you,

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

T-Mobile Existing Facility

Site ID: CTNH402A

Litchfield SSUSA
350 Burr Mountain Road
Torrington, CT 06790

January 15, 2014

EBI Project Number: 62140160

January 15, 2014

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

Re: Emissions Values for Site: **CTNH402A – Litchfield SSUSA**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at 350 Burr Mountain Road, Torrington, 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 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ 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.

General population/uncontrolled exposure 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 ($\mu\text{W}/\text{cm}^2$). The general population exposure limit for the cellular band is $567 \mu\text{W}/\text{cm}^2$, and the general population exposure limit for the PCS & AWS bands is $1000 \mu\text{W}/\text{cm}^2$. 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.

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 350 Burr Mountain Road, Torrington, 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, the actual antenna pattern gain value in the direction of the sample area was used. For this report the sample point is 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 (1935.000 MHz—to 1945.000 MHz) were considered for each sector of the proposed installation.
- 2) 2 UMTS channels (1935.000 MHz—to 1945.000 MHz / 2140.000 MHz to 2145.000 MHz) were considered for each sector of the proposed installation
- 3) 2 LTE channels (2140.000 MHz to 2145.000 MHz) were considered for each sector of the proposed installation
- 4) 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.
- 5) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The actual gain in this direction was used per the manufactures supplied specifications.
- 6) The antenna used in this modeling is the Ericsson AIR21 for LTE, UMTS and GSM. This is based on feedback from the carrier with regards to anticipated antenna selection. This antenna has a 15.6 dBi gain value at its main lobe. Actual antenna gain values were used for all calculations as per the manufacturers specifications

- 7) The antenna mounting height centerline of the proposed antennas is **155 feet** above ground level (AGL)
- 8) 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 calculation were done with respect to uncontrolled / general public threshold limits

Site ID	CTNH402A - Litchfield SSUSA
Site Address	350 Burr Mountain Road, Litchfield, CT 06790
Site Type	Monopole

Sector 1																	
Antenna Number	Antenna Make	Antenna Model	Status	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBD)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	Ericsson	AIR21 B4A/B2P	Active	AWS - 2100 MHz	LTE	60	2	120	-3.95	155	149	None	0	0	48.326044	0.782555	0.07826%
1b	Ericsson	AIR21 B4A/B2P	Not Used	-	-			0	-3.95	155	149	None	0	0	0	0	0.00000%
2a	Ericsson	AIR21 B2A / B4P	Active	PCS - 1950 MHz	GSM / UMTS	30	2	60	-3.95	155	149	1-5/8"	0	0	24.163022	0.391277	0.03913%
2B	Ericsson	AIR21 B2A / B4P	Passive	AWS - 2100 MHz	UMTS	30	2	60	-3.95	155	149	1-5/8"	0	0	24.163022	0.391277	0.03913%
Sector total Power Density Value:															0.157%		
Sector 2																	
Antenna Number	Antenna Make	Antenna Model	Status	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBD)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
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Sector 3																	
Antenna Number	Antenna Make	Antenna Model	Status	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBD)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
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Site Composite MPE %	
Carrier	MPE %
T-Mobile	0.470%
Sprint	1.950%
MetroPCS	3.400%
Verizon Wireless	10.330%
AT&T	10.500%
Nextel	2.920%
Total Site MPE %	29.570%

Summary

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

The anticipated Maximum Composite contributions from the T-Mobile facility are **0.470% (0.157% from each sector)** of the allowable FCC established general public limit considering all three sectors simultaneously sampled at the ground level.

The anticipated composite MPE value for this site assuming all carriers present is **29.570%** 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

EBI Consulting
21 B Street
Burlington, MA 01803



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

**Structural Analysis for
SBA Network Services, Inc.**

196' Monopole Tower

**SBA Site Name: Torrington/Oandg Ind Inc
SBA Site ID: CT46138-A-00
T-Mobile Site ID: CTNH402A**

FDH Project Number 13THUH1400

Analysis Results

Tower Components	91.8%	Sufficient
Foundation	97.9%	Sufficient

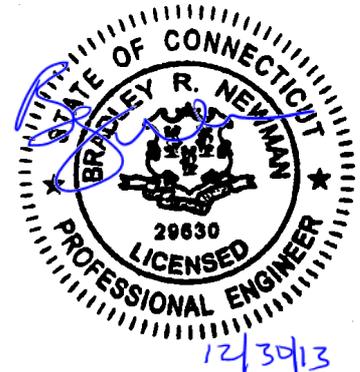
Prepared By:

Joshua A. Shaw, EI
Project Engineer

Reviewed By:

Bradley Newman, PE
Senior Project Engineer
CT PE License No. 29630

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



December 30, 2013

*Prepared pursuant to TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures and
2005 Connecticut Building Code (CBC)*

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EXECUTIVE SUMMARY

At the request of SBA Network Services, Inc., FDH Engineering, Inc. performed a structural analysis of the monopole located in Torrington, 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:

- Valmont Structures (Order No. 17566-64) Communication Pole Permit Drawings dated August 3, 2004
- Valmont Structures (Order No. 17566-64) Communication Pole Design Calculations dated July 14, 2004
- Dr. Clarence Welti, P.E., P.C. (Project Name: Sprint Site CT33XC079) Geotechnical Study dated June 18, 2004
- SBA Network Services, Inc.

The *basic design wind speed* per the *TIA/EIA-222-F* standards and *2005 CBC* is 80 mph without ice and 28 mph with 1" radial ice. Ice is considered to increase in thickness with height.

Conclusions

With the existing and proposed antennas from T-Mobile in place at 155 ft, the tower meets the requirements of the *TIA/EIA-222-F* standards 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 Valmont Structures Order No. 17566-64), the foundation 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* standards 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 shaft.
2. The proposed TMAs should be installed directly behind the existing/proposed panel antennas.

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	Coax and Lines ¹	Carrier	Mount Elevation (ft)	Mount Type
191.5	(6) Andrew 980F90T2E-M	(6) 1-5/8"	Sprint	191.5	(1) Low Profile Platform
185	(3) Antel BXA-70063-6CF-2 (6) Antel LPA-80063/4CF (3) Antel BXA-171063-8BF-2 (6) RFS FD9R6004/2C-3L Diplexers	(12) 1-5/8"	Verizon	185	(3) T-Arms
175 ²	(6) Powerwave 7770 (3) KMW AM-X-CD-16-65-00T-RET (12) Powerwave LGP21401 TMA's (6) Ericsson RRUS-11 RRUs	(12) 1-5/8" (1) 1/2" Fiber (2) 3/4" DC	AT&T	175	(3) T-Arms
161.5	(12) Andrew DB846G90A-XY	(12) 1-5/8"	Nextel	161.5	(3) T-Arms
155	(9) RFS APX16PV-16PVL-E (6) TMA's	(18) 1-5/8"	T-Mobile	155	(3) T-Arms (Assumed)
145	(3) RFS APXV18-206517S-C	(6) 1-5/8"	Metro(Pocket)	145	(3) T-Arms (Assumed)

1. Coax installed inside pole shaft unless otherwise noted.

2. AT&T's (1) 1/2" Fiber and (2) 3/4" DC cables are installed inside (1) 3" Flex Conduit on the outside of the pole shaft.

Proposed Loading:

Antenna Elevation (ft)	Description	Coax and Lines	Carrier	Mount Elevation (ft)	Mount Type
155	(3) Ericsson Air B2A B4P (3) Ericsson Air B4A B2P (3) Ericsson KRY 112 114-1 Double TMA's	(12) 1-5/8" (1) 1-5/8" Fiber	T-Mobile	155	(3) T-Arms (Assumed)

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	45 ksi
Anchor Bolts	75 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. **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	196 - 165.25	Pole	TP27.98x21.53x0.1875	35.5	Pass
L2	165.25 - 123.583	Pole	TP36.35x26.6961x0.281	86.0	Pass
L3	123.583 - 84	Pole	TP44.11x34.6512x0.375	91.8	Pass
L4	84 - 45.4167	Pole	TP51.46x42.0112x0.5	81.5	Pass
L5	45.4167 - 0	Pole	TP60x48.9202x0.625	73.1	Pass
-	0	Anchor Bolts	(28) 2.25" Ø w/ BC = 67.68"	68.8	Pass
-	0	Base Plate	73.67" Ø PL x 3" thk.	71.3	Pass

Table 4 - Maximum Base Reactions

Base Reactions	Current Analysis (TIA/EIA-222-F)*	Original Design (TIA/EIA-222-F)
Axial	61 k	56 k
Shear	42 k	41 k
Moment	5,383 k-ft	5,499 k-ft

* Per our experience with foundations of similar type, the moment loading should control the foundation analysis.

GENERAL COMMENTS

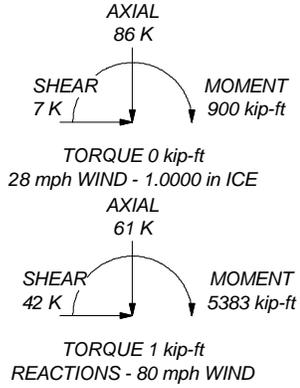
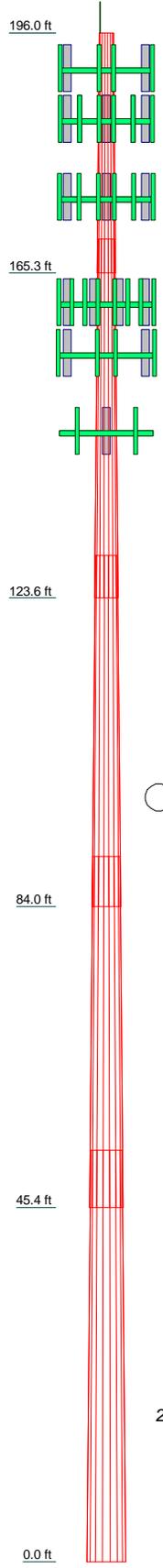
This engineering analysis is based upon the theoretical capacity of the structure. It is not a condition assessment of the tower and its foundation. It is the responsibility of SBA Network Services, Inc. to verify that the tower modeled and analyzed is the correct structure (with accurate antenna loading 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	4	5
Length (ft)	30.75	46.00	45.00	45.00	52.75
Number of Sides	16	16	16	16	16
Thickness (in)	0.1875	0.2810	0.3750	0.5000	0.6250
Socket Length (ft)	4.33	5.42	6.42	7.33	8.24
Top Dia (in)	21.5300	26.6961	34.6512	42.0112	48.9202
Bot Dia (in)	27.9800	36.3500	44.1100	51.4600	60.0000
Grade			A572-65		
Weight (K)	1.5	4.4	7.1	11.3	19.3



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	196	(4) LGP21401 TMA	175
(2) 980F90T2E-M w/ Mount Pipe	191.5	(4) LGP21401 TMA	175
(2) 980F90T2E-M w/ Mount Pipe	191.5	(2) RRUS-11	175
(2) 980F90T2E-M w/ Mount Pipe	191.5	(2) RRUS-11	175
Low Profile Platform MNT	191.5	(2) RRUS-11	175
BXA-70063-6CF-2 w/ Mount Pipe	185	(3) T-Arms MNT	175
BXA-70063-6CF-2 w/ Mount Pipe	185	(4) DB846G90A-XY w/Mount Pipe	161.5
BXA-70063-6CF-2 w/ Mount Pipe	185	(4) DB846G90A-XY w/Mount Pipe	161.5
(2) LPA-80063/4CF w/ Mount Pipe	185	(4) DB846G90A-XY w/Mount Pipe	161.5
(2) LPA-80063/4CF w/ Mount Pipe	185	(3) T-Arms MNT	161.5
(2) LPA-80063/4CF w/ Mount Pipe	185	AIR B2A/B4P w/Mount Pipe	155
BXA-171063-8BF-2 w/ Mount Pipe	185	AIR B2A/B4P w/Mount Pipe	155
BXA-171063-8BF-2 w/ Mount Pipe	185	AIR B2A/B4P w/Mount Pipe	155
BXA-171063-8BF-2 w/ Mount Pipe	185	AIR B4A/B2P w/Mount Pipe	155
(2) FD9R6004/2C-3L Diplexer	185	AIR B4A/B2P w/Mount Pipe	155
(2) FD9R6004/2C-3L Diplexer	185	AIR B4A/B2P w/Mount Pipe	155
(2) FD9R6004/2C-3L Diplexer	185	KRY 112 144-1 Double TMA	155
(3) T-Arms MNT	185	KRY 112 144-1 Double TMA	155
(2) 7770.00 w/Mount Pipe	175	KRY 112 144-1 Double TMA	155
(2) 7770.00 w/Mount Pipe	175	Empty Mount Pipe	155
(2) 7770.00 w/Mount Pipe	175	Empty Mount Pipe	155
AM-X-CD-16-65-00T-RET w/ Mount Pipe	175	Empty Mount Pipe	155
AM-X-CD-16-65-00T-RET w/ Mount Pipe	175	(3) T-Arms (Assumed) MNT	155
AM-X-CD-16-65-00T-RET w/ Mount Pipe	175	APXV18-206517S-C w/Mount Pipe	145
AM-X-CD-16-65-00T-RET w/ Mount Pipe	175	APXV18-206517S-C w/Mount Pipe	145
AM-X-CD-16-65-00T-RET w/ Mount Pipe	175	APXV18-206517S-C w/Mount Pipe	145
(4) LGP21401 TMA	175	(3) T-Arms (Assumed) MNT	145

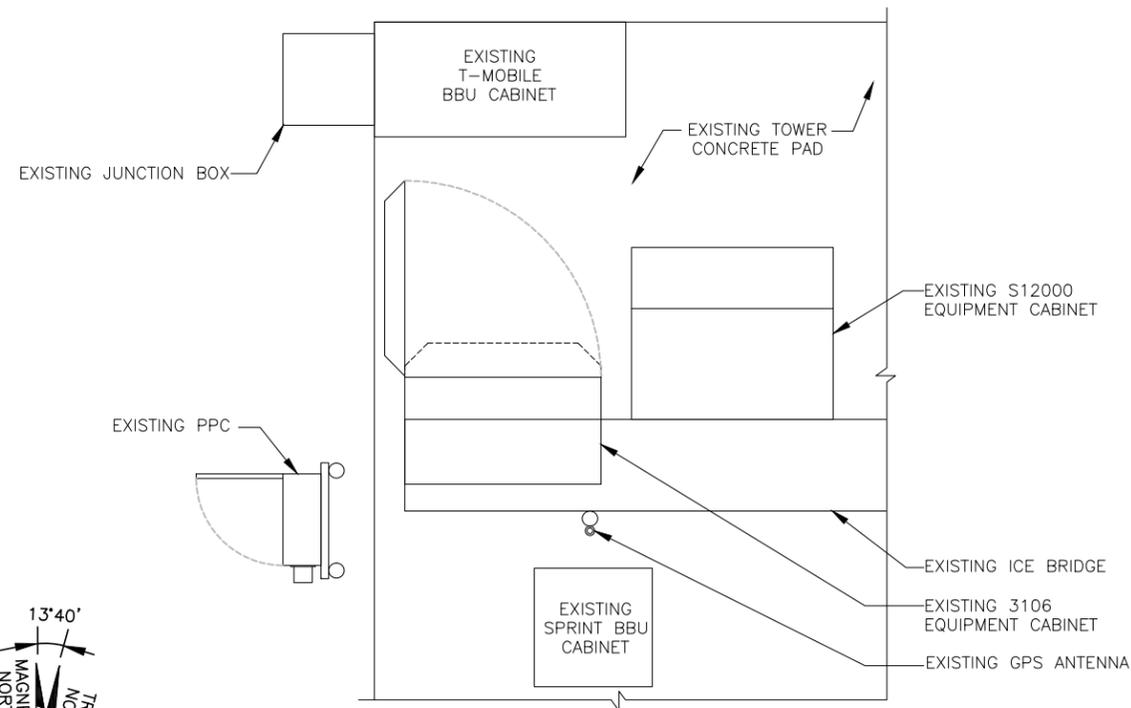
MATERIAL STRENGTH

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

TOWER DESIGN NOTES

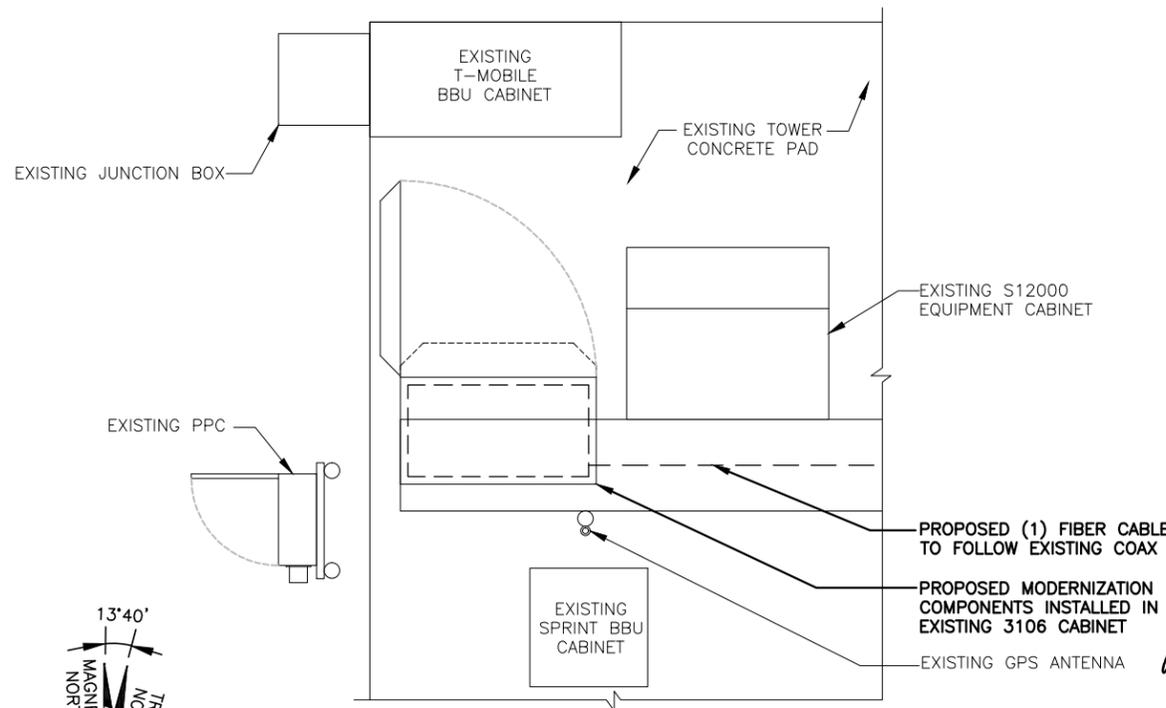
1. Tower is located in Litchfield County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 28 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 91.8%

<p>FDH Engineering, Inc. 6521 Meridien Dr. Raleigh, NC Phone: (919) 755-1012 FAX: (919) 755-1031</p>	<p>Job: Torrington-Oandg Ind Inc, CT46138-A-00</p>		
	<p>Project: 13THUH1400</p>	<p>Client: SBA</p>	<p>Drawn by: Joshua A Shaw</p>
<p>Tower Analysis</p>	<p>Code: TIA/EIA-222-F</p>	<p>Date: 12/30/13</p>	<p>Scale: NTS</p>
	<p>Path:</p>		<p>Dwg No. E-1</p>



1 EXISTING EQUIPMENT PLAN

A-2 SCALE: 1/2"=1'-0"



2 PROPOSED EQUIPMENT PLAN

A-2 SCALE: 1/2"=1'-0"



3 EXISTING EQUIPMENT PHOTO DETAIL

A-2 SCALE: N.T.S



NOTE:
GENERAL CONTRACTOR TO REFER TO THE STRUCTURAL ANALYSIS BY: FDH ENGINEERING, INC. DATED: DECEMBER 30, 2013 AND EQUIPMENT INSTALLATION RECOMMENDATIONS PRIOR TO COMMENCING CONSTRUCTION

4 EXISTING ANTENNA PHOTO DETAIL

A-2 SCALE: N.T.S

T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 648-1116



SBA COMMUNICATIONS CORP.
33 BOSTON POST ROAD W
MARLBOROUGH, MA 01752
TEL: (508) 251-1691
FAX: (508) 251-1755



1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5533
FAX: (978) 336-5586



Daniel P. Hamm

APPROVALS

CONSTRUCTION	DATE
RF ENGINEERING	DATE
ZONING/SITE ACQ.	DATE
OPERATIONS	DATE
TOWER OWNER	DATE

PROJECT NO: CTNH402A

DRAWN BY: GC

CHECKED BY: RP

1	01/03/14	CONSTRUCTION REVISED
0	12/05/13	ISSUED FOR REVIEW

SITE NUMBER: CTNH402A

SITE NAME:

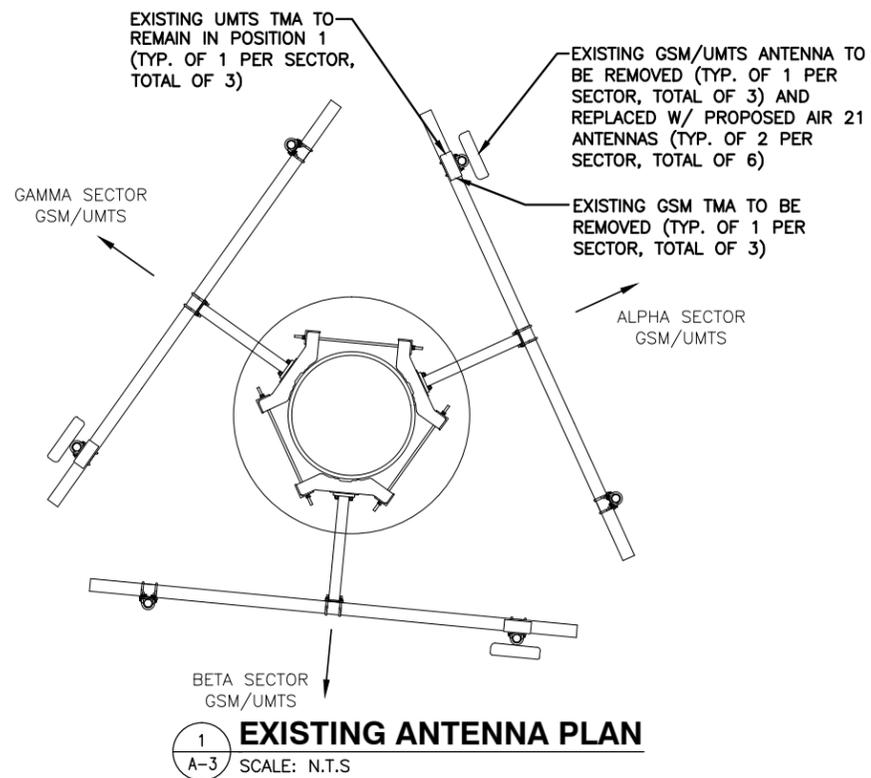
LITCHFIELD SSUSA
350 BURR MOUNTAIN ROAD
TORRINGTON, CT 06790
LITCHFIELD COUNTY

SHEET TITLE

EXISTING & PROPOSED EQUIPMENT PLANS

SHEET NUMBER

A-2



NOTE:
GENERAL CONTRACTOR TO REFER TO THE STRUCTURAL ANALYSIS BY: FDH ENGINEERING, INC. DATED: DECEMBER 30, 2013 AND EQUIPMENT INSTALLATION RECOMMENDATIONS PRIOR TO COMMENCING CONSTRUCTION



NOTE:
GENERAL CONTRACTOR TO REFER TO THE STRUCTURAL ANALYSIS BY FDH ENGINEERING, INC. AND EQUIPMENT INSTALLATION RECOMMENDATIONS PRIOR TO COMMENCING CONSTRUCTION

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

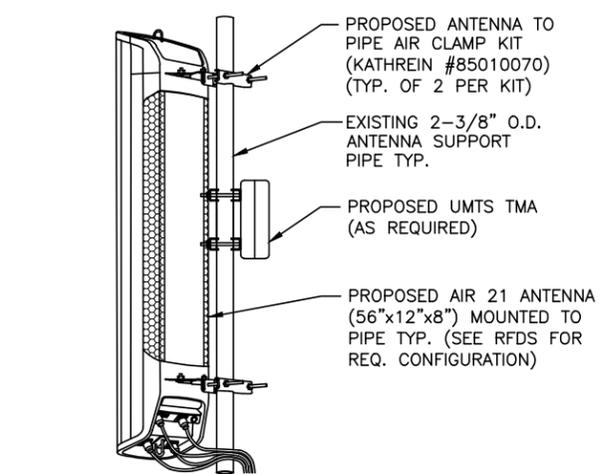
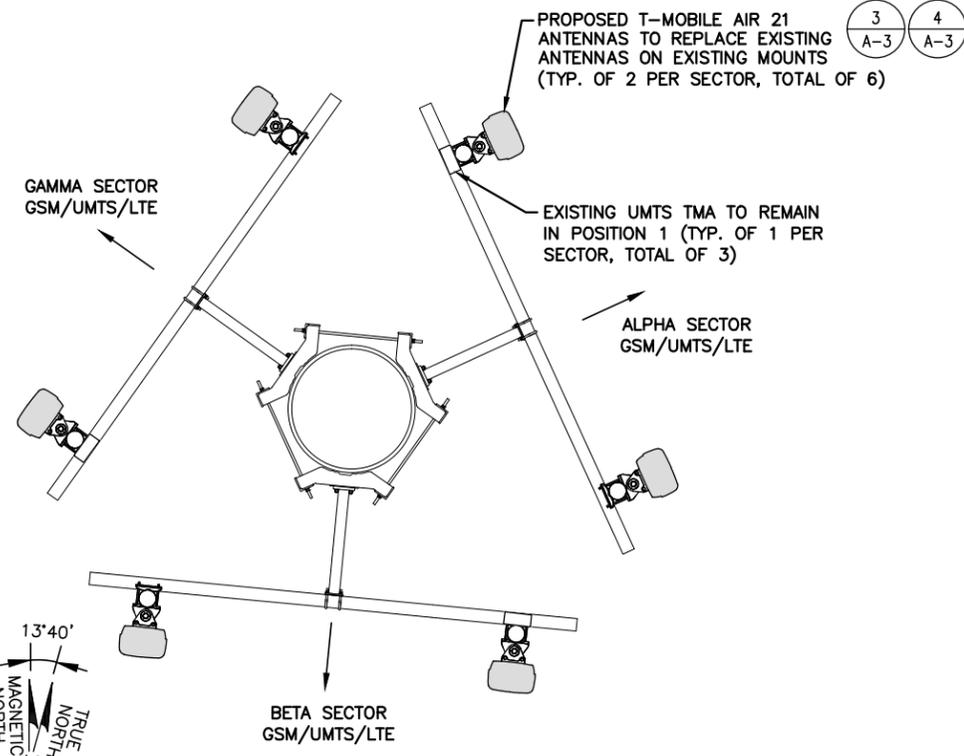
EXISTING ANTENNA SCHEDULE

SECTOR	MAKE	MODEL#	SIZE (INCHES)
ALPHA:	RFS	APX16DWV_16DWV	55.9x13x3.15
BETA:	RFS	APX16DWV_16DWV	55.9x13x3.15
GAMMA:	RFS	APX16DWV_16DWV	55.9x13x3.15

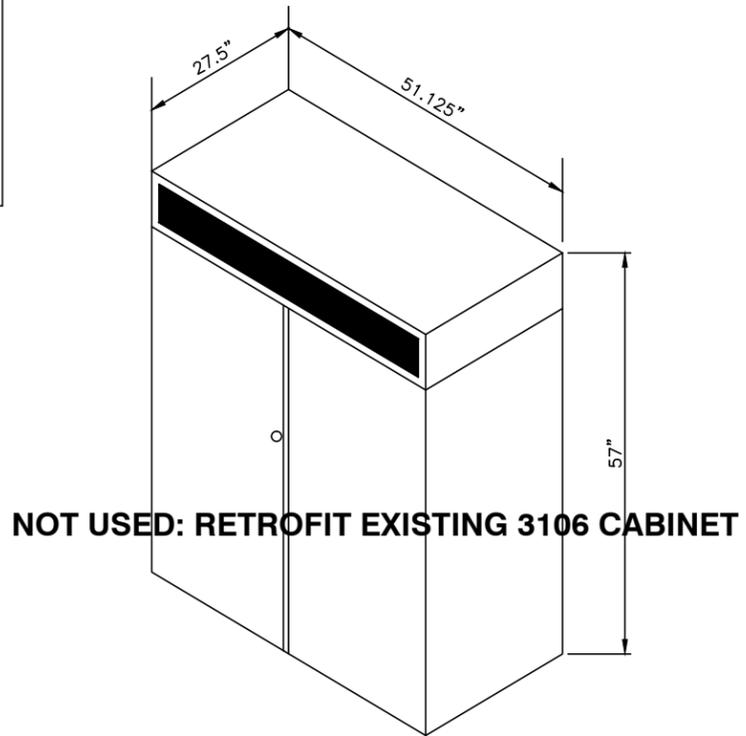
PROPOSED ANTENNA SCHEDULE

SECTOR	MAKE	MODEL#	SIZE (INCHES)
ALPHA:	ERICSSON	AIR21 B2A/B4P	56x12x8
	ERICSSON	AIR21 B4A/B2P	56x12x8
BETA:	ERICSSON	AIR21 B2A/B4P	56x12x8
	ERICSSON	AIR21 B4A/B2P	56x12x8
GAMMA:	ERICSSON	AIR21 B2A/B4P	56x12x8
	ERICSSON	AIR21 B4A/B2P	56x12x8

4 PROPOSED ANTENNA PHOTO DETAIL
SCALE: N.T.S.



3 AIR21 ANTENNA MOUNT (TYP.)
SCALE: N.T.S.



5 PROPOSED MODERNIZATION CABINET (TYP.)
SCALE: N.T.S.

2 PROPOSED ANTENNA PLAN
SCALE: N.T.S.

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35 GRIFFIN ROAD SOUTH
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APPROVALS

CONSTRUCTION	DATE
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PROJECT NO:	CTNH402A
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1	01/03/14	CONSTRUCTION REVISED
0	12/05/13	ISSUED FOR REVIEW

SITE NUMBER: CTNH402A
SITE NAME: LITCHFIELD SSUSA
350 BURR MOUNTAIN ROAD
TORRINGTON, CT 06790
LITCHFIELD COUNTY

SHEET TITLE
ANTENNA PLAN & DETAILS

SHEET NUMBER
A-3