CT11442A

February 28, 2014

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

RE: Notice of Exempt Modification
173 South Broad Street, Pawcatuck, CT 06379
N 42.040483
W 72.679178

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 173 South Broad Street, Pawcatuck, CT.

The 173 South Broad Street, Pawcatuck, CT facility consists of a 180' Lattice Tower owned and operated by SBA Properties, 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 3804 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 3804 + T
508-251-1755 + F
203-446-7700 + C
kpelletier@sbasite.com

T-Mobile

Equipment Modification

173 South Broad Street, Pawcatuck, CT
Site number CT11442A

Tower Owner: SBA Properties, LLC

Equipment Configuration: Lattice Tower

Current and/or approved:

- (9) EMS RR90-17-02DP
- (3) RFS APX16DWV-16DWVS
- (6) RFS ATMAA1412D-1A20 TMAs
- (12) 1-5/8" Feed Lines

Planned Modifications:

- (3) Ericsson AIR 21 B2A/B4P
- (3) Ericsson AIR 21 B4A/B2P
- (3) Ericsson KRY 112 144/1 TMAs
- (12) 1-5/8" Feed 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 0.629% of the allowable FCC established general public limit. The anticipated composite MPE value for this site assuming all carriers present is 64.017% of the allowable FCC established general public limit sampled at the ground level.

Site Composite MPE %	
Carrier	MPE %
T-Mobile	0.629%
Town Antenna 1	2.95%
Town Antenna 1	0.49%
Town Antenna 1	2.26%
Town Antenna 1	1.04%
Town Antenna 1	2.00%
Town Antenna 1	1.46%
Town Antenna 1	6.65%
Town Antenna 1	1.43%
Town Antenna 1	9.77%
Metro PCS	2.830%
Verizon Wireless	12.660%
AT&T	19.860%
Total Site MPE %	64.017%

February 28, 2014

Mr. Edward Haberek, Jr.
First Selectman
Town of Stonington
152 Elm Street
Stonington, CT 06378

RE: Telecommunications Facility @ 173 South Broad Street, Pawcatuck, CT

Dear Mr. Haberek,

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 508.251.0720 x 3804.

Thank you,

Kri Pelletier
SBA Communications Company
33 Boston Post Road West Suite 320
Marlborough, MA 01752
508-251-0720 x 3804 + T
508-251-1755 + F
203-446-7700 + C
kpelletier@sbasite.com

EBI Consulting
environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11442A

Stonington Route 1
173 South Broad Street
Stonington, CT 06489

February 21, 2014

EBI Project Number: 62140936

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

February 21, 2014

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

Re: Emissions Values for Site: **CT11442A – Stonington Route 1**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at 173 South Broad Street, Stonington, 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 µW/cm2 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 (µW/cm2). The general population exposure limit for the cellular band is 567 µW/cm2, and the general population exposure limit for the PCS and AWS bands is 1000 µW/cm2. 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 173 South Broad Street, Stonington, 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 / UMTS channels (1935.000 MHz to 1945.000 MHz / 1983.000 MHz to 1984.000 MHz) were considered for each sector of the proposed installation.
2) 4 UMTS / LTE channels (2110.000 to 2120.000 MHz / 2140.000 MHz to 2145.000 MHz) were considered for each sector of the proposed installation
3) 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.
4) 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.
5) 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 dBd gain value at its main lobe. Actual antenna gain values were used for all calculations as per the manufacturers specifications

6) The antenna mounting height centerline of the proposed antennas is **140 feet** above ground level (AGL)
7) 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	CT11442A - Stonington Route 1
Site Addresss	173 South Broad Street, Stonington, CT 06489
Site Type	Self Support Tower

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	140	134	None	0	0	48.326044	0.967559	0.09676%
1b	Ericsson	AIR21 B4A/B2P	Not Used	-	-			0	-3.95	140	134	None	0	0	0	0	0.00000%
2a	Ericsson	AIR21 B2A / B4P	Active	PCS - 1950 MHz	GSM / UMTS	30	2	60	-3.95	140	134	None	0	0	24.163022	0.48378	0.04838%
1b	Ericsson	AIR21 B4A/B2P	Passive	AWS - 2100 MHz	UMTS	40	2	80	-3.95	140	134	None	0	0	32.217363	0.64504	0.06450%
														Sector total Power Density Value:			0.210%

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
1a	Ericsson	AIR21 B4A/B2P	Active	AWS - 2100 MHz	LTE	60	2	120	-3.95	140	134	None	0	0	48.326044	0.967559	0.09676%
1b	Ericsson	AIR21 B4A/B2P	Not Used	-	-			0	-3.95	140	134	None	0	0	0	0	0.00000%
2a	Ericsson	AIR21 B2A / B4P	Active	PCS - 1950 MHz	GSM / UMTS	30	2	60	-3.95	140	134	None	0	0	24.163022	0.48378	0.04838%
1b	Ericsson	AIR21 B4A/B2P	Passive	AWS - 2100 MHz	UMTS	40	2	80	-3.95	140	134	None	0	0	32.217363	0.64504	0.06450%
														Sector total Power Density Value:			0.210%

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
1a	Ericsson	AIR21 B4A/B2P	Active	AWS - 2100 MHz	LTE	60	2	120	-3.95	140	134	None	0	0	48.326044	0.967559	0.09676%
1b	Ericsson	AIR21 B4A/B2P	Not Used	-	-			0	-3.95	140	134	None	0	0	0	0	0.00000%
2a	Ericsson	AIR21 B2A / B4P	Active	PCS - 1950 MHz	GSM / UMTS	30	2	60	-3.95	140	134	None	0	0	24.163022	0.48378	0.04838%
1b	Ericsson	AIR21 B4A/B2P	Passive	AWS - 2100 MHz	UMTS	40	2	80	-3.95	140	134	None	0	0	32.217363	0.64504	0.06450%
														Sector total Power Density Value:			0.210%

Site Composite MPE %

Carrier	MPE %
T-Mobile	0.629%
Town Antenna 1	2.95%
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Town Antenna 1	9.77%
Metro PCS	2.830%
Verizon Wireless	12.660%
AT&T	19.860%
Total Site MPE %	**64.017%**

EBI Consulting
environmental | engineering | due diligence

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 **0.629% (0.210% 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 **64.017%** 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

Structural Analysis for SBA Network Services, Inc.

180' Self-Support Tower

SBA Site Name: Stonington 2
SBA Site ID: CT03241-S-02
T-Mobile Site ID: CT11442A

FDH Project Number 1422TO1400

Analysis Results

Tower Components	98.6%	Sufficient
Foundation	67.9%	Sufficient

Prepared By:

Mark S. Girgis, EI
Project Engineer

Reviewed By:

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

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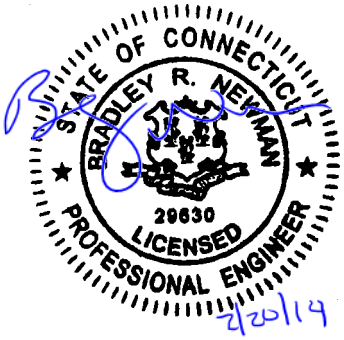

February 20, 2014

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

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EXECUTIVE SUMMARY

At the request of SBA Network Services, Inc., FDH Engineering, Inc. performed a structural analysis of the existing self-supported tower located in Pawcatuck, 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 the *2005 Connecticut Building Code (CTBC)*. Information pertaining to the existing/proposed antenna loading, current tower geometry, the member sizes, geotechnical data, and foundation dimensions was obtained from:

- Pirod, Inc. (Eng. File No. A-116770) original design drawings dated February 25, 2000
- SBA Network Services, Inc.

The *basic design wind speed* per the *TIA/EIA-222-F* standards and the *2005 CTBC* 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 T-Mobile in place at 140 ft, the tower meets the requirements of the *TIA/EIA-222-F* standards and the *2005 CTBC* provided the **Recommendations** listed below are satisfied. Furthermore, provided the foundation was designed and constructed to support the original design reactions (see Pirod, Inc. Eng. File No. A-116770), 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 the *2005 CTBC* are met with the existing and proposed loading in place, we have the following recommendations:

1. Feed lines must be installed double stacked as shown in the Feed Line Plan in the appendix
2. The proposed TMAs should be installed directly behind the 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	Feed Lines	Carrier	Mount Elevation (ft)	Mount Type
190	(2) Celwave PD220 Omnis	(2) 7/8"	Police Dept.	180	(3) 10' Rigid Side Arms
189.3	(1) Celwave PD1142 Omni				
180	(1) Yagi	(2) 7/8"	---		
175	(1) Inverted 10' Dipole (assumed)				
178	(1) 2' x 1' Panel (assumed)	(1) 7/8"		178	Direct Mount
173	(2) Decibel DB212 Dipoles	(2) 7/8"	Police Dept.	165	(2) 6' Standoffs (assumed)
150	(3) Antel BXA-70063/6CF (6) Andrew DB844H80-XY (3) Rymsa MGD5-800T2 (6) RFS FD9R6004/2C-3L Diplexers	(12) 1-5/8"	Verizon	150	(3) T-Frames
140	(9) EMS RR90-17-02DP (3) RFS APX16DWV-16DWVS (6) RFS ATMAA1412D-1A20 TMAs	(12) 1-5/8"	T-Mobile	140	(3) T-Frames
130	(3) Kathrein 742 351	(12) 1-5/8" (1) 3/8"	Metro PCS	130	(3) T-Frames
120	(6) Powerwave 7770 (3) KMW 14-65 (3) CSS DUO1417-8986 (6) Powerwave TT19-08BP111-001 TMAs (6) Ericsson RRU-11 RRUs (1) Raycap DC6-48-60-18-8F Surge Suppressor (3) CSS DBC-750 Combiners	(12) 1-5/8" (1) Fiber Cable (2) DC Cables	AT&T	120	(3) T-Frames
106	(1) 10' Dipole	(1) 7/8" (assumed)	---	101	(2) 3' Standoffs (assumed)
104	(1) Celwave PD1167 Omni	(1) 7/8"	Police Dept.		
98	(1) Decibel DB212 Dipole	(1) 7/8"		90	Direct Mount
63	(1) Decibel DB437 Yagi	(1) 7/8"		63	Direct Mount
59	(1) Decibel DB212 Dipole	(1) 7/8"		51	Direct Mount
43	(1) 2' Omni	(1) 7/8" (assumed)	---	42	(1) 2' Standoff (assumed)
42	(1) Decibel DB437 Yagi	(1) 7/8"	Police Dept.		Direct Mount

Proposed Loading:

Antenna Elevation (ft)	Description	Feed Lines	Carrier	Mount Elevation (ft)	Mount Type
140	(3) Ericsson AIR 21 B2A/B4P (3) Ericsson AIR 21 B4A/B2P (3) Ericsson KRY 112 144/1 TMAs	(12) 1-5/8" (1) 1-5/8" Fiber	T-Mobile	140	(3) T-Frames

RESULTS

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

Table 2 - Material Strength

Member Type	Yield Strength
Legs	50 ksi
Bracing	36 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
T1	180 - 170	Leg	1 1/2	20.6	Pass
		Diagonal	3/4	34.7	Pass
		Top Girt	7/8	11.1	Pass
		Bottom Girt	7/8	11.5	Pass
T2	170 - 150	Leg	1 1/2	67.5	Pass
		Diagonal	3/4	48.8	Pass
		Top Girt	7/8	12.4	Pass
		Bottom Girt	7/8	21.9	Pass
T3	150 - 130	Leg	2	75.9	Pass
		Diagonal	1	37.5	Pass
		Top Girt	1	21.1	Pass
		Bottom Girt	1	27.0	Pass
T4	130 - 120	Leg	Pirod 105244	61.3	Pass
		Diagonal	L2 1/2x2 1/2x3/16	98.6	Pass
		Top Girt	L3x3x3/16	4.5 9.3 (b)	Pass
T5	120 - 100	Leg	Pirod 105217	63.2	Pass
		Diagonal	L3x3x3/16	67.3 76.0 (b)	Pass
		Top Girt	L3x3x3/16	25.8 43.6 (b)	Pass
		Mid Girt	L3x3x3/16	37.1 48.0 (b)	Pass
T6	100 - 80	Leg	Pirod 105218	60.2	Pass
		Diagonal	L3x3x3/16	62.4 64.3 (b)	Pass
T7	80 - 60	Leg	Pirod 105219	55.2	Pass
		Diagonal	L3x3x5/16	48.3	Pass
T8	60 - 40	Leg	Pirod 105219	64.3	Pass

Section No.	Elevation (ft)	Component Type	Size	% Capacity*	Pass Fail
		Diagonal	L3x3x5/16	60.6	Pass
T9	40 - 20	Leg	Pirod 105220	57.0	Pass
		Diagonal	L3 1/2x3 1/2x5/16	47.5	Pass
T10	20 - 0	Leg	Pirod 105220	63.3	Pass
		Diagonal	L3 1/2x3 1/2x5/16	65.4	Pass

*Capacities include a 1/3 allowable stress increase for wind per *TIA/EIA-222-F* standards.

Table 4 - Maximum Base Reactions

Load Type	Direction	Current Analysis *(TIA/EIA-222-F)*	Original Design *(TIA/EIA-222-F)*
Individual Foundation	Horizontal	29 k	---
	Uplift	255 k	380 k
	Compression	287 k	422 k
Overturning Moment	---	4,246 k-ft	6,249 k-ft

GENERAL COMMENTS

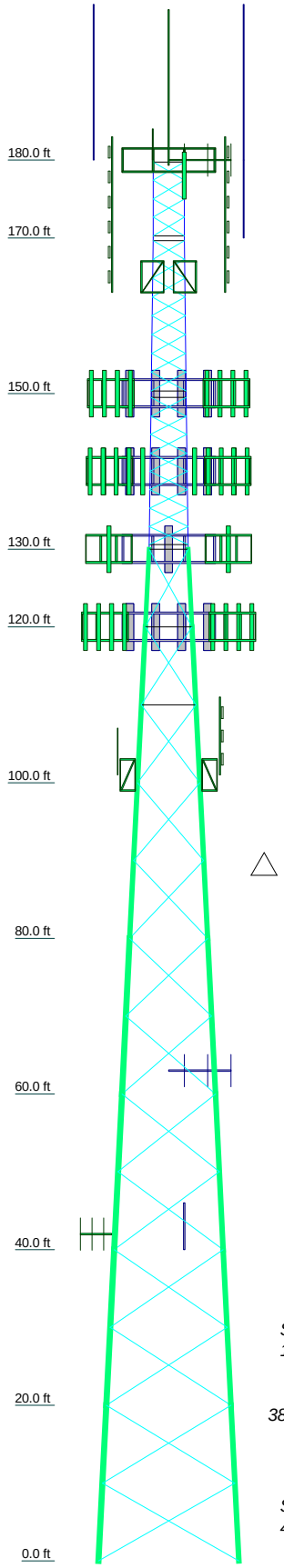
This engineering analysis is based upon the theoretical capacity of the structure. It is not a condition assessment of the tower and its foundation. It is the responsibility of SBA Network Services, Inc. to verify that the tower modeled and analyzed is the correct structure (with accurate antenna loading 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	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10		
Legs	SR 1 1/2		SR 2	A	Pirod 105217	Pirod 105218	Pirod 105219		Pirod 105220			
Leg Grade	A572-50											
Diagonals	SR 3/4		SR 1	B	L3x3x3/16		L3x5x5/16		L3 1/2x3 1/2x5/16			
Diagonal Grade	A572-50						A36					
Top Girts	SR 7/8		SR 1		L3x3x3/16		N.A.					
Mid Girts	N.A.				L3x3x3/16		N.A.					
Bottom Girts	SR 7/8		SR 1				N.A.					
Face Width (ft)	4	4 @ 2.375	4.5	5	6	8	10	12	14	16	18	
# Panels @ (ft)		8 @ 2.41667	8 @ 2.36458				13 @ 10					
Weight (K)	0.4	0.8	1.4	1.1	2.5	2.8	4.4	4.5	5.4	5.6	28.9	



MAX. CORNER REACTIONS AT BASE:
DOWN: 287 K
SHEAR: 29 K

UPLIFT: -255 K
SHEAR: 26 K

AXIAL
93 K
SHEAR 16 K *MOMENT 1558 kip-ft*

TORQUE 2 kip-ft
38 mph WIND - 0.7500 in ICE

AXIAL
44 K
SHEAR 43 K *MOMENT 4246 kip-ft*

TORQUE 9 kip-ft
REACTIONS - 85 mph WIND

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	Pirod 105244	B	L2 1/2x2 1/2x3/16

MATERIAL STRENGTH

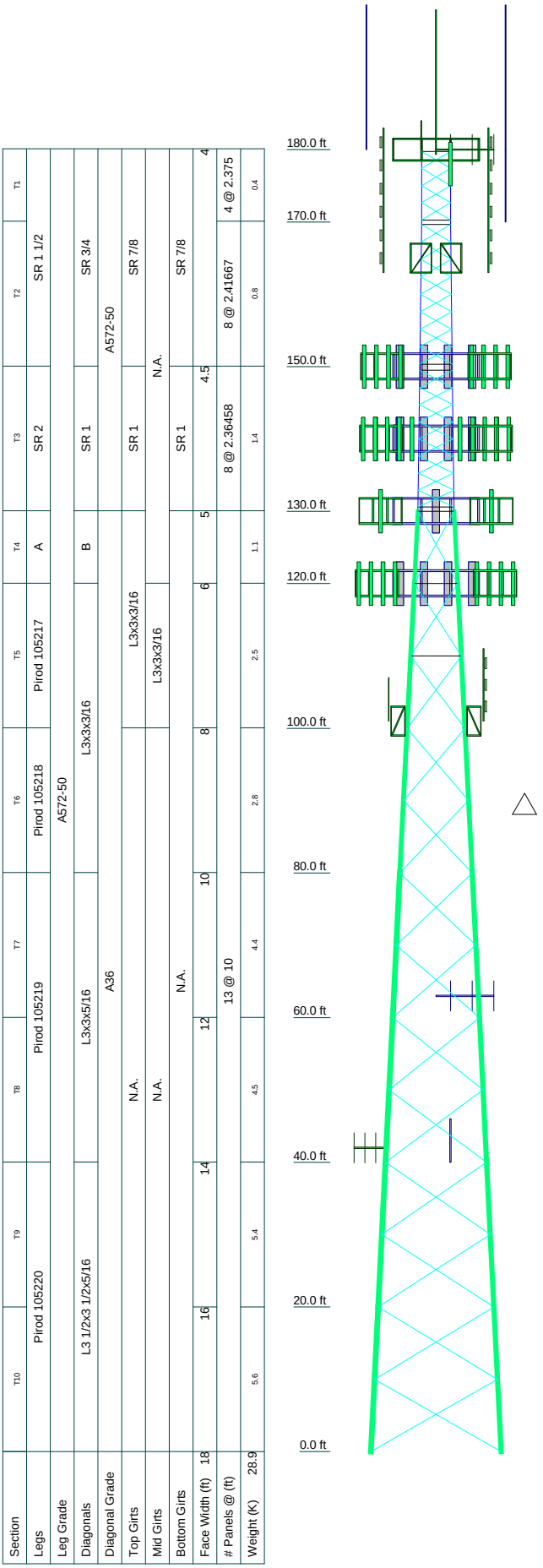
GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower is located in New London 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.
5. TOWER RATING: 98.6%

FDH Engineering, Inc.
6521 Meridien Drive
Raleigh, NC 27616
Phone: (919) 755-1012
FAX: (919) 755-1031

Job: ***Stonington 2, CT03241-A-02***			
Project: ***1422TO1400***			
Client: SBA Network Services, Inc.	Drawn by: Mark S. Girgis	App'd:	
Code: TIA/EIA-222-F	Date: 02/20/14	Scale: NTS	
Path:		Dwg No. E-1	



Section	Legs	Leg Grade	Diagonals	Diagonal Grade	Top Girts	Mid Girts	Bottom Girts	Face Width (ft)	# Panels @ (ft)	Weight (K)
T1	4 @ 2.375	A572-50	SR 3/4	A36	SR 7/8	N.A.	SR 7/8	4	0.4	
T2	8 @ 2.41667								0.8	
T3	8 @ 2.36458		SR 1		SR 1		SR 1	4.5	1.4	
T4			B		L3x3x3/16			5	1.1	
T5	Pirod 105217					L3x3x3/16		6	2.5	
T6	Pirod 105218		L3x3x3/16					8	2.8	
T7	Pirod 105219		L3x3x5/16		N.A.	N.A.	N.A.	10	4.4	
T8								12	4.5	
T9	Pirod 105220		L3 1/2x3 1/2x5/16					14	5.4	
T10								16	5.6	
								18	13 @ 10	28.9

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	180	742-351 w/ mount pipe	130
PD220	180	742-351 w/ mount pipe	130
PD220	180	742-351 w/ mount pipe	130
10' dipole	180	(3) T-Frames	130
(3) Rigid Side Arms	180	(2) 7770.00 W/Mount Pipe	120
PD1142	180	(2) 7770.00 W/Mount Pipe	120
Yagi	180	(2) 7770.00 W/Mount Pipe	120
2' x 1' Panel	178	14-65	120
DB212	165	14-65	120
DB212	165	14-65	120
6' Standoff	165	(2) TT19-08BP111-001	120
6' Standoff	165	(2) TT19-08BP111-001	120
BXA-70063/6CF W/Mount Pipe	150	(2) TT19-08BP111-001	120
BXA-70063/6CF W/Mount Pipe	150	(2) RRUS11	120
BXA-70063/6CF W/Mount Pipe	150	(2) RRUS11	120
(2) DB844H80-XY w/Mount Pipe	150	(2) RRUS11	120
(2) DB844H80-XY w/Mount Pipe	150	DC6-48-60-18-8F	120
(2) DB844H80-XY w/Mount Pipe	150	DUO1417-8986 w/Mount Pipe	120
MGD5-800T2 W/Mount Pipe	150	DUO1417-8986 w/Mount Pipe	120
MGD5-800T2 W/Mount Pipe	150	DUO1417-8986 w/Mount Pipe	120
MGD5-800T2 W/Mount Pipe	150	DBC-750	120
(2) FD9R6004/2C-3L	150	DBC-750	120
(2) FD9R6004/2C-3L	150	DBC-750	120
(2) FD9R6004/2C-3L	150	(3) T-Frames	120
(3) T-Frames	150	3' Standoff Mount	101
AIR 21 B2A/B4P w/Mount Pipe	140	3' Standoff Mount	101
AIR 21 B2A/B4P w/Mount Pipe	140	10' dipole	101
AIR 21 B2A/B4P w/Mount Pipe	140	PD1167	101
AIR 21 B4A/B2P w/Mount Pipe	140	DB212	90
AIR 21 B4A/B2P w/Mount Pipe	140	DB437	63
AIR 21 B4A/B2P w/Mount Pipe	140	DB212	51
KRY 112 144/1 TMA	140	DB437	42
KRY 112 144/1 TMA	140	2' Standoff Mount	42
KRY 112 144/1 TMA	140	2' Omni	42
(3) T-Frames	140		

SYMBOL LIST

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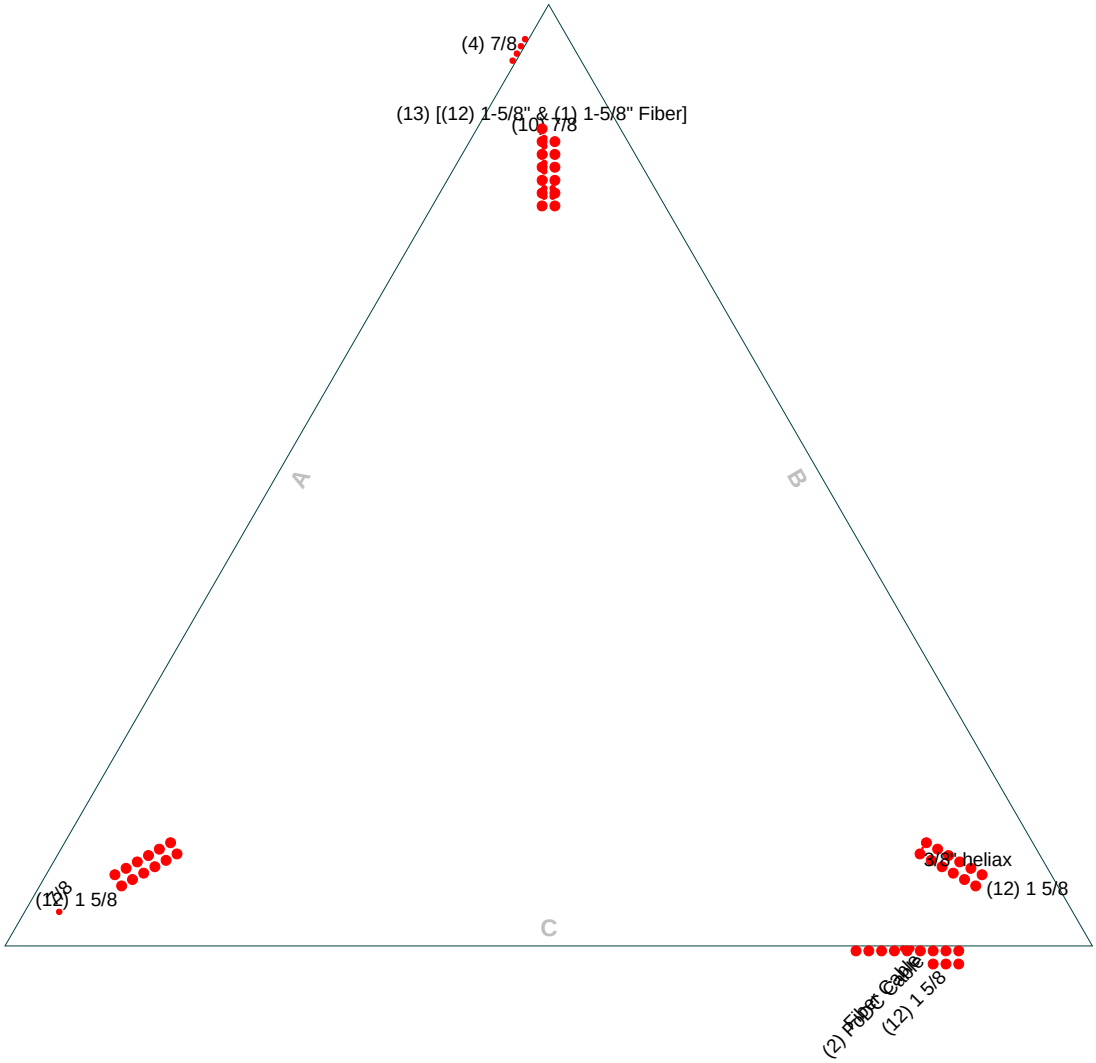
Path:		Dwg No. E-1	

Feed Line Plan

Round Flat App In Face App Out Face Truss-Leg



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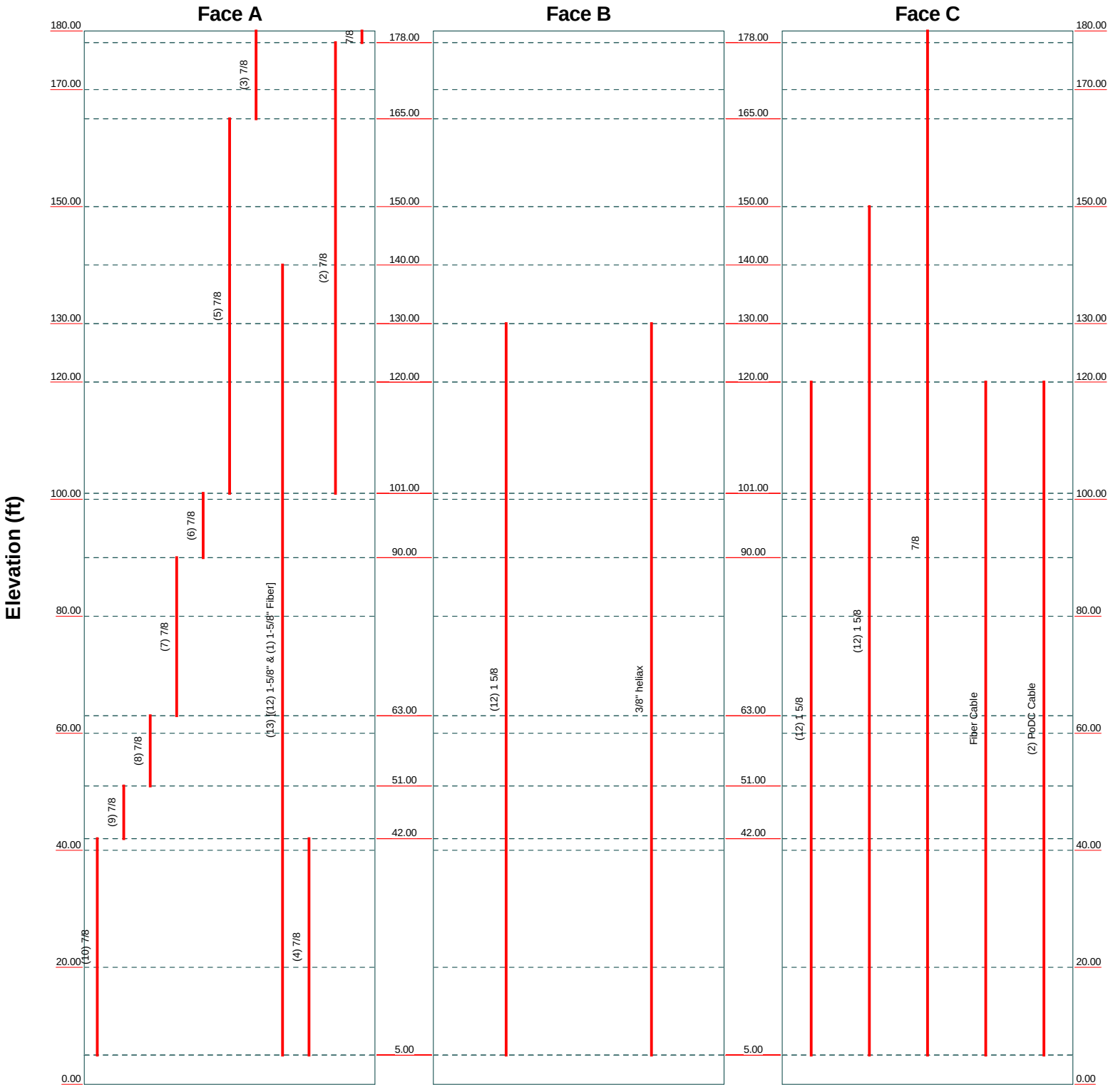
Path:			Dwg No. E-7

Feed Line Distribution Chart
0' - 180'

Round | Flat | App In Face | App Out Face | Truss Leg



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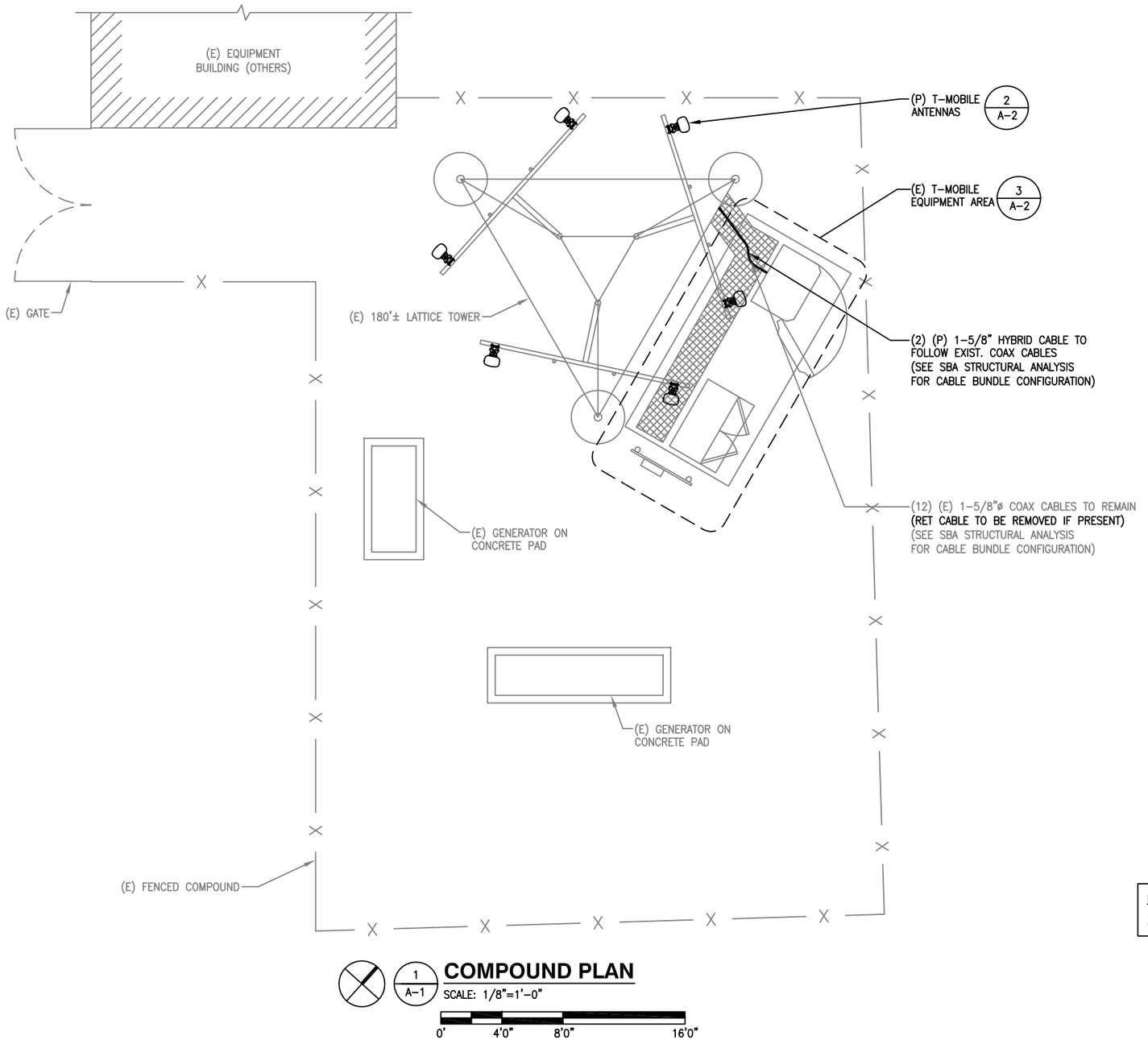
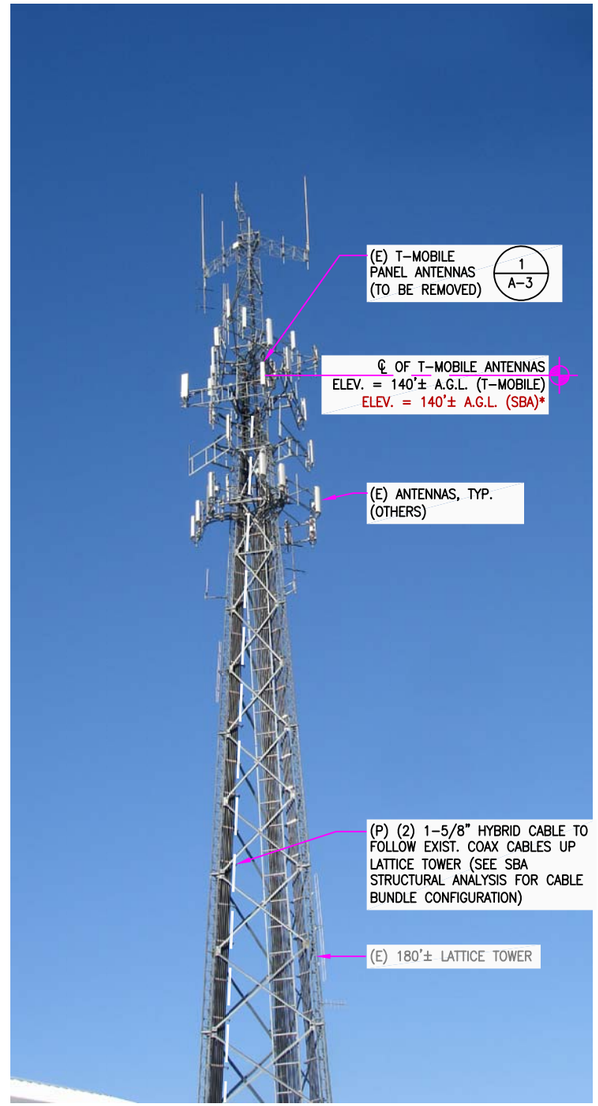
Path:		Dwg No. E-7	



1 A-1 **COMPOUND PLAN**

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

0' 4'0" 8'0" 16'0"



NOTE:
ANTENNA ELEVATION BASED ON CLIENT-PROVIDED INFORMATION

NOTE:*
GROUND EQUIPMENT NOT SHOWN FOR CLARITY

2 A-1 **EXISTING ELEVATION**

SCALE: NTS

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SBA COMMUNICATIONS CORPORATION
33 BOSTON POST ROAD WEST, SUITE 320
MARLBOROUGH, MA 01752
PHONE: 508-366-5505

SITE NUMBER: CT11442A
SITE NAME:
STONINGTON 2, CT
173 SOUTH BROAD STREET
PAWCATUCK, CT 06379
NEW LONDON COUNTY

T-MOBILE NORTHEAST LLC

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

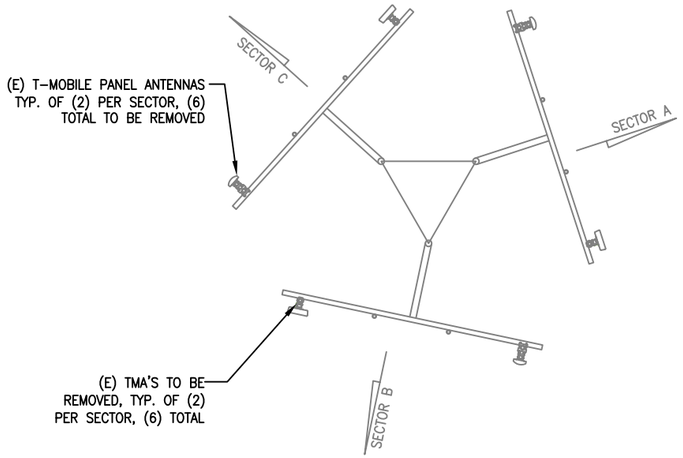
NO.	DATE	REVISIONS	BY	CHK	APP'D
0	02/19/14	CONSTRUCTION	MER	MRC	MRC

SCALE: AS SHOWN | DESIGNED BY: MRC | DRAWN BY: MER

T-MOBILE

COMPOUND PLAN AND ELEVATION

JOB NUMBER	DRAWING NUMBER	REV
CT11442A	A-1	0



1 / A-2 **EXISTING ANTENNA PLAN**
SCALE: 1/8"=1'-0"

0' 4'-0" 8'-0"

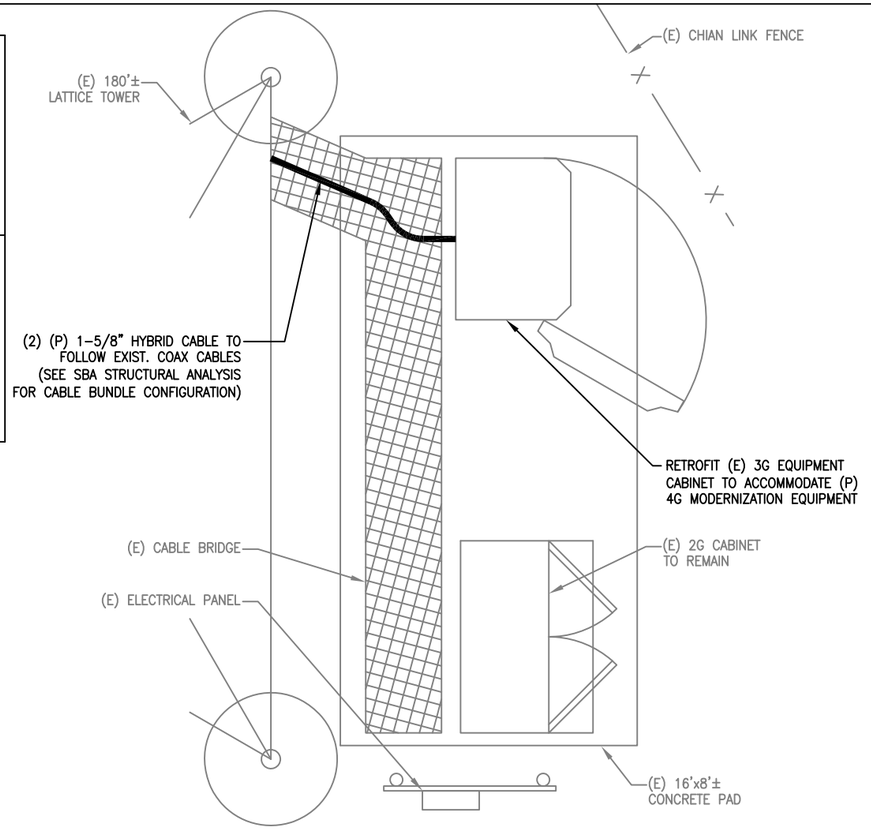
EXISTING ANTENNA SCHEDULE

SECTOR	MAKE	MODEL#	SIZE (INCHES)
SECTOR A:	RFS	APX16DWV-16DWV-S	13x3.15x59.9
	ANDREW	RR90-17-02DPL2	8x2.8x56
SECTOR B:	RFS	APX16DWV-16DWV-S	13x3.15x59.9
	ANDREW	RR90-17-02DPL2	8x2.8x56
SECTOR C:	RFS	APX16DWV-16DWV-S	13x3.15x59.9
	ANDREW	RR90-17-02DPL2	8x2.8x56

PROPOSED ANTENNA SCHEDULE

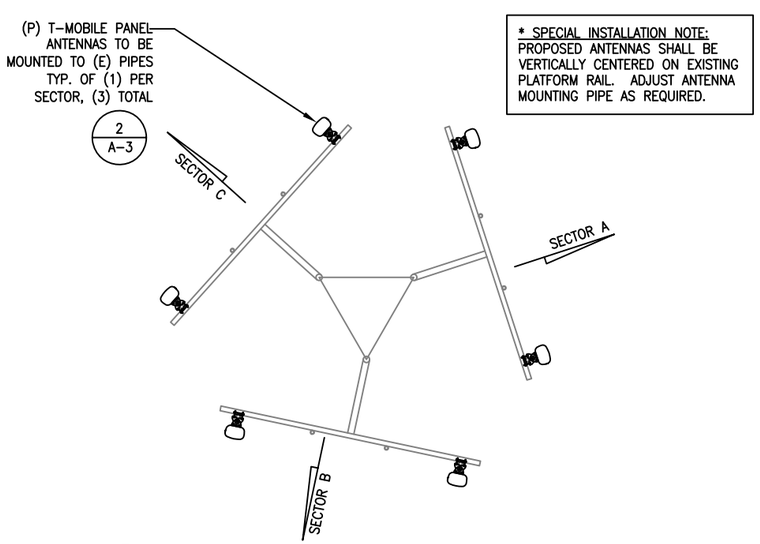
SECTOR	MAKE	MODEL#	SIZE (INCHES)
SECTOR A:	ERICSSON	AIR21 B2A/B4P	12x8x56
	ERICSSON	AIR21 B4A/B2P	12x8x56
SECTOR B:	ERICSSON	AIR21 B2A/B4P	12x8x56
	ERICSSON	AIR21 B4A/B2P	12x8x56
SECTOR C:	ERICSSON	AIR21 B2A/B4P	12x8x56
	ERICSSON	AIR21 B4A/B2P	12x8x56

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



3 / A-2 **PROPOSED EQUIPMENT PLAN**
SCALE: 1/4"=1'-0"

0' 2'-0" 4'-0"



* SPECIAL INSTALLATION NOTE:
PROPOSED ANTENNAS SHALL BE VERTICALLY CENTERED ON EXISTING PLATFORM RAIL. ADJUST ANTENNA MOUNTING PIPE AS REQUIRED.

2 / A-2 **PROPOSED ANTENNA PLAN**
SCALE: 1/8"=1'-0"

0' 4'-0" 8'-0"

4 / A-3 **EXISTING EQUIPMENT AREA.**
N.T.S.

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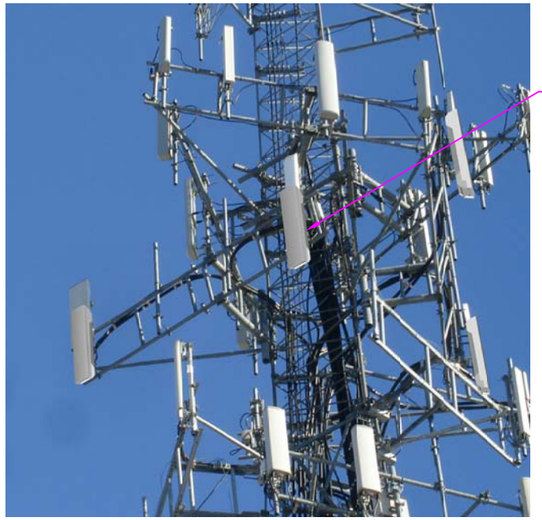
SCALE: AS SHOWN | DESIGNED BY: MRC | DRAWN BY: MER

T-MOBILE

PLANS AND ANTENNA SCHEDULES

JOB NUMBER	DRAWING NUMBER	REV
CT11442A	A-2	0

1 / A-3 **EXISTING ANTENNA MOUNT TYP.**
N.T.S.



2 / A-3 **PROPOSED ANTENNA MOUNT TYP.**
N.T.S.

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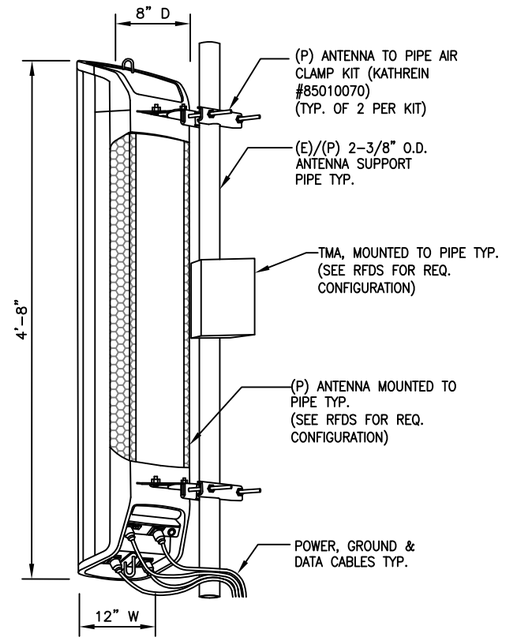

3 / A-3 **ANTENNA MOUNT TYP.**
SCALE: NTS

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T-MOBILE

DETAILS

JOB NUMBER	DRAWING NUMBER	REV
CT11442A	A-3	0