



October 26, 2015

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

RE: Notice of Exempt Modification
1 Hartford Square
New Britain, CT 06053
N 41.6664
W 72.8128
T-Mobile Site #: CT11351C_L700

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 1 Hartford Square, New Britain, CT.

The 1 Hartford Square facility consists of a 176' Self Support 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, Mayor Erin Stewart, as well as the property owner, Hartford Square Associates, LLC.

As part of T-Mobile's L700 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.
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 the 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@sbsite.com



T-Mobile

Equipment Modification

1 Hartford Square, New Britain, CT
Site number CT11351C_L700

Tower Owner: SBA Towers, LLC

Equipment Configuration: Self Support

Current and/or approved:

- (3) Ericsson AIR 21 B2A B4P
- (3) Ericsson AIR 21 B4A B2P
- (3) Ericsson KRY 112 144/1
- (12) 1-5/8" Lines
- (1) 1-5/8" Hybrid

Final Configuration:

- (3) Commscope LNX-6515DS-A1M
- (3) Ericsson S11B12
- (3) Ericsson AIR 21 B2A B4P
- (3) Ericsson AIR 21 B4A B2P
- (3) Ericsson KRY 112 144/1
- (12) 1-5/8" 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 1.89% of the allowable FCC established general public limit. The anticipated composite MPE value for this site assuming all carriers present is 6.87% of the allowable FCC established general public limit sampled at the ground level.

Site Composite MPE%	
Carrier	MPE%
T-Mobile (Per Sector Max)	1.89 %
Nextel	0.19 %
Clearwire	0.06 %
MetroPCS	0.72 %
Verizon Wireless	2.66 %
AT&T	1.35 %
Site Total MPE %:	6.87 %

October 26, 2015

Erin Stewart, Mayor
City of New Britain
27 West Main Street
New Britain, CT 06051

RE: Telecommunications Facility @ 1 Hartford Square, New Britain, CT

Dear Mayor Stewart,

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@sbsite.com



October 26, 2015

Hartford Square Associates, LLC
1 Hartford Square
Door #19
New Britain CT 06052

RE: Telecommunications Facility @ 1 Hartford Square, New Britain, CT

To Whom It May Concern:

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,

A handwritten signature in blue ink, appearing to read "Kri Pelletier", is positioned above the typed name.

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@sbsite.com

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

T-Mobile Existing Facility

Site ID: CT11351C

New Britain/ Rt 72 Wooster
1 Hartford Square Street
New Britain, CT 06053

October 26, 2015

EBI Project Number: 6215005368

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	6.87 %

October 26, 2015

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

Emissions Analysis for Site: **CT11351C – New Britain/ Rt 72 Wooster**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **1 Hartford Square Street, New Britain, 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 700 MHz Band is approximately 467 $\mu\text{W}/\text{cm}^2$, and the general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (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 **1 Hartford Square Street, New Britain, 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 / UMTS 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 & B2A/B4P)** 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 & B2A/B4P)** have a maximum gain of **15.9 dBd** at their 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 **152 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.

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):	152	Height (AGL):	152	Height (AGL):	152
Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)	Frequency Bands	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):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A1 MPE%	0.79	Antenna B1 MPE%	0.79	Antenna C1 MPE%	0.79
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):	152	Height (AGL):	152	Height (AGL):	152
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):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A2 MPE%	0.79	Antenna B2 MPE%	0.79	Antenna C2 MPE%	0.79
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):	152	Height (AGL):	152	Height (AGL):	152
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):	865.21	ERP (W):	865.21	ERP (W):	865.21
Antenna A3 MPE%	0.31	Antenna B3 MPE%	0.31	Antenna C3 MPE%	0.31

Site Composite MPE%	
Carrier	MPE%
T-Mobile (Per Sector Max)	1.89 %
Nextel	0.19 %
Clearwire	0.06 %
MetroPCS	0.72 %
Verizon Wireless	2.66 %
AT&T	1.35 %
Site Total MPE %:	6.87 %

T-Mobile Sector 1 Total:	1.89 %
T-Mobile Sector 2 Total:	1.89 %
T-Mobile Sector 3 Total:	1.89 %
Site Total:	6.87 %

T-Mobile _per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 2100 MHz (AWS) LTE	2	2334.27	152	7.87	2100	1000	0.79 %
T-Mobile 1900 MHz (PCS) GSM/UMTS	2	1167.14	152	3.94	1900	1000	0.39 %
T-Mobile 2100 MHz (AWS) UMTS	2	1167.14	152	3.94	2100	1000	0.39 %
T-Mobile 700 MHz LTE	1	865.21	152	1.46	700	467	0.31 %
						Total:	1.89%

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:	1.89 %
Sector 2:	1.89 %
Sector 3 :	1.89 %
T-Mobile Per Sector Maximum:	1.89 %
Site Total:	6.87 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **6.87%** 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

October 20, 2015

Mark Luther
SBA Communications Corporation
9900 Westpoint Drive, Suite 116
Indianapolis, IN 46256
(570) 561-3200



B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
btwo@btgrp.com

Subject: **Structural Analysis Report**

Carrier Designation: **T-Mobile Co-Locate**
Carrier Site Number: CT11351C
Carrier Site Name: CT11351C

SBA Communications Designation: **Site Number:** CT04382-S
Site Name: New Britain 2

Engineering Firm Designation: **B+T Group Project Number:** 101033.002.01

Site Data: **1 Hartford Square, New Britain CT 06052-1161, Hartford County**
Latitude 41° 39' 59.08", Longitude -72° 48' 46.09"
176 Foot - Self Support Tower

Dear Mark Luther,

B+T Group is pleased to submit this "Structural Analysis Report" to determine the structural integrity of the above mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

Existing + Proposed Equipment

Note: See Table 1 and Table 2 for the proposed and existing loading, respectively.

Sufficient Capacity

Tower Rating: 94.2%

Foundation: 75.9%

The analysis has been performed in accordance with the TIA/EIA-222-F standard, 2005 CT State Building Code and IBC 2006 based upon a wind speed of 80 mph fastest mile.

All equipment proposed in this report shall be installed in accordance with the attached drawings for the determined available structural capacity to be effective.

We at B+T Group appreciate the opportunity of providing our continuing professional services to you and SBA Communications Corporation. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by:
B+T Engineering, Inc.

Maurizio Benedetti, E.I.
Project Engineer

Chad E. Tuttle, P.E.
Engineer of Record
COA: PEC.0001564 Expires: 02/102016

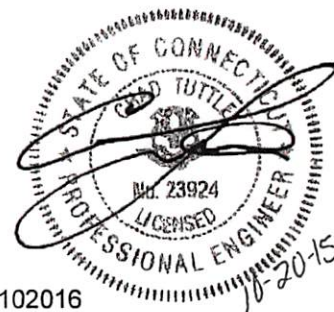


TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Existing Antenna and Cable Information

Table 2 - Proposed Final Applicant Antenna and Cable Information

Table 3 - Design Antenna and Cable Information

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Table 6 - Tower Components vs. Capacity

4.1) Recommendations

Figure 1 - Base Level Drawing

5) APPENDIX A

tnxTower Output

7) APPENDIX B

Additional Calculations

1) INTRODUCTION

This tower is a 176 ft Self Support tower designed by Rohn in June of 2000. The tower was originally designed for a wind speed of 80 mph per TIA/EIA-222-F.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 80 mph with no ice, 37.6 mph with 1 inch ice thickness and 50 mph under service loads.

Table 1 - Existing Antenna and Cable Information

Center Line Elevation (ft)	Number of Antennas	Description	Feed Lines (in)	Note	Mount Level (ft)	Mount Type
172.0	4	Andrew VHLP2.5	(6) 5/16	Clearwire	172.0	(3) T-Frames
	3	Dragonwave HORIZON DUO				
	3	Kathrein 840 10054				
	3	Samsung URAS-FLEXIBLE RRH				
162.0	6	Ericsson RRH-11	(12) 1-5/8 (1) 10mm Fiber* (3) 12ga DC*	AT&T	162.0	(3) T-Frames
	6	KMW AM-X-CD-16-65-00T-RET				
	6	Powerwave Tech. 7770				
	6	Powerwave Tech. LGP13519				
	6	Powerwave Tech. LGP21401				
152.0	3	Ericsson AIR 21 B2A B4P	(12) 1-5/8 (1) 1-5/8 Hybrid	T-Mobile	152.0	(3) T-Frames
	3	Ericsson AIR 21 B4A B2P				
	3	Ericsson KRY 112 144/1				
140.0	3	Alcatel Lucent RRH2X60-PCS	(12) 1-5/8 (2) 1-5/8 Hybrid	Verizon	140.0	(3) T-Frames
	3	Alcatel Lucent RRH2x60-AWS				
	3	Alcatel Lucent RRH2x60W-700U				
	6	Andrew SBNHH-1D65B				
	3	Antel BXA-80080/4CF				
	3	Kathrein 800 10735V01				
	1	Rfs Celwave DB-T1-6Z-8AB-0Z				
130.0	3	Kathrein 742 213	(6) 1-5/8	Metro PCS	130.0	(3) Pipe Mounts

*Inside 2" conduit

Table 2 – Proposed Final Applicant Antenna and Cable Information

Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Feed Lines	Note	Mount Level (ft)	Mount Type
152.0	3	Commscope LNX-6515DS-A1M	(12) 1-5/8 (1) 1-5/8 Hybrid	T-Mobile	152.0	(3) T-Frames
	3	Ericsson S11B12				
	3	Ericsson AIR 21 B2A B4P				
	3	Ericsson AIR 21 B4A B2P				
	3	Ericsson KRY 112 144/1				

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
175	175	12	Decibel	DB896	12	1-5/8
		1	Generic	14' Mounting Frame		
165	165	12	Decibel	DB896	12	1-5/8
		1	Generic	14' Mounting Frame		
155	155	12	Decibel	DB896	12	1-5/8
		1	Generic	14' Mounting Frame		
145	145	12	Decibel	DB896	12	1-5/8
		1	Generic	14' Mounting Frame		
135	135	12	Decibel	DB896	12	1-5/8
		1	Generic	14' Mounting Frame		

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
Tower Data	Tower Manufacturer Drawing by Rohn, Eng. File No. 44545AE	Date: 07/13/2000	SBA
Foundation Data	Foundation Drawing by Rohn, Eng. File No. 44545AE	Date: 07/13/2000	SBA
Existing Loading	CT04382-S_SBA Site Summary	Date: 09/11/2015	SBA
	Previous SA by FDH	Date: 10/12/2015	SBA
Proposed Loading	T-Mobile Application #: 25225, v1	Date: 09/16/2015	SBA

3.1) Analysis Method

tnxTower (version 6.1.4.1), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

- 1) Tower and structures were built in accordance with the manufacturer's specifications.
- 2) The tower and structures have been maintained in accordance with the manufacturer's specification.
- 3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
- 4) When applicable, transmission cables are considered as structural components for calculating wind loads as allowed by TIA/EIA-222-F.
- 5) Mount areas and weights are assumed based on photographs provided.

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T1	176 - 160	Leg	ROHN 3 EH	3	-10.035	102.571	9.8	Pass
T2	160 - 140	Leg	ROHN 4 EH	33	-45.116	157.630	28.6	Pass
T3	140 - 120	Leg	ROHN 5 EH	66	-86.438	218.465	39.6	Pass
T4	120 - 100	Leg	ROHN 6 EHS	93	-120.085	236.061	50.9	Pass
T5	100 - 80	Leg	ROHN 6 EH	114	-151.159	294.794	51.3	Pass
T6	80 - 60	Leg	ROHN 6 EH	134	-179.312	294.788	60.8	Pass
T7	60 - 40	Leg	ROHN 8 EHS	155	-203.931	332.541	61.3	Pass
T8	40 - 20	Leg	ROHN 8 X-STR	170	-230.080	435.219	52.9 54.0 (b)	Pass
T9	20 - 0	Leg	ROHN 8 EH	185	-262.634	435.644	60.3	Pass
T1	176 - 160	Diagonal	L2x2x1/4	9	-2.497	17.105	14.6 29.1 (b)	Pass
T2	160 - 140	Diagonal	L2x2x3/16	36	-4.100	10.694	38.3 64.6 (b)	Pass
T3	140 - 120	Diagonal	L2x2x3/16	69	-5.531	6.782	81.6 90.0 (b)	Pass
T4	120 - 100	Diagonal	L2 1/2x2 1/2x3/16	97	-6.085	8.485	71.7 84.9 (b)	Pass
T5	100 - 80	Diagonal	L2 1/2x2 1/2x3/16	118	-6.094	6.469	94.2	Pass
T6	80 - 60	Diagonal	L3x3x1/4	139	-6.166	11.476	53.7	Pass
T7	60 - 40	Diagonal	L3 1/2x3 1/2x1/4	160	-7.438	12.788	58.2 60.5 (b)	Pass
T8	40 - 20	Diagonal	L3 1/2x3 1/2x1/4	175	-7.680	10.696	71.8	Pass
T9	20 - 0	Diagonal	L4x4x1/4	190	-8.407	13.669	61.5 68.0 (b)	Pass
T1	176 - 160	Top Girt	L2x2x1/4	4	-0.326	11.533	2.8 3.8 (b)	Pass
							Summary	
							Leg (T7)	61.3 Pass
							Diagonal (T5)	94.2 Pass
							Top Girt (T1)	3.8 Pass
							Bolt Checks	90.0 Pass
							RATING =	94.2 Pass

Table 6 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
--	Anchor Rods	Base	52.1	Pass
1	Base Foundation	Base	75.9	Pass

Structure Rating (max from all components) =	94.2%
---	--------------

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the existing, reserved, and proposed loads. No modifications are required at this time.

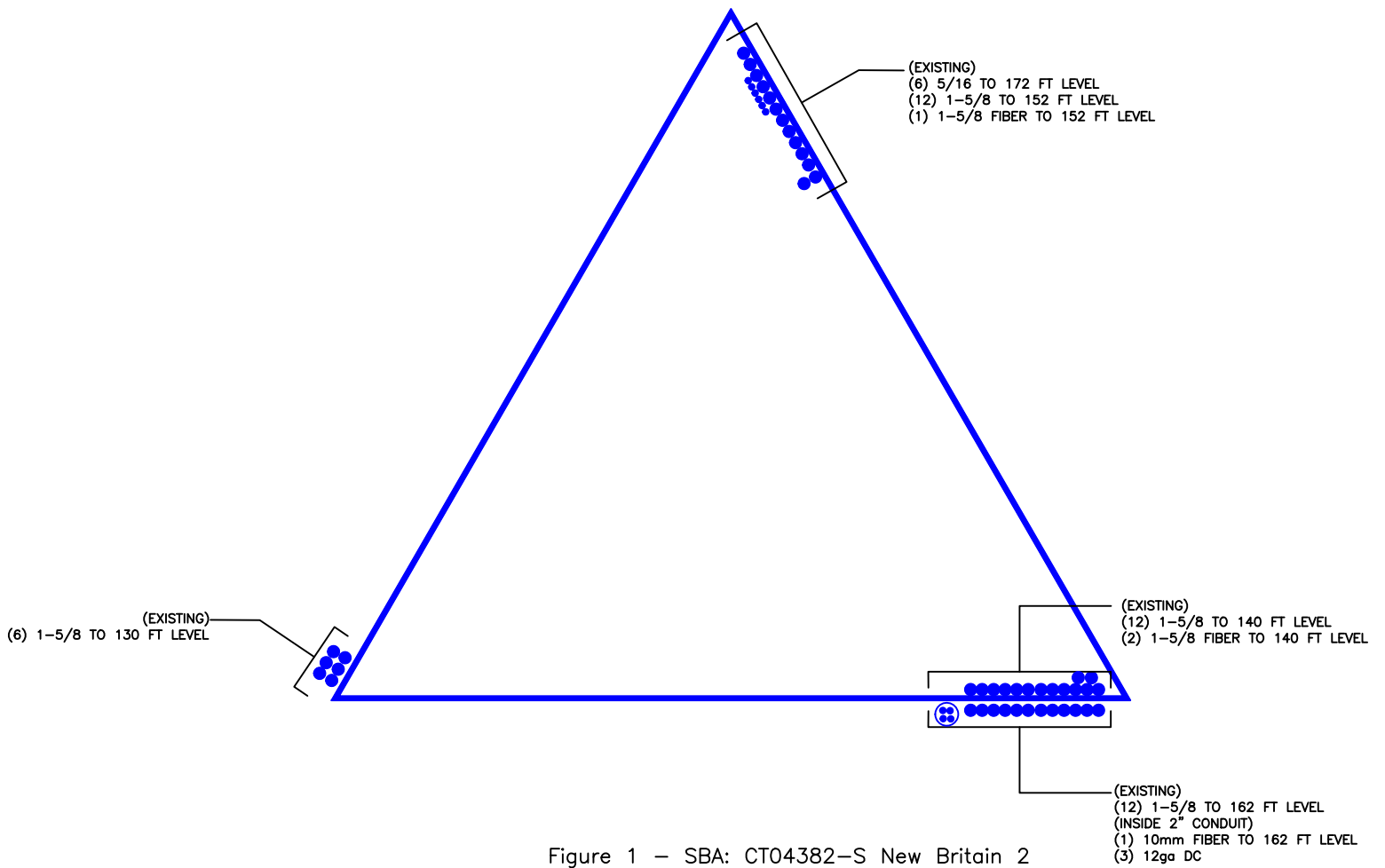
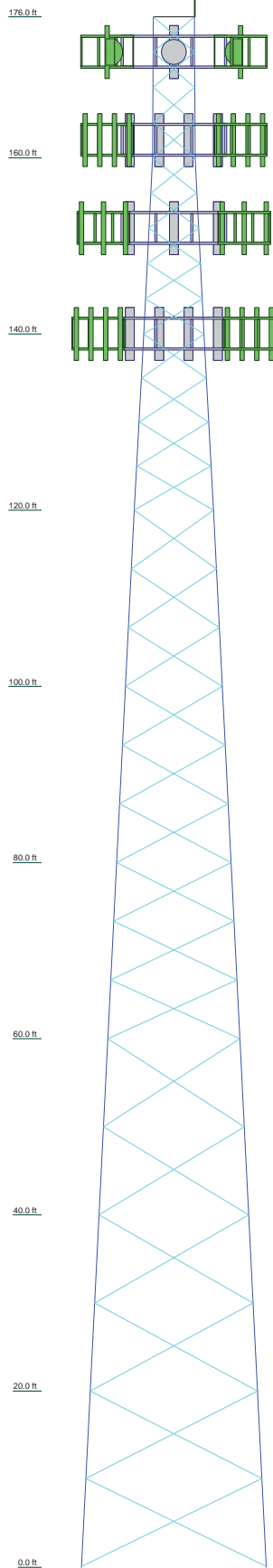


Figure 1 – SBA: CT04382–S New Britain 2

APPENDIX A
TNXTOWER OUTPUT

Section	T9	T10	T11	T12	T13	T14	T15	T16	T17	T18	T19	T20	T21
Legs	ROHN 8 EH	ROHN 8 X-STR	ROHN 8 EHS	ROHN 8 EHS	ROHN 5 EH	ROHN 5 EH	ROHN 4 EH	ROHN 3 EH					
Leg Grade	L4x4x1/4	L3 1/2x2 1/2x1/4	A572-50	A572-50	A36	L2x2x1/4	L2x2x1/4	L2x2x1/4					
Diagonals													
Diagonal Grade													
Top Girts													
Face Width (ft)	24	16.9896	14.9896	10.9167	8.91667	6.83333	4.76942	4.6925					
# Panels @ (ft)	2 @ 9.95533	4 @ 10	9 @ 6.66667	9 @ 6.66667	3.6	3.2	3.5	4.2	4.5	4.6	4.7	4.8	4.9
Weight (K)	24.7	4.2	3.5	3.6	3.1	2.1	1.5	1.1					



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod 1/2"x4" (E)	176	KRY 112 144/1 (E-T-Mobile)	152
840 10054 (E-Cleanwire)	172	KRY 112 144/1 (E-T-Mobile)	152
840 10054 (E-Cleanwire)	172	LNK-6515DS-ATM w/Mount Pipe (P-T-Mobile)	152
840 10054 (E-Cleanwire)	172	LNK-6515DS-ATM w/Mount Pipe (P-T-Mobile)	152
URAS-FLEXIBLE (E-Cleanwire)	172	LNK-6515DS-ATM w/Mount Pipe (P-T-Mobile)	152
URAS-FLEXIBLE (E-Cleanwire)	172	LNK-6515DS-ATM w/Mount Pipe (P-T-Mobile)	152
URAS-FLEXIBLE (E-Cleanwire)	172	S11B12 (P-T-Mobile)	152
HORIZON DUO (E-Cleanwire)	172	S11B12 (P-T-Mobile)	152
HORIZON DUO (E-Cleanwire)	172	S11B12 (P-T-Mobile)	152
HORIZON DUO (E-Cleanwire)	172	Sector Mount (SM 502-3) (E-T-Mobile)	152
Sector Mount (SM 1304-3) (E-4 Mt. Pipes/Sector)	172	AIR 21 B2A B4P w/ Mount Pipe (E-T-Mobile)	152
(2) VHL P2.5 (E-Cleanwire)	172	AIR 21 B2A B4P w/ Mount Pipe (E-T-Mobile)	152
VHLP2.5 (E-Cleanwire)	172	AIR 21 B2A B4P w/ Mount Pipe (E-T-Mobile)	152
(2) 7770 w/ Mount Pipe (E-ATI)	162	BXA-80080/4CF w/ Mount Pipe (E-Verizon)	140
(2) 7770 w/ Mount Pipe (E-ATI)	162	BXA-80080/4CF w/ Mount Pipe (E-Verizon)	140
(2) 7770 w/ Mount Pipe (E-ATI)	162	BXA-80080/4CF w/ Mount Pipe (E-Verizon)	140
(2) LGP2 1401 (E-ATI)	162	DB-T1-6Z-8AB-0Z (E-Verizon)	140
(2) LGP2 1401 (E-ATI)	162	(2) SBNHH-1D65B w/ Mount Pipe (R-Verizon)	140
(2) LGP2 1401 (E-ATI)	162	(2) SBNHH-1D65B w/ Mount Pipe (R-Verizon)	140
(2) LGP13519 (E-ATI)	162	RRH2x60-AWS (R-Verizon)	140
(2) LGP13519 (E-ATI)	162	RRH2x60-AWS (R-Verizon)	140
(2) RRH-11 (E-ATI)	162	RRH2x60-PCS (R-Verizon)	140
(2) RRH-11 (E-ATI)	162	RRH2x60-PCS (R-Verizon)	140
(2) RRH-11 (E-ATI)	162	RRH2x60-PCS (R-Verizon)	140
Sector Mount (SM 104-3) (E-ATI)	162	RRH2x60W-700U (R-Verizon)	140
(2) AM-X-CD-16-65-00T-RET w/ Mount Pipe (E-ATI)	162	RRH2x60W-700U (R-Verizon)	140
(2) AM-X-CD-16-65-00T-RET w/ Mount Pipe (E-ATI)	162	Sector Mount (SM 302-3) (E-Verizon)	140
(2) AM-X-CD-16-65-00T-RET w/ Mount Pipe (E-ATI)	162	800 10735V01 w/ Mount Pipe (E-Verizon)	140
AIR 21 B4A B2P w/ Mount Pipe (E-T-Mobile)	152	800 10735V01 w/ Mount Pipe (E-Verizon)	140
AIR 21 B4A B2P w/ Mount Pipe (E-T-Mobile)	152	800 10735V01 w/ Mount Pipe (E-Verizon)	140
AIR 21 B4A B2P w/ Mount Pipe (E-T-Mobile)	152	800 10735V01 w/ Mount Pipe (E-Verizon)	140
KRY 112 144/1 (E-T-Mobile)	152	Pipe Mount (PM 601-3) (R)	130
		742 213 w/ Mount Pipe (R)	130
		742 213 w/ Mount Pipe (R)	130
		742 213 w/ Mount Pipe (R)	130

MATERIAL STRENGTH

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

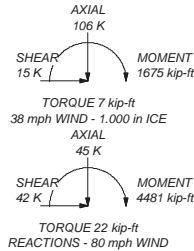
TOWER DESIGN NOTES

1. Tower is located in Hartford 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 38 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: 94.2%

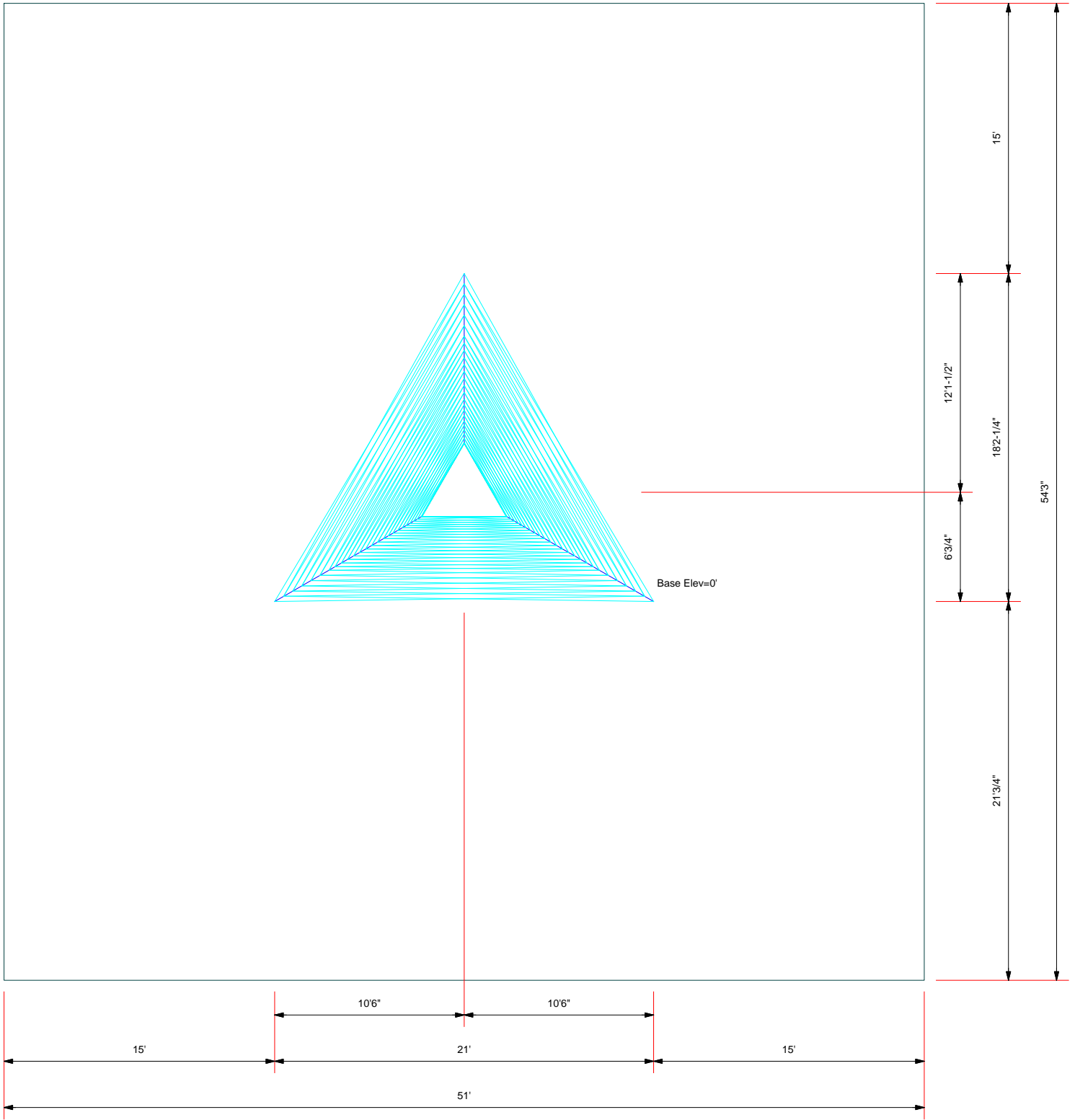
MAX. CORNER REACTIONS AT BASE:


DOWN: 262 K
SHEAR: 26 K

UPLIFT: -224 K
SHEAR: 23 K



Plot Plan
Total Area - 0.06 Acres



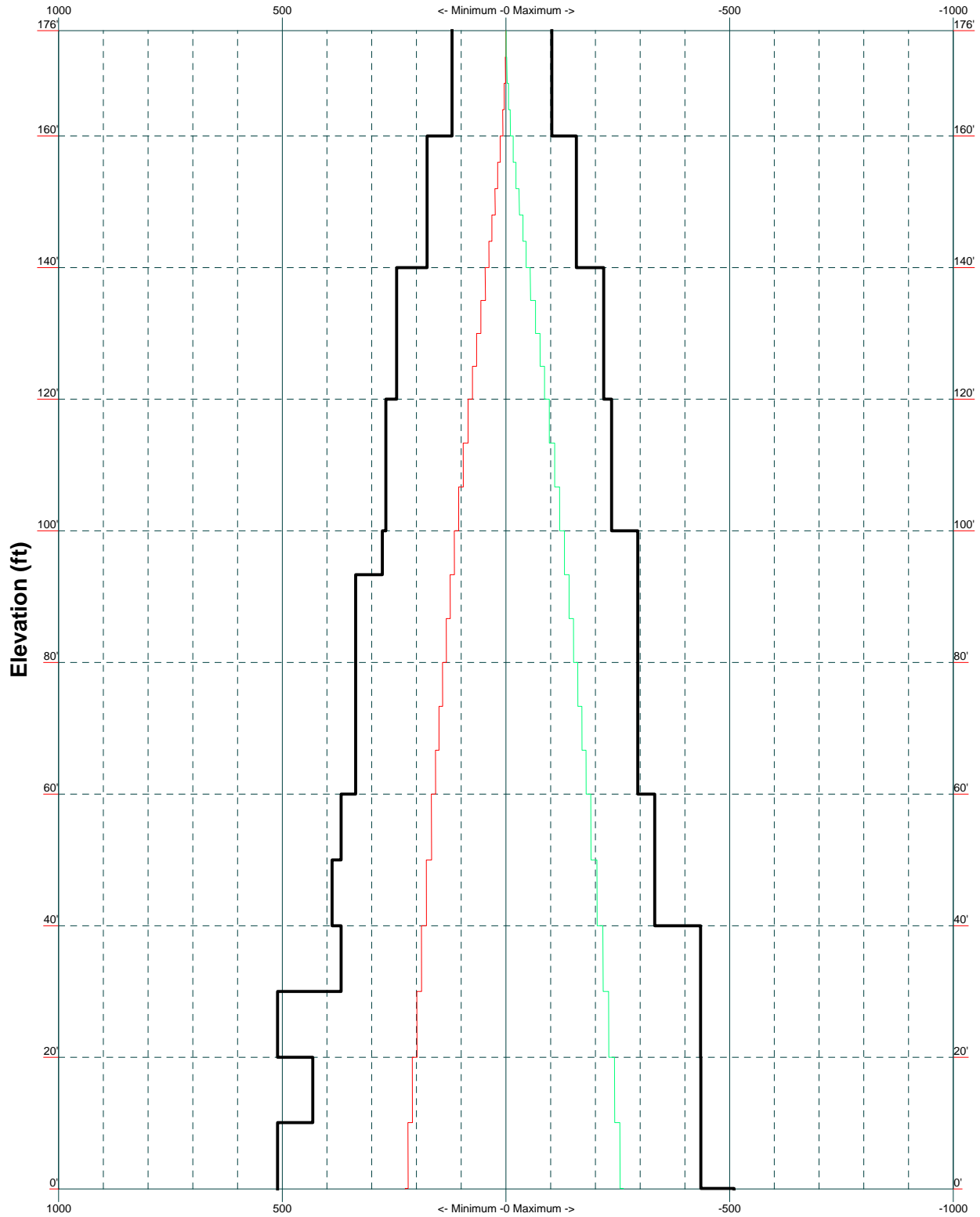
B+T Group
 1717 S Boulder Ave, Suite 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
 FAX: (918) 295-0265

Job: 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S		
Project:	Client: SBA Communications Corporation	Drawn by: M. Benedetti
Code: TIA/EIA-222-F	Date: 10/20/15	Scale: NTS
Path:		Dwg No. E-2

TIA/EIA-222-F - 80 mph/38 mph 1.000 in Ice

Leg Capacity ———

Leg Compression (K)



B+T Group
 1717 S Boulder Ave, Suite 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
 FAX: (918) 295-0265

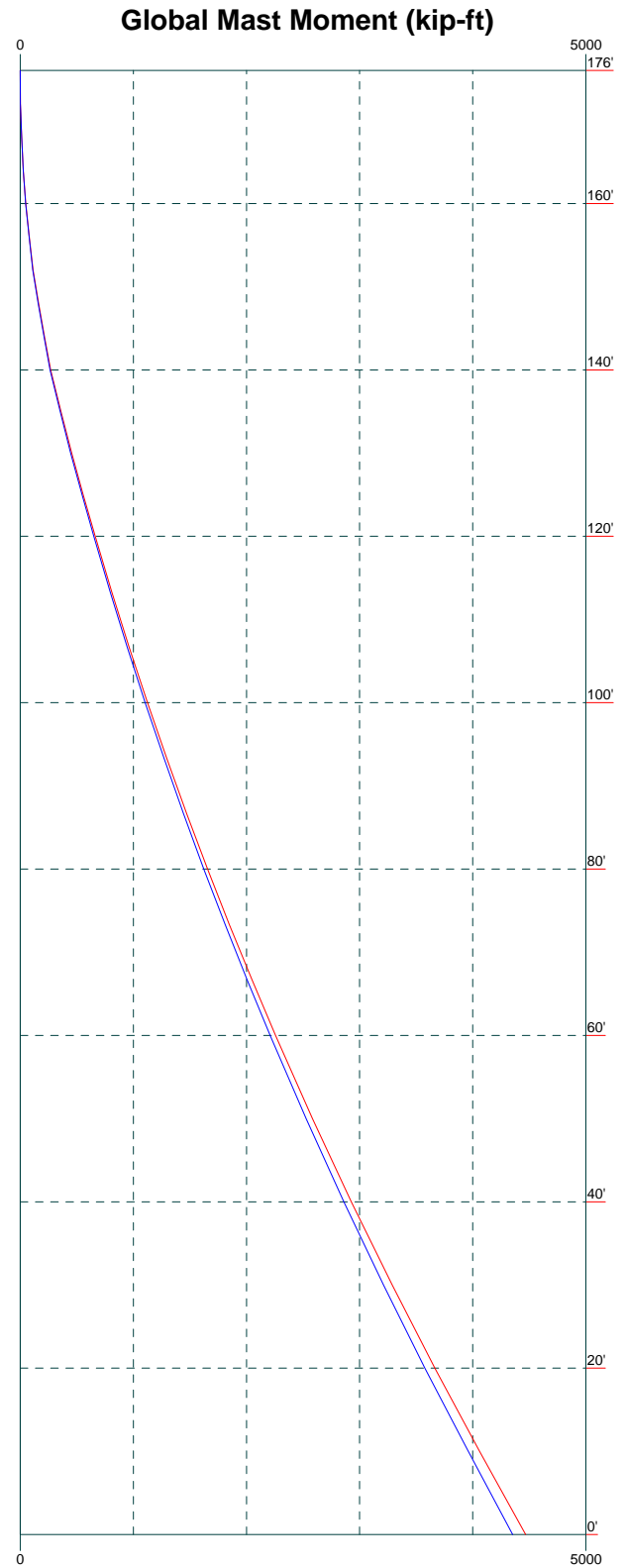
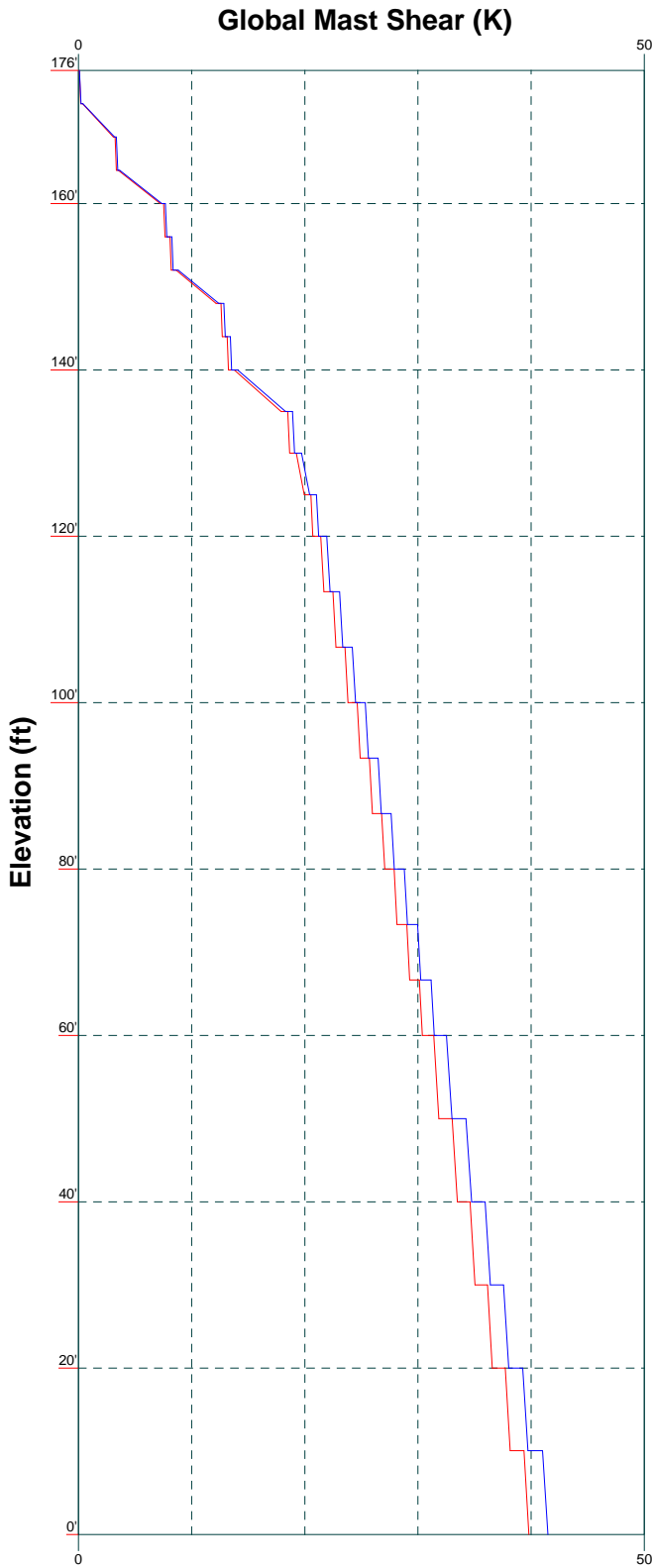
Job: 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)		
Project:	Client: SBA Communications Corporation	Drawn by: M. Benedetti
Code: TIA/EIA-222-F	Date: 10/20/15	Scale: NTS
Path:		Dwg No. E-3


Vx

Vz

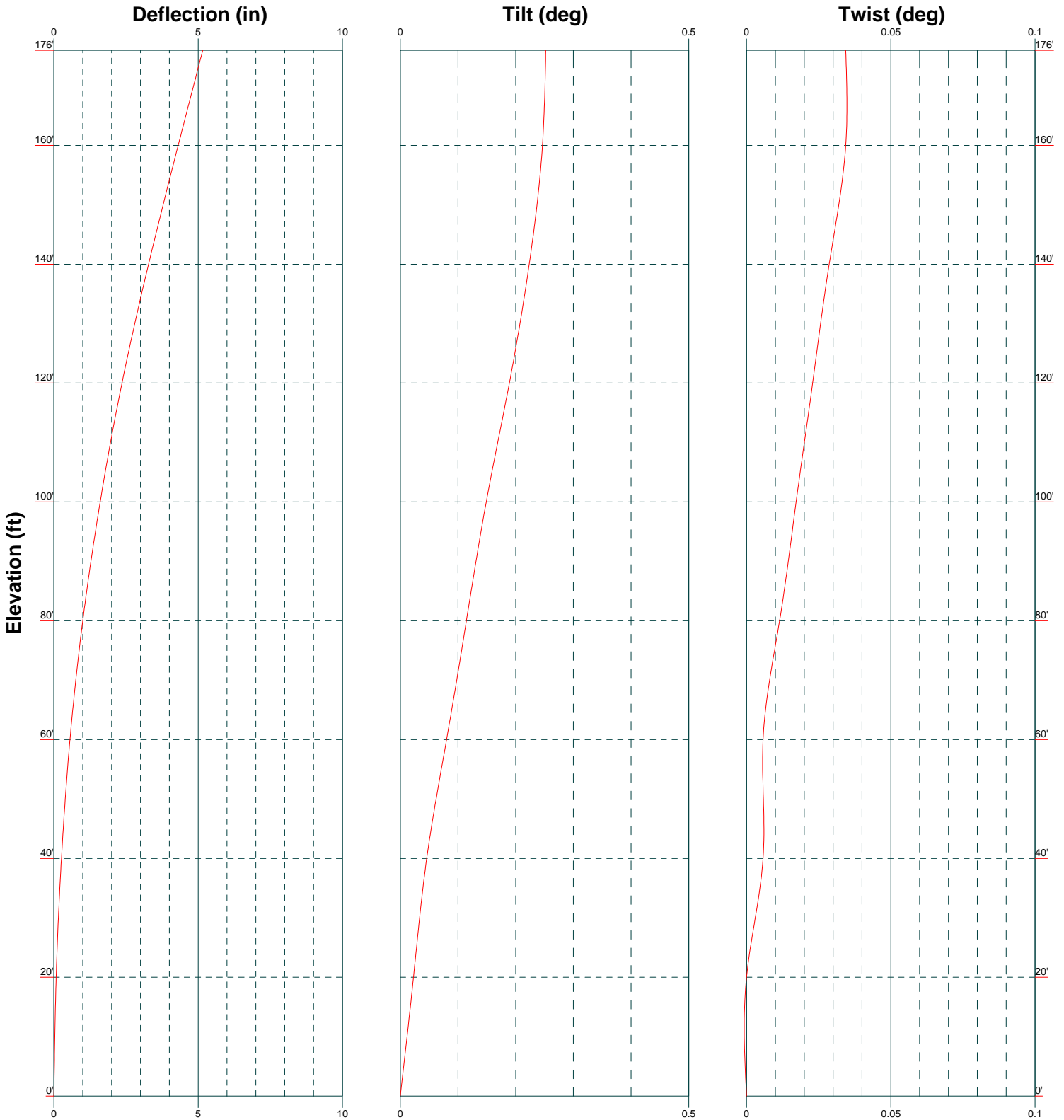
Mx

Mz




B+T Group
 1717 S Boulder Ave, Suite 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
 FAX: (918) 295-0265

Job: 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)		
Project:	Client: SBA Communications Corporation	Drawn by: M. Benedetti
Code: TIA/EIA-222-F	Date: 10/20/15	Scale: NTS
Path:		Dwg No. E-4



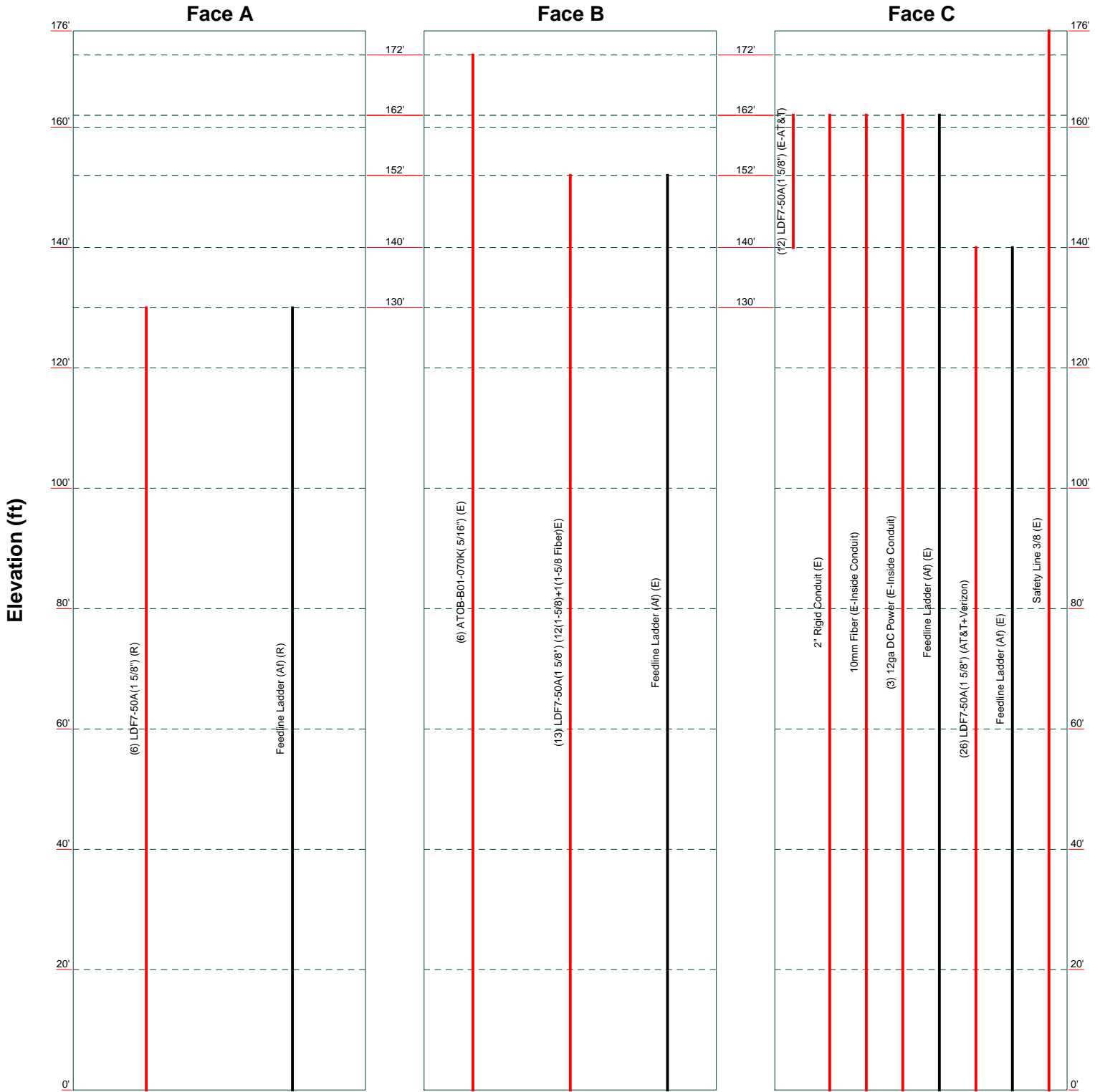
B+T Group
 1717 S Boulder Ave, Suite 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
 FAX: (918) 295-0265


Job: 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)		
Project:	Client: SBA Communications Corporation	Drawn by: M. Benedetti
Code: TIA/EIA-222-F	Date: 10/20/15	App'd:
Path:		Scale: NTS
		Dwg No. E-5

Feed Line Distribution Chart

0' - 176'

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




B+T Group
 1717 S Boulder Ave, Suite 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
 FAX: (918) 295-0265

Job: 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)		
Project:	Client: SBA Communications Corporation	
Code: TIA/EIA-222-F	Drawn by: M. Benedetti	App'd:
Path:	Date: 10/20/15	Scale: NTS
		Dwg No. E-7

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page 1 of 25
	Project	Date 13:53:28 10/20/15
	Client SBA Communications Corporation	Designed by M. Benedetti

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 176' above the ground line.

The base of the tower is set at an elevation of 0' above the ground line.

The face width of the tower is 4'8-1/4" at the top and 21' at the base.

This tower is designed using the TIA/EIA-222-F standard.

The following design criteria apply:

Tower is located in Hartford County, Connecticut.

Basic wind speed of 80 mph.

Nominal ice thickness of 1.000 in.

Ice thickness is considered to increase with height.

Ice density of 56.000 pcf.

A wind speed of 38 mph is used in combination with ice.

Temperature drop of 50.000 °F.

Deflections calculated using a wind speed of 50 mph.

Pressures are calculated at each section.

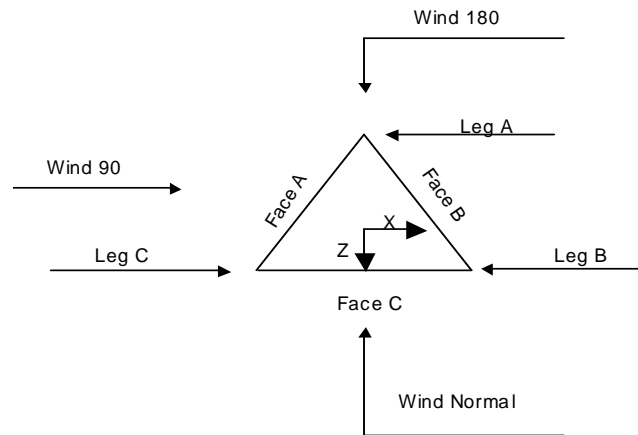
Stress ratio used in tower member design is 1.333.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

<ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys √ Escalate Ice Always Use Max Kz Use Special Wind Profile √ Include Bolts In Member Capacity Leg Bolts Are At Top Of Section √ Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) Add IBC .6D+W Combination 	<ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area √ Use Clear Spans For KL/r Retension Guys To Initial Tension √ Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients √ Project Wind Area of Appurt. Autocalc Torque Arm Areas SR Members Have Cut Ends √ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Use TIA-222-G Tension Splice Capacity Exemption 	<ul style="list-style-type: none"> Treat Feedline Bundles As Cylinder Use ASCE 10 X-Brace Ly Rules √ Calculate Redundant Bracing Forces Ignore Redundant Members in FEA √ SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable √ Offset Girt At Foundation √ Consider Feedline Torque √ Include Angle Block Shear Check <li style="text-align: center;">Poles Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets
--	--	---

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page 2 of 25
	Project	Date 13:53:28 10/20/15
	Client SBA Communications Corporation	Designed by M. Benedetti



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	<i>ft</i>			<i>ft</i>		<i>ft</i>
T1	176'-160'			4'8-1/4"	1	16'
T2	160'-140'			4'9-1/8"	1	20'
T3	140'-120'			6'10"	1	20'
T4	120'-100'			8'11"	1	20'
T5	100'-80'			10'11"	1	20'
T6	80'-60'			12'11"	1	20'
T7	60'-40'			14'11-7/8"	1	20'
T8	40'-20'			16'11-7/8"	1	20'
T9	20'-0'			19'	1	20'

Tower Section Geometry (cont'd)

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	<i>ft</i>	<i>ft</i>				<i>in</i>	<i>in</i>
T1	176'-160'	4'	X Brace	No	No	0.000	0.000
T2	160'-140'	4'	X Brace	No	No	0.000	0.000
T3	140'-120'	5'	X Brace	No	No	0.000	0.000
T4	120'-100'	6'8"	X Brace	No	No	0.000	0.000
T5	100'-80'	6'8"	X Brace	No	No	0.000	0.000
T6	80'-60'	6'8"	X Brace	No	No	0.000	0.000
T7	60'-40'	10'	X Brace	No	No	0.000	0.000
T8	40'-20'	10'	X Brace	No	No	0.000	0.000
T9	20'-0'	9'11-1/2"	X Brace	No	No	0.000	1.000

<p>tnxTower</p> <p>B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p>	Job 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page 3 of 25
	Project	Date 13:53:28 10/20/15
	Client SBA Communications Corporation	Designed by M. Benedetti

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 176'-160'	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T2 160'-140'	Pipe	ROHN 4 EH	A572-50 (50 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T3 140'-120'	Pipe	ROHN 5 EH	A572-50 (50 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T4 120'-100'	Pipe	ROHN 6 EHS	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T5 100'-80'	Pipe	ROHN 6 EH	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T6 80'-60'	Pipe	ROHN 6 EH	A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A572-50 (50 ksi)
T7 60'-40'	Pipe	ROHN 8 EHS	A572-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A572-50 (50 ksi)
T8 40'-20'	Pipe	ROHN 8 X-STR	A572-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A572-50 (50 ksi)
T9 20'-0'	Pipe	ROHN 8 EH	A572-50 (50 ksi)	Equal Angle	L4x4x1/4	A572-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 176'-160'	Equal Angle	L2x2x1/4	A36 (36 ksi)	Single Angle		A36 (36 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _f	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
T1 176'-160'	0.000	0.000	A36 (36 ksi)	1.05	1	1.05	0.000	0.000
T2 160'-140'	0.000	0.000	A36 (36 ksi)	1.05	1	1.05	0.000	0.000
T3 140'-120'	0.000	0.000	A36 (36 ksi)	1.05	1	1.05	0.000	0.000
T4 120'-100'	0.000	0.000	A36 (36 ksi)	1.05	1	1.05	0.000	0.000
T5 100'-80'	0.000	0.000	A36 (36 ksi)	1.05	1	1.05	0.000	0.000
T6 80'-60'	0.000	0.000	A36 (36 ksi)	1.05	1	1.05	0.000	0.000
T7 60'-40'	0.000	0.000	A36 (36 ksi)	1.05	1	1.05	0.000	0.000
T8 40'-20'	0.000	0.000	A36 (36 ksi)	1.05	1	1.05	0.000	0.000
T9 20'-0'	0.000	0.000	A36 (36 ksi)	1.05	1	1.05	0.000	0.000

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page 5 of 25
	Project	Date 13:53:28 10/20/15
	Client SBA Communications Corporation	Designed by M. Benedetti

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 176'-160'	Flange	0.875 A325N	4	0.625 A325N	1	0.625 A325N	1	0.000 A325N	0	0.625 A325N	0	0.000 A325N	0	0.625 A325N	0
T2 160'-140'	Flange	1.000 A325N	4	0.625 A325N	1	0.500 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325N	0	0.625 A325N	0
T3 140'-120'	Flange	1.000 A325N	6	0.625 A325N	1	0.500 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325N	0	0.625 A325N	0
T4 120'-100'	Flange	1.000 A325N	6	0.625 A325N	1	0.500 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325N	0	0.500 A325N	0
T5 100'-80'	Flange	1.000 A325N	6	0.625 A325N	1	0.500 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325N	0	0.500 A325N	0
T6 80'-60'	Flange	1.000 A325N	8	0.750 A325N	1	0.500 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325N	0	0.500 A325N	0
T7 60'-40'	Flange	1.000 A325N	8	0.750 A325N	1	0.500 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325N	0	0.500 A325N	0
T8 40'-20'	Flange	1.000 A325N	8	0.750 A325N	1	0.500 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325N	0	0.500 A325N	0
T9 20'-0'	Flange	1.000 A354-BC	10	0.750 A325N	1	0.500 A325N	0	0.000 A325N	0	0.625 A325N	0	0.000 A325N	0	0.500 A325N	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
ATCB-B01-07 0K(5/16") (E) **@**	B	Yes	Ar (CfAe)	172' - 0'	-3.000	-0.42	6	6	0.500	0.315		0.000
LDF7-50A(1 5/8") (E-AT&T)	C	Yes	Ar (CfAe)	162' - 140'	0.000	-0.4	12	12	0.850 0.750	1.980		0.001
2" Rigid Conduit (E)	C	Yes	Ar (CfAe)	162' - 0'	0.000	-0.33	1	1	2.000	2.000		0.003
10mm Fiber (E-Inside Conduit)	C	Yes	Ar (CfAe)	162' - 0'	0.000	-0.33	1	1	0.500	0.000		0.000
12ga DC Power (E-Inside Conduit)	C	Yes	Ar (CfAe)	162' - 0'	0.000	-0.33	3	3	0.500	0.000		0.000
Feedline Ladder (Af) (E) **@**	C	Yes	Af (CfAe)	162' - 0'	0.000	-0.4	1	1	3.000	3.000	12.000	0.008
LDF7-50A(1 5/8") (12(1-5/8)+1(1 -5/8 Fiber)E)	B	Yes	Ar (CfAe)	152' - 0'	-1.000	-0.4	13	12	0.850 0.750	1.980		0.001
Feedline Ladder (Af)	B	Yes	Af (CfAe)	152' - 0'	-1.000	-0.4	1	1	3.000	3.000	12.000	0.008

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page	6 of 25
	Project		Date	13:53:28 10/20/15
	Client	SBA Communications Corporation		Designed by

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
(E) **@** LDF7-50A(1 5/8") (AT&T+Verizon) Feedline Ladder (Af)	C	Yes	Ar (CfAe)	140' - 0'	-2.000	-0.4	26	12	0.850 0.750	1.980		0.001
(E) **@** LDF7-50A(1 5/8") (R) Feedline Ladder (Af)	A	Yes	Ar (CfAe)	130' - 0'	0.000	-0.45	6	3	0.850 0.750	1.980	12.000	0.001
(R) **@** Safety Line 3/8 (E) **@**	A	Yes	Af (CfAe)	130' - 0'	0.000	-0.45	1	1	3.000	3.000	12.000	0.008
	C	Yes	Ar (CfAe)	176' - 0'	0.000	0.5	1	1	0.375	0.375		0.000

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	C _{AA} ft ² /ft	Weight klf
@							

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
T1	176'-160'	A	0.000	0.000	0.000	0.000	0.000
		B	1.890	0.000	0.000	0.000	0.005
		C	4.793	0.500	0.000	0.000	0.046
T2	160'-140'	A	0.000	0.000	0.000	0.000	0.000
		B	26.910	3.000	0.000	0.000	0.238
		C	43.558	5.000	0.000	0.000	0.432
T3	140'-120'	A	4.950	2.500	0.000	0.000	0.133
		B	42.750	5.000	0.000	0.000	0.390
		C	43.558	10.000	0.000	0.000	0.829
T4	120'-100'	A	9.900	5.000	0.000	0.000	0.266
		B	42.750	5.000	0.000	0.000	0.390
		C	43.558	10.000	0.000	0.000	0.829
T5	100'-80'	A	9.900	5.000	0.000	0.000	0.266
		B	42.750	5.000	0.000	0.000	0.390
		C	43.558	10.000	0.000	0.000	0.829
T6	80'-60'	A	9.900	5.000	0.000	0.000	0.266
		B	42.750	5.000	0.000	0.000	0.390
		C	43.558	10.000	0.000	0.000	0.829
T7	60'-40'	A	9.900	5.000	0.000	0.000	0.266
		B	42.750	5.000	0.000	0.000	0.390
		C	43.558	10.000	0.000	0.000	0.829

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page 7 of 25
	Project	Date 13:53:28 10/20/15
	Client SBA Communications Corporation	Designed by M. Benedetti

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
T8	40'-20'	A	9.900	5.000	0.000	0.000	0.266
		B	42.750	5.000	0.000	0.000	0.390
		C	43.558	10.000	0.000	0.000	0.829
T9	20'-0'	A	9.900	5.000	0.000	0.000	0.266
		B	42.750	5.000	0.000	0.000	0.390
		C	43.558	10.000	0.000	0.000	0.829

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
T1	176'-160'	A	1.216	0.000	0.000	0.000	0.000	0.000
		B		2.746	4.075	0.000	0.000	0.083
		C		6.026	6.125	0.000	0.000	0.208
T2	160'-140'	A	1.199	0.000	0.000	0.000	0.000	0.000
		B		8.901	42.521	0.000	0.000	1.028
		C		27.246	61.215	0.000	0.000	1.705
T3	140'-120'	A	1.179	3.615	8.526	0.000	0.000	0.396
		B		11.684	66.295	0.000	0.000	1.604
		C		26.906	68.789	0.000	0.000	2.791
T4	120'-100'	A	1.155	7.151	17.001	0.000	0.000	0.783
		B		11.528	66.243	0.000	0.000	1.583
		C		26.516	68.685	0.000	0.000	2.761
T5	100'-80'	A	1.128	7.060	16.940	0.000	0.000	0.772
		B		11.345	66.182	0.000	0.000	1.557
		C		26.057	68.563	0.000	0.000	2.726
T6	80'-60'	A	1.094	6.948	16.865	0.000	0.000	0.759
		B		11.121	66.107	0.000	0.000	1.527
		C		25.499	68.414	0.000	0.000	2.683
T7	60'-40'	A	1.051	6.804	16.769	0.000	0.000	0.742
		B		10.833	66.011	0.000	0.000	1.488
		C		24.777	68.222	0.000	0.000	2.629
T8	40'-20'	A	1.000	6.633	16.656	0.000	0.000	0.722
		B		10.492	65.897	0.000	0.000	1.442
		C		23.925	67.994	0.000	0.000	2.565
T9	20'-0'	A	1.000	6.633	16.656	0.000	0.000	0.722
		B		10.492	65.897	0.000	0.000	1.442
		C		23.925	67.994	0.000	0.000	2.565

Feed Line Shielding

Section	Elevation ft	Face	A _R ft ²	A _R Ice ft ²	A _F ft ²	A _F Ice ft ²
T1	176'-160'	A	0.000	0.000	0.000	0.000
		B	0.000	0.992	0.226	0.816
		C	0.000	1.787	0.633	1.470
T2	160'-140'	A	0.000	0.000	0.000	0.000
		B	0.000	6.369	3.042	5.311
		C	0.000	10.951	4.938	9.132
T3	140'-120'	A	0.000	1.194	0.590	1.013
		B	0.000	7.397	3.779	6.274
		C	0.000	9.171	4.238	7.780
T4	120'-100'	A	0.000	1.773	1.123	1.918

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page	8 of 25
	Project		Date	13:53:28 10/20/15
	Client	SBA Communications Corporation		Designed by

Section	Elevation	Face	A _R	A _R	A _F	A _F
	ft		ft ²	Ice ft ²	ft ²	Ice ft ²
T5	100'-80'	B	0.000	5.510	3.600	5.961
		C	0.000	6.814	4.038	7.372
		A	0.000	1.633	1.068	1.810
T6	80'-60'	B	0.000	5.094	3.422	5.646
		C	0.000	6.281	3.838	6.960
		A	0.000	1.519	1.239	2.081
T7	60'-40'	B	0.000	4.759	3.971	6.523
		C	0.000	5.845	4.454	8.012
		A	0.000	1.023	1.025	1.703
T8	40'-20'	B	0.000	3.225	3.286	5.369
		C	0.000	3.941	3.686	6.561
		A	0.000	0.931	0.995	1.629
T9	20'-0'	B	0.000	2.956	3.187	5.173
		C	0.000	3.591	3.575	6.284
		A	0.000	0.909	1.110	1.818
		B	0.000	2.886	3.557	5.773
		C	0.000	3.506	3.989	7.012

Feed Line Center of Pressure

Section	Elevation	CP _X	CP _Z	CP _X	CP _Z
	ft	in	in	Ice in	Ice in
T1	176'-160'	1.342	0.587	0.268	0.597
T2	160'-140'	8.229	-0.292	5.559	0.377
T3	140'-120'	8.410	-2.747	6.597	-1.424
T4	120'-100'	7.730	-2.239	6.835	-1.220
T5	100'-80'	9.085	-2.608	8.052	-1.467
T6	80'-60'	9.789	-2.793	8.850	-1.655
T7	60'-40'	10.648	-3.023	10.303	-1.998
T8	40'-20'	11.748	-3.323	11.477	-2.319
T9	20'-0'	12.203	-3.442	12.055	-2.431

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			ft ft ft	°	ft	ft ²	ft ²	K	
Lightning Rod 1/2"x4' (E)	B	From Leg	0.000	0.000	176'	No Ice	0.200	0.200	0.015
			0'			1/2" Ice	0.613	0.613	0.018
			2'			1" Ice	0.945	0.945	0.023
						2" Ice	1.465	1.465	0.041
						4" Ice	2.644	2.644	0.118
@ 840 10054 (E-Clearwire)	A	From Leg	4.000	0.000	172'	No Ice	5.186	1.361	0.035
			0'			1/2" Ice	5.545	1.620	0.059
			0'			1" Ice	5.912	1.886	0.087
						2" Ice	6.673	2.440	0.156
						4" Ice	8.299	3.743	0.349
840 10054 (E-Clearwire)	B	From Leg	4.000	0.000	172'	No Ice	5.186	1.361	0.035
			0'			1/2" Ice	5.545	1.620	0.059

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job		101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)		Page		9 of 25	
	Project				Date		13:53:28 10/20/15	
	Client		SBA Communications Corporation		Designed by		M. Benedetti	

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral	Vert					
					0'		1" Ice	5.912	1.886	0.087
							2" Ice	6.673	2.440	0.156
							4" Ice	8.299	3.743	0.349
840 10054 (E-Clearwire)	C	From Leg	4.000	0.000	172'	No Ice	5.186	1.361	0.035	
			0'			1/2" Ice	5.545	1.620	0.059	
			0'			1" Ice	5.912	1.886	0.087	
						2" Ice	6.673	2.440	0.156	
						4" Ice	8.299	3.743	0.349	
URAS-FLEXIBLE (E-Clearwire)	A	From Leg	4.000	0.000	172'	No Ice	1.800	0.780	0.030	
			0'			1/2" Ice	1.990	0.920	0.040	
			0'			1" Ice	2.180	1.070	0.060	
						2" Ice	2.590	1.390	0.090	
						4" Ice	3.510	2.140	0.200	
URAS-FLEXIBLE (E-Clearwire)	B	From Leg	4.000	0.000	172'	No Ice	1.800	0.780	0.030	
			0'			1/2" Ice	1.990	0.920	0.040	
			0'			1" Ice	2.180	1.070	0.060	
						2" Ice	2.590	1.390	0.090	
						4" Ice	3.510	2.140	0.200	
URAS-FLEXIBLE (E-Clearwire)	C	From Leg	4.000	0.000	172'	No Ice	1.800	0.780	0.030	
			0'			1/2" Ice	1.990	0.920	0.040	
			0'			1" Ice	2.180	1.070	0.060	
						2" Ice	2.590	1.390	0.090	
						4" Ice	3.510	2.140	0.200	
HORIZON DUO (E-Clearwire)	A	From Leg	4.000	0.000	172'	No Ice	0.547	0.343	0.007	
			0'			1/2" Ice	0.648	0.426	0.012	
			0'			1" Ice	0.759	0.518	0.018	
						2" Ice	1.005	0.728	0.036	
						4" Ice	1.601	1.252	0.097	
HORIZON DUO (E-Clearwire)	B	From Leg	4.000	0.000	172'	No Ice	0.547	0.343	0.007	
			0'			1/2" Ice	0.648	0.426	0.012	
			0'			1" Ice	0.759	0.518	0.018	
						2" Ice	1.005	0.728	0.036	
						4" Ice	1.601	1.252	0.097	
HORIZON DUO (E-Clearwire)	C	From Leg	4.000	0.000	172'	No Ice	0.547	0.343	0.007	
			0'			1/2" Ice	0.648	0.426	0.012	
			0'			1" Ice	0.759	0.518	0.018	
						2" Ice	1.005	0.728	0.036	
						4" Ice	1.601	1.252	0.097	
Sector Mount [SM 1304-3] (E-4 Mt. Pipes/Sector)	C	None		0.000	172'	No Ice	51.000	51.000	1.558	
						1/2" Ice	69.200	69.200	2.649	
						1" Ice	87.400	87.400	3.740	
						2" Ice	123.800	123.800	5.922	
						4" Ice	196.600	196.600	10.286	
@ (2)	A	From Leg	4.000	0.000	162'	No Ice	8.498	6.304	0.074	
AM-X-CD-16-65-00T-RET w/ Mount Pipe (E-AT&T)			0'			1/2" Ice	9.149	7.479	0.139	
			0'			1" Ice	9.767	8.368	0.212	
						2" Ice	11.031	10.179	0.385	
						4" Ice	13.679	14.024	0.874	
(2)	B	From Leg	4.000	0.000	162'	No Ice	8.498	6.304	0.074	
AM-X-CD-16-65-00T-RET w/ Mount Pipe (E-AT&T)			0'			1/2" Ice	9.149	7.479	0.139	
			0'			1" Ice	9.767	8.368	0.212	
						2" Ice	11.031	10.179	0.385	
						4" Ice	13.679	14.024	0.874	
(2)	C	From Leg	4.000	0.000	162'	No Ice	8.498	6.304	0.074	
AM-X-CD-16-65-00T-RET w/ Mount Pipe			0'			1/2" Ice	9.149	7.479	0.139	
			0'			1" Ice	9.767	8.368	0.212	

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job		101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)		Page		10 of 25	
	Project				Date		13:53:28 10/20/15	
	Client		SBA Communications Corporation		Designed by		M. Benedetti	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
(E-AT&T)									
(2) 7770 w/ Mount Pipe (E-AT&T)	A	From Leg	4.000	0.000	162'	2" Ice	11.031	10.179	0.385
			0'			4" Ice	13.679	14.024	0.874
			0'			No Ice	6.119	4.254	0.055
						1/2" Ice	6.626	5.014	0.103
						1" Ice	7.128	5.711	0.157
						2" Ice	8.164	7.155	0.287
						4" Ice	10.360	10.412	0.665
(2) 7770 w/ Mount Pipe (E-AT&T)	B	From Leg	4.000	0.000	162'	No Ice	6.119	4.254	0.055
			0'			1/2" Ice	6.626	5.014	0.103
			0'			1" Ice	7.128	5.711	0.157
						2" Ice	8.164	7.155	0.287
						4" Ice	10.360	10.412	0.665
(2) 7770 w/ Mount Pipe (E-AT&T)	C	From Leg	4.000	0.000	162'	No Ice	6.119	4.254	0.055
			0'			1/2" Ice	6.626	5.014	0.103
			0'			1" Ice	7.128	5.711	0.157
						2" Ice	8.164	7.155	0.287
						4" Ice	10.360	10.412	0.665
(2) LGP21401 (E-AT&T)	A	From Leg	4.000	0.000	162'	No Ice	1.288	0.233	0.014
			0'			1/2" Ice	1.445	0.313	0.021
			0'			1" Ice	1.611	0.403	0.030
						2" Ice	1.969	0.608	0.055
						4" Ice	2.788	1.121	0.135
(2) LGP21401 (E-AT&T)	B	From Leg	4.000	0.000	162'	No Ice	1.288	0.233	0.014
			0'			1/2" Ice	1.445	0.313	0.021
			0'			1" Ice	1.611	0.403	0.030
						2" Ice	1.969	0.608	0.055
						4" Ice	2.788	1.121	0.135
(2) LGP21401 (E-AT&T)	C	From Leg	4.000	0.000	162'	No Ice	1.288	0.233	0.014
			0'			1/2" Ice	1.445	0.313	0.021
			0'			1" Ice	1.611	0.403	0.030
						2" Ice	1.969	0.608	0.055
						4" Ice	2.788	1.121	0.135
(2) LGP13519 (E-AT&T)	A	From Leg	4.000	0.000	162'	No Ice	0.338	0.207	0.005
			0'			1/2" Ice	0.422	0.280	0.008
			0'			1" Ice	0.515	0.362	0.012
						2" Ice	0.726	0.551	0.024
						4" Ice	1.252	1.034	0.071
(2) LGP13519 (E-AT&T)	B	From Leg	4.000	0.000	162'	No Ice	0.338	0.207	0.005
			0'			1/2" Ice	0.422	0.280	0.008
			0'			1" Ice	0.515	0.362	0.012
						2" Ice	0.726	0.551	0.024
						4" Ice	1.252	1.034	0.071
(2) LGP13519 (E-AT&T)	C	From Leg	4.000	0.000	162'	No Ice	0.338	0.207	0.005
			0'			1/2" Ice	0.422	0.280	0.008
			0'			1" Ice	0.515	0.362	0.012
						2" Ice	0.726	0.551	0.024
						4" Ice	1.252	1.034	0.071
(2) RRH-11 (E-AT&T)	A	From Leg	4.000	0.000	162'	No Ice	2.994	1.246	0.011
			0'			1/2" Ice	3.226	1.412	0.031
			0'			1" Ice	3.466	1.587	0.053
						2" Ice	3.973	1.963	0.108
						4" Ice	5.090	2.819	0.261
(2) RRH-11 (E-AT&T)	B	From Leg	4.000	0.000	162'	No Ice	2.994	1.246	0.011
			0'			1/2" Ice	3.226	1.412	0.031
			0'			1" Ice	3.466	1.587	0.053
						2" Ice	3.973	1.963	0.108
						4" Ice	5.090	2.819	0.261

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page	11 of 25
	Project		Date	13:53:28 10/20/15
	Client	SBA Communications Corporation		Designed by

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
			ft	ft	°	ft	ft ²	ft ²	K
(2) RRH-11 (E-AT&T)	C	From Leg	4.000	0'0'	0.000	162'	No Ice 2.994 1/2" Ice 3.226 1" Ice 3.466 2" Ice 3.973 4" Ice 5.090	1.246 1.412 1.587 1.963 2.819	0.011 0.031 0.053 0.108 0.261
Sector Mount [SM 104-3] (E-AT&T)	C	None			0.000	162'	No Ice 30.020 1/2" Ice 40.480 1" Ice 50.940 2" Ice 71.860 4" Ice 113.700	30.020 40.480 50.940 71.860 113.700	0.953 1.405 1.857 2.761 4.569
@									
AIR 21 B2A B4P w/ Mount Pipe (E-T-Mobile)	A	From Leg	4.000	0'0'	0.000	152'	No Ice 6.825 1/2" Ice 7.347 1" Ice 7.863 2" Ice 8.926 4" Ice 11.175	5.642 6.480 7.257 8.864 12.293	0.112 0.169 0.233 0.383 0.807
AIR 21 B2A B4P w/ Mount Pipe (E-T-Mobile)	B	From Leg	4.000	0'0'	0.000	152'	No Ice 6.825 1/2" Ice 7.347 1" Ice 7.863 2" Ice 8.926 4" Ice 11.175	5.642 6.480 7.257 8.864 12.293	0.112 0.169 0.233 0.383 0.807
AIR 21 B2A B4P w/ Mount Pipe (E-T-Mobile)	C	From Leg	4.000	0'0'	0.000	152'	No Ice 6.825 1/2" Ice 7.347 1" Ice 7.863 2" Ice 8.926 4" Ice 11.175	5.642 6.480 7.257 8.864 12.293	0.112 0.169 0.233 0.383 0.807
AIR 21 B4A B2P w/ Mount Pipe (E-T-Mobile)	A	From Leg	4.000	0'0'	0.000	152'	No Ice 6.825 1/2" Ice 7.347 1" Ice 7.863 2" Ice 8.926 4" Ice 11.175	5.642 6.480 7.257 8.864 12.293	0.112 0.169 0.233 0.383 0.807
AIR 21 B4A B2P w/ Mount Pipe (E-T-Mobile)	B	From Leg	4.000	0'0'	0.000	152'	No Ice 6.825 1/2" Ice 7.347 1" Ice 7.863 2" Ice 8.926 4" Ice 11.175	5.642 6.480 7.257 8.864 12.293	0.112 0.169 0.233 0.383 0.807
AIR 21 B4A B2P w/ Mount Pipe (E-T-Mobile)	C	From Leg	4.000	0'0'	0.000	152'	No Ice 6.825 1/2" Ice 7.347 1" Ice 7.863 2" Ice 8.926 4" Ice 11.175	5.642 6.480 7.257 8.864 12.293	0.112 0.169 0.233 0.383 0.807
KRY 112 144/1 (E-T-Mobile)	A	From Leg	4.000	0'0'	0.000	152'	No Ice 0.408 1/2" Ice 0.497 1" Ice 0.594 2" Ice 0.815 4" Ice 1.359	0.204 0.273 0.351 0.533 0.999	0.011 0.014 0.019 0.032 0.082
KRY 112 144/1 (E-T-Mobile)	B	From Leg	4.000	0'0'	0.000	152'	No Ice 0.408 1/2" Ice 0.497 1" Ice 0.594 2" Ice 0.815 4" Ice 1.359	0.204 0.273 0.351 0.533 0.999	0.011 0.014 0.019 0.032 0.082
KRY 112 144/1 (E-T-Mobile)	C	From Leg	4.000	0'0'	0.000	152'	No Ice 0.408 1/2" Ice 0.497 1" Ice 0.594 2" Ice 0.815 4" Ice 1.359	0.204 0.273 0.351 0.533 0.999	0.011 0.014 0.019 0.032 0.082
LNx-6515DS-A1M w/Mount	A	From Leg	4.000		0.000	152'	No Ice 11.550	9.814	0.083

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job		101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)		Page		12 of 25	
	Project				Date		13:53:28 10/20/15	
	Client		SBA Communications Corporation		Designed by		M. Benedetti	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Lateral						Vert
Pipe (P-T-Mobile)				0'		1/2" Ice	12.267	11.334	0.172	
				0'		1" Ice	12.994	12.878	0.271	
						2" Ice	14.430	15.220	0.503	
						4" Ice	17.692	20.082	1.145	
LNx-6515DS-A1M w/Mount Pipe (P-T-Mobile)	A	From Leg	4.000	0'	0.000	152'	No Ice	11.550	9.814	0.083
				0'			1/2" Ice	12.267	11.334	0.172
				0'			1" Ice	12.994	12.878	0.271
							2" Ice	14.430	15.220	0.503
							4" Ice	17.692	20.082	1.145
LNx-6515DS-A1M w/Mount Pipe (P-T-Mobile)	B	From Leg	4.000	0'	0.000	152'	No Ice	11.550	9.814	0.083
				0'			1/2" Ice	12.267	11.334	0.172
				0'			1" Ice	12.994	12.878	0.271
							2" Ice	14.430	15.220	0.503
							4" Ice	17.692	20.082	1.145
LNx-6515DS-A1M w/Mount Pipe (P-T-Mobile)	C	From Leg	4.000	0'	0.000	152'	No Ice	11.550	9.814	0.083
				0'			1/2" Ice	12.267	11.334	0.172
				0'			1" Ice	12.994	12.878	0.271
							2" Ice	14.430	15.220	0.503
							4" Ice	17.692	20.082	1.145
S11B12 (P-T-Mobile)	A	From Leg	4.000	0'	0.000	152'	No Ice	3.306	1.361	0.051
				0'			1/2" Ice	3.550	1.540	0.072
				0'			1" Ice	3.802	1.728	0.096
							2" Ice	4.334	2.130	0.154
							4" Ice	5.501	3.038	0.314
S11B12 (P-T-Mobile)	B	From Leg	4.000	0'	0.000	152'	No Ice	3.306	1.361	0.051
				0'			1/2" Ice	3.550	1.540	0.072
				0'			1" Ice	3.802	1.728	0.096
							2" Ice	4.334	2.130	0.154
							4" Ice	5.501	3.038	0.314
S11B12 (P-T-Mobile)	C	From Leg	4.000	0'	0.000	152'	No Ice	3.306	1.361	0.051
				0'			1/2" Ice	3.550	1.540	0.072
				0'			1" Ice	3.802	1.728	0.096
							2" Ice	4.334	2.130	0.154
							4" Ice	5.501	3.038	0.314
Sector Mount [SM 502-3] (E-T-Mobile)	C	None			0.000	152'	No Ice	33.020	33.020	1.673
							1/2" Ice	47.360	47.360	2.224
							1" Ice	61.700	61.700	2.775
							2" Ice	90.380	90.380	3.876
							4" Ice	147.740	147.740	6.080
@										
800 10735V01 w/ Mount Pipe (E-Verizon)	A	From Leg	4.000	0'	0.000	140'	No Ice	9.042	5.489	0.058
				0'			1/2" Ice	9.720	6.710	0.121
				0'			1" Ice	10.373	7.688	0.192
							2" Ice	11.691	9.563	0.362
							4" Ice	14.446	13.514	0.849
800 10735V01 w/ Mount Pipe (E-Verizon)	B	From Leg	4.000	0'	0.000	140'	No Ice	9.042	5.489	0.058
				0'			1/2" Ice	9.720	6.710	0.121
				0'			1" Ice	10.373	7.688	0.192
							2" Ice	11.691	9.563	0.362
							4" Ice	14.446	13.514	0.849
800 10735V01 w/ Mount Pipe (E-Verizon)	C	From Leg	4.000	0'	0.000	140'	No Ice	9.042	5.489	0.058
				0'			1/2" Ice	9.720	6.710	0.121
				0'			1" Ice	10.373	7.688	0.192
							2" Ice	11.691	9.563	0.362
							4" Ice	14.446	13.514	0.849
BXA-80080/4CF w/ Mount Pipe	A	From Leg	4.000	0'	0.000	140'	No Ice	5.486	4.033	0.033
				0'			1/2" Ice	5.937	4.655	0.077

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job		101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)		Page		13 of 25	
	Project				Date		13:53:28 10/20/15	
	Client		SBA Communications Corporation		Designed by		M. Benedetti	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Lateral						Vert
(E-Verizon)				0'						
						1" Ice	6.398	5.298	0.127	
						2" Ice	7.349	6.704	0.248	
						4" Ice	9.389	9.778	0.600	
BXA-80080/4CF w/ Mount Pipe	B	From Leg	4.000	0'	0.000	140'	No Ice	5.486	4.033	0.033
(E-Verizon)				0'			1/2" Ice	5.937	4.655	0.077
							1" Ice	6.398	5.298	0.127
							2" Ice	7.349	6.704	0.248
							4" Ice	9.389	9.778	0.600
BXA-80080/4CF w/ Mount Pipe	C	From Leg	4.000	0'	0.000	140'	No Ice	5.486	4.033	0.033
(E-Verizon)				0'			1/2" Ice	5.937	4.655	0.077
							1" Ice	6.398	5.298	0.127
							2" Ice	7.349	6.704	0.248
							4" Ice	9.389	9.778	0.600
DB-T1-6Z-8AB-0Z	A	From Leg	4.000	0'	0.000	140'	No Ice	5.600	2.333	0.044
(E-Verizon)				0'			1/2" Ice	5.915	2.558	0.080
							1" Ice	6.240	2.791	0.120
							2" Ice	6.914	3.284	0.213
							4" Ice	8.365	4.373	0.455
(2) SBNHH-1D65B w/ Mount Pipe	A	From Leg	4.000	0'	0.000	140'	No Ice	8.637	7.071	0.066
(R-Verizon)				0'			1/2" Ice	9.293	8.260	0.135
							1" Ice	9.917	9.170	0.212
							2" Ice	11.190	11.006	0.394
							4" Ice	13.855	15.043	0.903
(2) SBNHH-1D65B w/ Mount Pipe	B	From Leg	4.000	0'	0.000	140'	No Ice	8.637	7.071	0.066
(R-Verizon)				0'			1/2" Ice	9.293	8.260	0.135
							1" Ice	9.917	9.170	0.212
							2" Ice	11.190	11.006	0.394
							4" Ice	13.855	15.043	0.903
(2) SBNHH-1D65B w/ Mount Pipe	C	From Leg	4.000	0'	0.000	140'	No Ice	8.637	7.071	0.066
(R-Verizon)				0'			1/2" Ice	9.293	8.260	0.135
							1" Ice	9.917	9.170	0.212
							2" Ice	11.190	11.006	0.394
							4" Ice	13.855	15.043	0.903
RRH2x60-AWS	A	From Leg	4.000	0'	0.000	140'	No Ice	3.957	1.816	0.060
(R-Verizon)				0'			1/2" Ice	4.272	2.075	0.083
							1" Ice	4.596	2.360	0.109
							2" Ice	5.271	2.957	0.173
							4" Ice	6.722	4.253	0.354
RRH2x60-AWS	B	From Leg	4.000	0'	0.000	140'	No Ice	3.957	1.816	0.060
(R-Verizon)				0'			1/2" Ice	4.272	2.075	0.083
							1" Ice	4.596	2.360	0.109
							2" Ice	5.271	2.957	0.173
							4" Ice	6.722	4.253	0.354
RRH2x60-AWS	C	From Leg	4.000	0'	0.000	140'	No Ice	3.957	1.816	0.060
(R-Verizon)				0'			1/2" Ice	4.272	2.075	0.083
							1" Ice	4.596	2.360	0.109
							2" Ice	5.271	2.957	0.173
							4" Ice	6.722	4.253	0.354
RRH2X60-PCS	A	From Leg	4.000	0'	0.000	140'	No Ice	2.567	2.011	0.055
(R-Verizon)				0'			1/2" Ice	2.791	2.218	0.075
							1" Ice	3.025	2.435	0.099
							2" Ice	3.517	2.894	0.155
							4" Ice	4.606	3.915	0.313
RRH2X60-PCS	B	From Leg	4.000	0'	0.000	140'	No Ice	2.567	2.011	0.055
(R-Verizon)				0'			1/2" Ice	2.791	2.218	0.075
							1" Ice	3.025	2.435	0.099
							2" Ice	3.517	2.894	0.155

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page 14 of 25
	Project	Date 13:53:28 10/20/15
	Client SBA Communications Corporation	Designed by M. Benedetti

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral	Vert					
RRH2X60-PCS (R-Verizon)	C	From Leg	4.000	0.000	140'	4" Ice	4.606	3.915	0.313	
						No Ice	2.567	2.011	0.055	
						1/2" Ice	2.791	2.218	0.075	
						1" Ice	3.025	2.435	0.099	
						2" Ice	3.517	2.894	0.155	
RRH2x60W-700U (R-Verizon)	A	From Leg	4.000	0.000	140'	4" Ice	4.606	3.915	0.313	
						No Ice	3.957	1.816	0.060	
						1/2" Ice	4.272	2.075	0.083	
						1" Ice	4.596	2.360	0.109	
						2" Ice	5.271	2.957	0.173	
RRH2x60W-700U (R-Verizon)	B	From Leg	4.000	0.000	140'	4" Ice	6.722	4.253	0.354	
						No Ice	3.957	1.816	0.060	
						1/2" Ice	4.272	2.075	0.083	
						1" Ice	4.596	2.360	0.109	
						2" Ice	5.271	2.957	0.173	
RRH2x60W-700U (R-Verizon)	C	From Leg	4.000	0.000	140'	4" Ice	6.722	4.253	0.354	
						No Ice	3.957	1.816	0.060	
						1/2" Ice	4.272	2.075	0.083	
						1" Ice	4.596	2.360	0.109	
						2" Ice	5.271	2.957	0.173	
Sector Mount [SM 302-3] (E-Verizon)	C	None	0.000	140'	4" Ice	6.722	4.253	0.354		
					No Ice	32.730	32.730	1.476		
					1/2" Ice	43.850	43.850	2.071		
					1" Ice	54.970	54.970	2.665		
					2" Ice	77.210	77.210	3.855		
@ 742 213 w/ Mount Pipe (R)	A	From Leg	1.500	0.000	130'	4" Ice	121.690	121.690	6.234	
						No Ice	5.373	4.620	0.049	
						1/2" Ice	5.950	6.000	0.094	
						1" Ice	6.501	6.982	0.146	
						2" Ice	7.611	8.852	0.277	
742 213 w/ Mount Pipe (R)	B	From Leg	1.500	0.000	130'	4" Ice	9.933	12.794	0.683	
						No Ice	5.373	4.620	0.049	
						1/2" Ice	5.950	6.000	0.094	
						1" Ice	6.501	6.982	0.146	
						2" Ice	7.611	8.852	0.277	
742 213 w/ Mount Pipe (R)	C	From Leg	1.500	0.000	130'	4" Ice	9.933	12.794	0.683	
						No Ice	5.373	4.620	0.049	
						1/2" Ice	5.950	6.000	0.094	
						1" Ice	6.501	6.982	0.146	
						2" Ice	7.611	8.852	0.277	
Pipe Mount [PM 601-3] (R)	C	None	0.000	130'	4" Ice	9.933	12.794	0.683		
					No Ice	4.390	4.390	0.195		
					1/2" Ice	5.480	5.480	0.237		
					1" Ice	6.570	6.570	0.280		
					2" Ice	8.750	8.750	0.365		
@						4" Ice	13.110	13.110	0.534	

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page 15 of 25
	Project	Date 13:53:28 10/20/15
	Client SBA Communications Corporation	Designed by M. Benedetti

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	3 dB Beam Width	Elevation	Outside Diameter	Aperture Area	Weight
				ft	°	°	ft	ft	ft ²	K
(2) VHLP2.5 (E-Clearwire)	A	Paraboloid w/Shroud (HP)	From Leg	4.000 0' 0'	0.000		172'	2.917	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.681 7.069 7.456 8.230 9.779 0.048 0.077 0.106 0.164 0.280
VHLP2.5 (E-Clearwire)	B	Paraboloid w/Shroud (HP)	From Leg	4.000 0' 0'	0.000		172'	2.917	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.681 7.069 7.456 8.230 9.779 0.048 0.077 0.106 0.164 0.280
VHLP2.5 (E-Clearwire)	C	Paraboloid w/Shroud (HP)	From Leg	4.000 0' 0'	0.000		172'	2.917	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.681 7.069 7.456 8.230 9.779 0.048 0.077 0.106 0.164 0.280

@

Load Combinations

Comb. No.	Description
1	Dead Only
2	Dead+Wind 0 deg - No Ice
3	Dead+Wind 30 deg - No Ice
4	Dead+Wind 60 deg - No Ice
5	Dead+Wind 90 deg - No Ice
6	Dead+Wind 120 deg - No Ice
7	Dead+Wind 150 deg - No Ice
8	Dead+Wind 180 deg - No Ice
9	Dead+Wind 210 deg - No Ice
10	Dead+Wind 240 deg - No Ice
11	Dead+Wind 270 deg - No Ice
12	Dead+Wind 300 deg - No Ice
13	Dead+Wind 330 deg - No Ice
14	Dead+Ice+Temp
15	Dead+Wind 0 deg+Ice+Temp
16	Dead+Wind 30 deg+Ice+Temp
17	Dead+Wind 60 deg+Ice+Temp
18	Dead+Wind 90 deg+Ice+Temp
19	Dead+Wind 120 deg+Ice+Temp
20	Dead+Wind 150 deg+Ice+Temp
21	Dead+Wind 180 deg+Ice+Temp
22	Dead+Wind 210 deg+Ice+Temp
23	Dead+Wind 240 deg+Ice+Temp
24	Dead+Wind 270 deg+Ice+Temp
25	Dead+Wind 300 deg+Ice+Temp
26	Dead+Wind 330 deg+Ice+Temp
27	Dead+Wind 0 deg - Service
28	Dead+Wind 30 deg - Service
29	Dead+Wind 60 deg - Service
30	Dead+Wind 90 deg - Service
31	Dead+Wind 120 deg - Service
32	Dead+Wind 150 deg - Service

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page 16 of 25
	Project	Date 13:53:28 10/20/15
	Client SBA Communications Corporation	Designed by M. Benedetti

Comb. No.	Description
33	Dead+Wind 180 deg - Service
34	Dead+Wind 210 deg - Service
35	Dead+Wind 240 deg - Service
36	Dead+Wind 270 deg - Service
37	Dead+Wind 300 deg - Service
38	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	176 - 160	Leg	Max Tension	8	7.401	-0.370	-0.006
			Max. Compression	2	-10.035	0.593	-0.034
			Max. Mx	12	6.548	0.755	-0.038
			Max. My	13	-1.477	0.012	-0.835
			Max. Vy	8	-0.963	-0.038	0.001
			Max. Vx	5	1.008	-0.003	-0.083
		Diagonal	Max Tension	12	2.397	0.000	0.000
			Max. Compression	6	-2.497	0.000	0.000
			Max. Mx	15	0.482	0.014	0.000
			Max. My	12	-1.189	0.005	-0.004
			Max. Vy	15	-0.016	0.014	0.000
			Max. Vx	12	0.001	0.000	0.000
		Top Girt	Max Tension	8	0.287	0.000	0.000
			Max. Compression	2	-0.326	0.000	0.000
			Max. Mx	14	-0.065	-0.026	0.000
			Max. My	14	-0.063	0.000	0.000
			Max. Vy	14	0.022	0.000	0.000
			Max. Vx	14	-0.000	0.000	0.000
T2	160 - 140	Leg	Max Tension	8	38.007	-0.135	0.008
			Max. Compression	2	-45.116	0.160	-0.008
			Max. Mx	2	-16.280	0.593	-0.034
			Max. My	5	-1.923	0.014	0.473
			Max. Vy	8	-1.236	-0.109	0.009
			Max. Vx	11	-1.236	0.021	0.267
		Diagonal	Max Tension	7	4.100	0.000	0.000
			Max. Compression	7	-4.163	0.000	0.000
			Max. Mx	15	1.051	0.018	-0.002
			Max. My	12	-3.516	0.001	-0.004
			Max. Vy	16	0.018	0.015	-0.002
			Max. Vx	12	0.001	0.000	0.000
T3	140 - 120	Leg	Max Tension	8	74.765	-0.313	0.005
			Max. Compression	2	-86.438	0.649	-0.028
			Max. Mx	8	74.682	-0.657	0.031
			Max. My	5	-5.827	-0.006	0.679
			Max. Vy	8	-1.410	-0.146	0.010
			Max. Vx	11	-1.243	0.008	0.201
		Diagonal	Max Tension	7	5.706	0.000	0.000
			Max. Compression	7	-5.750	0.000	0.000
			Max. Mx	19	1.544	0.025	0.003
			Max. My	20	-1.860	0.020	0.004
			Max. Vy	17	0.023	0.025	-0.003
			Max. Vx	20	-0.001	0.000	0.000
T4	120 - 100	Leg	Max Tension	8	105.683	-0.651	0.018
			Max. Compression	2	-120.085	0.605	-0.010
			Max. Mx	8	84.590	-0.657	0.031
			Max. My	5	-6.007	-0.006	0.679
			Max. Vy	12	-0.063	-0.652	-0.039

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page 17 of 25
	Project	Date 13:53:28 10/20/15
	Client SBA Communications Corporation	Designed by M. Benedetti

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft	
T5	100 - 80	Diagonal	Max. Vx	2	-0.066	-0.340	-0.611	
			Max Tension	13	6.155	0.000	0.000	
			Max. Compression	13	-6.202	0.000	0.000	
			Max. Mx	19	1.584	0.048	0.006	
			Max. My	26	0.779	0.047	-0.006	
		Leg	Max. Vy	17	0.034	0.047	0.006	
			Max. Vx	20	-0.002	0.000	0.000	
			Max Tension	8	133.357	-0.525	0.004	
			Max. Compression	2	-151.159	1.188	-0.070	
			Max. Mx	2	-151.159	1.188	-0.070	
			Max. My	9	-9.856	0.034	0.906	
			Max. Vy	2	-0.150	1.188	-0.070	
			Max. Vx	2	0.096	-0.555	-0.836	
			Diagonal	Max Tension	13	6.096	0.000	0.000
				Max. Compression	13	-6.115	0.000	0.000
Max. Mx	17	1.507		0.059	0.007			
Max. My	15	1.627		0.058	-0.007			
Max. Vy	17	0.039		0.059	0.007			
T6	80 - 60	Leg	Max. Vx	15	0.002	0.000	0.000	
			Max Tension	8	157.391	-0.664	0.009	
			Max. Compression	6	-179.312	1.089	0.055	
			Max. Mx	2	-160.584	1.188	-0.070	
			Max. My	9	-11.686	-0.012	1.137	
		Diagonal	Max. Vy	2	0.149	1.188	-0.070	
			Max. Vx	9	-0.181	-0.012	1.137	
			Max Tension	13	6.181	0.000	0.000	
			Max. Compression	13	-6.223	0.000	0.000	
			Max. Mx	17	1.553	0.097	-0.011	
			Max. My	20	-2.076	0.077	0.013	
			Max. Vy	17	0.057	0.097	-0.011	
			Max. Vx	20	-0.003	0.000	0.000	
			Leg	Max Tension	8	177.941	-1.208	0.037
				Max. Compression	6	-203.931	1.366	0.032
Max. Mx	2	-203.652		1.374	-0.030			
Max. My	9	-12.977		-0.052	1.741			
Max. Vy	25	0.179		-1.364	-0.013			
Diagonal	Max. Vx	9	0.178	-0.052	1.741			
	Max Tension	13	7.372	0.000	0.000			
	Max. Compression	13	-7.438	0.000	0.000			
	Max. Mx	19	2.212	0.150	0.019			
	Max. My	15	2.250	0.149	-0.020			
	Max. Vy	17	0.072	0.148	0.018			
	Max. Vx	15	0.004	0.000	0.000			
	Leg	Max Tension	8	199.150	-1.173	0.028		
		Max. Compression	6	-230.080	1.538	0.045		
		Max. Mx	17	44.668	-3.666	-0.010		
Max. My		9	-14.546	-0.075	1.419			
Max. Vy		25	0.565	-3.661	-0.014			
Diagonal	Max. Vx	9	0.158	-0.075	1.419			
	Max Tension	13	7.556	0.000	0.000			
	Max. Compression	13	-7.680	0.000	0.000			
	Max. Mx	17	1.199	0.169	0.019			
	Max. My	15	0.871	0.147	-0.022			
	Max. Vy	17	0.076	0.154	0.021			
	Max. Vx	15	0.004	0.000	0.000			
	Leg	Max Tension	8	224.857	0.849	-0.045		
		Max. Compression	6	-262.634	0.000	-0.000		
		Max. Mx	15	-121.438	4.183	0.027		
Max. My		9	-16.718	-0.126	2.453			
Max. Vy		2	-11.465	0.000	0.000			
T9	20 - 0	Leg	Max. Vx	9	-2.935	0.000	-0.001	

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page 18 of 25
	Project	Date 13:53:28 10/20/15
	Client SBA Communications Corporation	Designed by M. Benedetti

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Diagonal	Max Tension	13	8.215	0.000	0.000
			Max. Compression	13	-8.407	0.000	0.000
			Max. Mx	17	-0.093	0.270	-0.024
			Max. My	15	4.040	0.146	-0.031
			Max. Vy	17	0.097	0.270	-0.024
			Max. Vx	15	0.005	0.000	0.000

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg C	Max. Vert	10	259.432	22.959	-13.131
	Max. H _x	10	259.432	22.959	-13.131
	Max. H _z	4	-222.352	-19.933	11.446
	Min. Vert	4	-222.352	-19.933	11.446
	Min. H _x	4	-222.352	-19.933	11.446
	Min. H _z	10	259.432	22.959	-13.131
Leg B	Max. Vert	6	261.542	-22.681	-13.688
	Max. H _x	12	-220.241	19.633	11.890
	Max. H _z	12	-220.241	19.633	11.890
	Min. Vert	12	-220.241	19.633	11.890
	Min. H _x	6	261.542	-22.681	-13.688
	Min. H _z	6	261.542	-22.681	-13.688
Leg A	Max. Vert	2	260.958	0.622	26.551
	Max. H _x	11	15.190	2.819	1.196
	Max. H _z	2	260.958	0.622	26.551
	Min. Vert	8	-223.893	-0.534	-23.118
	Min. H _x	6	-109.333	-2.819	-11.598
	Min. H _z	8	-223.893	-0.534	-23.118

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead Only	45.484	-0.000	0.000	9.473	-22.164	0.000
Dead+Wind 0 deg - No Ice	45.484	0.000	-42.134	-4470.194	-22.164	21.842
Dead+Wind 30 deg - No Ice	45.484	20.207	-35.177	-3772.461	-2190.055	13.967
Dead+Wind 60 deg - No Ice	45.484	34.532	-20.097	-2162.291	-3739.375	2.703
Dead+Wind 90 deg - No Ice	45.484	40.405	-0.058	-0.516	-4356.319	-9.143
Dead+Wind 120 deg - No Ice	45.484	36.267	21.153	2264.125	-3866.810	-18.549
Dead+Wind 150 deg - No Ice	45.484	20.155	35.263	3806.293	-2181.152	-21.771
Dead+Wind 180 deg - No Ice	45.484	-0.000	40.163	4347.577	-22.164	-20.220
Dead+Wind 210 deg - No Ice	45.484	-20.155	35.263	3806.293	2136.824	-13.954
Dead+Wind 240 deg - No Ice	45.484	-36.267	21.153	2264.125	3822.482	-3.293
Dead+Wind 270 deg - No Ice	45.484	-40.405	-0.058	-0.516	4311.991	9.143
Dead+Wind 300 deg - No Ice	45.484	-34.532	-20.097	-2162.291	3695.047	17.518
Dead+Wind 330 deg - No Ice	45.484	-20.207	-35.177	-3772.461	2145.726	21.758
Dead+Ice+Temp	105.718	-0.000	0.000	15.154	-74.674	0.000
Dead+Wind 0 deg+Ice+Temp	105.718	-0.000	-14.935	-1591.560	-74.674	7.104
Dead+Wind 30 deg+Ice+Temp	105.718	6.977	-12.117	-1308.813	-836.215	4.685
Dead+Wind 60 deg+Ice+Temp	105.718	11.804	-6.849	-738.026	-1369.904	1.411

Job	101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page	19 of 25
Project		Date	13:53:28 10/20/15
Client	SBA Communications Corporation	Designed by	M. Benedetti

Load Combination	Vertical	Shear _x	Shear _z	Overturning Moment, M _x	Overturning Moment, M _z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead+Wind 90 deg+Ice+Temp	105.718	13.952	-0.015	12.635	-1597.346	-2.116
Dead+Wind 120 deg+Ice+Temp	105.718	12.891	7.489	822.247	-1459.218	-5.340
Dead+Wind 150 deg+Ice+Temp	105.718	6.964	12.139	1342.874	-833.971	-6.464
Dead+Wind 180 deg+Ice+Temp	105.718	-0.000	13.689	1520.146	-74.674	-6.212
Dead+Wind 210 deg+Ice+Temp	105.718	-6.964	12.139	1342.874	684.622	-4.682
Dead+Wind 240 deg+Ice+Temp	105.718	-12.891	7.489	822.247	1309.869	-1.764
Dead+Wind 270 deg+Ice+Temp	105.718	-13.952	-0.015	12.635	1447.997	2.116
Dead+Wind 300 deg+Ice+Temp	105.718	-11.804	-6.849	-738.026	1220.555	4.801
Dead+Wind 330 deg+Ice+Temp	105.718	-6.977	-12.117	-1308.813	686.866	6.460
Dead+Wind 0 deg - Service	45.484	-0.000	-16.459	-1740.397	-22.164	8.532
Dead+Wind 30 deg - Service	45.484	7.893	-13.741	-1467.845	-868.996	5.456
Dead+Wind 60 deg - Service	45.484	13.489	-7.851	-838.872	-1474.200	1.056
Dead+Wind 90 deg - Service	45.484	15.783	-0.023	5.571	-1715.194	-3.572
Dead+Wind 120 deg - Service	45.484	14.167	8.263	890.197	-1523.979	-7.246
Dead+Wind 150 deg - Service	45.484	7.873	13.775	1492.606	-865.519	-8.504
Dead+Wind 180 deg - Service	45.484	-0.000	15.689	1704.045	-22.164	-7.899
Dead+Wind 210 deg - Service	45.484	-7.873	13.775	1492.606	821.191	-5.451
Dead+Wind 240 deg - Service	45.484	-14.167	8.263	890.197	1479.651	-1.286
Dead+Wind 270 deg - Service	45.484	-15.783	-0.023	5.571	1670.865	3.572
Dead+Wind 300 deg - Service	45.484	-13.489	-7.851	-838.872	1429.871	6.843
Dead+Wind 330 deg - Service	45.484	-7.893	-13.741	-1467.845	824.668	8.499

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.000	-45.484	0.000	0.000	45.484	0.000	0.000%
2	0.000	-45.484	-42.134	0.000	45.484	42.134	0.000%
3	20.207	-45.484	-35.177	-20.207	45.484	35.177	0.000%
4	34.532	-45.484	-20.097	-34.532	45.484	20.097	0.000%
5	40.405	-45.484	-0.058	-40.405	45.484	0.058	0.000%
6	36.267	-45.484	21.153	-36.267	45.484	-21.153	0.000%
7	20.155	-45.484	35.263	-20.155	45.484	-35.263	0.000%
8	-0.000	-45.484	40.163	0.000	45.484	-40.163	0.000%
9	-20.155	-45.484	35.263	20.155	45.484	-35.263	0.000%
10	-36.267	-45.484	21.153	36.267	45.484	-21.153	0.000%
11	-40.405	-45.484	-0.058	40.405	45.484	0.058	0.000%
12	-34.532	-45.484	-20.097	34.532	45.484	20.097	0.000%
13	-20.207	-45.484	-35.177	20.207	45.484	35.177	0.000%
14	0.000	-105.718	0.000	0.000	105.718	0.000	0.000%
15	0.000	-105.718	-14.935	0.000	105.718	14.935	0.000%
16	6.977	-105.718	-12.117	-6.977	105.718	12.117	0.000%
17	11.804	-105.718	-6.849	-11.804	105.718	6.849	0.000%
18	13.952	-105.718	-0.015	-13.952	105.718	0.015	0.000%
19	12.891	-105.718	7.489	-12.891	105.718	-7.489	0.000%
20	6.964	-105.718	12.139	-6.964	105.718	-12.139	0.000%
21	0.000	-105.718	13.689	0.000	105.718	-13.689	0.000%
22	-6.964	-105.718	12.139	6.964	105.718	-12.139	0.000%
23	-12.891	-105.718	7.489	12.891	105.718	-7.489	0.000%
24	-13.952	-105.718	-0.015	13.952	105.718	0.015	0.000%
25	-11.804	-105.718	-6.849	11.804	105.718	6.849	0.000%
26	-6.977	-105.718	-12.117	6.977	105.718	12.117	0.000%
27	0.000	-45.484	-16.459	0.000	45.484	16.459	0.000%
28	7.893	-45.484	-13.741	-7.893	45.484	13.741	0.000%
29	13.489	-45.484	-7.851	-13.489	45.484	7.851	0.000%
30	15.783	-45.484	-0.023	-15.783	45.484	0.023	0.000%
31	14.167	-45.484	8.263	-14.167	45.484	-8.263	0.000%

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page 20 of 25
	Project	Date 13:53:28 10/20/15
	Client SBA Communications Corporation	Designed by M. Benedetti

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
32	7.873	-45.484	13.775	-7.873	45.484	-13.775	0.000%
33	0.000	-45.484	15.689	0.000	45.484	-15.689	0.000%
34	-7.873	-45.484	13.775	7.873	45.484	-13.775	0.000%
35	-14.167	-45.484	8.263	14.167	45.484	-8.263	0.000%
36	-15.783	-45.484	-0.023	15.783	45.484	0.023	0.000%
37	-13.489	-45.484	-7.851	13.489	45.484	7.851	0.000%
38	-7.893	-45.484	-13.741	7.893	45.484	13.741	0.000%

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	176 - 160	5.158	31	0.253	0.037
T2	160 - 140	4.307	31	0.248	0.035
T3	140 - 120	3.280	31	0.222	0.029
T4	120 - 100	2.360	31	0.189	0.022
T5	100 - 80	1.604	31	0.150	0.016
T6	80 - 60	1.000	31	0.116	0.011
T7	60 - 40	0.557	31	0.080	0.007
T8	40 - 20	0.261	31	0.048	0.005
T9	20 - 0	0.079	31	0.024	0.002

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
176'	Lightning Rod 1/2"x4'	31	5.158	0.253	0.037	444397
172'	(2) VHLP2.5	31	4.944	0.253	0.037	444397
162'	(2) AM-X-CD-16-65-00T-RET w/ Mount Pipe	31	4.413	0.249	0.036	157408
152'	AIR 21 B2A B4P w/ Mount Pipe	31	3.888	0.240	0.033	76200
140'	800 10735V01 w/ Mount Pipe	31	3.280	0.222	0.029	45262
130'	742 213 w/ Mount Pipe	31	2.802	0.207	0.026	32847

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	176 - 160	13.123	2	0.645	0.094
T2	160 - 140	10.955	2	0.631	0.090
T3	140 - 120	8.340	2	0.566	0.075
T4	120 - 100	5.999	6	0.480	0.056
T5	100 - 80	4.079	6	0.380	0.042
T6	80 - 60	2.544	6	0.294	0.028
T7	60 - 40	1.419	6	0.202	0.019
T8	40 - 20	0.666	2	0.122	0.012
T9	20 - 0	0.203	2	0.061	0.006

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page 21 of 25
	Project	Date 13:53:28 10/20/15
	Client SBA Communications Corporation	Designed by M. Benedetti

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
176'	Lightning Rod 1/2"x4'	2	13.123	0.645	0.094	178273
172'	(2) VHLP2.5	2	12.579	0.644	0.093	178273
162'	(2) AM-X-CD-16-65-00T-RET w/ Mount Pipe	2	11.224	0.635	0.091	63109
152'	AIR 21 B2A B4P w/ Mount Pipe	2	9.888	0.610	0.085	30199
140'	800 10735V01 w/ Mount Pipe	2	8.340	0.566	0.075	17826
130'	742 213 w/ Mount Pipe	6	7.122	0.525	0.065	12875

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load Allowable	Allowable Ratio	Criteria
T1	176	Leg	A325N	0.875	4	1.850	26.456	0.070 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.625	1	2.497	6.443	0.388 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.625	1	0.326	6.443	0.051 ✓	1.333	Bolt Shear
T2	160	Leg	A325N	1.000	4	9.502	34.557	0.275 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.625	1	4.100	4.758	0.862 ✓	1.333	Member Block Shear
T3	140	Leg	A325N	1.000	6	12.461	34.557	0.361 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.625	1	5.706	4.758	1.199 ✓	1.333	Member Block Shear
T4	120	Leg	A325N	1.000	6	17.614	34.557	0.510 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.625	1	6.155	5.438	1.132 ✓	1.333	Member Bearing
T5	100	Leg	A325N	1.000	6	22.226	34.557	0.643 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.625	1	6.096	5.438	1.121 ✓	1.333	Member Bearing
T6	80	Leg	A325N	1.000	8	19.674	34.557	0.569 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.750	1	6.181	9.141	0.676 ✓	1.333	Member Bearing
T7	60	Leg	A325N	1.000	8	22.243	34.557	0.644 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.750	1	7.372	9.141	0.807 ✓	1.333	Member Bearing
T8	40	Leg	A325N	1.000	8	24.894	34.557	0.720 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.750	1	7.680	9.278	0.828 ✓	1.333	Bolt Shear
T9	20	Leg	A354-BC	1.000	10	22.486	32.398	0.694 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.750	1	8.407	9.278	0.906 ✓	1.333	Bolt Shear

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page 22 of 25
	Project	Date 13:53:28 10/20/15
	Client SBA Communications Corporation	Designed by M. Benedetti

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio $\frac{P}{P_a}$
T1	176 - 160	ROHN 3 EH	16'	4'	42.2 K=1.00	25.514	3.016	-10.035	76.947	0.130
T2	160 - 140	ROHN 4 EH	20'7/16"	4'3/32"	32.6 K=1.00	26.830	4.407	-45.116	118.252	0.382
T3	140 - 120	ROHN 5 EH	20'7/16"	5'3/32"	32.7 K=1.00	26.815	6.112	-86.438	163.890	0.527
T4	120 - 100	ROHN 6 EHS	20'13/32"	6'8-1/8"	36.0 K=1.00	26.379	6.713	-120.085	177.090	0.678
T5	100 - 80	ROHN 6 EH	20'13/32"	6'8-1/8"	36.5 K=1.00	26.312	8.405	-151.159	221.151	0.684
T6	80 - 60	ROHN 6 EH	20'7/16"	6'8-5/32"	36.5 K=1.00	26.311	8.405	-179.312	221.146	0.811
T7	60 - 40	ROHN 8 EHS	20'13/32"	10'7/32"	41.2 K=1.00	25.667	9.719	-203.931	249.468	0.817
T8	40 - 20	ROHN 8 X-STR	20'13/32"	10'7/32"	41.8 K=1.00	25.582	12.763	-230.080	326.496	0.705
T9	20 - 0	ROHN 8 EH	20'13/32"	9'11-11/16"	41.6 K=1.00	25.607	12.763	-262.634	326.815	0.804

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio $\frac{P}{P_a}$
T1	176 - 160	L2x2x1/4	6'2-17/32'	2'9-9/16"	94.4 K=1.10	13.680	0.938	-2.497	12.832	0.195
T2	160 - 140	L2x2x3/16	7'8-29/32'	3'7-3/4"	113.3 K=1.02	11.220	0.715	-4.100	8.023	0.511
T3	140 - 120	L2x2x3/16	9'11-31/32"	4'9-3/32"	144.9 K=1.00	7.115	0.715	-5.531	5.087	1.087
T4	120 - 100	L2 1/2x2 1/2x3/16	12'6-3/32'	6'	145.5 K=1.00	7.057	0.902	-6.085	6.365	0.956
T5	100 - 80	L2 1/2x2 1/2x3/16	14'2-29/32"	6'10-15/32"	166.6 K=1.00	5.381	0.902	-6.094	4.853	1.256
T6	80 - 60	L3x3x1/4	16'1-3/32'	7'9-9/16"	158.0 K=1.00	5.979	1.440	-6.166	8.609	0.716
T7	60 - 40	L3 1/2x3 1/2x1/4	19'3-7/16'	9'4-9/16"	162.2 K=1.00	5.676	1.690	-7.438	9.593	0.775
T8	40 - 20	L3 1/2x3 1/2x1/4	21'11/32"	10'3-3/32"	177.3 K=1.00	4.748	1.690	-7.680	8.024	0.957
T9	20 - 0	L4x4x1/4	22'9-7/16'	11'1-5/8"	168.1 K=1.00	5.286	1.940	-8.407	10.255	0.820

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page 23 of 25
	Project	Date 13:53:28 10/20/15
	Client SBA Communications Corporation	Designed by M. Benedetti

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio $\frac{P}{P_a}$
T1	176 - 160	L2x2x1/4	4'8-1/4"	4'1-3/4"	127.2 K=1.00	9.224	0.938	-0.326	8.652	0.038 ✓

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio $\frac{P}{P_a}$
T1	176 - 160	ROHN 3 EH	16'	4'	42.2	30.000	3.016	7.401	90.478	0.082 ✓
T2	160 - 140	ROHN 4 EH	20'7/16"	4'3/32"	32.6	30.000	4.407	38.007	132.223	0.287 ✓
T3	140 - 120	ROHN 5 EH	20'7/16"	5'3/32"	32.7	30.000	6.112	74.765	183.359	0.408 ✓
T4	120 - 100	ROHN 6 EHS	20'13/32"	6'8-1/8"	36.0	30.000	6.713	105.683	201.398	0.525 ✓
T5	100 - 80	ROHN 6 EH	20'13/32"	6'8-1/8"	36.5	30.000	8.405	133.357	252.148	0.529 ✓
T6	80 - 60	ROHN 6 EH	20'7/16"	6'8-5/32"	36.5	30.000	8.405	157.391	252.148	0.624 ✓
T7	60 - 40	ROHN 8 EHS	20'13/32"	10'7/32"	41.2	30.000	9.719	177.941	291.579	0.610 ✓
T8	40 - 20	ROHN 8 X-STR	20'13/32"	10'7/32"	41.8	30.000	12.763	199.150	382.882	0.520 ✓
T9	20 - 0	ROHN 8 EH	20'13/32"	1"	0.3	30.000	12.763	224.857	382.882	0.587 ✓

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio $\frac{P}{P_a}$
T1	176 - 160	L2x2x1/4	6'2-17/32'	2'9-9/16"	57.6	29.000	0.563	2.397	16.323	0.147 ✓
T2	160 - 140	L2x2x3/16	7'4-21/32'	3'5-11/16'	70.0	29.000	0.431	4.100	12.493	0.328 ✓
T3	140 - 120	L2x2x3/16	9'6-19/32'	4'6-13/32'	90.6	29.000	0.431	5.706	12.493	0.457 ✓
T4	120 - 100	L2 1/2x2 1/2x3/16	11'4-27/32"	5'5-15/32'	86.1	29.000	0.571	6.155	16.560	0.372 ✓
T5	100 - 80	L2 1/2x2 1/2x3/16	13'7-7/8"	6'6-31/32'	103.4	29.000	0.571	6.096	16.560	0.368 ✓

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page 24 of 25
	Project	Date 13:53:28 10/20/15
	Client SBA Communications Corporation	Designed by M. Benedetti

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T6	80 - 60	L3x3x1/4	16'1-3/32'	7'9-9/16"	102.4	32.500	0.916	6.181	29.768	0.208
T7	60 - 40	L3 1/2x3 1/2x1/4	19'3-7/16'	9'4-9/16"	104.8	32.500	1.103	7.372	35.862	0.206
T8	40 - 20	L3 1/2x3 1/2x1/4	21'11/32'	10'3-3/32'	114.4	32.500	1.103	7.556	35.862	0.211
T9	20 - 0	L4x4x1/4	22'9-7/16'	11'1-5/8"	108.2	32.500	1.291	8.215	41.956	0.196



Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	176 - 160	L2x2x1/4	4'8-1/4"	4'1-3/4"	86.6	29.000	0.563	0.287	16.323	0.018



Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P _{allow} K	% Capacity	Pass Fail
T1	176 - 160	Leg	ROHN 3 EH	3	-10.035	102.571	9.8	Pass
T2	160 - 140	Leg	ROHN 4 EH	33	-45.116	157.630	28.6	Pass
T3	140 - 120	Leg	ROHN 5 EH	66	-86.438	218.465	39.6	Pass
T4	120 - 100	Leg	ROHN 6 EHS	93	-120.085	236.061	50.9	Pass
T5	100 - 80	Leg	ROHN 6 EH	114	-151.159	294.794	51.3	Pass
T6	80 - 60	Leg	ROHN 6 EH	134	-179.312	294.788	60.8	Pass
T7	60 - 40	Leg	ROHN 8 EHS	155	-203.931	332.541	61.3	Pass
T8	40 - 20	Leg	ROHN 8 X-STR	170	-230.080	435.219	52.9	Pass
T9	20 - 0	Leg	ROHN 8 EH	185	-262.634	435.644	60.3	Pass
T1	176 - 160	Diagonal	L2x2x1/4	9	-2.497	17.105	14.6	Pass
T2	160 - 140	Diagonal	L2x2x3/16	36	-4.100	10.694	29.1 (b)	Pass
T3	140 - 120	Diagonal	L2x2x3/16	69	-5.531	6.782	38.3	Pass
T4	120 - 100	Diagonal	L2 1/2x2 1/2x3/16	97	-6.085	8.485	64.6 (b)	Pass
T5	100 - 80	Diagonal	L2 1/2x2 1/2x3/16	118	-6.094	6.469	81.6	Pass
T6	80 - 60	Diagonal	L3x3x1/4	139	-6.166	11.476	90.0 (b)	Pass
T7	60 - 40	Diagonal	L3 1/2x3 1/2x1/4	160	-7.438	12.788	71.7	Pass
T8	40 - 20	Diagonal	L3 1/2x3 1/2x1/4	175	-7.680	10.696	84.9 (b)	Pass
T9	20 - 0	Diagonal	L4x4x1/4	190	-8.407	13.669	94.2	Pass
T1	176 - 160	Top Girt	L2x2x1/4	4	-0.326	11.533	53.7	Pass
							58.2	Pass
							60.5 (b)	Pass
							60.5 (b)	Pass
							61.5	Pass
							68.0 (b)	Pass
							2.8	Pass
							3.8 (b)	Pass
							Summary	

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 101033.002.01-New Britain 2 CT, CT(Site# CT04382-S)	Page 25 of 25
	Project	Date 13:53:28 10/20/15
	Client SBA Communications Corporation	Designed by M. Benedetti

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P _{allow} K	% Capacity	Pass Fail
						Leg (T7)	61.3	Pass
						Diagonal (T5)	94.2	Pass
						Top Girt (T1)	3.8	Pass
						Bolt Checks	90.0	Pass
						RATING =	94.2	Pass

APPENDIX B
ADDITIONAL CALCULATIONS

PROJECT	CT04382-S - New Britain 2, CT		MB
SUBJECT	Pad Footing Analysis		
DATE	10/20/15	PAGE	1 OF 1



101033_002_01_SS Unit Base Unified (1 5)_Square_Rev F-G.xls

B&T Proj. No.: 101033.002.01

Combined Footing Foundation Analysis

Design Loads:

Input unfactored loads	=	
Compression per leg (P_c)	=	<u>262.0</u> (k)
Tension per leg (P_T)	=	<u>224.0</u> (k)
Overturing Moment (M_o)	=	<u>4,481.0</u> (k)
Total Tower Horizontal Load	=	<u>42.0</u> (k-ft)
Tower + Appurtenances	=	<u>45.0</u> (k)

Safety Factors

Uplift S.F. (Conc. Wt.)	=	<u>1.25</u>
Uplift S.F. (Soil Wt.)	=	<u>2.00</u>
Overturing S.F.	=	<u>1.50</u>
Bearinging S.F.	=	<u>2.00</u>

Rev. Type: **F**

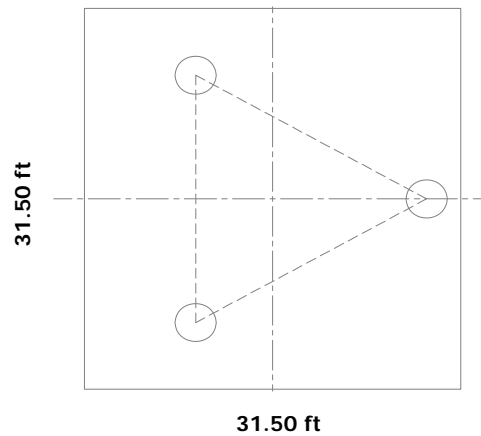
Tower Information

Tower base width = 21.00 ft

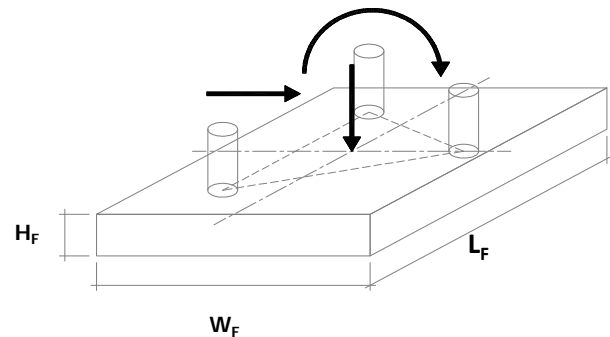
Pad & Pier Dimensions / Properties:

Tower Shape (triangle or square)	=	<u>T</u>
Pier Shape (round or square)	=	<u>R</u>
Pier Diameter (H_p)	=	<u>16.00</u> (ft)
Pier height above grade (D_A)	=	<u>0.50</u> (ft)
Footing Width (W_F)	=	<u>31.50</u> (ft)
Footing Thickness (H_F)	=	<u>4.00</u> (ft)
Depth to BOC (D)	=	<u>3.50</u> (ft)
Concrete Strength (F'_c)	=	<u>3.00</u> (ksi)
Rebar Strength (F_y)	=	<u>60.00</u> (ksi)
Ultimate Load Factor	=	<u>1.30</u>
Min. Cover over Rebar	=	<u>3.00</u> (in)
Qty of footing Rebar (1 layer)	=	<u>32</u>
Size of footing Rebar	=	<u># 9</u> (bar)
Qty of Vertical Rebar per Pier	=	<u>13</u>
Size of Pier Vertical Rebar	=	<u># 8</u> (bar)
Qty of Rebar Ties per Pier	=	<u>3</u>
Size of Pier Rebar Ties	=	<u># 5</u> (bar)

Plan View for Triangle or Square Tower



Total Overview

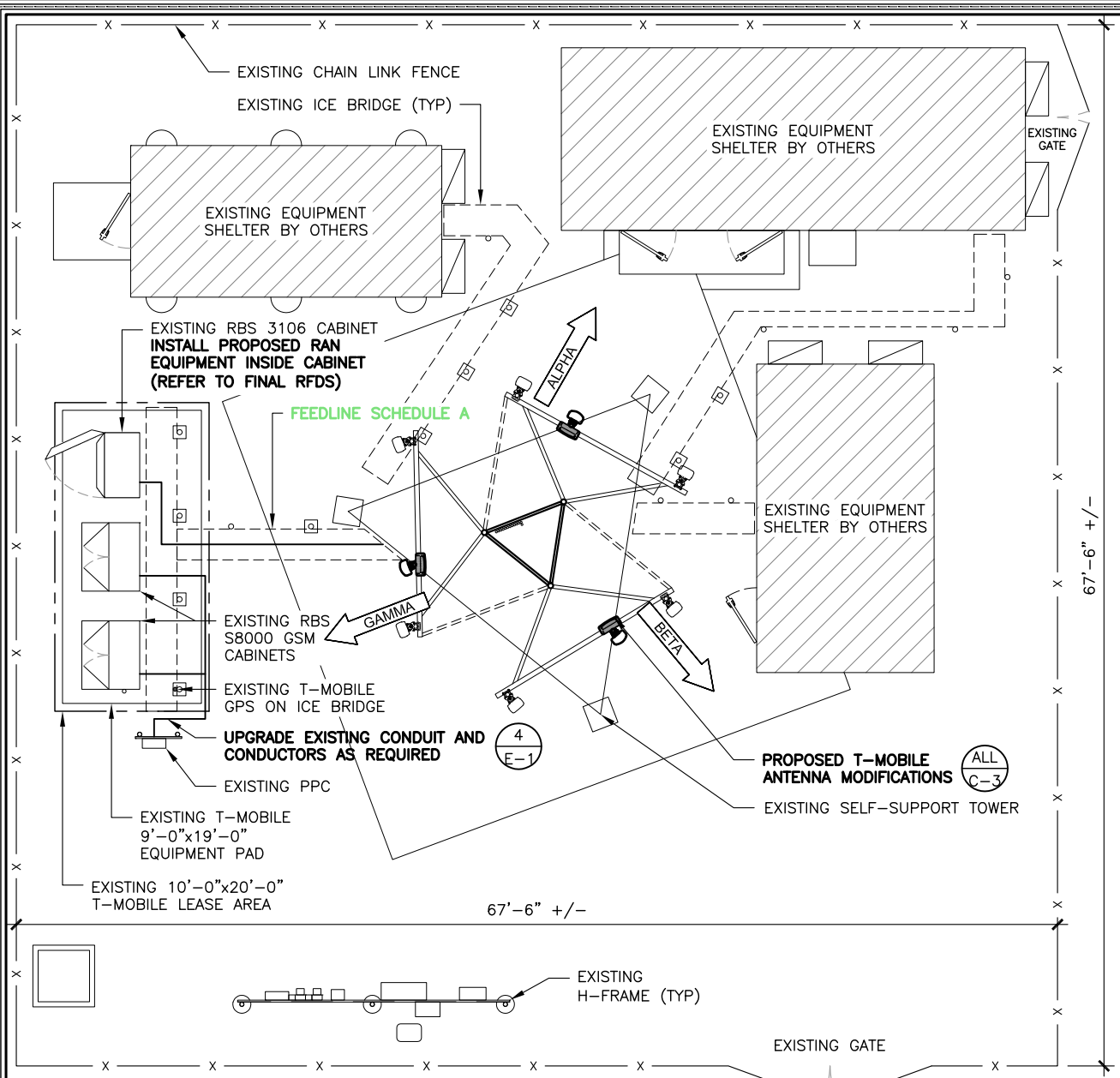


Soil Data:

Allowable Values	=	
Soil bearing	=	<u>5000</u> (psf)
Soil bearing (ultimate)	=	<u>10000</u> (psf)
Soil Cone for Uplift (θ)	=	<u>30</u> (degrees)
Cohesion (C)	=	<u>0.00</u> (ft)
Top Soil to Neglect (N)	=	<u>3.33</u> (ft)
Base Sliding (μ)	=	<u>0.35</u> (ksf)
Dry Soil Density (γ_{DRY})	=	<u>100</u> (pcf)

Summary of Results

Overturing	75.88%
Soil Bearing	25.65%
Base Sliding	25.86%
One way Shear	4.35%
Punching Shear	25.69%
Pad Moment Capacity	25.32%
Pier Moment Capacity	0.00%



1 OVERALL SITE PLAN

SCALE: 11x17 SCALE: 3/32"=1'-0"
22x34 SCALE: 3/16"=1'-0"



EXISTING (12) LINES OF 1 5/8" COAX AND (1) 1 5/8" HYBRID FIBER TO 152' TO REMAIN. (REFER TO SBA PROVIDED STRUCTURAL ANALYSIS FOR SPECIAL CABLE INSTALLATION REQUIREMENTS, BUNDLING, SHIELDING, MOUNTING AND RELOCATION OF EXISTING CABLES)

SOURCE: B+T 09-12-11

2A FEEDLINE PHOTO DETAIL @ TOWER BASE
SCALE: N.T.S.

ANTENNA MOUNT STRUCTURAL ASSESSMENT REQUIREMENT:
ENGINEER OF RECORD HAS MADE A VISUAL ASSESSMENT ONLY AND HAS DETERMINED THAT THE EXISTING ANTENNA MOUNT SHALL BE REPLACED OR MODIFIED TO ACCOMMODATE ANY ADDITIONAL EQUIPMENT LOADS. STRUCTURAL DESIGNS AND DETAILS AS SHOWN HEREIN FOR STRUCTURAL MODIFICATIONS OF THE EXISTING ANTENNA MOUNT ARE PRELIMINARY ONLY AND FINAL CONSTRUCTION DETAILS ARE SUBJECT TO CHANGE PENDING THE COMPLETION OF AN ANTENNA MOUNT STRUCTURAL ASSESSMENT.

STRUCTURAL NOTES:
PRIOR TO COMMENCING CONSTRUCTION, GC SHALL REFER TO TOWER STRUCTURAL ANALYSIS PROVIDED BY SBA TO DETERMINE IF THERE ARE ANY SUPPLEMENTAL OR SPECIAL INSTALLATION REQUIREMENTS FOR TOWER TOP EQUIPMENT AND FOR CABLE BUNDLING, SHIELDING, MOUNTING OR RELOCATION ARRANGEMENTS.

FEEDLINE SCHEDULE	FEEDLINE DESCRIPTION	LOCATION
A	EXISTING TO REMAIN: (12) 1 5/8" COAX & (1) 1 5/8" HYBRID FIBER TO T-MOBILE RAD @ 152'	FACE OF TOWER
EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER		

2 ALL C-2 C-3 T-MOBILE MOUNT ELEV. = 152± A.G.L. (SBA*)

EXISTING T-MOBILE PANEL ANTENNA (TYP)

2A T-MOBILE FEEDLINES ROUTED ON FACE OF TOWER C-1

EXISTING SELF-SUPPORT TOWER



SOURCE: B+T 09-12-11

2B EQUIPMENT PHOTO DETAIL
SCALE: N.T.S.



SOURCE: B+T 09-12-11

3 ELEVATION PHOTO DETAIL
SCALE: N.T.S.

B+T GRP
1717 S. BOULDER SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

T-Mobile
T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

SBA
SBA COMMUNICATIONS CORP.
33 BOSTON POST ROAD WEST, SUITE 320
MARLBOROUGH, MA 01752

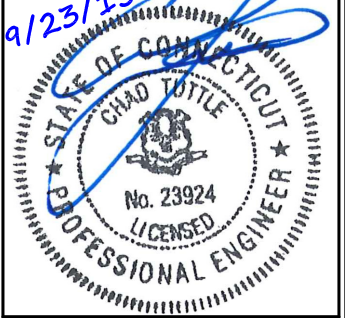
CT11351C
NEW BRITAIN/ RT 72 WOOSTER
1 HARTFORD SQUARE
NEW BRITAIN, CT 06053

PROJECT NO: 101033.001
CHECKED BY: RCM

ISSUED FOR:

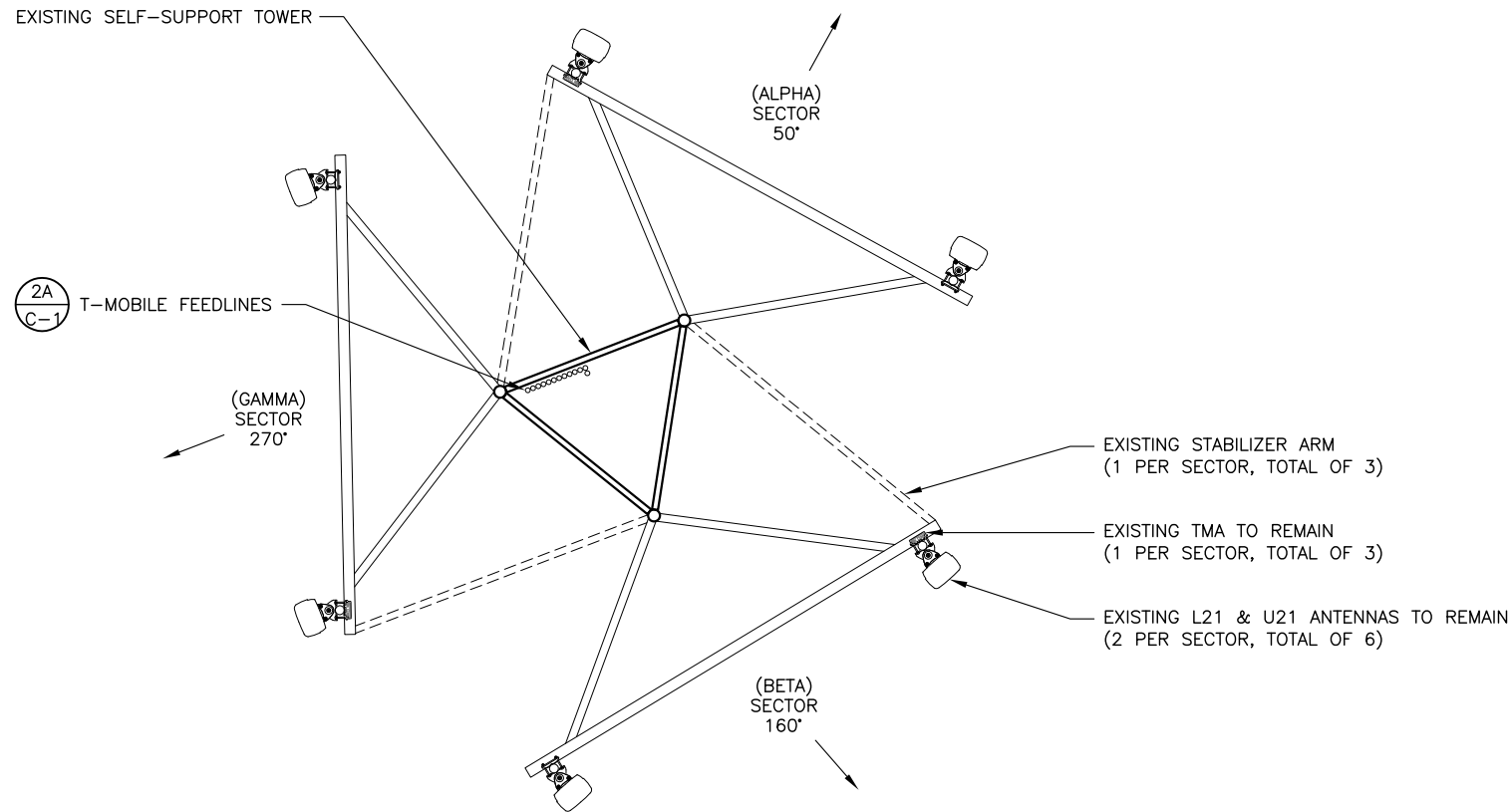
REV	DATE	DRWN	DESCRIPTION
0	9/23/15	MDW	CONSTRUCTION

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/16

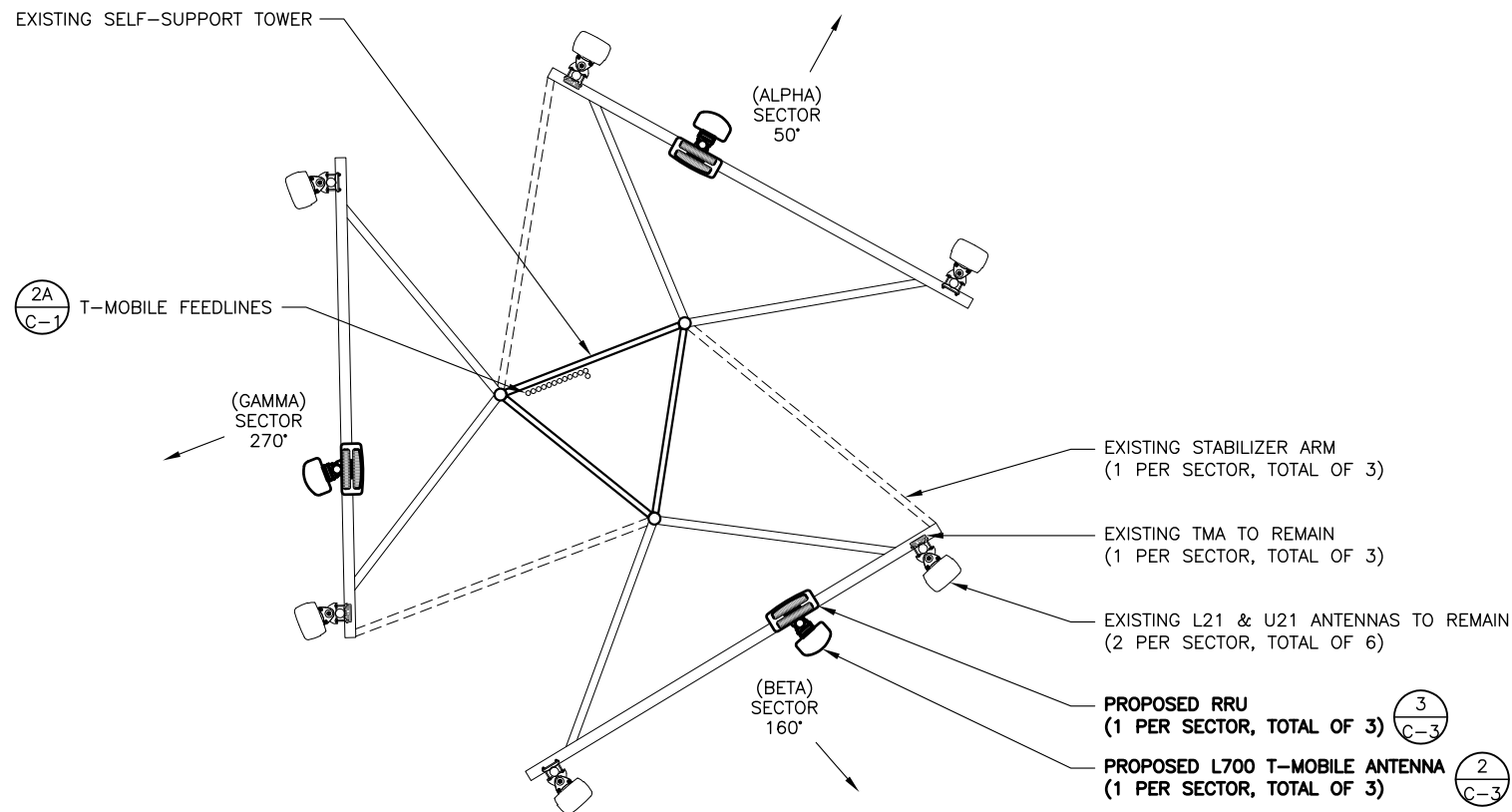


IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: **C-1**
REVISION: **0**

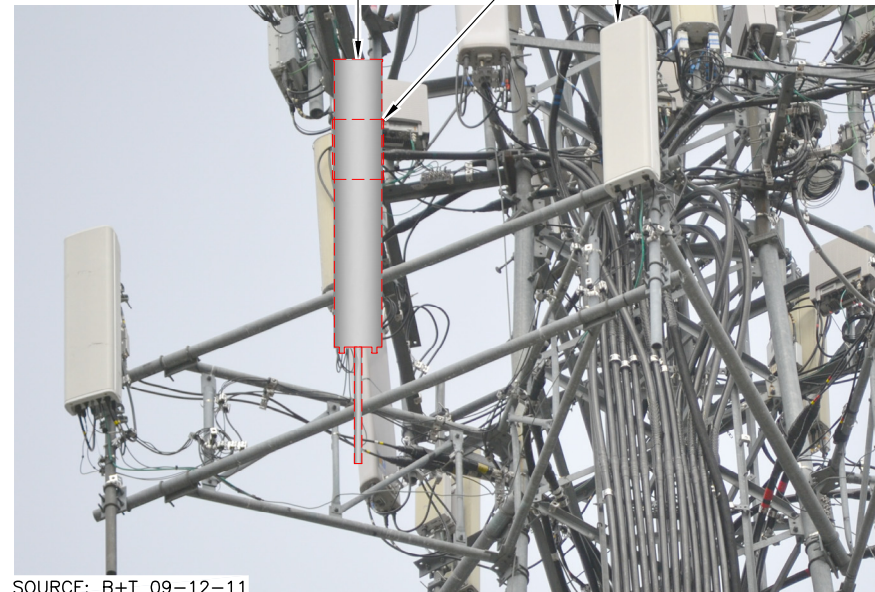


1A EXISTING ANTENNA PLAN
 SCALE: 11x17 SCALE: 3/16"=1'-0"
 22x34 SCALE: 3/8"=1'-0"



1B PROPOSED ANTENNA PLAN
 SCALE: 11x17 SCALE: 3/16"=1'-0"
 22x34 SCALE: 3/8"=1'-0"

2 ANTENNA MOUNT PHOTO DETAIL
 SCALE: N.T.S.



SOURCE: B+T 09-12-11

STRUCTURAL NOTES:
 PRIOR TO COMMENCING CONSTRUCTION, GC SHALL REFER TO TOWER STRUCTURAL ANALYSIS PROVIDED BY SBA TO DETERMINE IF THERE ARE ANY SUPPLEMENTAL OR SPECIAL INSTALLATION REQUIREMENTS FOR TOWER TOP EQUIPMENT AND FOR CABLE BUNDLING, SHIELDING, MOUNTING OR RELOCATION ARRANGEMENTS.

SPECIAL WORK NOTE:
 GC AND TOWER CREW SHALL CHECK WITH THE RF ENGINEER FOR LATEST RFDS, RAN SCENARIO AND TOWER TOP EQUIPMENT SPECIFICATIONS.

ANTENNA INSTALLATION SPECIAL WORK NOTE:
 ANTENNA IS TO BE INSTALLED ON PROPOSED PIPE MOUNT SO THAT THE VERTICAL CENTER OF THE ANTENNA IS AT THE RAD CENTER SPECIFIED IN THE LATEST VERSION OF THE RFDS.

B+T GRP
 1717 S. BOULDER SUITE 300
 TULSA, OK 74119
 PH: (918) 587-4630
 www.btgrp.com

T-Mobile
 T-MOBILE NORTHEAST, LLC
 35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002

SBA
 SBA COMMUNICATIONS CORP.
 33 BOSTON POST ROAD WEST, SUITE 320
 MARLBOROUGH, MA 01752

CT11351C
NEW BRITAIN/ RT 72 WOOSTER
 1 HARTFORD SQUARE
 NEW BRITAIN, CT 06053

PROJECT NO: 101033.001
 CHECKED BY: RCM

ISSUED FOR:

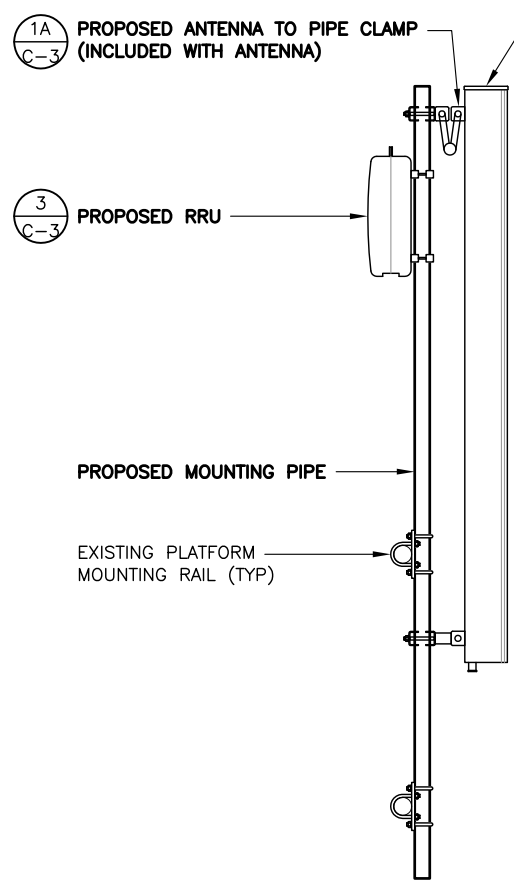
REV	DATE	DRWN	DESCRIPTION
0	9/23/15	MDW	CONSTRUCTION

B&T ENGINEERING, INC.
 PEC.0001564
 Expires 2/10/16

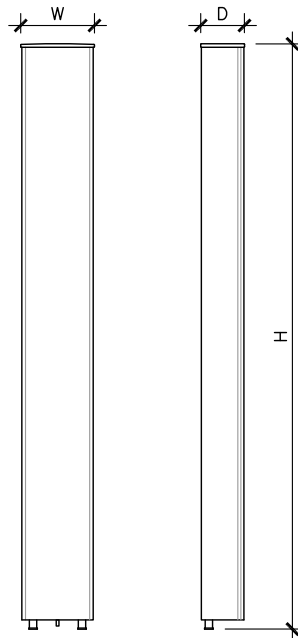
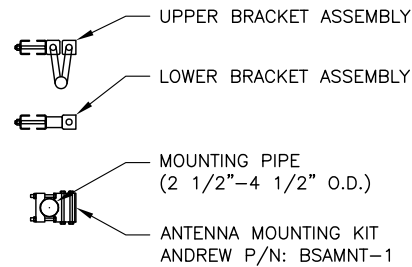
9/23/15
 STATE OF CONNECTICUT
 CHAD TOTTE
 No. 23924
 LICENSED PROFESSIONAL ENGINEER

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

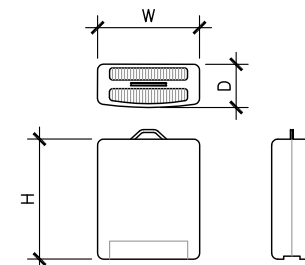
SHEET NUMBER: **C-2** REVISION: **0**



ANTENNA INSTALLATION SPECIAL WORK NOTE:
 ANTENNA IS TO BE INSTALLED ON PROPOSED PIPE MOUNT SO THAT THE VERTICAL CENTER OF THE ANTENNA IS AT THE RAD CENTER SPECIFIED IN THE LATEST VERSION OF THE RFDS.



L700 ANTENNA SPECS	
MANUFACTURER	ANDREW
MODEL #	LNx-6515DS
WIDTH	11.9"
DEPTH	7.1"
HEIGHT	96.4"
WEIGHT	50.3 LBS



RRU SPECIFICATIONS	
MANUFACTURER	ERICSSON
MODEL #	RRUS11 B12
WIDTH	17"
DEPTH	7"
HEIGHT	20"
WEIGHT	50.6 LBS

ANTENNA MOUNT STRUCTURAL ASSESSMENT REQUIREMENT:
 ENGINEER OF RECORD HAD MADE A VISUAL ASSESSMENT ONLY AND DETERMINED THAT THE EXISTING ANTENNA MOUNT SHALL BE REPLACED OR MODIFIED TO ACCOMMODATE ANY ADDITIONAL EQUIPMENT LOADS. STRUCTURAL DESIGNS AND DETAILS AS SHOWN HEREIN FOR STRUCTURAL MODIFICATIONS OF THE EXISTING ANTENNA MOUNT ARE PRELIMINARY ONLY AND FINAL CONSTRUCTION DETAILS ARE SUBJECT TO CHANGE PENDING THE COMPLETION OF AN ANTENNA MOUNT STRUCTURAL ASSESSMENT.

STRUCTURAL NOTES:
 PRIOR TO COMMENCING CONSTRUCTION, GC SHALL REFER TO TOWER STRUCTURAL ANALYSIS PROVIDED BY SBA TO DETERMINE IF THERE ARE ANY SUPPLEMENTAL OR SPECIAL INSTALLATION REQUIREMENTS FOR TOWER TOP EQUIPMENT AND FOR CABLE BUNDLING, SHIELDING, MOUNTING OR RELOCATION ARRANGEMENTS.

1 PROPOSED L700 ANTENNA & RRU MOUNTING DETAIL
 SCALE: N.T.S.

1A L700 ANTENNA MOUNTING BRACKET
 SCALE: N.T.S.

2 L700 ANTENNA DETAIL
 SCALE: N.T.S.

3 REMOTE RADIO UNIT (RRU)
 SCALE: N.T.S.

B+T GRP
 1717 S. BOULDER
 SUITE 300
 TULSA, OK 74119
 PH: (918) 587-4630
 www.btgrp.com

T-Mobile

T-MOBILE NORTHEAST, LLC
 35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002

SBA
 SBA COMMUNICATIONS CORP.
 33 BOSTON POST ROAD WEST, SUITE 320
 MARLBOROUGH, MA 01752

CT11351C

**NEW
 BRITAIN/
 RT 72
 WOOSTER**

1 HARTFORD SQUARE
 NEW BRITAIN, CT 06053

PROJECT NO: 101033.001
 CHECKED BY: RCM

ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION
0	9/23/15	MDW	CONSTRUCTION

B&T ENGINEERING, INC.
 PEC.0001564
 Expires 2/10/16

9/23/15
 CHAD TOTTE
 No. 23924
 LICENSED PROFESSIONAL ENGINEER

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: **C-3** REVISION: **0**