Filed by:
Kri Pelletier, Property Specialist - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3804 - kpelletier@sbasite.com

March 3, 2017

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

Notice of Exempt Modification
60 Rice Lane, Beacon Falls, CT 06403
41.4556919 N
-73.0397989 W
T-Mobile #: CT11299D_L700

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 142.9-foot level of the existing 160-foot Monopole Tower at 60 Rice Lane. The tower is owned by SBA Properties. The property is owned by Charles Edwards. T-Mobile intends to add (3) new L700MHz antennas. These antennas would be installed at the 142.9-foot level of the tower. T-Mobile's full scope of proposed work is as follows:

Remove: None

Remove and Replace: None

Install:

- (3) Commscope - LNX-6515DS-A1M – Panel Antennas
- (3) Ericsson - S11B12 – RRUs
- (1) 1-1/4" Hybrid

Existing Equipment to Remain:

- (3) Ericsson - Air21 B2A B4P – Panel Antennas
- (3) Ericsson - Air21 B4A B2P – Panel Antennas
- (3) Ericsson - KRY 112 144 – TMAs
- (12) 1-5/8" Lines
- (1) 1-5/8" Fiber

This facility was approved by the Town of Beacon Falls Planning & Zoning Commission during their Regular Meeting of December 16, 1999. There were no conditions placed on the tower or compound, thus this modification is in full compliance.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16.50j-72(b)(2). In accordance with R.C.S.A. § 16.50j-73, a copy of this letter is being sent to Christopher Bielik, First Selectman for the Town of Beacon Falls, Kevin McDuffie, Chairman of Planning & Zoning for the Town of Beacon Falls, and to the property owner, Charles Edwards. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. §16.50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modification will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modification will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading with certain modifications.

For the foregoing reasons, T-Mobile respectfully submits that the proposed modifications to the above-referenced telecommunication facility constitute an exempt modifications under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Kri Pelletier
Property Specialist
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581

508.251.0720 x3804 + T
508.366.2610 + F
203.446.7700 + C
kpelletier@sbasite.com

Attachments

cc: Christopher Bielik, First Selectman – as elected official
Town of Beacon Falls, 10 Maple Ave, Beacon Falls, CT 06403
Kevin McDuffie, Chairman, P&Z – as representative for respective planning and zoning department
Town of Beacon Falls, 10 Maple Ave, Beacon Falls, CT 06403
Charles Edwards – as property owner
30 Lorraine Drive, Beacon Falls, CT 06403

POWER DENSITY

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):	142.9	Height (AGL):	142.9	Height (AGL):	142.9
Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	120	Total TX Power(W):	120	Total TX Power(W):	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A1 MPE%	0.90	Antenna B1 MPE%	0.90	Antenna C1 MPE%	0.90
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	142.9	Height (AGL):	142.9	Height (AGL):	142.9
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	6	Channel Count	6	Channel Count	6
Total TX Power(W):	180	Total TX Power(W):	180	Total TX Power(W):	180
ERP (W):	7,002.81	ERP (W):	7,002.81	ERP (W):	7,002.81
Antenna A2 MPE%	1.34	Antenna B2 MPE%	1.34	Antenna C2 MPE%	1.34
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Commscope LNX-6515DS-A1M	Make / Model:	Commscope LNX-6515DS-A1M	Make / Model:	Commscope LNX-6515DS-A1M
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	142.9	Height (AGL):	142.9	Height (AGL):	142.9
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power(W):	30	Total TX Power(W):	30	Total TX Power(W):	30
ERP (W):	865.21	ERP (W):	865.21	ERP (W):	865.21
Antenna A3 MPE%	0.36	Antenna B3 MPE%	0.36	Antenna C3 MPE%	0.36

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile (Per Sector Max)	**2.59 %**
AT&T	3.64 %
Verizon Wireless	1.16 %
Clearwire	0.08 %
Sprint	0.02 %
Beacon Hose Co.	0.25 %
Site Total MPE %:	**7.74 %**

T-Mobile Sector A Total:	2.59 %
T-Mobile Sector B Total:	2.59 %
T-Mobile Sector C Total:	2.59 %
Site Total:	7.74 %

T-Mobile _Max Values per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile AWS - 2100 MHz LTE	2	2,334.27	142.9	8.96	AWS - 2100 MHz	1000	0.90%
T-Mobile AWS - 2100 MHz UMTS	2	1,167.14	142.9	4.48	AWS - 2100 MHz	1000	0.45%
T-Mobile PCS - 1950 MHz UMTS	2	1,167.14	142.9	4.48	PCS - 1950 MHz	1000	0.45%
T-Mobile PCS - 1950 MHz GSM	2	1,167.14	142.9	4.48	PCS - 1950 MHz	1000	0.45%
T-Mobile 700 MHz LTE	1	865.21	142.9	1.66	700 MHz	467	0.36%
						Total*:	**2.59%**

*NOTE: Totals may vary by 0.01% due to summing of remainders

Town of Beacon Falls
Property Listing Report

Parcel ID 017-002-0002

Account 00042200

Property Information

Owner	EDWARDS CHARLES
Address	60 RICE LN
Mailing Address	30 LORRAINE DRIVE BEACON FALLS , CT 06403
Land Use	- 11
Land Class	3411

Census Tract	3411
Neighborhood	5
Zoning	
Acreage	49.76
Utilities	
Lot Setting/ Desc	/

Photo

No Photo Available

PARCEL VALUATIONS (Assessed value = 70% of Appraised Value)

	Appraised	Assessed
Buildings	0	0
Outbuildings		
Improvements		
Extras		
Land	259360	48160
Total	259360	181552
Previous		

Construction Details

Year Built	0
Stories	
Building Style	
Building Use	
Building Condition	
Total Rooms	
Bedrooms	
Full Bathrooms	
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	
Roof Cover	

EXTERIOR WALLS:	
Primary	Wood Clapboards
Secondary	
INTERIOR WALLS:	
Primary	Drywall
Secondary	
FLOORS:	
Primary	Hardwood
Secondary	
HEATING/AC:	
Heating Type	
Heating Fuel	
AC Type	

BUILDING AREA:	
Effective Building Area	
Gross Building Area	
Total Living Area	0

SALES HISTORY:	
Sale Date	8/29/2002
Sale Price	0
Book/ Page	/

Report Created On 1/23/2017

EBI Consulting
environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11299D

CTBeacon Falls/Rt 8
60 Rice Lane
Beacon Falls, CT 06403

March 2, 2017

EBI Project Number: 6217000728

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	7.74 %

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

EBI Consulting
environmental | engineering | due diligence

March 2, 2017

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

Emissions Analysis for Site: **CT11299D – CTBeacon Falls/Rt 8**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **60 Rice Lane, Beacon Falls, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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 ($\mu W/cm^2$). The general population exposure limit for the 700 MHz Band is approximately 467 $\mu W/cm^2$, and the general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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 **60 Rice Lane, Beacon Falls, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

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

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

3) 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.

4) 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

5) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.

6) Since the 2100 MHz UMTS radios are ground mounted there are additional cabling losses accounted for. For each ground mounted 2100 MHz UMTS RF path tan additional 1.80 dB of cable loss was factored into the calculations used for this analysis. This is based on manufacturers Specifications for 170 feet of 1-5/8" coax cable on each of these paths.

7) 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.

8) For the following calculations the sample point was the top of a 6-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.

9) The antennas used in this modeling are the **Ericsson AIR21 B4A/B2P** & **Ericsson AIR21 B2A/B4P** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **Commscope LNX-6515DS-A1M** for 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **Ericsson AIR21 B4A/B2P** has a maximum gain of **15.9 dBd** at its main lobe at 1900 MHz and 2100 MHz. The **Ericsson AIR21 B2A/B4P** has a maximum gain of **15.9 dBd** at its main lobe at 1900 MHz and 2100 MHz. The **Commscope LNX-6515DS-A1M** has a maximum gain of **14.6 dBd** at its main lobe at 700 MHz. 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.

10) The antenna mounting height centerline of the proposed antennas is **142.9 feet** above ground level (AGL).

11) 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.

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

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T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	142.9	Height (AGL):	142.9	Height (AGL):	142.9
Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	120	Total TX Power(W):	120	Total TX Power(W):	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A1 MPE%	0.90	Antenna B1 MPE%	0.90	Antenna C1 MPE%	0.90
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	142.9	Height (AGL):	142.9	Height (AGL):	142.9
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	6	Channel Count	6	Channel Count	6
Total TX Power(W):	180	Total TX Power(W):	180	Total TX Power(W):	180
ERP (W):	7,002.81	ERP (W):	7,002.81	ERP (W):	7,002.81
Antenna A2 MPE%	1.34	Antenna B2 MPE%	1.34	Antenna C2 MPE%	1.34
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Commscope LNX-6515DS-A1M	Make / Model:	Commscope LNX-6515DS-A1M	Make / Model:	Commscope LNX-6515DS-A1M
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	142.9	Height (AGL):	142.9	Height (AGL):	142.9
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power(W):	30	Total TX Power(W):	30	Total TX Power(W):	30
ERP (W):	865.21	ERP (W):	865.21	ERP (W):	865.21
Antenna A3 MPE%	0.36	Antenna B3 MPE%	0.36	Antenna C3 MPE%	0.36

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile (Per Sector Max)	**2.59 %**
AT&T	3.64 %
Verizon Wireless	1.16 %
Clearwire	0.08 %
Sprint	0.02 %
Beacon Hose Co.	0.25 %
Site Total MPE %:	**7.74 %**

T-Mobile Sector A Total:	2.59 %
T-Mobile Sector B Total:	2.59 %
T-Mobile Sector C Total:	2.59 %
Site Total:	7.74 %

T-Mobile _Max Values per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile AWS - 2100 MHz LTE	2	2,334.27	142.9	8.96	AWS - 2100 MHz	1000	0.90%
T-Mobile AWS - 2100 MHz UMTS	2	1,167.14	142.9	4.48	AWS - 2100 MHz	1000	0.45%
T-Mobile PCS - 1950 MHz UMTS	2	1,167.14	142.9	4.48	PCS - 1950 MHz	1000	0.45%
T-Mobile PCS - 1950 MHz GSM	2	1,167.14	142.9	4.48	PCS - 1950 MHz	1000	0.45%
T-Mobile 700 MHz LTE	1	865.21	142.9	1.66	700 MHz	467	0.36%
						Total*:	**2.59%**

*NOTE: Totals may vary by 0.01% due to summing of remainders

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 A:	2.59 %
Sector B:	2.59 %
Sector C:	2.59 %
T-Mobile Per Sector Maximum:	2.59 %
Site Total:	7.74 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **7.74%** 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.

TES
Tower Engineering Solutions
Phone (972) 483-0607, Fax (972) 975-9615
8445 Freeport Parkway, Suite 375, Irving, Texas 75063

Structural Analysis Report

Existing 160 ft Nudd Corporation Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT02049-S

Customer Site Name: Beacon Falls

Carrier Name: T-Mobile

Carrier Site ID / Name: CT11299D / CTBeacon Falls/Rt 8

Site Location: 60 Rice Lane

Beacon Falls, Connecticut

New Haven County

Latitude: 41.455689

Longitude: -73.039866

Analysis Result:

Max Structural Usage: 99.2% [Pass]

Max Foundation Usage: 66.0% [Pass]

Report Prepared by: Matthew Baker

Introduction

The purpose of this report is to summarize the analysis results on the 160 ft Nudd Corporation Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Tower Drawing prepared by Fred A. Nudd, Project #7342 dated 1/14/00
Foundation Drawing	Foundation Drawing prepared by Fred A. Nudd, Project #7342 dated 1/14/00
Geotechnical Report	Geotechnical Report prepared by SEA Consultants, Ref #99339.02-A dated 8/2/99
Modification Drawings	Modification Drawing prepared by O2Wireless Solutions, Job #2230-022 dated 5/23/02 Modification Drawing prepared by FDH, Project #09-04232E S2 dated 1/03/09 Modification Drawing prepared by FDH, Project #12-04772E S3 dated 10/15/13 Modification Drawing prepared by TES, Job #20939 Rev3 dated 9/28/16

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-G**.** In accordance with this standard, the structure was analyzed using **TESPoles,** a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	97.0 mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / 2012 IBC / 2016 Connecticut State Building Code
Exposure Category:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.192, S_1 = 0.064

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	165.0	1	Andrew - DB222 - Whip	Low Profile Platform	(1) 7/8"	BFFD
2	162.0	9	Andrew - SBNHH-1D65B - Panel		(18) 1 5/8" (1) 1 5/8" Fiber	Verizon
3		6	Andrew - DB846F65ZAXY - Panel			
4		3	Alcatel Lucent - RRH2X60-AWS - RRU			
5		1	RFS - DB-T1-6Z-8AB-0Z			
6	152.0	3	RFS - APXVSPP18-C-A20 - Panel	Low Profile Platform	(3) 1-1/4" (1) 1-1/4"	Sprint
7		3	ALU - 1900MHz - RRU			
8		3	ALU - 800MHz - Filter			
9		3	ALU - 800 MHz - RRU			
10		4	RFS - ACU-A20-N - RET			
11	150.0	3	RFS - APXVTM14-C-120 - Panel			
12		3	Alcatel Lucent - TD-RRH8x20-25 - RRU			
-	142.9	3	Ericsson - Air21 B2A B4P - Panel	Low Profile Platform	(12) 1 5/8" (1) 1 5/8" Fiber	T-Mobile
-		3	Ericsson - Air21 B4A B2P - Panel			
-		3	Ericsson - KRY 112 144 - TMA			
18	133.0	3	Kathrein - 800 10121 - Panel	Low Profile Platform	(6) 1 1/4" (6) 1 5/8" (2) 3/8" Fiber (4) 3/4" DC inside 3" Conduit	AT&T
19		3	Kathrein - 800 10798 - Panel			
20		3	CCI - DTMABP7819VG12A - TMA/TTA			
21		3	Ericsson - RRUS 12 - RRU			
22		3	Ericsson - RRUS 11 - RRU			
23		3	Ericsson - RRU A2 - RRU			
24		3	Ericsson - RRUS 32 - RRU			
25		2	Raycap - DC6-48-60-18-8F - SP			
26	115.0	1	DB222 - Whip	(1) 3 ft Standoff	(1) 7/8"	BFFD
27	40.0	1	GPS	Standoff	(1) 1/2"	Sprint

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
13	142.9	3	Ericsson - Air21 B2A B4P - Panel	Platform w Handrail (Commscope MT-195-12) and V-Brace (VSR-MS-8)	(12) 1 5/8" (1) 1 5/8" Fiber (1) 1-1/4" Hybrid	T-Mobile
14		3	Ericsson - Air21 B4A B2P - Panel			
15		3	Commscope - LNX-6515DS-A1M - Panel			
16		3	Ericsson - KRY 112 144 - TMA			
17		3	Ericsson - S11B12 - RRU			

The proposed transmission lines can be installed inside or outside of the pole shafts. If installed outside, the lines shall be strapped tightly to the face of the pole shafts. Stacking lines is not allowed.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate	Flanges
Max. Usage:	**99.2%**	**63.7%**	**64.5%**	**99.0%**
Pass/Fail	**Pass**	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	4195.6	37.3	78.8

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.5171 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA/EIA 222-G Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC.** Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.

2. The analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.

3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.

4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.

5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.

6. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.

7. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.

8. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.

9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

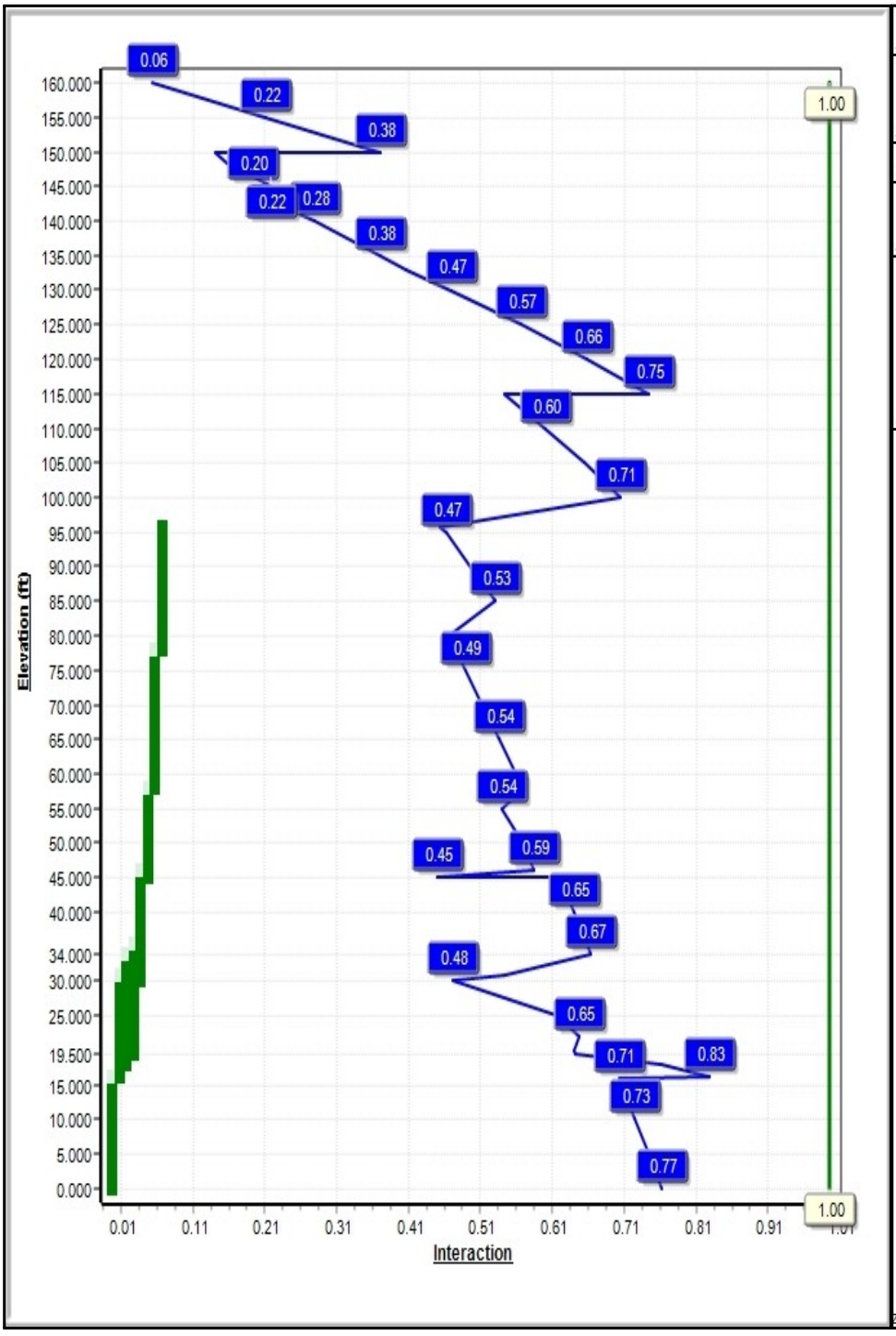
Usage Diagram - Max Ratio 83.29% at 16.3ft

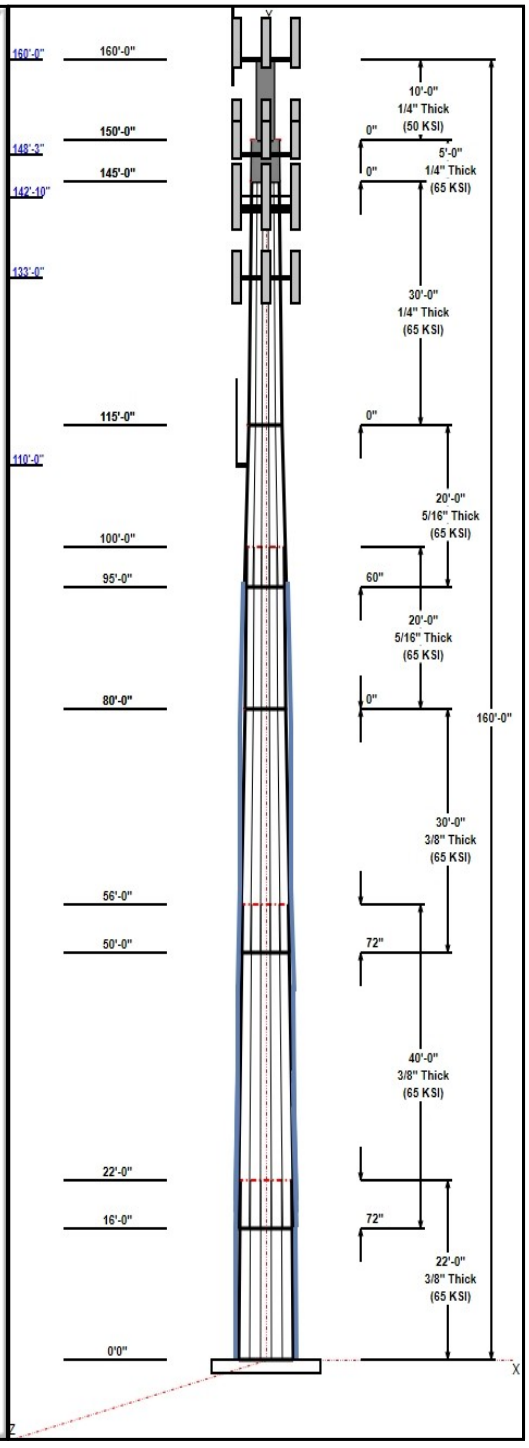
Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Gh:**	1.1		
Base Elev:	0.000 (ft)			Page: 1	

Tower Engineering Solutions

Dead Load Factor:	1.20	**Iterations:**	24
Wind Load Factor:	1.60		

Load Case : 1.2D + 1.6W 97 mph Wind





Structure: CT02049-S-SBA

Type: Custom
Site Name: Beacon Falls
Height: 160.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 12 Sided
Taper: 0.00000

1/30/2017

Tower Engineering Solutions

Shaft Properties

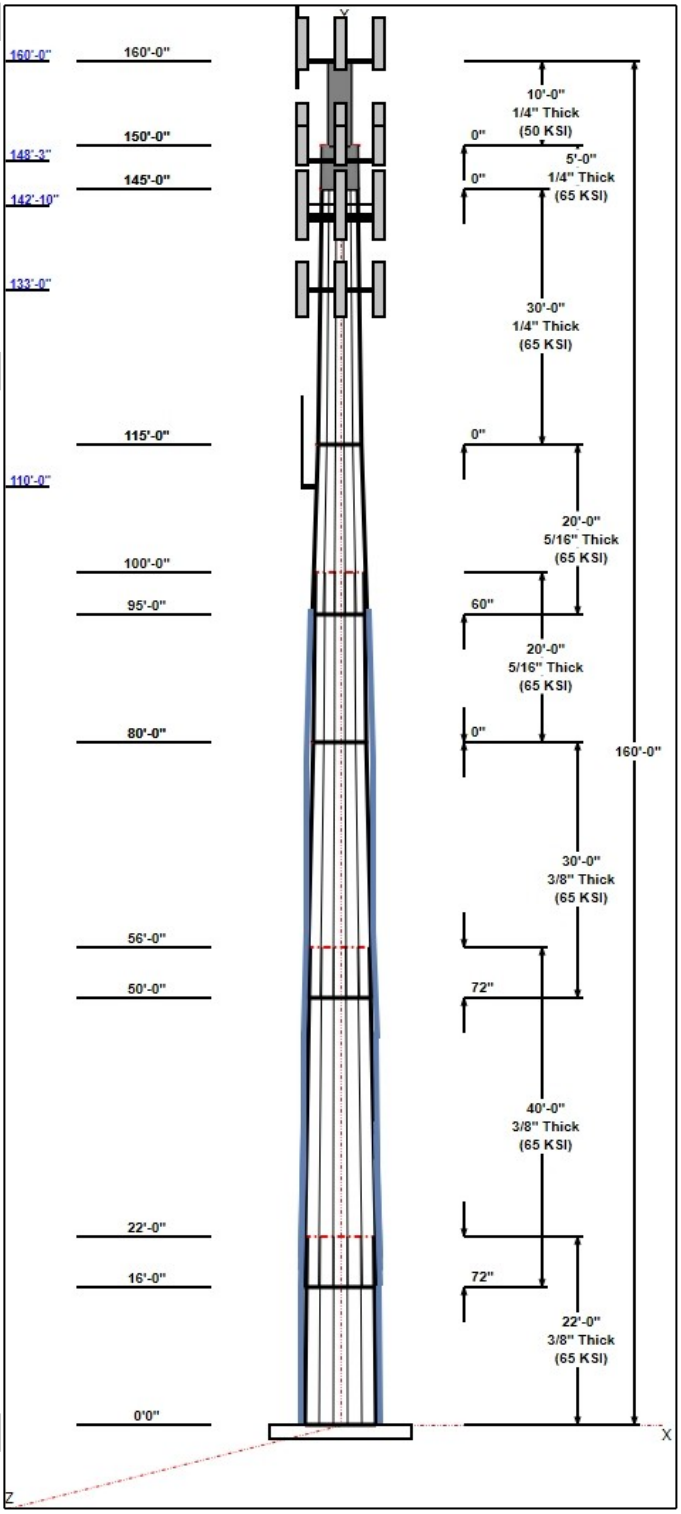
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	22.00	46.11	50.38	0.375		0.19400	65
2	40.00	40.26	48.02	0.375	Slip	0.19400	65
3	30.00	36.35	42.17	0.375	Slip	0.19400	65
4	20.00	32.48	36.35	0.313	Butt	0.19400	65
5	20.00	30.19	34.07	0.313	Slip	0.19400	65
6	30.00	24.38	30.19	0.250	Butt	0.19400	65
7	5.00	24.38	24.38	0.250	Butt	0.19400	65
8	10.00	16.00	16.00	0.250	Butt	0.00000	50

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
160.00	162.00	1	DB222	BFFD
160.00	162.00	6	DB846F65ZAXY	Verizon
160.00	162.00	1	Low Profile Platform	Verizon
160.00	162.00	9	SBNHH-1D65B	Verizon
160.00	162.00	3	RRH2X60-AWS	Verizon
160.00	162.00	1	DB-T1-6Z-8AB-0Z	Verizon
160.00	162.00	1	6' Lightning rod	
148.30	152.00	3	APXVSPP18-C-A20	Sprint
148.30	150.00	3	APXVTM14-C-120	Sprint
148.30	152.00	3	1900MHz RRH	Sprint
148.30	152.00	3	800 MHz RRH	Sprint
148.30	152.00	3	ALU 800MHz External	Sprint
148.30	150.00	3	TD-RRH8x20-25	Sprint
148.30	152.00	4	ACU-A20-N	Sprint
148.30	148.30	1	Low Profile Platform	Sprint
142.90	143.60	3	KRY 112 144/1	T-Mobile
142.90	142.90	1	Low-Profile Platform + HR	T-Mobile
142.90	142.90	3	LNX-6515DS-A1M	T-Mobile
142.90	142.90	3	S11B12	T-Mobile
142.90	143.60	3	AIR 21 B2A B4P	T-Mobile
142.90	143.60	3	AIR 21 B4A B2P	T-Mobile
133.00	133.00	3	800 10121	AT&T
133.00	133.00	3	RRUS 11	AT&T
133.00	133.00	3	RRUS A2 Module	AT&T
133.00	133.00	1	Low Profile Platform	AT&T
133.00	133.00	3	800 10798	AT&T
133.00	133.00	3	DTMABP7819VG12A	AT&T
133.00	133.00	3	RRUS 12	AT&T
133.00	133.00	3	RRUS 32	AT&T
133.00	133.00	2	DC6-48-60-18-8F	AT&T
110.00	110.00	1	3 ft Standoff	BFFD
110.00	115.29	1	DB222	BFFD
40.00	40.00	1	GPS	Sprint

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	160.00	Inside	1 5/8" Coax	Verizon
0.00	160.00	Outside	1 5/8" Hybrid	Verizon
0.00	160.00	Outside	7/8" Coax	BFFD
0.00	148.30	Inside	1-1/4" Hybrid	Sprint
0.00	148.30	Inside	1-1/4" Hybrid	Sprint



0.00	142.90	Inside	1 5/8" Coax	T-Mobile
0.00	142.90	Outside	1 5/8" Hybrid	T-Mobile
0.00	142.90	Outside	1-1/4" Hybrid	T-Mobile
0.00	133.00	Inside	1 1/4" Coax	AT&T
0.00	133.00	Inside	1 5/8" Coax	AT&T
0.00	133.00	Inside	3/4" DC	AT&T
0.00	133.00	Inside	3/8" Fiber	AT&T
0.00	110.00	Outside	7/8" Coax	BFFD
0.00	98.00	Outside	1.25" Reinforcing plate	
0.00	40.00	Inside	1/2" Coax	Sprint
0.00	32.00	Outside	1.25" Reinforcing plate	

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
18	2.00" F1554 105	105.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.5000	63.0	50.0	Round

Reactions

Load Case	Moment	Shear	Axial
1.2D + 1.6W 97 mph Wind	4195.6	37.3	49.1
0.9D + 1.6W 97 mph Wind	4150.2	37.2	36.8
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1032.8	8.6	78.8
1.2D + 1.0E	246.0	2.0	49.2
0.9D + 1.0E	243.0	2.0	36.9
1.0D + 1.0W 60 mph Wind	997.6	8.9	41.0

Structure: CT02049-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Beacon Falls
Height: 160.00 (ft)

1/30/2017

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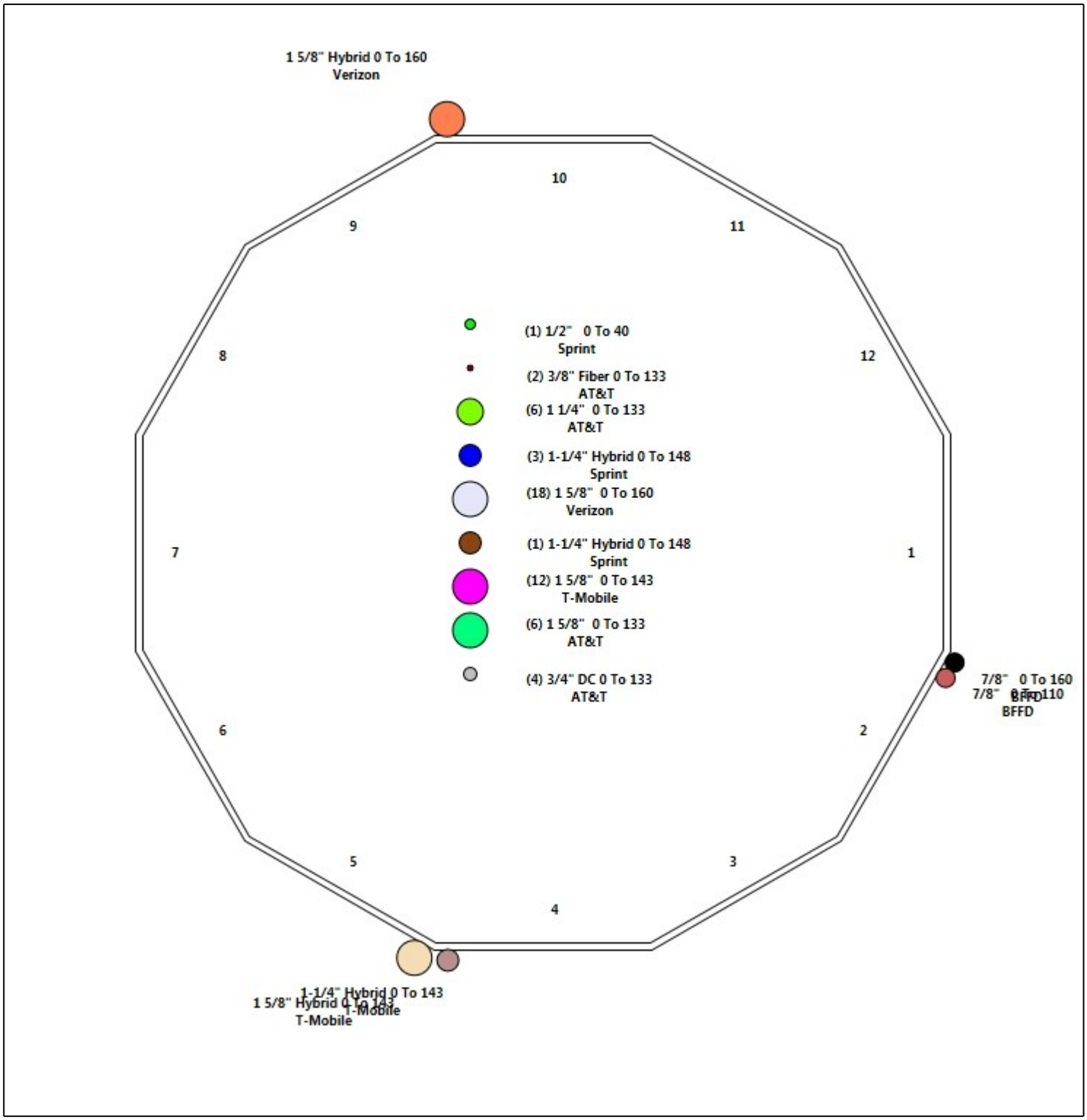

Shaft Properties

Structure:	CT02049-S-SBA		**Code:**	EIA/TIA-222-G	1/30/2017
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

Tower Engineering Solutions

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	12	22.000	0.3750	65		0.00	4,327
2	12	40.000	0.3750	65	Slip	72.00	7,193
3	12	30.000	0.3750	65	Slip	72.00	4,794
4	12	20.000	0.3125	65	Flange	0.00	2,335
5	12	20.000	0.3125	65	Slip	60.00	2,179
6	12	30.000	0.2500	65	Flange	0.00	2,221
7	R	5.000	0.2500	65	Flange	0.00	316
8	R	10.000	0.2500	50	Flange	0.00	421
					Total Shaft Weight:		**23,786**

	Bottom						Top						
Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	50.38	0.00	60.38	19265.63	33.85	134.33	46.11	22.00	55.22	14741.2	30.80	122.9	0.194000
2	48.02	16.00	57.53	16670.65	32.17	128.06	40.26	56.00	48.16	9779.90	26.62	107.3	0.194000
3	42.17	50.00	50.47	11256.46	27.99	112.47	36.35	80.00	43.45	7178.88	23.83	96.95	0.194000
4	36.35	80.00	36.27	6013.63	29.03	116.34	32.48	100.00	32.36	4273.08	25.70	103.9	0.194000
5	34.07	95.00	33.97	4940.86	27.07	109.02	30.19	115.00	30.06	3425.51	23.74	96.61	0.194000
6	30.19	115.0	24.10	2757.64	30.21	120.76	24.38	145.00	19.42	1441.83	23.98	97.50	0.194000
7	24.38	145.0	18.95	1379.54	0.00	97.50	24.38	150.00	18.19	1219.74	0.00	97.50	0.194000
8	16.00	150.0	12.37	383.86	0.00	64.00	16.00	160.00	12.37	383.86	0.00	64.00	0.000000

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Fu (ksi)	Offset (in)	Intermediate Connectors: Description	Intermediate Connectors: Spacing (in)	Termination Connectors: Description	Termination Connectors: Spacing (in)	Termination Connectors: Lower Qty	Termination Connectors: Upper Qty
0.00	16.25	3	PLT C10x30(1.5" Hole)	65	80	0.00	AJM20&sleeve	20.00	AJM20&sleeve	3.00		
16.25	31.00	3	PLT C10x15.3(1.5" Hole)	65	80	0.00	AJM20&sleeve	20.00	AJM20&sleeve	3.00		
18.00	34.00	2	LNP LP6X100-G-20TT	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00	10	10
19.50	35.50	1	LNP LP6X100-G-20TT	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00	10	10
30.00	46.00	3	PLT 6"X1-1/4"(1.25" Hole	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	3.00	8	8
45.16	58.00	3	PLT 7" x 1.25"(1.25"Hole	65	80	0.00	AJM20&sleeve	12.00	AJM20&sleeve	3.00	13	
58.00	78.00	3	PLT 5.5"x1 1/4"(1.25"hol	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	3.00		
78.00	95.58	3	PLT 5.5"x1 1/4"(1.25"hol	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	3.00		10

Load Summary

Structure:	CT02049-S-SBA		**Code:**	EIA/TIA-222-G	1/30/2017
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 6

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Discrete Appurtenances

				No Ice			Ice				
No.	Elev (ft)	Description	Qty	Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	160.00	DB222	1	16.00	2.25	1.00	85.75	8.351	1.00	0.00	2.00
2	160.00	DB846F65ZAXY	6	21.00	7.05	0.94	219.92	8.290	0.94	0.00	2.00
3	160.00	Low Profile Platform	1	1200.00	22.00	1.00	2253.91	39.776	1.00	0.00	2.00
4	160.00	SBNHH-1D65B	9	40.00	8.16	0.82	244.70	9.469	0.82	0.00	2.00
5	160.00	RRH2X60-AWS	3	60.00	3.50	0.67	147.85	4.294	0.67	0.00	2.00
6	160.00	DB-T1-6Z-8AB-0Z	1	44.00	4.80	0.50	188.83	5.680	0.50	0.00	2.00
7	160.00	6' Lightning rod	1	6.50	0.38	1.00	43.04	1.475	1.00	0.00	2.00
8	148.30	APXVSPP18-C-A20	3	57.00	8.02	0.82	229.65	10.810	0.82	0.00	3.70
9	148.30	APXVTM14-C-120	3	56.00	6.34	0.76	216.19	7.452	0.77	0.00	1.70
10	148.30	1900MHz RRH	3	44.00	3.80	0.67	153.04	5.188	0.67	0.00	3.70
11	148.30	800 MHz RRH	3	53.00	2.49	0.67	126.88	3.632	0.67	0.00	3.70
12	148.30	ALU 800MHz External Notch Filt	3	8.80	0.78	0.50	26.42	1.426	0.71	0.00	3.70
13	148.30	TD-RRH8x20-25	3	70.00	4.05	0.69	180.31	4.862	0.71	0.00	1.70
14	148.30	ACU-A20-N	4	1.00	0.14	0.75	5.29	0.436	0.77	0.00	3.70
15	148.30	Low Profile Platform	1	1200.00	17.50	1.00	2245.94	31.533	1.00	0.00	0.00
16	142.90	KRY 112 144/1	3	11.00	0.41	0.70	21.73	0.883	0.72	0.00	0.70
17	142.90	Low-Profile Platform + HR & V-	1	2246.00	51.70	1.00	5366.63	89.772	1.00	0.00	0.00
18	142.90	LNX-6515DS-A1M	3	49.80	11.47	0.84	278.24	14.721	0.85	0.00	0.00
19	142.90	S11B12	3	51.00	2.83	0.67	120.27	3.498	0.67	0.00	0.00
20	142.90	AIR 21 B2A B4P	3	91.50	6.09	0.83	259.41	7.182	0.83	0.00	0.70
21	142.90	AIR 21 B4A B2P	3	90.40	6.09	0.83	258.31	7.182	0.83	0.00	0.70
22	133.00	800 10121	3	46.30	5.15	0.79	159.80	7.232	0.81	0.00	0.00
23	133.00	RRUS 11	3	50.70	2.52	0.67	138.59	3.163	0.67	0.00	0.00
24	133.00	RRUS A2 Module	3	21.20	1.86	0.40	56.88	2.822	0.40	0.00	0.00
25	133.00	Low Profile Platform	1	1350.00	22.00	1.00	2513.94	39.450	1.00	0.00	0.00
26	133.00	800 10798	3	81.40	8.62	0.75	511.19	11.539	0.76	0.00	0.00
27	133.00	DTMABP7819VG12A	3	19.00	1.14	0.50	43.95	1.900	0.50	0.00	0.00
28	133.00	RRUS 12	3	58.00	2.81	0.70	143.86	3.479	0.71	0.00	0.00
29	133.00	RRUS 32	3	77.00	1.65	1.00	124.72	2.222	1.00	0.00	0.00
30	133.00	DC6-48-60-18-8F	2	32.80	1.47	1.00	95.81	2.162	1.00	0.00	0.00
31	110.00	3 ft Standoff	1	40.00	2.63	1.00	117.83	8.416	1.00	0.00	0.00
32	110.00	DB222	1	16.00	2.25	1.00	83.19	8.126	1.00	0.00	5.29
33	40.00	GPS	1	10.00	1.00	1.00	35.69	1.624	1.00	0.00	0.00
		Totals:	**88**	**9,672.40**			**26,261.27**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	160.00	(18) 1 5/8" Coax	0.00	Inside
0.00	160.00	(1) 1 5/8" Hybrid	2.00	Outside
0.00	160.00	(1) 7/8" Coax	0.00	Outside
0.00	148.30	(1) 1-1/4" Hybrid	0.00	Inside
0.00	148.30	(3) 1-1/4" Hybrid	0.00	Inside
0.00	142.90	(12) 1 5/8" Coax	0.00	Inside
0.00	142.90	(1) 1 5/8" Hybrid	2.00	Outside
0.00	142.90	(1) 1-1/4" Hybrid	1.00	Outside

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
0.00	133.00	(6) 1 1/4" Coax			0.00	Inside					
0.00	133.00	(6) 1 5/8" Coax			0.00	Inside					
0.00	133.00	(4) 3/4" DC			0.00	Inside					
0.00	133.00	(2) 3/8" Fiber			0.00	Inside					
0.00	110.00	(1) 7/8" Coax			0.00	Outside					
0.00	98.00	(3) 1.25" Reinforcing plate			1.00	Outside					
0.00	40.00	(1) 1/2" Coax			0.00	Inside					
0.00	32.00	(3) 1.25" Reinforcing plate			2.00	Outside					

Shaft Section Properties

Structure: CT02049-S-SBA | **Code:** EIA/TIA-222-G | 1/30/2017

Site Name: Beacon Falls | **Exposure:** B

Height: 160.00 (ft) | **Crest Height:** 0.00

Base Elev: 0.000 (ft) | **Site Class:** D - Stiff Soil

Gh: 1.1 | **Topography:** 1 | **Struct Class:** II | Page: 8

Increment Length: 5 (ft)

											Additional Reinforcing			
Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
0.00	RB1	0.3750	50.375	60.375	19265.6	33.85	134.33	65	68	0.0	26.46	9158.8	9158.8	
5.00		0.3750	49.405	59.204	18166.0	33.16	131.75	65	69	1017.2	26.46	8824.7	8824.7	450.0
10.00		0.3750	48.435	58.032	17109.0	32.46	129.16	65	69	997.3	26.46	8496.8	8496.8	450.0
15.00		0.3750	47.465	56.861	16093.8	31.77	126.57	65	70	977.4	26.46	8175.1	8175.1	450.0
16.00	Bot - Section 2	0.3750	47.271	56.627	15895.7	31.63	126.06	65	70	193.1	26.46	8111.5	8111.5	90.0
16.25	RT1 RB2	0.3750	47.222	56.568	15846.5	31.60	125.93	65	70	97.1	13.47	4462.4	4462.4	11.5
18.00	RB3	0.3750	46.883	56.158	15504.4	31.36	125.02	65	71	676.7	25.47	9741.7	5758.1	151.8
19.50	RB4	0.3750	46.592	55.807	15215.2	31.15	124.25	65	71	576.1	31.47	9639.7	9639.7	160.7
20.00		0.3750	46.495	55.690	15119.6	31.08	123.99	65	71	191.2	31.47	9602.0	9602.0	53.6
22.00	Top - Section 1	0.3750	46.857	56.127	15478.5	31.34	124.95	65	71	761.0	31.47	9452.1	9452.1	214.3
25.00		0.3750	46.275	55.424	14904.3	30.92	123.40	65	71	569.4	31.47	9229.5	9229.5	321.4
30.00	RB5	0.3750	45.305	54.253	13979.2	30.23	120.81	65	72	933.0	53.97	14995.2	14995.2	918.5
31.00	RT2	0.3750	45.111	54.019	13798.9	30.09	120.30	65	72	184.2	40.50	10892.0	10892.0	137.8
34.00	RT3	0.3750	44.529	53.316	13267.3	29.67	118.74	65	72	547.9	28.50	8669.2	5940.9	290.9
35.00		0.3750	44.335	53.082	13093.2	29.54	118.23	65	73	181.0	28.50	8595.3	5891.0	97.0
35.50	RT4	0.3750	44.238	52.965	13006.7	29.47	117.97	65	73	90.2	22.50	5854.7	5854.7	38.3
40.00		0.3750	43.365	51.910	12245.5	28.84	115.64	65	73	802.9	22.50	5633.5	5633.5	344.5
45.00		0.3750	42.395	50.739	11435.1	28.15	113.05	65	74	873.2	22.50	5392.7	5392.7	382.8
45.16	RB6	0.3750	42.364	50.702	11409.8	28.13	112.97	65	74	27.6	48.75	11681.9	11681.9	26.5
46.00	RT5	0.3750	42.201	50.505	11277.5	28.01	112.54	65	74	144.6	26.25	6250.3	6250.3	75.0
50.00	Bot - Section 3	0.3750	41.425	49.568	10661.4	27.46	110.47	65	75	681.1	26.25	6031.0	6031.0	357.2
55.00		0.3750	40.455	48.397	9923.3	26.76	107.88	65	76	1682.2	26.25	5969.5	5969.5	446.6
56.00	Top - Section 2	0.3750	41.011	49.068	10342.0	27.16	109.36	65	75	331.7	26.25	5915.6	5915.6	89.3
58.00	RT6 RB7	0.3750	40.623	48.599	10048.6	26.88	108.33	65	75	332.3	20.63	4547.7	4547.7	140.4
60.00		0.3750	40.235	48.131	9760.8	26.61	107.29	65	76	329.2	20.63	4464.3	4464.3	140.4
65.00		0.3750	39.265	46.960	9065.4	25.91	104.71	65	76	808.9	20.63	4259.2	4259.2	350.9
70.00		0.3750	38.295	45.788	8403.8	25.22	102.12	65	77	789.0	20.63	4059.0	4059.0	350.9
75.00		0.3750	37.325	44.617	7775.3	24.53	99.53	65	78	769.1	20.63	3863.7	3863.7	350.9
78.00	RT7 RB8	0.3750	36.743	43.914	7413.6	24.11	97.98	65	78	451.9	20.63	3748.8	3748.8	210.5
80.00	Top - Section 3	0.3750	36.355	43.446	7178.9	23.83	96.95	65	79	297.3	20.63	3673.2	3673.2	140.4
80.00	Bot - Section 4	0.3125	36.355	36.268	6013.6	28.60	116.34	65	73					
85.00		0.3125	35.385	35.292	5541.0	28.20	113.23	65	74	608.8	20.63	3487.5	3487.5	350.9
90.00		0.3125	34.415	34.316	5093.9	27.37	110.13	65	75	592.1	20.63	3306.7	3306.7	350.9
95.00	Bot - Section 5	0.3125	33.445	33.340	4671.5	26.53	107.02	65	76	575.5	20.63	3130.7	3130.7	350.9
95.58	RT8	0.3125	33.332	33.226	4624.0	26.44	106.66	65	76	132.6	20.63	3223.1	3223.1	40.7
100.00	Top - Section 4	0.3125	33.100	32.992	4527.1	26.24	105.92	65	76	995.9				
105.00		0.3125	32.130	32.016	4137.0	25.41	102.82	65	77	553.0				
110.00		0.3125	31.160	31.040	3770.1	24.57	99.71	65	78	536.4				
115.00	Top - Section 5	0.3125	30.190	30.064	3425.5	23.74	96.61	65	79	519.8				
115.00	Bot - Section 6	0.2500	30.190	24.102	2757.6	29.68	120.76	65	72					
120.00		0.2500	29.220	23.321	2498.2	29.17	116.88	65	73	403.4				
125.00		0.2500	28.250	22.540	2255.6	28.13	113.00	65	74	390.1				
130.00		0.2500	27.280	21.759	2029.2	27.10	109.12	65	75	376.9				
133.00		0.2500	26.698	21.291	1900.9	26.47	106.79	65	76	219.7				
135.00		0.2500	26.310	20.978	1818.5	26.06	105.24	65	76	143.8				
140.00		0.2500	25.340	20.197	1622.9	25.02	101.36	65	77	350.3				
142.90		0.2500	24.777	19.745	1516.1	24.41	99.11	65	78	197.1				
145.00	Top - Section 6	0.2500	24.370	19.417	1441.8	23.98	97.48	65	79	139.9				
145.00	Bot - Section 7	0.2500	24.375	18.948	1379.5	23.98	97.48	65	55					
148.30		0.2500	23.735	18.445	1272.6	0.00	94.94	65	55	209.9				

Increment Length: **5 (ft)**

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing Area (in^2)	Additional Reinforcing Ixp (in^4)	Additional Reinforcing Iyp (in^4)	Additional Reinforcing Weight (lb)
150.00	Top - Section 7	0.2500	23.405	18.186	1219.7	0.00	93.62	65	55	105.9				
150.00	Bot - Section 8	0.2500	16.000	12.370	383.9	0.00	93.62	50	50					
155.00		0.2500	16.000	12.370	383.9	0.00	64.00	50	50	210.5				
160.00		0.2500	16.000	12.370	383.9	0.00	64.00	50	50	210.5				
									Total Weight	**23786.1**				**8335.6**

Wind Loading - Shaft

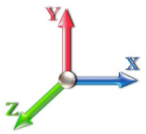
Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00	RB1	1.00	0.70	16.018	17.62	352.70	1.000	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	16.018	17.62	345.91	1.223 *	0.000	5.00	21.521	26.31	741.8	0.0	1220.7
10.00		1.00	0.70	16.018	17.62	339.12	1.233 *	0.000	5.00	21.102	26.02	733.6	0.0	1196.8
15.00		1.00	0.70	16.018	17.62	332.33	1.244 *	0.000	5.00	20.684	25.73	725.3	0.0	1172.9
16.00	Bot - Section 2	1.00	0.70	16.018	17.62	330.97	1.251 *	0.000	1.00	4.087	5.11	144.1	0.0	231.7
16.25	RT1 RB2	1.00	0.70	16.018	17.62	330.63	1.252 *	0.000	0.25	1.035	1.30	36.5	0.0	116.5
18.00	RB3	1.00	0.70	16.018	17.62	328.25	1.254 *	0.000	1.75	7.217	9.05	255.2	0.0	812.0
19.50	RB4	1.00	0.70	16.018	17.62	326.22	1.258 *	0.000	1.50	6.145	7.73	217.9	0.0	691.3
20.00		1.00	0.70	16.018	17.62	325.54	1.260 *	0.000	0.50	2.040	2.57	72.5	0.0	229.5
22.00	Top - Section 1	1.00	0.70	16.018	17.62	322.82	1.263 *	0.000	2.00	8.118	10.26	289.1	0.0	913.2
25.00		1.00	0.70	16.018	17.62	324.00	1.260 *	0.000	3.00	12.052	15.19	428.1	0.0	683.3
30.00	RB5	1.00	0.70	16.031	17.63	317.34	1.270 *	0.000	5.00	19.752	25.08	707.5	0.0	1119.6
31.00	RT2	1.00	0.71	16.182	17.80	317.46	1.277 *	0.000	1.00	3.900	4.98	141.8	0.0	221.1
34.00	RT3	1.00	0.73	16.615	18.28	317.53	1.174 *	0.000	3.00	11.600	13.62	398.3	0.0	657.4
35.00		1.00	0.73	16.753	18.43	317.46	1.124 *	0.000	1.00	3.833	4.31	127.0	0.0	217.2
35.50	RT4	1.00	0.74	16.821	18.50	317.41	1.125 *	0.000	0.50	1.910	2.15	63.6	0.0	108.3
40.00	Appurtenance(s)	1.00	0.76	17.405	19.15	316.49	1.130 *	0.000	4.50	17.005	19.22	588.6	0.0	963.5
45.00		1.00	0.79	18.000	19.80	314.67	1.139 *	0.000	5.00	18.497	21.07	667.6	0.0	1047.9
45.16	RB6	1.00	0.79	18.019	19.82	314.59	1.144 *	0.000	0.16	0.585	0.67	21.2	0.0	33.1
46.00	RT5	1.00	0.79	18.114	19.93	314.21	1.145 *	0.000	0.84	3.064	3.51	111.9	0.0	173.6
50.00	Bot - Section 3	1.00	0.81	18.551	20.41	312.13	1.150 *	0.000	4.00	14.429	16.60	542.0	0.0	817.3
55.00		1.00	0.83	19.063	20.97	309.00	1.160 *	0.000	5.00	17.984	20.86	699.9	0.0	2018.6
56.00	Top - Section 2	1.00	0.84	19.161	21.08	308.31	1.167 *	0.000	1.00	3.547	4.14	139.5	0.0	398.0
58.00	RT6 RB7	1.00	0.85	19.354	21.29	312.65	1.161 *	0.000	2.00	7.043	8.18	278.6	0.0	398.8
60.00		1.00	0.85	19.543	21.50	311.16	1.166 *	0.000	2.00	6.976	8.13	279.7	0.0	395.0
65.00		1.00	0.87	19.995	21.99	307.15	1.174 *	0.000	5.00	17.147	20.13	708.3	0.0	970.7
70.00		1.00	0.89	20.422	22.46	302.75	1.186 *	0.000	5.00	16.728	19.83	712.9	0.0	946.8
75.00		1.00	0.91	20.829	22.91	298.01	1.198 *	0.000	5.00	16.310	19.54	716.4	0.0	922.9
78.00	RT7 RB8	1.00	0.92	21.064	23.17	295.01	1.209 *	0.000	3.00	9.585	11.58	429.5	0.0	542.3
80.00	Top - Section 3	1.00	0.93	21.217	23.34	292.95	1.215 *	0.000	2.00	6.306	7.66	286.2	0.0	356.7
85.00		1.00	0.94	21.587	23.75	287.62	1.225 *	0.000	5.00	15.473	18.96	720.2	0.0	730.5
90.00		1.00	0.96	21.943	24.14	282.02	1.240 *	0.000	5.00	15.055	18.66	720.8	0.0	710.6
95.00	Bot - Section 5	1.00	0.97	22.284	24.51	276.20	1.255 *	0.000	5.00	14.636	18.37	720.5	0.0	690.6
95.58	RT8	1.00	0.98	22.323	24.56	275.51	1.264 *	0.000	0.58	1.702	2.15	84.5	0.0	159.1
100.00	Top - Section 4	1.00	0.99	22.613	24.87	270.16	1.223 *	0.000	4.42	12.785	15.63	622.1	0.0	1195.1
105.00		1.00	1.00	22.931	25.22	269.16	1.166 *	0.000	5.00	14.069	16.41	662.3	0.0	663.6
110.00	Appurtenance(s)	1.00	1.02	23.238	25.56	262.78	1.181 *	0.000	5.00	13.651	16.12	659.2	0.0	643.7
115.00	Top - Section 5	1.00	1.03	23.535	25.89	256.22	1.196 *	0.000	5.00	13.232	15.82	655.5	0.0	623.8
120.00		1.00	1.04	23.823	26.20	249.50	1.212 *	0.000	5.00	12.814	15.53	651.2	0.0	484.1
125.00		1.00	1.05	24.102	26.51	242.63	1.229 *	0.000	5.00	12.395	15.24	646.4	0.0	468.2
130.00		1.00	1.07	24.374	26.81	235.61	1.248 *	0.000	5.00	11.977	14.95	641.2	0.0	452.2
133.00	Appurtenance(s)	1.00	1.07	24.533	26.99	231.34	1.264 *	0.000	3.00	6.985	8.83	381.1	0.0	263.7
135.00		1.00	1.08	24.638	27.10	228.46	1.274 *	0.000	2.00	4.573	5.83	252.6	0.0	172.6
140.00		1.00	1.09	24.895	27.38	221.19	1.289 *	0.000	5.00	11.140	14.36	629.2	0.0	420.3
142.90	Appurtenance(s)	1.00	1.09	25.042	27.55	216.91	1.200 *	0.000	2.90	6.269	7.52	331.6	0.0	236.5
145.00	Top - Section 6	1.00	1.10	25.146	27.66	213.79	1.000	0.000	2.10	4.452	4.45	197.0	0.0	167.9
148.30	Appurtenance(s)	1.00	1.11	25.308	27.84	201.77	0.600	0.000	3.30	6.615	3.97	176.8	0.0	251.9

Wind Loading - Shaft

Structure:	CT02049-S-SBA		**Code:**	EIA/TIA-222-G	1/30/2017
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 11

Tower Engineering Solutions

150.00 Top - Section 7	1.00	1.11	25.391	27.93	199.29	0.600	0.000	1.70	3.339	2.00	89.5	0.0	127.1
155.00	1.00	1.12	25.630	28.19	136.88	0.645 *	0.000	5.00	6.667	4.30	194.0	0.0	252.6
160.00 Appurtenance(s)	1.00	1.13	25.863	28.45	137.50	0.645 *	0.000	5.00	6.667	4.30	195.7	0.0	252.6
							Totals:	**160.00**			**20,496.7**		**28,543.3**

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

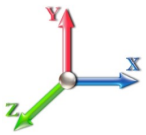
Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	160.00	DB-T1-6Z-8AB-0Z	1	25.955	28.551	0.50	1.00	2.40	52.80	0.000	2.000	109.64	0.00	219.27
2	160.00	RRH2X60-AWS	3	25.955	28.551	0.67	1.00	7.04	216.00	0.000	2.000	321.37	0.00	642.74
3	160.00	SBNHH-1D65B	9	25.955	28.551	0.82	1.00	60.29	432.00	0.000	2.000	2754.33	0.00	5508.65
4	160.00	Low Profile Platform	1	25.955	28.551	1.00	1.00	22.00	1440.00	0.000	2.000	1004.99	0.00	2009.98
5	160.00	DB846F65ZAXY	6	25.955	28.551	0.94	1.00	39.68	151.20	0.000	2.000	1812.52	0.00	3625.04
6	160.00	DB222	1	25.955	28.551	1.00	1.00	2.25	19.20	0.000	2.000	102.78	0.00	205.57
7	160.00	6' Lightning rod	1	25.955	28.551	1.00	1.00	0.38	7.80	0.000	2.000	17.36	0.00	34.72
8	148.30	APXVTM14-C-120	3	25.391	27.930	0.61	0.80	11.59	201.60	0.000	1.700	518.14	0.00	880.83
9	148.30	1900MHz RRH	3	25.487	28.036	0.54	0.80	6.11	158.40	0.000	3.700	274.10	0.00	1014.16
10	148.30	800 MHz RRH	3	25.487	28.036	0.54	0.80	4.00	190.80	0.000	3.700	179.61	0.00	664.54
11	148.30	APXVSPP18-C-A20	3	25.487	28.036	0.66	0.80	15.78	205.20	0.000	3.700	708.00	0.00	2619.60
12	148.30	Low Profile Platform	1	25.308	27.839	1.00	1.00	17.50	1440.00	0.000	0.000	779.50	0.00	0.00
13	148.30	ALU 800MHz External	3	25.487	28.036	0.40	0.80	0.94	31.68	0.000	3.700	41.99	0.00	155.35
14	148.30	TD-RRH8x20-25	3	25.391	27.930	0.55	0.80	6.71	252.00	0.000	1.700	299.71	0.00	509.51
15	148.30	ACU-A20-N	4	25.487	28.036	0.60	0.80	0.34	4.80	0.000	3.700	15.07	0.00	55.77
16	142.90	AIR 21 B4A B2P	3	25.076	27.584	0.66	0.80	12.09	325.44	0.000	0.700	533.47	0.00	373.43
17	142.90	AIR 21 B2A B4P	3	25.076	27.584	0.66	0.80	12.09	329.40	0.000	0.700	533.47	0.00	373.43
18	142.90	LNX-6515DS-A1M	3	25.042	27.546	0.67	0.80	23.12	179.28	0.000	0.000	1019.12	0.00	0.00
19	142.90	Low-Profile Platform + HR	1	25.042	27.546	1.00	1.00	51.70	2695.20	0.000	0.000	2278.58	0.00	0.00
20	142.90	KRY 112 144/1	3	25.076	27.584	0.56	0.80	0.69	39.60	0.000	0.700	30.40	0.00	21.28
21	142.90	S11B12	3	25.042	27.546	0.54	0.80	4.55	183.60	0.000	0.000	200.56	0.00	0.00
22	133.00	Low Profile Platform	1	24.533	26.986	1.00	1.00	22.00	1620.00	0.000	0.000	949.92	0.00	0.00
23	133.00	800 10121	3	24.533	26.986	0.63	0.80	9.76	166.68	0.000	0.000	421.61	0.00	0.00
24	133.00	RRUS 11	3	24.533	26.986	0.54	0.80	4.05	182.52	0.000	0.000	174.96	0.00	0.00
25	133.00	RRUS A2 Module	3	24.533	26.986	0.32	0.80	1.79	76.32	0.000	0.000	77.10	0.00	0.00
26	133.00	800 10798	3	24.533	26.986	0.60	0.80	15.56	293.04	0.000	0.000	671.74	0.00	0.00
27	133.00	RRUS 12	3	24.533	26.986	0.56	0.80	4.74	208.80	0.000	0.000	204.71	0.00	0.00
28	133.00	DTMABP7819VG12A	3	24.533	26.986	0.40	0.80	1.37	68.40	0.000	0.000	59.07	0.00	0.00
29	133.00	RRUS 32	3	24.533	26.986	0.80	0.80	3.96	277.20	0.000	0.000	170.99	0.00	0.00
30	133.00	DC6-48-60-18-8F	2	24.533	26.986	0.80	0.80	2.35	78.72	0.000	0.000	101.56	0.00	0.00
31	110.00	DB222	1	23.552	25.907	1.00	1.00	2.25	19.20	0.000	5.292	93.26	0.00	493.53
32	110.00	3 ft Standoff	1	23.238	25.561	1.00	1.00	2.63	48.00	0.000	0.000	107.56	0.00	0.00
33	40.00	GPS	1	17.405	19.145	1.00	1.00	1.00	12.00	0.000	0.000	30.63	0.00	0.00
							Totals:		**11,606.88**			**16,597.81**		

Total Applied Force Summary

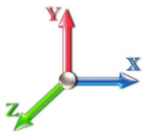
Structure:	CT02049-S-SBA		**Code:**	EIA/TIA-222-G	1/30/2017
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 13

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		741.85	1528.44	0.00	0.00
10.00		733.59	1504.53	0.00	0.00
15.00		725.33	1480.61	0.00	0.00
16.00		144.08	293.25	0.00	0.00
16.25		36.54	131.87	0.00	0.00
18.00		255.20	919.71	0.00	0.00
19.50		217.95	783.66	0.00	0.00
20.00		72.49	260.26	0.00	0.00
22.00		289.13	1036.27	0.00	0.00
25.00		428.13	867.90	0.00	0.00
30.00		707.54	1427.36	0.00	0.00
31.00		141.84	282.60	0.00	0.00
34.00		398.29	842.07	0.00	0.00
35.00		127.03	278.78	0.00	0.00
35.50		63.64	139.03	0.00	0.00
40.00	(1) attachments	619.26	1252.51	0.00	0.00
45.00		667.60	1354.66	0.00	0.00
45.16		21.23	42.95	0.00	0.00
46.00		111.90	225.11	0.00	0.00
50.00		541.99	1062.68	0.00	0.00
55.00		699.94	2325.38	0.00	0.00
56.00		139.54	459.34	0.00	0.00
58.00		278.64	521.52	0.00	0.00
60.00		279.74	517.69	0.00	0.00
65.00		708.30	1277.50	0.00	0.00
70.00		712.93	1253.58	0.00	0.00
75.00		716.39	1229.67	0.00	0.00
78.00		429.47	726.32	0.00	0.00
80.00		286.20	479.43	0.00	0.00
85.00		720.22	1037.28	0.00	0.00
90.00		720.76	1017.35	0.00	0.00
95.00		720.50	997.43	0.00	0.00
95.58		84.53	194.73	0.00	0.00
100.00		622.14	1466.33	0.00	0.00
105.00		662.31	970.41	0.00	0.00
110.00	(2) attachments	860.02	1017.68	0.00	493.53
115.00		655.49	927.44	0.00	0.00
120.00		651.23	787.77	0.00	0.00
125.00		646.44	771.82	0.00	0.00
130.00		641.16	755.88	0.00	0.00
133.00	(24) attachments	3212.79	3417.56	0.00	0.00
135.00		252.64	265.45	0.00	0.00
140.00		629.21	652.48	0.00	0.00
142.90	(16) attachments	4994.29	4123.65	0.00	768.14
145.00		197.04	228.78	0.00	0.00
148.30	(23) attachments	2992.90	2832.07	0.00	5899.76

Total Applied Force Summary

Structure:	CT02049-S-SBA		**Code:**	EIA/TIA-222-G	1/30/2017
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 14

150.00		89.53	168.63	0.00	0.00
155.00		193.97	374.59	0.00	0.00
160.00	(22) attachments	6318.72	2693.59	0.00	12245.97
	Totals:	**37,161.63**	**49,205.60**	**0.00**	**19,407.40**

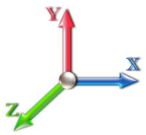
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.174	1.223	16.018	0.00	6.60
5.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.174	1.223	16.018	0.00	3.12
5.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.174	1.223	16.018	0.00	6.60
5.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.174	1.223	16.018	0.00	5.72
5.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.174	1.223	16.018	0.00	3.12
5.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.174	1.223	16.018	0.00	0.00
5.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.174	1.223	16.018	0.00	0.00
10.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.178	1.233	16.018	0.00	6.60
10.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.178	1.233	16.018	0.00	3.12
10.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.178	1.233	16.018	0.00	6.60
10.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.178	1.233	16.018	0.00	5.72
10.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.178	1.233	16.018	0.00	3.12
10.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.178	1.233	16.018	0.00	0.00
10.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.178	1.233	16.018	0.00	0.00
15.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.181	1.244	16.018	0.00	6.60
15.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.181	1.244	16.018	0.00	3.12
15.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.181	1.244	16.018	0.00	6.60
15.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.181	1.244	16.018	0.00	5.72
15.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.181	1.244	16.018	0.00	3.12
15.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.181	1.244	16.018	0.00	0.00
15.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.181	1.244	16.018	0.00	0.00
16.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.184	1.251	16.018	0.00	1.32
16.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.184	1.251	16.018	0.00	0.62
16.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.184	1.251	16.018	0.00	1.32
16.00	1-1/4" Hybrid	Yes	1.00	0.000	1.25	0.10	0.00	0.184	1.251	16.018	0.00	1.14
16.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.184	1.251	16.018	0.00	0.62
16.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.184	1.251	16.018	0.00	0.00
16.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.184	1.251	16.018	0.00	0.00
16.25	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.04	0.00	0.184	1.252	16.018	0.00	0.33
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.184	1.252	16.018	0.00	0.16
16.25	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.04	0.00	0.184	1.252	16.018	0.00	0.33
16.25	1-1/4" Hybrid	Yes	0.25	0.000	1.25	0.03	0.00	0.184	1.252	16.018	0.00	0.29
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.184	1.252	16.018	0.00	0.16
16.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.184	1.252	16.018	0.00	0.00
16.25	1.25" Reinforcing	Yes	0.25	0.000	2.50	0.05	0.00	0.184	1.252	16.018	0.00	0.00
18.00	1 5/8" Hybrid	Yes	1.75	0.000	2.00	0.29	0.00	0.185	1.254	16.018	0.00	2.31
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.185	1.254	16.018	0.00	1.09
18.00	1 5/8" Hybrid	Yes	1.75	0.000	2.00	0.29	0.00	0.185	1.254	16.018	0.00	2.31
18.00	1-1/4" Hybrid	Yes	1.75	0.000	1.25	0.18	0.00	0.185	1.254	16.018	0.00	2.00
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.185	1.254	16.018	0.00	1.09
18.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.185	1.254	16.018	0.00	0.00
18.00	1.25" Reinforcing	Yes	1.75	0.000	2.50	0.36	0.00	0.185	1.254	16.018	0.00	0.00
19.50	1 5/8" Hybrid	Yes	1.50	0.000	2.00	0.25	0.00	0.186	1.258	16.018	0.00	1.98
19.50	7/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.186	1.258	16.018	0.00	0.94
19.50	1 5/8" Hybrid	Yes	1.50	0.000	2.00	0.25	0.00	0.186	1.258	16.018	0.00	1.98
19.50	1-1/4" Hybrid	Yes	1.50	0.000	1.25	0.16	0.00	0.186	1.258	16.018	0.00	1.72
19.50	7/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.186	1.258	16.018	0.00	0.94

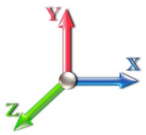
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
19.50	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.16	0.00	0.186	1.258	16.018	0.00	0.00
19.50	1.25" Reinforcing	Yes	1.50	0.000	2.50	0.31	0.00	0.186	1.258	16.018	0.00	0.00
20.00	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.08	0.00	0.187	1.260	16.018	0.00	0.66
20.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.187	1.260	16.018	0.00	0.31
20.00	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.08	0.00	0.187	1.260	16.018	0.00	0.66
20.00	1-1/4" Hybrid	Yes	0.50	0.000	1.25	0.05	0.00	0.187	1.260	16.018	0.00	0.57
20.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.187	1.260	16.018	0.00	0.31
20.00	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.05	0.00	0.187	1.260	16.018	0.00	0.00
20.00	1.25" Reinforcing	Yes	0.50	0.000	2.50	0.10	0.00	0.187	1.260	16.018	0.00	0.00
22.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.188	1.263	16.018	0.00	2.64
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.188	1.263	16.018	0.00	1.25
22.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.188	1.263	16.018	0.00	2.64
22.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.21	0.00	0.188	1.263	16.018	0.00	2.29
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.188	1.263	16.018	0.00	1.25
22.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.188	1.263	16.018	0.00	0.00
22.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.188	1.263	16.018	0.00	0.00
25.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.187	1.260	16.018	0.00	3.96
25.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.187	1.260	16.018	0.00	1.87
25.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.187	1.260	16.018	0.00	3.96
25.00	1-1/4" Hybrid	Yes	3.00	0.000	1.25	0.31	0.00	0.187	1.260	16.018	0.00	3.43
25.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.187	1.260	16.018	0.00	1.87
25.00	1.25" Reinforcing	Yes	3.00	0.000	1.25	0.31	0.00	0.187	1.260	16.018	0.00	0.00
25.00	1.25" Reinforcing	Yes	3.00	0.000	2.50	0.63	0.00	0.187	1.260	16.018	0.00	0.00
30.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.190	1.270	16.031	0.00	6.60
30.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.190	1.270	16.031	0.00	3.12
30.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.190	1.270	16.031	0.00	6.60
30.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.190	1.270	16.031	0.00	5.72
30.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.190	1.270	16.031	0.00	3.12
30.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.190	1.270	16.031	0.00	0.00
30.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.190	1.270	16.031	0.00	0.00
31.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.192	1.277	16.182	0.00	1.32
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.192	1.277	16.182	0.00	0.62
31.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.192	1.277	16.182	0.00	1.32
31.00	1-1/4" Hybrid	Yes	1.00	0.000	1.25	0.10	0.00	0.192	1.277	16.182	0.00	1.14
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.192	1.277	16.182	0.00	0.62
31.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.192	1.277	16.182	0.00	0.00
31.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.192	1.277	16.182	0.00	0.00
34.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.158	1.174	16.615	0.00	3.96
34.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.158	1.174	16.615	0.00	1.87
34.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.158	1.174	16.615	0.00	3.96
34.00	1-1/4" Hybrid	Yes	3.00	0.000	1.25	0.31	0.00	0.158	1.174	16.615	0.00	3.43
34.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.158	1.174	16.615	0.00	1.87
34.00	1.25" Reinforcing	Yes	3.00	0.000	1.25	0.31	0.00	0.158	1.174	16.615	0.00	0.00
34.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.158	1.174	16.615	0.00	0.00
35.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.141	1.124	16.753	0.00	1.32
35.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.141	1.124	16.753	0.00	0.62
35.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.141	1.124	16.753	0.00	1.32

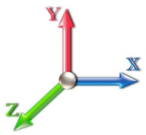
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
35.00	1-1/4" Hybrid	Yes	1.00	0.000	1.25	0.10	0.00	0.141	1.124	16.753	0.00	1.14
35.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.141	1.124	16.753	0.00	0.62
35.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.141	1.124	16.753	0.00	0.00
35.50	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.08	0.00	0.142	1.125	16.821	0.00	0.66
35.50	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.142	1.125	16.821	0.00	0.31
35.50	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.08	0.00	0.142	1.125	16.821	0.00	0.66
35.50	1-1/4" Hybrid	Yes	0.50	0.000	1.25	0.05	0.00	0.142	1.125	16.821	0.00	0.57
35.50	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.142	1.125	16.821	0.00	0.31
35.50	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.05	0.00	0.142	1.125	16.821	0.00	0.00
40.00	1 5/8" Hybrid	Yes	4.50	0.000	2.00	0.75	0.00	0.143	1.130	17.405	0.00	5.94
40.00	7/8" Coax	Yes	4.50	0.000	0.00	0.00	0.00	0.143	1.130	17.405	0.00	2.81
40.00	1 5/8" Hybrid	Yes	4.50	0.000	2.00	0.75	0.00	0.143	1.130	17.405	0.00	5.94
40.00	1-1/4" Hybrid	Yes	4.50	0.000	1.25	0.47	0.00	0.143	1.130	17.405	0.00	5.15
40.00	7/8" Coax	Yes	4.50	0.000	0.00	0.00	0.00	0.143	1.130	17.405	0.00	2.81
40.00	1.25" Reinforcing	Yes	4.50	0.000	1.25	0.47	0.00	0.143	1.130	17.405	0.00	0.00
45.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.146	1.139	18.000	0.00	6.60
45.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.146	1.139	18.000	0.00	3.12
45.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.146	1.139	18.000	0.00	6.60
45.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.146	1.139	18.000	0.00	5.72
45.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.146	1.139	18.000	0.00	3.12
45.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.146	1.139	18.000	0.00	0.00
45.16	1 5/8" Hybrid	Yes	0.16	0.000	2.00	0.03	0.00	0.148	1.144	18.019	0.00	0.21
45.16	7/8" Coax	Yes	0.16	0.000	0.00	0.00	0.00	0.148	1.144	18.019	0.00	0.10
45.16	1 5/8" Hybrid	Yes	0.16	0.000	2.00	0.03	0.00	0.148	1.144	18.019	0.00	0.21
45.16	1-1/4" Hybrid	Yes	0.16	0.000	1.25	0.02	0.00	0.148	1.144	18.019	0.00	0.18
45.16	7/8" Coax	Yes	0.16	0.000	0.00	0.00	0.00	0.148	1.144	18.019	0.00	0.10
45.16	1.25" Reinforcing	Yes	0.16	0.000	1.25	0.02	0.00	0.148	1.144	18.019	0.00	0.00
46.00	1 5/8" Hybrid	Yes	0.84	0.000	2.00	0.14	0.00	0.148	1.145	18.114	0.00	1.11
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.148	1.145	18.114	0.00	0.52
46.00	1 5/8" Hybrid	Yes	0.84	0.000	2.00	0.14	0.00	0.148	1.145	18.114	0.00	1.11
46.00	1-1/4" Hybrid	Yes	0.84	0.000	1.25	0.09	0.00	0.148	1.145	18.114	0.00	0.96
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.148	1.145	18.114	0.00	0.52
46.00	1.25" Reinforcing	Yes	0.84	0.000	1.25	0.09	0.00	0.148	1.145	18.114	0.00	0.00
50.00	1 5/8" Hybrid	Yes	4.00	0.000	2.00	0.67	0.00	0.150	1.150	18.551	0.00	5.28
50.00	7/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.150	1.150	18.551	0.00	2.50
50.00	1 5/8" Hybrid	Yes	4.00	0.000	2.00	0.67	0.00	0.150	1.150	18.551	0.00	5.28
50.00	1-1/4" Hybrid	Yes	4.00	0.000	1.25	0.42	0.00	0.150	1.150	18.551	0.00	4.58
50.00	7/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.150	1.150	18.551	0.00	2.50
50.00	1.25" Reinforcing	Yes	4.00	0.000	1.25	0.42	0.00	0.150	1.150	18.551	0.00	0.00
55.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.153	1.160	19.063	0.00	6.60
55.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.153	1.160	19.063	0.00	3.12
55.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.153	1.160	19.063	0.00	6.60
55.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.153	1.160	19.063	0.00	5.72
55.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.153	1.160	19.063	0.00	3.12
55.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.153	1.160	19.063	0.00	0.00
56.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.156	1.167	19.161	0.00	1.32
56.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.156	1.167	19.161	0.00	0.62

Linear Appurtenance Segment Forces (Factored)

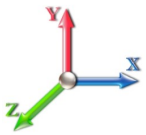
Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
56.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.156	1.167	19.161	0.00	1.32
56.00	1-1/4" Hybrid	Yes	1.00	0.000	1.25	0.10	0.00	0.156	1.167	19.161	0.00	1.14
56.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.156	1.167	19.161	0.00	0.62
56.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.156	1.167	19.161	0.00	0.00
58.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.154	1.161	19.354	0.00	2.64
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.161	19.354	0.00	1.25
58.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.154	1.161	19.354	0.00	2.64
58.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.21	0.00	0.154	1.161	19.354	0.00	2.29
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.161	19.354	0.00	1.25
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.154	1.161	19.354	0.00	0.00
60.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.155	1.166	19.543	0.00	2.64
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	19.543	0.00	1.25
60.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.155	1.166	19.543	0.00	2.64
60.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.21	0.00	0.155	1.166	19.543	0.00	2.29
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	19.543	0.00	1.25
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.155	1.166	19.543	0.00	0.00
65.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.158	1.174	19.995	0.00	6.60
65.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.158	1.174	19.995	0.00	3.12
65.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.158	1.174	19.995	0.00	6.60
65.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.158	1.174	19.995	0.00	5.72
65.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.158	1.174	19.995	0.00	3.12
65.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.158	1.174	19.995	0.00	0.00
70.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.162	1.186	20.422	0.00	6.60
70.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.162	1.186	20.422	0.00	3.12
70.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.162	1.186	20.422	0.00	6.60
70.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.162	1.186	20.422	0.00	5.72
70.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.162	1.186	20.422	0.00	3.12
70.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.162	1.186	20.422	0.00	0.00
75.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.166	1.198	20.829	0.00	6.60
75.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.166	1.198	20.829	0.00	3.12
75.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.166	1.198	20.829	0.00	6.60
75.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.166	1.198	20.829	0.00	5.72
75.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.166	1.198	20.829	0.00	3.12
75.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.166	1.198	20.829	0.00	0.00
78.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.170	1.209	21.064	0.00	3.96
78.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.170	1.209	21.064	0.00	1.87
78.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.170	1.209	21.064	0.00	3.96
78.00	1-1/4" Hybrid	Yes	3.00	0.000	1.25	0.31	0.00	0.170	1.209	21.064	0.00	3.43
78.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.170	1.209	21.064	0.00	1.87
78.00	1.25" Reinforcing	Yes	3.00	0.000	1.25	0.31	0.00	0.170	1.209	21.064	0.00	0.00
80.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.172	1.215	21.217	0.00	2.64
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.172	1.215	21.217	0.00	1.25
80.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.172	1.215	21.217	0.00	2.64
80.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.21	0.00	0.172	1.215	21.217	0.00	2.29
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.172	1.215	21.217	0.00	1.25
80.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.172	1.215	21.217	0.00	0.00
85.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.175	1.225	21.587	0.00	6.60

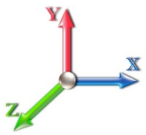
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
85.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.175	1.225	21.587	0.00	3.12
85.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.175	1.225	21.587	0.00	6.60
85.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.175	1.225	21.587	0.00	5.72
85.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.175	1.225	21.587	0.00	3.12
85.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.175	1.225	21.587	0.00	0.00
90.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.180	1.240	21.943	0.00	6.60
90.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.180	1.240	21.943	0.00	3.12
90.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.180	1.240	21.943	0.00	6.60
90.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.180	1.240	21.943	0.00	5.72
90.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.180	1.240	21.943	0.00	3.12
90.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.180	1.240	21.943	0.00	0.00
95.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.185	1.255	22.284	0.00	6.60
95.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.185	1.255	22.284	0.00	3.12
95.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.185	1.255	22.284	0.00	6.60
95.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.185	1.255	22.284	0.00	5.72
95.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.185	1.255	22.284	0.00	3.12
95.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.185	1.255	22.284	0.00	0.00
95.58	1 5/8" Hybrid	Yes	0.58	0.000	2.00	0.10	0.00	0.188	1.264	22.323	0.00	0.77
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.188	1.264	22.323	0.00	0.36
95.58	1 5/8" Hybrid	Yes	0.58	0.000	2.00	0.10	0.00	0.188	1.264	22.323	0.00	0.77
95.58	1-1/4" Hybrid	Yes	0.58	0.000	1.25	0.06	0.00	0.188	1.264	22.323	0.00	0.66
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.188	1.264	22.323	0.00	0.36
95.58	1.25" Reinforcing	Yes	0.58	0.000	1.25	0.06	0.00	0.188	1.264	22.323	0.00	0.00
100.00	1 5/8" Hybrid	Yes	4.42	0.000	2.00	0.74	0.00	0.174	1.223	22.613	0.00	5.83
100.00	7/8" Coax	Yes	4.42	0.000	0.00	0.00	0.00	0.174	1.223	22.613	0.00	2.76
100.00	1 5/8" Hybrid	Yes	4.42	0.000	2.00	0.74	0.00	0.174	1.223	22.613	0.00	5.83
100.00	1-1/4" Hybrid	Yes	4.42	0.000	1.25	0.46	0.00	0.174	1.223	22.613	0.00	5.06
100.00	7/8" Coax	Yes	4.42	0.000	0.00	0.00	0.00	0.174	1.223	22.613	0.00	2.76
100.00	1.25" Reinforcing	Yes	2.42	0.000	1.25	0.25	0.00	0.174	1.223	22.613	0.00	0.00
105.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.155	1.166	22.931	0.00	6.60
105.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.155	1.166	22.931	0.00	3.12
105.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.155	1.166	22.931	0.00	6.60
105.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.155	1.166	22.931	0.00	5.72
105.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.155	1.166	22.931	0.00	3.12
110.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.160	1.181	23.238	0.00	6.60
110.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.160	1.181	23.238	0.00	3.12
110.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.160	1.181	23.238	0.00	6.60
110.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.160	1.181	23.238	0.00	5.72
110.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.160	1.181	23.238	0.00	3.12
115.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.165	1.196	23.535	0.00	6.60
115.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.165	1.196	23.535	0.00	3.12
115.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.165	1.196	23.535	0.00	6.60
115.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.165	1.196	23.535	0.00	5.72
120.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.171	1.212	23.823	0.00	6.60
120.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.171	1.212	23.823	0.00	3.12
120.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.171	1.212	23.823	0.00	6.60
120.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.171	1.212	23.823	0.00	5.72

Linear Appurtenance Segment Forces (Factored)

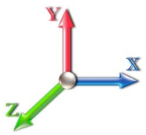
Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
125.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.176	1.229	24.102	0.00	6.60
125.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.176	1.229	24.102	0.00	3.12
125.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.176	1.229	24.102	0.00	6.60
125.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.176	1.229	24.102	0.00	5.72
130.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.183	1.248	24.374	0.00	6.60
130.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.183	1.248	24.374	0.00	3.12
130.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.183	1.248	24.374	0.00	6.60
130.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.183	1.248	24.374	0.00	5.72
133.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.188	1.264	24.533	0.00	3.96
133.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.188	1.264	24.533	0.00	1.87
133.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.188	1.264	24.533	0.00	3.96
133.00	1-1/4" Hybrid	Yes	3.00	0.000	1.25	0.31	0.00	0.188	1.264	24.533	0.00	3.43
135.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.191	1.274	24.638	0.00	2.64
135.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.191	1.274	24.638	0.00	1.25
135.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.191	1.274	24.638	0.00	2.64
135.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.21	0.00	0.191	1.274	24.638	0.00	2.29
140.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.196	1.289	24.895	0.00	6.60
140.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.196	1.289	24.895	0.00	3.12
140.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.196	1.289	24.895	0.00	6.60
140.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.196	1.289	24.895	0.00	5.72
142.90	1 5/8" Hybrid	Yes	2.90	1.200	2.00	0.48	0.58	0.202	0.000	25.042	25.56	3.83
142.90	7/8" Coax	Yes	2.90	0.000	0.00	0.00	0.00	0.202	0.000	25.042	0.00	1.81
142.90	1 5/8" Hybrid	Yes	2.90	1.200	2.00	0.48	0.58	0.202	0.000	25.042	25.56	3.83
142.90	1-1/4" Hybrid	Yes	2.90	1.200	1.25	0.30	0.36	0.202	0.000	25.042	15.98	3.32
145.00	1 5/8" Hybrid	Yes	2.10	0.000	2.00	0.35	0.00	0.079	0.000	25.146	0.00	2.77
145.00	7/8" Coax	Yes	2.10	0.000	0.00	0.00	0.00	0.079	0.000	25.146	0.00	1.31
148.30	1 5/8" Hybrid	Yes	3.30	0.000	2.00	0.55	0.00	0.083	0.000	25.308	0.00	4.36
148.30	7/8" Coax	Yes	3.30	0.000	0.00	0.00	0.00	0.083	0.000	25.308	0.00	2.06
150.00	1 5/8" Hybrid	Yes	1.70	0.000	2.00	0.28	0.00	0.085	0.000	25.391	0.00	2.24
150.00	7/8" Coax	Yes	1.70	0.000	0.00	0.00	0.00	0.085	0.000	25.391	0.00	1.06
155.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.125	1.075	25.630	0.00	6.60
155.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.125	1.075	25.630	0.00	3.12
160.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.125	1.075	25.863	0.00	6.60
160.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.125	1.075	25.863	0.00	3.12
									Totals:		**67.1**	**731.9**

Calculated Forces

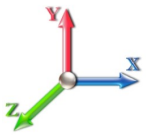
Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-49.14	-37.25	0.00	-4195.5	0.00	4195.58	3683.82	1841.91	7606.69	3756.66	0.00	0.000	0.000	0.767
5.00	-47.48	-36.68	0.00	-4009.3	0.00	4009.33	3652.63	1826.32	7394.88	3652.06	0.11	-0.205	0.000	0.748
10.00	-45.85	-36.10	0.00	-3825.9	0.00	3825.94	3619.85	1809.93	7182.43	3547.13	0.44	-0.412	0.000	0.730
15.00	-44.30	-35.46	0.00	-3645.4	0.00	3645.44	3585.48	1792.74	6969.53	3441.99	0.98	-0.619	0.000	0.711
16.00	-43.99	-35.33	0.00	-3609.9	0.00	3609.98	3578.41	1789.21	6926.91	3420.94	1.11	-0.662	0.000	0.707
16.25	-43.83	-35.33	0.00	-3601.1	0.00	3601.15	3576.63	1788.32	6916.25	3415.68	1.15	-0.673	0.000	0.833
18.00	-42.86	-35.12	0.00	-3539.3	0.00	3539.32	3564.09	1782.04	6841.65	3378.83	1.41	-0.760	0.000	0.766
19.50	-42.06	-34.93	0.00	-3486.6	0.00	3486.63	3553.18	1776.59	6777.69	3347.24	1.66	-0.830	0.000	0.646
20.00	-41.77	-34.89	0.00	-3469.1	0.00	3469.17	3549.51	1774.75	6756.36	3336.71	1.75	-0.850	0.000	0.644
22.00	-40.67	-34.65	0.00	-3399.3	0.00	3399.39	3563.12	1781.56	6835.93	3376.01	2.12	-0.929	0.000	0.652
25.00	-39.72	-34.32	0.00	-3295.4	0.00	3295.44	3541.13	1770.56	6708.00	3312.83	2.74	-1.047	0.000	0.622
30.00	-38.25	-33.65	0.00	-3123.8	0.00	3123.86	3503.20	1751.60	6494.78	3207.53	3.94	-1.236	0.000	0.476
31.00	-37.93	-33.55	0.00	-3090.2	0.00	3090.20	3495.43	1747.71	6452.15	3186.48	4.20	-1.267	0.000	0.549
34.00	-37.05	-33.18	0.00	-2989.5	0.00	2989.55	3471.72	1735.86	6324.32	3123.35	5.03	-1.372	0.000	0.668
35.00	-36.76	-33.07	0.00	-2956.3	0.00	2956.37	3463.69	1731.84	6281.74	3102.31	5.33	-1.416	0.000	0.665
35.50	-36.55	-33.07	0.00	-2939.8	0.00	2939.84	3459.65	1729.82	6260.45	3091.80	5.48	-1.438	0.000	0.663
40.00	-35.20	-32.54	0.00	-2791.0	0.00	2791.02	3422.57	1711.29	6069.05	2997.28	6.93	-1.632	0.000	0.645
45.00	-33.81	-31.90	0.00	-2628.3	0.00	2628.30	3379.87	1689.93	5856.93	2892.52	8.75	-1.848	0.000	0.625
45.16	-33.76	-31.89	0.00	-2623.1	0.00	2623.19	3378.48	1689.24	5850.15	2889.17	8.81	-1.855	0.000	0.454
46.00	-33.48	-31.83	0.00	-2596.4	0.00	2596.41	3371.14	1685.57	5814.59	2871.61	9.14	-1.882	0.000	0.589
50.00	-32.34	-31.35	0.00	-2469.1	0.00	2469.11	3335.57	1667.79	5645.55	2788.13	10.79	-2.047	0.000	0.572
55.00	-29.98	-30.63	0.00	-2312.3	0.00	2312.35	3289.68	1644.84	5435.12	2684.20	13.04	-2.250	0.000	0.544
56.00	-29.49	-30.50	0.00	-2281.7	0.00	2281.72	3316.18	1658.09	5555.61	2743.71	13.52	-2.291	0.000	0.554
58.00	-28.94	-30.25	0.00	-2220.7	0.00	2220.71	3297.74	1648.87	5471.49	2702.16	14.49	-2.373	0.000	0.572
60.00	-28.35	-30.02	0.00	-2160.2	0.00	2160.22	3279.05	1639.52	5387.54	2660.71	15.51	-2.458	0.000	0.563
65.00	-27.00	-29.35	0.00	-2010.1	0.00	2010.13	3231.20	1615.60	5178.53	2557.48	18.19	-2.667	0.000	0.541
70.00	-25.68	-28.67	0.00	-1863.3	0.00	1863.38	3181.76	1590.88	4970.89	2454.94	21.10	-2.874	0.000	0.518
75.00	-24.41	-27.96	0.00	-1720.0	0.00	1720.03	3130.72	1565.36	4764.82	2353.16	24.21	-3.078	0.000	0.494
78.00	-23.66	-27.53	0.00	-1636.1	0.00	1636.15	3099.34	1549.67	4642.00	2292.51	26.19	-3.201	0.000	0.480
80.00	-23.13	-27.28	0.00	-1581.0	0.00	1581.08	3078.09	1539.05	4560.50	2252.26	27.55	-3.283	0.000	0.470
80.00	-23.13	-27.28	0.00	-1581.0	0.00	1581.08	2384.58	1192.29	3545.27	1750.88	27.55	-3.283	0.000	0.506
85.00	-22.04	-26.58	0.00	-1444.6	0.00	1444.68	2349.22	1174.61	3397.89	1678.09	31.09	-3.482	0.000	0.535
90.00	-20.97	-25.87	0.00	-1311.7	0.00	1311.79	2312.26	1156.13	3251.12	1605.61	34.85	-3.699	0.000	0.502
95.00	-19.98	-25.13	0.00	-1182.4	0.00	1182.42	2273.71	1136.85	3105.16	1533.52	38.83	-3.910	0.000	0.468
95.58	-19.74	-25.07	0.00	-1167.8	0.00	1167.85	2269.13	1134.57	3088.29	1525.19	39.31	-3.935	0.000	0.457
95.58	-19.74	-25.07	0.00	-1167.8	0.00	1167.85	2269.13	1134.57	3088.29	1525.19	39.31	-3.935	0.000	0.457
100.00	-18.21	-24.43	0.00	-1057.0	0.00	1057.05	2259.61	1129.81	3053.48	1508.00	43.04	-4.113	0.000	0.709
105.00	-17.16	-23.79	0.00	-934.92	0.00	934.92	2218.90	1109.45	2908.92	1436.61	47.52	-4.445	0.000	0.659
110.00	-16.10	-22.93	0.00	-815.48	0.00	815.48	2176.60	1088.30	2765.62	1365.84	52.33	-4.746	0.000	0.605
115.00	-15.13	-22.27	0.00	-700.82	0.00	700.82	2132.70	1066.35	2623.78	1295.79	57.45	-5.032	0.000	0.548
115.00	-15.13	-22.27	0.00	-700.82	0.00	700.82	1556.62	778.31	1923.08	949.74	57.45	-5.032	0.000	0.748
120.00	-14.29	-21.63	0.00	-589.45	0.00	589.45	1529.99	765.00	1828.43	902.99	62.86	-5.300	0.000	0.663
125.00	-13.48	-20.98	0.00	-481.32	0.00	481.32	1501.77	750.88	1734.09	856.40	68.57	-5.604	0.000	0.572
130.00	-12.72	-20.31	0.00	-376.44	0.00	376.44	1471.95	735.97	1640.26	810.06	74.58	-5.875	0.000	0.474
133.00	-9.62	-16.78	0.00	-315.51	0.00	315.51	1453.29	726.64	1584.28	782.42	78.31	-6.020	0.000	0.410
135.00	-9.34	-16.52	0.00	-281.95	0.00	281.95	1440.53	720.27	1547.12	764.06	80.85	-6.110	0.000	0.376
140.00	-8.72	-15.85	0.00	-199.34	0.00	199.34	1407.52	703.76	1454.87	718.50	87.34	-6.298	0.000	0.284
142.90	-5.16	-10.43	0.00	-152.61	0.00	152.61	1387.65	693.82	1401.84	692.32	91.19	-6.388	0.000	0.224

Calculated Forces

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 22

145.00	-4.95	-10.22	0.00	-130.70	0.00	130.70	1372.92	686.46	1363.70	673.48	94.01	-6.444	0.000	0.198
145.00	-4.95	-10.22	0.00	-130.70	0.00	130.70	931.20	465.60	925.89	604.09	94.01	-6.444	0.000	0.222
148.30	-2.46	-6.93	0.00	-91.08	0.00	91.08	911.53	455.77	882.04	573.63	98.48	-6.518	0.000	0.162
150.00	-2.30	-6.82	0.00	-79.30	0.00	79.30	901.40	450.70	859.86	558.24	100.80	-6.550	0.000	0.145
150.00	-2.30	-6.82	0.00	-79.30	0.00	79.30	556.65	278.33	359.38	213.69	100.80	-6.550	0.000	0.376
155.00	-1.94	-6.59	0.00	-45.19	0.00	45.19	556.65	278.33	359.38	213.69	107.69	-6.623	0.000	0.216
160.00	0.00	-6.32	0.00	-12.25	0.00	12.25	556.65	278.33	359.38	213.69	114.68	-6.729	0.000	0.058

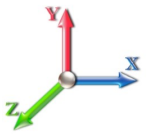
Wind Loading - Shaft

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00	RB1	1.00	0.70	16.018	17.62	352.70	1.000	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	16.018	17.62	345.91	1.223 *	0.000	5.00	21.521	26.31	741.8	0.0	915.5
10.00		1.00	0.70	16.018	17.62	339.12	1.233 *	0.000	5.00	21.102	26.02	733.6	0.0	897.6
15.00		1.00	0.70	16.018	17.62	332.33	1.244 *	0.000	5.00	20.684	25.73	725.3	0.0	879.7
16.00	Bot - Section 2	1.00	0.70	16.018	17.62	330.97	1.251 *	0.000	1.00	4.087	5.11	144.1	0.0	173.8
16.25	RT1 RB2	1.00	0.70	16.018	17.62	330.63	1.252 *	0.000	0.25	1.035	1.30	36.5	0.0	87.4
18.00	RB3	1.00	0.70	16.018	17.62	328.25	1.254 *	0.000	1.75	7.217	9.05	255.2	0.0	609.0
19.50	RB4	1.00	0.70	16.018	17.62	326.22	1.258 *	0.000	1.50	6.145	7.73	217.9	0.0	518.5
20.00		1.00	0.70	16.018	17.62	325.54	1.260 *	0.000	0.50	2.040	2.57	72.5	0.0	172.1
22.00	Top - Section 1	1.00	0.70	16.018	17.62	322.82	1.263 *	0.000	2.00	8.118	10.26	289.1	0.0	684.9
25.00		1.00	0.70	16.018	17.62	324.00	1.260 *	0.000	3.00	12.052	15.19	428.1	0.0	512.4
30.00	RB5	1.00	0.70	16.031	17.63	317.34	1.270 *	0.000	5.00	19.752	25.08	707.5	0.0	839.7
31.00	RT2	1.00	0.71	16.182	17.80	317.46	1.277 *	0.000	1.00	3.900	4.98	141.8	0.0	165.8
34.00	RT3	1.00	0.73	16.615	18.28	317.53	1.174 *	0.000	3.00	11.600	13.62	398.3	0.0	493.1
35.00		1.00	0.73	16.753	18.43	317.46	1.124 *	0.000	1.00	3.833	4.31	127.0	0.0	162.9
35.50	RT4	1.00	0.74	16.821	18.50	317.41	1.125 *	0.000	0.50	1.910	2.15	63.6	0.0	81.2
40.00	Appurtenance(s)	1.00	0.76	17.405	19.15	316.49	1.130 *	0.000	4.50	17.005	19.22	588.6	0.0	722.7
45.00		1.00	0.79	18.000	19.80	314.67	1.139 *	0.000	5.00	18.497	21.07	667.6	0.0	785.9
45.16	RB6	1.00	0.79	18.019	19.82	314.59	1.144 *	0.000	0.16	0.585	0.67	21.2	0.0	24.9
46.00	RT5	1.00	0.79	18.114	19.93	314.21	1.145 *	0.000	0.84	3.064	3.51	111.9	0.0	130.2
50.00	Bot - Section 3	1.00	0.81	18.551	20.41	312.13	1.150 *	0.000	4.00	14.429	16.60	542.0	0.0	612.9
55.00		1.00	0.83	19.063	20.97	309.00	1.160 *	0.000	5.00	17.984	20.86	699.9	0.0	1513.9
56.00	Top - Section 2	1.00	0.84	19.161	21.08	308.31	1.167 *	0.000	1.00	3.547	4.14	139.5	0.0	298.5
58.00	RT6 RB7	1.00	0.85	19.354	21.29	312.65	1.161 *	0.000	2.00	7.043	8.18	278.6	0.0	299.1
60.00		1.00	0.85	19.543	21.50	311.16	1.166 *	0.000	2.00	6.976	8.13	279.7	0.0	296.2
65.00		1.00	0.87	19.995	21.99	307.15	1.174 *	0.000	5.00	17.147	20.13	708.3	0.0	728.0
70.00		1.00	0.89	20.422	22.46	302.75	1.186 *	0.000	5.00	16.728	19.83	712.9	0.0	710.1
75.00		1.00	0.91	20.829	22.91	298.01	1.198 *	0.000	5.00	16.310	19.54	716.4	0.0	692.2
78.00	RT7 RB8	1.00	0.92	21.064	23.17	295.01	1.209 *	0.000	3.00	9.585	11.58	429.5	0.0	406.7
80.00	Top - Section 3	1.00	0.93	21.217	23.34	292.95	1.215 *	0.000	2.00	6.306	7.66	286.2	0.0	267.5
85.00		1.00	0.94	21.587	23.75	287.62	1.225 *	0.000	5.00	15.473	18.96	720.2	0.0	547.9
90.00		1.00	0.96	21.943	24.14	282.02	1.240 *	0.000	5.00	15.055	18.66	720.8	0.0	532.9
95.00	Bot - Section 5	1.00	0.97	22.284	24.51	276.20	1.255 *	0.000	5.00	14.636	18.37	720.5	0.0	518.0
95.58	RT8	1.00	0.98	22.323	24.56	275.51	1.264 *	0.000	0.58	1.702	2.15	84.5	0.0	119.4
100.00	Top - Section 4	1.00	0.99	22.613	24.87	270.16	1.223 *	0.000	4.42	12.785	15.63	622.1	0.0	896.4
105.00		1.00	1.00	22.931	25.22	269.16	1.166 *	0.000	5.00	14.069	16.41	662.3	0.0	497.7
110.00	Appurtenance(s)	1.00	1.02	23.238	25.56	262.78	1.181 *	0.000	5.00	13.651	16.12	659.2	0.0	482.8
115.00	Top - Section 5	1.00	1.03	23.535	25.89	256.22	1.196 *	0.000	5.00	13.232	15.82	655.5	0.0	467.8
120.00		1.00	1.04	23.823	26.20	249.50	1.212 *	0.000	5.00	12.814	15.53	651.2	0.0	363.1
125.00		1.00	1.05	24.102	26.51	242.63	1.229 *	0.000	5.00	12.395	15.24	646.4	0.0	351.1
130.00		1.00	1.07	24.374	26.81	235.61	1.248 *	0.000	5.00	11.977	14.95	641.2	0.0	339.2
133.00	Appurtenance(s)	1.00	1.07	24.533	26.99	231.34	1.264 *	0.000	3.00	6.985	8.83	381.1	0.0	197.8
135.00		1.00	1.08	24.638	27.10	228.46	1.274 *	0.000	2.00	4.573	5.83	252.6	0.0	129.4
140.00		1.00	1.09	24.895	27.38	221.19	1.289 *	0.000	5.00	11.140	14.36	629.2	0.0	315.3
142.90	Appurtenance(s)	1.00	1.09	25.042	27.55	216.91	1.200 *	0.000	2.90	6.269	7.52	331.6	0.0	177.4
145.00	Top - Section 6	1.00	1.10	25.146	27.66	213.79	1.000	0.000	2.10	4.452	4.45	197.0	0.0	125.9
148.30	Appurtenance(s)	1.00	1.11	25.308	27.84	201.77	0.600	0.000	3.30	6.615	3.97	176.8	0.0	188.9

Wind Loading - Shaft

Structure:	CT02049-S-SBA		**Code:**	EIA/TIA-222-G	1/30/2017
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 24

Tower Engineering Solutions

150.00 Top - Section 7	1.00	1.11	25.391	27.93	199.29	0.600	0.000	1.70	3.339	2.00	89.5	0.0	95.4
155.00	1.00	1.12	25.630	28.19	136.88	0.645 *	0.000	5.00	6.667	4.30	194.0	0.0	189.4
160.00 Appurtenance(s)	1.00	1.13	25.863	28.45	137.50	0.645 *	0.000	5.00	6.667	4.30	195.7	0.0	189.4
							Totals:	**160.00**			**20,496.7**		**21,407.5**

* Cf Adjusted by Linear Load Ra Effect

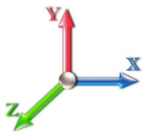
Discrete Appurtenance Forces

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	160.00	DB-T1-6Z-8AB-0Z	1	25.955	28.551	0.50	1.00	2.40	39.60	0.000	2.000	109.64	0.00	219.27
2	160.00	RRH2X60-AWS	3	25.955	28.551	0.67	1.00	7.04	162.00	0.000	2.000	321.37	0.00	642.74
3	160.00	SBNHH-1D65B	9	25.955	28.551	0.82	1.00	60.29	324.00	0.000	2.000	2754.33	0.00	5508.65
4	160.00	Low Profile Platform	1	25.955	28.551	1.00	1.00	22.00	1080.00	0.000	2.000	1004.99	0.00	2009.98
5	160.00	DB846F65ZAXY	6	25.955	28.551	0.94	1.00	39.68	113.40	0.000	2.000	1812.52	0.00	3625.04
6	160.00	DB222	1	25.955	28.551	1.00	1.00	2.25	14.40	0.000	2.000	102.78	0.00	205.57
7	160.00	6' Lightning rod	1	25.955	28.551	1.00	1.00	0.38	5.85	0.000	2.000	17.36	0.00	34.72
8	148.30	APXVTM14-C-120	3	25.391	27.930	0.61	0.80	11.59	151.20	0.000	1.700	518.14	0.00	880.83
9	148.30	1900MHz RRH	3	25.487	28.036	0.54	0.80	6.11	118.80	0.000	3.700	274.10	0.00	1014.16
10	148.30	800 MHz RRH	3	25.487	28.036	0.54	0.80	4.00	143.10	0.000	3.700	179.61	0.00	664.54
11	148.30	APXVSPP18-C-A20	3	25.487	28.036	0.66	0.80	15.78	153.90	0.000	3.700	708.00	0.00	2619.60
12	148.30	Low Profile Platform	1	25.308	27.839	1.00	1.00	17.50	1080.00	0.000	0.000	779.50	0.00	0.00
13	148.30	ALU 800MHz External	3	25.487	28.036	0.40	0.80	0.94	23.76	0.000	3.700	41.99	0.00	155.35
14	148.30	TD-RRH8x20-25	3	25.391	27.930	0.55	0.80	6.71	189.00	0.000	1.700	299.71	0.00	509.51
15	148.30	ACU-A20-N	4	25.487	28.036	0.60	0.80	0.34	3.60	0.000	3.700	15.07	0.00	55.77
16	142.90	AIR 21 B4A B2P	3	25.076	27.584	0.66	0.80	12.09	244.08	0.000	0.700	533.47	0.00	373.43
17	142.90	AIR 21 B2A B4P	3	25.076	27.584	0.66	0.80	12.09	247.05	0.000	0.700	533.47	0.00	373.43
18	142.90	LNX-6515DS-A1M	3	25.042	27.546	0.67	0.80	23.12	134.46	0.000	0.000	1019.12	0.00	0.00
19	142.90	Low-Profile Platform + HR	1	25.042	27.546	1.00	1.00	51.70	2021.40	0.000	0.000	2278.58	0.00	0.00
20	142.90	KRY 112 144/1	3	25.076	27.584	0.56	0.80	0.69	29.70	0.000	0.700	30.40	0.00	21.28
21	142.90	S11B12	3	25.042	27.546	0.54	0.80	4.55	137.70	0.000	0.000	200.56	0.00	0.00
22	133.00	Low Profile Platform	1	24.533	26.986	1.00	1.00	22.00	1215.00	0.000	0.000	949.92	0.00	0.00
23	133.00	800 10121	3	24.533	26.986	0.63	0.80	9.76	125.01	0.000	0.000	421.61	0.00	0.00
24	133.00	RRUS 11	3	24.533	26.986	0.54	0.80	4.05	136.89	0.000	0.000	174.96	0.00	0.00
25	133.00	RRUS A2 Module	3	24.533	26.986	0.32	0.80	1.79	57.24	0.000	0.000	77.10	0.00	0.00
26	133.00	800 10798	3	24.533	26.986	0.60	0.80	15.56	219.78	0.000	0.000	671.74	0.00	0.00
27	133.00	RRUS 12	3	24.533	26.986	0.56	0.80	4.74	156.60	0.000	0.000	204.71	0.00	0.00
28	133.00	DTMABP7819VG12A	3	24.533	26.986	0.40	0.80	1.37	51.30	0.000	0.000	59.07	0.00	0.00
29	133.00	RRUS 32	3	24.533	26.986	0.80	0.80	3.96	207.90	0.000	0.000	170.99	0.00	0.00
30	133.00	DC6-48-60-18-8F	2	24.533	26.986	0.80	0.80	2.35	59.04	0.000	0.000	101.56	0.00	0.00
31	110.00	DB222	1	23.552	25.907	1.00	1.00	2.25	14.40	0.000	5.292	93.26	0.00	493.53
32	110.00	3 ft Standoff	1	23.238	25.561	1.00	1.00	2.63	36.00	0.000	0.000	107.56	0.00	0.00
33	40.00	GPS	1	17.405	19.145	1.00	1.00	1.00	9.00	0.000	0.000	30.63	0.00	0.00
							Totals:		**8,705.16**			**16,597.81**		

Total Applied Force Summary

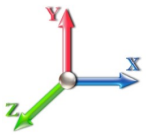
Structure:	CT02049-S-SBA		**Code:**	EIA/TIA-222-G	1/30/2017
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 26

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		741.85	1146.33	0.00	0.00
10.00		733.59	1128.39	0.00	0.00
15.00		725.33	1110.46	0.00	0.00
16.00		144.08	219.94	0.00	0.00
16.25		36.54	98.90	0.00	0.00
18.00		255.20	689.78	0.00	0.00
19.50		217.95	587.74	0.00	0.00
20.00		72.49	195.20	0.00	0.00
22.00		289.13	777.20	0.00	0.00
25.00		428.13	650.92	0.00	0.00
30.00		707.54	1070.52	0.00	0.00
31.00		141.84	211.95	0.00	0.00
34.00		398.29	631.55	0.00	0.00
35.00		127.03	209.08	0.00	0.00
35.50		63.64	104.27	0.00	0.00
40.00	(1) attachments	619.26	939.38	0.00	0.00
45.00		667.60	1016.00	0.00	0.00
45.16		21.23	32.22	0.00	0.00
46.00		111.90	168.83	0.00	0.00
50.00		541.99	797.01	0.00	0.00
55.00		699.94	1744.03	0.00	0.00
56.00		139.54	344.50	0.00	0.00
58.00		278.64	391.14	0.00	0.00
60.00		279.74	388.27	0.00	0.00
65.00		708.30	958.12	0.00	0.00
70.00		712.93	940.19	0.00	0.00
75.00		716.39	922.25	0.00	0.00
78.00		429.47	544.74	0.00	0.00
80.00		286.20	359.57	0.00	0.00
85.00		720.22	777.96	0.00	0.00
90.00		720.76	763.02	0.00	0.00
95.00		720.50	748.07	0.00	0.00
95.58		84.53	146.04	0.00	0.00
100.00		622.14	1099.75	0.00	0.00
105.00		662.31	727.81	0.00	0.00
110.00	(2) attachments	860.02	763.26	0.00	493.53
115.00		655.49	695.58	0.00	0.00
120.00		651.23	590.82	0.00	0.00
125.00		646.44	578.87	0.00	0.00
130.00		641.16	566.91	0.00	0.00
133.00	(24) attachments	3212.79	2563.17	0.00	0.00
135.00		252.64	199.09	0.00	0.00
140.00		629.21	489.36	0.00	0.00
142.90	(16) attachments	4994.29	3092.74	0.00	768.14
145.00		197.04	171.58	0.00	0.00
148.30	(23) attachments	2992.90	2124.05	0.00	5899.76

Total Applied Force Summary

Structure:	CT02049-S-SBA		**Code:**	EIA/TIA-222-G	1/30/2017
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 27

150.00		89.53	126.47	0.00	0.00
155.00		193.97	280.95	0.00	0.00
160.00	(22) attachments	6318.72	2020.20	0.00	12245.97
	Totals:	**37,161.63**	**36,904.20**	**0.00**	**19,407.40**

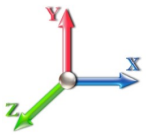
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 28	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.174	1.223	16.018	0.00	4.95
5.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.174	1.223	16.018	0.00	2.34
5.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.174	1.223	16.018	0.00	4.95
5.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.174	1.223	16.018	0.00	4.29
5.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.174	1.223	16.018	0.00	2.34
5.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.174	1.223	16.018	0.00	0.00
5.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.174	1.223	16.018	0.00	0.00
10.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.178	1.233	16.018	0.00	4.95
10.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.178	1.233	16.018	0.00	2.34
10.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.178	1.233	16.018	0.00	4.95
10.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.178	1.233	16.018	0.00	4.29
10.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.178	1.233	16.018	0.00	2.34
10.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.178	1.233	16.018	0.00	0.00
10.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.178	1.233	16.018	0.00	0.00
15.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.181	1.244	16.018	0.00	4.95
15.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.181	1.244	16.018	0.00	2.34
15.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.181	1.244	16.018	0.00	4.95
15.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.181	1.244	16.018	0.00	4.29
15.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.181	1.244	16.018	0.00	2.34
15.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.181	1.244	16.018	0.00	0.00
15.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.181	1.244	16.018	0.00	0.00
16.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.184	1.251	16.018	0.00	0.99
16.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.184	1.251	16.018	0.00	0.47
16.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.184	1.251	16.018	0.00	0.99
16.00	1-1/4" Hybrid	Yes	1.00	0.000	1.25	0.10	0.00	0.184	1.251	16.018	0.00	0.86
16.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.184	1.251	16.018	0.00	0.47
16.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.184	1.251	16.018	0.00	0.00
16.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.184	1.251	16.018	0.00	0.00
16.25	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.04	0.00	0.184	1.252	16.018	0.00	0.25
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.184	1.252	16.018	0.00	0.12
16.25	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.04	0.00	0.184	1.252	16.018	0.00	0.25
16.25	1-1/4" Hybrid	Yes	0.25	0.000	1.25	0.03	0.00	0.184	1.252	16.018	0.00	0.21
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.184	1.252	16.018	0.00	0.12
16.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.184	1.252	16.018	0.00	0.00
16.25	1.25" Reinforcing	Yes	0.25	0.000	2.50	0.05	0.00	0.184	1.252	16.018	0.00	0.00
18.00	1 5/8" Hybrid	Yes	1.75	0.000	2.00	0.29	0.00	0.185	1.254	16.018	0.00	1.73
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.185	1.254	16.018	0.00	0.82
18.00	1 5/8" Hybrid	Yes	1.75	0.000	2.00	0.29	0.00	0.185	1.254	16.018	0.00	1.73
18.00	1-1/4" Hybrid	Yes	1.75	0.000	1.25	0.18	0.00	0.185	1.254	16.018	0.00	1.50
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.185	1.254	16.018	0.00	0.82
18.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.185	1.254	16.018	0.00	0.00
18.00	1.25" Reinforcing	Yes	1.75	0.000	2.50	0.36	0.00	0.185	1.254	16.018	0.00	0.00
19.50	1 5/8" Hybrid	Yes	1.50	0.000	2.00	0.25	0.00	0.186	1.258	16.018	0.00	1.49
19.50	7/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.186	1.258	16.018	0.00	0.70
19.50	1 5/8" Hybrid	Yes	1.50	0.000	2.00	0.25	0.00	0.186	1.258	16.018	0.00	1.49
19.50	1-1/4" Hybrid	Yes	1.50	0.000	1.25	0.16	0.00	0.186	1.258	16.018	0.00	1.29
19.50	7/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.186	1.258	16.018	0.00	0.70

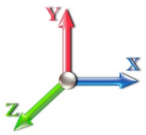
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 29	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
19.50	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.16	0.00	0.186	1.258	16.018	0.00	0.00
19.50	1.25" Reinforcing	Yes	1.50	0.000	2.50	0.31	0.00	0.186	1.258	16.018	0.00	0.00
20.00	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.08	0.00	0.187	1.260	16.018	0.00	0.50
20.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.187	1.260	16.018	0.00	0.23
20.00	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.08	0.00	0.187	1.260	16.018	0.00	0.50
20.00	1-1/4" Hybrid	Yes	0.50	0.000	1.25	0.05	0.00	0.187	1.260	16.018	0.00	0.43
20.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.187	1.260	16.018	0.00	0.23
20.00	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.05	0.00	0.187	1.260	16.018	0.00	0.00
20.00	1.25" Reinforcing	Yes	0.50	0.000	2.50	0.10	0.00	0.187	1.260	16.018	0.00	0.00
22.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.188	1.263	16.018	0.00	1.98
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.188	1.263	16.018	0.00	0.94
22.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.188	1.263	16.018	0.00	1.98
22.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.21	0.00	0.188	1.263	16.018	0.00	1.72
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.188	1.263	16.018	0.00	0.94
22.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.188	1.263	16.018	0.00	0.00
22.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.188	1.263	16.018	0.00	0.00
25.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.187	1.260	16.018	0.00	2.97
25.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.187	1.260	16.018	0.00	1.40
25.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.187	1.260	16.018	0.00	2.97
25.00	1-1/4" Hybrid	Yes	3.00	0.000	1.25	0.31	0.00	0.187	1.260	16.018	0.00	2.58
25.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.187	1.260	16.018	0.00	1.40
25.00	1.25" Reinforcing	Yes	3.00	0.000	1.25	0.31	0.00	0.187	1.260	16.018	0.00	0.00
25.00	1.25" Reinforcing	Yes	3.00	0.000	2.50	0.63	0.00	0.187	1.260	16.018	0.00	0.00
30.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.190	1.270	16.031	0.00	4.95
30.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.190	1.270	16.031	0.00	2.34
30.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.190	1.270	16.031	0.00	4.95
30.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.190	1.270	16.031	0.00	4.29
30.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.190	1.270	16.031	0.00	2.34
30.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.190	1.270	16.031	0.00	0.00
30.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.190	1.270	16.031	0.00	0.00
31.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.192	1.277	16.182	0.00	0.99
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.192	1.277	16.182	0.00	0.47
31.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.192	1.277	16.182	0.00	0.99
31.00	1-1/4" Hybrid	Yes	1.00	0.000	1.25	0.10	0.00	0.192	1.277	16.182	0.00	0.86
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.192	1.277	16.182	0.00	0.47
31.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.192	1.277	16.182	0.00	0.00
31.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.192	1.277	16.182	0.00	0.00
34.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.158	1.174	16.615	0.00	2.97
34.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.158	1.174	16.615	0.00	1.40
34.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.158	1.174	16.615	0.00	2.97
34.00	1-1/4" Hybrid	Yes	3.00	0.000	1.25	0.31	0.00	0.158	1.174	16.615	0.00	2.58
34.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.158	1.174	16.615	0.00	1.40
34.00	1.25" Reinforcing	Yes	3.00	0.000	1.25	0.31	0.00	0.158	1.174	16.615	0.00	0.00
34.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.158	1.174	16.615	0.00	0.00
35.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.141	1.124	16.753	0.00	0.99
35.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.141	1.124	16.753	0.00	0.47
35.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.141	1.124	16.753	0.00	0.99

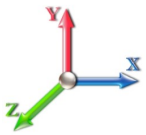
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 30	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
35.00	1-1/4" Hybrid	Yes	1.00	0.000	1.25	0.10	0.00	0.141	1.124	16.753	0.00	0.86
35.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.141	1.124	16.753	0.00	0.47
35.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.141	1.124	16.753	0.00	0.00
35.50	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.08	0.00	0.142	1.125	16.821	0.00	0.50
35.50	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.142	1.125	16.821	0.00	0.23
35.50	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.08	0.00	0.142	1.125	16.821	0.00	0.50
35.50	1-1/4" Hybrid	Yes	0.50	0.000	1.25	0.05	0.00	0.142	1.125	16.821	0.00	0.43
35.50	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.142	1.125	16.821	0.00	0.23
35.50	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.05	0.00	0.142	1.125	16.821	0.00	0.00
40.00	1 5/8" Hybrid	Yes	4.50	0.000	2.00	0.75	0.00	0.143	1.130	17.405	0.00	4.46
40.00	7/8" Coax	Yes	4.50	0.000	0.00	0.00	0.00	0.143	1.130	17.405	0.00	2.11
40.00	1 5/8" Hybrid	Yes	4.50	0.000	2.00	0.75	0.00	0.143	1.130	17.405	0.00	4.46
40.00	1-1/4" Hybrid	Yes	4.50	0.000	1.25	0.47	0.00	0.143	1.130	17.405	0.00	3.86
40.00	7/8" Coax	Yes	4.50	0.000	0.00	0.00	0.00	0.143	1.130	17.405	0.00	2.11
40.00	1.25" Reinforcing	Yes	4.50	0.000	1.25	0.47	0.00	0.143	1.130	17.405	0.00	0.00
45.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.146	1.139	18.000	0.00	4.95
45.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.146	1.139	18.000	0.00	2.34
45.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.146	1.139	18.000	0.00	4.95
45.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.146	1.139	18.000	0.00	4.29
45.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.146	1.139	18.000	0.00	2.34
45.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.146	1.139	18.000	0.00	0.00
45.16	1 5/8" Hybrid	Yes	0.16	0.000	2.00	0.03	0.00	0.148	1.144	18.019	0.00	0.16
45.16	7/8" Coax	Yes	0.16	0.000	0.00	0.00	0.00	0.148	1.144	18.019	0.00	0.07
45.16	1 5/8" Hybrid	Yes	0.16	0.000	2.00	0.03	0.00	0.148	1.144	18.019	0.00	0.16
45.16	1-1/4" Hybrid	Yes	0.16	0.000	1.25	0.02	0.00	0.148	1.144	18.019	0.00	0.14
45.16	7/8" Coax	Yes	0.16	0.000	0.00	0.00	0.00	0.148	1.144	18.019	0.00	0.07
45.16	1.25" Reinforcing	Yes	0.16	0.000	1.25	0.02	0.00	0.148	1.144	18.019	0.00	0.00
46.00	1 5/8" Hybrid	Yes	0.84	0.000	2.00	0.14	0.00	0.148	1.145	18.114	0.00	0.83
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.148	1.145	18.114	0.00	0.39
46.00	1 5/8" Hybrid	Yes	0.84	0.000	2.00	0.14	0.00	0.148	1.145	18.114	0.00	0.83
46.00	1-1/4" Hybrid	Yes	0.84	0.000	1.25	0.09	0.00	0.148	1.145	18.114	0.00	0.72
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.148	1.145	18.114	0.00	0.39
46.00	1.25" Reinforcing	Yes	0.84	0.000	1.25	0.09	0.00	0.148	1.145	18.114	0.00	0.00
50.00	1 5/8" Hybrid	Yes	4.00	0.000	2.00	0.67	0.00	0.150	1.150	18.551	0.00	3.96
50.00	7/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.150	1.150	18.551	0.00	1.87
50.00	1 5/8" Hybrid	Yes	4.00	0.000	2.00	0.67	0.00	0.150	1.150	18.551	0.00	3.96
50.00	1-1/4" Hybrid	Yes	4.00	0.000	1.25	0.42	0.00	0.150	1.150	18.551	0.00	3.43
50.00	7/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.150	1.150	18.551	0.00	1.87
50.00	1.25" Reinforcing	Yes	4.00	0.000	1.25	0.42	0.00	0.150	1.150	18.551	0.00	0.00
55.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.153	1.160	19.063	0.00	4.95
55.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.153	1.160	19.063	0.00	2.34
55.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.153	1.160	19.063	0.00	4.95
55.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.153	1.160	19.063	0.00	4.29
55.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.153	1.160	19.063	0.00	2.34
55.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.153	1.160	19.063	0.00	0.00
56.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.156	1.167	19.161	0.00	0.99
56.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.156	1.167	19.161	0.00	0.47

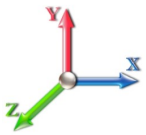
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 31	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
56.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.156	1.167	19.161	0.00	0.99
56.00	1-1/4" Hybrid	Yes	1.00	0.000	1.25	0.10	0.00	0.156	1.167	19.161	0.00	0.86
56.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.156	1.167	19.161	0.00	0.47
56.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.156	1.167	19.161	0.00	0.00
58.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.154	1.161	19.354	0.00	1.98
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.161	19.354	0.00	0.94
58.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.154	1.161	19.354	0.00	1.98
58.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.21	0.00	0.154	1.161	19.354	0.00	1.72
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.161	19.354	0.00	0.94
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.154	1.161	19.354	0.00	0.00
60.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.155	1.166	19.543	0.00	1.98
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	19.543	0.00	0.94
60.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.155	1.166	19.543	0.00	1.98
60.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.21	0.00	0.155	1.166	19.543	0.00	1.72
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	19.543	0.00	0.94
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.155	1.166	19.543	0.00	0.00
65.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.158	1.174	19.995	0.00	4.95
65.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.158	1.174	19.995	0.00	2.34
65.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.158	1.174	19.995	0.00	4.95
65.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.158	1.174	19.995	0.00	4.29
65.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.158	1.174	19.995	0.00	2.34
65.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.158	1.174	19.995	0.00	0.00
70.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.162	1.186	20.422	0.00	4.95
70.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.162	1.186	20.422	0.00	2.34
70.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.162	1.186	20.422	0.00	4.95
70.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.162	1.186	20.422	0.00	4.29
70.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.162	1.186	20.422	0.00	2.34
70.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.162	1.186	20.422	0.00	0.00
75.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.166	1.198	20.829	0.00	4.95
75.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.166	1.198	20.829	0.00	2.34
75.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.166	1.198	20.829	0.00	4.95
75.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.166	1.198	20.829	0.00	4.29
75.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.166	1.198	20.829	0.00	2.34
75.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.166	1.198	20.829	0.00	0.00
78.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.170	1.209	21.064	0.00	2.97
78.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.170	1.209	21.064	0.00	1.40
78.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.170	1.209	21.064	0.00	2.97
78.00	1-1/4" Hybrid	Yes	3.00	0.000	1.25	0.31	0.00	0.170	1.209	21.064	0.00	2.58
78.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.170	1.209	21.064	0.00	1.40
78.00	1.25" Reinforcing	Yes	3.00	0.000	1.25	0.31	0.00	0.170	1.209	21.064	0.00	0.00
80.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.172	1.215	21.217	0.00	1.98
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.172	1.215	21.217	0.00	0.94
80.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.172	1.215	21.217	0.00	1.98
80.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.21	0.00	0.172	1.215	21.217	0.00	1.72
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.172	1.215	21.217	0.00	0.94
80.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.172	1.215	21.217	0.00	0.00
85.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.175	1.225	21.587	0.00	4.95

Linear Appurtenance Segment Forces (Factored)

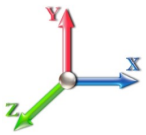
Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 32	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
85.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.175	1.225	21.587	0.00	2.34
85.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.175	1.225	21.587	0.00	4.95
85.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.175	1.225	21.587	0.00	4.29
85.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.175	1.225	21.587	0.00	2.34
85.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.175	1.225	21.587	0.00	0.00
90.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.180	1.240	21.943	0.00	4.95
90.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.180	1.240	21.943	0.00	2.34
90.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.180	1.240	21.943	0.00	4.95
90.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.180	1.240	21.943	0.00	4.29
90.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.180	1.240	21.943	0.00	2.34
90.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.180	1.240	21.943	0.00	0.00
95.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.185	1.255	22.284	0.00	4.95
95.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.185	1.255	22.284	0.00	2.34
95.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.185	1.255	22.284	0.00	4.95
95.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.185	1.255	22.284	0.00	4.29
95.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.185	1.255	22.284	0.00	2.34
95.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.185	1.255	22.284	0.00	0.00
95.58	1 5/8" Hybrid	Yes	0.58	0.000	2.00	0.10	0.00	0.188	1.264	22.323	0.00	0.57
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.188	1.264	22.323	0.00	0.27
95.58	1 5/8" Hybrid	Yes	0.58	0.000	2.00	0.10	0.00	0.188	1.264	22.323	0.00	0.57
95.58	1-1/4" Hybrid	Yes	0.58	0.000	1.25	0.06	0.00	0.188	1.264	22.323	0.00	0.50
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.188	1.264	22.323	0.00	0.27
95.58	1.25" Reinforcing	Yes	0.58	0.000	1.25	0.06	0.00	0.188	1.264	22.323	0.00	0.00
100.00	1 5/8" Hybrid	Yes	4.42	0.000	2.00	0.74	0.00	0.174	1.223	22.613	0.00	4.38
100.00	7/8" Coax	Yes	4.42	0.000	0.00	0.00	0.00	0.174	1.223	22.613	0.00	2.07
100.00	1 5/8" Hybrid	Yes	4.42	0.000	2.00	0.74	0.00	0.174	1.223	22.613	0.00	4.38
100.00	1-1/4" Hybrid	Yes	4.42	0.000	1.25	0.46	0.00	0.174	1.223	22.613	0.00	3.80
100.00	7/8" Coax	Yes	4.42	0.000	0.00	0.00	0.00	0.174	1.223	22.613	0.00	2.07
100.00	1.25" Reinforcing	Yes	2.42	0.000	1.25	0.25	0.00	0.174	1.223	22.613	0.00	0.00
105.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.155	1.166	22.931	0.00	4.95
105.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.155	1.166	22.931	0.00	2.34
105.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.155	1.166	22.931	0.00	4.95
105.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.155	1.166	22.931	0.00	4.29
105.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.155	1.166	22.931	0.00	2.34
110.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.160	1.181	23.238	0.00	4.95
110.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.160	1.181	23.238	0.00	2.34
110.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.160	1.181	23.238	0.00	4.95
110.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.160	1.181	23.238	0.00	4.29
110.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.160	1.181	23.238	0.00	2.34
115.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.165	1.196	23.535	0.00	4.95
115.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.165	1.196	23.535	0.00	2.34
115.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.165	1.196	23.535	0.00	4.95
115.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.165	1.196	23.535	0.00	4.29
120.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.171	1.212	23.823	0.00	4.95
120.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.171	1.212	23.823	0.00	2.34
120.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.171	1.212	23.823	0.00	4.95
120.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.171	1.212	23.823	0.00	4.29

Linear Appurtenance Segment Forces (Factored)

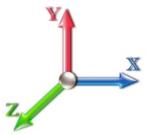
Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 33	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
125.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.176	1.229	24.102	0.00	4.95
125.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.176	1.229	24.102	0.00	2.34
125.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.176	1.229	24.102	0.00	4.95
125.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.176	1.229	24.102	0.00	4.29
130.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.183	1.248	24.374	0.00	4.95
130.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.183	1.248	24.374	0.00	2.34
130.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.183	1.248	24.374	0.00	4.95
130.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.183	1.248	24.374	0.00	4.29
133.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.188	1.264	24.533	0.00	2.97
133.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.188	1.264	24.533	0.00	1.40
133.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.188	1.264	24.533	0.00	2.97
133.00	1-1/4" Hybrid	Yes	3.00	0.000	1.25	0.31	0.00	0.188	1.264	24.533	0.00	2.58
135.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.191	1.274	24.638	0.00	1.98
135.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.191	1.274	24.638	0.00	0.94
135.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.191	1.274	24.638	0.00	1.98
135.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.21	0.00	0.191	1.274	24.638	0.00	1.72
140.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.196	1.289	24.895	0.00	4.95
140.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.196	1.289	24.895	0.00	2.34
140.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.196	1.289	24.895	0.00	4.95
140.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.196	1.289	24.895	0.00	4.29
142.90	1 5/8" Hybrid	Yes	2.90	1.200	2.00	0.48	0.58	0.202	0.000	25.042	25.56	2.87
142.90	7/8" Coax	Yes	2.90	0.000	0.00	0.00	0.00	0.202	0.000	25.042	0.00	1.36
142.90	1 5/8" Hybrid	Yes	2.90	1.200	2.00	0.48	0.58	0.202	0.000	25.042	25.56	2.87
142.90	1-1/4" Hybrid	Yes	2.90	1.200	1.25	0.30	0.36	0.202	0.000	25.042	15.98	2.49
145.00	1 5/8" Hybrid	Yes	2.10	0.000	2.00	0.35	0.00	0.079	0.000	25.146	0.00	2.08
145.00	7/8" Coax	Yes	2.10	0.000	0.00	0.00	0.00	0.079	0.000	25.146	0.00	0.98
148.30	1 5/8" Hybrid	Yes	3.30	0.000	2.00	0.55	0.00	0.083	0.000	25.308	0.00	3.27
148.30	7/8" Coax	Yes	3.30	0.000	0.00	0.00	0.00	0.083	0.000	25.308	0.00	1.54
150.00	1 5/8" Hybrid	Yes	1.70	0.000	2.00	0.28	0.00	0.085	0.000	25.391	0.00	1.68
150.00	7/8" Coax	Yes	1.70	0.000	0.00	0.00	0.00	0.085	0.000	25.391	0.00	0.80
155.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.125	1.075	25.630	0.00	4.95
155.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.125	1.075	25.630	0.00	2.34
160.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.125	1.075	25.863	0.00	4.95
160.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.125	1.075	25.863	0.00	2.34
									Totals:		**67.1**	**548.9**

Calculated Forces

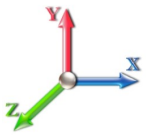
Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 34	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-36.84	-37.23	0.00	-4150.2	0.00	4150.23	3683.82	1841.91	7606.69	3756.66	0.00	0.000	0.000	0.756
5.00	-35.56	-36.61	0.00	-3964.1	0.00	3964.10	3652.63	1826.32	7394.88	3652.06	0.11	-0.203	0.000	0.738
10.00	-34.31	-35.99	0.00	-3781.0	0.00	3781.04	3619.85	1809.93	7182.43	3547.13	0.43	-0.407	0.000	0.719
15.00	-33.13	-35.33	0.00	-3601.0	0.00	3601.08	3585.48	1792.74	6969.53	3441.99	0.97	-0.612	0.000	0.700
16.00	-32.90	-35.20	0.00	-3565.7	0.00	3565.75	3578.41	1789.21	6926.91	3420.94	1.10	-0.654	0.000	0.697
16.25	-32.77	-35.19	0.00	-3556.9	0.00	3556.95	3576.63	1788.32	6916.25	3415.68	1.13	-0.665	0.000	0.820
18.00	-32.03	-34.97	0.00	-3495.3	0.00	3495.37	3564.09	1782.04	6841.65	3378.83	1.40	-0.751	0.000	0.755
19.50	-31.42	-34.77	0.00	-3442.9	0.00	3442.92	3553.18	1776.59	6777.69	3347.24	1.64	-0.820	0.000	0.636
20.00	-31.20	-34.72	0.00	-3425.5	0.00	3425.54	3549.51	1774.75	6756.36	3336.71	1.73	-0.840	0.000	0.634
22.00	-30.37	-34.47	0.00	-3356.1	0.00	3356.10	3563.12	1781.56	6835.93	3376.01	2.10	-0.918	0.000	0.642
25.00	-29.63	-34.11	0.00	-3252.7	0.00	3252.70	3541.13	1770.56	6708.00	3312.83	2.71	-1.035	0.000	0.612
30.00	-28.51	-33.43	0.00	-3082.1	0.00	3082.16	3503.20	1751.60	6494.78	3207.53	3.90	-1.221	0.000	0.468
31.00	-28.27	-33.32	0.00	-3048.7	0.00	3048.73	3495.43	1747.71	6452.15	3186.48	4.16	-1.251	0.000	0.540
34.00	-27.60	-32.94	0.00	-2948.7	0.00	2948.77	3471.72	1735.86	6324.32	3123.35	4.98	-1.355	0.000	0.658
35.00	-27.38	-32.83	0.00	-2915.8	0.00	2915.83	3463.69	1731.84	6281.74	3102.31	5.26	-1.398	0.000	0.654
35.50	-27.21	-32.81	0.00	-2899.4	0.00	2899.42	3459.65	1729.82	6260.45	3091.80	5.41	-1.420	0.000	0.653
40.00	-26.18	-32.26	0.00	-2751.7	0.00	2751.77	3422.57	1711.29	6069.05	2997.28	6.84	-1.612	0.000	0.634
45.00	-25.12	-31.61	0.00	-2590.4	0.00	2590.47	3379.87	1689.93	5856.93	2892.52	8.64	-1.825	0.000	0.614
45.16	-25.08	-31.59	0.00	-2585.4	0.00	2585.41	3378.48	1689.24	5850.15	2889.17	8.71	-1.832	0.000	0.446
46.00	-24.86	-31.52	0.00	-2558.8	0.00	2558.87	3371.14	1685.57	5814.59	2871.61	9.03	-1.858	0.000	0.579
50.00	-23.99	-31.03	0.00	-2432.8	0.00	2432.80	3335.57	1667.79	5645.55	2788.13	10.66	-2.020	0.000	0.562
55.00	-22.21	-30.31	0.00	-2277.6	0.00	2277.67	3289.68	1644.84	5435.12	2684.20	12.88	-2.221	0.000	0.535
56.00	-21.83	-30.18	0.00	-2247.3	0.00	2247.36	3316.18	1658.09	5555.61	2743.71	13.35	-2.261	0.000	0.544
58.00	-21.41	-29.92	0.00	-2187.0	0.00	2187.00	3297.74	1648.87	5471.49	2702.16	14.31	-2.342	0.000	0.562
60.00	-20.96	-29.67	0.00	-2127.1	0.00	2127.17	3279.05	1639.52	5387.54	2660.71	15.31	-2.426	0.000	0.553
65.00	-19.93	-28.99	0.00	-1978.8	0.00	1978.81	3231.20	1615.60	5178.53	2557.48	17.96	-2.631	0.000	0.531
70.00	-18.93	-28.30	0.00	-1833.8	0.00	1833.83	3181.76	1590.88	4970.89	2454.94	20.83	-2.835	0.000	0.508
75.00	-17.96	-27.59	0.00	-1692.3	0.00	1692.31	3130.72	1565.36	4764.82	2353.16	23.90	-3.036	0.000	0.485
78.00	-17.40	-27.16	0.00	-1609.5	0.00	1609.53	3099.34	1549.67	4642.00	2292.51	25.85	-3.157	0.000	0.470
80.00	-16.99	-26.90	0.00	-1555.2	0.00	1555.21	3078.09	1539.05	4560.50	2252.26	27.19	-3.238	0.000	0.461
80.00	-16.99	-26.90	0.00	-1555.2	0.00	1555.21	2384.58	1192.29	3545.27	1750.88	27.19	-3.238	0.000	0.497
85.00	-16.16	-26.19	0.00	-1420.7	0.00	1420.71	2349.22	1174.61	3397.89	1678.09	30.68	-3.433	0.000	0.524
90.00	-15.35	-25.48	0.00	-1289.7	0.00	1289.74	2312.26	1156.13	3251.12	1605.61	34.39	-3.646	0.000	0.492
95.00	-14.60	-24.75	0.00	-1162.3	0.00	1162.32	2273.71	1136.85	3105.16	1533.52	38.32	-3.854	0.000	0.458
95.58	-14.42	-24.68	0.00	-1147.9	0.00	1147.97	2269.13	1134.57	3088.29	1525.19	38.79	-3.878	0.000	0.448
95.58	-14.42	-24.68	0.00	-1147.9	0.00	1147.97	2269.13	1134.57	3088.29	1525.19	38.79	-3.878	0.000	0.448
100.00	-13.26	-24.04	0.00	-1038.9	0.00	1038.90	2259.61	1129.81	3053.48	1508.00	42.46	-4.053	0.000	0.695
105.00	-12.45	-23.39	0.00	-918.71	0.00	918.71	2218.90	1109.45	2908.92	1436.61	46.88	-4.379	0.000	0.646
110.00	-11.65	-22.53	0.00	-801.25	0.00	801.25	2176.60	1088.30	2765.62	1365.84	51.62	-4.675	0.000	0.592
115.00	-10.90	-21.87	0.00	-688.58	0.00	688.58	2132.70	1066.35	2623.78	1295.79	56.66	-4.956	0.000	0.537
115.00	-10.90	-21.87	0.00	-688.58	0.00	688.58	1556.62	778.31	1923.08	949.74	56.66	-4.956	0.000	0.733
120.00	-10.27	-21.22	0.00	-579.21	0.00	579.21	1529.99	765.00	1828.43	902.99	61.99	-5.219	0.000	0.649
125.00	-9.65	-20.57	0.00	-473.09	0.00	473.09	1501.77	750.88	1734.09	856.40	67.61	-5.519	0.000	0.560
130.00	-9.08	-19.91	0.00	-370.22	0.00	370.22	1471.95	735.97	1640.26	810.06	73.53	-5.785	0.000	0.464
133.00	-6.83	-16.47	0.00	-310.49	0.00	310.49	1453.29	726.64	1584.28	782.42	77.21	-5.928	0.000	0.402
135.00	-6.62	-16.21	0.00	-277.55	0.00	277.55	1440.53	720.27	1547.12	764.06	79.71	-6.016	0.000	0.368
140.00	-6.16	-15.55	0.00	-196.49	0.00	196.49	1407.52	703.76	1454.87	718.50	86.10	-6.202	0.000	0.278
142.90	-3.62	-10.25	0.00	-150.63	0.00	150.63	1387.65	693.82	1401.84	692.32	89.89	-6.290	0.000	0.220

Calculated Forces

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 35

145.00	-3.46	-10.04	0.00	-129.10	0.00	129.10	1372.92	686.46	1363.70	673.48	92.66	-6.345	0.000	0.194
145.00	-3.46	-10.04	0.00	-129.10	0.00	129.10	931.20	465.60	925.89	604.09	92.66	-6.345	0.000	0.218
148.30	-1.67	-6.83	0.00	-90.06	0.00	90.06	911.53	455.77	882.04	573.63	97.07	-6.418	0.000	0.159
150.00	-1.55	-6.73	0.00	-78.44	0.00	78.44	901.40	450.70	859.86	558.24	99.36	-6.450	0.000	0.142
150.00	-1.55	-6.73	0.00	-78.44	0.00	78.44	556.65	278.33	359.38	213.69	99.36	-6.450	0.000	0.370
155.00	-1.28	-6.51	0.00	-44.79	0.00	44.79	556.65	278.33	359.38	213.69	106.14	-6.522	0.000	0.212
160.00	0.00	-6.32	0.00	-12.25	0.00	12.25	556.65	278.33	359.38	213.69	113.02	-6.628	0.000	0.058

Wind Loading - Shaft

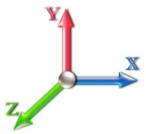
Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 36	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00	RB1	1.00	0.70	4.256	4.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	4.256	4.68	0.00	1.467 *	1.242	5.00	22.556	33.10	154.9	397.5	1618.2
10.00		1.00	0.70	4.256	4.68	0.00	1.480 *	1.331	5.00	22.212	32.87	153.9	418.6	1615.4
15.00		1.00	0.70	4.256	4.68	0.00	1.493 *	1.386	5.00	21.839	32.60	152.6	427.9	1600.7
16.00	Bot - Section 2	1.00	0.70	4.256	4.68	0.00	1.501 *	1.395	1.00	4.319	6.48	30.3	85.8	317.5
16.25	RT1 RB2	1.00	0.70	4.256	4.68	0.00	1.502 *	1.397	0.25	1.093	1.64	7.7	21.8	138.3
18.00	RB3	1.00	0.70	4.256	4.68	0.00	1.505 *	1.412	1.75	7.629	11.48	53.8	153.1	965.1
19.50	RB4	1.00	0.70	4.256	4.68	0.00	1.510 *	1.423	1.50	6.501	9.81	45.9	131.5	822.9
20.00		1.00	0.70	4.256	4.68	0.00	1.512 *	1.427	0.50	2.159	3.27	15.3	43.9	273.4
22.00	Top - Section 1	1.00	0.70	4.256	4.68	0.00	1.516 *	1.440	2.00	8.599	13.03	61.0	175.8	1089.0
25.00		1.00	0.70	4.256	4.68	0.00	1.512 *	1.459	3.00	12.782	19.33	90.5	264.0	947.2
30.00	RB5	1.00	0.70	4.260	4.69	0.00	1.523 *	1.486	5.00	20.990	31.98	149.8	439.2	1558.8
31.00	RT2	1.00	0.71	4.300	4.73	0.00	1.532 *	1.491	1.00	4.149	6.36	30.1	87.8	308.8
34.00	RT3	1.00	0.73	4.415	4.86	0.00	1.409 *	1.504	3.00	12.353	17.40	84.5	262.5	919.9
35.00		1.00	0.73	4.451	4.90	0.00	1.349 *	1.509	1.00	4.085	5.51	27.0	87.4	304.6
35.50	RT4	1.00	0.74	4.469	4.92	0.00	1.350 *	1.511	0.50	2.036	2.75	13.5	43.7	151.9
40.00	Appurtenance(s)	1.00	0.76	4.625	5.09	0.00	1.356 *	1.529	4.50	18.152	24.61	125.2	390.3	1353.8
45.00		1.00	0.79	4.783	5.26	0.00	1.367 *	1.547	5.00	19.786	27.05	142.3	429.5	1477.3
45.16	RB6	1.00	0.79	4.788	5.27	0.00	1.373 *	1.548	0.16	0.626	0.86	4.5	13.7	46.9
46.00	RT5	1.00	0.79	4.813	5.29	0.00	1.375 *	1.551	0.84	3.281	4.51	23.9	72.0	245.6
50.00	Bot - Section 3	1.00	0.81	4.929	5.42	0.00	1.381 *	1.564	4.00	15.472	21.36	115.8	339.7	1156.9
55.00		1.00	0.83	5.065	5.57	0.00	1.392 *	1.579	5.00	19.299	26.87	149.7	426.6	2445.2
56.00	Top - Section 2	1.00	0.84	5.091	5.60	0.00	1.400 *	1.581	1.00	3.810	5.33	29.9	85.1	483.1
58.00	RT6 RB7	1.00	0.85	5.142	5.66	0.00	1.394 *	1.587	2.00	7.572	10.55	59.7	169.2	568.0
60.00		1.00	0.85	5.193	5.71	0.00	1.399 *	1.592	2.00	7.507	10.50	60.0	168.3	563.3
65.00		1.00	0.87	5.313	5.84	0.00	1.409 *	1.605	5.00	18.484	26.04	152.2	414.3	1385.1
70.00		1.00	0.89	5.426	5.97	0.00	1.423 *	1.617	5.00	18.076	25.72	153.5	407.6	1354.4
75.00		1.00	0.91	5.534	6.09	0.00	1.438 *	1.628	5.00	17.667	25.40	154.6	400.6	1323.5
78.00	RT7 RB8	1.00	0.92	5.597	6.16	0.00	1.450 *	1.635	3.00	10.402	15.09	92.9	237.7	780.0
80.00	Top - Section 3	1.00	0.93	5.637	6.20	0.00	1.458 *	1.639	2.00	6.853	9.99	62.0	157.3	514.0
85.00		1.00	0.94	5.736	6.31	0.00	1.470 *	1.649	5.00	16.847	24.77	156.3	385.6	1116.1
90.00		1.00	0.96	5.830	6.41	0.00	1.488 *	1.658	5.00	16.437	24.45	156.8	377.7	1088.3
95.00	Bot - Section 5	1.00	0.97	5.921	6.51	0.00	1.506 *	1.667	5.00	16.026	24.14	157.2	369.6	1060.3
95.58	RT8	1.00	0.98	5.931	6.52	0.00	1.517 *	1.668	0.58	1.863	2.83	18.4	43.5	202.7
100.00	Top - Section 4	1.00	0.99	6.008	6.61	0.00	1.467 *	1.676	4.42	14.020	20.57	135.9	325.3	1520.4
105.00		1.00	1.00	6.093	6.70	0.00	1.400 *	1.684	5.00	15.472	21.66	145.1	359.5	1023.1
110.00	Appurtenance(s)	1.00	1.02	6.174	6.79	0.00	1.417 *	1.692	5.00	15.060	21.34	144.9	350.9	994.6
115.00	Top - Section 5	1.00	1.03	6.253	6.88	0.00	1.435 *	1.699	5.00	14.648	21.02	144.6	342.1	965.9
120.00		1.00	1.04	6.330	6.96	0.00	1.455 *	1.707	5.00	14.236	20.71	144.2	333.2	817.3
125.00		1.00	1.05	6.404	7.04	0.00	1.475 *	1.714	5.00	13.823	20.39	143.7	324.1	792.3
130.00		1.00	1.07	6.476	7.12	0.00	1.498 *	1.720	5.00	13.411	20.08	143.1	314.9	767.1
133.00	Appurtenance(s)	1.00	1.07	6.519	7.17	0.00	1.516 *	1.724	3.00	7.847	11.90	85.3	185.6	449.3
135.00		1.00	1.08	6.546	7.20	0.00	1.529 *	1.727	2.00	5.149	7.87	56.7	122.2	294.8
140.00		1.00	1.09	6.615	7.28	0.00	1.547 *	1.733	5.00	12.584	19.47	141.6	296.1	716.4
142.90	Appurtenance(s)	1.00	1.09	6.654	7.32	0.00	1.200 *	1.737	2.90	7.109	8.53	62.4	168.5	405.0
145.00	Top - Section 6	1.00	1.10	6.681	7.35	0.00	1.200	1.739	2.10	5.061	6.07	44.6	120.3	288.3
148.30	Appurtenance(s)	1.00	1.11	6.724	7.40	0.00	1.200	1.743	3.30	7.574	9.09	67.2	179.1	431.0

Wind Loading - Shaft

Structure:	CT02049-S-SBA		**Code:**	EIA/TIA-222-G	1/30/2017
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 37

150.00 Top - Section 7	1.00	1.11	6.746	7.42	0.00	1.200	1.745	1.70	3.834	4.60	34.1	91.2	218.3
155.00	1.00	1.12	6.810	7.49	0.00	1.290 *	1.751	5.00	8.126	10.48	78.5	189.9	442.4
160.00 Appurtenance(s)	1.00	1.13	6.872	7.56	0.00	1.290 *	1.757	5.00	8.130	10.49	79.3	190.5	443.1
							Totals:	**160.00**			**4,537.2**		**40,365.3**

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

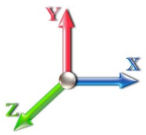
Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 38	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	160.00	DB-T1-6Z-8AB-0Z	1	6.896	7.586	0.50	1.00	2.84	197.63	0.000	2.000	21.54	0.00	43.09
2	160.00	RRH2X60-AWS	3	6.896	7.586	0.67	1.00	8.63	419.17	0.000	2.000	65.48	0.00	130.96
3	160.00	SBNHH-1D65B	9	6.896	7.586	0.82	1.00	70.14	2274.32	0.000	2.000	532.06	0.00	1064.13
4	160.00	Low Profile Platform	1	6.896	7.586	1.00	1.00	39.78	1893.91	0.000	2.000	301.74	0.00	603.49
5	160.00	DB846F65ZAXY	6	6.896	7.586	0.94	1.00	46.56	1344.74	0.000	2.000	353.17	0.00	706.34
6	160.00	DB222	1	6.896	7.586	1.00	1.00	8.35	69.05	0.000	2.000	63.35	0.00	126.70
7	160.00	6' Lightning rod	1	6.896	7.586	1.00	1.00	1.47	39.04	0.000	2.000	11.19	0.00	22.37
8	148.30	APXVTM14-C-120	3	6.746	7.421	0.61	0.80	13.70	682.17	0.000	1.700	101.67	0.00	172.83
9	148.30	1900MHz RRH	3	6.772	7.449	0.54	0.80	8.34	391.92	0.000	3.700	62.15	0.00	229.95
10	148.30	800 MHz RRH	3	6.772	7.449	0.54	0.80	5.84	349.13	0.000	3.700	43.51	0.00	160.99
11	148.30	APXVSPP18-C-A20	3	6.772	7.449	0.66	0.80	21.33	574.66	0.000	3.700	158.87	0.00	587.82
12	148.30	Low Profile Platform	1	6.724	7.397	1.00	1.00	31.53	1885.94	0.000	0.000	233.25	0.00	0.00
13	148.30	ALU 800MHz External	3	6.772	7.449	0.57	0.80	2.43	69.55	0.000	3.700	18.10	0.00	66.98
14	148.30	TD-RRH8x20-25	3	6.746	7.421	0.57	0.80	8.29	582.93	0.000	1.700	61.48	0.00	104.52
15	148.30	ACU-A20-N	4	6.772	7.449	0.62	0.80	1.08	16.76	0.000	3.700	8.01	0.00	29.64
16	142.90	AIR 21 B4A B2P	3	6.663	7.329	0.67	0.80	14.37	829.18	0.000	0.700	105.36	0.00	73.75
17	142.90	AIR 21 B2A B4P	3	6.663	7.329	0.67	0.80	14.37	833.14	0.000	0.700	105.36	0.00	73.75
18	142.90	LNX-6515DS-A1M	3	6.654	7.319	0.68	0.80	30.03	667.20	0.000	0.000	219.80	0.00	0.00
19	142.90	Low-Profile Platform + HR	1	6.654	7.319	1.00	1.00	89.77	4811.83	0.000	0.000	657.03	0.00	0.00
20	142.90	KRY 112 144/1	3	6.663	7.329	0.58	0.80	1.53	62.49	0.000	0.700	11.18	0.00	7.83
21	142.90	S11B12	3	6.654	7.319	0.54	0.80	5.63	343.10	0.000	0.000	41.17	0.00	0.00
22	133.00	Low Profile Platform	1	6.519	7.170	1.00	1.00	39.45	2333.94	0.000	0.000	282.87	0.00	0.00
23	133.00	800 10121	3	6.519	7.170	0.65	0.80	14.06	408.47	0.000	0.000	100.80	0.00	0.00
24	133.00	RRUS 11	3	6.519	7.170	0.54	0.80	5.09	446.19	0.000	0.000	36.47	0.00	0.00
25	133.00	RRUS A2 Module	3	6.519	7.170	0.32	0.80	2.71	152.76	0.000	0.000	19.43	0.00	0.00
26	133.00	800 10798	3	6.519	7.170	0.60	0.80	20.94	1611.20	0.000	0.000	150.12	0.00	0.00
27	133.00	RRUS 12	3	6.519	7.170	0.57	0.80	5.94	466.39	0.000	0.000	42.63	0.00	0.00
28	133.00	DTMABP7819VG12A	3	6.519	7.170	0.40	0.80	2.28	120.76	0.000	0.000	16.35	0.00	0.00
29	133.00	RRUS 32	3	6.519	7.170	0.80	0.80	5.33	420.36	0.000	0.000	38.24	0.00	0.00
30	133.00	DC6-48-60-18-8F	2	6.519	7.170	0.80	0.80	3.46	157.63	0.000	0.000	24.80	0.00	0.00
31	110.00	DB222	1	6.258	6.884	1.00	1.00	8.13	66.49	0.000	5.292	55.94	0.00	296.00
32	110.00	3 ft Standoff	1	6.174	6.792	1.00	1.00	8.42	102.83	0.000	0.000	57.16	0.00	0.00
33	40.00	GPS	1	4.625	5.087	1.00	1.00	1.62	29.69	0.000	0.000	8.26	0.00	0.00
							Totals:		**24,654.56**			**4,008.54**		

Total Applied Force Summary

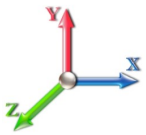
Structure:	CT02049-S-SBA		**Code:**	EIA/TIA-222-G	1/30/2017
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 39

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		154.94	2073.14	0.00	0.00
10.00		153.87	2085.31	0.00	0.00
15.00		152.62	2080.29	0.00	0.00
16.00		30.34	413.73	0.00	0.00
16.25		7.69	162.35	0.00	0.00
18.00		53.76	1134.54	0.00	0.00
19.50		45.95	968.71	0.00	0.00
20.00		15.29	322.04	0.00	0.00
22.00		61.02	1284.67	0.00	0.00
25.00		90.48	1242.80	0.00	0.00
30.00		149.84	2056.36	0.00	0.00
31.00		30.07	408.52	0.00	0.00
34.00		84.52	1205.46	0.00	0.00
35.00		26.98	397.42	0.00	0.00
35.50		13.52	198.36	0.00	0.00
40.00	(1) attachments	133.47	1803.93	0.00	0.00
45.00		142.31	1946.35	0.00	0.00
45.16		4.53	61.89	0.00	0.00
46.00		23.88	324.45	0.00	0.00
50.00		115.81	1534.20	0.00	0.00
55.00		149.69	2919.16	0.00	0.00
56.00		29.87	577.95	0.00	0.00
58.00		59.70	758.17	0.00	0.00
60.00		59.99	753.73	0.00	0.00
65.00		152.16	1863.29	0.00	0.00
70.00		153.52	1834.59	0.00	0.00
75.00		154.64	1805.44	0.00	0.00
78.00		92.88	1069.79	0.00	0.00
80.00		61.97	707.49	0.00	0.00
85.00		156.27	1601.44	0.00	0.00
90.00		156.82	1575.20	0.00	0.00
95.00		157.21	1548.67	0.00	0.00
95.58		18.44	259.34	0.00	0.00
100.00		135.95	1936.00	0.00	0.00
105.00		145.15	1470.49	0.00	0.00
110.00	(2) attachments	258.03	1612.30	0.00	296.00
115.00		144.60	1386.66	0.00	0.00
120.00		144.18	1238.83	0.00	0.00
125.00		143.66	1214.57	0.00	0.00
130.00		143.06	1190.15	0.00	0.00
133.00	(24) attachments	797.04	6821.04	0.00	0.00
135.00		56.68	435.71	0.00	0.00
140.00		141.65	1069.36	0.00	0.00
142.90	(16) attachments	1235.59	8156.87	0.00	155.32
145.00		44.63	374.40	0.00	0.00
148.30	(23) attachments	754.27	5119.58	0.00	1352.73

Total Applied Force Summary

Structure:	CT02049-S-SBA		**Code:**	EIA/TIA-222-G	1/30/2017
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 40

Tower Engineering Solutions

150.00		34.14	280.37	0.00	0.00
155.00		78.52	625.27	0.00	0.00
160.00	(22) attachments	1427.82	6864.10	0.00	2697.07
	Totals:	**8,578.99**	**78,774.46**	**0.00**	**4,501.12**

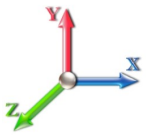
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 41	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	1.87	0.00	0.174	1.223	4.256	0.00	27.35
5.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.174	1.223	4.256	0.00	18.42
5.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	1.87	0.00	0.174	1.223	4.256	0.00	27.35
5.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	1.56	0.00	0.174	1.223	4.256	0.00	21.84
5.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.174	1.223	4.256	0.00	18.42
5.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	1.56	0.00	0.174	1.223	4.256	0.00	29.49
5.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	2.08	0.00	0.174	1.223	4.256	0.00	29.49
10.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	1.94	0.00	0.178	1.233	4.256	0.00	29.45
10.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.178	1.233	4.256	0.00	20.21
10.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	1.94	0.00	0.178	1.233	4.256	0.00	29.45
10.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	1.63	0.00	0.178	1.233	4.256	0.00	23.67
10.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.178	1.233	4.256	0.00	20.21
10.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	1.63	0.00	0.178	1.233	4.256	0.00	32.19
10.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	2.15	0.00	0.178	1.233	4.256	0.00	32.19
15.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	1.99	0.00	0.181	1.244	4.256	0.00	30.79
15.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.181	1.244	4.256	0.00	21.36
15.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	1.99	0.00	0.181	1.244	4.256	0.00	30.79
15.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	1.68	0.00	0.181	1.244	4.256	0.00	24.85
15.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.181	1.244	4.256	0.00	21.36
15.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	1.68	0.00	0.181	1.244	4.256	0.00	33.91
15.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	2.20	0.00	0.181	1.244	4.256	0.00	33.91
16.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.40	0.00	0.184	1.251	4.256	0.00	6.20
16.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.184	1.251	4.256	0.00	4.31
16.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.40	0.00	0.184	1.251	4.256	0.00	6.20
16.00	1-1/4" Hybrid	Yes	1.00	0.000	1.25	0.34	0.00	0.184	1.251	4.256	0.00	5.01
16.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.184	1.251	4.256	0.00	4.31
16.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.34	0.00	0.184	1.251	4.256	0.00	6.84
16.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.44	0.00	0.184	1.251	4.256	0.00	6.84
16.25	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.10	0.00	0.184	1.252	4.256	0.00	1.55
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.184	1.252	4.256	0.00	1.08
16.25	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.10	0.00	0.184	1.252	4.256	0.00	1.55
16.25	1-1/4" Hybrid	Yes	0.25	0.000	1.25	0.08	0.00	0.184	1.252	4.256	0.00	1.25
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.184	1.252	4.256	0.00	1.08
16.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.08	0.00	0.184	1.252	4.256	0.00	1.71
16.25	1.25" Reinforcing	Yes	0.25	0.000	2.50	0.11	0.00	0.184	1.252	4.256	0.00	1.71
18.00	1 5/8" Hybrid	Yes	1.75	0.000	2.00	0.70	0.00	0.185	1.254	4.256	0.00	11.00
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.185	1.254	4.256	0.00	7.67
18.00	1 5/8" Hybrid	Yes	1.75	0.000	2.00	0.70	0.00	0.185	1.254	4.256	0.00	11.00
18.00	1-1/4" Hybrid	Yes	1.75	0.000	1.25	0.59	0.00	0.185	1.254	4.256	0.00	8.89
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.185	1.254	4.256	0.00	7.67
18.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.59	0.00	0.185	1.254	4.256	0.00	12.15
18.00	1.25" Reinforcing	Yes	1.75	0.000	2.50	0.78	0.00	0.185	1.254	4.256	0.00	12.15
19.50	1 5/8" Hybrid	Yes	1.50	0.000	2.00	0.61	0.00	0.186	1.258	4.256	0.00	9.51
19.50	7/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.186	1.258	4.256	0.00	6.64
19.50	1 5/8" Hybrid	Yes	1.50	0.000	2.00	0.61	0.00	0.186	1.258	4.256	0.00	9.51
19.50	1-1/4" Hybrid	Yes	1.50	0.000	1.25	0.51	0.00	0.186	1.258	4.256	0.00	7.70
19.50	7/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.186	1.258	4.256	0.00	6.64

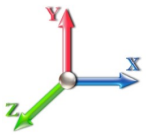
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 42	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
19.50	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.51	0.00	0.186	1.258	4.256	0.00	10.52
19.50	1.25" Reinforcing	Yes	1.50	0.000	2.50	0.67	0.00	0.186	1.258	4.256	0.00	10.52
20.00	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.20	0.00	0.187	1.260	4.256	0.00	3.18
20.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.187	1.260	4.256	0.00	2.22
20.00	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.20	0.00	0.187	1.260	4.256	0.00	3.18
20.00	1-1/4" Hybrid	Yes	0.50	0.000	1.25	0.17	0.00	0.187	1.260	4.256	0.00	2.57
20.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.187	1.260	4.256	0.00	2.22
20.00	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.17	0.00	0.187	1.260	4.256	0.00	3.52
20.00	1.25" Reinforcing	Yes	0.50	0.000	2.50	0.22	0.00	0.187	1.260	4.256	0.00	3.52
22.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.81	0.00	0.188	1.263	4.256	0.00	12.86
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.188	1.263	4.256	0.00	9.01
22.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.81	0.00	0.188	1.263	4.256	0.00	12.86
22.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.69	0.00	0.188	1.263	4.256	0.00	10.42
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.188	1.263	4.256	0.00	9.01
22.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.69	0.00	0.188	1.263	4.256	0.00	14.25
22.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.90	0.00	0.188	1.263	4.256	0.00	14.25
25.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	1.23	0.00	0.187	1.260	4.256	0.00	19.57
25.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.187	1.260	4.256	0.00	13.76
25.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	1.23	0.00	0.187	1.260	4.256	0.00	19.57
25.00	1-1/4" Hybrid	Yes	3.00	0.000	1.25	1.04	0.00	0.187	1.260	4.256	0.00	15.88
25.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.187	1.260	4.256	0.00	13.76
25.00	1.25" Reinforcing	Yes	3.00	0.000	1.25	1.04	0.00	0.187	1.260	4.256	0.00	21.74
25.00	1.25" Reinforcing	Yes	3.00	0.000	2.50	1.35	0.00	0.187	1.260	4.256	0.00	21.74
30.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.07	0.00	0.190	1.270	4.260	0.00	33.31
30.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.190	1.270	4.260	0.00	23.53
30.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.07	0.00	0.190	1.270	4.260	0.00	33.31
30.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	1.76	0.00	0.190	1.270	4.260	0.00	27.08
30.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.190	1.270	4.260	0.00	23.53
30.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	1.76	0.00	0.190	1.270	4.260	0.00	37.11
30.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	2.28	0.00	0.190	1.270	4.260	0.00	37.11
31.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.42	0.00	0.192	1.277	4.300	0.00	6.69
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.192	1.277	4.300	0.00	4.73
31.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.42	0.00	0.192	1.277	4.300	0.00	6.69
31.00	1-1/4" Hybrid	Yes	1.00	0.000	1.25	0.35	0.00	0.192	1.277	4.300	0.00	5.44
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.192	1.277	4.300	0.00	4.73
31.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.35	0.00	0.192	1.277	4.300	0.00	7.45
31.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.46	0.00	0.192	1.277	4.300	0.00	7.45
34.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	1.25	0.00	0.158	1.174	4.415	0.00	20.28
34.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.158	1.174	4.415	0.00	14.37
34.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	1.25	0.00	0.158	1.174	4.415	0.00	20.28
34.00	1-1/4" Hybrid	Yes	3.00	0.000	1.25	1.06	0.00	0.158	1.174	4.415	0.00	16.51
34.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.158	1.174	4.415	0.00	14.37
34.00	1.25" Reinforcing	Yes	3.00	0.000	1.25	1.06	0.00	0.158	1.174	4.415	0.00	22.63
34.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.46	0.00	0.158	1.174	4.415	0.00	7.54
35.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.42	0.00	0.141	1.124	4.451	0.00	6.78
35.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.141	1.124	4.451	0.00	4.81
35.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.42	0.00	0.141	1.124	4.451	0.00	6.78

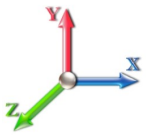
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 43	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
35.00	1-1/4" Hybrid	Yes	1.00	0.000	1.25	0.36	0.00	0.141	1.124	4.451	0.00	5.52
35.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.141	1.124	4.451	0.00	4.81
35.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.36	0.00	0.141	1.124	4.451	0.00	7.57
35.50	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.21	0.00	0.142	1.125	4.469	0.00	3.40
35.50	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.142	1.125	4.469	0.00	2.41
35.50	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.21	0.00	0.142	1.125	4.469	0.00	3.40
35.50	1-1/4" Hybrid	Yes	0.50	0.000	1.25	0.18	0.00	0.142	1.125	4.469	0.00	2.77
35.50	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.142	1.125	4.469	0.00	2.41
35.50	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.18	0.00	0.142	1.125	4.469	0.00	3.79
40.00	1 5/8" Hybrid	Yes	4.50	0.000	2.00	1.90	0.00	0.143	1.130	4.625	0.00	31.00
40.00	7/8" Coax	Yes	4.50	0.000	0.00	0.00	0.00	0.143	1.130	4.625	0.00	22.07
40.00	1 5/8" Hybrid	Yes	4.50	0.000	2.00	1.90	0.00	0.143	1.130	4.625	0.00	31.00
40.00	1-1/4" Hybrid	Yes	4.50	0.000	1.25	1.62	0.00	0.143	1.130	4.625	0.00	25.28
40.00	7/8" Coax	Yes	4.50	0.000	0.00	0.00	0.00	0.143	1.130	4.625	0.00	22.07
40.00	1.25" Reinforcing	Yes	4.50	0.000	1.25	1.62	0.00	0.143	1.130	4.625	0.00	34.69
45.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.12	0.00	0.146	1.139	4.783	0.00	34.93
45.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.146	1.139	4.783	0.00	24.94
45.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.12	0.00	0.146	1.139	4.783	0.00	34.93
45.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	1.81	0.00	0.146	1.139	4.783	0.00	28.52
45.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.146	1.139	4.783	0.00	24.94
45.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	1.81	0.00	0.146	1.139	4.783	0.00	39.14
45.16	1 5/8" Hybrid	Yes	0.16	0.000	2.00	0.07	0.00	0.148	1.144	4.788	0.00	1.12
45.16	7/8" Coax	Yes	0.16	0.000	0.00	0.00	0.00	0.148	1.144	4.788	0.00	0.80
45.16	1 5/8" Hybrid	Yes	0.16	0.000	2.00	0.07	0.00	0.148	1.144	4.788	0.00	1.12
45.16	1-1/4" Hybrid	Yes	0.16	0.000	1.25	0.06	0.00	0.148	1.144	4.788	0.00	0.91
45.16	7/8" Coax	Yes	0.16	0.000	0.00	0.00	0.00	0.148	1.144	4.788	0.00	0.80
45.16	1.25" Reinforcing	Yes	0.16	0.000	1.25	0.06	0.00	0.148	1.144	4.788	0.00	1.25
46.00	1 5/8" Hybrid	Yes	0.84	0.000	2.00	0.36	0.00	0.148	1.145	4.813	0.00	5.88
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.148	1.145	4.813	0.00	4.20
46.00	1 5/8" Hybrid	Yes	0.84	0.000	2.00	0.36	0.00	0.148	1.145	4.813	0.00	5.88
46.00	1-1/4" Hybrid	Yes	0.84	0.000	1.25	0.30	0.00	0.148	1.145	4.813	0.00	4.81
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.148	1.145	4.813	0.00	4.20
46.00	1.25" Reinforcing	Yes	0.84	0.000	1.25	0.30	0.00	0.148	1.145	4.813	0.00	6.60
50.00	1 5/8" Hybrid	Yes	4.00	0.000	2.00	1.71	0.00	0.150	1.150	4.929	0.00	28.29
50.00	7/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.150	1.150	4.929	0.00	20.26
50.00	1 5/8" Hybrid	Yes	4.00	0.000	2.00	1.71	0.00	0.150	1.150	4.929	0.00	28.29
50.00	1-1/4" Hybrid	Yes	4.00	0.000	1.25	1.46	0.00	0.150	1.150	4.929	0.00	23.13
50.00	7/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.150	1.150	4.929	0.00	20.26
50.00	1.25" Reinforcing	Yes	4.00	0.000	1.25	1.46	0.00	0.150	1.150	4.929	0.00	31.76
55.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.15	0.00	0.153	1.160	5.065	0.00	35.77
55.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.153	1.160	5.065	0.00	25.67
55.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.15	0.00	0.153	1.160	5.065	0.00	35.77
55.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	1.84	0.00	0.153	1.160	5.065	0.00	29.27
55.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.153	1.160	5.065	0.00	25.67
55.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	1.84	0.00	0.153	1.160	5.065	0.00	40.20
56.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.43	0.00	0.156	1.167	5.091	0.00	7.17
56.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.156	1.167	5.091	0.00	5.15

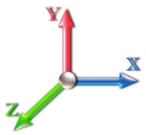
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 44	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
56.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.43	0.00	0.156	1.167	5.091	0.00	7.17
56.00	1-1/4" Hybrid	Yes	1.00	0.000	1.25	0.37	0.00	0.156	1.167	5.091	0.00	5.87
56.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.156	1.167	5.091	0.00	5.15
56.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.37	0.00	0.156	1.167	5.091	0.00	8.06
58.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.86	0.00	0.154	1.161	5.142	0.00	14.40
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.161	5.142	0.00	10.35
58.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.86	0.00	0.154	1.161	5.142	0.00	14.40
58.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.74	0.00	0.154	1.161	5.142	0.00	11.79
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.161	5.142	0.00	10.35
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.74	0.00	0.154	1.161	5.142	0.00	16.19
60.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.86	0.00	0.155	1.166	5.193	0.00	14.46
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	5.193	0.00	10.40
60.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.86	0.00	0.155	1.166	5.193	0.00	14.46
60.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.74	0.00	0.155	1.166	5.193	0.00	11.84
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	5.193	0.00	10.40
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.74	0.00	0.155	1.166	5.193	0.00	16.27
65.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.17	0.00	0.158	1.174	5.313	0.00	36.49
65.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.158	1.174	5.313	0.00	26.30
65.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.17	0.00	0.158	1.174	5.313	0.00	36.49
65.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	1.86	0.00	0.158	1.174	5.313	0.00	29.92
65.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.158	1.174	5.313	0.00	26.30
65.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	1.86	0.00	0.158	1.174	5.313	0.00	41.11
70.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.18	0.00	0.162	1.186	5.426	0.00	36.82
70.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.162	1.186	5.426	0.00	26.59
70.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.18	0.00	0.162	1.186	5.426	0.00	36.82
70.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	1.87	0.00	0.162	1.186	5.426	0.00	30.21
70.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.162	1.186	5.426	0.00	26.59
70.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	1.87	0.00	0.162	1.186	5.426	0.00	41.51
75.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.19	0.00	0.166	1.198	5.534	0.00	37.13
75.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.166	1.198	5.534	0.00	26.86
75.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.19	0.00	0.166	1.198	5.534	0.00	37.13
75.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	1.88	0.00	0.166	1.198	5.534	0.00	30.49
75.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.166	1.198	5.534	0.00	26.86
75.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	1.88	0.00	0.166	1.198	5.534	0.00	41.90
78.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	1.32	0.00	0.170	1.209	5.597	0.00	22.39
78.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.170	1.209	5.597	0.00	16.21
78.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	1.32	0.00	0.170	1.209	5.597	0.00	22.39
78.00	1-1/4" Hybrid	Yes	3.00	0.000	1.25	1.13	0.00	0.170	1.209	5.597	0.00	18.39
78.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.170	1.209	5.597	0.00	16.21
78.00	1.25" Reinforcing	Yes	3.00	0.000	1.25	1.13	0.00	0.170	1.209	5.597	0.00	25.27
80.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.88	0.00	0.172	1.215	5.637	0.00	14.97
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.172	1.215	5.637	0.00	10.85
80.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.88	0.00	0.172	1.215	5.637	0.00	14.97
80.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.75	0.00	0.172	1.215	5.637	0.00	12.30
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.172	1.215	5.637	0.00	10.85
80.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.75	0.00	0.172	1.215	5.637	0.00	16.91
85.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.21	0.00	0.175	1.225	5.736	0.00	37.70

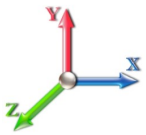
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 45	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
85.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.175	1.225	5.736	0.00	27.36
85.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.21	0.00	0.175	1.225	5.736	0.00	37.70
85.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	1.89	0.00	0.175	1.225	5.736	0.00	31.00
85.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.175	1.225	5.736	0.00	27.36
85.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	1.89	0.00	0.175	1.225	5.736	0.00	42.61
90.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.22	0.00	0.180	1.240	5.830	0.00	37.97
90.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.180	1.240	5.830	0.00	27.59
90.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.22	0.00	0.180	1.240	5.830	0.00	37.97
90.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	1.90	0.00	0.180	1.240	5.830	0.00	31.24
90.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.180	1.240	5.830	0.00	27.59
90.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	1.90	0.00	0.180	1.240	5.830	0.00	42.94
95.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.22	0.00	0.185	1.255	5.921	0.00	38.22
95.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.185	1.255	5.921	0.00	27.81
95.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.22	0.00	0.185	1.255	5.921	0.00	38.22
95.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	1.91	0.00	0.185	1.255	5.921	0.00	31.46
95.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.185	1.255	5.921	0.00	27.81
95.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	1.91	0.00	0.185	1.255	5.921	0.00	43.25
95.58	1 5/8" Hybrid	Yes	0.58	0.000	2.00	0.26	0.00	0.188	1.264	5.931	0.00	4.44
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.188	1.264	5.931	0.00	3.23
95.58	1 5/8" Hybrid	Yes	0.58	0.000	2.00	0.26	0.00	0.188	1.264	5.931	0.00	4.44
95.58	1-1/4" Hybrid	Yes	0.58	0.000	1.25	0.22	0.00	0.188	1.264	5.931	0.00	3.65
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.188	1.264	5.931	0.00	3.23
95.58	1.25" Reinforcing	Yes	0.58	0.000	1.25	0.22	0.00	0.188	1.264	5.931	0.00	5.02
100.00	1 5/8" Hybrid	Yes	4.42	0.000	2.00	1.97	0.00	0.174	1.223	6.008	0.00	34.00
100.00	7/8" Coax	Yes	4.42	0.000	0.00	0.00	0.00	0.174	1.223	6.008	0.00	24.77
100.00	1 5/8" Hybrid	Yes	4.42	0.000	2.00	1.97	0.00	0.174	1.223	6.008	0.00	34.00
100.00	1-1/4" Hybrid	Yes	4.42	0.000	1.25	1.69	0.00	0.174	1.223	6.008	0.00	28.00
100.00	7/8" Coax	Yes	4.42	0.000	0.00	0.00	0.00	0.174	1.223	6.008	0.00	24.77
100.00	1.25" Reinforcing	Yes	2.42	0.000	1.25	0.93	0.00	0.174	1.223	6.008	0.00	21.08
105.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.24	0.00	0.155	1.166	6.093	0.00	38.69
105.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.155	1.166	6.093	0.00	28.23
105.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.24	0.00	0.155	1.166	6.093	0.00	38.69
105.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	1.92	0.00	0.155	1.166	6.093	0.00	31.89
105.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.155	1.166	6.093	0.00	28.23
110.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.24	0.00	0.160	1.181	6.174	0.00	38.92
110.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.160	1.181	6.174	0.00	28.42
110.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.24	0.00	0.160	1.181	6.174	0.00	38.92
110.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	1.93	0.00	0.160	1.181	6.174	0.00	32.09
110.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.160	1.181	6.174	0.00	28.42
115.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.25	0.00	0.165	1.196	6.253	0.00	39.13
115.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.165	1.196	6.253	0.00	28.61
115.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.25	0.00	0.165	1.196	6.253	0.00	39.13
115.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	1.94	0.00	0.165	1.196	6.253	0.00	32.28
120.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.26	0.00	0.171	1.212	6.330	0.00	39.34
120.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.171	1.212	6.330	0.00	28.79
120.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.26	0.00	0.171	1.212	6.330	0.00	39.34
120.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	1.94	0.00	0.171	1.212	6.330	0.00	32.47

Linear Appurtenance Segment Forces (Factored)

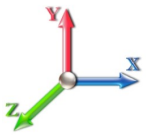
Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 46	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
125.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.26	0.00	0.176	1.229	6.404	0.00	39.54
125.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.176	1.229	6.404	0.00	28.97
125.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.26	0.00	0.176	1.229	6.404	0.00	39.54
125.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	1.95	0.00	0.176	1.229	6.404	0.00	32.65
130.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.27	0.00	0.183	1.248	6.476	0.00	39.73
130.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.183	1.248	6.476	0.00	29.14
130.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.27	0.00	0.183	1.248	6.476	0.00	39.73
130.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	1.95	0.00	0.183	1.248	6.476	0.00	32.82
133.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	1.36	0.00	0.188	1.264	6.519	0.00	23.91
133.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.188	1.264	6.519	0.00	17.54
133.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	1.36	0.00	0.188	1.264	6.519	0.00	23.91
133.00	1-1/4" Hybrid	Yes	3.00	0.000	1.25	1.17	0.00	0.188	1.264	6.519	0.00	19.75
135.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.91	0.00	0.191	1.274	6.546	0.00	15.97
135.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.191	1.274	6.546	0.00	11.72
135.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.91	0.00	0.191	1.274	6.546	0.00	15.97
135.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.78	0.00	0.191	1.274	6.546	0.00	13.20
140.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.28	0.00	0.196	1.289	6.615	0.00	40.10
140.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.196	1.289	6.615	0.00	29.47
140.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.28	0.00	0.196	1.289	6.615	0.00	40.10
140.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	1.97	0.00	0.196	1.289	6.615	0.00	33.15
142.90	1 5/8" Hybrid	Yes	2.90	1.200	2.00	1.32	1.59	0.202	0.000	6.654	11.62	23.32
142.90	7/8" Coax	Yes	2.90	0.000	0.00	0.00	0.00	0.202	0.000	6.654	0.00	17.14
142.90	1 5/8" Hybrid	Yes	2.90	1.200	2.00	1.32	1.59	0.202	0.000	6.654	11.62	23.32
142.90	1-1/4" Hybrid	Yes	2.90	1.200	1.25	1.14	1.37	0.202	0.000	6.654	10.03	19.28
145.00	1 5/8" Hybrid	Yes	2.10	0.000	2.00	0.96	0.00	0.079	0.000	6.681	0.00	16.92
145.00	7/8" Coax	Yes	2.10	0.000	0.00	0.00	0.00	0.079	0.000	6.681	0.00	12.44
148.30	1 5/8" Hybrid	Yes	3.30	0.000	2.00	1.51	0.00	0.083	0.000	6.724	0.00	26.66
148.30	7/8" Coax	Yes	3.30	0.000	0.00	0.00	0.00	0.083	0.000	6.724	0.00	19.62
150.00	1 5/8" Hybrid	Yes	1.70	0.000	2.00	0.78	0.00	0.085	0.000	6.746	0.00	13.75
150.00	7/8" Coax	Yes	1.70	0.000	0.00	0.00	0.00	0.085	0.000	6.746	0.00	10.12
155.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.29	0.00	0.125	1.075	6.810	0.00	40.62
155.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.125	1.075	6.810	0.00	29.92
160.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	2.30	0.00	0.125	1.075	6.872	0.00	40.78
160.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.125	1.075	6.872	0.00	30.06
										Totals:	**33.3**	**5,431.0**

Calculated Forces

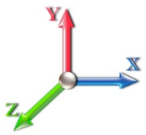
Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 47	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-78.77	-8.61	0.00	-1032.8	0.00	1032.83	3683.82	1841.91	7606.69	3756.66	0.00	0.000	0.000	0.201
5.00	-76.69	-8.53	0.00	-989.76	0.00	989.76	3652.63	1826.32	7394.88	3652.06	0.03	-0.051	0.000	0.197
10.00	-74.60	-8.44	0.00	-947.13	0.00	947.13	3619.85	1809.93	7182.43	3547.13	0.11	-0.102	0.000	0.193
15.00	-72.51	-8.32	0.00	-904.95	0.00	904.95	3585.48	1792.74	6969.53	3441.99	0.24	-0.153	0.000	0.188
16.00	-72.10	-8.29	0.00	-896.63	0.00	896.63	3578.41	1789.21	6926.91	3420.94	0.27	-0.164	0.000	0.187
16.25	-71.93	-8.30	0.00	-894.56	0.00	894.56	3576.63	1788.32	6916.25	3415.68	0.28	-0.166	0.000	0.221
18.00	-70.80	-8.27	0.00	-880.03	0.00	880.03	3564.09	1782.04	6841.65	3378.83	0.35	-0.188	0.000	0.202
19.50	-69.83	-8.23	0.00	-867.63	0.00	867.63	3553.18	1776.59	6777.69	3347.24	0.41	-0.205	0.000	0.171
20.00	-69.50	-8.23	0.00	-863.51	0.00	863.51	3549.51	1774.75	6756.36	3336.71	0.43	-0.210	0.000	0.171
22.00	-68.22	-8.19	0.00	-847.05	0.00	847.05	3563.12	1781.56	6835.93	3376.01	0.52	-0.230	0.000	0.173
25.00	-66.97	-8.14	0.00	-822.47	0.00	822.47	3541.13	1770.56	6708.00	3312.83	0.68	-0.260	0.000	0.165
30.00	-64.91	-8.01	0.00	-781.75	0.00	781.75	3503.20	1751.60	6494.78	3207.53	0.98	-0.307	0.000	0.127
31.00	-64.50	-8.00	0.00	-773.73	0.00	773.73	3495.43	1747.71	6452.15	3186.48	1.04	-0.314	0.000	0.146
34.00	-63.29	-7.93	0.00	-749.73	0.00	749.73	3471.72	1735.86	6324.32	3123.35	1.25	-0.341	0.000	0.178
35.00	-62.89	-7.91	0.00	-741.80	0.00	741.80	3463.69	1731.84	6281.74	3102.31	1.32	-0.352	0.000	0.177
35.50	-62.69	-7.93	0.00	-737.84	0.00	737.84	3459.65	1729.82	6260.45	3091.80	1.36	-0.357	0.000	0.177
40.00	-60.88	-7.84	0.00	-702.18	0.00	702.18	3422.57	1711.29	6069.05	2997.28	1.72	-0.406	0.000	0.173
45.00	-58.93	-7.71	0.00	-663.00	0.00	663.00	3379.87	1689.93	5856.93	2892.52	2.17	-0.461	0.000	0.168
45.16	-58.87	-7.71	0.00	-661.77	0.00	661.77	3378.48	1689.24	5850.15	2889.17	2.19	-0.462	0.000	0.122
46.00	-58.54	-7.70	0.00	-655.29	0.00	655.29	3371.14	1685.57	5814.59	2871.61	2.27	-0.469	0.000	0.158
50.00	-57.00	-7.62	0.00	-624.48	0.00	624.48	3335.57	1667.79	5645.55	2788.13	2.68	-0.511	0.000	0.154
55.00	-54.08	-7.47	0.00	-586.37	0.00	586.37	3289.68	1644.84	5435.12	2684.20	3.24	-0.562	0.000	0.147
56.00	-53.50	-7.45	0.00	-578.89	0.00	578.89	3316.18	1658.09	5555.61	2743.71	3.36	-0.573	0.000	0.150
58.00	-52.74	-7.41	0.00	-563.99	0.00	563.99	3297.74	1648.87	5471.49	2702.16	3.61	-0.593	0.000	0.155
60.00	-51.98	-7.37	0.00	-549.18	0.00	549.18	3279.05	1639.52	5387.54	2660.71	3.86	-0.615	0.000	0.153
65.00	-50.11	-7.24	0.00	-512.32	0.00	512.32	3231.20	1615.60	5178.53	2557.48	4.53	-0.668	0.000	0.147
70.00	-48.27	-7.11	0.00	-476.10	0.00	476.10	3181.76	1590.88	4970.89	2454.94	5.26	-0.721	0.000	0.141
75.00	-46.47	-6.97	0.00	-440.53	0.00	440.53	3130.72	1565.36	4764.82	2353.16	6.04	-0.773	0.000	0.135
78.00	-45.39	-6.88	0.00	-419.63	0.00	419.63	3099.34	1549.67	4642.00	2292.51	6.54	-0.805	0.000	0.132
80.00	-44.68	-6.84	0.00	-405.86	0.00	405.86	3078.09	1539.05	4560.50	2252.26	6.88	-0.826	0.000	0.129
80.00	-44.68	-6.84	0.00	-405.86	0.00	405.86	2384.58	1192.29	3545.27	1750.88	6.88	-0.826	0.000	0.139
85.00	-43.08	-6.70	0.00	-371.67	0.00	371.67	2349.22	1174.61	3397.89	1678.09	7.77	-0.877	0.000	0.148
90.00	-41.50	-6.56	0.00	-338.18	0.00	338.18	2312.26	1156.13	3251.12	1605.61	8.72	-0.933	0.000	0.139
95.00	-39.95	-6.39	0.00	-305.39	0.00	305.39	2273.71	1136.85	3105.16	1533.52	9.73	-0.987	0.000	0.130
95.58	-39.69	-6.39	0.00	-301.69	0.00	301.69	2269.13	1134.57	3088.29	1525.19	9.85	-0.994	0.000	0.127
95.58	-39.69	-6.39	0.00	-301.69	0.00	301.69	2269.13	1134.57	3088.29	1525.19	9.85	-0.994	0.000	0.127
100.00	-37.75	-6.26	0.00	-273.44	0.00	273.44	2259.61	1129.81	3053.48	1508.00	10.79	-1.040	0.000	0.198
105.00	-36.27	-6.14	0.00	-242.12	0.00	242.12	2218.90	1109.45	2908.92	1436.61	11.93	-1.126	0.000	0.185
110.00	-34.66	-5.90	0.00	-211.11	0.00	211.11	2176.60	1088.30	2765.62	1365.84	13.15	-1.204	0.000	0.171
115.00	-33.27	-5.77	0.00	-181.63	0.00	181.63	2132.70	1066.35	2623.78	1295.79	14.45	-1.278	0.000	0.156
115.00	-33.27	-5.77	0.00	-181.63	0.00	181.63	1556.62	778.31	1923.08	949.74	14.45	-1.278	0.000	0.213
120.00	-32.02	-5.63	0.00	-152.80	0.00	152.80	1529.99	765.00	1828.43	902.99	15.82	-1.347	0.000	0.190
125.00	-30.81	-5.50	0.00	-124.63	0.00	124.63	1501.77	750.88	1734.09	856.40	17.28	-1.426	0.000	0.166
130.00	-29.62	-5.36	0.00	-97.12	0.00	97.12	1471.95	735.97	1640.26	810.06	18.81	-1.496	0.000	0.140
133.00	-22.82	-4.39	0.00	-81.06	0.00	81.06	1453.29	726.64	1584.28	782.42	19.76	-1.533	0.000	0.119
135.00	-22.38	-4.34	0.00	-72.28	0.00	72.28	1440.53	720.27	1547.12	764.06	20.41	-1.556	0.000	0.110
140.00	-21.31	-4.18	0.00	-50.60	0.00	50.60	1407.52	703.76	1454.87	718.50	22.07	-1.604	0.000	0.086
142.90	-13.19	-2.72	0.00	-38.33	0.00	38.33	1387.65	693.82	1401.84	692.32	23.05	-1.627	0.000	0.065

Calculated Forces

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 48

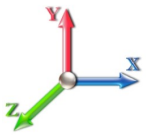
145.00	-12.82	-2.67	0.00	-32.62	0.00	32.62	1372.92	686.46	1363.70	673.48	23.77	-1.641	0.000	0.058
145.00	-12.82	-2.67	0.00	-32.62	0.00	32.62	931.20	465.60	925.89	604.09	23.77	-1.641	0.000	0.068
148.30	-7.72	-1.77	0.00	-22.48	0.00	22.48	911.53	455.77	882.04	573.63	24.91	-1.659	0.000	0.048
150.00	-7.44	-1.72	0.00	-19.48	0.00	19.48	901.40	450.70	859.86	558.24	25.50	-1.667	0.000	0.043
150.00	-7.44	-1.72	0.00	-19.48	0.00	19.48	556.65	278.33	359.38	213.69	25.50	-1.667	0.000	0.105
155.00	-6.82	-1.63	0.00	-10.85	0.00	10.85	556.65	278.33	359.38	213.69	27.26	-1.685	0.000	0.063
160.00	0.00	-1.43	0.00	-2.70	0.00	2.70	556.65	278.33	359.38	213.69	29.04	-1.710	0.000	0.013

Seismic Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 49	

Tower Engineering Solutions

Load Case: 1.2D + 1.0E



Gust Response Factor	1.10			**Sds**	0.20	**Iterations**	22
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.10	**Ss**	0.19
Wind Load Factor	0.00	**Structure Frequency**	0.28	**SA**	0.03	**S1**	0.06
						Seismic Importance Factor	1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00	RB1	0.00	0.00	0.00	0.00	0.00	
5.00		1017.2	0.00	0.03	0.02	22.61	
10.00		997.32	0.01	0.05	0.03	31.39	
15.00		977.39	0.02	0.06	0.04	35.18	
16.00	Bot - Section 2	193.09	0.02	0.06	0.04	7.06	
16.25	RT1 RB2	97.07	0.02	0.06	0.04	3.56	
18.00	RB3	676.67	0.02	0.07	0.04	25.41	
19.50	RB4	576.11	0.03	0.07	0.04	21.98	
20.00		191.24	0.03	0.07	0.04	7.33	
22.00	Top - Section 1	760.98	0.04	0.07	0.04	29.62	
25.00		569.38	0.05	0.07	0.04	22.58	
30.00	RB5	933.02	0.07	0.07	0.04	37.90	
31.00	RT2	184.21	0.07	0.07	0.04	7.52	
34.00	RT3	547.85	0.09	0.07	0.04	22.66	
35.00		181.02	0.09	0.07	0.04	7.52	
35.50	RT4	90.21	0.09	0.07	0.04	3.76	
40.00	Appurtenance(s)	812.95	0.12	0.07	0.03	34.59	
45.00		873.23	0.15	0.07	0.03	37.98	
45.16	RB6	27.61	0.15	0.07	0.03	1.20	
46.00	RT5	144.64	0.16	0.07	0.03	6.31	
50.00	Bot - Section 3	681.05	0.18	0.06	0.03	30.05	
55.00		1682.1	0.22	0.06	0.02	73.88	
56.00	Top - Section 2	331.65	0.23	0.06	0.02	14.50	
58.00	RT6 RB7	332.34	0.25	0.06	0.02	14.33	
60.00		329.15	0.27	0.05	0.02	13.88	
65.00		808.93	0.31	0.04	0.01	30.70	
70.00		789.00	0.36	0.03	0.01	23.81	
75.00		769.07	0.42	0.01	0.01	13.97	
78.00	RT7 RB8	451.88	0.45	0.00	0.01	4.09	
80.00	Top - Section 3	297.27	0.47	-0.01	0.01	0.72	
85.00		608.75	0.53	-0.03	0.01	-9.02	
90.00		592.15	0.60	-0.05	0.01	-17.98	
95.00	Bot - Section 5	575.54	0.67	-0.08	0.02	-24.00	
95.58	RT8	132.62	0.67	-0.08	0.03	-5.66	
100.00	Top - Section 4	995.95	0.74	-0.10	0.04	-47.58	
105.00		553.03	0.81	-0.11	0.06	-26.84	
110.00	Appurtenance(s)	592.42	0.89	-0.12	0.08	-26.21	
115.00	Top - Section 5	519.81	0.98	-0.12	0.12	-18.31	
120.00		403.42	1.06	-0.09	0.17	-8.72	
125.00		390.14	1.15	-0.03	0.22	-1.36	
130.00		376.85	1.25	0.05	0.29	7.23	
133.00	Appurtenance(s)	2696.1	1.31	0.13	0.34	94.36	
135.00		143.83	1.35	0.19	0.38	6.68	
140.00		350.28	1.45	0.38	0.48	27.48	
142.90	Appurtenance(s)	3324.1	1.51	0.52	0.55	329.69	
145.00	Top - Section 6	139.92	1.55	0.64	0.61	16.12	

Seismic Segment Forces (Factored)

Structure:	CT02049-S-SBA		**Code:**	EIA/TIA-222-G	1/30/2017
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 50

Tower Engineering Solutions

148.30	Appurtenance(s)	2280.3	1.62	0.85	0.70	324.27		
150.00	Top - Section 7	105.95	1.66	0.98	0.76	16.63		
155.00		210.46	1.77	1.42	0.93	42.88		
160.00	Appurtenance(s)	2142.9	1.89	1.98	1.14	547.94		
	Totals:	**33,458.5**				**1,813.7**	**Total Wind:**	**37,161.6**

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 51	

Tower Engineering Solutions

Load Case: 1.2D + 1.0E

Gust Response Factor	1.10			**Sds**	0.20			**Iterations**	22
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.10			**Ss**	0.19
Wind Load Factor	0.00	**Structure Frequency**	0.28	**SA**	0.03			**S1**	0.06
								Seismic Importance Factor	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-49.21	-2.00	0.00	-246.01	0.00	246.01	3683.82	1841.91	7606.69	3756.66		0.00	0.00	0.054
5.00	-47.68	-1.99	0.00	-235.99	0.00	235.99	3652.63	1826.32	7394.88	3652.06		0.01	-0.01	0.053
10.00	-46.17	-1.97	0.00	-226.03	0.00	226.03	3619.85	1809.93	7182.43	3547.13		0.03	-0.02	0.051
15.00	-44.69	-1.94	0.00	-216.18	0.00	216.18	3585.48	1792.74	6969.53	3441.99		0.06	-0.04	0.050
16.00	-44.40	-1.93	0.00	-214.24	0.00	214.24	3578.41	1789.21	6926.91	3420.94		0.07	-0.04	0.050
16.25	-44.27	-1.93	0.00	-213.76	0.00	213.76	3576.63	1788.32	6916.25	3415.68		0.07	-0.04	0.059
18.00	-43.35	-1.91	0.00	-210.38	0.00	210.38	3564.09	1782.04	6841.65	3378.83		0.08	-0.04	0.053
19.50	-42.56	-1.89	0.00	-207.52	0.00	207.52	3553.18	1776.59	6777.69	3347.24		0.10	-0.05	0.046
20.00	-42.30	-1.88	0.00	-206.57	0.00	206.57	3549.51	1774.75	6756.36	3336.71		0.10	-0.05	0.045
22.00	-41.27	-1.86	0.00	-202.81	0.00	202.81	3563.12	1781.56	6835.93	3376.01		0.13	-0.05	0.046
25.00	-40.40	-1.84	0.00	-197.23	0.00	197.23	3541.13	1770.56	6708.00	3312.83		0.16	-0.06	0.044
30.00	-38.97	-1.80	0.00	-188.04	0.00	188.04	3503.20	1751.60	6494.78	3207.53		0.23	-0.07	0.034
31.00	-38.69	-1.80	0.00	-186.23	0.00	186.23	3495.43	1747.71	6452.15	3186.48		0.25	-0.08	0.039
34.00	-37.84	-1.78	0.00	-180.83	0.00	180.83	3471.72	1735.86	6324.32	3123.35		0.30	-0.08	0.047
35.00	-37.57	-1.77	0.00	-179.05	0.00	179.05	3463.69	1731.84	6281.74	3102.31		0.32	-0.08	0.047
35.50	-37.43	-1.77	0.00	-178.17	0.00	178.17	3459.65	1729.82	6260.45	3091.80		0.32	-0.09	0.047
40.00	-36.17	-1.74	0.00	-170.19	0.00	170.19	3422.57	1711.29	6069.05	2997.28		0.41	-0.10	0.046
45.00	-34.82	-1.71	0.00	-161.47	0.00	161.47	3379.87	1689.93	5856.93	2892.52		0.52	-0.11	0.045
45.16	-34.78	-1.71	0.00	-161.20	0.00	161.20	3378.48	1689.24	5850.15	2889.17		0.52	-0.11	0.033
46.00	-34.55	-1.70	0.00	-159.76	0.00	159.76	3371.14	1685.57	5814.59	2871.61		0.54	-0.11	0.043
50.00	-33.49	-1.68	0.00	-152.95	0.00	152.95	3335.57	1667.79	5645.55	2788.13		0.64	-0.12	0.042
55.00	-31.16	-1.60	0.00	-144.56	0.00	144.56	3289.68	1644.84	5435.12	2684.20		0.78	-0.14	0.040
56.00	-30.70	-1.59	0.00	-142.95	0.00	142.95	3316.18	1658.09	5555.61	2743.71		0.81	-0.14	0.040
58.00	-30.18	-1.58	0.00	-139.77	0.00	139.77	3297.74	1648.87	5471.49	2702.16		0.86	-0.14	0.042
60.00	-29.66	-1.57	0.00	-136.62	0.00	136.62	3279.05	1639.52	5387.54	2660.71		0.93	-0.15	0.042
65.00	-28.39	-1.54	0.00	-128.79	0.00	128.79	3231.20	1615.60	5178.53	2557.48		1.09	-0.16	0.040
70.00	-27.13	-1.52	0.00	-121.09	0.00	121.09	3181.76	1590.88	4970.89	2454.94		1.26	-0.18	0.039
75.00	-25.90	-1.50	0.00	-113.50	0.00	113.50	3130.72	1565.36	4764.82	2353.16		1.46	-0.19	0.038
78.00	-25.18	-1.50	0.00	-108.99	0.00	108.99	3099.34	1549.67	4642.00	2292.51		1.58	-0.20	0.037
80.00	-24.70	-1.50	0.00	-105.99	0.00	105.99	3078.09	1539.05	4560.50	2252.26		1.66	-0.20	0.037
80.00	-24.70	-1.50	0.00	-105.99	0.00	105.99	2384.58	1192.29	3545.27	1750.88		1.66	-0.20	0.039
85.00	-23.66	-1.51	0.00	-98.47	0.00	98.47	2349.22	1174.61	3397.89	1678.09		1.88	-0.22	0.042
90.00	-22.64	-1.51	0.00	-90.95	0.00	90.95	2312.26	1156.13	3251.12	1605.61		2.11	-0.23	0.040
95.00	-21.64	-1.51	0.00	-83.41	0.00	83.41	2273.71	1136.85	3105.16	1533.52		2.36	-0.25	0.038
95.58	-21.45	-1.51	0.00	-82.54	0.00	82.54	2269.13	1134.57	3088.29	1525.19		2.39	-0.25	0.038
95.58	-21.45	-1.51	0.00	-82.54	0.00	82.54	2269.13	1134.57	3088.29	1525.19		2.39	-0.25	0.038
100.00	-19.98	-1.51	0.00	-75.87	0.00	75.87	2259.61	1129.81	3053.48	1508.00		2.63	-0.26	0.059
105.00	-19.01	-1.51	0.00	-68.34	0.00	68.34	2218.90	1109.45	2908.92	1436.61		2.91	-0.28	0.056
110.00	-17.99	-1.51	0.00	-60.78	0.00	60.78	2176.60	1088.30	2765.62	1365.84		3.22	-0.31	0.053
115.00	-17.06	-1.51	0.00	-53.22	0.00	53.22	2132.70	1066.35	2623.78	1295.79		3.55	-0.33	0.049
115.00	-17.06	-1.51	0.00	-53.22	0.00	53.22	1556.62	778.31	1923.08	949.74		3.55	-0.33	0.067
120.00	-16.28	-1.52	0.00	-45.65	0.00	45.65	1529.99	765.00	1828.43	902.99		3.91	-0.35	0.061
125.00	-15.50	-1.52	0.00	-38.07	0.00	38.07	1501.77	750.88	1734.09	856.40		4.28	-0.37	0.055
130.00	-14.75	-1.51	0.00	-30.49	0.00	30.49	1471.95	735.97	1640.26	810.06		4.69	-0.39	0.048
133.00	-11.33	-1.39	0.00	-25.96	0.00	25.96	1453.29	726.64	1584.28	782.42		4.94	-0.41	0.041
135.00	-11.06	-1.39	0.00	-23.18	0.00	23.18	1440.53	720.27	1547.12	764.06		5.11	-0.41	0.038
140.00	-10.41	-1.36	0.00	-16.25	0.00	16.25	1407.52	703.76	1454.87	718.50		5.55	-0.43	0.030

Calculated Forces

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 52	

142.90	-6.29	-1.00	0.00	-12.32	0.00	12.32	1387.65	693.82	1401.84	692.32	5.81	-0.44	0.022
145.00	-6.06	-0.98	0.00	-10.23	0.00	10.23	1372.92	686.46	1363.70	673.48	6.00	-0.44	0.020
145.00	-6.06	-0.98	0.00	-10.23	0.00	10.23	931.20	465.60	925.89	604.09	6.00	-0.44	0.023
148.30	-3.23	-0.63	0.00	-7.00	0.00	7.00	911.53	455.77	882.04	573.63	6.31	-0.45	0.016
150.00	-3.06	-0.61	0.00	-5.92	0.00	5.92	901.40	450.70	859.86	558.24	6.47	-0.45	0.014
150.00	-3.06	-0.61	0.00	-5.92	0.00	5.92	556.65	278.33	359.38	213.69	6.47	-0.45	0.033
155.00	-2.69	-0.57	0.00	-2.85	0.00	2.85	556.65	278.33	359.38	213.69	6.94	-0.45	0.018
160.00	0.00	-0.55	0.00	0.00	0.00	0.00	556.65	278.33	359.38	213.69	7.42	-0.46	0.000

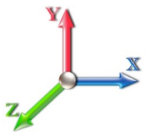
Seismic Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 53	

Tower Engineering Solutions

Load Case: 0.9D + 1.0E

Gust Response Factor	1.10			**Sds**	0.20	**Iterations**	21
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10	**Ss**	0.19
Wind Load Factor	0.00	**Structure Frequency**	0.28	**SA**	0.03	**S1**	0.06
						Seismic Importance Factor	1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00	RB1	0.00	0.00	0.00	0.00	0.00	
5.00		1017.2	0.00	0.03	0.02	22.61	
10.00		997.32	0.01	0.05	0.03	31.39	
15.00		977.39	0.02	0.06	0.04	35.18	
16.00	Bot - Section 2	193.09	0.02	0.06	0.04	7.06	
16.25	RT1 RB2	97.07	0.02	0.06	0.04	3.56	
18.00	RB3	676.67	0.02	0.07	0.04	25.41	
19.50	RB4	576.11	0.03	0.07	0.04	21.98	
20.00		191.24	0.03	0.07	0.04	7.33	
22.00	Top - Section 1	760.98	0.04	0.07	0.04	29.62	
25.00		569.38	0.05	0.07	0.04	22.58	
30.00	RB5	933.02	0.07	0.07	0.04	37.90	
31.00	RT2	184.21	0.07	0.07	0.04	7.52	
34.00	RT3	547.85	0.09	0.07	0.04	22.66	
35.00		181.02	0.09	0.07	0.04	7.52	
35.50	RT4	90.21	0.09	0.07	0.04	3.76	
40.00	Appurtenance(s)	812.95	0.12	0.07	0.03	34.59	
45.00		873.23	0.15	0.07	0.03	37.98	
45.16	RB6	27.61	0.15	0.07	0.03	1.20	
46.00	RT5	144.64	0.16	0.07	0.03	6.31	
50.00	Bot - Section 3	681.05	0.18	0.06	0.03	30.05	
55.00		1682.1	0.22	0.06	0.02	73.88	
56.00	Top - Section 2	331.65	0.23	0.06	0.02	14.50	
58.00	RT6 RB7	332.34	0.25	0.06	0.02	14.33	
60.00		329.15	0.27	0.05	0.02	13.88	
65.00		808.93	0.31	0.04	0.01	30.70	
70.00		789.00	0.36	0.03	0.01	23.81	
75.00		769.07	0.42	0.01	0.01	13.97	
78.00	RT7 RB8	451.88	0.45	0.00	0.01	4.09	
80.00	Top - Section 3	297.27	0.47	-0.01	0.01	0.72	
85.00		608.75	0.53	-0.03	0.01	-9.02	
90.00		592.15	0.60	-0.05	0.01	-17.98	
95.00	Bot - Section 5	575.54	0.67	-0.08	0.02	-24.00	
95.58	RT8	132.62	0.67	-0.08	0.03	-5.66	
100.00	Top - Section 4	995.95	0.74	-0.10	0.04	-47.58	
105.00		553.03	0.81	-0.11	0.06	-26.84	
110.00	Appurtenance(s)	592.42	0.89	-0.12	0.08	-26.21	
115.00	Top - Section 5	519.81	0.98	-0.12	0.12	-18.31	
120.00		403.42	1.06	-0.09	0.17	-8.72	
125.00		390.14	1.15	-0.03	0.22	-1.36	
130.00		376.85	1.25	0.05	0.29	7.23	
133.00	Appurtenance(s)	2696.1	1.31	0.13	0.34	94.36	
135.00		143.83	1.35	0.19	0.38	6.68	
140.00		350.28	1.45	0.38	0.48	27.48	
142.90	Appurtenance(s)	3324.1	1.51	0.52	0.55	329.69	
145.00	Top - Section 6	139.92	1.55	0.64	0.61	16.12	

Seismic Segment Forces (Factored)

Structure:	CT02049-S-SBA		**Code:**	EIA/TIA-222-G	1/30/2017
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 54

Tower Engineering Solutions

148.30	Appurtenance(s)		2280.3	1.62	0.85	0.70	324.27		
150.00	Top - Section 7		105.95	1.66	0.98	0.76	16.63		
155.00			210.46	1.77	1.42	0.93	42.88		
160.00	Appurtenance(s)		2142.9	1.89	1.98	1.14	547.94		
		Totals:	**33,458.5**				**1,813.7**	**Total Wind:**	**37,161.6**

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 55	

Tower Engineering Solutions

Load Case: 0.9D + 1.0E

Gust Response Factor	1.10			**Sds**	0.20			**Iterations**	21
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10			**Ss**	0.19
Wind Load Factor	0.00	**Structure Frequency**	0.28	**SA**	0.03			**S1**	0.06
								Seismic Importance Factor	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-36.90	-2.00	0.00	-243.02	0.00	243.02	3683.82	1841.91	7606.69	3756.66		0.00	0.00	0.051
5.00	-35.76	-1.99	0.00	-233.01	0.00	233.01	3652.63	1826.32	7394.88	3652.06		0.01	-0.01	0.050
10.00	-34.63	-1.96	0.00	-223.08	0.00	223.08	3619.85	1809.93	7182.43	3547.13		0.03	-0.02	0.049
15.00	-33.52	-1.93	0.00	-213.26	0.00	213.26	3585.48	1792.74	6969.53	3441.99		0.06	-0.04	0.047
16.00	-33.30	-1.92	0.00	-211.33	0.00	211.33	3578.41	1789.21	6926.91	3420.94		0.06	-0.04	0.047
16.25	-33.20	-1.92	0.00	-210.85	0.00	210.85	3576.63	1788.32	6916.25	3415.68		0.07	-0.04	0.056
18.00	-32.51	-1.90	0.00	-207.49	0.00	207.49	3564.09	1782.04	6841.65	3378.83		0.08	-0.04	0.051
19.50	-31.92	-1.88	0.00	-204.64	0.00	204.64	3553.18	1776.59	6777.69	3347.24		0.10	-0.05	0.043
20.00	-31.73	-1.87	0.00	-203.70	0.00	203.70	3549.51	1774.75	6756.36	3336.71		0.10	-0.05	0.043
22.00	-30.95	-1.84	0.00	-199.96	0.00	199.96	3563.12	1781.56	6835.93	3376.01		0.12	-0.05	0.044
25.00	-30.30	-1.83	0.00	-194.42	0.00	194.42	3541.13	1770.56	6708.00	3312.83		0.16	-0.06	0.042
30.00	-29.23	-1.79	0.00	-185.29	0.00	185.29	3503.20	1751.60	6494.78	3207.53		0.23	-0.07	0.032
31.00	-29.01	-1.78	0.00	-183.50	0.00	183.50	3495.43	1747.71	6452.15	3186.48		0.25	-0.07	0.037
34.00	-28.38	-1.76	0.00	-178.14	0.00	178.14	3471.72	1735.86	6324.32	3123.35		0.29	-0.08	0.045
35.00	-28.17	-1.76	0.00	-176.38	0.00	176.38	3463.69	1731.84	6281.74	3102.31		0.31	-0.08	0.045
35.50	-28.07	-1.76	0.00	-175.50	0.00	175.50	3459.65	1729.82	6260.45	3091.80		0.32	-0.08	0.045
40.00	-27.13	-1.73	0.00	-167.60	0.00	167.60	3422.57	1711.29	6069.05	2997.28		0.40	-0.10	0.044
45.00	-26.11	-1.69	0.00	-158.97	0.00	158.97	3379.87	1689.93	5856.93	2892.52		0.51	-0.11	0.043
45.16	-26.08	-1.69	0.00	-158.70	0.00	158.70	3378.48	1689.24	5850.15	2889.17		0.52	-0.11	0.031
46.00	-25.91	-1.68	0.00	-157.28	0.00	157.28	3371.14	1685.57	5814.59	2871.61		0.54	-0.11	0.040
50.00	-25.11	-1.66	0.00	-150.55	0.00	150.55	3335.57	1667.79	5645.55	2788.13		0.63	-0.12	0.039
55.00	-23.37	-1.58	0.00	-142.26	0.00	142.26	3289.68	1644.84	5435.12	2684.20		0.77	-0.13	0.038
56.00	-23.03	-1.57	0.00	-140.67	0.00	140.67	3316.18	1658.09	5555.61	2743.71		0.79	-0.14	0.038
58.00	-22.63	-1.56	0.00	-137.54	0.00	137.54	3297.74	1648.87	5471.49	2702.16		0.85	-0.14	0.040
60.00	-22.25	-1.54	0.00	-134.42	0.00	134.42	3279.05	1639.52	5387.54	2660.71		0.91	-0.15	0.039
65.00	-21.29	-1.52	0.00	-126.70	0.00	126.70	3231.20	1615.60	5178.53	2557.48		1.07	-0.16	0.038
70.00	-20.35	-1.49	0.00	-119.12	0.00	119.12	3181.76	1590.88	4970.89	2454.94		1.25	-0.17	0.037
75.00	-19.43	-1.48	0.00	-111.65	0.00	111.65	3130.72	1565.36	4764.82	2353.16		1.43	-0.19	0.036
78.00	-18.88	-1.48	0.00	-107.20	0.00	107.20	3099.34	1549.67	4642.00	2292.51		1.55	-0.19	0.035
80.00	-18.52	-1.48	0.00	-104.25	0.00	104.25	3078.09	1539.05	4560.50	2252.26		1.64	-0.20	0.035
80.00	-18.52	-1.48	0.00	-104.25	0.00	104.25	2384.58	1192.29	3545.27	1750.88		1.64	-0.20	0.037
85.00	-17.74	-1.48	0.00	-96.86	0.00	96.86	2349.22	1174.61	3397.89	1678.09		1.85	-0.21	0.040
90.00	-16.98	-1.48	0.00	-89.46	0.00	89.46	2312.26	1156.13	3251.12	1605.61		2.08	-0.23	0.038
95.00	-16.23	-1.48	0.00	-82.05	0.00	82.05	2273.71	1136.85	3105.16	1533.52		2.33	-0.24	0.036
95.58	-16.08	-1.48	0.00	-81.19	0.00	81.19	2269.13	1134.57	3088.29	1525.19		2.36	-0.24	0.036
95.58	-16.08	-1.48	0.00	-81.19	0.00	81.19	2269.13	1134.57	3088.29	1525.19		2.36	-0.24	0.036
100.00	-14.98	-1.48	0.00	-74.64	0.00	74.64	2259.61	1129.81	3053.48	1508.00		2.59	-0.26	0.056
105.00	-14.26	-1.48	0.00	-67.23	0.00	67.23	2218.90	1109.45	2908.92	1436.61		2.87	-0.28	0.053
110.00	-13.49	-1.49	0.00	-59.80	0.00	59.80	2176.60	1088.30	2765.62	1365.84		3.17	-0.30	0.050
115.00	-12.80	-1.49	0.00	-52.37	0.00	52.37	2132.70	1066.35	2623.78	1295.79		3.50	-0.32	0.046
115.00	-12.80	-1.49	0.00	-52.37	0.00	52.37	1556.62	778.31	1923.08	949.74		3.50	-0.32	0.063
120.00	-12.20	-1.49	0.00	-44.94	0.00	44.94	1529.99	765.00	1828.43	902.99		3.85	-0.34	0.058
125.00	-11.62	-1.49	0.00	-37.50	0.00	37.50	1501.77	750.88	1734.09	856.40		4.22	-0.37	0.052
130.00	-11.06	-1.48	0.00	-30.06	0.00	30.06	1471.95	735.97	1640.26	810.06		4.62	-0.39	0.045
133.00	-8.49	-1.37	0.00	-25.61	0.00	25.61	1453.29	726.64	1584.28	782.42		4.86	-0.40	0.039
135.00	-8.30	-1.36	0.00	-22.87	0.00	22.87	1440.53	720.27	1547.12	764.06		5.03	-0.41	0.036
140.00	-7.81	-1.34	0.00	-16.05	0.00	16.05	1407.52	703.76	1454.87	718.50		5.47	-0.42	0.028

Calculated Forces

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 56	

142.90	-4.72	-0.98	0.00	-12.18	0.00	12.18	1387.65	693.82	1401.84	692.32	5.72	-0.43	0.021
145.00	-4.54	-0.97	0.00	-10.11	0.00	10.11	1372.92	686.46	1363.70	673.48	5.91	-0.43	0.018
145.00	-4.54	-0.97	0.00	-10.11	0.00	10.11	931.20	465.60	925.89	604.09	5.91	-0.43	0.022
148.30	-2.42	-0.63	0.00	-6.92	0.00	6.92	911.53	455.77	882.04	573.63	6.22	-0.44	0.015
150.00	-2.30	-0.61	0.00	-5.86	0.00	5.86	901.40	450.70	859.86	558.24	6.37	-0.44	0.013
150.00	-2.30	-0.61	0.00	-5.86	0.00	5.86	556.65	278.33	359.38	213.69	6.37	-0.44	0.032
155.00	-2.02	-0.56	0.00	-2.82	0.00	2.82	556.65	278.33	359.38	213.69	6.84	-0.45	0.017
160.00	0.00	-0.55	0.00	0.00	0.00	0.00	556.65	278.33	359.38	213.69	7.31	-0.45	0.000

Wind Loading - Shaft

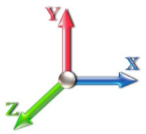
Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 57	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00	RB1	1.00	0.70	6.129	6.74	218.17	1.000	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	6.129	6.74	213.97	1.223 *	0.000	5.00	21.521	26.31	177.4	0.0	1017.2
10.00		1.00	0.70	6.129	6.74	209.77	1.233 *	0.000	5.00	21.102	26.02	175.4	0.0	997.3
15.00		1.00	0.70	6.129	6.74	205.56	1.244 *	0.000	5.00	20.684	25.73	173.5	0.0	977.4
16.00	Bot - Section 2	1.00	0.70	6.129	6.74	204.72	1.251 *	0.000	1.00	4.087	5.11	34.5	0.0	193.1
16.25	RT1 RB2	1.00	0.70	6.129	6.74	204.51	1.252 *	0.000	0.25	1.035	1.30	8.7	0.0	97.1
18.00	RB3	1.00	0.70	6.129	6.74	203.04	1.254 *	0.000	1.75	7.217	9.05	61.0	0.0	676.7
19.50	RB4	1.00	0.70	6.129	6.74	201.78	1.258 *	0.000	1.50	6.145	7.73	52.1	0.0	576.1
20.00		1.00	0.70	6.129	6.74	201.36	1.260 *	0.000	0.50	2.040	2.57	17.3	0.0	191.2
22.00	Top - Section 1	1.00	0.70	6.129	6.74	199.68	1.263 *	0.000	2.00	8.118	10.26	69.1	0.0	761.0
25.00		1.00	0.70	6.129	6.74	200.41	1.260 *	0.000	3.00	12.052	15.19	102.4	0.0	569.4
30.00	RB5	1.00	0.70	6.134	6.75	196.29	1.270 *	0.000	5.00	19.752	25.08	169.2	0.0	933.0
31.00	RT2	1.00	0.71	6.192	6.81	196.37	1.277 *	0.000	1.00	3.900	4.98	33.9	0.0	184.2
34.00	RT3	1.00	0.73	6.357	6.99	196.41	1.174 *	0.000	3.00	11.600	13.62	95.2	0.0	547.9
35.00		1.00	0.73	6.410	7.05	196.37	1.124 *	0.000	1.00	3.833	4.31	30.4	0.0	181.0
35.50	RT4	1.00	0.74	6.436	7.08	196.34	1.125 *	0.000	0.50	1.910	2.15	15.2	0.0	90.2
40.00	Appurtenance(s)	1.00	0.76	6.659	7.33	195.77	1.130 *	0.000	4.50	17.005	19.22	140.8	0.0	802.9
45.00		1.00	0.79	6.887	7.58	194.64	1.139 *	0.000	5.00	18.497	21.07	159.6	0.0	873.2
45.16	RB6	1.00	0.79	6.894	7.58	194.59	1.144 *	0.000	0.16	0.585	0.67	5.1	0.0	27.6
46.00	RT5	1.00	0.79	6.931	7.62	194.36	1.145 *	0.000	0.84	3.064	3.51	26.8	0.0	144.6
50.00	Bot - Section 3	1.00	0.81	7.098	7.81	193.07	1.150 *	0.000	4.00	14.429	16.60	129.6	0.0	681.1
55.00		1.00	0.83	7.294	8.02	191.13	1.160 *	0.000	5.00	17.984	20.86	167.4	0.0	1682.2
56.00	Top - Section 2	1.00	0.84	7.331	8.06	190.71	1.167 *	0.000	1.00	3.547	4.14	33.4	0.0	331.7
58.00	RT6 RB7	1.00	0.85	7.405	8.15	193.39	1.161 *	0.000	2.00	7.043	8.18	66.6	0.0	332.3
60.00		1.00	0.85	7.477	8.22	192.47	1.166 *	0.000	2.00	6.976	8.13	66.9	0.0	329.2
65.00		1.00	0.87	7.650	8.42	189.99	1.174 *	0.000	5.00	17.147	20.13	169.4	0.0	808.9
70.00		1.00	0.89	7.814	8.60	187.27	1.186 *	0.000	5.00	16.728	19.83	170.5	0.0	789.0
75.00		1.00	0.91	7.969	8.77	184.33	1.198 *	0.000	5.00	16.310	19.54	171.3	0.0	769.1
78.00	RT7 RB8	1.00	0.92	8.059	8.87	182.48	1.209 *	0.000	3.00	9.585	11.58	102.7	0.0	451.9
80.00	Top - Section 3	1.00	0.93	8.118	8.93	181.21	1.215 *	0.000	2.00	6.306	7.66	68.4	0.0	297.3
85.00		1.00	0.94	8.260	9.09	177.91	1.225 *	0.000	5.00	15.473	18.96	172.2	0.0	608.8
90.00		1.00	0.96	8.396	9.24	174.45	1.240 *	0.000	5.00	15.055	18.66	172.4	0.0	592.1
95.00	Bot - Section 5	1.00	0.97	8.526	9.38	170.85	1.255 *	0.000	5.00	14.636	18.37	172.3	0.0	575.5
95.58	RT8	1.00	0.98	8.541	9.40	170.42	1.264 *	0.000	0.58	1.702	2.15	20.2	0.0	132.6
100.00	Top - Section 4	1.00	0.99	8.652	9.52	167.11	1.223 *	0.000	4.42	12.785	15.63	148.8	0.0	995.9
105.00		1.00	1.00	8.774	9.65	166.49	1.166 *	0.000	5.00	14.069	16.41	158.4	0.0	553.0
110.00	Appurtenance(s)	1.00	1.02	8.891	9.78	162.54	1.181 *	0.000	5.00	13.651	16.12	157.6	0.0	536.4
115.00	Top - Section 5	1.00	1.03	9.005	9.91	158.49	1.196 *	0.000	5.00	13.232	15.82	156.7	0.0	519.8
120.00		1.00	1.04	9.115	10.03	154.33	1.212 *	0.000	5.00	12.814	15.53	155.7	0.0	403.4
125.00		1.00	1.05	9.222	10.14	150.08	1.229 *	0.000	5.00	12.395	15.24	154.6	0.0	390.1
130.00		1.00	1.07	9.326	10.26	145.74	1.248 *	0.000	5.00	11.977	14.95	153.3	0.0	376.9
133.00	Appurtenance(s)	1.00	1.07	9.387	10.33	143.10	1.264 *	0.000	3.00	6.985	8.83	91.1	0.0	219.7
135.00		1.00	1.08	9.427	10.37	141.32	1.274 *	0.000	2.00	4.573	5.83	60.4	0.0	143.8
140.00		1.00	1.09	9.525	10.48	136.82	1.289 *	0.000	5.00	11.140	14.36	150.5	0.0	350.3
142.90	Appurtenance(s)	1.00	1.09	9.581	10.54	134.17	1.200 *	0.000	2.90	6.269	7.52	79.3	0.0	197.1
145.00	Top - Section 6	1.00	1.10	9.621	10.58	132.24	1.000	0.000	2.10	4.452	4.45	47.1	0.0	139.9
148.30	Appurtenance(s)	1.00	1.11	9.683	10.65	124.81	0.600	0.000	3.30	6.615	3.97	42.3	0.0	209.9

Wind Loading - Shaft

Structure: CT02049-S-SBA
Site Name: Beacon Falls
Height: 160.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: EIA/TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

1/30/2017

Tower Engineering Solutions

150.00 Top - Section 7	1.00	1.11	9.715	10.69	123.27	0.600	0.000	1.70	3.339	2.00	21.4	0.0	105.9
155.00	1.00	1.12	9.806	10.79	84.67	0.645 *	0.000	5.00	6.667	4.30	46.4	0.0	210.5
160.00 Appurtenance(s)	1.00	1.13	9.896	10.89	85.05	0.645 *	0.000	5.00	6.667	4.30	46.8	0.0	210.5
							Totals:	**160.00**			**4,901.4**		**23,786.1**

* Cf Adjusted by Linear Load Ra Effect

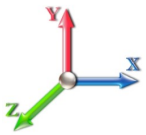
Discrete Appurtenance Forces

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 59	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	160.00	DB-T1-6Z-8AB-0Z	1	9.931	10.924	0.50	1.00	2.40	44.00	0.000	2.000	26.22	0.00	52.43
2	160.00	RRH2X60-AWS	3	9.931	10.924	0.67	1.00	7.04	180.00	0.000	2.000	76.85	0.00	153.70
3	160.00	SBNHH-1D65B	9	9.931	10.924	0.82	1.00	60.29	360.00	0.000	2.000	658.65	0.00	1317.30
4	160.00	Low Profile Platform	1	9.931	10.924	1.00	1.00	22.00	1200.00	0.000	2.000	240.33	0.00	480.65
5	160.00	DB846F65ZAXY	6	9.931	10.924	0.94	1.00	39.68	126.00	0.000	2.000	433.43	0.00	866.87
6	160.00	DB222	1	9.931	10.924	1.00	1.00	2.25	16.00	0.000	2.000	24.58	0.00	49.16
7	160.00	6' Lightning rod	1	9.931	10.924	1.00	1.00	0.38	6.50	0.000	2.000	4.15	0.00	8.30
8	148.30	APXVTM14-C-120	3	9.715	10.686	0.61	0.80	11.59	168.00	0.000	1.700	123.90	0.00	210.64
9	148.30	1900MHz RRH	3	9.752	10.727	0.54	0.80	6.11	132.00	0.000	3.700	65.55	0.00	242.52
10	148.30	800 MHz RRH	3	9.752	10.727	0.54	0.80	4.00	159.00	0.000	3.700	42.95	0.00	158.91
11	148.30	APXVSPP18-C-A20	3	9.752	10.727	0.66	0.80	15.78	171.00	0.000	3.700	169.31	0.00	626.43
12	148.30	Low Profile Platform	1	9.683	10.652	1.00	1.00	17.50	1200.00	0.000	0.000	186.40	0.00	0.00
13	148.30	ALU 800MHz External	3	9.752	10.727	0.40	0.80	0.94	26.40	0.000	3.700	10.04	0.00	37.15
14	148.30	TD-RRH8x20-25	3	9.715	10.686	0.55	0.80	6.71	210.00	0.000	1.700	71.67	0.00	121.84
15	148.30	ACU-A20-N	4	9.752	10.727	0.60	0.80	0.34	4.00	0.000	3.700	3.60	0.00	13.34
16	142.90	AIR 21 B4A B2P	3	9.595	10.554	0.66	0.80	12.09	271.20	0.000	0.700	127.57	0.00	89.30
17	142.90	AIR 21 B2A B4P	3	9.595	10.554	0.66	0.80	12.09	274.50	0.000	0.700	127.57	0.00	89.30
18	142.90	LNX-6515DS-A1M	3	9.581	10.539	0.67	0.80	23.12	149.40	0.000	0.000	243.71	0.00	0.00
19	142.90	Low-Profile Platform + HR	1	9.581	10.539	1.00	1.00	51.70	2246.00	0.000	0.000	544.88	0.00	0.00
20	142.90	KRY 112 144/1	3	9.595	10.554	0.56	0.80	0.69	33.00	0.000	0.700	7.27	0.00	5.09
21	142.90	S11B12	3	9.581	10.539	0.54	0.80	4.55	153.00	0.000	0.000	47.96	0.00	0.00
22	133.00	Low Profile Platform	1	9.387	10.325	1.00	1.00	22.00	1350.00	0.000	0.000	227.16	0.00	0.00
23	133.00	800 10121	3	9.387	10.325	0.63	0.80	9.76	138.90	0.000	0.000	100.82	0.00	0.00
24	133.00	RRUS 11	3	9.387	10.325	0.54	0.80	4.05	152.10	0.000	0.000	41.84	0.00	0.00
25	133.00	RRUS A2 Module	3	9.387	10.325	0.32	0.80	1.79	63.60	0.000	0.000	18.44	0.00	0.00
26	133.00	800 10798	3	9.387	10.325	0.60	0.80	15.56	244.20	0.000	0.000	160.63	0.00	0.00
27	133.00	RRUS 12	3	9.387	10.325	0.56	0.80	4.74	174.00	0.000	0.000	48.95	0.00	0.00
28	133.00	DTMABP7819VG12A	3	9.387	10.325	0.40	0.80	1.37	57.00	0.000	0.000	14.13	0.00	0.00
29	133.00	RRUS 32	3	9.387	10.325	0.80	0.80	3.96	231.00	0.000	0.000	40.89	0.00	0.00
30	133.00	DC6-48-60-18-8F	2	9.387	10.325	0.80	0.80	2.35	65.60	0.000	0.000	24.29	0.00	0.00
31	110.00	DB222	1	9.011	9.912	1.00	1.00	2.25	16.00	0.000	5.292	22.30	0.00	118.02
32	110.00	3 ft Standoff	1	8.891	9.780	1.00	1.00	2.63	40.00	0.000	0.000	25.72	0.00	0.00
33	40.00	GPS	1	6.659	7.325	1.00	1.00	1.00	10.00	0.000	0.000	7.33	0.00	0.00
							Totals:		**9,672.40**			**3,969.08**		

Total Applied Force Summary

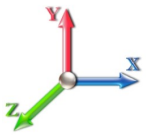
Structure:	CT02049-S-SBA		**Code:**	EIA/TIA-222-G	1/30/2017
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 60

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		177.40	1273.70	0.00	0.00
10.00		175.43	1253.77	0.00	0.00
15.00		173.45	1233.84	0.00	0.00
16.00		34.45	244.38	0.00	0.00
16.25		8.74	109.89	0.00	0.00
18.00		61.03	766.42	0.00	0.00
19.50		52.12	653.05	0.00	0.00
20.00		17.33	216.89	0.00	0.00
22.00		69.14	863.56	0.00	0.00
25.00		102.38	723.25	0.00	0.00
30.00		169.20	1189.47	0.00	0.00
31.00		33.92	235.50	0.00	0.00
34.00		95.24	701.72	0.00	0.00
35.00		30.38	232.31	0.00	0.00
35.50		15.22	115.86	0.00	0.00
40.00	(1) attachments	148.09	1043.75	0.00	0.00
45.00		159.65	1128.88	0.00	0.00
45.16		5.08	35.80	0.00	0.00
46.00		26.76	187.59	0.00	0.00
50.00		129.61	885.57	0.00	0.00
55.00		167.38	1937.81	0.00	0.00
56.00		33.37	382.78	0.00	0.00
58.00		66.63	434.60	0.00	0.00
60.00		66.89	431.41	0.00	0.00
65.00		169.38	1064.58	0.00	0.00
70.00		170.49	1044.65	0.00	0.00
75.00		171.31	1024.72	0.00	0.00
78.00		102.70	605.27	0.00	0.00
80.00		68.44	399.53	0.00	0.00
85.00		172.23	864.40	0.00	0.00
90.00		172.36	847.80	0.00	0.00
95.00		172.29	831.19	0.00	0.00
95.58		20.21	162.27	0.00	0.00
100.00		148.77	1221.94	0.00	0.00
105.00		158.38	808.68	0.00	0.00
110.00	(2) attachments	205.66	848.07	0.00	118.02
115.00		156.75	772.86	0.00	0.00
120.00		155.73	656.47	0.00	0.00
125.00		154.59	643.19	0.00	0.00
130.00		153.32	629.90	0.00	0.00
133.00	(24) attachments	768.28	2847.96	0.00	0.00
135.00		60.41	221.21	0.00	0.00
140.00		150.47	543.73	0.00	0.00
142.90	(16) attachments	1194.30	3436.38	0.00	183.69
145.00		47.12	190.65	0.00	0.00
148.30	(23) attachments	715.70	2360.06	0.00	1410.83

Total Applied Force Summary

Structure:	CT02049-S-SBA		**Code:**	EIA/TIA-222-G	1/30/2017
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 61

150.00		21.41	140.53	0.00	0.00
155.00		46.38	312.16	0.00	0.00
160.00	(22) attachments	1511.01	2244.66	0.00	2928.41
	Totals:	**8,886.56**	**41,004.67**	**0.00**	**4,640.95**

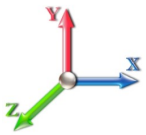
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 62	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.174	1.223	6.129	0.00	5.50
5.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.174	1.223	6.129	0.00	2.60
5.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.174	1.223	6.129	0.00	5.50
5.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.174	1.223	6.129	0.00	4.77
5.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.174	1.223	6.129	0.00	2.60
5.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.174	1.223	6.129	0.00	0.00
5.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.174	1.223	6.129	0.00	0.00
10.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.178	1.233	6.129	0.00	5.50
10.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.178	1.233	6.129	0.00	2.60
10.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.178	1.233	6.129	0.00	5.50
10.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.178	1.233	6.129	0.00	4.77
10.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.178	1.233	6.129	0.00	2.60
10.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.178	1.233	6.129	0.00	0.00
10.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.178	1.233	6.129	0.00	0.00
15.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.181	1.244	6.129	0.00	5.50
15.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.181	1.244	6.129	0.00	2.60
15.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.181	1.244	6.129	0.00	5.50
15.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.181	1.244	6.129	0.00	4.77
15.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.181	1.244	6.129	0.00	2.60
15.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.181	1.244	6.129	0.00	0.00
15.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.181	1.244	6.129	0.00	0.00
16.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.184	1.251	6.129	0.00	1.10
16.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.184	1.251	6.129	0.00	0.52
16.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.184	1.251	6.129	0.00	1.10
16.00	1-1/4" Hybrid	Yes	1.00	0.000	1.25	0.10	0.00	0.184	1.251	6.129	0.00	0.95
16.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.184	1.251	6.129	0.00	0.52
16.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.184	1.251	6.129	0.00	0.00
16.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.184	1.251	6.129	0.00	0.00
16.25	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.04	0.00	0.184	1.252	6.129	0.00	0.28
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.184	1.252	6.129	0.00	0.13
16.25	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.04	0.00	0.184	1.252	6.129	0.00	0.28
16.25	1-1/4" Hybrid	Yes	0.25	0.000	1.25	0.03	0.00	0.184	1.252	6.129	0.00	0.24
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.184	1.252	6.129	0.00	0.13
16.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.184	1.252	6.129	0.00	0.00
16.25	1.25" Reinforcing	Yes	0.25	0.000	2.50	0.05	0.00	0.184	1.252	6.129	0.00	0.00
18.00	1 5/8" Hybrid	Yes	1.75	0.000	2.00	0.29	0.00	0.185	1.254	6.129	0.00	1.93
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.185	1.254	6.129	0.00	0.91
18.00	1 5/8" Hybrid	Yes	1.75	0.000	2.00	0.29	0.00	0.185	1.254	6.129	0.00	1.93
18.00	1-1/4" Hybrid	Yes	1.75	0.000	1.25	0.18	0.00	0.185	1.254	6.129	0.00	1.67
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.185	1.254	6.129	0.00	0.91
18.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.185	1.254	6.129	0.00	0.00
18.00	1.25" Reinforcing	Yes	1.75	0.000	2.50	0.36	0.00	0.185	1.254	6.129	0.00	0.00
19.50	1 5/8" Hybrid	Yes	1.50	0.000	2.00	0.25	0.00	0.186	1.258	6.129	0.00	1.65
19.50	7/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.186	1.258	6.129	0.00	0.78
19.50	1 5/8" Hybrid	Yes	1.50	0.000	2.00	0.25	0.00	0.186	1.258	6.129	0.00	1.65
19.50	1-1/4" Hybrid	Yes	1.50	0.000	1.25	0.16	0.00	0.186	1.258	6.129	0.00	1.43
19.50	7/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.186	1.258	6.129	0.00	0.78

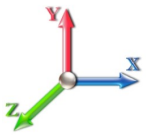
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 63	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
19.50	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.16	0.00	0.186	1.258	6.129	0.00	0.00
19.50	1.25" Reinforcing	Yes	1.50	0.000	2.50	0.31	0.00	0.186	1.258	6.129	0.00	0.00
20.00	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.08	0.00	0.187	1.260	6.129	0.00	0.55
20.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.187	1.260	6.129	0.00	0.26
20.00	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.08	0.00	0.187	1.260	6.129	0.00	0.55
20.00	1-1/4" Hybrid	Yes	0.50	0.000	1.25	0.05	0.00	0.187	1.260	6.129	0.00	0.48
20.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.187	1.260	6.129	0.00	0.26
20.00	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.05	0.00	0.187	1.260	6.129	0.00	0.00
20.00	1.25" Reinforcing	Yes	0.50	0.000	2.50	0.10	0.00	0.187	1.260	6.129	0.00	0.00
22.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.188	1.263	6.129	0.00	2.20
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.188	1.263	6.129	0.00	1.04
22.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.188	1.263	6.129	0.00	2.20
22.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.21	0.00	0.188	1.263	6.129	0.00	1.91
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.188	1.263	6.129	0.00	1.04
22.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.188	1.263	6.129	0.00	0.00
22.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.188	1.263	6.129	0.00	0.00
25.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.187	1.260	6.129	0.00	3.30
25.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.187	1.260	6.129	0.00	1.56
25.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.187	1.260	6.129	0.00	3.30
25.00	1-1/4" Hybrid	Yes	3.00	0.000	1.25	0.31	0.00	0.187	1.260	6.129	0.00	2.86
25.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.187	1.260	6.129	0.00	1.56
25.00	1.25" Reinforcing	Yes	3.00	0.000	1.25	0.31	0.00	0.187	1.260	6.129	0.00	0.00
25.00	1.25" Reinforcing	Yes	3.00	0.000	2.50	0.63	0.00	0.187	1.260	6.129	0.00	0.00
30.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.190	1.270	6.134	0.00	5.50
30.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.190	1.270	6.134	0.00	2.60
30.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.190	1.270	6.134	0.00	5.50
30.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.190	1.270	6.134	0.00	4.77
30.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.190	1.270	6.134	0.00	2.60
30.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.190	1.270	6.134	0.00	0.00
30.00	1.25" Reinforcing	Yes	5.00	0.000	2.50	1.04	0.00	0.190	1.270	6.134	0.00	0.00
31.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.192	1.277	6.192	0.00	1.10
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.192	1.277	6.192	0.00	0.52
31.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.192	1.277	6.192	0.00	1.10
31.00	1-1/4" Hybrid	Yes	1.00	0.000	1.25	0.10	0.00	0.192	1.277	6.192	0.00	0.95
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.192	1.277	6.192	0.00	0.52
31.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.192	1.277	6.192	0.00	0.00
31.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.192	1.277	6.192	0.00	0.00
34.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.158	1.174	6.357	0.00	3.30
34.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.158	1.174	6.357	0.00	1.56
34.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.158	1.174	6.357	0.00	3.30
34.00	1-1/4" Hybrid	Yes	3.00	0.000	1.25	0.31	0.00	0.158	1.174	6.357	0.00	2.86
34.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.158	1.174	6.357	0.00	1.56
34.00	1.25" Reinforcing	Yes	3.00	0.000	1.25	0.31	0.00	0.158	1.174	6.357	0.00	0.00
34.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.158	1.174	6.357	0.00	0.00
35.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.141	1.124	6.410	0.00	1.10
35.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.141	1.124	6.410	0.00	0.52
35.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.141	1.124	6.410	0.00	1.10

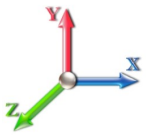
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 64	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
35.00	1-1/4" Hybrid	Yes	1.00	0.000	1.25	0.10	0.00	0.141	1.124	6.410	0.00	0.95
35.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.141	1.124	6.410	0.00	0.52
35.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.141	1.124	6.410	0.00	0.00
35.50	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.08	0.00	0.142	1.125	6.436	0.00	0.55
35.50	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.142	1.125	6.436	0.00	0.26
35.50	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.08	0.00	0.142	1.125	6.436	0.00	0.55
35.50	1-1/4" Hybrid	Yes	0.50	0.000	1.25	0.05	0.00	0.142	1.125	6.436	0.00	0.48
35.50	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.142	1.125	6.436	0.00	0.26
35.50	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.05	0.00	0.142	1.125	6.436	0.00	0.00
40.00	1 5/8" Hybrid	Yes	4.50	0.000	2.00	0.75	0.00	0.143	1.130	6.659	0.00	4.95
40.00	7/8" Coax	Yes	4.50	0.000	0.00	0.00	0.00	0.143	1.130	6.659	0.00	2.34
40.00	1 5/8" Hybrid	Yes	4.50	0.000	2.00	0.75	0.00	0.143	1.130	6.659	0.00	4.95
40.00	1-1/4" Hybrid	Yes	4.50	0.000	1.25	0.47	0.00	0.143	1.130	6.659	0.00	4.29
40.00	7/8" Coax	Yes	4.50	0.000	0.00	0.00	0.00	0.143	1.130	6.659	0.00	2.34
40.00	1.25" Reinforcing	Yes	4.50	0.000	1.25	0.47	0.00	0.143	1.130	6.659	0.00	0.00
45.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.146	1.139	6.887	0.00	5.50
45.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.146	1.139	6.887	0.00	2.60
45.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.146	1.139	6.887	0.00	5.50
45.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.146	1.139	6.887	0.00	4.77
45.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.146	1.139	6.887	0.00	2.60
45.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.146	1.139	6.887	0.00	0.00
45.16	1 5/8" Hybrid	Yes	0.16	0.000	2.00	0.03	0.00	0.148	1.144	6.894	0.00	0.18
45.16	7/8" Coax	Yes	0.16	0.000	0.00	0.00	0.00	0.148	1.144	6.894	0.00	0.08
45.16	1 5/8" Hybrid	Yes	0.16	0.000	2.00	0.03	0.00	0.148	1.144	6.894	0.00	0.18
45.16	1-1/4" Hybrid	Yes	0.16	0.000	1.25	0.02	0.00	0.148	1.144	6.894	0.00	0.15
45.16	7/8" Coax	Yes	0.16	0.000	0.00	0.00	0.00	0.148	1.144	6.894	0.00	0.08
45.16	1.25" Reinforcing	Yes	0.16	0.000	1.25	0.02	0.00	0.148	1.144	6.894	0.00	0.00
46.00	1 5/8" Hybrid	Yes	0.84	0.000	2.00	0.14	0.00	0.148	1.145	6.931	0.00	0.92
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.148	1.145	6.931	0.00	0.44
46.00	1 5/8" Hybrid	Yes	0.84	0.000	2.00	0.14	0.00	0.148	1.145	6.931	0.00	0.92
46.00	1-1/4" Hybrid	Yes	0.84	0.000	1.25	0.09	0.00	0.148	1.145	6.931	0.00	0.80
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.148	1.145	6.931	0.00	0.44
46.00	1.25" Reinforcing	Yes	0.84	0.000	1.25	0.09	0.00	0.148	1.145	6.931	0.00	0.00
50.00	1 5/8" Hybrid	Yes	4.00	0.000	2.00	0.67	0.00	0.150	1.150	7.098	0.00	4.40
50.00	7/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.150	1.150	7.098	0.00	2.08
50.00	1 5/8" Hybrid	Yes	4.00	0.000	2.00	0.67	0.00	0.150	1.150	7.098	0.00	4.40
50.00	1-1/4" Hybrid	Yes	4.00	0.000	1.25	0.42	0.00	0.150	1.150	7.098	0.00	3.82
50.00	7/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.150	1.150	7.098	0.00	2.08
50.00	1.25" Reinforcing	Yes	4.00	0.000	1.25	0.42	0.00	0.150	1.150	7.098	0.00	0.00
55.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.153	1.160	7.294	0.00	5.50
55.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.153	1.160	7.294	0.00	2.60
55.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.153	1.160	7.294	0.00	5.50
55.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.153	1.160	7.294	0.00	4.77
55.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.153	1.160	7.294	0.00	2.60
55.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.153	1.160	7.294	0.00	0.00
56.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.156	1.167	7.331	0.00	1.10
56.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.156	1.167	7.331	0.00	0.52

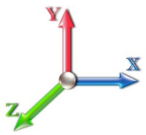
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 65	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
56.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.156	1.167	7.331	0.00	1.10
56.00	1-1/4" Hybrid	Yes	1.00	0.000	1.25	0.10	0.00	0.156	1.167	7.331	0.00	0.95
56.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.156	1.167	7.331	0.00	0.52
56.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.156	1.167	7.331	0.00	0.00
58.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.154	1.161	7.405	0.00	2.20
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.161	7.405	0.00	1.04
58.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.154	1.161	7.405	0.00	2.20
58.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.21	0.00	0.154	1.161	7.405	0.00	1.91
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.161	7.405	0.00	1.04
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.154	1.161	7.405	0.00	0.00
60.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.155	1.166	7.477	0.00	2.20
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	7.477	0.00	1.04
60.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.155	1.166	7.477	0.00	2.20
60.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.21	0.00	0.155	1.166	7.477	0.00	1.91
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	7.477	0.00	1.04
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.155	1.166	7.477	0.00	0.00
65.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.158	1.174	7.650	0.00	5.50
65.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.158	1.174	7.650	0.00	2.60
65.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.158	1.174	7.650	0.00	5.50
65.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.158	1.174	7.650	0.00	4.77
65.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.158	1.174	7.650	0.00	2.60
65.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.158	1.174	7.650	0.00	0.00
70.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.162	1.186	7.814	0.00	5.50
70.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.162	1.186	7.814	0.00	2.60
70.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.162	1.186	7.814	0.00	5.50
70.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.162	1.186	7.814	0.00	4.77
70.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.162	1.186	7.814	0.00	2.60
70.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.162	1.186	7.814	0.00	0.00
75.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.166	1.198	7.969	0.00	5.50
75.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.166	1.198	7.969	0.00	2.60
75.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.166	1.198	7.969	0.00	5.50
75.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.166	1.198	7.969	0.00	4.77
75.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.166	1.198	7.969	0.00	2.60
75.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.166	1.198	7.969	0.00	0.00
78.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.170	1.209	8.059	0.00	3.30
78.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.170	1.209	8.059	0.00	1.56
78.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.170	1.209	8.059	0.00	3.30
78.00	1-1/4" Hybrid	Yes	3.00	0.000	1.25	0.31	0.00	0.170	1.209	8.059	0.00	2.86
78.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.170	1.209	8.059	0.00	1.56
78.00	1.25" Reinforcing	Yes	3.00	0.000	1.25	0.31	0.00	0.170	1.209	8.059	0.00	0.00
80.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.172	1.215	8.118	0.00	2.20
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.172	1.215	8.118	0.00	1.04
80.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.172	1.215	8.118	0.00	2.20
80.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.21	0.00	0.172	1.215	8.118	0.00	1.91
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.172	1.215	8.118	0.00	1.04
80.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.172	1.215	8.118	0.00	0.00
85.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.175	1.225	8.260	0.00	5.50

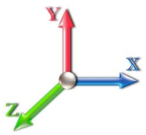
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 66	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
85.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.175	1.225	8.260	0.00	2.60
85.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.175	1.225	8.260	0.00	5.50
85.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.175	1.225	8.260	0.00	4.77
85.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.175	1.225	8.260	0.00	2.60
85.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.175	1.225	8.260	0.00	0.00
90.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.180	1.240	8.396	0.00	5.50
90.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.180	1.240	8.396	0.00	2.60
90.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.180	1.240	8.396	0.00	5.50
90.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.180	1.240	8.396	0.00	4.77
90.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.180	1.240	8.396	0.00	2.60
90.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.180	1.240	8.396	0.00	0.00
95.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.185	1.255	8.526	0.00	5.50
95.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.185	1.255	8.526	0.00	2.60
95.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.185	1.255	8.526	0.00	5.50
95.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.185	1.255	8.526	0.00	4.77
95.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.185	1.255	8.526	0.00	2.60
95.00	1.25" Reinforcing	Yes	5.00	0.000	1.25	0.52	0.00	0.185	1.255	8.526	0.00	0.00
95.58	1 5/8" Hybrid	Yes	0.58	0.000	2.00	0.10	0.00	0.188	1.264	8.541	0.00	0.64
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.188	1.264	8.541	0.00	0.30
95.58	1 5/8" Hybrid	Yes	0.58	0.000	2.00	0.10	0.00	0.188	1.264	8.541	0.00	0.64
95.58	1-1/4" Hybrid	Yes	0.58	0.000	1.25	0.06	0.00	0.188	1.264	8.541	0.00	0.55
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.188	1.264	8.541	0.00	0.30
95.58	1.25" Reinforcing	Yes	0.58	0.000	1.25	0.06	0.00	0.188	1.264	8.541	0.00	0.00
100.00	1 5/8" Hybrid	Yes	4.42	0.000	2.00	0.74	0.00	0.174	1.223	8.652	0.00	4.86
100.00	7/8" Coax	Yes	4.42	0.000	0.00	0.00	0.00	0.174	1.223	8.652	0.00	2.30
100.00	1 5/8" Hybrid	Yes	4.42	0.000	2.00	0.74	0.00	0.174	1.223	8.652	0.00	4.86
100.00	1-1/4" Hybrid	Yes	4.42	0.000	1.25	0.46	0.00	0.174	1.223	8.652	0.00	4.22
100.00	7/8" Coax	Yes	4.42	0.000	0.00	0.00	0.00	0.174	1.223	8.652	0.00	2.30
100.00	1.25" Reinforcing	Yes	2.42	0.000	1.25	0.25	0.00	0.174	1.223	8.652	0.00	0.00
105.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.155	1.166	8.774	0.00	5.50
105.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.155	1.166	8.774	0.00	2.60
105.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.155	1.166	8.774	0.00	5.50
105.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.155	1.166	8.774	0.00	4.77
105.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.155	1.166	8.774	0.00	2.60
110.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.160	1.181	8.891	0.00	5.50
110.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.160	1.181	8.891	0.00	2.60
110.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.160	1.181	8.891	0.00	5.50
110.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.160	1.181	8.891	0.00	4.77
110.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.160	1.181	8.891	0.00	2.60
115.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.165	1.196	9.005	0.00	5.50
115.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.165	1.196	9.005	0.00	2.60
115.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.165	1.196	9.005	0.00	5.50
115.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.165	1.196	9.005	0.00	4.77
120.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.171	1.212	9.115	0.00	5.50
120.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.171	1.212	9.115	0.00	2.60
120.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.171	1.212	9.115	0.00	5.50
120.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.171	1.212	9.115	0.00	4.77

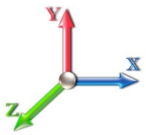
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 67	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
125.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.176	1.229	9.222	0.00	5.50
125.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.176	1.229	9.222	0.00	2.60
125.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.176	1.229	9.222	0.00	5.50
125.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.176	1.229	9.222	0.00	4.77
130.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.183	1.248	9.326	0.00	5.50
130.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.183	1.248	9.326	0.00	2.60
130.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.183	1.248	9.326	0.00	5.50
130.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.183	1.248	9.326	0.00	4.77
133.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.188	1.264	9.387	0.00	3.30
133.00	7/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.188	1.264	9.387	0.00	1.56
133.00	1 5/8" Hybrid	Yes	3.00	0.000	2.00	0.50	0.00	0.188	1.264	9.387	0.00	3.30
133.00	1-1/4" Hybrid	Yes	3.00	0.000	1.25	0.31	0.00	0.188	1.264	9.387	0.00	2.86
135.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.191	1.274	9.427	0.00	2.20
135.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.191	1.274	9.427	0.00	1.04
135.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.191	1.274	9.427	0.00	2.20
135.00	1-1/4" Hybrid	Yes	2.00	0.000	1.25	0.21	0.00	0.191	1.274	9.427	0.00	1.91
140.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.196	1.289	9.525	0.00	5.50
140.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.196	1.289	9.525	0.00	2.60
140.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.196	1.289	9.525	0.00	5.50
140.00	1-1/4" Hybrid	Yes	5.00	0.000	1.25	0.52	0.00	0.196	1.289	9.525	0.00	4.77
142.90	1 5/8" Hybrid	Yes	2.90	1.200	2.00	0.48	0.58	0.202	0.000	9.581	6.11	3.19
142.90	7/8" Coax	Yes	2.90	0.000	0.00	0.00	0.00	0.202	0.000	9.581	0.00	1.51
142.90	1 5/8" Hybrid	Yes	2.90	1.200	2.00	0.48	0.58	0.202	0.000	9.581	6.11	3.19
142.90	1-1/4" Hybrid	Yes	2.90	1.200	1.25	0.30	0.36	0.202	0.000	9.581	3.82	2.77
145.00	1 5/8" Hybrid	Yes	2.10	0.000	2.00	0.35	0.00	0.079	0.000	9.621	0.00	2.31
145.00	7/8" Coax	Yes	2.10	0.000	0.00	0.00	0.00	0.079	0.000	9.621	0.00	1.09
148.30	1 5/8" Hybrid	Yes	3.30	0.000	2.00	0.55	0.00	0.083	0.000	9.683	0.00	3.63
148.30	7/8" Coax	Yes	3.30	0.000	0.00	0.00	0.00	0.083	0.000	9.683	0.00	1.72
150.00	1 5/8" Hybrid	Yes	1.70	0.000	2.00	0.28	0.00	0.085	0.000	9.715	0.00	1.87
150.00	7/8" Coax	Yes	1.70	0.000	0.00	0.00	0.00	0.085	0.000	9.715	0.00	0.88
155.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.125	1.075	9.806	0.00	5.50
155.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.125	1.075	9.806	0.00	2.60
160.00	1 5/8" Hybrid	Yes	5.00	0.000	2.00	0.83	0.00	0.125	1.075	9.896	0.00	5.50
160.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.125	1.075	9.896	0.00	2.60
										Totals:	**16.0**	**609.9**

Calculated Forces

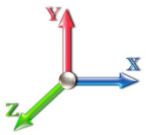
Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 68	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-41.00	-8.90	0.00	-997.61	0.00	997.61	3683.82	1841.91	7606.69	3756.66	0.00	0.000	0.000	0.188
5.00	-39.72	-8.76	0.00	-953.09	0.00	953.09	3652.63	1826.32	7394.88	3652.06	0.03	-0.049	0.000	0.183
10.00	-38.46	-8.62	0.00	-909.29	0.00	909.29	3619.85	1809.93	7182.43	3547.13	0.10	-0.098	0.000	0.179
15.00	-37.22	-8.46	0.00	-866.21	0.00	866.21	3585.48	1792.74	6969.53	3441.99	0.23	-0.147	0.000	0.174
16.00	-36.98	-8.43	0.00	-857.75	0.00	857.75	3578.41	1789.21	6926.91	3420.94	0.26	-0.157	0.000	0.173
16.25	-36.86	-8.43	0.00	-855.64	0.00	855.64	3576.63	1788.32	6916.25	3415.68	0.27	-0.160	0.000	0.204
18.00	-36.10	-8.37	0.00	-840.90	0.00	840.90	3564.09	1782.04	6841.65	3378.83	0.34	-0.181	0.000	0.187
19.50	-35.44	-8.33	0.00	-828.33	0.00	828.33	3553.18	1776.59	6777.69	3347.24	0.39	-0.197	0.000	0.158
20.00	-35.22	-8.32	0.00	-824.17	0.00	824.17	3549.51	1774.75	6756.36	3336.71	0.42	-0.202	0.000	0.157
22.00	-34.36	-8.26	0.00	-807.54	0.00	807.54	3563.12	1781.56	6835.93	3376.01	0.50	-0.221	0.000	0.159
25.00	-33.63	-8.17	0.00	-782.76	0.00	782.76	3541.13	1770.56	6708.00	3312.83	0.65	-0.249	0.000	0.152
30.00	-32.44	-8.01	0.00	-741.89	0.00	741.89	3503.20	1751.60	6494.78	3207.53	0.94	-0.294	0.000	0.116
31.00	-32.20	-7.99	0.00	-733.88	0.00	733.88	3495.43	1747.71	6452.15	3186.48	1.00	-0.301	0.000	0.134
34.00	-31.49	-7.90	0.00	-709.92	0.00	709.92	3471.72	1735.86	6324.32	3123.35	1.20	-0.326	0.000	0.163
35.00	-31.26	-7.87	0.00	-702.02	0.00	702.02	3463.69	1731.84	6281.74	3102.31	1.27	-0.336	0.000	0.162
35.50	-31.14	-7.87	0.00	-698.08	0.00	698.08	3459.65	1729.82	6260.45	3091.80	1.30	-0.342	0.000	0.162
40.00	-30.09	-7.74	0.00	-662.67	0.00	662.67	3422.57	1711.29	6069.05	2997.28	1.65	-0.388	0.000	0.158
45.00	-28.96	-7.59	0.00	-623.97	0.00	623.97	3379.87	1689.93	5856.93	2892.52	2.08	-0.439	0.000	0.153
45.16	-28.92	-7.58	0.00	-622.76	0.00	622.76	3378.48	1689.24	5850.15	2889.17	2.09	-0.441	0.000	0.111
46.00	-28.73	-7.57	0.00	-616.39	0.00	616.39	3371.14	1685.57	5814.59	2871.61	2.17	-0.447	0.000	0.144
50.00	-27.84	-7.45	0.00	-586.12	0.00	586.12	3335.57	1667.79	5645.55	2788.13	2.56	-0.486	0.000	0.140
55.00	-25.90	-7.28	0.00	-548.87	0.00	548.87	3289.68	1644.84	5435.12	2684.20	3.10	-0.535	0.000	0.133
56.00	-25.52	-7.25	0.00	-541.60	0.00	541.60	3316.18	1658.09	5555.61	2743.71	3.21	-0.544	0.000	0.135
58.00	-25.08	-7.19	0.00	-527.10	0.00	527.10	3297.74	1648.87	5471.49	2702.16	3.44	-0.564	0.000	0.140
60.00	-24.65	-7.13	0.00	-512.73	0.00	512.73	3279.05	1639.52	5387.54	2660.71	3.68	-0.584	0.000	0.138
65.00	-23.58	-6.97	0.00	-477.08	0.00	477.08	3231.20	1615.60	5178.53	2557.48	4.32	-0.633	0.000	0.132
70.00	-22.53	-6.81	0.00	-442.23	0.00	442.23	3181.76	1590.88	4970.89	2454.94	5.01	-0.682	0.000	0.126
75.00	-21.50	-6.64	0.00	-408.20	0.00	408.20	3130.72	1565.36	4764.82	2353.16	5.75	-0.731	0.000	0.121
78.00	-20.90	-6.53	0.00	-388.29	0.00	388.29	3099.34	1549.67	4642.00	2292.51	6.22	-0.760	0.000	0.117
80.00	-20.50	-6.47	0.00	-375.22	0.00	375.22	3078.09	1539.05	4560.50	2252.26	6.54	-0.780	0.000	0.115
80.00	-20.50	-6.47	0.00	-375.22	0.00	375.22	2384.58	1192.29	3545.27	1750.88	6.54	-0.780	0.000	0.124
85.00	-19.63	-6.31	0.00	-342.86	0.00	342.86	2349.22	1174.61	3397.89	1678.09	7.39	-0.827	0.000	0.131
90.00	-18.78	-6.14	0.00	-311.33	0.00	311.33	2312.26	1156.13	3251.12	1605.61	8.28	-0.878	0.000	0.123
95.00	-17.95	-5.96	0.00	-280.64	0.00	280.64	2273.71	1136.85	3105.16	1533.52	9.23	-0.928	0.000	0.114
95.58	-17.78	-5.95	0.00	-277.19	0.00	277.19	2269.13	1134.57	3088.29	1525.19	9.34	-0.934	0.000	0.112
95.58	-17.78	-5.95	0.00	-277.19	0.00	277.19	2269.13	1134.57	3088.29	1525.19	9.34	-0.934	0.000	0.112
100.00	-16.56	-5.79	0.00	-250.91	0.00	250.91	2259.61	1129.81	3053.48	1508.00	10.23	-0.977	0.000	0.174
105.00	-15.74	-5.64	0.00	-221.94	0.00	221.94	2218.90	1109.45	2908.92	1436.61	11.29	-1.055	0.000	0.162
110.00	-14.89	-5.44	0.00	-193.61	0.00	193.61	2176.60	1088.30	2765.62	1365.84	12.44	-1.127	0.000	0.149
115.00	-14.12	-5.28	0.00	-166.42	0.00	166.42	2132.70	1066.35	2623.78	1295.79	13.65	-1.195	0.000	0.135
115.00	-14.12	-5.28	0.00	-166.42	0.00	166.42	1556.62	778.31	1923.08	949.74	13.65	-1.195	0.000	0.184
120.00	-13.46	-5.13	0.00	-140.01	0.00	140.01	1529.99	765.00	1828.43	902.99	14.94	-1.258	0.000	0.164
125.00	-12.81	-4.97	0.00	-114.37	0.00	114.37	1501.77	750.88	1734.09	856.40	16.30	-1.331	0.000	0.142
130.00	-12.18	-4.82	0.00	-89.49	0.00	89.49	1471.95	735.97	1640.26	810.06	17.73	-1.395	0.000	0.119
133.00	-9.35	-3.98	0.00	-75.04	0.00	75.04	1453.29	726.64	1584.28	782.42	18.61	-1.430	0.000	0.102
135.00	-9.13	-3.92	0.00	-67.08	0.00	67.08	1440.53	720.27	1547.12	764.06	19.22	-1.451	0.000	0.094
140.00	-8.59	-3.76	0.00	-47.46	0.00	47.46	1407.52	703.76	1454.87	718.50	20.76	-1.496	0.000	0.072
142.90	-5.18	-2.48	0.00	-36.37	0.00	36.37	1387.65	693.82	1401.84	692.32	21.68	-1.517	0.000	0.056

Calculated Forces

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 69

145.00	-4.99	-2.43	0.00	-31.16	0.00	31.16	1372.92	686.46	1363.70	673.48	22.35	-1.530	0.000	0.050
145.00	-4.99	-2.43	0.00	-31.16	0.00	31.16	931.20	465.60	925.89	604.09	22.35	-1.530	0.000	0.057
148.30	-2.65	-1.65	0.00	-21.73	0.00	21.73	911.53	455.77	882.04	573.63	23.41	-1.548	0.000	0.041
150.00	-2.51	-1.63	0.00	-18.92	0.00	18.92	901.40	450.70	859.86	558.24	23.96	-1.556	0.000	0.037
150.00	-2.51	-1.63	0.00	-18.92	0.00	18.92	556.65	278.33	359.38	213.69	23.96	-1.556	0.000	0.093
155.00	-2.20	-1.57	0.00	-10.79	0.00	10.79	556.65	278.33	359.38	213.69	25.60	-1.573	0.000	0.054
160.00	0.00	-1.51	0.00	-2.93	0.00	2.93	556.65	278.33	359.38	213.69	27.27	-1.599	0.000	0.014

Final Analysis Summary

Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-G	1/30/2017	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 70	

Tower Engineering Solutions

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 97 mph Wind	37.3	0.00	49.14	0.00	0.00	4195.58
0.9D + 1.6W 97 mph Wind	37.2	0.00	36.84	0.00	0.00	4150.23
1.2D + 1.0Di + 1.0Wi 50 mph Wind	8.6	0.00	78.77	0.00	0.00	1032.83
1.2D + 1.0E	2.0	0.00	49.21	0.00	0.00	246.01
0.9D + 1.0E	2.0	0.00	36.90	0.00	0.00	243.02
1.0D + 1.0W 60 mph Wind	8.9	0.00	41.00	0.00	0.00	997.61

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 97 mph Wind	-43.83	-35.33	0.00	-3601.1	0.00	-3601.1	3576.63	1788.3	6916.25	3415.68	16.25	0.833
0.9D + 1.6W 97 mph Wind	-32.77	-35.19	0.00	-3556.9	0.00	-3556.9	3576.63	1788.3	6916.25	3415.68	16.25	0.820
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-71.93	-8.30	0.00	-894.56	0.00	-894.56	3576.63	1788.3	6916.25	3415.68	16.25	0.221
1.2D + 1.0E	-17.06	-1.51	0.00	-53.22	0.00	-53.22	2132.70	1066.3	2623.78	1295.79	115.00	0.067
0.9D + 1.0E	-12.80	-1.49	0.00	-52.37	0.00	-52.37	2132.70	1066.3	2623.78	1295.79	115.00	0.063
1.0D + 1.0W 60 mph Wind	-36.86	-8.43	0.00	-855.64	0.00	-855.64	3576.63	1788.3	6916.25	3415.68	16.25	0.204

Additional Steel Summary

			Intermediate Connectors			Lower Termination				Upper Termination				Max Member			
Elev From (ft)	Elev To (ft)	Member	VQ/I (lb/in)	Vu (kips)	phi Vn (kips)	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	Pu (kips)	phi Pn (kips)	phi Tn (kips)	Ratio
0.0	16.3	(3) PLT-C10x30(1.5" Hole)	-323.1	-6.46	37.1	410.6	37.1	12	0	395.2	37.1			410.55	505.1	468.64	0.876
16.3	31.0	(3) PLT-C10x15.3(1.5" Hole)	-323.1	-6.46	37.1	245.8	37.1			141.1	37.1	4	0	245.78	257.8	247.80	0.992
18.0	34.0	(2) LNP-LP6X100-G-20TT	205.6	4.94	25.3	245.7	25.3	10	10	205.1	25.3	9	10	245.75	297.8	292.50	0.840
19.5	35.5	(1) LNP-LP6X100-G-20TT	-205.6	-4.94	25.3	244.1	25.3	10	10	204.3	25.3	9	10	244.13	297.8	292.50	0.835
30.0	46.0	(3) PLT-6"X1-1/4"(1.25" Hole	310.5	5.59	37.1	225.9	37.1	7	8	222.0	37.1	6	8	321.27	413.6	356.25	0.902
45.2	58.0	(3) PLT-7" x 1.25"(1.25"Hole	-359.3	-4.31	37.1	260.1	37.1	8	13	307.9	37.1			337.91	498.6	431.25	0.784
58.0	78.0	(3) PLT-5.5"x1 1/4"(1.25"hol	-349.4	-6.29	37.1	262.8	37.1			229.7	37.1			262.79	379.1	318.75	0.824
78.0	95.6	(3) PLT-5.5"x1 1/4"(1.25"hol	-386.6	-6.96	37.1	229.7	37.1			216.1	37.1	6	10	241.81	379.1	318.75	0.759

Monopole Mat Foundation Design

			Date: 1/30/2017
Customer Name:	T-Mobile	**EIA/TIA Standard:**	EIA-222-G
Site Name:		**Structure Height (Ft.):**	160
Site Number:	CT02049-S-SBA	**Engineer Name:**	J. Tibbetts
Engr. Number:	29930	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

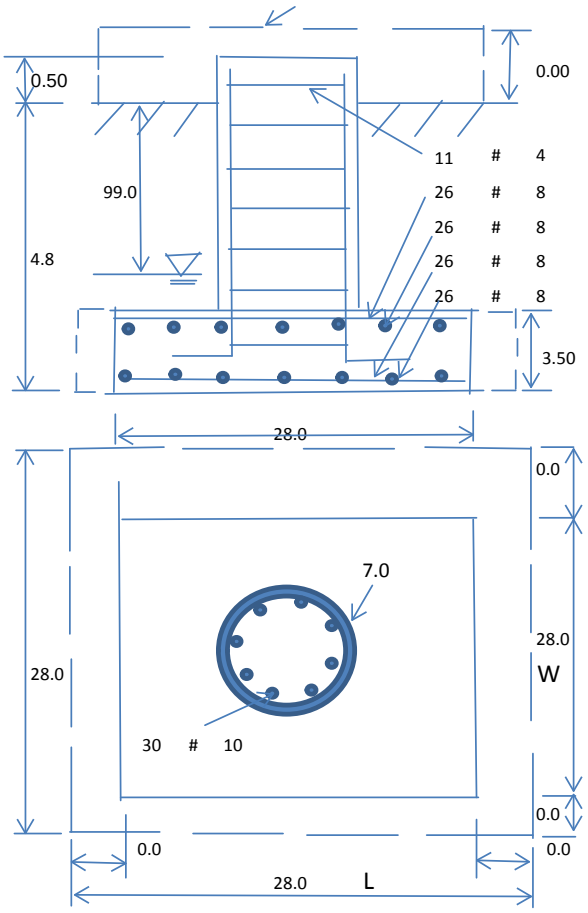
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	49.1	Shear Force (Kips):	37.3
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4195.6
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	4.8
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	3.50
Length of Pad (ft.):	28	Width of Pad (ft.):	28
Final Length of pad (ft)	28.0	Final width of pad (ft):	28.0
Control Value for Cell D18:	0	Control Value for Cell F18:	0



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	10	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	30	Tie Spacing (in):	6.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	26	Qty. of Rebar in Pad (W):	26	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	26	Qty. of Rebar in Pad (W):	26	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

Soil Unit Weight (pcf):	115.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	6000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hori. force for O.T.M.:	No	Reduction factor on the maximum soil bearing pressure:			1.00	

Foundation Analysis and Design: Uplift Strength Reduction Factor: 0.75 — Compression Strength Reduction Factor: 0.75

Total Dry Soil Volume (cu. Ft.):	931.89	Total Dry Soil Weight (Kips):	107.17
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	107.17	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	2811.35	Total Dry Concrete Weight (Kips):	421.70
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	421.70	Total Vertical Load on Base (Kips):	578.01

Check Soil Capacities:

				Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	2241	<	Allowable Factored Soil Bearing (psf): 4500	0.50	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	7351.7	>	Design Factored Momont (kips-ft): 4391	0.60	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.67	OK!			

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75		
Strength reduction factor (Axial compresion):	0.65	Wind Load Factor on Concrete Design:	1.00		
				Load/ Capacity Ratio	
(1) Concrete Pier:					
Vertical Steel Rebar Area (sq. in./each):	1.27		Tie / Stirrup Area (sq. in./each):	0.20	
Calculated Moment Capacity (Mn,Kips-Ft):	6439.6	>	Design Factored Moment (Mu, Kips-Ft	4260.9	0.66 OK!
Calculated Shear Capacity (Kips):	724.1	>	Design Factored Shear (Kips):	37.3	0.05 OK!
Calculated Tension Capacity (Tn, Kips):	2057.4	>	Design Factored Tension (Tu Kips):	0.0	0.00 OK!
Calculated Compression Capacity (Pn, Kips):	7297.9	>	Design Factored Axial Load (Pu Kips):	49.1	0.01 OK!
Moment & Axial Strength Combination(Pu/Pn+Mu/Mn):	0.67	OK!	Check Tie Spacing (Design/Required):		0.5 OK!
Pier Reinforcement Ratio:	0.007	Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:					
One-Way Design Shear Capacity (L-Direction, Kips):	1062.8	>	One-Way Factored Shear (L-D. Kips):	251.8	0.24 OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1062.8	>	One-Way Factored Shear (W-D., Kips)	251.8	0.24 OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1237.3	>	One-Way Factored Shear (C-C, Kips):	427.4	0.35 OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0016	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0016	
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	3492.1	>	Moment at Bottom (L-Direct. K-Ft):	918.1	0.26 OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	3492.1	>	Moment at Bottom (W-Direct. K-Ft):	918.1	0.26 OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	4918.4	>	Moment at Bottom (C-C Dir. K-Ft):	1298.4	0.26 OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0016	OK!	Upper Steel Reinf. Ratio (W-Direct.):	0.0016	
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	3492.1	>	Moment at the top (L-Dir Kips-Ft):	513.9	0.15 OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	3492.1	>	Moment at the top (W-Dir Kips-Ft):	513.9	0.15 OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	4918.4	>	Moment at the top (C-C Direc. K-Ft):	576.6	0.12 OK!

SITE NAME: CTBEACON FALLS/RT 8

60 RICE LANE
BEACON FALLS, CT 06403

SITE NUMBER: CT11299D

PROJECT: T-MOBILE L700

CONFIGURATION: 702Cu

T-MOBILE TECHNICIAN SITE SAFETY NOTES

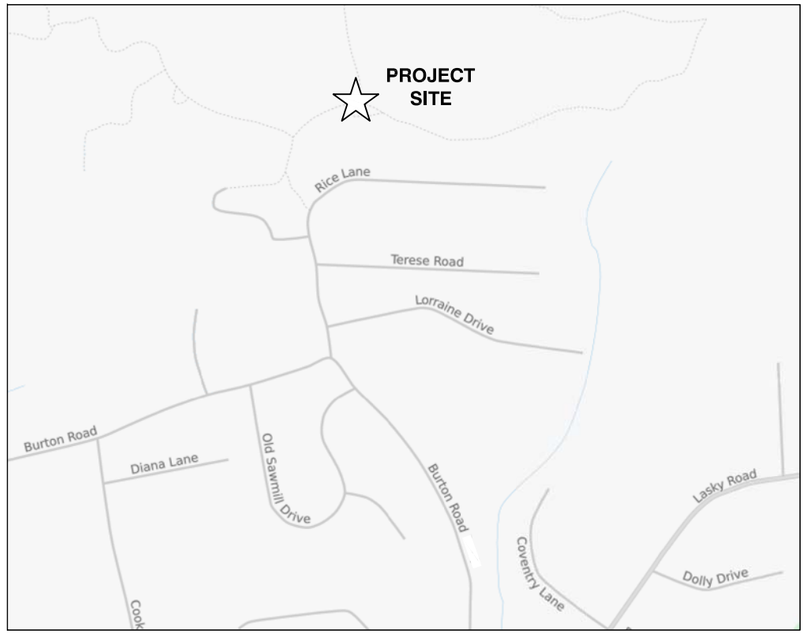
LOCATION	SPECIAL RESTRICTIONS
ANTENNA/TMA/RRU	
SECTOR A:	ACCESS NOT PERMITTED
SECTOR B:	ACCESS NOT PERMITTED
SECTOR C:	ACCESS NOT PERMITTED
GPS/LMU:	UNRESTRICTED*
(*CAUTION: OSHA-APPROVED PORTABLE 8' STEP-LADDER REQUIRED)	
RADIO CABINETS:	UNRESTRICTED
PPC DISCONNECT:	UNRESTRICTED
MAIN CIRCUIT D/C:	UNRESTRICTED
NIU/T DEMARC:	UNRESTRICTED
OTHER/SPECIAL:	NONE

GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE NORTHEAST, LLC. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE T-MOBILE NORTHEAST. LLC REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SPECIAL CONSTRUCTION NOTES

1. TOWER OWNER SHALL PROVIDE GLOBAL STRUCTURAL STABILITY ANALYSIS OF EXISTING ANTENNA SUPPORT STRUCTURE. GENERAL CONTRACTOR SCOPE OF WORK SHALL INCLUDE ALL REQUIRED STRUCTURAL MODIFICATIONS, RE-BUNDLING OF COAXIAL CABLES OR OTHER SPECIAL MODIFICATIONS AS OUTLINED THEREIN.
2. ENGINEER-OF-RECORD HAS MADE A VISUAL ASSESSMENT ONLY OF EXISTING ANTENNA MOUNT ASSEMBLIES, WITHOUT THE BENEFIT OF A RIGOROUS ANTENNA MOUNT STRUCTURAL ANALYSIS, AND RECOMMENDS THAT EXISTING AND PROPOSED TOWER TOP EQUIPMENT BE INSTALLED AS DEPICTED HEREIN. STRUCTURAL DETAILS AS DEPICTED HEREIN FOR MODIFICATION OF EXISTING ANTENNA MOUNT ASSEMBLIES ARE PRELIMINARY ONLY AND THAT FINAL CONSTRUCTION DETAILS MAY BE SUBJECT TO CHANGE PENDING THE COMPLETION OF A SEPARATE SUPPLEMENTAL ANTENNA MOUNT STRUCTURAL ASSESSMENT, SUPPLEMENTAL STRUCTURAL MAPPING/CONDITIONS ASSESSMENT REPORT AND/OR SUPPLEMENTAL RIGOROUS ANTENNA MOUNT STRUCTURAL ANALYSIS.
3. PROTERRA DESIGN GROUP ASSUMES THAT THE TOWER IS PROPERLY CONSTRUCTED AND MAINTAINED. ALL STRUCTURAL MEMBERS AND THEIR CONNECTION ARE ASSUMED TO BE IN GOOD CONDITION AND ARE FREE FROM DEFECTS WITH NO DETERIORATION TO ITS MEMBER CAPACITIES



PROJECT INFORMATION

SCOPE OF WORK:	UNMANNED TELECOMMUNICATIONS FACILITY T-MOBILE EQUIPMENT MODERNIZATION
ZONING JURISDICTION:	SPECIAL ZONING NOTE (ELIGIBLE FACILITY REQUEST): BASED ON INFORMATION PROVIDED BY T-MOBILE REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS SUBJECT TO AN ELIGIBLE FACILITY REQUEST, EXPEDITED REVIEW AND LIMITED/PARTIAL ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW OR ADMINISTRATIVE REVIEW).
T-MOBILE E911 ADDRESS:	60 RICE LANE BEACON FALLS, CT 06403
SBA BUSINESS ADDRESS:	60 RICE LANE BEACON FALLS, CT 06403
LATITUDE:	41.4558 (FROM T-MOBLE RFDS)
LONGITUDE:	-73.0393 (FROM T-MOBLE RFDS)
JURISDICTION:	TOWN OF BEACON FALLS
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY
TOWER OWNER:	SBA PROPERTIES, LLC
SBA SITE ID:	CT02049-S
SBA SITE NAME:	BEACON FALLS
SBA REGIONAL SITE MANAGER:	STEPHEN ROTH (860) 539-4920

APPROVALS

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

DIG SAFE SYSTEM
(MA, ME, NH, RI, VT):
1-888-344-7233

CALL BEFORE YOU DIG
(CT): 1-800-922-4455

UNDERGROUND SERVICE ALERT

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	1
GN-1	GENERAL NOTES	1
A-1	COMPOUND & ELEVATION PLAN	1
A-2	EXISTING & PROPOSED ANTENNA PLAN	1
A-3	DETAILS	1
A-4	DETAILS	1
A-5	DETAILS	1
E-1	ONE-LINE DIAGRAM & GROUNDING DETAILS	1

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

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581 TEL: (508) 251-0720

ProTerra DESIGN GROUP, LLC
4 Bay Road, Building A
Suite 200
Hadley, MA 01035 Ph: (413)320-4918

STATE OF CONNECTICUT
THOMAS E. JOHNSON
No. 28192
PROFESSIONAL ENGINEER
2/28/17

CHECKED BY: JMM/TEJ

APPROVED BY: JMM/TEJ

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	02/28/17	ISSUED FOR CONSTRUCTION	JEB
0	02/01/17	ISSUED FOR REVIEW	TBD/JEB

SITE NUMBER:
CT11299D
SITE NAME:
CTBEACON FALLS/RT 8
SITE ADDRESS:
60 RICE LANE
BEACON FALLS, CT 06403

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTNING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER SURCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

   CONTRACTOR – SBA COMMUNICATIONS CORP.
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – T-MOBILE

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CUR\BS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
14. ANY NEW CONCRETE NEEDED FOR CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (FY = 36 KSI) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (FY = 35 KSI). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH UMTS SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF T-MOBILE SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
20. APPLICABLE BUILDING CODES:
    SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

    BUILDING CODE: 2016 CONNECTICUT STATE BUILDING CODE WITH AMENDMENTS

    ELECTRICAL CODE: 2014 NATIONAL ELECTRICAL CODE AND AMENDMENTS

    SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

    AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

    AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

    MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION;

    TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL

    ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BTCW	BARE TINNED SOLID COPPER WIRE	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
		MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BGR	BURIED GROUND RING	MIN	MINIMUM	TBRR	TO BE REMOVED AND REPLACED
BTS	BASE TRANSCEIVER STATION	PROPOSED	NEW OR (P)	TYP	TYPICAL
EXISTING	EXISTING OR (E)	N.T.S.	NOT TO SCALE	VIF	VERIFY IN FIELD
EGB	EQUIPMENT GROUND BAR	RAD	RADIATION CENTERLINE (ANTENNA)		
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		

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STATE OF CONNECTICUT
THOMAS E. JOHNSON
No. 28192
PROFESSIONAL ENGINEER
2/28/17

CHECKED BY: JMM/TEJ

APPROVED BY: JMM/TEJ

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SITE NAME:
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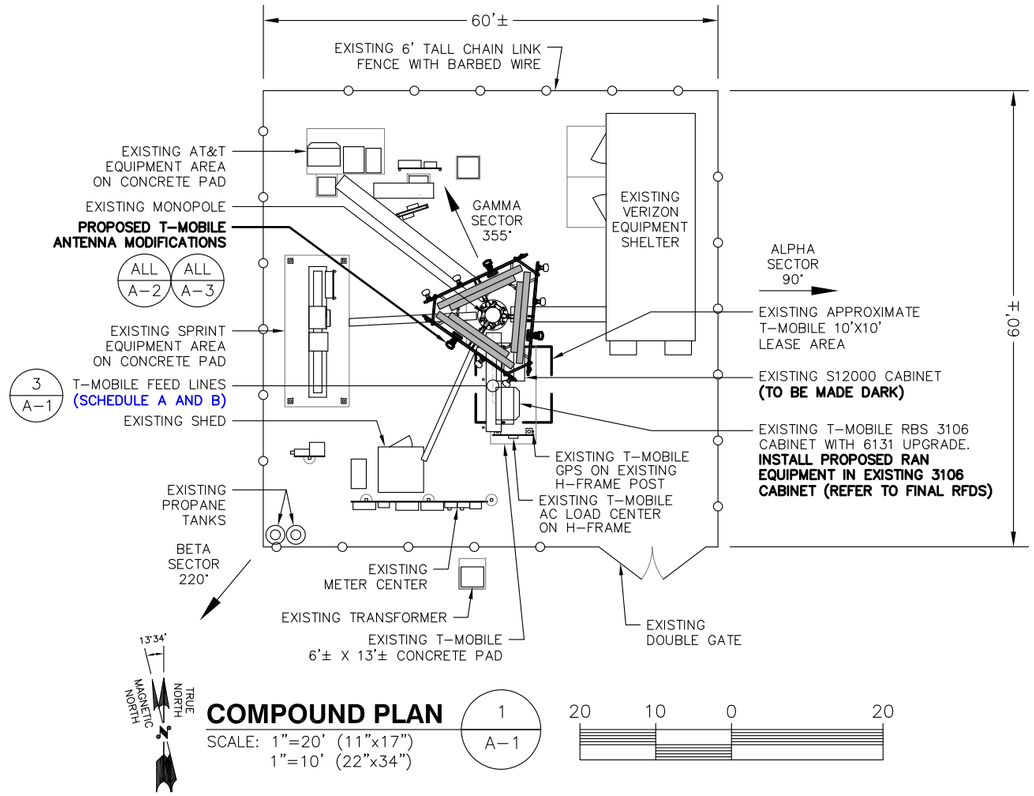
SITE ADDRESS:
60 RICE LANE
BEACON FALLS, CT 06403

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-1



COMPOUND PLAN

SCALE: 1"=20' (11"x17")
1"=10' (22"x34")

1 / A-1

20 10 0 20

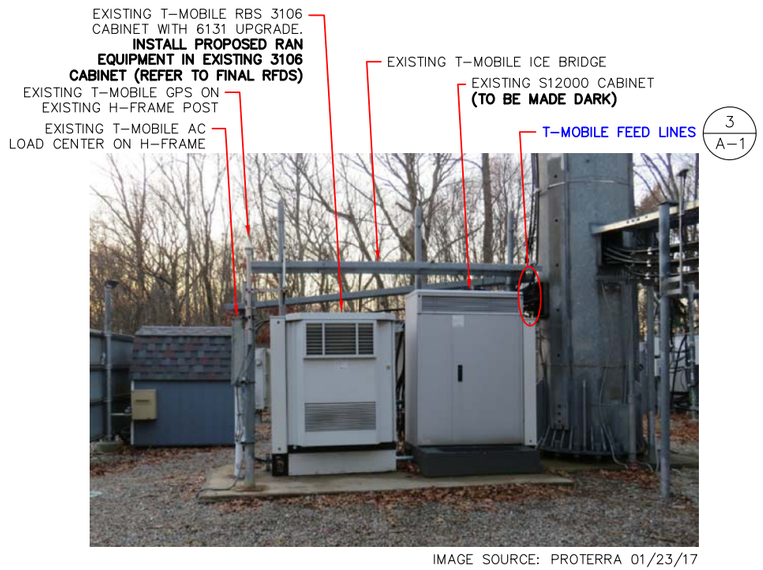


IMAGE SOURCE: PROTERRA 01/23/17

EQUIPMENT PHOTO DETAIL

SCALE: N.T.S.

2 / A-1

ANTENNA MOUNT STRUCTURAL DESIGN NOTE:
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FEEDLINE SCHEDULE	FEEDLINE DESCRIPTION	LOCATION
A	EXISTING: TO REMAIN: (6) ACTIVE 1⅝" COAX TO 142.9' RAD (INSIDE POLE); (6) INACTIVE ⅞" COAX TO 142.9' RAD (INSIDE POLE); (1) HCS 6X12 TO 142.9' RAD (OUTSIDE POLE)	UP MONOPOLE TO RAD
B	PROPOSED: (1) HCS 3X6 TO 142.9' RAD	UP OUTSIDE MONOPOLE TO RAD

NOTE: EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER

T-MOBILE FEED LINES (REFER TO SBA-PROVIDED STRUCTURAL ANALYSIS FOR SPECIAL FEEDLINE INSTALLATION REQUIREMENTS, STACKING, BUNDLING, SHIELDING, MOUNTING AND RELOCATION OF EXISTING OR PROPOSED FEEDLINES)

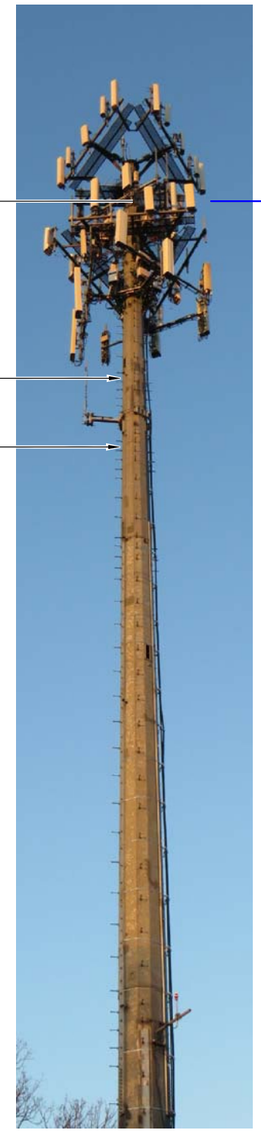
IMAGE SOURCE: PROTERRA 01/23/17

FEEDLINE PHOTO DETAIL AT TOWER BASE

SCALE: N.T.S.

3 / A-1

℄ OF PROPOSED T-MOBILE ANTENNAS ELEV.= 142.9'± AGL (SBA DATABASE)
ALL A-2 ALL A-3
3 A-1 T-MOBILE FEED LINES
EXISTING 160'± MONOPOLE



FEEDLINE SCHEDULE A
FEEDLINE SCHEDULE B

IMAGE SOURCE: PROTERRA 01/23/17

PARTIAL ELEVATION PHOTO DETAIL

SCALE: N.T.S.

4 / A-1

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No. 28192
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2/28/17

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SITE NAME:
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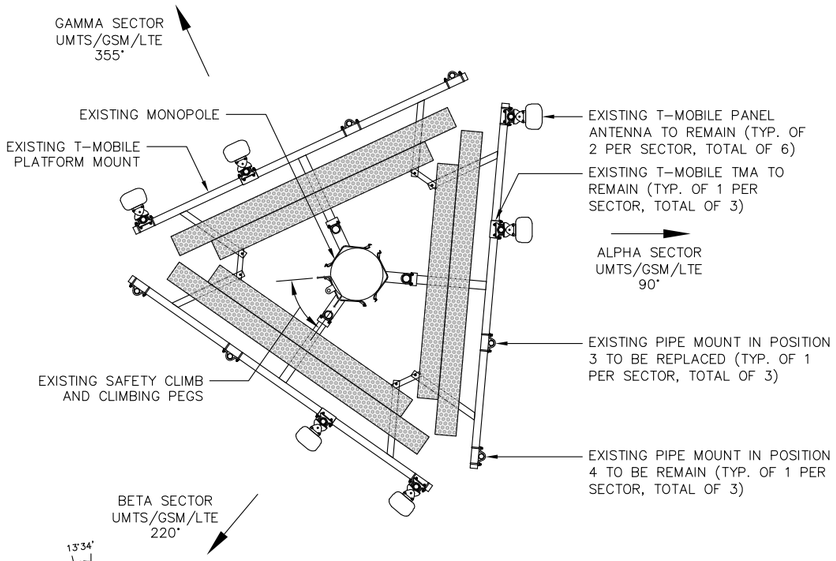
SITE ADDRESS:
60 RICE LANE
BEACON FALLS, CT 06403

SHEET TITLE
COMPOUND & ELEVATION PLAN

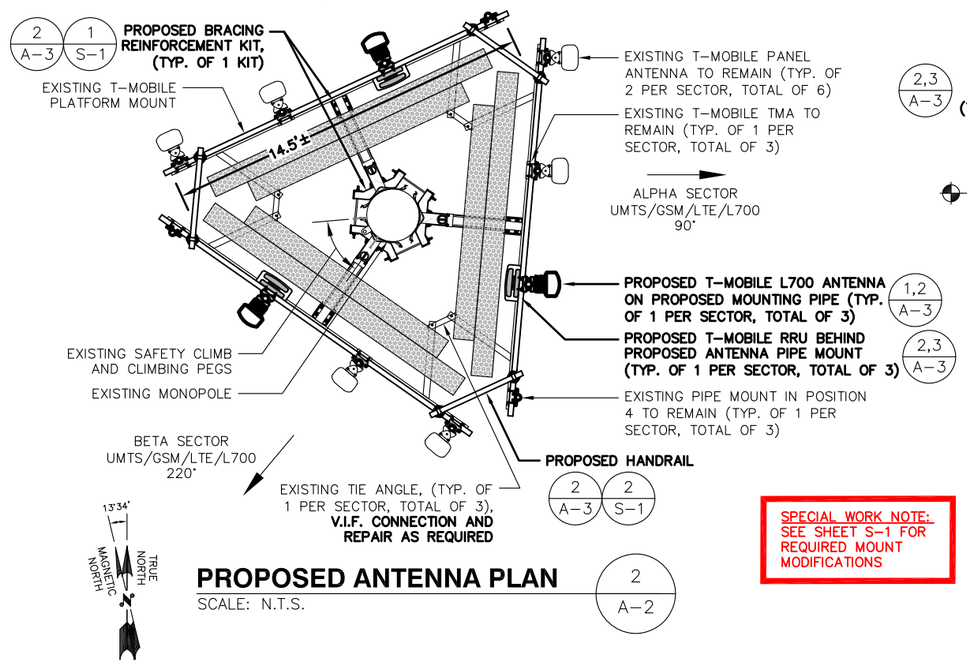
SHEET NUMBER
A-1



EXISTING ANTENNA PLAN

SCALE: N.T.S.

1 / A-2



PROPOSED ANTENNA PLAN

SCALE: N.T.S.

2 / A-2

SPECIAL WORK NOTE:
SEE SHEET S-1 FOR
REQUIRED MOUNT
MODIFICATIONS

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

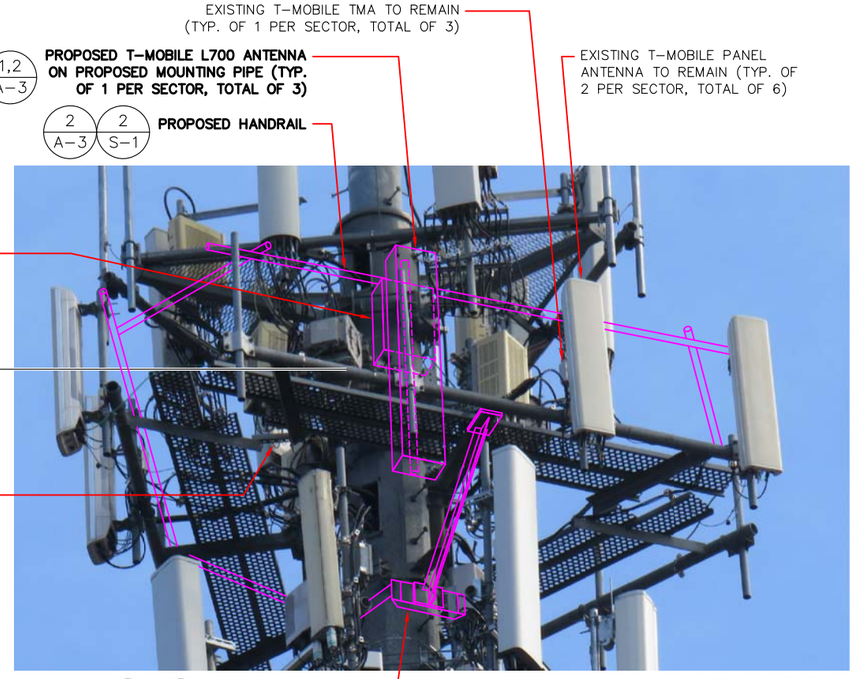

IMAGE SOURCE: PROTERRA 01/23/17
NOTE: ONE SECTOR SHOWN FOR CLARITY

ANTENNA PHOTO DETAIL

SCALE: N.T.S.

3 / A-2

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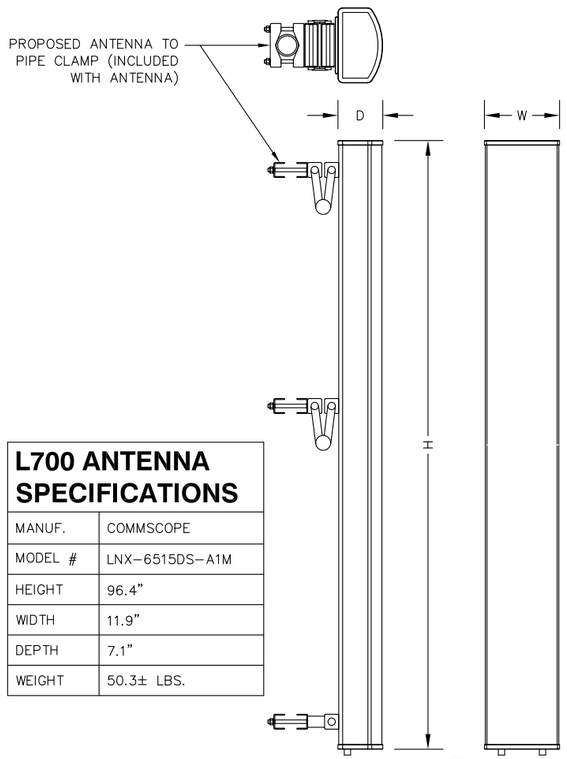
SHEET TITLE
EXISTING & PROPOSED ANTENNA PLAN

SHEET NUMBER
A-2



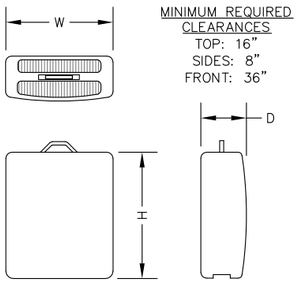
L700 ANTENNA SPECIFICATIONS

MANUF.	COMMSCOPE
MODEL #	LNX-6515DS-A1M
HEIGHT	96.4"
WIDTH	11.9"
DEPTH	7.1"
WEIGHT	50.3± LBS.

L700 ANTENNA DETAIL

SCALE: N.T.S.

1 / A-3



MINIMUM REQUIRED CLEARANCES
TOP: 16"
SIDES: 8"
FRONT: 36"

RRU SPECIFICATIONS

MANUF.	ERICSSON
MODEL #	RRUS11 B12
HEIGHT	20"
WIDTH	17"
DEPTH	7"
WEIGHT	50.7 LBS.

REMOTE RADIO UNIT (RRU)

SCALE: N.T.S.

3 / A-3

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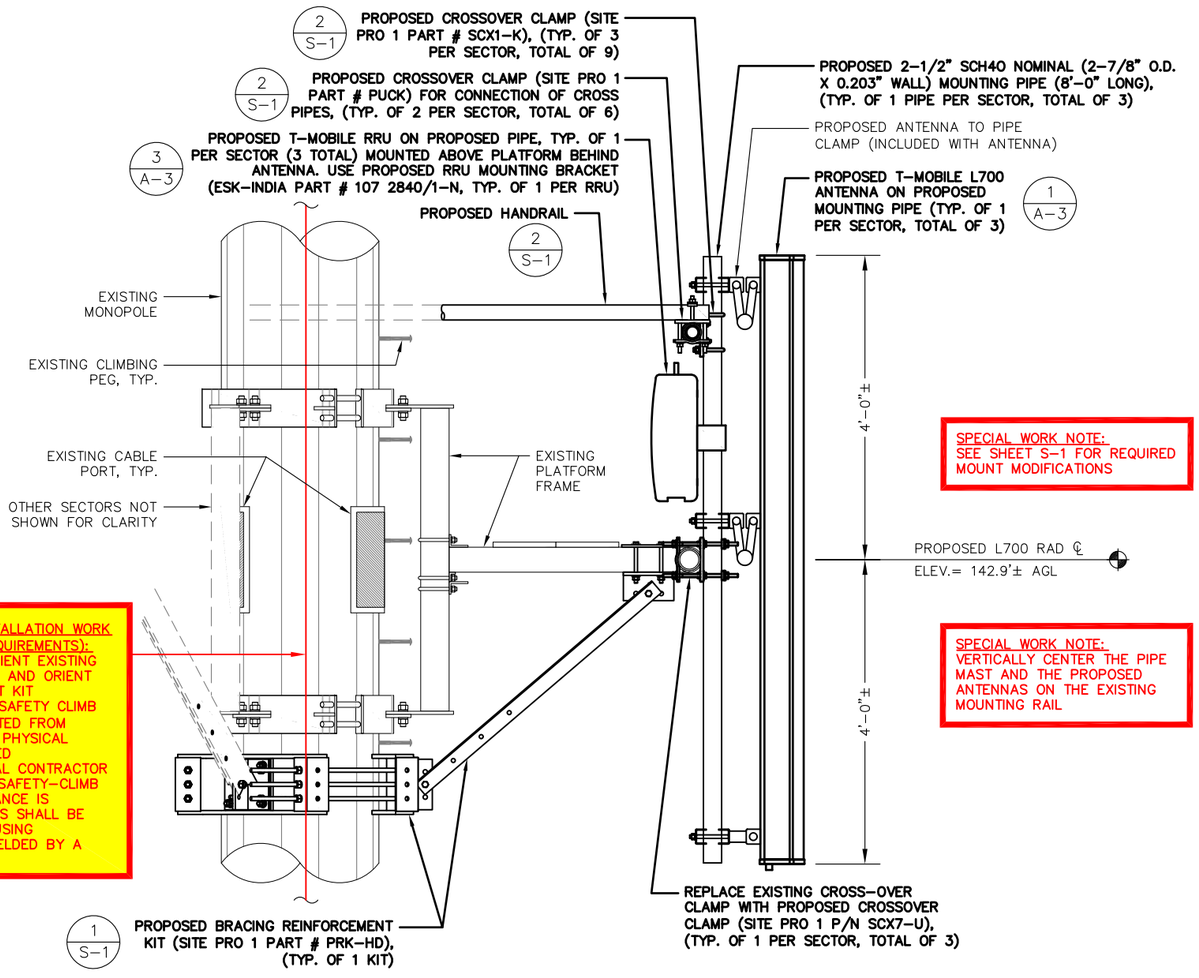

SPECIAL WORK NOTE:
SEE SHEET S-1 FOR REQUIRED MOUNT MODIFICATIONS

SPECIAL WORK NOTE:
VERTICALLY CENTER THE PIPE MAST AND THE PROPOSED ANTENNAS ON THE EXISTING MOUNTING RAIL

SPECIAL TOWER TOP EQUIPMENT INSTALLATION WORK NOTE (SAFETY-CLIMB ALIGNMENT REQUIREMENTS):
GENERAL CONTRACTOR SHALL RE-ORIENT EXISTING T-MOBILE PLATFORM COLLAR-MOUNT AND ORIENT PROPOSED PLATFORM REINFORCEMENT KIT COLLAR-MOUNTS SO THAT EXISTING SAFETY CLIMB CABLE IS NOT OBSTRUCTED/RE-ROUTED FROM VERTICAL ALIGNMENT AND IS NOT IN PHYSICAL CONTACT WITH EXISTING OR PROPOSED COLLAR-MOUNT HARDWARE. GENERAL CONTRACTOR SHALL INSTALL NEW OR ADDITIONAL SAFETY-CLIMB CABLE GUIDES IF ADDITIONAL CLEARANCE IS REQUIRED. ADDITIONAL CABLE GUIDES SHALL BE ATTACHED SECURELY TO THE POLE USING MECHANICAL FASTENERS OR FIELD WELDED BY A CERTIFIED WELDING TECHNICIAN.

PROPOSED ANTENNA MOUNTING DETAIL

SCALE: N.T.S.

2 / A-3

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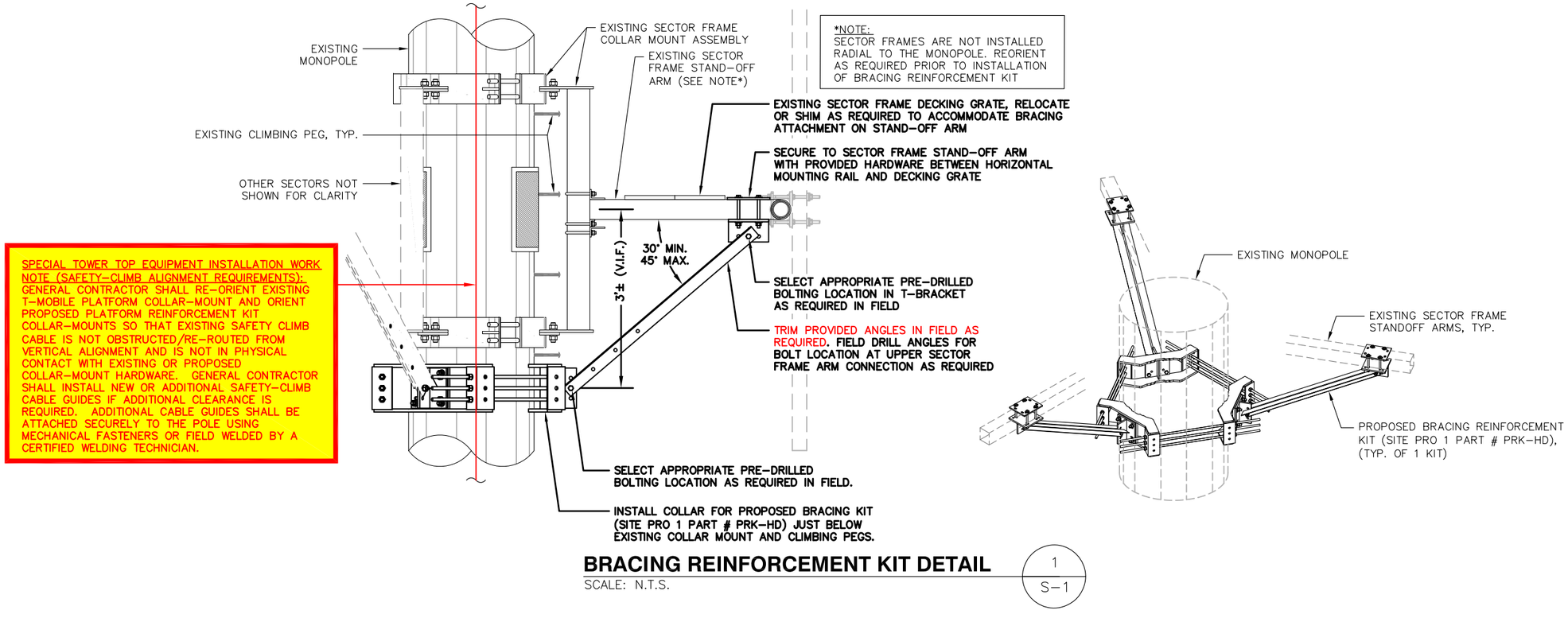
SHEET TITLE
DETAILS

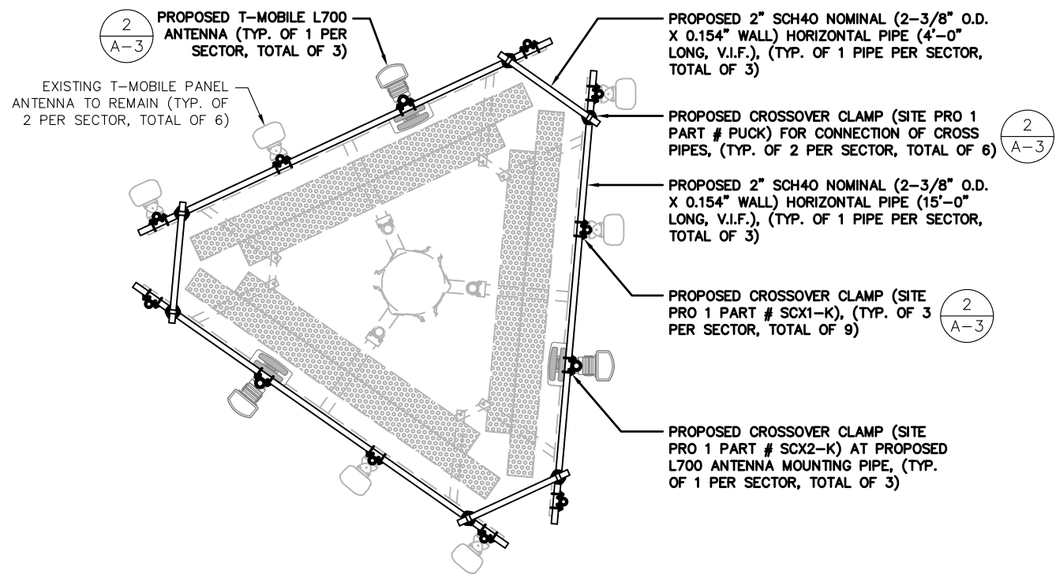
SHEET NUMBER
A-3



BRACING REINFORCEMENT KIT DETAIL

SCALE: N.T.S.

1 / S-1



HANDRAIL DETAIL

SCALE: N.T.S.

2 / S-1

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No. 28192
PROFESSIONAL ENGINEER
2/28/17

CHECKED BY: JMM/TEJ

APPROVED BY: JMM/TEJ

SUBMITTALS

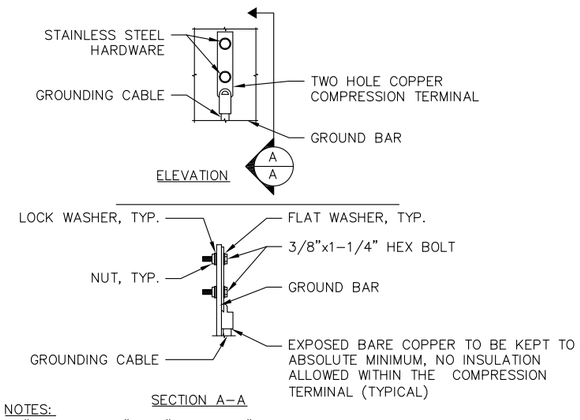
REV.	DATE	DESCRIPTION	BY
1	02/28/17	ISSUED FOR CONSTRUCTION	JEB
0	02/01/17	ISSUED FOR REVIEW	TBD/JEB

SITE NUMBER:
CT11299D
SITE NAME:
CTBEACON FALLS/RT 8

SITE ADDRESS:
60 RICE LANE
BEACON FALLS, CT 06403

SHEET TITLE
STRUCTURAL DETAILS

SHEET NUMBER
S-1

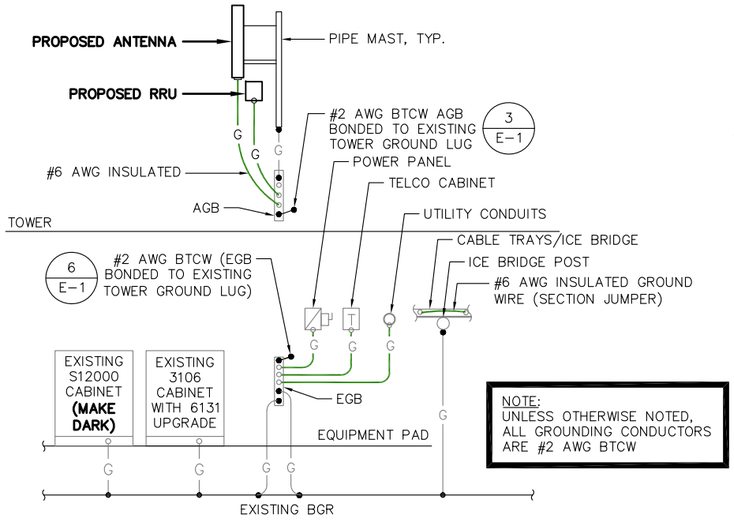


NOTES:
1. "DOUBLING UP" OR "STACKING " OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB.

TYPICAL GROUND BAR CONNECTION DETAIL

1 / E-1

SCALE: N.T.S.

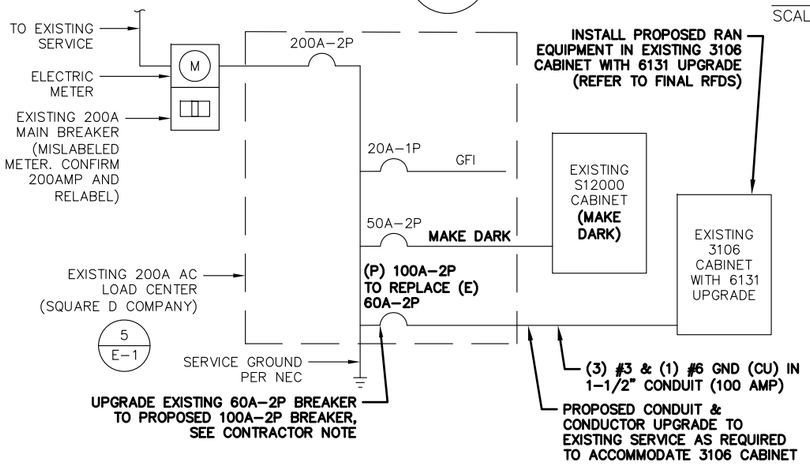


NOTE:
UNLESS OTHERWISE NOTED, ALL GROUNDING CONDUCTORS ARE #2 AWG BTCW

TYPICAL GROUNDING RISER DIAGRAM

2 / E-1

SCALE: N.T.S.



ONE LINE POWER SCHEMATIC

4 / E-1

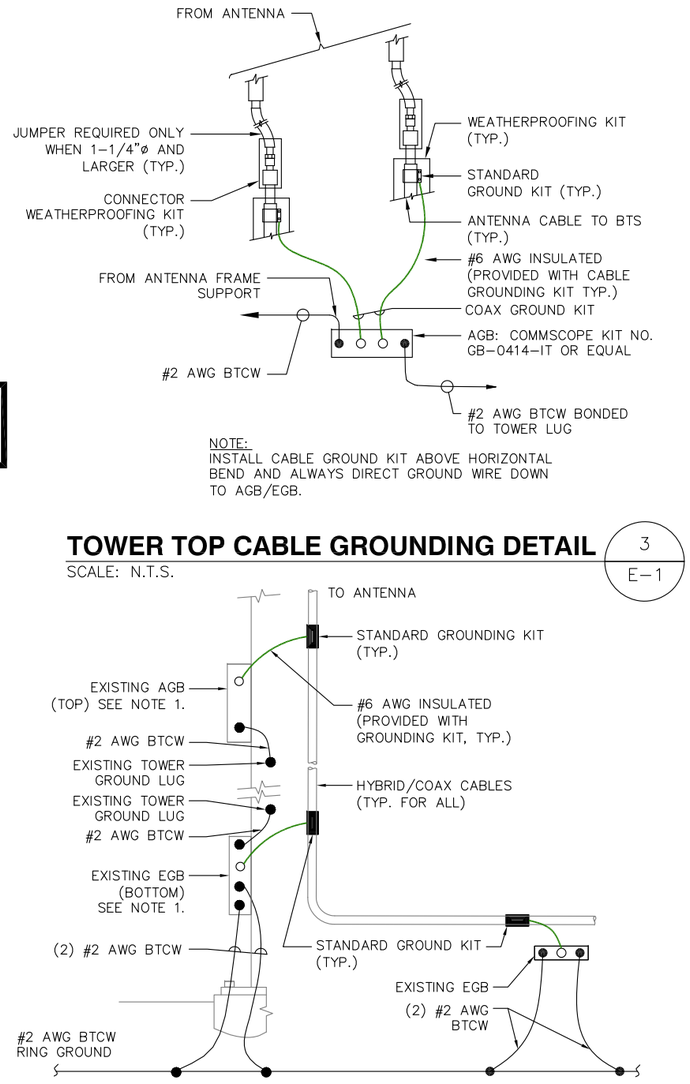
SCALE: N.T.S.

IMAGE SOURCE: PROTERRA 01/23/17

PHOTO DETAIL: PPC PANEL

5 / E-1

SCALE: N.T.S.



NOTE:
INSTALL CABLE GROUND KIT ABOVE HORIZONTAL BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO AGB/EGB.

TOWER TOP CABLE GROUNDING DETAIL

3 / E-1

SCALE: N.T.S.

NOTE:
1. NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATION, AND CONNECTION ORIENTATION. PROVIDE ADDITIONAL AGB/EGB AS REQUIRED.
2. A SEPARATE GROUND BAR TO BE USED FOR GPS ANTENNA IF REQUIRED

TOWER BOTTOM CABLE GROUNDING DETAIL

6 / E-1

SCALE: N.T.S.

ELECTRICAL LEGEND

A	AMPERE
V	VOLT
KWH	KILOWATT - HOUR
C	CONDUIT
GRC	GALVANIZED RIGID CONDUIT
BTCW	BARE TINNED (SOLID) COPPER WIRE (#2 AWG, UNLESS NOTES OTHERWISE)
G	GROUND
MGB	GROUND
	MASTER GROUND BAR — MECHANICAL CONNECTION / CADWELD CONNECTION
AGB/EGB	EQUIPMENT GROUND BAR/ANTENNA GROUND BAR
G	GROUND COPPER WIRE, SIZE AS NOTED
	EXPOSED WIRING
	INSULATED GROUNDING CONDUCTOR (#6 AWG STRANDED, UNLESS NOTED OTHERWISE)
	5/8"x10' COPPER CLAD STAINLESS STEEL GROUND ROD
	EXOTHERMIC (CAD WELD) OR MECHANICAL (COMPRESSION TYPE) CONNECTION
PPC	POWER PROTECTION CABINET
	OMNI-DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALL

CONTRACTOR NOTE:
G.C. TO VERIFY THAT THE EXISTING CONDUITS AND WIRE SIZES ARE ADEQUATE FOR THE PROPOSED LOADING IN ACCORDANCE WITH NEC AND INCLUDE ELECTRICAL UPGRADES IN THE SCOPE OF WORK AS REQUIRED.

ELECTRICAL & GROUNDING NOTES:

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) 2014 AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATIONS INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
6. RIGID STEEL CONDUITS SHALL BE GROUNDED AT BOTH ENDS.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHN INSULATION AS REQUIRED BY NEC.
8. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL ROOM AND PROPOSED CELL SITE POWER PEDESTAL AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROPOSED CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON DRAWING A-1. PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
10. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
11. GROUNDING SHALL COMPLY WITH NEC ART. 250.
12. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
13. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
14. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
15. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
16. CONNECTIONS TO MGB SHALL BE ARRANGED IN THREE MAIN GROUPS: SURGE PRODUCERS (COAXIAL CABLE GROUND KITS, TELCO AND POWER PANEL GROUND); (GROUNDING ELECTRODE RING OR BUILDING STEEL); NON-SURGING OBJECTS (EGB GROUND IN BTS UNIT).
17. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LYGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
18. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
19. BOMD ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.
20. BOND ANTENNA EGB'S AND MGB TO WATER MAIN/GROUND RING.
21. TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION.
22. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
23. VERIFY PROPOSED SERVICE UPGRADE WITH LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.

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

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581 TEL: (508) 251-0720

PROTERRA DESIGN GROUP, LLC
4 Bay Road, Building A
Suite 200
Hadley, MA 01035 Ph: (413)320-4918

STATE OF CONNECTICUT
THOMAS E. JOHNSON
No. 28192
LICENSED PROFESSIONAL ENGINEER
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E-1