



Filed by:

Kri Pelletier, Property Specialist - SBA Communications
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December 14, 2016

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

Notice of Exempt Modification

459 Burr Road
N 41° 26' 55.18"
W -73° 10' 57.5"

T-Mobile#: CTNH231A_L700

Dear Ms. Bachman:

T-Mobile currently maintains three (3) antennas at the 127-foot level of the existing 149-foot Monopole Tower at 459 Burr Road, Southbury, CT. The tower is owned by SBA Towers IV, LLC. The property is owned by Holly E. Hageman. T-Mobile intends to add three (3) antennas at the 127-foot level of the tower. T-Mobile's proposed full scope of work is as follows:

Remove:

- (3) RFS APX 16DWV-16DWVS-C A20 Panel Antennas

Install:

- (3) Commscope LNX-6515DS-A1M Panel Antennas
- (3) Kathrein 782 11054 Smart Bias T
- (1) CommScope VSR-MS-B and MT-195-14 Handrail Kit

Existing Equipment to Remain (including Entitlements):

- (3) RFS APX 16DWV-16DWVS-C A20 Panel Antennas
- (3) RFS APXV18-209014-C Panel Antennas
- (3) RFS ATMAA1412-1A20 TMAs
- (3) RFS ATMPP1412-1CWATMAS
- (3) Remec S20057A1 TMAS
- (18) 1-5/8" Lines

The facility was approved January 4, 2006 as recorded in Council's Docket 222A. Approval was given for a monopole no taller than necessary to provide proposed telecommunications services sufficient to accommodate the antennas of tenants and other entities, both private and public, including Town emergency services. Antennas were not to exceed the height of 150' AGL and a D&M plan was to be prepared. This modification complies with all tower conditions.

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 Jeff Manville, First Selectman of the Town of Southbury, as well as the property owner. (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.

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@sbsite.com

Attachments

cc: First Selectman Jeff Manville -- as elected official
Town of Southbury, 501 Main Street South, Southbury, CT 06488
Holly E Hageman -- as property owner
459 Burr Road Southbury CT 06488



POWER DENSITY

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APXV18-209014-C	Make / Model:	RFS APXV18-209014-C	Make / Model:	RFS APXV18-209014-C
Gain:	14.4 dBd	Gain:	14.4 dBd	Gain:	14.4 dBd
Height (AGL):	127.5	Height (AGL):	127.5	Height (AGL):	127.5
Frequency Bands	1900 MHz (PCS)	Frequency Bands	1900 MHz (PCS)	Frequency Bands	1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	180	Total TX Power(W):	180	Total TX Power(W):	180
ERP (W):	2,680.85	ERP (W):	2,680.85	ERP (W):	2,680.85
Antenna A1 MPE%	0.65	Antenna B1 MPE%	0.65	Antenna C1 MPE%	0.65
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	127.5	Height (AGL):	127.5	Height (AGL):	127.5
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):	651.81	ERP (W):	651.81	ERP (W):	651.81
Antenna A2 MPE%	0.34	Antenna B2 MPE%	0.34	Antenna C2 MPE%	0.34

Site Composite MPE%	
Carrier	MPE%
T-Mobile (Per Sector Max)	0.99 %
AT&T	1.62 %
Sprint	0.04 %
Site Total MPE %:	2.65 %

T-Mobile Sector A Total:	0.99 %
T-Mobile Sector B Total:	0.99 %
T-Mobile Sector C Total:	0.99 %
Site Total:	2.65 %

T-Mobile_per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile PCS - 1950 MHz LTE	2	893.62	127.5	4.35	PCS - 1950 MHz	1000	0.44%
T-Mobile PCS - 1950 MHz GSM	2	446.81	127.5	2.18	PCS - 1950 MHz	1000	0.22%
T-Mobile 700 MHz LTE	1	651.81	127.5	1.59	700 MHz	467	0.34%
						Total*:	0.99%

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

459 BURR ROAD

Location 459 BURR ROAD

Mblu 43/ 18/ 16/ /

Acct# 00503100

Owner HAGEMAN HOLLY E

Assessment \$333,320

Appraisal \$700,680

PID 5914

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2015	\$247,130	\$453,550	\$700,680
Assessment			
Valuation Year	Improvements	Land	Total
2015	\$172,990	\$160,330	\$333,320

Owner of Record

Owner HAGEMAN HOLLY E
Co-Owner
Address 459 BURR ROAD
 SOUTHURY, CT 06488

Sale Price \$0
Certificate
Book & Page 642/1023
Sale Date 06/02/2015
Instrument 25

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
HAGEMAN HOLLY E	\$0		642/1023	25	06/02/2015
CUSATO SUSAN & HAGEMAN HOLLY	\$0		571/ 213	25	03/04/2010
CUSATO SUSAN & HOLLY	\$0		571/ 212	25	03/04/2010
HAGEMAN SUSAN & HOLLY	\$125,000		315/ 264	00	12/31/1996

Building Information

Building 1 : Section 1

Year Built: 1972
Living Area: 2878
Replacement Cost: \$323,680
Building Percent 76
Good:
Replacement Cost
Less Depreciation: \$246,000

Building Photo

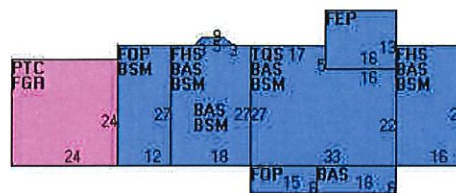
Building Attributes

Field	Description
Style	Cape
Model	Residential
Grade:	B
Stories	1.65
Occupancy	1
Exterior Wall 1	Clapboard
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Arch Shingles
Interior Wall 1	Drywall
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	Carpet
Heat Fuel	Oil
Heat Type:	Hot Water
AC Percent	0
Total Bedrooms:	3 Bedrooms
Full Bthrms:	2
Half Baths:	1
Extra Fixtures	0
Total Rooms:	7
Bath Style:	Average
Kitchen Style:	Average
Num Kitchens	1
Pln FPL:	0
Det FPL:	3
Gas Fireplace(s)	0
% Attic Fin	0
LF Dormer	35
Foundation	Stone/Brick
Bsmt Gar(s)	0
Bsmt %	0
SF FBM	0
Fin Bsmt Qual	
Bsmt Access	Walkout



(http://images.vgsi.com/photos/SouthburyCTPhotos/\/00\00\40\77.JPG)

Building Layout



Building Sub-Areas (sq ft)		Legend	
Code	Description	Gross Area	Living Area
BAS	First Floor	1851	1851
TQS	Three Quarter Story	811	568
FHS	Finished Half Story	918	459
BSM	Basement	2067	0
FEP	Finished Enclosed Porch	208	0
FGR	Garage	576	0
FOP	Open Porch	414	0
PTC	Concrete Patio	576	0
		7421	2878

Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #
	CELL TOWER	1 UNITS	\$0	1

Land

Land Use

Use Code 101
Description Res Dwelling
Zone R-60
Neighborhood 75
Alt Land Appr Category No

Land Line Valuation

Size (Acres) 37.3
Frontage 0
Depth 0
Assessed Value \$160,330
Appraised Value \$453,550

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
SHD1	Shed	FR	Frame	240 S.F.	\$900	1
SHD1	Shed	FR	Frame	192 S.F.	\$230	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2011	\$231,160	\$240,970	\$472,130

Assessment			
Valuation Year	Improvements	Land	Total
2011	\$161,810	\$168,680	\$330,490

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

T-Mobile Existing Facility

Site ID: CTNH231A

Southbury
459 Burr Road
Southbury, CT 06488

December 8, 2016

EBI Project Number: 6216005682

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	2.65 %

December 8, 2016

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

Emissions Analysis for Site: **CTNH231A – Southbury**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **459 Burr Road, Southbury, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limit for the 700 MHz Band is approximately 467 $\mu\text{W}/\text{cm}^2$, and the general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) bands is 1000 $\mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at **459 Burr Road, Southbury, 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 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 3) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.
- 4) Since all radios are ground mounted there are additional cabling losses accounted for. For each ground mounted RF path the following losses were calculated. 1.23 dB of additional cable loss for all ground mounted 700 MHz Channels and 2.67 dB of additional cable loss for all ground mounted 1900 MHz channels. This is based on manufacturers Specifications for 220 feet of 1-5/8" coax cable on each path.

- 5) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 6) For the following calculations the sample point was the top of a 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.
- 7) The antennas used in this modeling are the **RFS APXV18-209014-C** for 1900 MHz (PCS) channels and the **Commscope LNX-6515DS-VTM** for 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **RFS APXV18-209014-C** has a maximum gain of **14.4 dBd** at its main lobe at 1900 MHz. The **Commscope LNX-6515DS-VTM** 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.
- 8) The antenna mounting height centerline of the proposed antennas is **127.5 feet** above ground level (AGL).
- 9) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 10) All calculations were done with respect to uncontrolled / general public threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APXV18-209014-C	Make / Model:	RFS APXV18-209014-C	Make / Model:	RFS APXV18-209014-C
Gain:	14.4 dBd	Gain:	14.4 dBd	Gain:	14.4 dBd
Height (AGL):	127.5	Height (AGL):	127.5	Height (AGL):	127.5
Frequency Bands	1900 MHz (PCS)	Frequency Bands	1900 MHz (PCS)	Frequency Bands	1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	180	Total TX Power(W):	180	Total TX Power(W):	180
ERP (W):	2,680.85	ERP (W):	2,680.85	ERP (W):	2,680.85
Antenna A1 MPE%	0.65	Antenna B1 MPE%	0.65	Antenna C1 MPE%	0.65
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	127.5	Height (AGL):	127.5	Height (AGL):	127.5
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):	651.81	ERP (W):	651.81	ERP (W):	651.81
Antenna A2 MPE%	0.34	Antenna B2 MPE%	0.34	Antenna C2 MPE%	0.34

Site Composite MPE%	
Carrier	MPE%
T-Mobile (Per Sector Max)	0.99 %
AT&T	1.62 %
Sprint	0.04 %
Site Total MPE %:	2.65 %

T-Mobile Sector A Total:	0.99 %
T-Mobile Sector B Total:	0.99 %
T-Mobile Sector C Total:	0.99 %
Site Total:	2.65 %

T-Mobile _per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile PCS - 1950 MHz LTE	2	893.62	127.5	4.35	PCS - 1950 MHz	1000	0.44%
T-Mobile PCS - 1950 MHz GSM	2	446.81	127.5	2.18	PCS - 1950 MHz	1000	0.22%
T-Mobile 700 MHz LTE	1	651.81	127.5	1.59	700 MHz	467	0.34%
						Total*:	0.99%

*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:	0.99 %
Sector B:	0.99 %
Sector C:	0.99 %
T-Mobile Per Sector Maximum:	0.99 %
Site Total:	2.65 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **2.65%** 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.



Tower Engineering Solutions

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

Structural Analysis Report

Existing 149 ft SABRE Monopole
Customer Name: SBA Communications Corp
Customer Site Number: CT13058-A
Customer Site Name: Southbury
Carrier Name: T-Mobile
Carrier Site ID / Name: CTNH231A / Southbury
Site Location: 459 Burr Road
Southbury, Connecticut
New Haven County
Latitude: 41.448661
Longitude: -73.182638

Analysis Result:

Max Structural Usage: 69.4% [Pass]
Max Foundation Usage: 70.0% [Pass]
Report Prepared By : Manoj Kandel



11/28/16

Introduction

The purpose of this report is to summarize the analysis results on the 149 ft SABRE 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	Sabre, Job # 07-07055-01, dated 07/14/2006
Foundation Drawing	Sabre, Job # 07-07055-MM, dated 07/14/2006
Geotechnical Report	JGI eastern, job# 06439G, dated 09/08/2006

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:	Ultimate Design Wind Speed $V_{ult} = 120.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 93.0$ 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:	2
Crest Height:	89 ft
Seismic Parameters:	$S_S = 0.197$, $S_1 = 0.065$

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	147.0	6	Powerwave 7770.00 - Panel	Low Profile Platform	(12) 1 5/8" (1) 1/2" Fiber (2) 3/4" DC	AT&T
2		3	KMW AM-X-CD-16-65-00T-RET - Panel			
3		6	Powerwave LGP21401			
4		6	Powerwave LGP13519			
5		6	Ericsson RRUS-11			
6	138.0	3	RFS APXVSP18-C-A20 - Panel	Low Profile Platform	(4) 1 1/4"	Sprint
7		3	RFS APXVTM14-C-120 - Panel			
8		3	ALU 800MHz			
9		4	RFS ACU-A20-N			
10		3	ALU TD-RRH8x20-25			
11		3	ALU 1900MHz			
12		3	ALU 800MHz RRH			
-	127.0	6	RFS APX16DWV-16DWVS-C-A20 - Panel	Low Profile Platform	(18) 1 5/8"	T-Mobile
-		3	RFS APXV18-209014-C - Panel			
-		3	RFS ATMAA1412D-1A20			
-		3	RFS ATMPP1412D-1CWA			
-		3	Remec S20057A1			

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	127.5	3	RFS APX16DWV-16DWVS-C-A20 - Panel	Platform w/ Hand Rail [CommScope VSR-MS-B and MT-195-14]	(18) 1 5/8"	T-Mobile
14		3	RFS APXV18-209014-C - Panel			
15		3	Commscope LNX-6515DS-A1M - Panel			
16		3	RFS ATMAA1412D-1A20- TMA			
17		3	RFS ATMPP1412D-1CWA- TMA			
18		3	Remec S20057A1- TMA			
19		3	Kathrein 782 11054			

All transmission lines are considered running inside of the pole shafts.

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
Max. Usage:	69.4%	64.0%	47.7%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Original Design Reactions	2497.0	23.0
Analysis Reactions	2302.7	22.8
% of Design Reactions	92.21%	99.13%

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 1.3222 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 69.39% at 0.0ft

Structure: CT13058-A-SBA
Site Name: Southbury
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-G
Exposure: B
Gh: 1.1

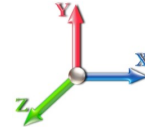
11/28/2016



Page: 1

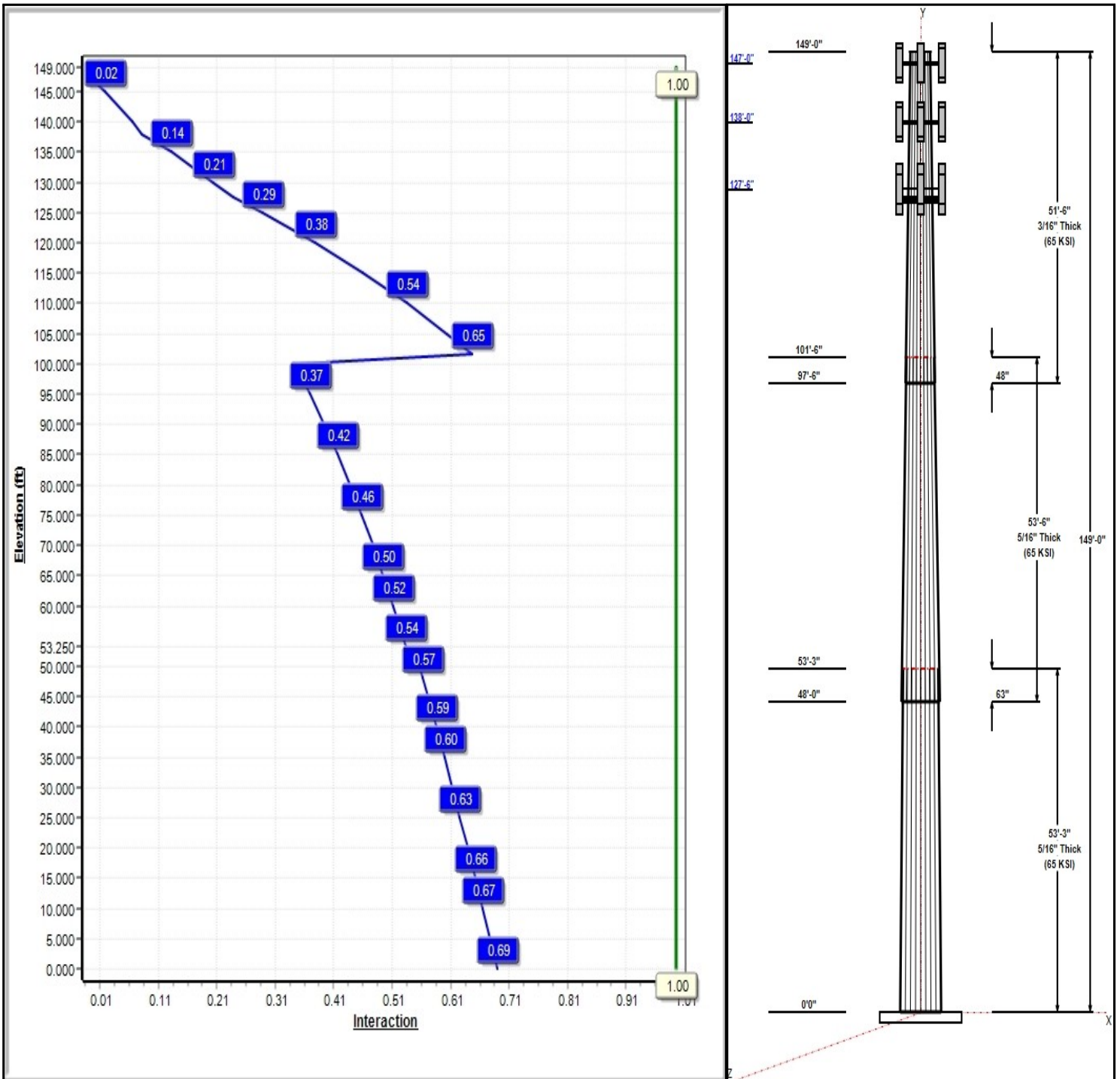
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 93 mph Wind



Iterations: 25

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Structure: CT13058-A-SBA

Type: Tapered
Site Name: Southbury
Height: 149.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.22000

11/28/2016

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Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.25	40.31	52.03	0.313		0.22000	65
2	53.50	30.32	42.09	0.313	Slip	0.22000	65
3	51.50	20.25	31.58	0.188	Slip	0.22000	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
147.00	147.00	6	Powerwave 7770.00	AT&T
147.00	147.00	3	KMW	AT&T
147.00	147.00	6	Powerwave LGP21401	AT&T
147.00	147.00	6	Powerwave LGP13519	AT&T
147.00	147.00	6	Ericsson RRUS-11	AT&T
147.00	147.00	1	Low Profile Platform	AT&T
138.00	138.00	3	RFS APXVSP18-C-A20	Sprint
138.00	138.00	3	RFS APXVTM14-C-120	Sprint
138.00	138.00	3	ALU 800MHz	Sprint
138.00	138.00	4	RFS ACU-A20-N	Sprint
138.00	138.00	3	ALU TD-RRH8x20-25	Sprint
138.00	138.00	3	ALU 1900MHz	Sprint
138.00	138.00	3	ALU 800MHz RRH	Sprint
138.00	138.00	1	Low Profile Platform	Sprint
127.50	127.50	3	RFS	T-Mobile
127.50	127.50	3	RFS APXV18-209014-C	T-Mobile
127.50	127.50	3	Commscope	T-Mobile
127.50	127.50	3	RFS ATMAA1412D-1A20	T-Mobile
127.50	127.50	3	RFS ATMPP1412D-1CWA	T-Mobile
127.50	127.50	3	Remec S20057A1	T-Mobile
127.50	127.50	3	Kathrein 782 11054	T-Mobile
127.50	127.50	1	Platform w/ Hand Rail	T-Mobile

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	147.00	Inside	1 5/8" Coax	AT&T
0.00	147.00	Inside	1/2" Fiber	AT&T
0.00	147.00	Inside	3/4" DC	AT&T
0.00	138.00	Inside	1 1/4" Coax	T-Mobile
0.00	127.50	Inside	1 5/8" Coax	T-Mobile

Anchor Bolts

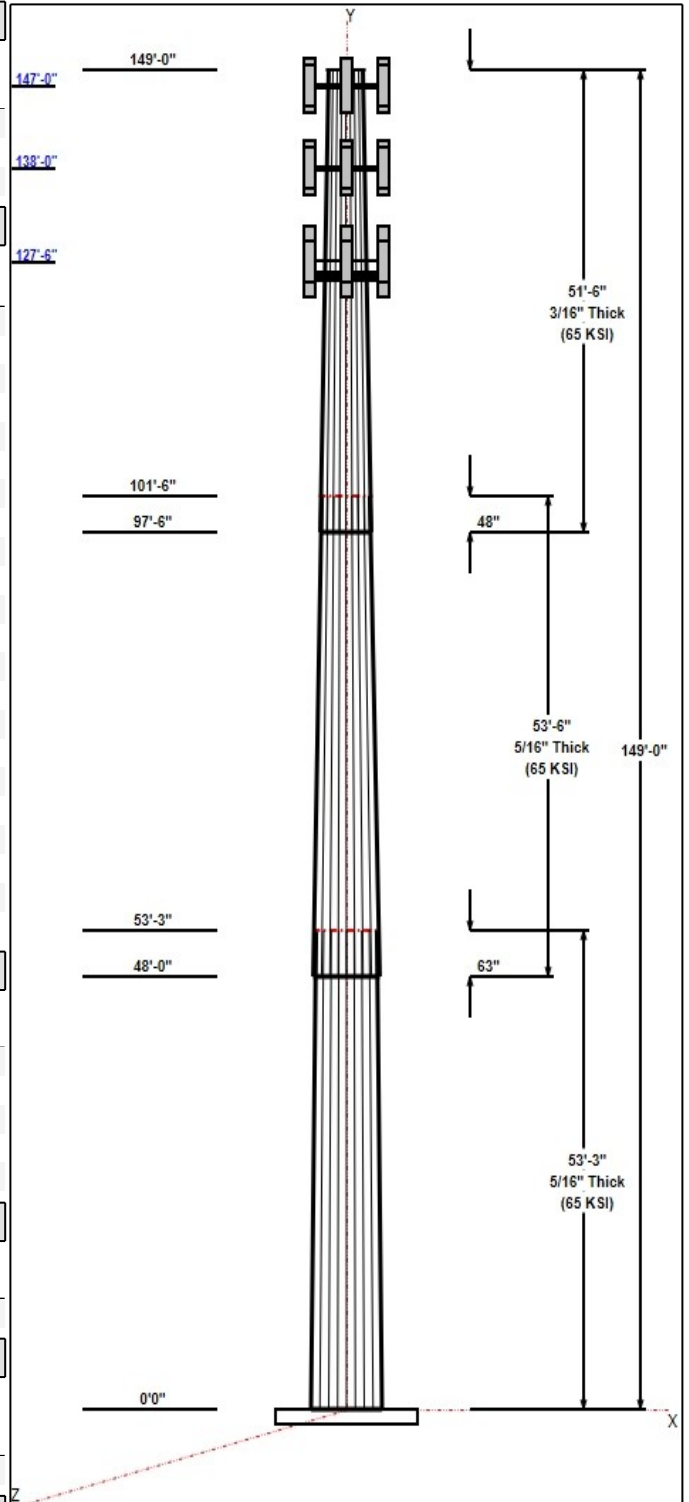
Qty	Specifications	Grade (ksi)	Arrangement
12	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	56.0	60.0	Clipped

Reactions

Load Case	Moment	Shear	Axial
1.2D + 1.6W 93 mph Wind	2302.7	22.8	34.6
0.9D + 1.6W 93 mph Wind	2276.2	22.8	25.9



Structure: CT13058-A-SBA

Type: Tapered
Site Name: Southbury
Height: 149.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.22000

11/28/2016

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1.2D + 1.0Di + 1.0Wi 50 mph Wind	735.5	7.4	56.1
1.2D + 1.0E	196.0	1.6	34.6
0.9D + 1.0E	193.5	1.6	26.0
1.0D + 1.0W 60 mph Wind	595.0	5.9	28.9

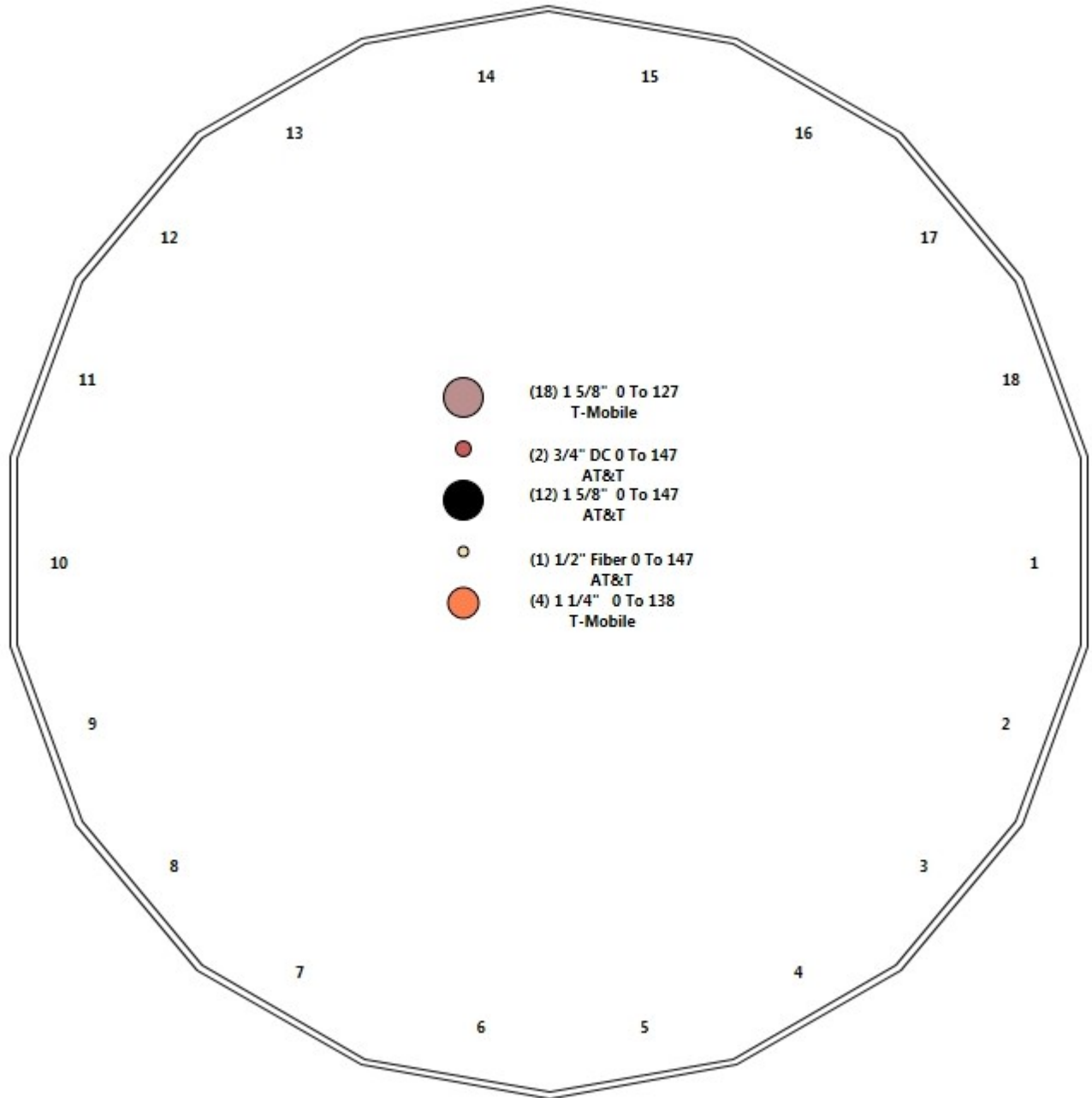
Structure: CT13058-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Southbury
Height: 149.00 (ft)

11/28/2016



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Shaft Properties

Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	53.250	0.3125	65		0.00	8,242
2	18	53.500	0.3125	65	Slip	63.00	6,482
3	18	51.500	0.1875	65	Slip	48.00	2,683
Total Shaft Weight:							17,407

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	52.03	0.00	51.30	17334.33	27.95	166.50	40.31	53.25	39.68	8021.50	21.34	129.0	0.220000
2	42.09	48.00	41.44	9140.66	22.34	134.70	30.32	101.50	29.77	3387.67	15.70	97.04	0.220000
3	31.58	97.50	18.68	2326.07	28.29	168.43	20.25	149.00	11.94	607.16	17.63	108.0	0.220000

Load Summary

Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	147.00	Powerwave 7770.00	6	35.00	5.50	0.73	175.52	6.602	0.73	0.00	0.00
2	147.00	KMW AM-X-CD-16-65-00T-RET	3	48.50	8.02	0.75	244.64	9.359	0.75	0.00	0.00
3	147.00	Powerwave LGP21401	6	14.10	1.29	0.67	39.90	2.152	0.67	0.00	0.00
4	147.00	Powerwave LGP13519	6	5.30	0.34	0.67	15.10	0.809	0.67	0.00	0.00
5	147.00	Ericsson RRUS-11	6	51.00	2.52	0.67	125.59	3.174	0.67	0.00	0.00
6	147.00	Low Profile Platform	1	1500.00	22.00	1.00	2850.85	40.227	1.00	0.00	0.00
7	138.00	RFS APXVSP18-C-A20	3	57.00	8.02	0.83	263.89	9.356	0.83	0.00	0.00
8	138.00	RFS APXVTM14-C-120	3	56.00	6.34	0.79	222.24	7.489	0.79	0.00	0.00
9	138.00	ALU 800MHz	3	8.80	0.78	0.67	26.97	1.446	0.67	0.00	0.00
10	138.00	RFS ACU-A20-N	4	1.00	0.14	0.67	5.43	0.446	0.67	0.00	0.00
11	138.00	ALU TD-RRH8x20-25	3	70.00	4.05	0.67	184.50	4.890	0.67	0.00	0.00
12	138.00	ALU 1900MHz	3	44.00	3.80	0.67	156.45	5.232	0.67	0.00	0.00
13	138.00	ALU 800MHz RRH	3	68.30	3.46	0.67	161.47	4.814	0.67	0.00	0.00
14	138.00	Low Profile Platform	1	1500.00	22.00	1.00	2848.26	40.193	1.00	0.00	0.00
15	127.50	RFS APX16DWV-16DWVS-C-A20	3	40.70	6.46	0.67	181.57	7.607	0.67	0.00	0.00
16	127.50	RFS APXV18-209014-C	3	18.70	3.58	0.74	110.64	4.540	0.74	0.00	0.00
17	127.50	Commscope LNX-6515DS-A1M	3	49.80	11.47	0.80	322.24	13.157	0.80	0.00	0.00
18	127.50	RFS ATMAA1412D-1A20	3	13.00	1.17	0.67	40.32	1.974	0.67	0.00	0.00
19	127.50	RFS ATMP1412D-1CWA	3	12.50	1.17	0.67	37.66	1.992	0.67	0.00	0.00
20	127.50	Remec S20057A1	3	11.00	0.82	0.67	30.40	1.537	0.67	0.00	0.00
21	127.50	Kathrein 782 11054	3	2.60	0.28	0.67	9.31	0.693	0.67	0.00	0.00
22	127.50	Platform w/ Hand Rail	1	1600.00	35.00	1.00	3758.51	66.394	1.00	0.00	0.00
Totals:			73	6,739.10			17,592.88				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	147.00	(12) 1 5/8" Coax	0.00	Inside
0.00	147.00	(1) 1/2" Fiber	0.00	Inside
0.00	147.00	(2) 3/4" DC	0.00	Inside
0.00	138.00	(4) 1 1/4" Coax	0.00	Inside
0.00	127.50	(18) 1 5/8" Coax	0.00	Inside

Shaft Section Properties

Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in ³)	Weight (lb)
0.00		0.3125	52.030	51.295	17334.3	27.95	166.50	68.5	656.2	0.0
5.00		0.3125	50.930	50.204	16251.6	27.33	162.98	69.3	628.5	863.5
10.00		0.3125	49.830	49.113	15214.9	26.71	159.46	70.0	601.4	844.9
15.00		0.3125	48.730	48.022	14223.3	26.09	155.94	70.7	574.9	826.3
20.00		0.3125	47.630	46.931	13275.8	25.46	152.42	71.5	549.0	807.8
25.00		0.3125	46.530	45.840	12371.3	24.84	148.90	72.2	523.7	789.2
30.00		0.3125	45.430	44.749	11508.8	24.22	145.38	72.9	499.0	770.6
35.00		0.3125	44.330	43.658	10687.4	23.60	141.86	73.6	474.8	752.1
40.00		0.3125	43.230	42.567	9906.0	22.98	138.34	74.4	451.3	733.5
45.00		0.3125	42.130	41.476	9163.7	22.36	134.82	75.1	428.4	715.0
48.00	Bot - Section 2	0.3125	41.470	40.822	8736.6	21.99	132.70	75.5	414.9	420.1
50.00		0.3125	41.030	40.385	8459.4	21.74	131.30	75.8	406.1	556.9
53.25	Top - Section 1	0.3125	40.940	40.296	8403.4	21.69	131.01	0.0	0.0	892.3
55.00		0.3125	40.555	39.914	8166.7	21.47	129.78	76.1	396.6	238.8
60.00		0.3125	39.455	38.823	7515.2	20.85	126.26	76.9	375.2	669.8
65.00		0.3125	38.355	37.732	6899.2	20.23	122.74	77.6	354.3	651.3
70.00		0.3125	37.255	36.641	6317.9	19.61	119.22	78.3	334.0	632.7
75.00		0.3125	36.155	35.550	5770.2	18.99	115.70	79.1	314.3	614.1
80.00		0.3125	35.055	34.459	5255.1	18.37	112.18	79.8	295.3	595.6
85.00		0.3125	33.955	33.368	4771.5	17.75	108.66	80.5	276.8	577.0
90.00		0.3125	32.855	32.277	4318.6	17.13	105.14	81.3	258.9	558.4
95.00		0.3125	31.755	31.186	3895.3	16.51	101.62	82.0	241.6	539.9
97.50	Bot - Section 3	0.3125	31.205	30.640	3694.5	16.20	99.86	82.4	233.2	263.0
100.00		0.3125	30.655	30.095	3500.6	15.89	98.10	82.5	224.9	415.9
101.50	Top - Section 2	0.1875	30.700	18.158	2135.9	27.46	163.73	0.0	0.0	246.0
105.00		0.1875	29.930	17.700	1978.2	26.74	159.63	70.0	130.2	213.5
110.00		0.1875	28.830	17.045	1766.8	25.70	153.76	71.2	120.7	295.6
115.00		0.1875	27.730	16.391	1570.9	24.67	147.89	72.4	111.6	284.4
120.00		0.1875	26.630	15.736	1390.1	23.63	142.03	73.6	102.8	273.3
125.00		0.1875	25.530	15.081	1223.8	22.60	136.16	74.8	94.4	262.2
127.50		0.1875	24.980	14.754	1145.8	22.08	133.23	75.4	90.3	126.9
130.00		0.1875	24.430	14.427	1071.2	21.56	130.29	76.0	86.4	124.1
135.00		0.1875	23.330	13.772	931.9	20.53	124.43	77.3	78.7	239.9
138.00		0.1875	22.670	13.379	854.4	19.91	120.91	78.0	74.2	138.6
140.00		0.1875	22.230	13.118	805.2	19.49	118.56	78.5	71.3	90.2
145.00		0.1875	21.130	12.463	690.6	18.46	112.69	79.7	64.4	217.6
147.00		0.1875	20.690	12.201	648.0	18.05	110.35	80.2	61.7	83.9
149.00		0.1875	20.250	11.939	607.2	17.63	108.00	80.7	59.1	82.1

17406.7

Wind Loading - Shaft

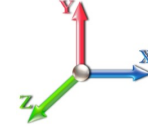
Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 25

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		1.92	0.70	28.326	31.16	475.15	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.85	0.70	27.264	29.99	456.30	0.650	0.000	5.00	21.781	14.16	679.3	0.0	1036.1
10.00		1.79	0.70	26.293	28.92	438.42	0.650	0.000	5.00	21.315	13.86	641.1	0.0	1013.9
15.00		1.73	0.70	25.403	27.94	421.43	0.650	0.000	5.00	20.850	13.55	605.9	0.0	991.6
20.00		1.67	0.70	24.587	27.05	405.25	0.650	0.000	5.00	20.385	13.25	573.4	0.0	969.3
25.00		1.62	0.70	23.839	26.22	389.82	0.650	0.000	5.00	19.919	12.95	543.2	0.0	947.0
30.00		1.57	0.70	23.171	25.49	375.24	0.650	0.000	5.00	19.454	12.65	515.7	0.0	924.8
35.00		1.53	0.73	23.554	25.91	369.16	0.650	0.000	5.00	18.988	12.34	511.7	0.0	902.5
40.00		1.49	0.76	23.839	26.22	362.17	0.650	0.000	5.00	18.523	12.04	505.2	0.0	880.2
45.00		1.45	0.79	24.054	26.46	354.55	0.650	0.000	5.00	18.058	11.74	496.9	0.0	857.9
48.00 Bot - Section 2		1.43	0.80	24.158	26.57	349.75	0.650	0.000	3.00	10.611	6.90	293.3	0.0	504.1
50.00		1.42	0.81	24.219	26.64	346.47	0.650	0.000	2.00	7.087	4.61	196.4	0.0	668.3
53.25 Top - Section 1		1.40	0.83	24.306	26.74	341.04	0.650	0.000	3.25	11.357	7.38	315.8	0.0	1070.7
55.00		1.39	0.83	24.348	26.78	343.37	0.650	0.000	1.75	6.034	3.92	168.1	0.0	286.6
60.00		1.36	0.85	24.450	26.89	334.75	0.650	0.000	5.00	16.926	11.00	473.4	0.0	803.8
65.00		1.33	0.87	24.533	26.99	325.97	0.650	0.000	5.00	16.460	10.70	462.0	0.0	781.5
70.00		1.31	0.89	24.603	27.06	317.08	0.650	0.000	5.00	15.995	10.40	450.2	0.0	759.2
75.00		1.29	0.91	24.664	27.13	308.10	0.650	0.000	5.00	15.530	10.09	438.2	0.0	737.0
80.00		1.27	0.93	24.720	27.19	299.06	0.650	0.000	5.00	15.064	9.79	426.0	0.0	714.7
85.00		1.25	0.94	24.772	27.25	289.98	0.650	0.000	5.00	14.599	9.49	413.7	0.0	692.4
90.00		1.23	0.96	24.823	27.30	280.87	0.650	0.000	5.00	14.133	9.19	401.3	0.0	670.1
95.00		1.21	0.97	24.873	27.36	271.75	0.650	0.000	5.00	13.668	8.88	388.9	0.0	647.8
97.50 Bot - Section 3		1.21	0.98	24.899	27.39	267.18	0.650	0.000	2.50	6.660	4.33	189.7	0.0	315.6
100.00		1.20	0.99	24.925	27.42	262.60	0.650	0.000	2.50	6.622	4.30	188.8	0.0	499.0
101.50 Top - Section 2		1.19	0.99	24.941	27.43	259.86	0.650	0.000	1.50	3.918	2.55	111.8	0.0	295.1
105.00		1.18	1.00	24.978	27.48	256.67	0.650	0.000	3.50	8.978	5.84	256.6	0.0	256.2
110.00		1.17	1.02	25.034	27.54	247.51	0.650	0.000	5.00	12.431	8.08	356.0	0.0	354.7
115.00		1.16	1.03	25.092	27.60	238.34	0.650	0.000	5.00	11.965	7.78	343.5	0.0	341.3
120.00		1.15	1.04	25.154	27.67	229.17	0.650	0.000	5.00	11.500	7.47	330.9	0.0	328.0
125.00		1.14	1.05	25.218	27.74	219.98	0.650	0.000	5.00	11.034	7.17	318.3	0.0	314.6
127.50 Appurtenance(s)		1.13	1.06	25.252	27.78	215.39	0.650	0.000	2.50	5.343	3.47	154.3	0.0	152.3
130.00		1.13	1.07	25.286	27.81	210.79	0.650	0.000	2.50	5.226	3.40	151.2	0.0	148.9
135.00		1.12	1.08	25.357	27.89	201.58	0.650	0.000	5.00	10.103	6.57	293.1	0.0	287.9
138.00 Appurtenance(s)		1.11	1.08	25.401	27.94	196.05	0.650	0.000	3.00	5.839	3.80	169.7	0.0	166.3
140.00		1.11	1.09	25.431	27.97	192.36	0.650	0.000	2.00	3.799	2.47	110.5	0.0	108.2
145.00		1.10	1.10	25.509	28.06	183.12	0.650	0.000	5.00	9.173	5.96	267.7	0.0	261.1
147.00 Appurtenance(s)		1.10	1.10	25.541	28.09	179.42	0.650	0.000	2.00	3.539	2.30	103.4	0.0	100.7
149.00		1.10	1.11	25.573	28.13	175.71	0.650	0.000	2.00	3.464	2.25	101.4	0.0	98.6
Totals:									149.00			12,946.5		20,888.1

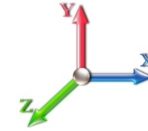
Discrete Appurtenance Forces

Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 25

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	147.00	Powerwave LGP21401	6	25.541	28.095	0.54	0.80	4.15	101.52	0.000	0.000	186.49	0.00	0.00
2	147.00	Powerwave 7770.00	6	25.541	28.095	0.66	0.90	21.68	252.00	0.000	0.000	974.60	0.00	0.00
3	147.00	KMW	3	25.541	28.095	0.68	0.90	16.24	174.60	0.000	0.000	730.04	0.00	0.00
4	147.00	Low Profile Platform	1	25.541	28.095	1.00	1.00	22.00	1800.00	0.000	0.000	988.94	0.00	0.00
5	147.00	Powerwave LGP13519	6	25.541	28.095	0.54	0.80	1.09	38.16	0.000	0.000	49.15	0.00	0.00
6	147.00	Ericsson RRUS-11	6	25.541	28.095	0.54	0.80	8.10	367.20	0.000	0.000	364.30	0.00	0.00
7	138.00	Low Profile Platform	1	25.401	27.941	1.00	1.00	22.00	1800.00	0.000	0.000	983.54	0.00	0.00
8	138.00	ALU 800MHz RRH	3	25.401	27.941	0.54	0.80	5.56	245.88	0.000	0.000	248.73	0.00	0.00
9	138.00	ALU 1900MHz	3	25.401	27.941	0.54	0.80	6.11	158.40	0.000	0.000	273.17	0.00	0.00
10	138.00	ALU TD-RRH8x20-25	3	25.401	27.941	0.54	0.80	6.51	252.00	0.000	0.000	291.14	0.00	0.00
11	138.00	RFS ACU-A20-N	4	25.401	27.941	0.54	0.80	0.30	4.80	0.000	0.000	13.42	0.00	0.00
12	138.00	ALU 800MHz	3	25.401	27.941	0.54	0.80	1.25	31.68	0.000	0.000	56.07	0.00	0.00
13	138.00	RFS APXVTM14-C-120	3	25.401	27.941	0.63	0.80	12.02	201.60	0.000	0.000	537.40	0.00	0.00
14	138.00	RFS APXVSPP18-C-A20	3	25.401	27.941	0.66	0.80	15.98	205.20	0.000	0.000	714.22	0.00	0.00
15	127.50	Platform w/ Hand Rail	1	25.252	27.777	1.00	1.00	35.00	1920.00	0.000	0.000	1555.50	0.00	0.00
16	127.50	Kathrein 782 11054	3	25.252	27.777	0.50	0.75	0.42	9.36	0.000	0.000	18.76	0.00	0.00
17	127.50	Remec S20057A1	3	25.252	27.777	0.50	0.75	1.24	39.60	0.000	0.000	54.94	0.00	0.00
18	127.50	RFS	3	25.252	27.777	0.50	0.75	1.76	45.00	0.000	0.000	78.39	0.00	0.00
19	127.50	RFS ATMAA1412D-1A20	3	25.252	27.777	0.50	0.75	1.76	46.80	0.000	0.000	78.39	0.00	0.00
20	127.50	Commscope	3	25.252	27.777	0.60	0.75	20.65	179.28	0.000	0.000	917.57	0.00	0.00
21	127.50	RFS APXV18-209014-C	3	25.252	27.777	0.55	0.75	5.96	67.32	0.000	0.000	264.91	0.00	0.00
22	127.50	RFS	3	25.252	27.777	0.50	0.75	9.74	146.52	0.000	0.000	432.80	0.00	0.00
Totals:									8,086.92			9,812.46		

Total Applied Force Summary

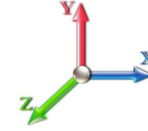
Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 25

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		679.35	1244.34	0.00	0.00
10.00		641.14	1222.07	0.00	0.00
15.00		605.92	1199.79	0.00	0.00
20.00		573.38	1177.52	0.00	0.00
25.00		543.23	1155.24	0.00	0.00
30.00		515.68	1132.97	0.00	0.00
35.00		511.66	1110.69	0.00	0.00
40.00		505.16	1088.42	0.00	0.00
45.00		496.91	1066.14	0.00	0.00
48.00		293.26	628.99	0.00	0.00
50.00		196.35	751.53	0.00	0.00
53.25		315.80	1206.04	0.00	0.00
55.00		168.07	359.45	0.00	0.00
60.00		473.43	1011.98	0.00	0.00
65.00		461.98	989.70	0.00	0.00
70.00		450.20	967.43	0.00	0.00
75.00		438.19	945.15	0.00	0.00
80.00		426.01	922.87	0.00	0.00
85.00		413.72	900.60	0.00	0.00
90.00		401.35	878.32	0.00	0.00
95.00		388.92	856.05	0.00	0.00
97.50		189.69	419.67	0.00	0.00
100.00		188.83	603.14	0.00	0.00
101.50		111.78	357.61	0.00	0.00
105.00		256.55	401.98	0.00	0.00
110.00		355.99	562.89	0.00	0.00
115.00		343.46	549.52	0.00	0.00
120.00		330.91	536.16	0.00	0.00
125.00		318.33	522.79	0.00	0.00
127.50	(22) attachments	3555.59	2710.27	0.00	0.00
130.00		151.18	196.88	0.00	0.00
135.00		293.09	383.74	0.00	0.00
138.00	(23) attachments	3287.36	3123.39	0.00	0.00
140.00		110.54	140.21	0.00	0.00
145.00		267.68	341.17	0.00	0.00
147.00	(28) attachments	3396.92	2866.21	0.00	0.00
149.00		101.35	98.57	0.00	0.00
	Totals:	22,758.98	34,629.53	0.00	0.00

Calculated Forces

Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II

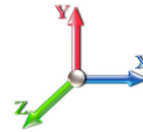


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Load Case: 1.2D + 1.6W 93 mph Wind

Iterations 25

Dead Load Factor 1.20
Wind Load Factor 1.60



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	-34.59	-22.81	0.00	-2302.6	0.00	2302.68	3163.75	1581.88	6735.38	3372.69	0.00	0.000	0.000	0.694
5.00	-33.28	-22.24	0.00	-2188.6	0.00	2188.61	3129.45	1564.72	6519.79	3264.74	0.10	-0.184	0.000	0.681
10.00	-31.99	-21.70	0.00	-2077.4	0.00	2077.40	3093.71	1546.85	6304.40	3156.89	0.39	-0.371	0.000	0.669
15.00	-30.72	-21.19	0.00	-1968.9	0.00	1968.91	3056.53	1528.27	6089.41	3049.23	0.88	-0.560	0.000	0.656
20.00	-29.48	-20.70	0.00	-1862.9	0.00	1862.98	3017.92	1508.96	5875.02	2941.88	1.57	-0.752	0.000	0.643
25.00	-28.27	-20.23	0.00	-1759.4	0.00	1759.49	2977.88	1488.94	5661.42	2834.92	2.46	-0.946	0.000	0.630
30.00	-27.07	-19.79	0.00	-1658.3	0.00	1658.32	2936.41	1468.20	5448.81	2728.46	3.56	-1.142	0.000	0.617
35.00	-25.91	-19.35	0.00	-1559.3	0.00	1559.36	2893.50	1446.75	5237.39	2622.59	4.86	-1.341	0.000	0.604
40.00	-24.77	-18.90	0.00	-1462.6	0.00	1462.63	2849.16	1424.58	5027.34	2517.41	6.38	-1.542	0.000	0.590
45.00	-23.66	-18.44	0.00	-1368.1	0.00	1368.13	2803.38	1401.69	4818.87	2413.02	8.10	-1.746	0.000	0.576
48.00	-23.01	-18.17	0.00	-1312.8	0.00	1312.80	2775.23	1387.61	4694.62	2350.80	9.24	-1.870	0.000	0.567
50.00	-22.23	-17.99	0.00	-1276.4	0.00	1276.46	2756.17	1378.09	4612.17	2309.51	10.04	-1.955	0.000	0.561
53.25	-21.00	-17.67	0.00	-1217.9	0.00	1217.99	2752.25	1376.12	4595.34	2301.09	11.42	-2.091	0.000	0.537
55.00	-20.61	-17.54	0.00	-1187.0	0.00	1187.06	2735.34	1367.67	4523.51	2265.12	12.20	-2.166	0.000	0.532
60.00	-19.56	-17.10	0.00	-1099.3	0.00	1099.35	2686.08	1343.04	4319.69	2163.06	14.57	-2.365	0.000	0.516
65.00	-18.53	-16.66	0.00	-1013.8	0.00	1013.87	2635.39	1317.69	4118.12	2062.12	17.16	-2.565	0.000	0.499
70.00	-17.53	-16.22	0.00	-930.59	0.00	930.59	2583.26	1291.63	3918.99	1962.41	19.95	-2.765	0.000	0.481
75.00	-16.55	-15.80	0.00	-849.47	0.00	849.47	2529.69	1264.85	3722.50	1864.02	22.95	-2.966	0.000	0.462
80.00	-15.60	-15.38	0.00	-770.49	0.00	770.49	2474.70	1237.35	3528.85	1767.05	26.16	-3.165	0.000	0.442
85.00	-14.67	-14.96	0.00	-693.61	0.00	693.61	2418.27	1209.13	3338.22	1671.59	29.58	-3.364	0.000	0.421
90.00	-13.77	-14.56	0.00	-618.79	0.00	618.79	2360.40	1180.20	3150.83	1577.76	33.21	-3.559	0.000	0.398
95.00	-12.90	-14.15	0.00	-546.02	0.00	546.02	2301.11	1150.55	2966.86	1485.64	37.04	-3.751	0.000	0.373
97.50	-12.48	-13.95	0.00	-510.66	0.00	510.66	2270.92	1135.46	2876.22	1440.25	39.03	-3.847	0.000	0.360
100.00	-11.87	-13.74	0.00	-475.78	0.00	475.78	2235.90	1117.95	2780.94	1392.54	41.07	-3.942	0.000	0.347
101.50	-11.50	-13.62	0.00	-455.18	0.00	455.18	1129.30	564.65	1418.29	710.20	42.31	-3.999	0.000	0.652
105.00	-11.07	-13.37	0.00	-407.52	0.00	407.52	1114.37	557.18	1364.00	683.02	45.29	-4.126	0.000	0.607
110.00	-10.47	-13.02	0.00	-340.66	0.00	340.66	1091.82	545.91	1286.67	644.29	49.76	-4.395	0.000	0.539
115.00	-9.90	-12.68	0.00	-275.55	0.00	275.55	1067.84	533.92	1209.76	605.78	54.49	-4.643	0.000	0.465
120.00	-9.35	-12.34	0.00	-212.16	0.00	212.16	1042.42	521.21	1133.48	567.58	59.47	-4.864	0.000	0.383
125.00	-8.83	-11.99	0.00	-150.48	0.00	150.48	1015.57	507.79	1058.03	529.80	64.66	-5.049	0.000	0.293
127.50	-6.44	-8.22	0.00	-120.49	0.00	120.49	1001.61	500.80	1020.67	511.09	67.33	-5.128	0.000	0.242
130.00	-6.24	-8.06	0.00	-99.94	0.00	99.94	987.29	493.64	983.59	492.52	70.03	-5.197	0.000	0.210
135.00	-5.88	-7.74	0.00	-59.63	0.00	59.63	957.57	478.78	910.36	455.86	75.53	-5.303	0.000	0.137
138.00	-3.07	-4.18	0.00	-36.40	0.00	36.40	939.05	469.53	867.09	434.19	78.87	-5.346	0.000	0.087
140.00	-2.94	-4.06	0.00	-28.04	0.00	28.04	926.42	463.21	838.55	419.90	81.11	-5.368	0.000	0.070
145.00	-2.62	-3.76	0.00	-7.74	0.00	7.74	893.83	446.92	768.34	384.74	86.74	-5.400	0.000	0.023
147.00	-0.09	-0.11	0.00	-0.22	0.00	0.22	880.40	440.20	740.75	370.92	89.00	-5.403	0.000	0.001
149.00	0.00	-0.10	0.00	0.00	0.00	0.00	866.73	433.37	713.46	357.26	91.26	-5.403	0.000	0.000

Wind Loading - Shaft

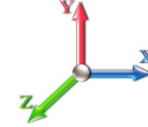
Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 25

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		1.92	0.70	28.326	31.16	475.15	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.85	0.70	27.264	29.99	456.30	0.650	0.000	5.00	21.781	14.16	679.3	0.0	777.1
10.00		1.79	0.70	26.293	28.92	438.42	0.650	0.000	5.00	21.315	13.86	641.1	0.0	760.4
15.00		1.73	0.70	25.403	27.94	421.43	0.650	0.000	5.00	20.850	13.55	605.9	0.0	743.7
20.00		1.67	0.70	24.587	27.05	405.25	0.650	0.000	5.00	20.385	13.25	573.4	0.0	727.0
25.00		1.62	0.70	23.839	26.22	389.82	0.650	0.000	5.00	19.919	12.95	543.2	0.0	710.3
30.00		1.57	0.70	23.171	25.49	375.24	0.650	0.000	5.00	19.454	12.65	515.7	0.0	693.6
35.00		1.53	0.73	23.554	25.91	369.16	0.650	0.000	5.00	18.988	12.34	511.7	0.0	676.9
40.00		1.49	0.76	23.839	26.22	362.17	0.650	0.000	5.00	18.523	12.04	505.2	0.0	660.2
45.00		1.45	0.79	24.054	26.46	354.55	0.650	0.000	5.00	18.058	11.74	496.9	0.0	643.5
48.00	Bot - Section 2	1.43	0.80	24.158	26.57	349.75	0.650	0.000	3.00	10.611	6.90	293.3	0.0	378.1
50.00		1.42	0.81	24.219	26.64	346.47	0.650	0.000	2.00	7.087	4.61	196.4	0.0	501.2
53.25	Top - Section 1	1.40	0.83	24.306	26.74	341.04	0.650	0.000	3.25	11.357	7.38	315.8	0.0	803.0
55.00		1.39	0.83	24.348	26.78	343.37	0.650	0.000	1.75	6.034	3.92	168.1	0.0	214.9
60.00		1.36	0.85	24.450	26.89	334.75	0.650	0.000	5.00	16.926	11.00	473.4	0.0	602.8
65.00		1.33	0.87	24.533	26.99	325.97	0.650	0.000	5.00	16.460	10.70	462.0	0.0	586.1
70.00		1.31	0.89	24.603	27.06	317.08	0.650	0.000	5.00	15.995	10.40	450.2	0.0	569.4
75.00		1.29	0.91	24.664	27.13	308.10	0.650	0.000	5.00	15.530	10.09	438.2	0.0	552.7
80.00		1.27	0.93	24.720	27.19	299.06	0.650	0.000	5.00	15.064	9.79	426.0	0.0	536.0
85.00		1.25	0.94	24.772	27.25	289.98	0.650	0.000	5.00	14.599	9.49	413.7	0.0	519.3
90.00		1.23	0.96	24.823	27.30	280.87	0.650	0.000	5.00	14.133	9.19	401.3	0.0	502.6
95.00		1.21	0.97	24.873	27.36	271.75	0.650	0.000	5.00	13.668	8.88	388.9	0.0	485.9
97.50	Bot - Section 3	1.21	0.98	24.899	27.39	267.18	0.650	0.000	2.50	6.660	4.33	189.7	0.0	236.7
100.00		1.20	0.99	24.925	27.42	262.60	0.650	0.000	2.50	6.622	4.30	188.8	0.0	374.3
101.50	Top - Section 2	1.19	0.99	24.941	27.43	259.86	0.650	0.000	1.50	3.918	2.55	111.8	0.0	221.4
105.00		1.18	1.00	24.978	27.48	256.67	0.650	0.000	3.50	8.978	5.84	256.6	0.0	192.2
110.00		1.17	1.02	25.034	27.54	247.51	0.650	0.000	5.00	12.431	8.08	356.0	0.0	266.0
115.00		1.16	1.03	25.092	27.60	238.34	0.650	0.000	5.00	11.965	7.78	343.5	0.0	256.0
120.00		1.15	1.04	25.154	27.67	229.17	0.650	0.000	5.00	11.500	7.47	330.9	0.0	246.0
125.00		1.14	1.05	25.218	27.74	219.98	0.650	0.000	5.00	11.034	7.17	318.3	0.0	235.9
127.50	Appurtenance(s)	1.13	1.06	25.252	27.78	215.39	0.650	0.000	2.50	5.343	3.47	154.3	0.0	114.2
130.00		1.13	1.07	25.286	27.81	210.79	0.650	0.000	2.50	5.226	3.40	151.2	0.0	111.7
135.00		1.12	1.08	25.357	27.89	201.58	0.650	0.000	5.00	10.103	6.57	293.1	0.0	215.9
138.00	Appurtenance(s)	1.11	1.08	25.401	27.94	196.05	0.650	0.000	3.00	5.839	3.80	169.7	0.0	124.7
140.00		1.11	1.09	25.431	27.97	192.36	0.650	0.000	2.00	3.799	2.47	110.5	0.0	81.1
145.00		1.10	1.10	25.509	28.06	183.12	0.650	0.000	5.00	9.173	5.96	267.7	0.0	195.9
147.00	Appurtenance(s)	1.10	1.10	25.541	28.09	179.42	0.650	0.000	2.00	3.539	2.30	103.4	0.0	75.5
149.00		1.10	1.11	25.573	28.13	175.71	0.650	0.000	2.00	3.464	2.25	101.4	0.0	73.9
								Totals:	149.00			12,946.5		15,666.1

Discrete Appurtenance Forces

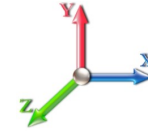
Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 25

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	147.00	Powerwave LGP21401	6	25.541	28.095	0.54	0.80	4.15	76.14	0.000	0.000	186.49	0.00	0.00
2	147.00	Powerwave 7770.00	6	25.541	28.095	0.66	0.90	21.68	189.00	0.000	0.000	974.60	0.00	0.00
3	147.00	KMW	3	25.541	28.095	0.68	0.90	16.24	130.95	0.000	0.000	730.04	0.00	0.00
4	147.00	Low Profile Platform	1	25.541	28.095	1.00	1.00	22.00	1350.00	0.000	0.000	988.94	0.00	0.00
5	147.00	Powerwave LGP13519	6	25.541	28.095	0.54	0.80	1.09	28.62	0.000	0.000	49.15	0.00	0.00
6	147.00	Ericsson RRUS-11	6	25.541	28.095	0.54	0.80	8.10	275.40	0.000	0.000	364.30	0.00	0.00
7	138.00	Low Profile Platform	1	25.401	27.941	1.00	1.00	22.00	1350.00	0.000	0.000	983.54	0.00	0.00
8	138.00	ALU 800MHz RRH	3	25.401	27.941	0.54	0.80	5.56	184.41	0.000	0.000	248.73	0.00	0.00
9	138.00	ALU 1900MHz	3	25.401	27.941	0.54	0.80	6.11	118.80	0.000	0.000	273.17	0.00	0.00
10	138.00	ALU TD-RRH8x20-25	3	25.401	27.941	0.54	0.80	6.51	189.00	0.000	0.000	291.14	0.00	0.00
11	138.00	RFS ACU-A20-N	4	25.401	27.941	0.54	0.80	0.30	3.60	0.000	0.000	13.42	0.00	0.00
12	138.00	ALU 800MHz	3	25.401	27.941	0.54	0.80	1.25	23.76	0.000	0.000	56.07	0.00	0.00
13	138.00	RFS APXVTM14-C-120	3	25.401	27.941	0.63	0.80	12.02	151.20	0.000	0.000	537.40	0.00	0.00
14	138.00	RFS APXVSPP18-C-A20	3	25.401	27.941	0.66	0.80	15.98	153.90	0.000	0.000	714.22	0.00	0.00
15	127.50	Platform w/ Hand Rail	1	25.252	27.777	1.00	1.00	35.00	1440.00	0.000	0.000	1555.50	0.00	0.00
16	127.50	Kathrein 782 11054	3	25.252	27.777	0.50	0.75	0.42	7.02	0.000	0.000	18.76	0.00	0.00
17	127.50	Remec S20057A1	3	25.252	27.777	0.50	0.75	1.24	29.70	0.000	0.000	54.94	0.00	0.00
18	127.50	RFS	3	25.252	27.777	0.50	0.75	1.76	33.75	0.000	0.000	78.39	0.00	0.00
19	127.50	RFS ATMAA1412D-1A20	3	25.252	27.777	0.50	0.75	1.76	35.10	0.000	0.000	78.39	0.00	0.00
20	127.50	Commscope	3	25.252	27.777	0.60	0.75	20.65	134.46	0.000	0.000	917.57	0.00	0.00
21	127.50	RFS APXV18-209014-C	3	25.252	27.777	0.55	0.75	5.96	50.49	0.000	0.000	264.91	0.00	0.00
22	127.50	RFS	3	25.252	27.777	0.50	0.75	9.74	109.89	0.000	0.000	432.80	0.00	0.00
Totals:									6,065.19			9,812.46		

Total Applied Force Summary

Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II

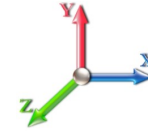


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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

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		679.35	933.26	0.00	0.00
10.00		641.14	916.55	0.00	0.00
15.00		605.92	899.85	0.00	0.00
20.00		573.38	883.14	0.00	0.00
25.00		543.23	866.43	0.00	0.00
30.00		515.68	849.73	0.00	0.00
35.00		511.66	833.02	0.00	0.00
40.00		505.16	816.31	0.00	0.00
45.00		496.91	799.61	0.00	0.00
48.00		293.26	471.75	0.00	0.00
50.00		196.35	563.65	0.00	0.00
53.25		315.80	904.53	0.00	0.00
55.00		168.07	269.59	0.00	0.00
60.00		473.43	758.98	0.00	0.00
65.00		461.98	742.28	0.00	0.00
70.00		450.20	725.57	0.00	0.00
75.00		438.19	708.86	0.00	0.00
80.00		426.01	692.16	0.00	0.00
85.00		413.72	675.45	0.00	0.00
90.00		401.35	658.74	0.00	0.00
95.00		388.92	642.04	0.00	0.00
97.50		189.69	314.75	0.00	0.00
100.00		188.83	452.36	0.00	0.00
101.50		111.78	268.21	0.00	0.00
105.00		256.55	301.48	0.00	0.00
110.00		355.99	422.17	0.00	0.00
115.00		343.46	412.14	0.00	0.00
120.00		330.91	402.12	0.00	0.00
125.00		318.33	392.10	0.00	0.00
127.50	(22) attachments	3555.59	2032.70	0.00	0.00
130.00		151.18	147.66	0.00	0.00
135.00		293.09	287.81	0.00	0.00
138.00	(23) attachments	3287.36	2342.54	0.00	0.00
140.00		110.54	105.16	0.00	0.00
145.00		267.68	255.88	0.00	0.00
147.00	(28) attachments	3396.92	2149.66	0.00	0.00
149.00		101.35	73.93	0.00	0.00
	Totals:	22,758.98	25,972.15	0.00	0.00

Calculated Forces

Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



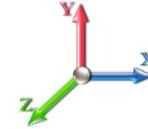
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Load Case: 0.9D + 1.6W 93 mph Wind

Iterations 25

Dead Load Factor 0.90

Wind Load Factor 1.60



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	-25.93	-22.80	0.00	-2276.1	0.00	2276.18	3163.75	1581.88	6735.38	3372.69	0.00	0.000	0.000	0.683
5.00	-24.93	-22.20	0.00	-2162.1	0.00	2162.18	3129.45	1564.72	6519.79	3264.74	0.10	-0.182	0.000	0.670
10.00	-23.95	-21.63	0.00	-2051.1	0.00	2051.19	3093.71	1546.85	6304.40	3156.89	0.39	-0.367	0.000	0.658
15.00	-22.98	-21.09	0.00	-1943.0	0.00	1943.03	3056.53	1528.27	6089.41	3049.23	0.87	-0.553	0.000	0.645
20.00	-22.04	-20.58	0.00	-1837.5	0.00	1837.57	3017.92	1508.96	5875.02	2941.88	1.55	-0.742	0.000	0.632
25.00	-21.11	-20.10	0.00	-1734.6	0.00	1734.65	2977.88	1488.94	5661.42	2834.92	2.43	-0.934	0.000	0.619
30.00	-20.21	-19.64	0.00	-1634.1	0.00	1634.16	2936.41	1468.20	5448.81	2728.46	3.52	-1.127	0.000	0.606
35.00	-19.32	-19.17	0.00	-1535.9	0.00	1535.97	2893.50	1446.75	5237.39	2622.59	4.80	-1.323	0.000	0.593
40.00	-18.45	-18.71	0.00	-1440.1	0.00	1440.11	2849.16	1424.58	5027.34	2517.41	6.29	-1.521	0.000	0.579
45.00	-17.61	-18.24	0.00	-1346.5	0.00	1346.54	2803.38	1401.69	4818.87	2413.02	7.99	-1.721	0.000	0.564
48.00	-17.12	-17.97	0.00	-1291.8	0.00	1291.81	2775.23	1387.61	4694.62	2350.80	9.12	-1.844	0.000	0.556
50.00	-16.53	-17.78	0.00	-1255.8	0.00	1255.88	2756.17	1378.09	4612.17	2309.51	9.91	-1.927	0.000	0.550
53.25	-15.60	-17.46	0.00	-1198.0	0.00	1198.09	2752.25	1376.12	4595.34	2301.09	11.26	-2.061	0.000	0.526
55.00	-15.30	-17.32	0.00	-1167.5	0.00	1167.53	2735.34	1367.67	4523.51	2265.12	12.03	-2.135	0.000	0.521
60.00	-14.50	-16.87	0.00	-1080.9	0.00	1080.92	2686.08	1343.04	4319.69	2163.06	14.37	-2.331	0.000	0.505
65.00	-13.72	-16.42	0.00	-996.58	0.00	996.58	2635.39	1317.69	4118.12	2062.12	16.92	-2.527	0.000	0.489
70.00	-12.97	-15.99	0.00	-914.46	0.00	914.46	2583.26	1291.63	3918.99	1962.41	19.67	-2.724	0.000	0.471
75.00	-12.23	-15.55	0.00	-834.53	0.00	834.53	2529.69	1264.85	3722.50	1864.02	22.63	-2.921	0.000	0.453
80.00	-11.51	-15.13	0.00	-756.76	0.00	756.76	2474.70	1237.35	3528.85	1767.05	25.79	-3.117	0.000	0.433
85.00	-10.80	-14.72	0.00	-681.10	0.00	681.10	2418.27	1209.13	3338.22	1671.59	29.16	-3.312	0.000	0.412
90.00	-10.12	-14.31	0.00	-607.52	0.00	607.52	2360.40	1180.20	3150.83	1577.76	32.73	-3.504	0.000	0.389
95.00	-9.47	-13.91	0.00	-535.96	0.00	535.96	2301.11	1150.55	2966.86	1485.64	36.50	-3.692	0.000	0.365
97.50	-9.15	-13.71	0.00	-501.19	0.00	501.19	2270.92	1135.46	2876.22	1440.25	38.46	-3.787	0.000	0.352
100.00	-8.69	-13.50	0.00	-466.92	0.00	466.92	2235.90	1117.95	2780.94	1392.54	40.47	-3.880	0.000	0.339
101.50	-8.41	-13.39	0.00	-446.66	0.00	446.66	1129.30	564.65	1418.29	710.20	41.69	-3.936	0.000	0.637
105.00	-8.08	-13.14	0.00	-399.80	0.00	399.80	1114.37	557.18	1364.00	683.02	44.62	-4.060	0.000	0.593
110.00	-7.63	-12.79	0.00	-334.11	0.00	334.11	1091.82	545.91	1286.67	644.29	49.02	-4.324	0.000	0.526
115.00	-7.20	-12.44	0.00	-270.18	0.00	270.18	1067.84	533.92	1209.76	605.78	53.68	-4.567	0.000	0.453
120.00	-6.78	-12.10	0.00	-207.97	0.00	207.97	1042.42	521.21	1133.48	567.58	58.58	-4.784	0.000	0.373
125.00	-6.39	-11.77	0.00	-147.46	0.00	147.46	1015.57	507.79	1058.03	529.80	63.68	-4.966	0.000	0.285
127.50	-4.67	-8.05	0.00	-118.04	0.00	118.04	1001.61	500.80	1020.67	511.09	66.30	-5.043	0.000	0.236
130.00	-4.52	-7.90	0.00	-97.91	0.00	97.91	987.29	493.64	983.59	492.52	68.96	-5.110	0.000	0.204
135.00	-4.25	-7.58	0.00	-58.43	0.00	58.43	957.57	478.78	910.36	455.86	74.36	-5.214	0.000	0.133
138.00	-2.22	-4.10	0.00	-35.68	0.00	35.68	939.05	469.53	867.09	434.19	77.65	-5.257	0.000	0.085
140.00	-2.12	-3.98	0.00	-27.49	0.00	27.49	926.42	463.21	838.55	419.90	79.85	-5.278	0.000	0.068
145.00	-1.89	-3.69	0.00	-7.59	0.00	7.59	893.83	446.92	768.34	384.74	85.39	-5.309	0.000	0.022
147.00	-0.06	-0.11	0.00	-0.22	0.00	0.22	880.40	440.20	740.75	370.92	87.62	-5.312	0.000	0.001
149.00	0.00	-0.10	0.00	0.00	0.00	0.00	866.73	433.37	713.46	357.26	89.84	-5.312	0.000	0.000

Wind Loading - Shaft

Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II

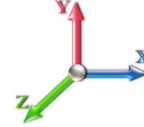


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 25

Dead Load Factor 1.20
Wind Load Factor 1.00



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		1.92	0.70	8.188	9.01	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.85	0.70	7.881	8.67	0.00	1.200	1.541	5.00	23.065	27.68	239.9	506.5	1542.6
10.00		1.79	0.70	7.600	8.36	0.00	1.200	1.631	5.00	22.674	27.21	227.5	525.6	1539.5
15.00		1.73	0.70	7.343	8.08	0.00	1.200	1.678	5.00	22.248	26.70	215.6	529.7	1521.3
20.00		1.67	0.70	7.107	7.82	0.00	1.200	1.707	5.00	21.807	26.17	204.6	527.5	1496.9
25.00		1.62	0.70	6.891	7.58	0.00	1.200	1.727	5.00	21.358	25.63	194.3	522.0	1469.0
30.00		1.57	0.70	6.698	7.37	0.00	1.200	1.741	5.00	20.905	25.09	184.8	514.3	1439.1
35.00		1.53	0.73	6.808	7.49	0.00	1.200	1.751	5.00	20.447	24.54	183.8	505.3	1407.8
40.00		1.49	0.76	6.891	7.58	0.00	1.200	1.758	5.00	19.988	23.99	181.8	495.4	1375.6
45.00		1.45	0.79	6.953	7.65	0.00	1.200	1.764	5.00	19.527	23.43	179.2	484.8	1342.8
48.00 Bot - Section 2		1.43	0.80	6.983	7.68	0.00	1.200	1.766	3.00	11.494	13.79	105.9	287.0	791.1
50.00		1.42	0.81	7.001	7.70	0.00	1.200	1.768	2.00	7.676	9.21	70.9	192.3	860.6
53.25 Top - Section 1		1.40	0.83	7.026	7.73	0.00	1.200	1.770	3.25	12.316	14.78	114.2	307.8	1378.5
55.00		1.39	0.83	7.038	7.74	0.00	1.200	1.771	1.75	6.551	7.86	60.9	164.3	450.9
60.00		1.36	0.85	7.067	7.77	0.00	1.200	1.774	5.00	18.404	22.08	171.7	458.0	1261.8
65.00		1.33	0.87	7.091	7.80	0.00	1.200	1.776	5.00	17.940	21.53	167.9	446.3	1227.8
70.00		1.31	0.89	7.112	7.82	0.00	1.200	1.778	5.00	17.477	20.97	164.1	434.5	1193.8
75.00		1.29	0.91	7.129	7.84	0.00	1.200	1.779	5.00	17.012	20.41	160.1	422.7	1159.6
80.00		1.27	0.93	7.145	7.86	0.00	1.200	1.781	5.00	16.548	19.86	156.1	410.7	1125.4
85.00		1.25	0.94	7.160	7.88	0.00	1.200	1.782	5.00	16.084	19.30	152.0	398.8	1091.2
90.00		1.23	0.96	7.175	7.89	0.00	1.200	1.783	5.00	15.620	18.74	147.9	386.8	1056.9
95.00		1.21	0.97	7.190	7.91	0.00	1.200	1.785	5.00	15.155	18.19	143.8	374.8	1022.6
97.50 Bot - Section 3		1.21	0.98	7.197	7.92	0.00	1.200	1.785	2.50	7.403	8.88	70.3	184.4	499.9
100.00		1.20	0.99	7.205	7.92	0.00	1.200	1.786	2.50	7.367	8.84	70.1	183.5	682.5
101.50 Top - Section 2		1.19	0.99	7.209	7.93	0.00	1.200	1.786	1.50	4.364	5.24	41.5	109.0	404.1
105.00		1.18	1.00	7.220	7.94	0.00	1.200	1.787	3.50	10.021	12.02	95.5	248.4	504.7
110.00		1.17	1.02	7.236	7.96	0.00	1.200	1.789	5.00	13.921	16.71	133.0	342.9	697.6
115.00		1.16	1.03	7.253	7.98	0.00	1.200	1.790	5.00	13.457	16.15	128.8	330.8	672.2
120.00		1.15	1.04	7.271	8.00	0.00	1.200	1.792	5.00	12.993	15.59	124.7	318.8	646.7
125.00		1.14	1.05	7.289	8.02	0.00	1.200	1.793	5.00	12.529	15.03	120.5	306.7	621.3
127.50 Appurtenance(s)		1.13	1.06	7.299	8.03	0.00	1.200	1.794	2.50	6.090	7.31	58.7	150.3	302.6
130.00		1.13	1.07	7.309	8.04	0.00	1.200	1.795	2.50	5.974	7.17	57.6	147.3	296.3
135.00		1.12	1.08	7.329	8.06	0.00	1.200	1.797	5.00	11.601	13.92	112.2	282.6	570.4
138.00 Appurtenance(s)		1.11	1.08	7.342	8.08	0.00	1.200	1.798	3.00	6.738	8.09	65.3	165.2	331.5
140.00		1.11	1.09	7.351	8.09	0.00	1.200	1.798	2.00	4.399	5.28	42.7	108.2	216.4
145.00		1.10	1.10	7.373	8.11	0.00	1.200	1.800	5.00	10.673	12.81	103.9	258.4	519.5
147.00 Appurtenance(s)		1.10	1.10	7.383	8.12	0.00	1.200	1.801	2.00	4.139	4.97	40.3	101.4	202.1
149.00		1.10	1.11	7.392	8.13	0.00	1.200	1.802	2.00	4.065	4.88	39.7	99.5	198.1
Totals:								149.00				4,731.9		33,120.6

Discrete Appurtenance Forces

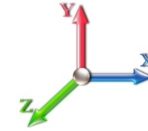
Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 25

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	147.00	Powerwave LGP21401	6	7.383	8.121	0.54	0.80	6.92	213.73	0.000	0.000	56.22	0.00	0.00	
2	147.00	Powerwave 7770.00	6	7.383	8.121	0.66	0.90	26.02	1095.15	0.000	0.000	211.33	0.00	0.00	
3	147.00	KMW	3	7.383	8.121	0.68	0.90	18.95	763.01	0.000	0.000	153.91	0.00	0.00	
4	147.00	Low Profile Platform	1	7.383	8.121	1.00	1.00	40.23	2850.85	0.000	0.000	326.68	0.00	0.00	
5	147.00	Powerwave LGP13519	6	7.383	8.121	0.54	0.80	2.60	80.77	0.000	0.000	21.12	0.00	0.00	
6	147.00	Ericsson RRUS-11	6	7.383	8.121	0.54	0.80	10.21	718.73	0.000	0.000	82.88	0.00	0.00	
7	138.00	Low Profile Platform	1	7.342	8.076	1.00	1.00	40.19	2848.26	0.000	0.000	324.61	0.00	0.00	
8	138.00	ALU 800MHz RRH	3	7.342	8.076	0.54	0.80	7.74	447.68	0.000	0.000	62.51	0.00	0.00	
9	138.00	ALU 1900MHz	3	7.342	8.076	0.54	0.80	8.41	402.14	0.000	0.000	67.95	0.00	0.00	
10	138.00	ALU TD-RRH8x20-25	3	7.342	8.076	0.54	0.80	7.86	595.49	0.000	0.000	63.50	0.00	0.00	
11	138.00	RFS ACU-A20-N	4	7.342	8.076	0.54	0.80	0.96	17.30	0.000	0.000	7.72	0.00	0.00	
12	138.00	ALU 800MHz	3	7.342	8.076	0.54	0.80	2.33	71.20	0.000	0.000	18.78	0.00	0.00	
13	138.00	RFS APXVTM14-C-120	3	7.342	8.076	0.63	0.80	14.20	700.32	0.000	0.000	114.68	0.00	0.00	
14	138.00	RFS APXVSPP18-C-A20	3	7.342	8.076	0.66	0.80	18.64	825.86	0.000	0.000	150.53	0.00	0.00	
15	127.50	Platform w/ Hand Rail	1	7.299	8.029	1.00	1.00	66.39	3478.51	0.000	0.000	533.07	0.00	0.00	
16	127.50	Kathrein 782 11054	3	7.299	8.029	0.50	0.75	1.04	23.80	0.000	0.000	8.38	0.00	0.00	
17	127.50	Remec S20057A1	3	7.299	8.029	0.50	0.75	2.32	81.61	0.000	0.000	18.61	0.00	0.00	
18	127.50	RFS	3	7.299	8.029	0.50	0.75	3.00	99.48	0.000	0.000	24.11	0.00	0.00	
19	127.50	RFS ATMAA1412D-1A20	3	7.299	8.029	0.50	0.75	2.98	105.97	0.000	0.000	23.90	0.00	0.00	
20	127.50	Commscope	3	7.299	8.029	0.60	0.75	23.68	996.59	0.000	0.000	190.14	0.00	0.00	
21	127.50	RFS APXV18-209014-C	3	7.299	8.029	0.55	0.75	7.56	343.13	0.000	0.000	60.69	0.00	0.00	
22	127.50	RFS	3	7.299	8.029	0.50	0.75	11.47	569.12	0.000	0.000	92.08	0.00	0.00	
Totals:									17,328.70						2,613.40

Total Applied Force Summary

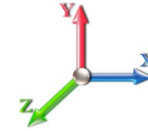
Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 25

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		239.93	1750.80	0.00	0.00
10.00		227.47	1747.69	0.00	0.00
15.00		215.64	1729.53	0.00	0.00
20.00		204.58	1705.07	0.00	0.00
25.00		194.27	1677.20	0.00	0.00
30.00		184.82	1647.26	0.00	0.00
35.00		183.76	1615.99	0.00	0.00
40.00		181.81	1583.80	0.00	0.00
45.00		179.22	1550.99	0.00	0.00
48.00		105.95	915.98	0.00	0.00
50.00		70.93	943.85	0.00	0.00
53.25		114.22	1513.80	0.00	0.00
55.00		60.85	523.78	0.00	0.00
60.00		171.69	1469.97	0.00	0.00
65.00		167.93	1436.02	0.00	0.00
70.00		164.06	1401.96	0.00	0.00
75.00		160.10	1367.82	0.00	0.00
80.00		156.08	1333.61	0.00	0.00
85.00		152.02	1299.37	0.00	0.00
90.00		147.93	1265.10	0.00	0.00
95.00		143.83	1230.82	0.00	0.00
97.50		70.33	604.05	0.00	0.00
100.00		70.06	786.61	0.00	0.00
101.50		41.53	466.61	0.00	0.00
105.00		95.50	650.41	0.00	0.00
110.00		132.97	905.76	0.00	0.00
115.00		128.83	880.35	0.00	0.00
120.00		124.69	854.94	0.00	0.00
125.00		120.55	829.52	0.00	0.00
127.50	(22) attachments	1009.66	6104.94	0.00	0.00
130.00		57.64	344.21	0.00	0.00
135.00		112.24	666.33	0.00	0.00
138.00	(23) attachments	875.58	6297.28	0.00	0.00
140.00		42.68	248.41	0.00	0.00
145.00		103.88	599.57	0.00	0.00
147.00	(28) attachments	892.47	5956.39	0.00	0.00
149.00		39.66	198.05	0.00	0.00
	Totals:	7,345.35	56,103.86	0.00	0.00

Calculated Forces

Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II

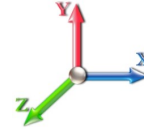


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 25

Dead Load Factor 1.20
Wind Load Factor 1.00



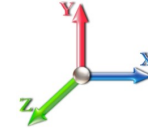
Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-56.10	-7.37	0.00	-735.50	0.00	735.50	3163.75	1581.88	6735.38	3372.69	0.00	0.000	0.000	0.236
5.00	-54.34	-7.19	0.00	-698.63	0.00	698.63	3129.45	1564.72	6519.79	3264.74	0.03	-0.059	0.000	0.231
10.00	-52.59	-7.01	0.00	-662.69	0.00	662.69	3093.71	1546.85	6304.40	3156.89	0.13	-0.118	0.000	0.227
15.00	-50.85	-6.85	0.00	-627.61	0.00	627.61	3056.53	1528.27	6089.41	3049.23	0.28	-0.179	0.000	0.222
20.00	-49.14	-6.69	0.00	-593.37	0.00	593.37	3017.92	1508.96	5875.02	2941.88	0.50	-0.240	0.000	0.218
25.00	-47.46	-6.54	0.00	-559.92	0.00	559.92	2977.88	1488.94	5661.42	2834.92	0.79	-0.302	0.000	0.213
30.00	-45.80	-6.40	0.00	-527.23	0.00	527.23	2936.41	1468.20	5448.81	2728.46	1.14	-0.364	0.000	0.209
35.00	-44.18	-6.25	0.00	-495.25	0.00	495.25	2893.50	1446.75	5237.39	2622.59	1.55	-0.427	0.000	0.204
40.00	-42.59	-6.10	0.00	-464.01	0.00	464.01	2849.16	1424.58	5027.34	2517.41	2.03	-0.491	0.000	0.199
45.00	-41.04	-5.95	0.00	-433.49	0.00	433.49	2803.38	1401.69	4818.87	2413.02	2.58	-0.556	0.000	0.194
48.00	-40.12	-5.85	0.00	-415.66	0.00	415.66	2775.23	1387.61	4694.62	2350.80	2.94	-0.595	0.000	0.191
50.00	-39.17	-5.80	0.00	-403.95	0.00	403.95	2756.17	1378.09	4612.17	2309.51	3.20	-0.622	0.000	0.189
53.25	-37.66	-5.69	0.00	-385.11	0.00	385.11	2752.25	1376.12	4595.34	2301.09	3.64	-0.665	0.000	0.181
55.00	-37.13	-5.65	0.00	-375.15	0.00	375.15	2735.34	1367.67	4523.51	2265.12	3.89	-0.689	0.000	0.179
60.00	-35.66	-5.50	0.00	-346.91	0.00	346.91	2686.08	1343.04	4319.69	2163.06	4.64	-0.751	0.000	0.174
65.00	-34.22	-5.35	0.00	-319.42	0.00	319.42	2635.39	1317.69	4118.12	2062.12	5.46	-0.814	0.000	0.168
70.00	-32.81	-5.20	0.00	-292.68	0.00	292.68	2583.26	1291.63	3918.99	1962.41	6.35	-0.878	0.000	0.162
75.00	-31.44	-5.05	0.00	-266.68	0.00	266.68	2529.69	1264.85	3722.50	1864.02	7.30	-0.941	0.000	0.156
80.00	-30.10	-4.91	0.00	-241.42	0.00	241.42	2474.70	1237.35	3528.85	1767.05	8.32	-1.003	0.000	0.149
85.00	-28.80	-4.76	0.00	-216.89	0.00	216.89	2418.27	1209.13	3338.22	1671.59	9.40	-1.065	0.000	0.142
90.00	-27.54	-4.62	0.00	-193.08	0.00	193.08	2360.40	1180.20	3150.83	1577.76	10.55	-1.126	0.000	0.134
95.00	-26.31	-4.47	0.00	-169.99	0.00	169.99	2301.11	1150.55	2966.86	1485.64	11.76	-1.186	0.000	0.126
97.50	-25.70	-4.40	0.00	-158.81	0.00	158.81	2270.92	1135.46	2876.22	1440.25	12.39	-1.216	0.000	0.122
100.00	-24.91	-4.32	0.00	-147.81	0.00	147.81	2235.90	1117.95	2780.94	1392.54	13.04	-1.246	0.000	0.117
101.50	-24.45	-4.28	0.00	-141.32	0.00	141.32	1129.30	564.65	1418.29	710.20	13.43	-1.263	0.000	0.221
105.00	-23.79	-4.20	0.00	-126.33	0.00	126.33	1114.37	557.18	1364.00	683.02	14.37	-1.303	0.000	0.206
110.00	-22.89	-4.08	0.00	-105.32	0.00	105.32	1091.82	545.91	1286.67	644.29	15.78	-1.386	0.000	0.184
115.00	-22.00	-3.96	0.00	-84.93	0.00	84.93	1067.84	533.92	1209.76	605.78	17.28	-1.462	0.000	0.161
120.00	-21.15	-3.83	0.00	-65.16	0.00	65.16	1042.42	521.21	1133.48	567.58	18.85	-1.530	0.000	0.135
125.00	-20.32	-3.70	0.00	-46.00	0.00	46.00	1015.57	507.79	1058.03	529.80	20.48	-1.587	0.000	0.107
127.50	-14.24	-2.53	0.00	-36.74	0.00	36.74	1001.61	500.80	1020.67	511.09	21.32	-1.611	0.000	0.086
130.00	-13.90	-2.47	0.00	-30.42	0.00	30.42	987.29	493.64	983.59	492.52	22.17	-1.632	0.000	0.076
135.00	-13.24	-2.34	0.00	-18.08	0.00	18.08	957.57	478.78	910.36	455.86	23.90	-1.664	0.000	0.054
138.00	-6.97	-1.28	0.00	-11.06	0.00	11.06	939.05	469.53	867.09	434.19	24.95	-1.678	0.000	0.033
140.00	-6.72	-1.23	0.00	-8.49	0.00	8.49	926.42	463.21	838.55	419.90	25.65	-1.684	0.000	0.027
145.00	-6.12	-1.11	0.00	-2.32	0.00	2.32	893.83	446.92	768.34	384.74	27.42	-1.694	0.000	0.013
147.00	-0.20	-0.05	0.00	-0.09	0.00	0.09	880.40	440.20	740.75	370.92	28.13	-1.695	0.000	0.000
149.00	0.00	-0.04	0.00	0.00	0.00	0.00	866.73	433.37	713.46	357.26	28.84	-1.695	0.000	0.000

Seismic Segment Forces (Factored)

Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



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Load Case: 1.2D + 1.0E						Iterations 23	
Gust Response Factor	1.10			Sds	0.21	Ss	0.20
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.10	S1	0.07
Wind Load Factor	0.00	Structure Frequency	0.35	SA	0.04	Seismic Importance Factor	1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		863.45	0.00	0.03	0.02	18.10	
10.00		844.89	0.01	0.05	0.03	25.46	
15.00		826.33	0.02	0.06	0.04	28.57	
20.00		807.77	0.03	0.07	0.04	29.76	
25.00		789.20	0.05	0.07	0.04	30.12	
30.00		770.64	0.08	0.07	0.04	30.18	
35.00		752.08	0.10	0.07	0.04	30.18	
40.00		733.52	0.14	0.07	0.03	30.11	
45.00		714.95	0.17	0.07	0.03	29.82	
48.00	Bot - Section 2	420.06	0.20	0.06	0.02	17.56	
50.00		556.88	0.21	0.06	0.02	23.19	
53.25	Top - Section 1	892.26	0.24	0.06	0.02	36.49	
55.00		238.82	0.26	0.05	0.02	9.59	
60.00		669.81	0.31	0.04	0.01	24.36	
65.00		651.25	0.36	0.03	0.01	19.11	
70.00		632.69	0.42	0.01	0.01	11.72	
75.00		614.13	0.48	-0.01	0.01	2.64	
80.00		595.56	0.54	-0.03	0.01	-6.84	
85.00		577.00	0.62	-0.06	0.02	-15.00	
90.00		558.44	0.69	-0.08	0.03	-20.48	
95.00		539.87	0.77	-0.11	0.05	-22.69	
97.50	Bot - Section 3	262.98	0.81	-0.11	0.06	-11.19	
100.00		415.87	0.85	-0.12	0.07	-17.29	
101.50	Top - Section 2	245.96	0.88	-0.12	0.08	-9.91	
105.00		213.53	0.94	-0.12	0.10	-7.54	
110.00		295.57	1.03	-0.10	0.15	-6.92	
115.00		284.44	1.13	-0.05	0.20	-1.69	
120.00		273.30	1.23	0.03	0.27	4.67	
125.00		262.16	1.33	0.16	0.36	11.97	
127.50	Appurtenance(s)	2171.8	1.38	0.25	0.42	134.77	
130.00		124.12	1.44	0.36	0.47	9.92	
135.00		239.89	1.55	0.64	0.61	28.76	
138.00	Appurtenance(s)	2554.8	1.62	0.85	0.70	374.84	
140.00		90.16	1.67	1.01	0.77	14.95	
145.00		217.61	1.79	1.49	0.96	47.39	
147.00	Appurtenance(s)	2361.8	1.84	1.72	1.05	567.47	
149.00		82.14	1.89	1.98	1.14	21.67	
Totals:		24,145.8				1,493.8	Total Wind: 22,759.0

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

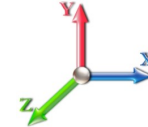
Calculated Forces

Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



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Load Case: 1.2D + 1.0E						Iterations 23
Gust Response Factor	1.10			Sds	0.21	Ss 0.20
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.10	S1 0.07
Wind Load Factor	0.00	Structure Frequency	0.35	SA	0.04	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	-34.63	-1.62	0.00	-195.99	0.00	195.99	3163.75	1581.88	6735.38	3372.69	0.00	0.00	0.00	0.069
5.00	-33.38	-1.61	0.00	-187.90	0.00	187.90	3129.45	1564.72	6519.79	3264.74	0.01	-0.02	0.068	
10.00	-32.16	-1.59	0.00	-179.86	0.00	179.86	3093.71	1546.85	6304.40	3156.89	0.03	-0.03	0.067	
15.00	-30.96	-1.57	0.00	-171.91	0.00	171.91	3056.53	1528.27	6089.41	3049.23	0.08	-0.05	0.067	
20.00	-29.78	-1.55	0.00	-164.05	0.00	164.05	3017.92	1508.96	5875.02	2941.88	0.14	-0.07	0.066	
25.00	-28.63	-1.53	0.00	-156.31	0.00	156.31	2977.88	1488.94	5661.42	2834.92	0.21	-0.08	0.065	
30.00	-27.49	-1.50	0.00	-148.68	0.00	148.68	2936.41	1468.20	5448.81	2728.46	0.31	-0.10	0.064	
35.00	-26.38	-1.48	0.00	-141.17	0.00	141.17	2893.50	1446.75	5237.39	2622.59	0.42	-0.12	0.063	
40.00	-25.29	-1.45	0.00	-133.77	0.00	133.77	2849.16	1424.58	5027.34	2517.41	0.56	-0.14	0.062	
45.00	-24.23	-1.43	0.00	-126.50	0.00	126.50	2803.38	1401.69	4818.87	2413.02	0.71	-0.15	0.061	
48.00	-23.60	-1.41	0.00	-122.22	0.00	122.22	2775.23	1387.61	4694.62	2350.80	0.81	-0.17	0.060	
50.00	-22.85	-1.39	0.00	-119.39	0.00	119.39	2756.17	1378.09	4612.17	2309.51	0.88	-0.17	0.060	
53.25	-21.64	-1.35	0.00	-114.87	0.00	114.87	2752.25	1376.12	4595.34	2301.09	1.00	-0.19	0.058	
55.00	-21.28	-1.35	0.00	-112.50	0.00	112.50	2735.34	1367.67	4523.51	2265.12	1.07	-0.19	0.057	
60.00	-20.27	-1.33	0.00	-105.76	0.00	105.76	2686.08	1343.04	4319.69	2163.06	1.29	-0.21	0.056	
65.00	-19.28	-1.31	0.00	-99.12	0.00	99.12	2635.39	1317.69	4118.12	2062.12	1.52	-0.23	0.055	
70.00	-18.31	-1.30	0.00	-92.56	0.00	92.56	2583.26	1291.63	3918.99	1962.41	1.77	-0.25	0.054	
75.00	-17.37	-1.30	0.00	-86.05	0.00	86.05	2529.69	1264.85	3722.50	1864.02	2.05	-0.27	0.053	
80.00	-16.44	-1.30	0.00	-79.55	0.00	79.55	2474.70	1237.35	3528.85	1767.05	2.34	-0.29	0.052	
85.00	-15.54	-1.30	0.00	-73.03	0.00	73.03	2418.27	1209.13	3338.22	1671.59	2.66	-0.31	0.050	
90.00	-14.66	-1.30	0.00	-66.52	0.00	66.52	2360.40	1180.20	3150.83	1577.76	3.00	-0.33	0.048	
95.00	-13.81	-1.30	0.00	-60.00	0.00	60.00	2301.11	1150.55	2966.86	1485.64	3.36	-0.35	0.046	
97.50	-13.39	-1.30	0.00	-56.74	0.00	56.74	2270.92	1135.46	2876.22	1440.25	3.55	-0.37	0.045	
100.00	-12.78	-1.30	0.00	-53.48	0.00	53.48	2235.90	1117.95	2780.94	1392.54	3.75	-0.38	0.044	
101.50	-12.43	-1.30	0.00	-51.53	0.00	51.53	1129.30	564.65	1418.29	710.20	3.87	-0.38	0.084	
105.00	-12.02	-1.30	0.00	-46.98	0.00	46.98	1114.37	557.18	1364.00	683.02	4.15	-0.40	0.080	
110.00	-11.46	-1.30	0.00	-40.47	0.00	40.47	1091.82	545.91	1286.67	644.29	4.58	-0.43	0.073	
115.00	-10.91	-1.31	0.00	-33.95	0.00	33.95	1067.84	533.92	1209.76	605.78	5.05	-0.46	0.066	
120.00	-10.37	-1.30	0.00	-27.42	0.00	27.42	1042.42	521.21	1133.48	567.58	5.54	-0.49	0.058	
125.00	-9.85	-1.29	0.00	-20.91	0.00	20.91	1015.57	507.79	1058.03	529.80	6.07	-0.51	0.049	
127.50	-7.14	-1.13	0.00	-17.69	0.00	17.69	1001.61	500.80	1020.67	511.09	6.34	-0.52	0.042	
130.00	-6.94	-1.12	0.00	-14.86	0.00	14.86	987.29	493.64	983.59	492.52	6.62	-0.53	0.037	
135.00	-6.56	-1.09	0.00	-9.26	0.00	9.26	957.57	478.78	910.36	455.86	7.18	-0.55	0.027	
138.00	-3.44	-0.68	0.00	-5.99	0.00	5.99	939.05	469.53	867.09	434.19	7.53	-0.56	0.017	
140.00	-3.30	-0.67	0.00	-4.63	0.00	4.63	926.42	463.21	838.55	419.90	7.76	-0.56	0.015	
145.00	-2.96	-0.62	0.00	-1.28	0.00	1.28	893.83	446.92	768.34	384.74	8.35	-0.56	0.007	
147.00	-0.10	-0.02	0.00	-0.05	0.00	0.05	880.40	440.20	740.75	370.92	8.59	-0.56	0.000	
149.00	0.00	-0.02	0.00	0.00	0.00	0.00	866.73	433.37	713.46	357.26	8.82	-0.56	0.000	

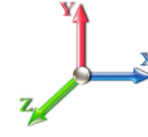
Seismic Segment Forces (Factored)

Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



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Load Case: 0.9D + 1.0E				Iterations 23
Gust Response Factor	1.10	Sds	0.21	Ss 0.20
Dead Load Factor	0.90	Seismic Load Factor	1.00	S1 0.07
Wind Load Factor	0.00	Structure Frequency	0.35	SA 0.04
				Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		863.45	0.00	0.03	0.02	18.10	
10.00		844.89	0.01	0.05	0.03	25.46	
15.00		826.33	0.02	0.06	0.04	28.57	
20.00		807.77	0.03	0.07	0.04	29.76	
25.00		789.20	0.05	0.07	0.04	30.12	
30.00		770.64	0.08	0.07	0.04	30.18	
35.00		752.08	0.10	0.07	0.04	30.18	
40.00		733.52	0.14	0.07	0.03	30.11	
45.00		714.95	0.17	0.07	0.03	29.82	
48.00	Bot - Section 2	420.06	0.20	0.06	0.02	17.56	
50.00		556.88	0.21	0.06	0.02	23.19	
53.25	Top - Section 1	892.26	0.24	0.06	0.02	36.49	
55.00		238.82	0.26	0.05	0.02	9.59	
60.00		669.81	0.31	0.04	0.01	24.36	
65.00		651.25	0.36	0.03	0.01	19.11	
70.00		632.69	0.42	0.01	0.01	11.72	
75.00		614.13	0.48	-0.01	0.01	2.64	
80.00		595.56	0.54	-0.03	0.01	-6.84	
85.00		577.00	0.62	-0.06	0.02	-15.00	
90.00		558.44	0.69	-0.08	0.03	-20.48	
95.00		539.87	0.77	-0.11	0.05	-22.69	
97.50	Bot - Section 3	262.98	0.81	-0.11	0.06	-11.19	
100.00		415.87	0.85	-0.12	0.07	-17.29	
101.50	Top - Section 2	245.96	0.88	-0.12	0.08	-9.91	
105.00		213.53	0.94	-0.12	0.10	-7.54	
110.00		295.57	1.03	-0.10	0.15	-6.92	
115.00		284.44	1.13	-0.05	0.20	-1.69	
120.00		273.30	1.23	0.03	0.27	4.67	
125.00		262.16	1.33	0.16	0.36	11.97	
127.50	Appurtenance(s)	2171.8	1.38	0.25	0.42	134.77	
130.00		124.12	1.44	0.36	0.47	9.92	
135.00		239.89	1.55	0.64	0.61	28.76	
138.00	Appurtenance(s)	2554.8	1.62	0.85	0.70	374.84	
140.00		90.16	1.67	1.01	0.77	14.95	
145.00		217.61	1.79	1.49	0.96	47.39	
147.00	Appurtenance(s)	2361.8	1.84	1.72	1.05	567.47	
149.00		82.14	1.89	1.98	1.14	21.67	
Totals:		24,145.8				1,493.8	Total Wind: 22,759.0

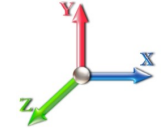
Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



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Load Case: 0.9D + 1.0E							Iterations 23
Gust Response Factor	1.10			Sds	0.21	Ss	0.20
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.10	S1	0.07
Wind Load Factor	0.00	Structure Frequency	0.35	SA	0.04	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	-25.97	-1.62	0.00	-193.51	0.00	193.51	3163.75	1581.88	6735.38	3372.69	0.00	0.00	0.00	0.066
5.00	-25.04	-1.60	0.00	-185.43	0.00	185.43	3129.45	1564.72	6519.79	3264.74	0.01	-0.02	0.065	
10.00	-24.12	-1.59	0.00	-177.40	0.00	177.40	3093.71	1546.85	6304.40	3156.89	0.03	-0.03	0.064	
15.00	-23.22	-1.56	0.00	-169.47	0.00	169.47	3056.53	1528.27	6089.41	3049.23	0.07	-0.05	0.063	
20.00	-22.34	-1.54	0.00	-161.66	0.00	161.66	3017.92	1508.96	5875.02	2941.88	0.13	-0.06	0.062	
25.00	-21.47	-1.51	0.00	-153.96	0.00	153.96	2977.88	1488.94	5661.42	2834.92	0.21	-0.08	0.062	
30.00	-20.62	-1.49	0.00	-146.39	0.00	146.39	2936.41	1468.20	5448.81	2728.46	0.30	-0.10	0.061	
35.00	-19.79	-1.46	0.00	-138.95	0.00	138.95	2893.50	1446.75	5237.39	2622.59	0.42	-0.12	0.060	
40.00	-18.97	-1.44	0.00	-131.63	0.00	131.63	2849.16	1424.58	5027.34	2517.41	0.55	-0.13	0.059	
45.00	-18.17	-1.41	0.00	-124.45	0.00	124.45	2803.38	1401.69	4818.87	2413.02	0.70	-0.15	0.058	
48.00	-17.70	-1.39	0.00	-120.22	0.00	120.22	2775.23	1387.61	4694.62	2350.80	0.80	-0.16	0.058	
50.00	-17.13	-1.37	0.00	-117.43	0.00	117.43	2756.17	1378.09	4612.17	2309.51	0.87	-0.17	0.057	
53.25	-16.23	-1.34	0.00	-112.97	0.00	112.97	2752.25	1376.12	4595.34	2301.09	0.99	-0.18	0.055	
55.00	-15.96	-1.33	0.00	-110.63	0.00	110.63	2735.34	1367.67	4523.51	2265.12	1.06	-0.19	0.055	
60.00	-15.20	-1.31	0.00	-103.98	0.00	103.98	2686.08	1343.04	4319.69	2163.06	1.27	-0.21	0.054	
65.00	-14.46	-1.29	0.00	-97.45	0.00	97.45	2635.39	1317.69	4118.12	2062.12	1.50	-0.23	0.053	
70.00	-13.73	-1.28	0.00	-90.99	0.00	90.99	2583.26	1291.63	3918.99	1962.41	1.75	-0.25	0.052	
75.00	-13.02	-1.28	0.00	-84.59	0.00	84.59	2529.69	1264.85	3722.50	1864.02	2.02	-0.27	0.051	
80.00	-12.33	-1.28	0.00	-78.20	0.00	78.20	2474.70	1237.35	3528.85	1767.05	2.31	-0.29	0.049	
85.00	-11.65	-1.28	0.00	-71.80	0.00	71.80	2418.27	1209.13	3338.22	1671.59	2.62	-0.31	0.048	
90.00	-11.00	-1.28	0.00	-65.40	0.00	65.40	2360.40	1180.20	3150.83	1577.76	2.96	-0.33	0.046	
95.00	-10.35	-1.28	0.00	-58.99	0.00	58.99	2301.11	1150.55	2966.86	1485.64	3.31	-0.35	0.044	
97.50	-10.04	-1.28	0.00	-55.80	0.00	55.80	2270.92	1135.46	2876.22	1440.25	3.50	-0.36	0.043	
100.00	-9.59	-1.28	0.00	-52.60	0.00	52.60	2235.90	1117.95	2780.94	1392.54	3.69	-0.37	0.042	
101.50	-9.32	-1.28	0.00	-50.68	0.00	50.68	1129.30	564.65	1418.29	710.20	3.81	-0.38	0.080	
105.00	-9.01	-1.28	0.00	-46.21	0.00	46.21	1114.37	557.18	1364.00	683.02	4.09	-0.39	0.076	
110.00	-8.59	-1.28	0.00	-39.81	0.00	39.81	1091.82	545.91	1286.67	644.29	4.51	-0.42	0.070	
115.00	-8.18	-1.28	0.00	-33.40	0.00	33.40	1067.84	533.92	1209.76	605.78	4.97	-0.45	0.063	
120.00	-7.78	-1.28	0.00	-26.99	0.00	26.99	1042.42	521.21	1133.48	567.58	5.46	-0.48	0.055	
125.00	-7.38	-1.26	0.00	-20.60	0.00	20.60	1015.57	507.79	1058.03	529.80	5.97	-0.50	0.046	
127.50	-5.35	-1.11	0.00	-17.44	0.00	17.44	1001.61	500.80	1020.67	511.09	6.24	-0.51	0.039	
130.00	-5.20	-1.10	0.00	-14.65	0.00	14.65	987.29	493.64	983.59	492.52	6.51	-0.52	0.035	
135.00	-4.92	-1.07	0.00	-9.14	0.00	9.14	957.57	478.78	910.36	455.86	7.07	-0.54	0.025	
138.00	-2.58	-0.68	0.00	-5.92	0.00	5.92	939.05	469.53	867.09	434.19	7.41	-0.55	0.016	
140.00	-2.47	-0.66	0.00	-4.57	0.00	4.57	926.42	463.21	838.55	419.90	7.64	-0.55	0.014	
145.00	-2.22	-0.61	0.00	-1.27	0.00	1.27	893.83	446.92	768.34	384.74	8.22	-0.56	0.006	
147.00	-0.07	-0.02	0.00	-0.04	0.00	0.04	880.40	440.20	740.75	370.92	8.45	-0.56	0.000	
149.00	0.00	-0.02	0.00	0.00	0.00	0.00	866.73	433.37	713.46	357.26	8.69	-0.56	0.000	

Wind Loading - Shaft

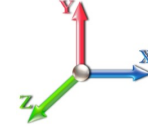
Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



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		1.92	0.70	11.790	12.97	306.55	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.85	0.70	11.348	12.48	294.39	0.650	0.000	5.00	21.781	14.16	176.7	0.0	863.5
10.00		1.79	0.70	10.944	12.04	282.85	0.650	0.000	5.00	21.315	13.86	166.8	0.0	844.9
15.00		1.73	0.70	10.573	11.63	271.89	0.650	0.000	5.00	20.850	13.55	157.6	0.0	826.3
20.00		1.67	0.70	10.234	11.26	261.45	0.650	0.000	5.00	20.385	13.25	149.2	0.0	807.8
25.00		1.62	0.70	9.923	10.91	251.50	0.650	0.000	5.00	19.919	12.95	141.3	0.0	789.2
30.00		1.57	0.70	9.645	10.61	242.09	0.650	0.000	5.00	19.454	12.65	134.2	0.0	770.6
35.00		1.53	0.73	9.804	10.78	238.17	0.650	0.000	5.00	18.988	12.34	133.1	0.0	752.1
40.00		1.49	0.76	9.923	10.91	233.66	0.650	0.000	5.00	18.523	12.04	131.4	0.0	733.5
45.00		1.45	0.79	10.012	11.01	228.74	0.650	0.000	5.00	18.058	11.74	129.3	0.0	715.0
48.00	Bot - Section 2	1.43	0.80	10.055	11.06	225.64	0.650	0.000	3.00	10.611	6.90	76.3	0.0	420.1
50.00		1.42	0.81	10.081	11.09	223.53	0.650	0.000	2.00	7.087	4.61	51.1	0.0	556.9
53.25	Top - Section 1	1.40	0.83	10.117	11.13	220.03	0.650	0.000	3.25	11.357	7.38	82.2	0.0	892.3
55.00		1.39	0.83	10.134	11.15	221.53	0.650	0.000	1.75	6.034	3.92	43.7	0.0	238.8
60.00		1.36	0.85	10.177	11.19	215.97	0.650	0.000	5.00	16.926	11.00	123.2	0.0	669.8
65.00		1.33	0.87	10.211	11.23	210.31	0.650	0.000	5.00	16.460	10.70	120.2	0.0	651.3
70.00		1.31	0.89	10.241	11.26	204.57	0.650	0.000	5.00	15.995	10.40	117.1	0.0	632.7
75.00		1.29	0.91	10.266	11.29	198.77	0.650	0.000	5.00	15.530	10.09	114.0	0.0	614.1
80.00		1.27	0.93	10.289	11.32	192.94	0.650	0.000	5.00	15.064	9.79	110.8	0.0	595.6
85.00		1.25	0.94	10.311	11.34	187.08	0.650	0.000	5.00	14.599	9.49	107.6	0.0	577.0
90.00		1.23	0.96	10.332	11.37	181.21	0.650	0.000	5.00	14.133	9.19	104.4	0.0	558.4
95.00		1.21	0.97	10.353	11.39	175.32	0.650	0.000	5.00	13.668	8.88	101.2	0.0	539.9
97.50	Bot - Section 3	1.21	0.98	10.364	11.40	172.37	0.650	0.000	2.50	6.660	4.33	49.3	0.0	263.0
100.00		1.20	0.99	10.375	11.41	169.42	0.650	0.000	2.50	6.622	4.30	49.1	0.0	415.9
101.50	Top - Section 2	1.19	0.99	10.381	11.42	167.65	0.650	0.000	1.50	3.918	2.55	29.1	0.0	246.0
105.00		1.18	1.00	10.397	11.44	165.59	0.650	0.000	3.50	8.978	5.84	66.7	0.0	213.5
110.00		1.17	1.02	10.420	11.46	159.68	0.650	0.000	5.00	12.431	8.08	92.6	0.0	295.6
115.00		1.16	1.03	10.444	11.49	153.77	0.650	0.000	5.00	11.965	7.78	89.4	0.0	284.4
120.00		1.15	1.04	10.470	11.52	147.85	0.650	0.000	5.00	11.500	7.47	86.1	0.0	273.3
125.00		1.14	1.05	10.497	11.55	141.93	0.650	0.000	5.00	11.034	7.17	82.8	0.0	262.2
127.50	Appurtenance(s)	1.13	1.06	10.511	11.56	138.96	0.650	0.000	2.50	5.343	3.47	40.2	0.0	126.9
130.00		1.13	1.07	10.525	11.58	135.99	0.650	0.000	2.50	5.226	3.40	39.3	0.0	124.1
135.00		1.12	1.08	10.554	11.61	130.05	0.650	0.000	5.00	10.103	6.57	76.2	0.0	239.9
138.00	Appurtenance(s)	1.11	1.08	10.573	11.63	126.48	0.650	0.000	3.00	5.839	3.80	44.1	0.0	138.6
140.00		1.11	1.09	10.585	11.64	124.10	0.650	0.000	2.00	3.799	2.47	28.8	0.0	90.2
145.00		1.10	1.10	10.618	11.68	118.14	0.650	0.000	5.00	9.173	5.96	69.6	0.0	217.6
147.00	Appurtenance(s)	1.10	1.10	10.631	11.69	115.75	0.650	0.000	2.00	3.539	2.30	26.9	0.0	83.9
149.00		1.10	1.11	10.644	11.71	113.36	0.650	0.000	2.00	3.464	2.25	26.4	0.0	82.1
Totals:									149.00			3,368.0		17,406.7

Discrete Appurtenance Forces

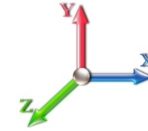
Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



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	147.00	Powerwave LGP21401	6	10.631	11.694	0.54	0.80	4.15	84.60	0.000	0.000	48.51	0.00	0.00	
2	147.00	Powerwave 7770.00	6	10.631	11.694	0.66	0.90	21.68	210.00	0.000	0.000	253.54	0.00	0.00	
3	147.00	KMW	3	10.631	11.694	0.68	0.90	16.24	145.50	0.000	0.000	189.92	0.00	0.00	
4	147.00	Low Profile Platform	1	10.631	11.694	1.00	1.00	22.00	1500.00	0.000	0.000	257.27	0.00	0.00	
5	147.00	Powerwave LGP13519	6	10.631	11.694	0.54	0.80	1.09	31.80	0.000	0.000	12.79	0.00	0.00	
6	147.00	Ericsson RRUS-11	6	10.631	11.694	0.54	0.80	8.10	306.00	0.000	0.000	94.77	0.00	0.00	
7	138.00	Low Profile Platform	1	10.573	11.630	1.00	1.00	22.00	1500.00	0.000	0.000	255.86	0.00	0.00	
8	138.00	ALU 800MHz RRH	3	10.573	11.630	0.54	0.80	5.56	204.90	0.000	0.000	64.71	0.00	0.00	
9	138.00	ALU 1900MHz	3	10.573	11.630	0.54	0.80	6.11	132.00	0.000	0.000	71.06	0.00	0.00	
10	138.00	ALU TD-RRH8x20-25	3	10.573	11.630	0.54	0.80	6.51	210.00	0.000	0.000	75.74	0.00	0.00	
11	138.00	RFS ACU-A20-N	4	10.573	11.630	0.54	0.80	0.30	4.00	0.000	0.000	3.49	0.00	0.00	
12	138.00	ALU 800MHz	3	10.573	11.630	0.54	0.80	1.25	26.40	0.000	0.000	14.59	0.00	0.00	
13	138.00	RFS APXVTM14-C-120	3	10.573	11.630	0.63	0.80	12.02	168.00	0.000	0.000	139.80	0.00	0.00	
14	138.00	RFS APXVSPP18-C-A20	3	10.573	11.630	0.66	0.80	15.98	171.00	0.000	0.000	185.80	0.00	0.00	
15	127.50	Platform w/ Hand Rail	1	10.511	11.562	1.00	1.00	35.00	1600.00	0.000	0.000	404.66	0.00	0.00	
16	127.50	Kathrein 782 11054	3	10.511	11.562	0.50	0.75	0.42	7.80	0.000	0.000	4.88	0.00	0.00	
17	127.50	Remec S20057A1	3	10.511	11.562	0.50	0.75	1.24	33.00	0.000	0.000	14.29	0.00	0.00	
18	127.50	RFS	3	10.511	11.562	0.50	0.75	1.76	37.50	0.000	0.000	20.39	0.00	0.00	
19	127.50	RFS ATMAA1412D-1A20	3	10.511	11.562	0.50	0.75	1.76	39.00	0.000	0.000	20.39	0.00	0.00	
20	127.50	Commscope	3	10.511	11.562	0.60	0.75	20.65	149.40	0.000	0.000	238.70	0.00	0.00	
21	127.50	RFS APXV18-209014-C	3	10.511	11.562	0.55	0.75	5.96	56.10	0.000	0.000	68.92	0.00	0.00	
22	127.50	RFS	3	10.511	11.562	0.50	0.75	9.74	122.10	0.000	0.000	112.59	0.00	0.00	
Totals:									6,739.10						2,552.67

Total Applied Force Summary

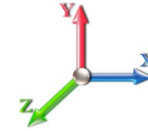
Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



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		176.73	1036.95	0.00	0.00
10.00		166.79	1018.39	0.00	0.00
15.00		157.63	999.83	0.00	0.00
20.00		149.16	981.27	0.00	0.00
25.00		141.32	962.70	0.00	0.00
30.00		134.15	944.14	0.00	0.00
35.00		133.11	925.58	0.00	0.00
40.00		131.42	907.02	0.00	0.00
45.00		129.27	888.45	0.00	0.00
48.00		76.29	524.16	0.00	0.00
50.00		51.08	626.28	0.00	0.00
53.25		82.15	1005.03	0.00	0.00
55.00		43.72	299.54	0.00	0.00
60.00		123.16	843.31	0.00	0.00
65.00		120.18	824.75	0.00	0.00
70.00		117.12	806.19	0.00	0.00
75.00		113.99	787.63	0.00	0.00
80.00		110.82	769.06	0.00	0.00
85.00		107.63	750.50	0.00	0.00
90.00		104.41	731.94	0.00	0.00
95.00		101.18	713.37	0.00	0.00
97.50		49.35	349.73	0.00	0.00
100.00		49.12	502.62	0.00	0.00
101.50		29.08	298.01	0.00	0.00
105.00		66.74	334.98	0.00	0.00
110.00		92.61	469.07	0.00	0.00
115.00		89.35	457.94	0.00	0.00
120.00		86.09	446.80	0.00	0.00
125.00		82.81	435.66	0.00	0.00
127.50	(22) attachments	924.97	2258.55	0.00	0.00
130.00		39.33	164.07	0.00	0.00
135.00		76.25	319.79	0.00	0.00
138.00	(23) attachments	855.19	2602.83	0.00	0.00
140.00		28.76	116.84	0.00	0.00
145.00		69.64	284.31	0.00	0.00
147.00	(28) attachments	883.69	2388.51	0.00	0.00
149.00		26.37	82.14	0.00	0.00
	Totals:	5,920.65	28,857.95	0.00	0.00

Calculated Forces

Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



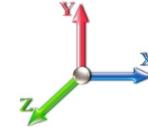
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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 24

Dead Load Factor 1.00

Wind Load 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	-28.86	-5.93	0.00	-595.04	0.00	595.04	3163.75	1581.88	6735.38	3372.69	0.00	0.000	0.000	0.186
5.00	-27.81	-5.78	0.00	-565.38	0.00	565.38	3129.45	1564.72	6519.79	3264.74	0.03	-0.048	0.000	0.182
10.00	-26.79	-5.63	0.00	-536.49	0.00	536.49	3093.71	1546.85	6304.40	3156.89	0.10	-0.096	0.000	0.179
15.00	-25.79	-5.50	0.00	-508.33	0.00	508.33	3056.53	1528.27	6089.41	3049.23	0.23	-0.145	0.000	0.175
20.00	-24.80	-5.36	0.00	-480.85	0.00	480.85	3017.92	1508.96	5875.02	2941.88	0.41	-0.194	0.000	0.172
25.00	-23.83	-5.24	0.00	-454.03	0.00	454.03	2977.88	1488.94	5661.42	2834.92	0.64	-0.244	0.000	0.168
30.00	-22.89	-5.12	0.00	-427.83	0.00	427.83	2936.41	1468.20	5448.81	2728.46	0.92	-0.295	0.000	0.165
35.00	-21.96	-5.00	0.00	-402.21	0.00	402.21	2893.50	1446.75	5237.39	2622.59	1.26	-0.346	0.000	0.161
40.00	-21.05	-4.89	0.00	-377.19	0.00	377.19	2849.16	1424.58	5027.34	2517.41	1.65	-0.398	0.000	0.157
45.00	-20.16	-4.76	0.00	-352.77	0.00	352.77	2803.38	1401.69	4818.87	2413.02	2.09	-0.451	0.000	0.153
48.00	-19.63	-4.69	0.00	-338.47	0.00	338.47	2775.23	1387.61	4694.62	2350.80	2.39	-0.483	0.000	0.151
50.00	-19.00	-4.65	0.00	-329.09	0.00	329.09	2756.17	1378.09	4612.17	2309.51	2.59	-0.504	0.000	0.149
53.25	-18.00	-4.56	0.00	-313.99	0.00	313.99	2752.25	1376.12	4595.34	2301.09	2.95	-0.540	0.000	0.143
55.00	-17.69	-4.53	0.00	-306.00	0.00	306.00	2735.34	1367.67	4523.51	2265.12	3.15	-0.559	0.000	0.142
60.00	-16.85	-4.41	0.00	-283.36	0.00	283.36	2686.08	1343.04	4319.69	2163.06	3.76	-0.610	0.000	0.137
65.00	-16.02	-4.30	0.00	-261.30	0.00	261.30	2635.39	1317.69	4118.12	2062.12	4.43	-0.662	0.000	0.133
70.00	-15.21	-4.18	0.00	-239.82	0.00	239.82	2583.26	1291.63	3918.99	1962.41	5.15	-0.713	0.000	0.128
75.00	-14.42	-4.07	0.00	-218.91	0.00	218.91	2529.69	1264.85	3722.50	1864.02	5.92	-0.765	0.000	0.123
80.00	-13.65	-3.96	0.00	-198.54	0.00	198.54	2474.70	1237.35	3528.85	1767.05	6.75	-0.816	0.000	0.118
85.00	-12.90	-3.86	0.00	-178.73	0.00	178.73	2418.27	1209.13	3338.22	1671.59	7.64	-0.868	0.000	0.112
90.00	-12.17	-3.75	0.00	-159.45	0.00	159.45	2360.40	1180.20	3150.83	1577.76	8.57	-0.918	0.000	0.106
95.00	-11.45	-3.65	0.00	-140.70	0.00	140.70	2301.11	1150.55	2966.86	1485.64	9.56	-0.967	0.000	0.100
97.50	-11.10	-3.59	0.00	-131.58	0.00	131.58	2270.92	1135.46	2876.22	1440.25	10.07	-0.992	0.000	0.096
100.00	-10.60	-3.54	0.00	-122.60	0.00	122.60	2235.90	1117.95	2780.94	1392.54	10.60	-1.017	0.000	0.093
101.50	-10.30	-3.51	0.00	-117.29	0.00	117.29	1129.30	564.65	1418.29	710.20	10.92	-1.031	0.000	0.174
105.00	-9.96	-3.45	0.00	-105.00	0.00	105.00	1114.37	557.18	1364.00	683.02	11.69	-1.064	0.000	0.163
110.00	-9.49	-3.36	0.00	-87.77	0.00	87.77	1091.82	545.91	1286.67	644.29	12.84	-1.133	0.000	0.145
115.00	-9.03	-3.27	0.00	-70.99	0.00	70.99	1067.84	533.92	1209.76	605.78	14.06	-1.197	0.000	0.126
120.00	-8.58	-3.18	0.00	-54.66	0.00	54.66	1042.42	521.21	1133.48	567.58	15.35	-1.254	0.000	0.105
125.00	-8.15	-3.09	0.00	-38.76	0.00	38.76	1015.57	507.79	1058.03	529.80	16.69	-1.302	0.000	0.081
127.50	-5.91	-2.12	0.00	-31.03	0.00	31.03	1001.61	500.80	1020.67	511.09	17.38	-1.322	0.000	0.067
130.00	-5.75	-2.08	0.00	-25.74	0.00	25.74	987.29	493.64	983.59	492.52	18.08	-1.340	0.000	0.058
135.00	-5.43	-1.99	0.00	-15.36	0.00	15.36	957.57	478.78	910.36	455.86	19.49	-1.367	0.000	0.039
138.00	-2.85	-1.08	0.00	-9.38	0.00	9.38	939.05	469.53	867.09	434.19	20.36	-1.378	0.000	0.025
140.00	-2.73	-1.05	0.00	-7.23	0.00	7.23	926.42	463.21	838.55	419.90	20.94	-1.384	0.000	0.020
145.00	-2.45	-0.97	0.00	-2.00	0.00	2.00	893.83	446.92	768.34	384.74	22.39	-1.392	0.000	0.008
147.00	-0.08	-0.03	0.00	-0.06	0.00	0.06	880.40	440.20	740.75	370.92	22.97	-1.393	0.000	0.000
149.00	0.00	-0.03	0.00	0.00	0.00	0.00	866.73	433.37	713.46	357.26	23.56	-1.393	0.000	0.000

Final Analysis Summary

Structure: CT13058-A-SBA	Code: EIA/TIA-222-G	11/28/2016
Site Name: Southbury	Exposure: B	
Height: 149.00 (ft)	Crest Height: 89.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 2	Struct Class: II



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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 93 mph Wind	22.8	0.00	34.59	0.00	0.00	2302.68
0.9D + 1.6W 93 mph Wind	22.8	0.00	25.93	0.00	0.00	2276.18
1.2D + 1.0Di + 1.0Wi 50 mph Wind	7.4	0.00	56.10	0.00	0.00	735.50
1.2D + 1.0E	1.6	0.00	34.63	0.00	0.00	195.99
0.9D + 1.0E	1.6	0.00	25.97	0.00	0.00	193.51
1.0D + 1.0W 60 mph Wind	5.9	0.00	28.86	0.00	0.00	595.04

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 93 mph Wind	-34.59	-22.81	0.00	-2302.6	0.00	-2302.6	3163.75	1581.8	6735.38	3372.69	0.00	0.694
0.9D + 1.6W 93 mph Wind	-25.93	-22.80	0.00	-2276.1	0.00	-2276.1	3163.75	1581.8	6735.38	3372.69	0.00	0.683
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-56.10	-7.37	0.00	-735.50	0.00	-735.50	3163.75	1581.8	6735.38	3372.69	0.00	0.236
1.2D + 1.0E	-12.43	-1.30	0.00	-51.53	0.00	-51.53	1129.30	564.65	1418.29	710.20	101.50	0.084
0.9D + 1.0E	-9.32	-1.28	0.00	-50.68	0.00	-50.68	1129.30	564.65	1418.29	710.20	101.50	0.080
1.0D + 1.0W 60 mph Wind	-28.86	-5.93	0.00	-595.04	0.00	-595.04	3163.75	1581.8	6735.38	3372.69	0.00	0.186



Monopole Mat Foundation Design

Date
11/28/2016

Customer Name:	T-Mobile	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	149
Site Number:	CT13058-A-SBA	Engineer Name:	Rama K.
Engr. Number:	28003	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations
Monopole
Analysis

Structure Type:

Analysis or Design?

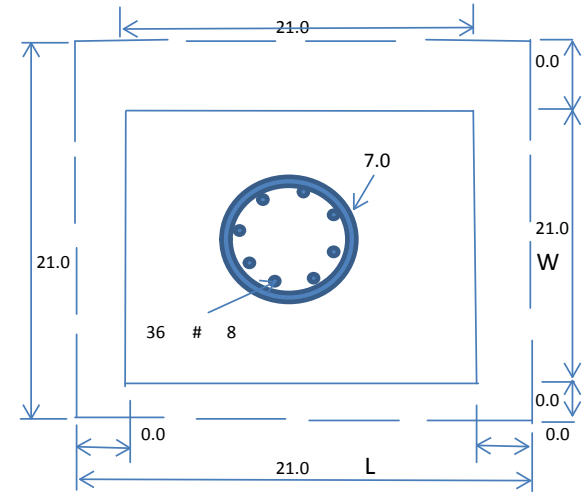
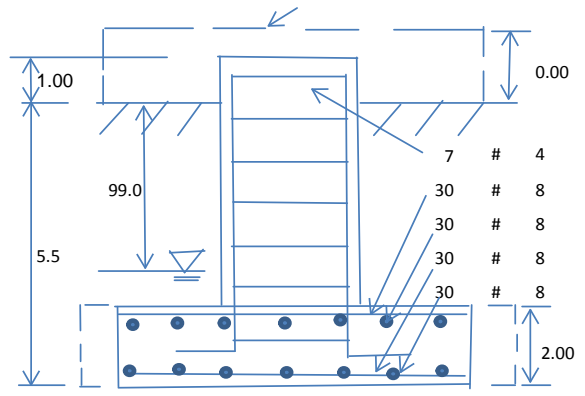
Base Reactions (Factored):

Axial Load (Kips):	34.6	Shear Force (Kips):	22.8
Uplift Force (Kips):	0.0	Moment (Kips-ft):	2302.7

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	5.5
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	2.00
Length of Pad (ft.):	21	Width of Pad (ft.):	21
Final Length of pad (ft)	21.0	Final width of pad (ft):	21.0
Control Value for Cell D18:	0	Control Value for Cell F18:	0



Material Properties and Rebar Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	8	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	36	Tie Spacing (in):	12.0	
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):	30	Qty. of Rebar in Pad (W):	30	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	30	Qty. of Rebar in Pad (W):	30	

Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

Soil Unit Weight (pcf):	125.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	12000	Ultimate Skin Friction:	175	Psf
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No	
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00	
		Angle from Top of Pad:	30	
		Angle from Bottm of Pad:	25	
		Angle from Bottm of Pad:	25	

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	1408.80	Total Dry Soil Weight (Kips):	176.10
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	176.10	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1055.18	Total Dry Concrete Weight (Kips):	158.28
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	158.28	Total Vertical Load on Base (Kips):	368.98

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	3000	<	Allowable Factored Soil Bearing (psf):	9000	0.33	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	3523.2	>	Design Factored Momont (kips-ft):	2451	0.70	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.44					OK!

Load/
Capacity
Ratio

Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00

(1) Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	0.79	Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	4845.7	> Design Factored Moment (Mu, Kips-Ft)	2405.3	0.50	OK!
Calculated Shear Capacity (Kips):	660.1	> Design Factored Shear (Kips):	22.8	0.03	OK!
Calculated Tension Capacity (Tn, Kips):	1535.8	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9747.6	> Design Factored Axial Load (Pu Kips):	34.6	0.00	OK!
Moment & Axial Strength Combination:	0.50	OK! Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.005	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

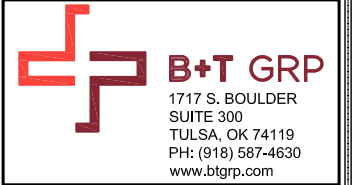
One-Way Design Shear Capacity (L-Direction, Kips):	490.1	> One-Way Factored Shear (L-D. Kips):	168.7	0.34	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	490.1	> One-Way Factored Shear (W-D., Kips)	168.7	0.34	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	529.7	> One-Way Factored Shear (C-C, Kips):	174.5	0.33	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0046	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0046		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	2097.8	> Moment at Bottom (L-Direct. K-Ft):	446.3	0.21	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	2097.8	> Moment at Bottom (W-Direct. K-Ft):	446.3	0.21	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	2928.2	> Moment at Bottom (C-C Dir. K-Ft):	631.2	0.22	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0046	OK! Upper Steel Reinf. Ratio (W-Direct.):	0.0046		
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	2097.8	> Moment at the top (L-Dir Kips-Ft):	126.5	0.06	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	2097.8	> Moment at the top (W-Dir Kips-Ft):	126.5	0.06	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	2928.2	> Moment at the top (C-C Direc. K-Ft):	250.0	0.09	OK!

SITE NAME: SOUTHBURY

459 BURR RD
SOUTHBURY, CT 06488

SITE NUMBER: CTNH231A

SITE CONFIG: 704G



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



SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581

CTNH231A

SOUTHBURY

459 BURR RD
SOUTHBURY, CT 06488

PROJECT NO: 109796.001

CHECKED BY: SLM

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	12/2/16	GEH	CONSTRUCTION

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/17



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

SHEET NUMBER: T-1 REVISION: 0

T-1 0

PROJECT NOTES

GENERAL NOTES:

THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. 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.

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.

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 STRUCTURAL NOTES:

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.

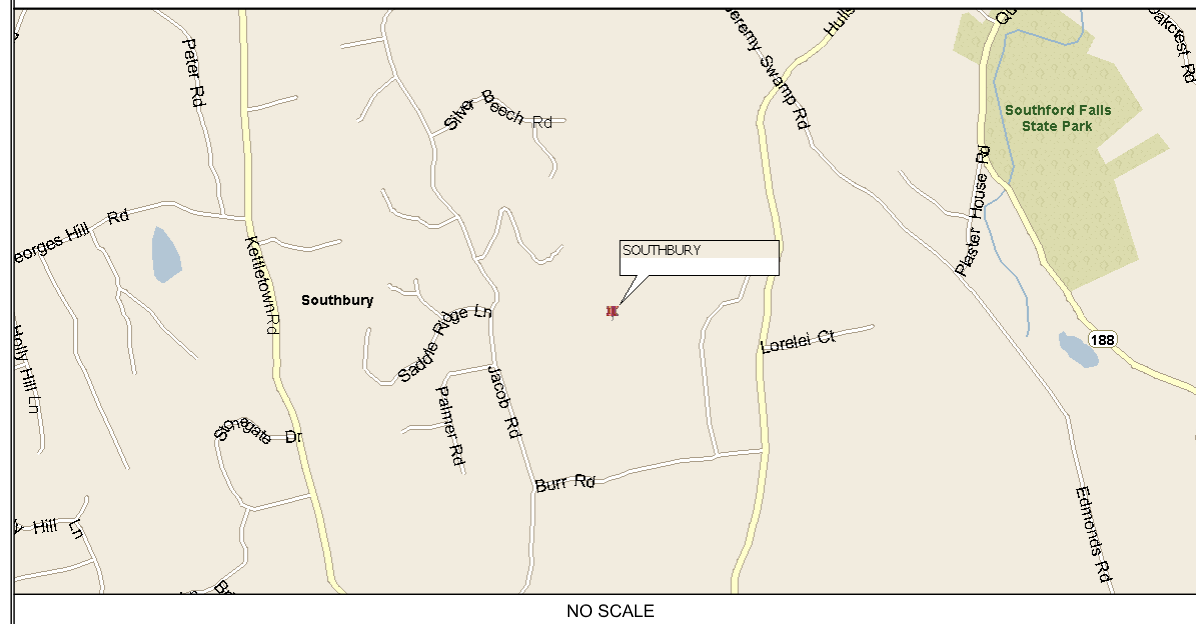
ENGINEER OF RECORD HAS MADE A VISUAL ASSESSMENT ONLY AND HAS DETERMINED THAT THE EXISTING ANTENNA MOUNT SHALL BE REPLACED OR MODIFIED TO ACCOMMODATE ANY ADDITIONAL EQUIPMENT LOAD. STRUCTURAL DESIGNS AND DETAILS AS SHOWN HEREIN FOR STRUCTURAL MODIFICATIONS OF THE EXISTING ANTENNA MOUNT ARE PRELIMINARY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

B+T GROUP ASSUMES THAT THE TOWER IS PROPERLY CONSTRUCTED AND MAINTAINED. ALL STRUCTURAL MEMBERS AND THEIR CONNECTIONS ARE ASSUMED TO BE IN GOOD CONDITION AND ARE FREE FROM DEFECTS WITH NO DETERIORATION TO ITS MEMBER CAPACITIES.

T-MOBILE TECHNICIAN SITE SAFETY NOTES

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

LOCATION MAP



NO SCALE

PROJECT INFORMATION

SCOPE OF WORK: UNMANNED TELECOMMUNICATIONS FACILITY T-MOBILE EQUIPMENT MODERNIZATION
ZONING JURISDICTION: (TOWN OF SOUTHBURY) BASED ON INFORMATION PROVIDED BY T-MOBILE, REGULATORY COMPLIANCE AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS FACILITY DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409 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).

SITE ADDRESS: 459 BURR RD SOUTHBURY, CT 06488

LATITUDE: 41.44869679° N
LONGITUDE: 73.18267720° W

JURISDICTION: NATIONAL, STATE & LOCAL CODES & ORDINANCES

CURRENT USE: TELECOMMUNICATIONS FACILITY

PROPOSED USE: TELECOMMUNICATIONS FACILITY

TOWER OWNER: SBA TOWERS IV, LLC

SBA SITE ID: CT13058-A

SBA SITE NAME: SOUTHBURY

SBA REGIONAL SITE MANAGER: STEPHEN ROTH (860) 539-4920 sroth@sbasite.com

APPROVALS

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

ACCEPTANCE DOES NOT CONSTITUTE APPROVAL OF DESIGN, CALCULATIONS, ANALYSIS, TEST METHODS OF MATERIALS DEVELOPED OR SELECTED BY THE SUBCONTRACTOR AND DOES NOT RELIEVE SUBCONTRACTOR FROM FULL COMPLIANCE WITH CONTRACTUAL OBLIGATIONS.

DRAWING INDEX

SHEET #	SHEET DESCRIPTION	REV. #
T-1	TITLE SHEET	0
GN-1	GENERAL NOTES	0
C-1	COMPOUND AND ELEVATION PLAN	0
C-2	EXISTING AND PROPOSED ANTENNA PLANS	0
C-3	DETAILS	0
C-4	DETAILS	0
E-1	GROUNDING DETAILS AND NOTES	0



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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) LIGHTING PROTECTION CODE AND GENERAL COMPLIANCE WITH TELECORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATION OR ADVERSE FINDING TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GE'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 & 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 CIRCUITS 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 BUS 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 ELECTRICAL 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 BONDED FITTINGS OR BY BINDING 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' OR MORE OF 1/2" OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BAR TINNED COPPER GROUND WIRE, PER NEC 250.50.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, 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 MATERIAL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, UNLESS SPECIFICALLY STATED OTHERWISE.
 8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALL 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 AND GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWINGS. 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, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF 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 THE 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 NOTED OTHERWISE, PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WETHER SHALL BE HOT DIPPED GALVANIZED. TOUCH-UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
 16. CONSTRUCTION SHALL COMPLY WITH UMS 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, AL 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 IF 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: IBC 2009
 ELECTRICAL CODE: NEC 2014
- 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, FOURTEENTH 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, METHOD 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	GC	GENERAL CONTRACTOR	REF.	REFERENCE
AWG	AMERICAN WIRE GAUGE	MAX.	MAXIMUM	REQ.	REQUIRED
BCW	BARE COPPER WIRE	MGB	MASTER GROUND BAR	RF	RADIO FREQUENCY
BTS	BASE TRANSCEIVER STATION	MIN.	MINIMUM	T.B.D.	TO BE DETERMINED
(E)	EXISTING	(N)	PROPOSED	T.B.R.	TO BE REMOVED
EG	EQUIPMENT GROUND	N.T.S.	NOT TO SCALE	T.B.R.R.	TO BE REMOVED AND REPLACED
EGR	EQUIPMENT GROUND RING	RE:	REFERENCE	(TYP)	TYPICAL



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 WESTBOROUGH, MA 01581

CTNH231A

SOUTHBURY

459 BURR RD
 SOUTHBURY, CT 06488

PROJECT NO: 109796.001
 CHECKED BY: SLM

ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION
0	12/2/16	GEH	CONSTRUCTION

B&T ENGINEERING, INC.
 PEC.0001564
 Expires 2/10/17



12/2/16

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

SPECIAL PRE-CONSTRUCTION WORK NOTE:

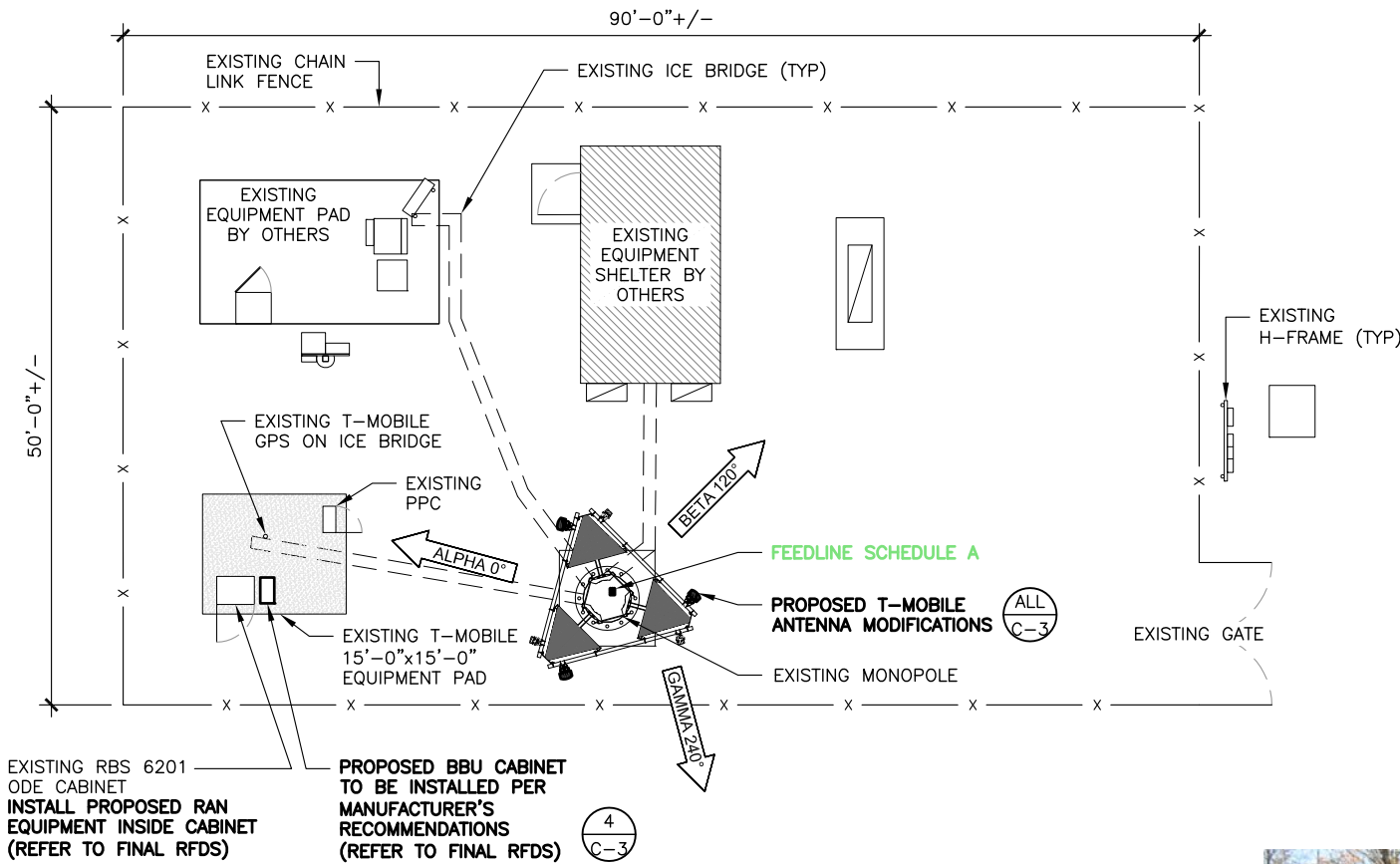
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.

ANTENNA MOUNT STRUCTURAL DESIGN NOTE:

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.

FEEDLINE SCHEDULE	FEEDLINE DESCRIPTION	LOCATION
A	EXISTING: (6) 1 5/8" COAX	INSIDE POLE
B	PROPOSED: (6) 1 5/8" COAX	INSIDE POLE

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



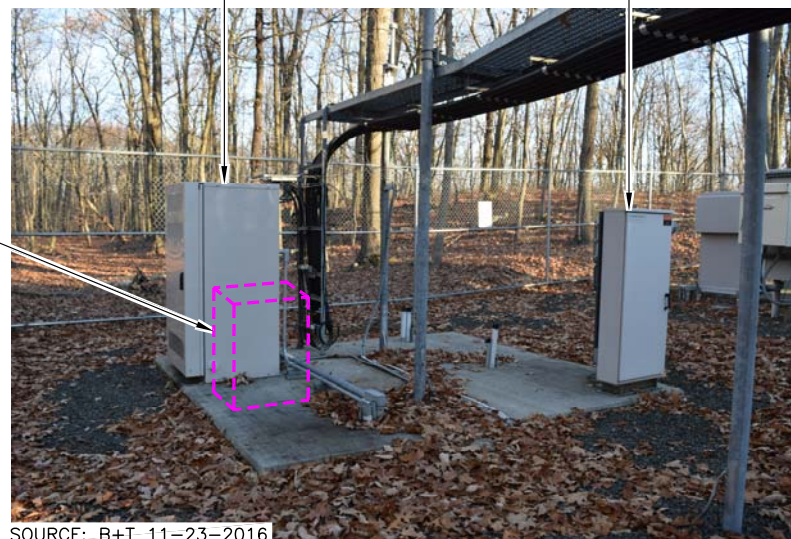
1 OVERALL SITE PLAN
SCALE: 0' 8' 16' 32' 48'



SOURCE: B-T 11-23-2016

SEE FEEDLINE SCHEDULE. (REFER TO SBA PROVIDED STRUCTURAL ANALYSIS FOR SPECIAL CABLE INSTALLATION REQUIREMENTS, BUNDLING, SHIELDING, MOUNTING AND RELOCATION OF EXISTING CABLES)

(4 C-3) PROPOSED BBU CABINET TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS (REFER TO FINAL RFDS)



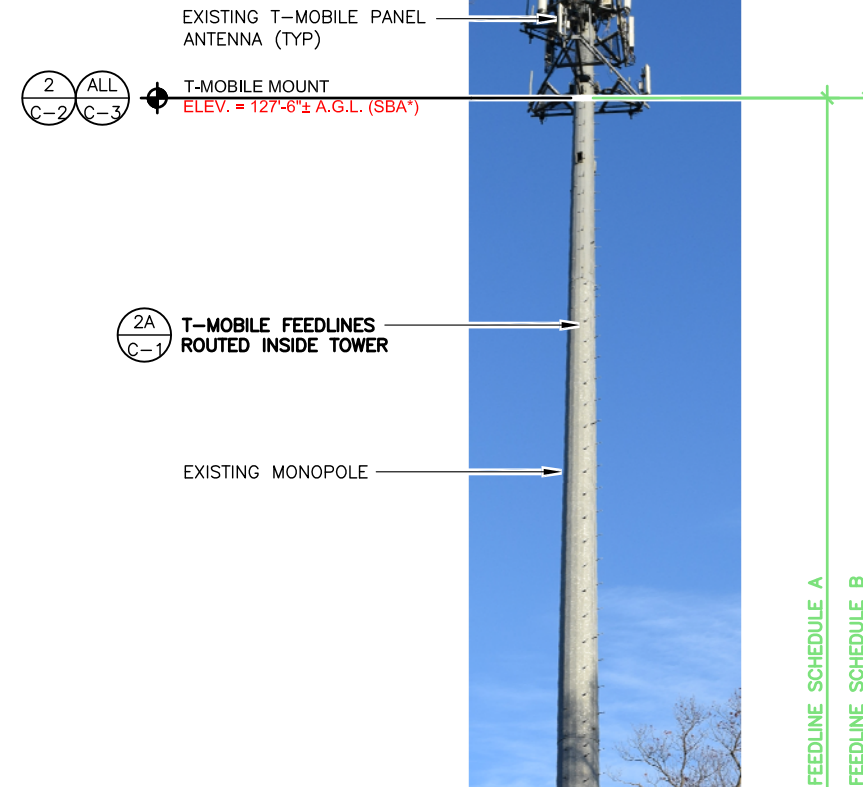
SOURCE: B-T 11-23-2016

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



SOURCE: B-T 11-23-2016

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



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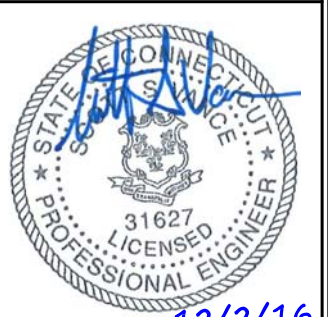
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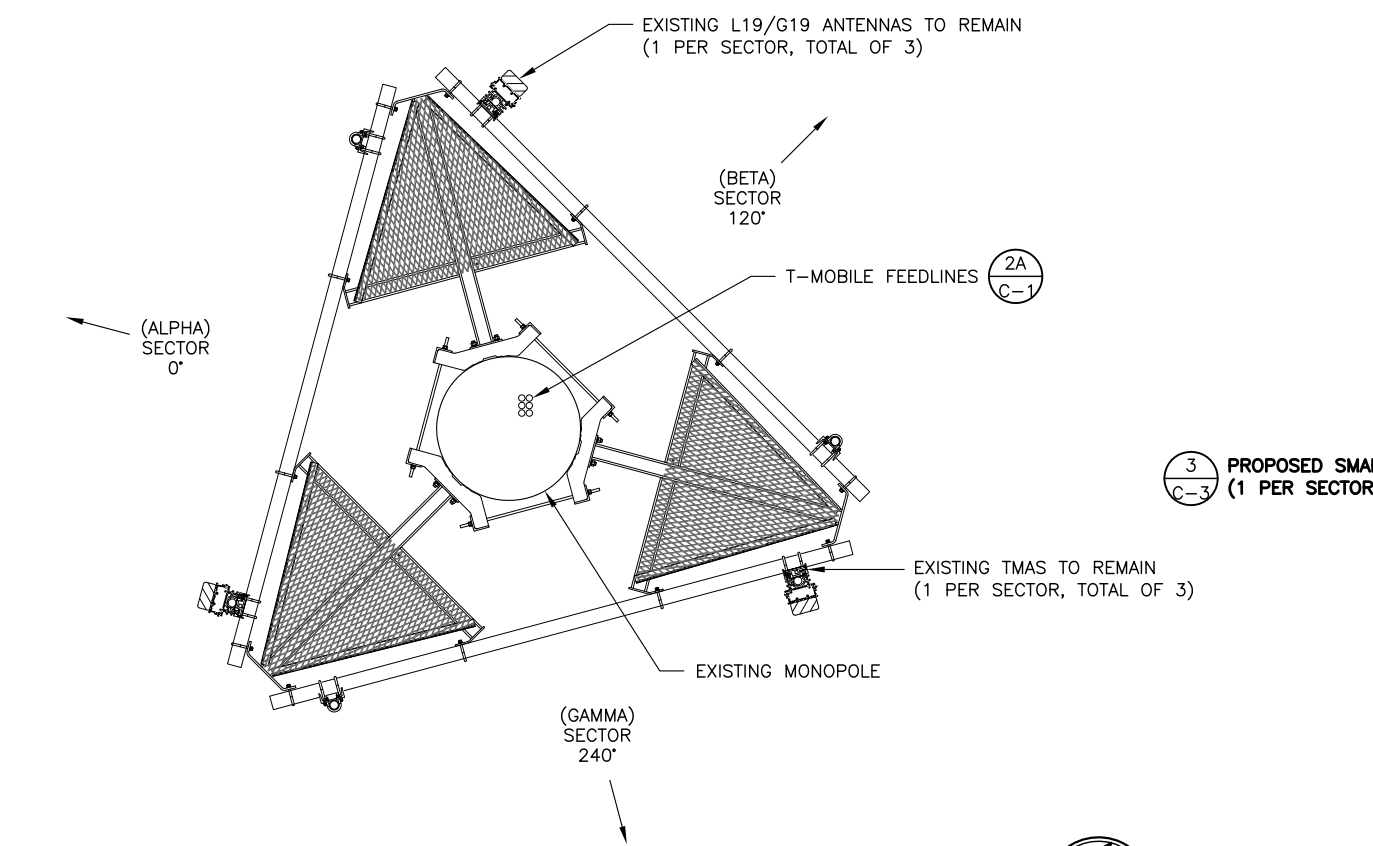
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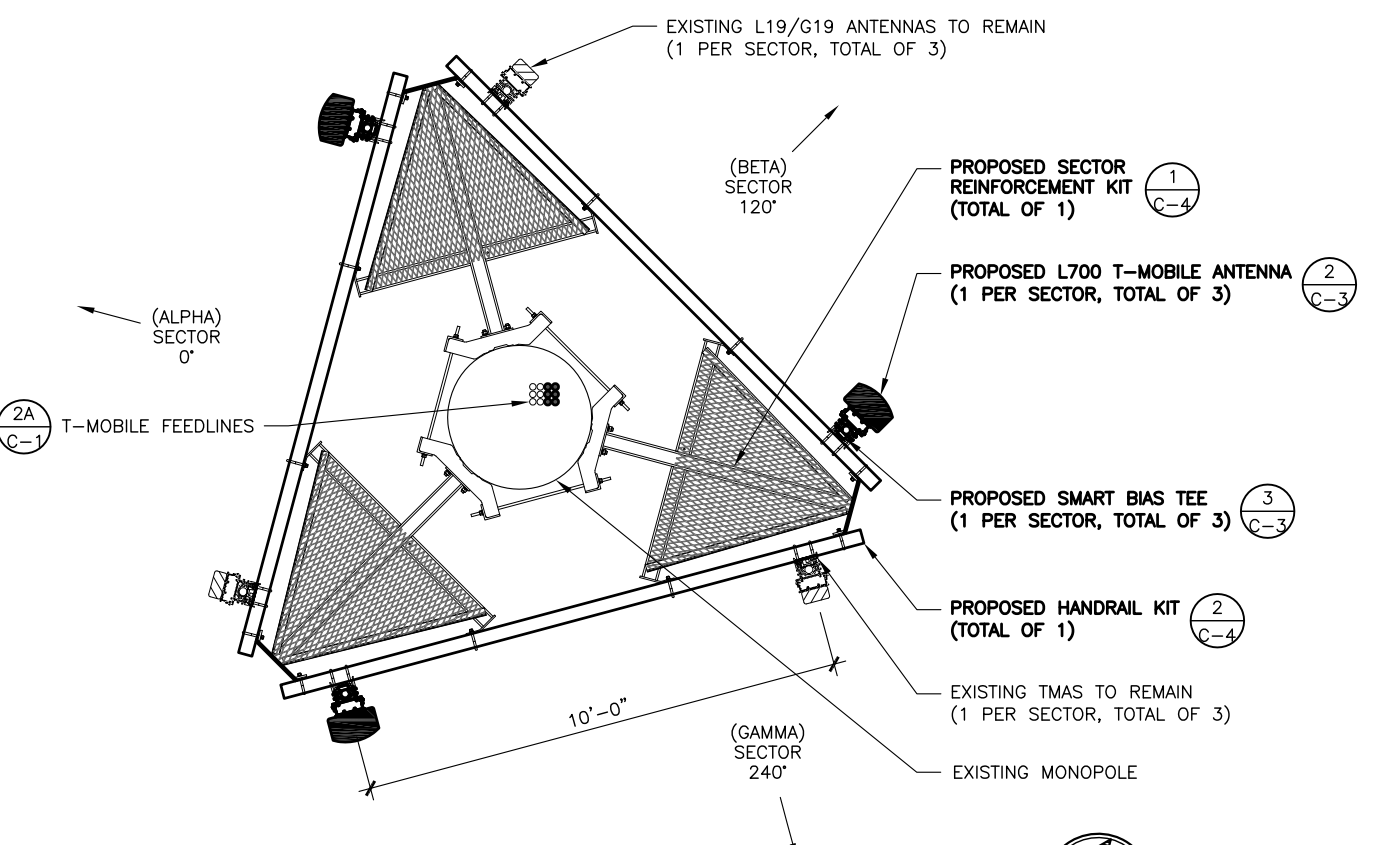
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NOTE:
 AT TIME OF CONSTRUCTION, CONTRACTOR TO VERIFY AZIMUTHS OF EXISTING ANTENNAS. IF DIFFERENT FROM RFDS, PLEASE NOTIFY THE RF ENGINEER AND CONSTRUCTION MANAGER WITH ACTUAL AZIMUTH TO ENSURE T-MOBILE'S DATABASE IS ACCURATE AND UP-TO-DATE.

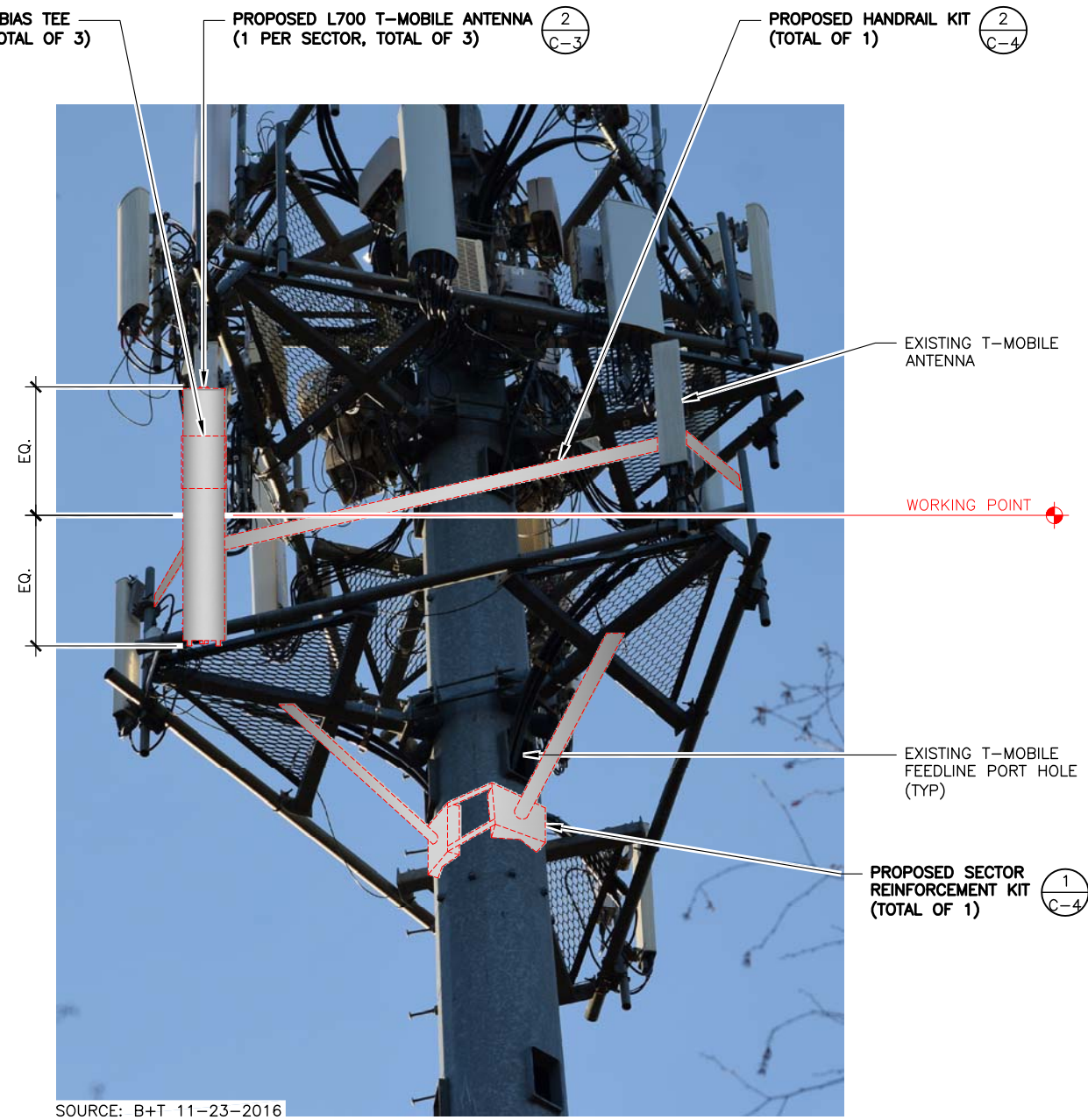
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1A EXISTING ANTENNA PLAN
 SCALE: 0' 1' 2' 4' 10'



1B PROPOSED ANTENNA PLAN
 SCALE: 0' 1' 2' 4' 10'



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

109796_CTI3058-A_Southbury.dwg - Sheet: C-2 - User: mwessel - Dec 02, 2016 - 3:27pm

1A C-3 PROPOSED ANTENNA TO PIPE CLAMP (INCLUDED WITH ANTENNA)

2 C-4 PROPOSED HANDRAIL KIT (TOTAL OF 1)

WORKING POINT

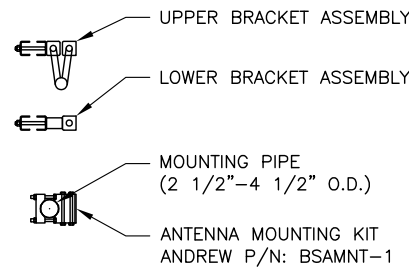
4'-0"

EXISTING PLATFORM MOUNTING RAIL

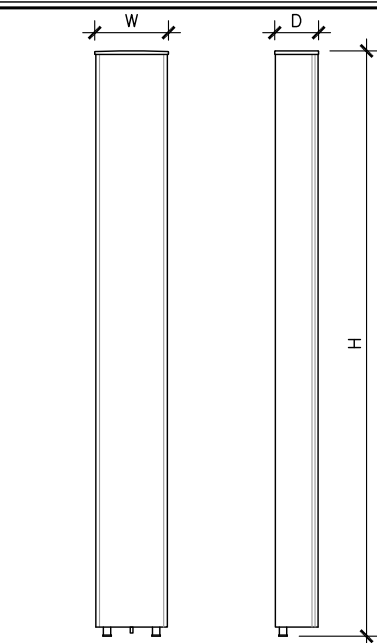
EXISTING MOUNTING PIPE

PROPOSED L700 ANTENNA 2 C-3

ANTENNA INSTALLATION SPECIAL WORK NOTE:
ANTENNA INSTALLATION WORKING POINT IS THE STRUCTURAL FACE FRAME VERTICAL CENTERLINE OF THE EXISTING ANTENNA SUPPORT ASSEMBLY. UNLESS NOTED OTHERWISE VERTICALLY CENTER ALL PIPE MASTS AND ANTENNAS ON THIS WORKING POINT.



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

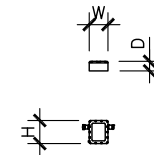


L700 ANTENNA SPECS	
MANUFACTURER	ANDREW
MODEL #	LNx-6515DS
WIDTH	11.9"
DEPTH	7.1"
HEIGHT	96.4"
WEIGHT	50.3 LBS

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

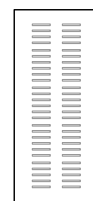
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SBT SPECIFICATIONS	
MANUFACTURER	KATHREIN
MODEL #	78211054
WIDTH	3.2"
DEPTH	1.8"
HEIGHT	5.5"
WEIGHT	1.8 LBS

3 SMART BIAS TEE (SBT) SCALE: N.T.S.



BBU SPECIFICATIONS	
MANUFACTURER	PTS
MODEL #	PTS8003-H150B
WIDTH	14.040"
DEPTH	26.305"
HEIGHT	32.245"
WEIGHT	60 LBS

MOUNT BASE WITH (4) 1/2" DROP IN ANCHORS WITH 2" MIN. EMBEDMENT (INSTALL PER MANUFACTURER'S SPECS)

4 BATTERY CABINET (BBU) SCALE: N.T.S.

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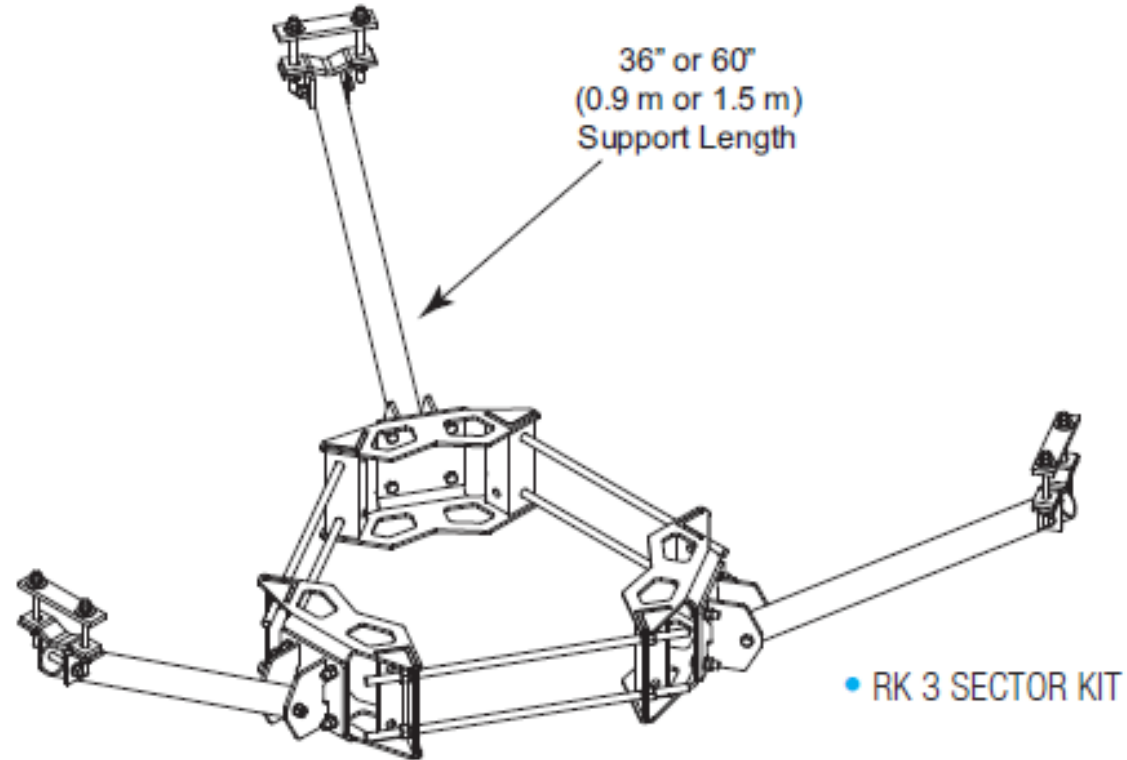
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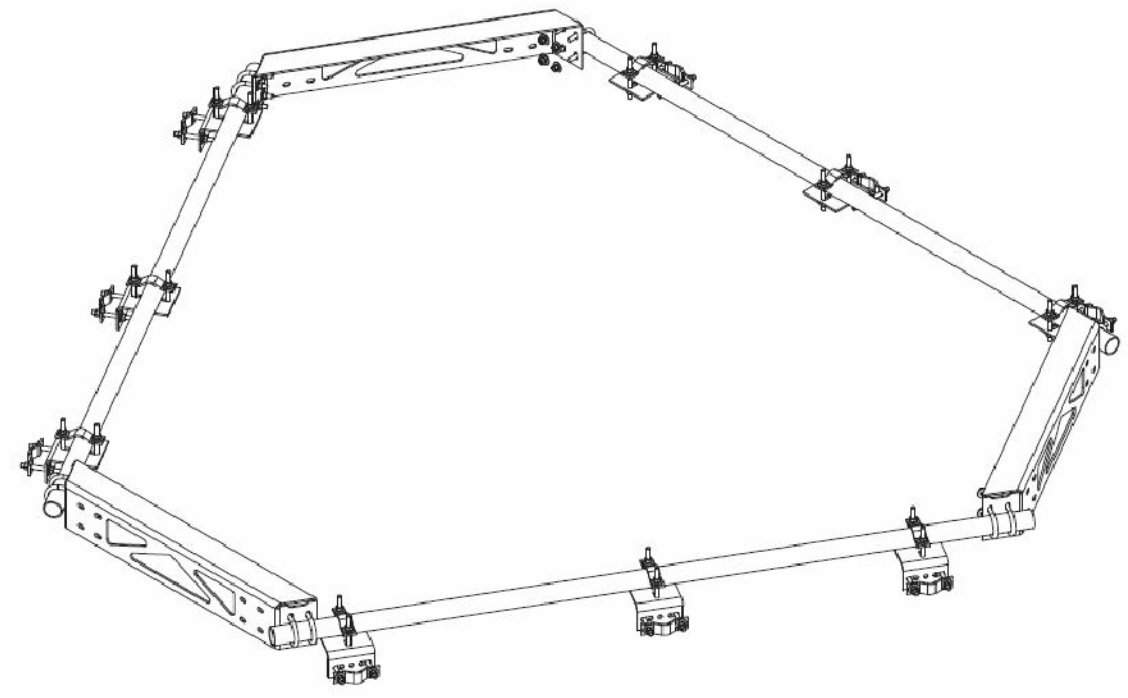
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C-4 **0**



1 RK-60-3 SECTOR REINFORCEMENT KIT
 SCALE: N.T.S.



2 MT-195-14 HANDRAIL KIT
 SCALE: N.T.S.

109796-CT13058-A_Southbury.dwg - Sheet: C-4 - User: mwessel - Dec 02, 2016 - 3:28pm

