



May 5, 2015

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

RE: Notice of Exempt Modification
275 North Street, Easton, CT 06612
N 41° 18' 59.10"
W 73° 18' 50.48"
T-Mobile #: CT11243A-L700

Members of the Siting Council:

On behalf of T-Mobile, SBA Communications is submitting an exempt modification application to the Connecticut Siting council for modification of existing equipment at a tower facility located at 275 North Street, Easton, CT 06612.

The 275 North Street, Easton facility consists of a 185' Monopole owned and operated by SBA Towers, LLC. In order to accommodate technological changes and enhance system performance in the State of Connecticut, T-Mobile plans to modify the equipment configurations at many of its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the chief elected official of the municipality in which the affected cell site is located.

As part of T-Mobile's L700 project, T-Mobile desires to upgrade their equipment to meet the new standards of 4G technology. The new equipment will allow customers to download files and browse the internet at a high rate of speed while also allowing their phones to be compatible with the latest 4G technology.

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

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



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

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

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

Please feel free to call me at 508.251.0720 x 3804 with any questions you may have concerning this matter.

Thank you,

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

T-Mobile Equipment Modification

275 North Street, Easton, CT 06612
Site number CT11243A

Tower Owner: SBA Towers, LLC

Equipment Configuration: Monopole

Current and/or approved:

- (3) EMS-RR90-17-02DP
- (6) Allen Telecom FE15S01P77/75
- (6) 1-5/8" lines
- (3) 12' Cobra Arms

Planned Modifications:

- (6) Allen Telecom FE15S01P77/75 TMA's
- (3) Commscope LNX-6515DS
- (3) EMS RR90-17-02DP
- (3) Kathrein 782 11056
- (12) 1 5/8" lines
- (3) Cobra Arms – (cut down from 12' to 5' long. Cantilever length reduced from 6' to 2.5')

Structural Information:

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

Power Density:

The anticipated Maximum Composite contributions from the T-Mobile facility are 2.79% of the allowable FCC established general public limit. The anticipated composite MPE value for this site assuming all carriers present is 29.66% of the allowable FCC established general public limit sampled at the ground level.

Site Composite MPE%	
Carrier	MPE%
T-Mobile	2.79 %
Sprint	1.68 %
Verizon Wireless	15.20 %
AT&T	9.99 %
Site Total MPE %:	29.66 %

May 5, 2015

Mr. Adam Dunsby
First Selectman
Town of Easton
225 Center Road
Easton, CT 06612

RE: Telecommunications Facility @ 275 North Street, Easton, CT 06612

Dear Mr. Dunsby,

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

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

The accompanying letter to the Siting Council fully describes T-Mobile's proposal for the referenced cell site. However, if you have any questions or require any further information on our plans or the Siting Council's procedures, please call me at 508.251.0720 x 3804.

Thank you,



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

T-Mobile Existing Facility

Site ID: CT11243A

**Easton-2/ Rt 59
275 North Street
Easton, CT 06612**

April 8, 2015

EBI Project Number: 6215002472

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	29.66 %

April 8, 2015

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

Emissions Analysis for Site: **CT11243A – Easton-2/ Rt 59**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **275 North Street, Easton, 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 $467 \mu\text{W}/\text{cm}^2$, and the general population exposure limit for the PCS band 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 **275 North Street, Easton, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

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

- 1) 2 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel
- 2) 2 UMTS channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 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.
- 4) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.
- 5) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

- 6) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 7) The antennas used in this modeling are the **EMS RR90_17_02DP** 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 **EMS RR90_17_02DP** has a maximum gain of **14.4 dBd** at its main lobe. The **Commscope LNX-6515DS-VTM** has a maximum gain of **14.6 dBd** at its main lobe. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 8) The antenna mounting height centerline of the proposed antennas is **187 feet** above ground level (AGL).
- 9) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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



T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	EMS RR90_17_02DP	Make / Model:	EMS RR90_17_02DP	Make / Model:	EMS RR90_17_02DP
Gain:	14.4 dBd	Gain:	14.4 dBd	Gain:	14.4 dBd
Height (AGL):	187	Height (AGL):	187	Height (AGL):	187
Frequency Bands	1900 MHz(PCS)	Frequency Bands	1900 MHz(PCS)	Frequency Bands	1900 MHz(PCS)
Channel Count	6	Channel Count	6	# PCS Channels:	6
Total TX Power:	240	Total TX Power:	240	# AWS Channels:	240
ERP (W):	6,610.15	ERP (W):	6,610.15	ERP (W):	6,610.15
Antenna A1 MPE%	0.73	Antenna B1 MPE%	0.73	Antenna C1 MPE%	0.73
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):	187	Height (AGL):	187	Height (AGL):	187
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power:	30	Total TX Power:	30	Total TX Power:	30
ERP (W):	865.21	ERP (W):	865.21	ERP (W):	865.21
Antenna A2 MPE%	0.20	Antenna B2 MPE%	0.20	Antenna C2 MPE%	0.20

Site Composite MPE%	
Carrier	MPE%
T-Mobile	2.79 %
Sprint	1.68 %
Verizon Wireless	15.20 %
AT&T	9.99 %
Site Total MPE %:	29.66 %

T-Mobile Sector 1 Total:	0.93 %
T-Mobile Sector 2 Total:	0.93 %
T-Mobile Sector 3 Total:	0.93 %
Site Total:	29.66 %

Summary

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

The anticipated maximum composite contributions from the T-Mobile facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general public exposure to RF Emissions are shown here:

T-Mobile Sector	Power Density Value (%)
Sector 1:	0.93 %
Sector 2:	0.93 %
Sector 3 :	0.93 %
T-Mobile Total:	2.79 %
Site Total:	29.66 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **29.66%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.



Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803



Tower Engineering Solutions

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

Post-Mod Structural Analysis Report

Existing 185 ft. Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT00707-S

Customer Site Name: North Easton

Carrier Name: T-Mobile

Carrier Site Number: CT11243A

Carrier Site Name: Unknown

Site Location: 275 North Street

Easton, Connecticut

Fairfield County

Latitude: 41.316417

Longitude: -73.314022

Analysis Result:

Max Structural Usage: 100.0 % [Pass]

Max Foundation Usage: 93.0 % [Pass]

Report Prepared By : Walter Velez



Introduction

The purpose of this report is to summarize the analysis results on the 185 ft. Monopole to support the proposed antennas and transmission lines in addition to those currently installed.

The proposed modification by **TES** listed under Sources of Information was considered completed and was included in this analysis.

Sources of Information

Tower Drawings	Monopole original structural design report & shaft section data prepared by Paul J. Ford and Company. Dated 08-10-1999. Job No 20099-146. Monopole previous structural report prepared by FDH Engineering, Inc. Dated 03-04-2015. Project No 15BFFU1400.
Foundation Drawing	Monopole foundation drawing prepared by Paul J. Ford and Company. Dated 08-10-1999. Job No 20099-146.
Geotechnical Report	Monopole geotechnical report prepared by Jaworski Geotech, Inc. Dated 07-30-1999. Project No C98404G.
Existing Modification	N/A
Proposed Modification	Tower Engineering Solutions Job # 14918

Analysis Criteria

The analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA-222-F. 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.

Basic Wind Speed Used in the Analysis:	85.0 mph (Fastest Mile)
Basic Wind Speed with Ice:	74 mph (Fastest Mile) with 1/2" radial ice concurrent
Operational Wind Speed:	50 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA-222-F, IBC 2003 & 2005 Connecticut State Building Code

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	185.0	-	6' Pole Branch	Direct	-	-
2	179.5	-	6' Pole Branch	Direct	-	-
3	175.0	3	Alcatel Lucent 1900 MHz RRUs	(3) Cobra Arms	(4) 1 1/4" Coax	Sprint
4		3	Alcatel Lucent 800 MHz Filters			
5		3	Alcatel Lucent 800 MHz RRUs			
6		3	Alcatel Lucent TD-RRH8x20-25			
7		4	RFS ACU-A20-N RETs			
8		3	RFS APXVSPP18-C-A20			
9		3	RFS APXVTM14-C-120			
10	174.5	-	7' Pole Branch	Direct	-	-
11	169.5	-	8' Pole Branch	Direct	-	-
12	165.0	3	Antel BXA 171063/8BF	(3) Cobra Arms	(12) 1 5/8"	Verizon Wireless
13		1	Antel BXA 70063/6CF_4			
14		2	Antel LPA 80063/6CF			
15		6	RFS FD9R6004/2C-3L			
16		4	Swedcom SC-E 6014 Rev 2			
17		2	Swedcom SLCP 2x6014			
18	164.5	-	8' Pole Branch	Direct	-	-
19	159.5	-	9' Pole Branch	Direct	-	-
20	155.0	6	Ericsson RRUS-11 RRUs	(3) Cobra Arms	(12) 1 5/8"; (1) Fiber; (2) DC Power	AT&T Wireless
21		6	Powerwave 7770.00			
22		6	Powerwave LGP 21401 TMAs			
23		6	Powerwave LGP21903 Diplexers			
24		3	Powerwave P65-16-XLH-RR			
25		1	Raycap DC6-48-60-18-8F Surge			
26	154.5	-	9' Pole Branch	Direct	-	-
27	149.5	-	10' Pole Branch	Direct	-	-
28	144.5	-	11' Pole Branch	Direct	-	-

Proposed Antennas, Mounts and Transmission Lines

Information pertaining to the proposed 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
29	185.0	6	Allen Telecom FE15S01P77/75 TMAs	(3) Cobra Arms*	(12) 1 5/8"	T-Mobile
30		3	Commscope LNX-6515DS			
31		3	EMS RR90-17-02DP			
32		3	Kathrein 782 11056			

*. (3) Cobra Arms cut down from 12' to 5' long. Cantilever length reduced from 6' to 2.5'.

All transmission lines are considered running inside of pole shaft.

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:	100.0%	94.5%	78.6%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Original Design Reactions	7275.0	52.5	52.0
Analysis Reactions	7262.7	51.6	57.7
% of Design Reactions	99.8%	98.2%	110.9%

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-222-F for the installed antennas. Maximum twist/sway at the elevation of the proposed equipment is 2.5026 degree under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the structure and its foundation will be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the design ANSI/TIA-222-F standards, the IBC 2003 and the 2005 Connecticut State Building Code under a basic wind speed of 85 mph no ice and 74 mph with 1/2" radial ice after the following proposed modification is successfully completed:

- Proposed modification design drawing by **TES** Job # 14918

Pre-Mod Installation Determination

We have also checked this tower to determine if the proposed T-Mobile equipment loading can be installed prior to the completion of the required modifications. We ran a reduced wind loading case as required by TIA-1019 considering a construction period of no more than 6 months.

The tower and foundations passed, so the Carrier can proceed and install their proposed loading prior to the mods completion. Please be aware that this approval is being provided and is based on the method outlined in TIA-1019. This approval is not a blanket approval and there is still a risk that the tower will experience a wind event that cannot be predicted by TIA-1019 or our Engineers. In the event of an unforeseen wind event, Tower Engineering Solutions will not be liable nor responsible for damage to the tower or the Carriers equipment. Additionally, the tower cannot go beyond the 6 month construction period without the modifications being completed. If the modifications cannot be completed within 6 months from the completed installation of the Carrier's proposed equipment, TES must be notified immediately for further review.

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 or/and 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 Stress 100.0% at 0.0ft

Structure: CT00707-S-SBA
Site Name: North Easton
Height: 185.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69

4/13/2015

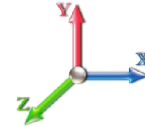
Page: 1



Dead Load Factor: 1.00
Wind Load Factor: 1.00

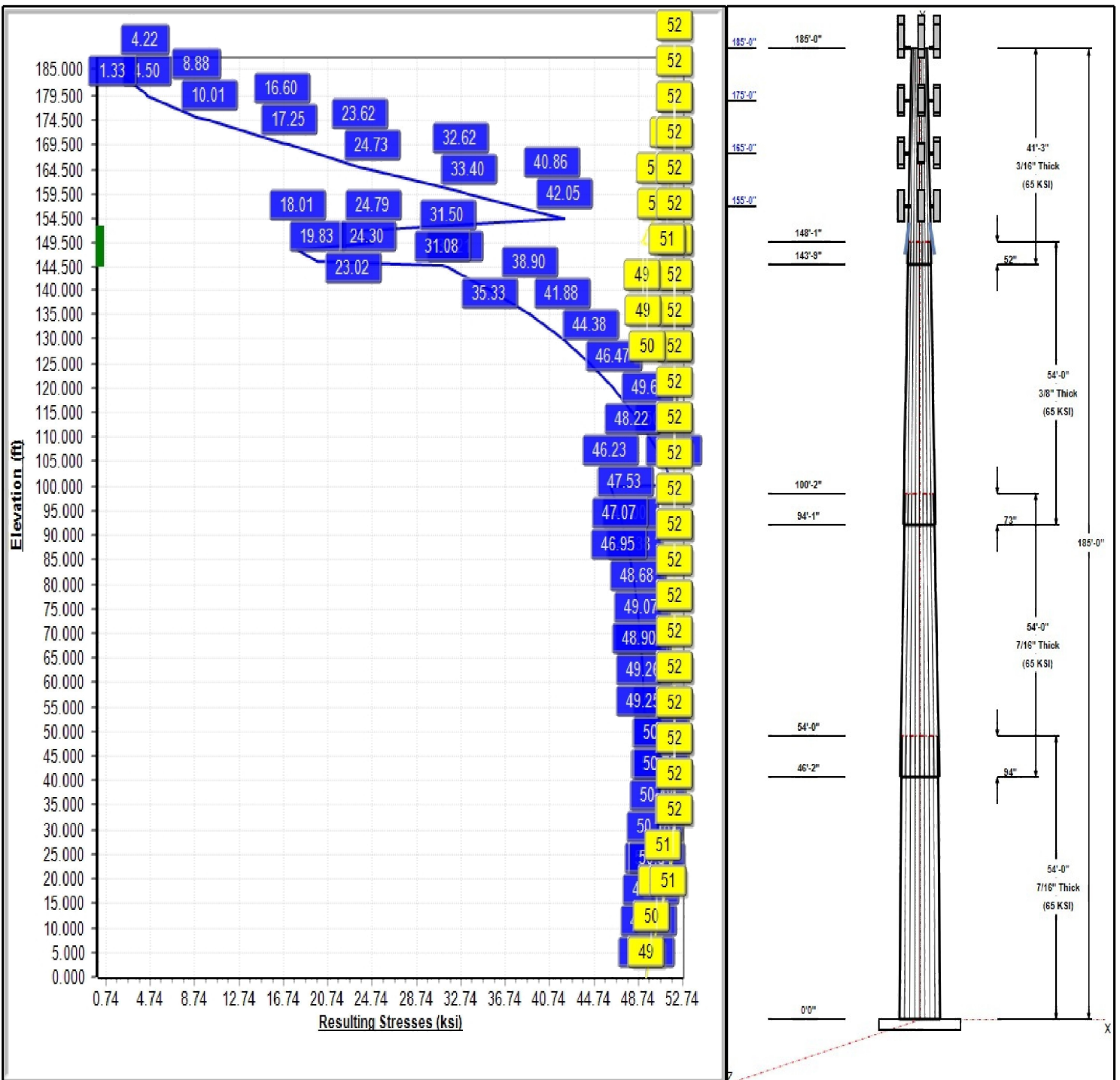
Load Case : 85 mph Wind with 0 in Ice

49 Allowable Stress
49 Resulting Stress



Iterations: 25

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Structure: CT00707-S-SBA

Type: Tapered
Site Name: North Easton
Height: 185.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.28716

4/13/2015

Page: 2



Shaft Properties

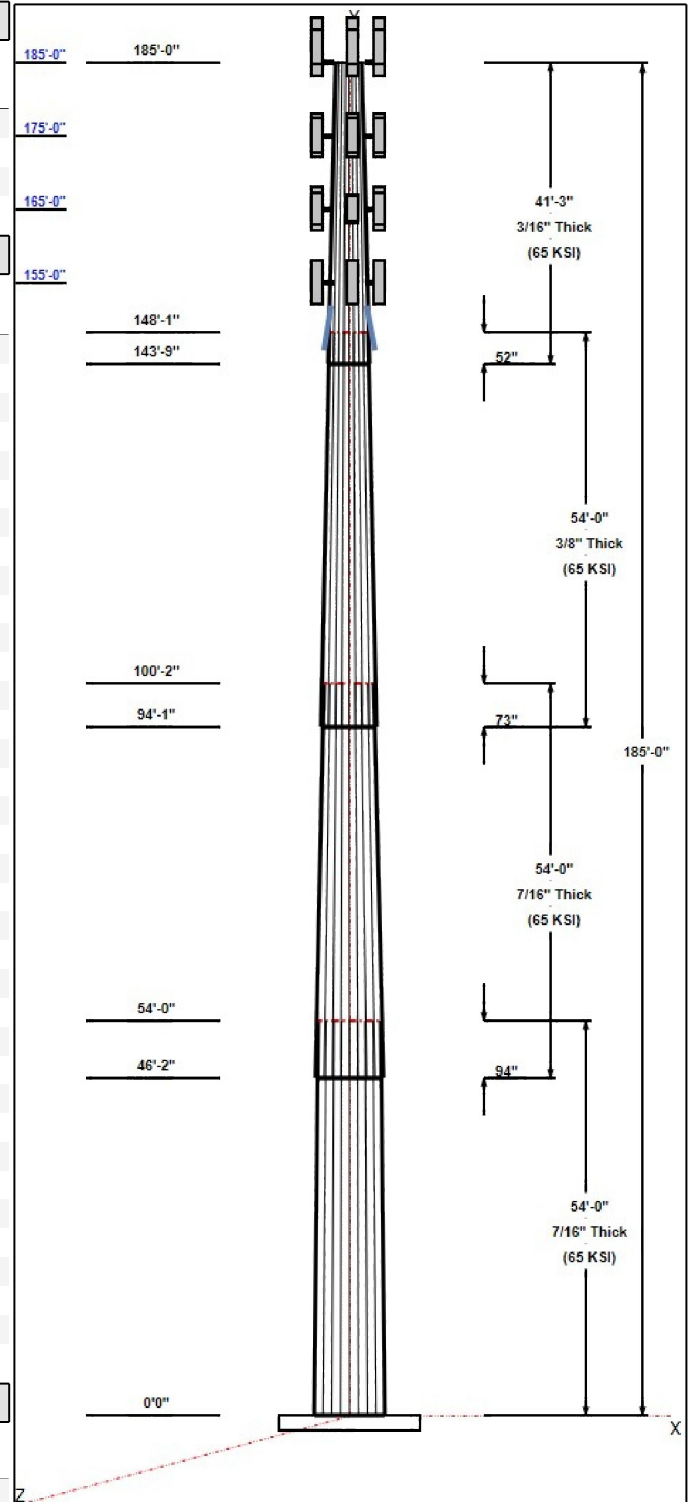
Seq	Length (ft)	Top	Bottom	Thick	Joint Type	Taper	Grade (ksi)
1	54.00	56.99	72.50	0.44		0.28716	65
2	54.00	44.61	60.12	0.44	Slip	0.28716	65
3	54.00	31.60	47.11	0.38	Slip	0.28716	65
4	41.25	21.38	33.22	0.19	Slip	0.28716	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
185.00	185.00	1	6' Pole Branch	---
185.00	187.00	6	Allen Telecom	T-Mobile
185.00	185.00	3	Cobra Arms	T-Mobile
185.00	187.00	3	Commscope LNX-6515DS	T-Mobile
185.00	187.00	3	EMS RR90-17-02DP	T-Mobile
185.00	187.00	3	Kathrein 782 11056	T-Mobile
179.50	179.50	1	6' Pole Branch	---
175.00	175.00	3	Alcatel Lucent 1900 MHz	Sprint
175.00	175.00	3	Alcatel Lucent 800 MHz	Sprint
175.00	175.00	3	Alcatel Lucent 800 MHz	Sprint
175.00	175.00	3	Alcatel Lucent	Sprint
175.00	175.00	3	Cobra Arms	Sprint
175.00	175.00	4	RFS ACU-A20-N RETs	Sprint
175.00	175.00	3	RFS APXVSP18-C-A20	Sprint
175.00	175.00	3	RFS APXVTM14-C-120	Sprint
174.50	174.50	1	7' Pole Branch	---
169.50	169.50	1	8' Pole Branch	---
165.00	165.00	3	Antel BXA 171063/8BF	Verizon Wireless
165.00	165.00	1	Antel BXA 70063/6CF_4	Verizon Wireless
165.00	165.00	2	Antel LPA 80063/6CF	Verizon Wireless
165.00	165.00	3	Cobra Arms	Verizon Wireless
165.00	165.00	6	RFS FD9R6004/2C-3L	Verizon Wireless
165.00	165.00	4	Swedcom SC-E 6014 Rev	Verizon Wireless
165.00	165.00	2	Swedcom SCLP 2x6014	Verizon Wireless
164.50	164.50	1	8' Pole Branch	---
159.50	159.50	1	9' Pole Branch	---
155.00	155.00	3	Cobra Arms	AT&T Wireless
155.00	155.00	6	Ericsson RRUS-11 RRUs	AT&T Wireless
155.00	155.00	6	Powerwave 7770.00	AT&T Wireless
155.00	155.00	6	Powerwave LGP 21401	AT&T Wireless
155.00	155.00	6	Powerwave LGP21903	AT&T Wireless
155.00	155.00	3	Powerwave	AT&T Wireless
155.00	155.00	1	Raycap DC6-48-60-18-8F	AT&T Wireless
154.50	154.50	1	9' Pole Branch	---
149.50	149.50	1	10' Pole Branch	---
144.50	144.50	1	11' Pole Branch	---

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
3.00	185.00	Inside	1 5/8" Coax	T-Mobile
3.00	175.00	Inside	1 1/4" Coax	Sprint
3.00	165.00	Inside	1 5/8" Coax	Verizon Wireless
3.00	155.00	Inside	1 5/8" Coax	AT&T Wireless
3.00	155.00	Inside	DC Power	AT&T Wireless
3.00	155.00	Inside	Fiber	AT&T Wireless



Structure: CT00707-S-SBA

Type: Tapered
Site Name: North Easton
Height: 185.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.28716

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143.75 153.75 Outside 1" Reinforcing plate

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
24	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.5000	79.6	50.0	Square

Reactions

Load Case	Moment	Shear	Axial
85 mph Wind with 0" Ice	7262.7	51.6	53.9
73.61 mph Wind with 0.5" Ice	4257.7	31.4	57.7
50 mph Wind with 0" Ice	2517.5	17.8	54.0

Shaft Properties

Structure: CT00707-S-SBA
Site Name: North Easton
Height: 185.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	54.000	0.4375	65		0.00	16,409
2	18	54.000	0.4375	65	Slip	94.00	13,249
3	18	54.000	0.3750	65	Slip	73.00	8,525
4	18	41.250	0.1875	65	Slip	52.00	2,265
Total Shaft Weight:							40,447

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	72.50	0.00	100.0	65652.37	27.80	165.7	56.99	54.00	78.53	31736.0	21.55	130.2	0.287162
2	60.12	46.17	82.87	37291.75	22.81	137.4	44.61	100.1	61.34	15121.8	16.56	101.9	0.287162
3	47.11	94.08	55.62	15347.65	20.73	125.6	31.60	148.0	37.17	4578.55	13.44	84.26	0.287162
4	33.22	143.7	19.66	2710.11	29.83	177.1	21.38	185.0	12.61	715.13	18.69	114	0.287162

Additional Steel

Elev From (ft) To (ft)		Qty	Description	Fy (ksi)	Fu (ksi)	Offset (in)	Intermediate Connectors		Termination Connectors		Lower Qty	Upper Qty
							Description	Spacing (in)	Description	Spacing (in)		
145.7	151.7	3	LNP LP6X100-G-10CT	65	80	0.00	5/8" Hollo Bolt	24.00	M20 Hollo Bolt	3.00	8	8

Loading Summary

Structure: CT00707-S-SBA
Site Name: North Easton
Height: 185.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
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	185.0	6' Pole Branch	1	300.00	16.06	1.00	20.00	5.000	1.00	0.00	0.00
2	185.0	Allen Telecom FE15S01P77/75	6	17.50	0.55	0.75	16.00	0.720	0.75	0.00	2.00
3	185.0	Cobra Arms	3	350.00	6.50	0.75	550.00	16.00	0.75	0.00	0.00
4	185.0	Commscope LNX-6515DS	3	50.30	11.41	0.80	115.60	12.34	0.80	0.00	2.00
5	185.0	EMS RR90-17-02DP	3	18.00	4.36	0.79	0.00	4.990	0.79	0.00	2.00
6	185.0	Kathrein 782 11056	3	2.90	0.13	0.67	4.00	0.210	0.67	0.00	2.00
7	179.5	6' Pole Branch	1	300.00	58.85	1.00	20.00	5.000	1.00	0.00	0.00
8	175.0	Alcatel Lucent 1900 MHz RRUs	3	44.00	2.94	0.75	75.20	4.200	0.75	0.00	0.00
9	175.0	Alcatel Lucent 800 MHz Filters	3	17.50	0.65	0.75	87.80	3.260	0.75	0.00	0.00
10	175.0	Alcatel Lucent 800 MHz RRUs	3	53.00	2.49	0.75	74.10	2.820	0.75	0.00	0.00
11	175.0	Alcatel Lucent TD-RRH8x20-25	3	70.00	4.72	0.75	92.00	4.970	0.75	0.00	0.00
12	175.0	Cobra Arms	3	400.00	13.50	0.75	550.00	16.00	0.75	0.00	0.00
13	175.0	RFS ACU-A20-N RETs	4	1.00	0.14	0.67	2.30	0.220	0.67	0.00	0.00
14	175.0	RFS APXVSP18-C-A20	3	57.00	8.26	0.83	106.50	9.080	0.83	0.00	0.00
15	175.0	RFS APXVTM14-C-120	3	56.00	6.90	0.79	91.90	7.290	0.79	0.00	0.00
16	174.5	7' Pole Branch	1	460.00	15.00	1.00	20.00	5.000	1.00	0.00	0.00
17	169.5	8' Pole Branch	1	560.00	35.00	1.00	20.00	5.000	1.00	0.00	0.00
18	165.0	Antel BXA 171063/8BF	3	10.50	2.94	0.84	29.30	3.410	0.84	0.00	0.00
19	165.0	Antel BXA 70063/6CF_4	1	17.00	7.73	1.00	57.60	8.540	1.00	0.00	0.00
20	165.0	Antel LPA 80063/6CF	2	27.00	10.34	0.94	0.00	11.18	0.94	0.00	0.00
21	165.0	Cobra Arms	3	400.00	13.50	0.75	550.00	16.00	0.75	0.00	0.00
22	165.0	RFS FD9R6004/2C-3L	6	3.10	0.36	0.67	5.40	0.500	0.67	0.00	0.00
23	165.0	Swedcom SC-E 6014 Rev 2	4	15.00	3.55	0.97	42.10	4.060	0.97	0.00	0.00
24	165.0	Swedcom SLCP 2x6014	2	20.00	7.21	0.93	70.40	7.880	0.93	0.00	0.00
25	164.5	8' Pole Branch	1	560.00	24.24	1.00	20.00	5.000	1.00	0.00	0.00
26	159.5	9' Pole Branch	1	660.00	45.00	1.00	20.00	5.000	1.00	0.00	0.00
27	155.0	Cobra Arms	3	400.00	13.50	0.75	550.00	16.00	0.75	0.00	0.00
28	155.0	Ericsson RRUS-11 RRUs	6	55.00	4.42	0.75	80.70	4.850	0.75	0.00	0.00
29	155.0	Powerwave 7770.00	6	35.00	5.88	0.78	0.00	6.530	0.78	0.00	0.00
30	155.0	Powerwave LGP 21401 TMAs	6	17.50	0.95	0.50	0.00	0.000	0.50	0.00	0.00
31	155.0	Powerwave LGP21903 Diplexers	6	5.50	0.27	0.50	7.90	0.380	0.50	0.00	0.00
32	155.0	Powerwave P65-16-XLH-RR	3	53.00	8.40	0.78	100.20	9.220	0.78	0.00	0.00
33	155.0	Raycap DC6-48-60-18-8F Surge	1	31.80	1.47	1.00	49.50	1.670	1.00	0.00	0.00
34	154.5	9' Pole Branch	1	660.00	33.48	1.00	20.00	5.000	1.00	0.00	0.00
35	149.5	10' Pole Branch	1	700.00	50.00	1.00	20.00	5.000	1.00	0.00	0.00
36	144.5	11' Pole Branch	1	720.00	42.72	1.00	20.00	5.000	1.00	0.00	0.00
Totals:			104	11,875.00			10,195.30				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	No Ice		Ice		Exposed
			Weight (lb/ft)	CaAa (sf/ft)	Weight (lb/ft)	CaAa (sf/ft)	
3.00	185.0	(12) 1 5/8" Coax	1.04	0.00	0.00	0.00	Inside
3.00	175.0	(4) 1 1/4" Coax	1.98	0.00	0.00	0.00	Inside
3.00	165.0	(12) 1 5/8" Coax	1.04	0.00	0.00	0.00	Inside

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		
3.00	155.0	(12) 1 5/8" Coax		1.04	0.00		0.00	0.00	Inside		
3.00	155.0	(2) DC Power		2.40	0.00		0.00	0.00	Inside		
3.00	155.0	(1) Fiber		0.36	0.00		0.00	0.00	Inside		
143.75	153.7	(3) 1" Reinforcing plate		0.00	0.33		0.00	0.50	Outside		
Totals:				1,275.92			0.00				

Shaft Section Properties

Structure: CT00707-S-SBA
Site Name: North Easton
Height: 185.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing			
											Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
0.00		0.4375	72.500	100.064	65652.4	27.81	165.71	65	49	0.0	0.00	0.0	0.0	0.0
5.00		0.4375	71.064	98.070	61805.8	27.23	162.43	65	50	1685.5				
10.00		0.4375	69.628	96.077	58112.4	26.65	159.15	65	50	1651.6				
15.00		0.4375	68.193	94.083	54569.2	26.07	155.87	65	51	1617.7				
20.00		0.4375	66.757	92.089	51173.1	25.49	152.59	65	51	1583.8				
25.00		0.4375	65.321	90.096	47920.8	24.92	149.31	65	52	1549.8				
30.00		0.4375	63.885	88.102	44809.4	24.34	146.02	65	52	1515.9				
35.00		0.4375	62.449	86.108	41835.6	23.76	142.74	65	52	1482.0				
40.00		0.4375	61.014	84.114	38996.4	23.18	139.46	65	52	1448.1				
45.00		0.4375	59.578	82.121	36288.7	22.60	136.18	65	52	1414.2				
46.17	Bot - Section 2	0.4375	59.243	81.655	35675.4	22.47	135.41	65	52	325.1				
50.00		0.4375	58.142	80.127	33709.2	22.02	132.90	65	52	2126.1				
54.00	Top - Section 1	0.4375	57.868	79.747	33231.9	21.91	132.27	65	52	2176.1				
55.00		0.4375	57.581	79.348	32735.9	21.80	131.61	65	52	270.7				
60.00		0.4375	56.145	77.354	30329.8	21.22	128.33	65	52	1333.1				
65.00		0.4375	54.709	75.361	28044.6	20.64	125.05	65	52	1299.1				
70.00		0.4375	53.274	73.367	25877.1	20.06	121.77	65	52	1265.2				
75.00		0.4375	51.838	71.373	23824.3	19.48	118.49	65	52	1231.3				
80.00		0.4375	50.402	69.379	21883.0	18.90	115.20	65	52	1197.4				
85.00		0.4375	48.966	67.386	20050.2	18.32	111.92	65	52	1163.5				
90.00		0.4375	47.530	65.392	18322.7	17.75	108.64	65	52	1129.5				
94.08	Bot - Section 3	0.4375	46.358	63.764	16987.8	17.27	105.96	65	52	897.3				
95.00		0.4375	46.095	63.398	16697.3	17.17	105.36	65	52	371.3				
100.00		0.4375	44.659	61.405	15171.1	16.59	102.08	65	52	1988.2				
100.17	Top - Section 2	0.3750	45.361	53.543	13690.1	19.92	120.96	65	52	65.2				
105.00		0.3750	43.973	51.891	12461.6	19.27	117.26	65	52	867.0				
110.00		0.3750	42.537	50.182	11270.5	18.59	113.43	65	52	868.3				
115.00		0.3750	41.101	48.473	10157.9	17.92	109.60	65	52	839.2				
120.00		0.3750	39.666	46.764	9120.9	17.24	105.77	65	52	810.2				
125.00		0.3750	38.230	45.055	8157.1	16.57	101.95	65	52	781.1				
130.00		0.3750	36.794	43.346	7263.7	15.89	98.12	65	52	752.0				
135.00		0.3750	35.358	41.637	6438.0	15.21	94.29	65	52	722.9				
140.00		0.3750	33.922	39.928	5677.4	14.54	90.46	65	52	693.9				
143.75	Bot - Section 4	0.3750	32.845	38.647	5148.0	14.03	87.59	65	52	501.3				
144.50		0.3750	32.630	38.390	5046.3	13.93	87.01	65	52	148.3				
145.00		0.3750	32.486	38.219	4979.2	13.86	86.63	65	52	98.3				
145.75	RB1	0.3750	32.271	37.963	4879.7	13.76	86.06	65	52	146.7	18.00	2574.9	2574.9	45.9
148.08	Top - Section 3	0.1875	31.976	18.917	2415.2	28.66	170.54	65	52	450.0	18.00	2474.4	2474.4	142.9
149.50		0.1875	31.569	18.675	2323.7	28.28	168.37	65	49	90.6	18.00	2414.5	2414.5	86.8
150.00		0.1875	31.426	18.590	2291.9	28.14	167.60	65	49	31.7	18.00	2393.5	2393.5	30.6
151.75	RT1	0.1875	30.923	18.291	2183.1	27.67	164.92	65	50	109.8	18.00	2320.7	2320.7	107.2
154.50		0.1875	30.133	17.821	2019.1	26.93	160.71	65	50	169.0				
155.00		0.1875	29.990	17.735	1990.2	26.79	159.95	65	50	30.2				
159.50		0.1875	28.698	16.966	1742.4	25.58	153.05	65	51	265.7				
160.00		0.1875	28.554	16.881	1716.2	25.44	152.29	65	51	28.8				
164.50		0.1875	27.262	16.112	1492.2	24.23	145.40	65	52	252.6				
165.00		0.1875	27.118	16.027	1468.6	24.09	144.63	65	52	27.3				
169.50		0.1875	25.826	15.258	1267.1	22.88	137.74	65	52	239.5				
170.00		0.1875	25.682	15.172	1246.0	22.74	136.97	65	52	25.9				
174.50		0.1875	24.390	14.403	1066.0	21.53	130.08	65	52	226.4				
175.00		0.1875	24.247	14.318	1047.1	21.39	129.32	65	52	24.4				
179.50		0.1875	22.954	13.549	887.3	20.18	122.42	65	52	213.4				

Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing			
											Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
180.00		0.1875	22.811	13.463	870.6	20.04	121.66	65	52	23.0				
185.00		0.1875	21.375	12.609	715.1	18.69	114.00	65	52	221.8				
Total Weight										40447.1				413.4

Wind Loading - Shaft

Structure: CT00707-S-SBA
Site Name: North Easton
Height: 185.00 (ft)
Base Elev: 0.000 (ft)

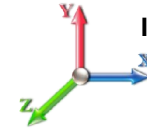
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

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Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



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		0.00	1.00	18.496	31.26	513.54	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00	18.496	31.26	503.37	0.650	0.000	5.00	29.909	19.44	607.7	0.0	1685.5
10.00		0.00	1.00	18.496	31.26	493.20	0.650	0.000	5.00	29.311	19.05	595.5	0.0	1651.6
15.00		0.00	1.00	18.496	31.26	483.03	0.650	0.000	5.00	28.713	18.66	583.4	0.0	1617.7
20.00		0.00	1.00	18.496	31.26	472.86	0.650	0.000	5.00	28.114	18.27	571.2	0.0	1583.8
25.00		0.00	1.00	18.496	31.26	462.69	0.650	0.000	5.00	27.516	17.89	559.1	0.0	1549.8
30.00		0.00	1.00	18.496	31.26	452.52	0.650	0.000	5.00	26.918	17.50	546.9	0.0	1515.9
35.00		0.00	1.02	18.810	31.79	446.08	0.650	0.000	5.00	26.320	17.11	543.8	0.0	1482.0
40.00		0.00	1.06	19.541	33.02	444.22	0.650	0.000	5.00	25.721	16.72	552.1	0.0	1448.1
45.00		0.00	1.09	20.210	34.15	441.13	0.650	0.000	5.00	25.123	16.33	557.7	0.0	1414.2
46.17	Bot - Section 2	0.00	1.10	20.358	34.41	440.25	0.650	0.000	1.17	5.776	3.75	129.2	0.0	325.1
50.00		0.00	1.13	20.827	35.20	437.02	0.650	0.000	3.83	19.028	12.37	435.4	0.0	2126.1
54.00	Top - Section 1	0.00	1.15	21.291	35.98	433.13	0.650	0.000	4.00	19.481	12.66	455.6	0.0	2176.1
55.00		0.00	1.16	21.402	36.17	438.74	0.650	0.000	1.00	4.810	3.13	113.1	0.0	270.7
60.00		0.00	1.19	21.941	37.08	433.15	0.650	0.000	5.00	23.693	15.40	571.1	0.0	1333.1
65.00		0.00	1.21	22.449	37.94	426.93	0.650	0.000	5.00	23.095	15.01	569.5	0.0	1299.1
70.00		0.00	1.24	22.929	38.75	420.15	0.650	0.000	5.00	22.496	14.62	566.6	0.0	1265.2
75.00		0.00	1.26	23.386	39.52	412.88	0.650	0.000	5.00	21.898	14.23	562.5	0.0	1231.3
80.00		0.00	1.29	23.821	40.26	405.16	0.650	0.000	5.00	21.300	13.84	557.4	0.0	1197.4
85.00		0.00	1.31	24.237	40.96	397.04	0.650	0.000	5.00	20.702	13.46	551.2	0.0	1163.5
90.00		0.00	1.33	24.636	41.63	388.56	0.650	0.000	5.00	20.103	13.07	544.1	0.0	1129.5
94.08	Bot - Section 3	0.00	1.35	24.950	42.17	381.38	0.650	0.000	4.08	15.974	10.38	437.8	0.0	897.3
95.00		0.00	1.35	25.020	42.28	379.74	0.650	0.000	0.92	3.588	2.33	98.6	0.0	371.3
100.00		0.00	1.37	25.389	42.91	370.62	0.650	0.000	5.00	19.219	12.49	536.0	0.0	1988.2
100.17	Top - Section 2	0.00	1.37	25.401	42.93	370.31	0.650	0.000	0.17	0.630	0.41	17.6	0.0	65.2
105.00		0.00	1.39	25.745	43.51	367.48	0.650	0.000	4.83	17.991	11.69	508.8	0.0	867.0
110.00		0.00	1.41	26.090	44.09	357.85	0.650	0.000	5.00	18.023	11.71	516.5	0.0	868.3
115.00		0.00	1.43	26.423	44.66	347.98	0.650	0.000	5.00	17.425	11.33	505.8	0.0	839.2
120.00		0.00	1.45	26.747	45.20	337.87	0.650	0.000	5.00	16.826	10.94	494.4	0.0	810.2
125.00		0.00	1.46	27.060	45.73	327.54	0.650	0.000	5.00	16.228	10.55	482.4	0.0	781.1
130.00		0.00	1.48	27.365	46.25	317.01	0.650	0.000	5.00	15.630	10.16	469.8	0.0	752.0
135.00		0.00	1.50	27.662	46.75	306.29	0.650	0.000	5.00	15.032	9.77	456.8	0.0	722.9
140.00		0.00	1.51	27.951	47.24	295.38	0.650	0.000	5.00	14.433	9.38	443.2	0.0	693.9
143.75	Bot - Section 4	0.00	1.52	28.163	47.60	287.09	0.650	0.000	3.75	10.432	6.78	322.7	0.0	501.3
144.50	Appurtenance(s)	0.00	1.52	28.205	47.67	285.42	0.650	0.000	0.75	2.070	1.35	64.1	0.0	148.3
145.00		0.00	1.53	28.233	47.71	284.30	0.650	0.000	0.50	1.372	0.89	42.6	0.0	98.3
145.75	RB1	0.00	1.53	28.274	47.78	282.62	0.650	0.000	0.75	2.047	1.33	63.6	0.0	238.5
148.08	Top - Section 3	0.00	1.54	28.403	48.00	277.38	0.650	0.000	2.33	6.283	4.08	196.0	0.0	735.9
149.50	Appurtenance(s)	0.00	1.54	28.480	48.13	277.48	0.650	0.000	1.42	3.751	2.44	117.3	0.0	264.2
150.00		0.00	1.54	28.507	48.18	276.35	0.650	0.000	0.50	1.312	0.85	41.1	0.0	93.0
151.75	RT1	0.00	1.55	28.602	48.34	272.38	0.650	0.000	1.75	4.546	2.96	142.8	0.0	324.2
154.50	Appurtenance(s)	0.00	1.55	28.749	48.59	266.11	0.650	0.000	2.75	6.996	4.55	220.9	0.0	169.0
155.00	Appurtenance(s)	0.00	1.56	28.776	48.63	264.96	0.650	0.000	0.50	1.253	0.81	39.6	0.0	30.2
159.50	Appurtenance(s)	0.00	1.57	29.012	49.03	254.59	0.650	0.000	4.50	11.004	7.15	350.7	0.0	265.7
160.00		0.00	1.57	29.038	49.07	253.42	0.650	0.000	0.50	1.193	0.78	38.0	0.0	28.8
164.50	Appurtenance(s)	0.00	1.58	29.269	49.46	242.92	0.650	0.000	4.50	10.465	6.80	336.5	0.0	252.6
165.00	Appurtenance(s)	0.00	1.58	29.294	49.51	241.74	0.650	0.000	0.50	1.133	0.74	36.5	0.0	27.3
169.50	Appurtenance(s)	0.00	1.60	29.520	49.89	231.11	0.650	0.000	4.50	9.927	6.45	321.9	0.0	239.5

Wind Loading - Shaft

Structure: CT00707-S-SBA

Code: EIA/TIA-222-F

4/13/2015



Site Name: North Easton

Exposure: C

Height: 185.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

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Tower Engineering Solutions

170.00		0.00	1.60	29.545	49.93	229.92	0.650	0.000	0.50	1.073	0.70	34.8	0.0	25.9
174.50	Appurtenance(s)	0.00	1.61	29.767	50.31	219.17	0.650	0.000	4.50	9.389	6.10	307.0	0.0	226.4
175.00	Appurtenance(s)	0.00	1.61	29.791	50.35	217.97	0.650	0.000	0.50	1.013	0.66	33.2	0.0	24.4
179.50	Appurtenance(s)	0.00	1.62	30.008	50.71	207.10	0.650	0.000	4.50	8.850	5.75	291.7	0.0	213.4
180.00		0.00	1.62	30.032	50.75	205.89	0.650	0.000	0.50	0.953	0.62	31.5	0.0	23.0
185.00	Appurtenance(s)	0.00	1.64	30.268	51.15	193.68	0.650	0.000	5.00	9.205	5.98	306.1	0.0	221.8
Totals:								185.00				18,479.5		41,273.9

Discrete Appurtenance Forces

Structure: CT00707-S-SB
Site Name: North Easton
Height: 185.00 (ft)
Base Elev: 0.000 (ft)

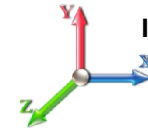
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

4/13/2015
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Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	144.50	11' Pole Branch	1	28.205	47.666	1.00	42.72	720.00	0.000	0.000	2036.29	0.00	0.00
2	149.50	10' Pole Branch	1	28.480	48.132	1.00	50.00	700.00	0.000	0.000	2406.58	0.00	0.00
3	154.50	9' Pole Branch	1	28.749	48.586	1.00	33.48	660.00	0.000	0.000	1626.66	0.00	0.00
4	155.00	Cobra Arms	3	28.776	48.631	0.75	30.38	1200.00	0.000	0.000	1477.16	0.00	0.00
5	155.00	Ericsson RRUS-11 RRUs	6	28.776	48.631	0.75	19.89	330.00	0.000	0.000	967.27	0.00	0.00
6	155.00	Powerwave 7770.00	6	28.776	48.631	0.78	27.52	210.00	0.000	0.000	1338.25	0.00	0.00
7	155.00	Powerwave LGP 21401	6	28.776	48.631	0.50	2.85	105.00	0.000	0.000	138.60	0.00	0.00
8	155.00	Powerwave LGP21903	6	28.776	48.631	0.50	0.81	33.00	0.000	0.000	39.39	0.00	0.00
9	155.00	Powerwave P65-16-XLH-RR	3	28.776	48.631	0.78	19.66	159.00	0.000	0.000	955.89	0.00	0.00
10	155.00	Raycap DC6-48-60-18-8F	1	28.776	48.631	1.00	1.47	31.80	0.000	0.000	71.49	0.00	0.00
11	159.50	9' Pole Branch	1	29.012	49.030	1.00	45.00	660.00	0.000	0.000	2206.36	0.00	0.00
12	164.50	8' Pole Branch	1	29.269	49.465	1.00	24.24	560.00	0.000	0.000	1199.02	0.00	0.00
13	165.00	Antel BXA 171063/8BF	3	29.294	49.507	0.84	7.41	31.50	0.000	0.000	366.79	0.00	0.00
14	165.00	Antel BXA 70063/6CF 4	1	29.294	49.507	1.00	7.73	17.00	0.000	0.000	382.69	0.00	0.00
15	165.00	Antel LPA 80063/6CF	2	29.294	49.507	0.94	19.44	54.00	0.000	0.000	962.38	0.00	0.00
16	165.00	Cobra Arms	3	29.294	49.507	0.75	30.38	1200.00	0.000	0.000	1503.79	0.00	0.00
17	165.00	RFS FD9R6004/2C-3L	6	29.294	49.507	0.67	1.45	18.60	0.000	0.000	71.65	0.00	0.00
18	165.00	Swedcom SC-E 6014 Rev 2	4	29.294	49.507	0.97	13.77	60.00	0.000	0.000	681.92	0.00	0.00
19	165.00	Swedcom SLCP 2x6014	2	29.294	49.507	0.93	13.41	40.00	0.000	0.000	663.92	0.00	0.00
20	169.50	8' Pole Branch	1	29.520	49.889	1.00	35.00	560.00	0.000	0.000	1746.13	0.00	0.00
21	174.50	7' Pole Branch	1	29.767	50.306	1.00	15.00	460.00	0.000	0.000	754.58	0.00	0.00
22	175.00	Alcatel Lucent 1900 MHz	3	29.791	50.347	0.75	6.62	132.00	0.000	0.000	333.04	0.00	0.00
23	175.00	Alcatel Lucent 800 MHz	3	29.791	50.347	0.75	1.46	52.50	0.000	0.000	73.63	0.00	0.00
24	175.00	Alcatel Lucent 800 MHz	3	29.791	50.347	0.75	5.60	159.00	0.000	0.000	282.07	0.00	0.00
25	175.00	Alcatel Lucent	3	29.791	50.347	0.75	10.62	210.00	0.000	0.000	534.68	0.00	0.00
26	175.00	Cobra Arms	3	29.791	50.347	0.75	30.38	1200.00	0.000	0.000	1529.28	0.00	0.00
27	175.00	RFS ACU-A20-N RETs	4	29.791	50.347	0.67	0.38	4.00	0.000	0.000	18.89	0.00	0.00
28	175.00	RFS APXVSP18-C-A20	3	29.791	50.347	0.83	20.57	171.00	0.000	0.000	1035.50	0.00	0.00
29	175.00	RFS APXVTM14-C-120	3	29.791	50.347	0.79	16.35	168.00	0.000	0.000	823.32	0.00	0.00
30	179.50	6' Pole Branch	1	30.008	50.713	1.00	58.85	300.00	0.000	0.000	2984.48	0.00	0.00
31	185.00	6' Pole Branch	1	30.268	51.152	1.00	16.06	300.00	0.000	0.000	821.51	0.00	0.00
32	185.00	Allen Telecom	6	30.361	51.310	0.75	2.48	105.00	0.000	2.000	126.99	0.00	253.98
33	185.00	Cobra Arms	3	30.268	51.152	0.75	14.63	1050.00	0.000	0.000	748.11	0.00	0.00
34	185.00	Commscope LNX-6515DS	3	30.361	51.310	0.80	27.38	150.90	0.000	2.000	1405.07	0.00	2810.14
35	185.00	EMS RR90-17-02DP	3	30.361	51.310	0.79	10.33	54.00	0.000	2.000	530.20	0.00	1060.39
36	185.00	Kathrein 782 11056	3	30.361	51.310	0.67	0.26	8.70	0.000	2.000	13.41	0.00	26.81
Totals:								11,875.00			32,856.98		

Total Applied Force Summary

Structure: CT00707-S-SB

Site Name: North Easton

Height: 185.00 (ft)

Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F

Exposure: C

Gh: 1.69

Struct Class: II

4/13/2015

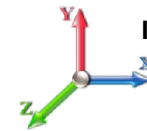
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Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00

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		607.69	1701.24	0.00	0.00
10.00		595.54	1690.90	0.00	0.00
15.00		583.38	1656.98	0.00	0.00
20.00		571.23	1623.06	0.00	0.00
25.00		559.07	1589.14	0.00	0.00
30.00		546.91	1555.21	0.00	0.00
35.00		543.83	1521.29	0.00	0.00
40.00		552.13	1487.37	0.00	0.00
45.00		557.75	1453.45	0.00	0.00
46.17		129.17	334.26	0.00	0.00
50.00		435.35	2156.26	0.00	0.00
54.00		455.61	2207.50	0.00	0.00
55.00		113.09	278.54	0.00	0.00
60.00		571.06	1372.36	0.00	0.00
65.00		569.51	1338.44	0.00	0.00
70.00		566.63	1304.52	0.00	0.00
75.00		562.55	1270.60	0.00	0.00
80.00		557.36	1236.68	0.00	0.00
85.00		551.17	1202.75	0.00	0.00
90.00		544.05	1168.83	0.00	0.00
94.08		437.82	929.38	0.00	0.00
95.00		98.63	378.54	0.00	0.00
100.00		536.03	2027.47	0.00	0.00
100.17		17.59	66.50	0.00	0.00
105.00		508.80	905.01	0.00	0.00
110.00		516.53	907.62	0.00	0.00
115.00		505.77	878.55	0.00	0.00
120.00		494.38	849.47	0.00	0.00
125.00		482.40	820.40	0.00	0.00
130.00		469.85	791.32	0.00	0.00
135.00		456.76	762.25	0.00	0.00
140.00		443.16	733.17	0.00	0.00
143.75		322.75	530.80	0.00	0.00
144.50	(1) appurtenances	2112.21	874.20	0.00	0.00
145.00		50.43	102.26	0.00	0.00
145.75		75.41	198.50	0.00	0.00
148.08		232.98	611.29	0.00	0.00
149.50	(1) appurtenances	2546.43	888.52	0.00	0.00
150.00		49.05	66.26	0.00	0.00
151.75		170.76	230.75	0.00	0.00
154.50	(1) appurtenances	1879.67	850.58	0.00	0.00
155.00	(31) appurtenances	5027.64	2102.98	0.00	0.00
159.50	(1) appurtenances	2557.05	943.96	0.00	0.00
160.00		38.05	30.82	0.00	0.00
164.50	(1) appurtenances	1535.50	830.87	0.00	0.00
165.00	(21) appurtenances	4669.60	1450.47	0.00	0.00
169.50	(1) appurtenances	2068.05	813.11	0.00	0.00
170.00		34.83	27.40	0.00	0.00

Total Applied Force Summary

Structure: CT00707-S-SB

Code: EIA/TIA-222-F

4/13/2015



Site Name: North Easton

Exposure: C

Height: 185.00 (ft)

Gh: 1.69

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Base Elev: 0.000 (ft)

Struct Class: II

174.50	(1) appurtenances	1061.58	700.03	0.00	0.00
175.00	(25) appurtenances	4663.58	2122.44	0.00	0.00
179.50	(1) appurtenances	3276.21	518.03	0.00	0.00
180.00		31.45	23.50	0.00	0.00
185.00	(19) appurtenances	<u>3951.35</u>	<u>1895.59</u>	<u>0.00</u>	<u>4151.33</u>
Totals:		51,495.37	54,011.41	0.00	4,151.33

Resulting Forces and Deflections

Structure: CT00707-S-SB
Site Name: North Easton
Height: 185.00 (ft)
Base Elev: 0.000 (ft)

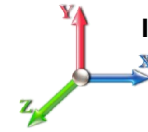
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

4/13/2015
 Page: 14



Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 25

Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	Deflect X (in)	Deflect Z (in)	Deflect Resultant (in)	Rotation Sway (deg)	Rotation Twist (deg)
0.00	-51.569	-53.940	0.000	0.000	0.000	-7262.7	0.000	0.000	0.000	0.000	0.000
5.00	-51.102	-52.100	0.000	0.000	0.000	-7004.8	-0.084	0.000	0.084	-0.155	0.000
10.00	-50.640	-50.270	0.000	0.000	0.000	-6749.3	-0.331	0.000	0.331	-0.313	0.000
15.00	-50.184	-48.473	0.000	0.000	0.000	-6496.1	-0.746	0.000	0.746	-0.475	0.000
20.00	-49.734	-46.710	0.000	0.000	0.000	-6245.2	-1.333	0.000	1.333	-0.641	0.000
25.00	-49.291	-44.980	0.000	0.000	0.000	-5996.6	-2.096	0.000	2.096	-0.811	0.000
30.00	-48.853	-43.284	0.000	0.000	0.000	-5750.1	-3.040	0.000	3.040	-0.986	0.000
35.00	-48.412	-41.620	0.000	0.000	0.000	-5505.8	-4.169	0.000	4.169	-1.164	0.000
40.00	-47.957	-39.990	0.000	0.000	0.000	-5263.8	-5.487	0.000	5.487	-1.347	0.000
45.00	-47.441	-38.455	0.000	0.000	0.000	-5024.0	-6.999	0.000	6.999	-1.535	0.000
46.17	-47.368	-38.044	0.000	0.000	0.000	-4968.7	-7.380	0.000	7.380	-1.581	0.000
50.00	-46.967	-35.775	0.000	0.000	0.000	-4787.1	-8.711	0.000	8.711	-1.730	0.000
54.00	-46.500	-33.503	0.000	0.000	0.000	-4599.2	-10.228	0.000	10.228	-1.888	0.000
55.00	-46.446	-33.133	0.000	0.000	0.000	-4552.7	-10.628	0.000	10.628	-1.929	0.000
60.00	-45.934	-31.625	0.000	0.000	0.000	-4320.5	-12.753	0.000	12.753	-2.122	0.000
65.00	-45.418	-30.152	0.000	0.000	0.000	-4090.8	-15.081	0.000	15.081	-2.319	0.000
70.00	-44.900	-28.713	0.000	0.000	0.000	-3863.7	-17.618	0.000	17.618	-2.521	0.000
75.00	-44.379	-27.308	0.000	0.000	0.000	-3639.2	-20.368	0.000	20.368	-2.727	0.000
80.00	-43.858	-25.937	0.000	0.000	0.000	-3417.3	-23.337	0.000	23.337	-2.938	0.000
85.00	-43.337	-24.602	0.000	0.000	0.000	-3198.1	-26.529	0.000	26.529	-3.153	0.000
90.00	-42.810	-23.316	0.000	0.000	0.000	-2981.4	-29.947	0.000	29.947	-3.372	0.000
94.08	-42.360	-22.331	0.000	0.000	0.000	-2806.6	-32.911	0.000	32.911	-3.556	0.000
95.00	-42.290	-21.859	0.000	0.000	0.000	-2767.7	-33.598	0.000	33.598	-3.598	0.000
100.00	-41.664	-19.787	0.000	0.000	0.000	-2556.3	-37.486	0.000	37.486	-3.825	0.000
100.17	-41.682	-19.636	0.000	0.000	0.000	-2549.4	-37.620	0.000	37.620	-3.833	0.000
105.00	-41.191	-18.596	0.000	0.000	0.000	-2347.9	-41.614	0.000	41.614	-4.056	0.000
110.00	-40.689	-17.546	0.000	0.000	0.000	-2141.9	-45.997	0.000	45.997	-4.312	0.000
115.00	-40.191	-16.529	0.000	0.000	0.000	-1938.5	-50.648	0.000	50.648	-4.570	0.000
120.00	-39.699	-15.545	0.000	0.000	0.000	-1737.5	-55.569	0.000	55.569	-4.827	0.000
125.00	-39.212	-14.596	0.000	0.000	0.000	-1539.1	-60.757	0.000	60.757	-5.083	0.000
130.00	-38.732	-13.683	0.000	0.000	0.000	-1343.0	-66.210	0.000	66.210	-5.334	0.000
135.00	-38.259	-12.808	0.000	0.000	0.000	-1149.3	-71.922	0.000	71.922	-5.578	0.000
140.00	-37.787	-11.992	0.000	0.000	0.000	-958.09	-77.882	0.000	77.882	-5.811	0.000
143.75	-37.431	-11.433	0.000	0.000	0.000	-816.39	-82.508	0.000	82.508	-5.978	0.000
144.50	-35.244	-10.767	0.000	0.000	0.000	-788.32	-83.449	0.000	83.449	-6.011	0.000
145.00	-35.188	-10.654	0.000	0.000	0.000	-770.70	-84.078	0.000	84.078	-6.033	0.000
145.75	-35.101	-10.436	0.000	0.000	0.000	-744.31	-85.027	0.000	85.027	-6.065	0.000
148.08	-34.813	-9.823	0.000	0.000	0.000	-662.41	-88.003	0.000	88.003	-6.128	0.000
149.50	-32.190	-9.197	0.000	0.000	0.000	-613.09	-89.823	0.000	89.823	-6.164	0.000
150.00	-32.141	-9.114	0.000	0.000	0.000	-597.00	-90.469	0.000	90.469	-6.182	0.000
151.75	-31.957	-8.862	0.000	0.000	0.000	-540.75	-92.743	0.000	92.743	-6.243	0.000
154.50	-30.005	-8.190	0.000	0.000	0.000	-452.87	-96.359	0.000	96.359	-6.329	0.000
155.00	-24.792	-6.594	0.000	0.000	0.000	-437.87	-97.023	0.000	97.023	-6.361	0.000
159.50	-22.158	-5.895	0.000	0.000	0.000	-326.30	-103.13	0.000	103.131	-6.606	0.000
160.00	-22.129	-5.824	0.000	0.000	0.000	-315.23	-103.82	0.000	103.823	-6.633	0.000
164.50	-20.515	-5.142	0.000	0.000	0.000	-215.65	-110.16	0.000	110.163	-6.831	0.000
165.00	-15.713	-4.234	0.000	0.000	0.000	-205.39	-110.87	0.000	110.879	-6.851	0.000
169.50	-13.567	-3.659	0.000	0.000	0.000	-134.68	-117.39	0.000	117.398	-6.999	0.000
170.00	-13.533	-3.621	0.000	0.000	0.000	-127.90	-118.13	0.000	118.130	-7.014	0.000

Resulting Forces and Deflections

Structure: CT00707-S-SB

Code: EIA/TIA-222-F

4/13/2015

Site Name: North Easton

Exposure: C

Height: 185.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

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174.50	-12.396	-3.046	0.000	0.000	0.000	-67.009	-124.77	0.000	124.778	-7.114	0.000
175.00	-7.506	-1.514	0.000	0.000	0.000	-60.811	-125.52	0.000	125.522	-7.122	0.000
179.50	-4.191	-1.406	0.000	0.000	0.000	-27.035	-132.24	0.000	132.248	-7.176	0.000
180.00	-4.158	-1.386	0.000	0.000	0.000	-24.939	-132.99	0.000	132.998	-7.180	0.000
185.00	-3.951	0.000	0.000	0.000	0.000	-4.151	0.000	0.000	140.514	-7.204	0.000

Resulting Stresses

Structure: CT00707-S-SBA
Site Name: North Easton
Height: 185.00 (ft)
Base Elev: 0.000 (ft)

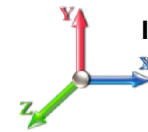
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

4/13/2015
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Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 25

Applied Stresses

Elev (ft)	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fvt Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	fb Combined (ksi)	Allow Stress (ksi)	f/Fb Stress Ratio
0.00	0.54	1.04	0.00	0.00	0.00	48.86	49.44	49.4	1.000
5.00	0.53	1.05	0.00	0.00	0.00	49.07	49.64	49.9	0.994
10.00	0.52	1.06	0.00	0.00	0.00	49.27	49.83	50.4	0.988
15.00	0.52	1.08	0.00	0.00	0.00	49.46	50.01	50.9	0.982
20.00	0.51	1.09	0.00	0.00	0.00	49.64	50.18	51.4	0.976
25.00	0.50	1.10	0.00	0.00	0.00	49.80	50.34	51.9	0.970
30.00	0.49	1.12	0.00	0.00	0.00	49.95	50.48	52.0	0.971
35.00	0.48	1.13	0.00	0.00	0.00	50.07	50.60	52.0	0.973
40.00	0.48	1.15	0.00	0.00	0.00	50.18	50.69	52.0	0.975
45.00	0.47	1.16	0.00	0.00	0.00	50.25	50.76	52.0	0.977
46.17	0.47	1.17	0.00	0.00	0.00	50.27	50.78	52.0	0.977
50.00	0.45	1.18	0.00	0.00	0.00	50.31	50.79	52.0	0.977
54.00	0.42	1.18	0.00	0.00	0.00	48.79	49.26	52.0	0.948
55.00	0.42	1.18	0.00	0.00	0.00	48.79	49.25	52.0	0.947
60.00	0.41	1.20	0.00	0.00	0.00	48.73	49.18	52.0	0.946
65.00	0.40	1.21	0.00	0.00	0.00	48.62	49.07	52.0	0.944
70.00	0.39	1.23	0.00	0.00	0.00	48.46	48.90	52.0	0.941
75.00	0.38	1.25	0.00	0.00	0.00	48.24	48.68	52.0	0.936
80.00	0.37	1.27	0.00	0.00	0.00	47.96	48.38	52.0	0.931
85.00	0.37	1.30	0.00	0.00	0.00	47.59	48.00	52.0	0.923
90.00	0.36	1.32	0.00	0.00	0.00	47.12	47.53	52.0	0.914
94.08	0.35	1.34	0.00	0.00	0.00	46.66	47.07	52.0	0.906
95.00	0.34	1.34	0.00	0.00	0.00	46.55	46.95	52.0	0.903
100.00	0.32	1.37	0.00	0.00	0.00	45.85	46.23	52.0	0.889
100.17	0.37	1.57	0.00	0.00	0.00	51.47	51.90	52.0	0.999
105.00	0.36	1.60	0.00	0.00	0.00	50.48	50.91	52.0	0.979
110.00	0.35	1.63	0.00	0.00	0.00	49.25	49.68	52.0	0.956
115.00	0.34	1.67	0.00	0.00	0.00	47.79	48.22	52.0	0.928
120.00	0.33	1.71	0.00	0.00	0.00	46.04	46.47	52.0	0.894
125.00	0.32	1.75	0.00	0.00	0.00	43.95	44.38	52.0	0.854
130.00	0.32	1.80	0.00	0.00	0.00	41.45	41.88	52.0	0.806
135.00	0.31	1.85	0.00	0.00	0.00	38.46	38.90	52.0	0.748
140.00	0.30	1.91	0.00	0.00	0.00	34.88	35.33	52.0	0.680
143.75	0.30	1.95	0.00	0.00	0.00	31.73	32.21	52.0	0.620
144.50	0.28	1.85	0.00	0.00	0.00	31.06	31.50	52.0	0.606
145.00	0.28	1.86	0.00	0.00	0.00	30.64	31.08	52.0	0.598
145.75	0.27	1.86	0.00	0.00	0.00	19.56	19.83	52.0	0.382
148.08	0.52	3.71	0.00	0.00	0.00	18.01	18.01	52.0	0.347
149.50	0.49	3.47	0.00	0.00	0.00	24.79	24.79	49.0	0.506
150.00	0.49	3.48	0.00	0.00	0.00	24.30	24.30	49.2	0.494
151.75	0.48	3.52	0.00	0.00	0.00	22.53	23.02	49.6	0.465
154.50	0.46	3.39	0.00	0.00	0.00	41.18	42.05	50.2	0.838
155.00	0.37	2.82	0.00	0.00	0.00	40.20	40.86	50.3	0.812
159.50	0.35	2.63	0.00	0.00	0.00	32.74	33.40	51.3	0.651
160.00	0.34	2.64	0.00	0.00	0.00	31.95	32.62	51.4	0.634
164.50	0.32	2.57	0.00	0.00	0.00	24.00	24.73	52.0	0.476
165.00	0.26	1.98	0.00	0.00	0.00	23.11	23.62	52.0	0.454

Resulting Stresses

Structure: CT00707-S-SBA

Code: EIA/TIA-222-F

4/13/2015



Site Name: North Easton

Exposure: C

Height: 185.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

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Tower Engineering Solutions

169.50	0.24	1.79	0.00	0.00	0.00	16.72	17.25	52.0	0.332
170.00	0.24	1.80	0.00	0.00	0.00	16.06	16.60	52.0	0.319
174.50	0.21	1.73	0.00	0.00	0.00	9.34	10.01	52.0	0.193
175.00	0.11	1.06	0.00	0.00	0.00	8.58	8.88	52.0	0.171
179.50	0.10	0.62	0.00	0.00	0.00	4.26	4.50	52.0	0.087
180.00	0.10	0.62	0.00	0.00	0.00	3.98	4.22	52.0	0.081
185.00	0.00	0.63	0.00	0.00	0.00	0.76	1.33	52.0	0.026

Wind Loading - Shaft

Structure: CT00707-S-SBA

Site Name: North Easton

Height: 185.00 (ft)

Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F

Exposure: C

Gh: 1.69

Struct Class: II

4/13/2015

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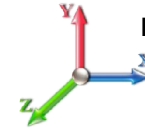


Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00

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		0.00	1.00	13.871	23.44	444.73	0.650	0.500	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00	13.871	23.44	435.92	0.650	0.500	5.00	30.326	19.71	462.1	220.8	1906.3
10.00		0.00	1.00	13.871	23.44	427.11	0.650	0.500	5.00	29.728	19.32	453.0	216.4	1868.0
15.00		0.00	1.00	13.871	23.44	418.30	0.650	0.500	5.00	29.129	18.93	443.9	212.0	1829.6
20.00		0.00	1.00	13.871	23.44	409.50	0.650	0.500	5.00	28.531	18.55	434.7	207.5	1791.3
25.00		0.00	1.00	13.871	23.44	400.69	0.650	0.500	5.00	27.933	18.16	425.6	203.1	1752.9
30.00		0.00	1.00	13.871	23.44	391.88	0.650	0.500	5.00	27.335	17.77	416.5	198.7	1714.6
35.00		0.00	1.02	14.106	23.84	386.31	0.650	0.500	5.00	26.736	17.38	414.3	194.2	1676.2
40.00		0.00	1.06	14.655	24.77	384.70	0.650	0.500	5.00	26.138	16.99	420.8	189.8	1637.9
45.00		0.00	1.09	15.156	25.61	382.02	0.650	0.500	5.00	25.540	16.60	425.2	185.4	1599.5
46.17	Bot - Section 2	0.00	1.10	15.268	25.80	381.26	0.650	0.500	1.17	5.873	3.82	98.5	43.0	368.1
50.00		0.00	1.13	15.620	26.40	378.46	0.650	0.500	3.83	19.348	12.58	332.0	140.8	2266.9
54.00	Top - Section 1	0.00	1.15	15.967	26.98	375.09	0.650	0.500	4.00	19.814	12.88	347.5	144.1	2320.1
55.00		0.00	1.16	16.051	27.13	379.95	0.650	0.500	1.00	4.894	3.18	86.3	35.8	306.5
60.00		0.00	1.19	16.455	27.81	375.11	0.650	0.500	5.00	24.110	15.67	435.8	174.8	1507.9
65.00		0.00	1.21	16.836	28.45	369.72	0.650	0.500	5.00	23.511	15.28	434.8	170.4	1469.5
70.00		0.00	1.24	17.196	29.06	363.85	0.650	0.500	5.00	22.913	14.89	432.8	165.9	1431.1
75.00		0.00	1.26	17.538	29.64	357.55	0.650	0.500	5.00	22.315	14.50	429.9	161.5	1392.8
80.00		0.00	1.29	17.865	30.19	350.87	0.650	0.500	5.00	21.717	14.12	426.2	157.1	1354.4
85.00		0.00	1.31	18.177	30.72	343.84	0.650	0.500	5.00	21.118	13.73	421.7	152.6	1316.1
90.00		0.00	1.33	18.476	31.22	336.49	0.650	0.500	5.00	20.520	13.34	416.5	148.2	1277.7
94.08	Bot - Section 3	0.00	1.35	18.712	31.62	330.28	0.650	0.500	4.08	16.314	10.60	335.3	118.1	1015.4
95.00		0.00	1.35	18.764	31.71	328.86	0.650	0.500	0.92	3.665	2.38	75.5	26.8	398.1
100.00		0.00	1.37	19.041	32.18	320.96	0.650	0.500	5.00	19.636	12.76	410.7	141.7	2129.8
100.17	Top - Section 2	0.00	1.37	19.050	32.19	320.69	0.650	0.500	0.17	0.644	0.42	13.5	4.7	69.9
105.00		0.00	1.39	19.308	32.63	318.24	0.650	0.500	4.83	18.394	11.96	390.1	132.7	999.7
110.00		0.00	1.41	19.566	33.07	309.90	0.650	0.500	5.00	18.440	11.99	396.3	132.8	1001.1
115.00		0.00	1.43	19.816	33.49	301.35	0.650	0.500	5.00	17.841	11.60	388.4	128.4	967.6
120.00		0.00	1.45	20.059	33.90	292.59	0.650	0.500	5.00	17.243	11.21	379.9	123.9	934.1
125.00		0.00	1.46	20.294	34.30	283.65	0.650	0.500	5.00	16.645	10.82	371.1	119.5	900.6
130.00		0.00	1.48	20.523	34.68	274.53	0.650	0.500	5.00	16.047	10.43	361.8	115.1	867.1
135.00		0.00	1.50	20.745	35.06	265.25	0.650	0.500	5.00	15.448	10.04	352.0	110.6	833.6
140.00		0.00	1.51	20.962	35.43	255.80	0.650	0.500	5.00	14.850	9.65	341.9	106.2	800.1
143.75	Bot - Section 4	0.00	1.52	21.121	35.69	248.62	0.650	0.500	3.75	10.745	6.98	249.3	77.2	578.5
144.50	Appurtenance(s)	0.00	1.52	21.152	35.75	247.17	0.650	0.500	0.75	2.132	1.39	49.5	15.5	163.8
145.00		0.00	1.53	21.173	35.78	246.20	0.650	0.500	0.50	1.414	0.92	32.9	10.3	108.6
145.75	RB1	0.00	1.53	21.204	35.84	244.75	0.650	0.500	0.75	2.110	1.37	49.1	15.3	253.9
148.08	Top - Section 3	0.00	1.54	21.301	36.00	240.21	0.650	0.500	2.33	6.477	4.21	151.6	46.8	782.6
149.50	Appurtenance(s)	0.00	1.54	21.359	36.10	240.30	0.650	0.500	1.42	3.869	2.51	90.8	28.0	292.2
150.00		0.00	1.54	21.379	36.13	239.32	0.650	0.500	0.50	1.354	0.88	31.8	9.9	102.8
151.75	RT1	0.00	1.55	21.450	36.25	235.88	0.650	0.500	1.75	4.692	3.05	110.6	33.9	358.1
154.50	Appurtenance(s)	0.00	1.55	21.561	36.44	230.45	0.650	0.500	2.75	7.225	4.70	171.1	52.0	221.0
155.00	Appurtenance(s)	0.00	1.56	21.581	36.47	229.46	0.650	0.500	0.50	1.294	0.84	30.7	9.4	39.7
159.50	Appurtenance(s)	0.00	1.57	21.758	36.77	220.47	0.650	0.500	4.50	11.379	7.40	272.0	81.1	346.8
160.00		0.00	1.57	21.777	36.80	219.47	0.650	0.500	0.50	1.234	0.80	29.5	9.0	37.8
164.50	Appurtenance(s)	0.00	1.58	21.950	37.10	210.37	0.650	0.500	4.50	10.840	7.05	261.4	77.1	329.7
165.00	Appurtenance(s)	0.00	1.58	21.969	37.13	209.35	0.650	0.500	0.50	1.175	0.76	28.3	8.5	35.9
169.50	Appurtenance(s)	0.00	1.60	22.139	37.41	200.14	0.650	0.500	4.50	10.302	6.70	250.5	73.1	312.6

Wind Loading - Shaft

Structure: CT00707-S-SBA

Code: EIA/TIA-222-F

4/13/2015



Site Name: North Easton

Exposure: C

Height: 185.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

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Tower Engineering Solutions

170.00		0.00	1.60	22.158	37.45	199.11	0.650	0.500	0.50	1.115	0.72	27.1	8.1	34.0	
174.50	Appurtenance(s)	0.00	1.61	22.324	37.73	189.80	0.650	0.500	4.50	9.764	6.35	239.4	69.1	295.6	
175.00	Appurtenance(s)	0.00	1.61	22.342	37.76	188.76	0.650	0.500	0.50	1.055	0.69	25.9	7.6	32.1	
179.50	Appurtenance(s)	0.00	1.62	22.505	38.03	179.35	0.650	0.500	4.50	9.225	6.00	228.1	65.1	278.5	
180.00		0.00	1.62	22.522	38.06	178.30	0.650	0.500	0.50	0.995	0.65	24.6	7.2	30.2	
185.00	Appurtenance(s)	0.00	1.64	22.699	38.36	167.73	0.650	0.500	5.00	9.622	6.25	239.9	67.5	289.3	
Totals:									185.00				14,168.9	46,628.3	

Discrete Appurtenance Forces

Structure: CT00707-S-SB

Code: EIA/TIA-222-F

4/13/2015



Site Name: North Easton

Exposure: C

Height: 185.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

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Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations: 25



No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	144.50	11' Pole Branch	1	21.152	35.747	1.00	5.00	20.00	0.000	0.000	178.74	0.00	0.00
2	149.50	10' Pole Branch	1	21.359	36.097	1.00	5.00	20.00	0.000	0.000	180.48	0.00	0.00
3	154.50	9' Pole Branch	1	21.561	36.437	1.00	5.00	20.00	0.000	0.000	182.19	0.00	0.00
4	155.00	Cobra Arms	3	21.581	36.471	0.75	36.00	1650.00	0.000	0.000	1312.96	0.00	0.00
5	155.00	Ericsson RRUS-11 RRUs	6	21.581	36.471	0.75	21.82	484.20	0.000	0.000	795.98	0.00	0.00
6	155.00	Powerwave 7770.00	6	21.581	36.471	0.78	30.56	0.00	0.000	0.000	1114.57	0.00	0.00
7	155.00	Powerwave LGP 21401	6	21.581	36.471	0.50	0.00	0.00	0.000	0.000	0.00	0.00	0.00
8	155.00	Powerwave LGP21903	6	21.581	36.471	0.50	1.14	47.40	0.000	0.000	41.58	0.00	0.00
9	155.00	Powerwave P65-16-XLH-RR	3	21.581	36.471	0.78	21.57	300.60	0.000	0.000	786.86	0.00	0.00
10	155.00	Raycap DC6-48-60-18-8F	1	21.581	36.471	1.00	1.67	49.50	0.000	0.000	60.91	0.00	0.00
11	159.50	9' Pole Branch	1	21.758	36.770	1.00	5.00	20.00	0.000	0.000	183.85	0.00	0.00
12	164.50	8' Pole Branch	1	21.950	37.096	1.00	5.00	20.00	0.000	0.000	185.48	0.00	0.00
13	165.00	Antel BXA 171063/8BF	3	21.969	37.128	0.84	8.59	87.90	0.000	0.000	319.05	0.00	0.00
14	165.00	Antel BXA 70063/6CF 4	1	21.969	37.128	1.00	8.54	57.60	0.000	0.000	317.08	0.00	0.00
15	165.00	Antel LPA 80063/6CF	2	21.969	37.128	0.94	21.02	0.00	0.000	0.000	780.38	0.00	0.00
16	165.00	Cobra Arms	3	21.969	37.128	0.75	36.00	1650.00	0.000	0.000	1336.62	0.00	0.00
17	165.00	RFS FD9R6004/2C-3L	6	21.969	37.128	0.67	2.01	32.40	0.000	0.000	74.63	0.00	0.00
18	165.00	Swedcom SC-E 6014 Rev 2	4	21.969	37.128	0.97	15.75	168.40	0.000	0.000	584.88	0.00	0.00
19	165.00	Swedcom SSCP 2x6014	2	21.969	37.128	0.93	14.66	140.80	0.000	0.000	544.18	0.00	0.00
20	169.50	8' Pole Branch	1	22.139	37.415	1.00	5.00	20.00	0.000	0.000	187.07	0.00	0.00
21	174.50	7' Pole Branch	1	22.324	37.727	1.00	5.00	20.00	0.000	0.000	188.63	0.00	0.00
22	175.00	Alcatel Lucent 1900 MHz	3	22.342	37.758	0.75	9.45	225.60	0.000	0.000	356.81	0.00	0.00
23	175.00	Alcatel Lucent 800 MHz	3	22.342	37.758	0.75	7.33	263.40	0.000	0.000	276.95	0.00	0.00
24	175.00	Alcatel Lucent 800 MHz	3	22.342	37.758	0.75	6.34	222.30	0.000	0.000	239.57	0.00	0.00
25	175.00	Alcatel Lucent	3	22.342	37.758	0.75	11.18	276.00	0.000	0.000	422.23	0.00	0.00
26	175.00	Cobra Arms	3	22.342	37.758	0.75	36.00	1650.00	0.000	0.000	1359.28	0.00	0.00
27	175.00	RFS ACU-A20-N RETs	4	22.342	37.758	0.67	0.59	9.20	0.000	0.000	22.26	0.00	0.00
28	175.00	RFS APXVSP18-C-A20	3	22.342	37.758	0.83	22.61	319.50	0.000	0.000	853.67	0.00	0.00
29	175.00	RFS APXVTM14-C-120	3	22.342	37.758	0.79	17.28	275.70	0.000	0.000	652.35	0.00	0.00
30	179.50	6' Pole Branch	1	22.505	38.033	1.00	5.00	20.00	0.000	0.000	190.16	0.00	0.00
31	185.00	6' Pole Branch	1	22.699	38.362	1.00	5.00	20.00	0.000	0.000	191.81	0.00	0.00
32	185.00	Allen Telecom	6	22.769	38.480	0.75	3.24	96.00	0.000	2.000	124.68	0.00	249.35
33	185.00	Cobra Arms	3	22.699	38.362	0.75	36.00	1650.00	0.000	0.000	1381.04	0.00	0.00
34	185.00	Commscope LNX-6515DS	3	22.769	38.480	0.80	29.62	346.80	0.000	2.000	1139.63	0.00	2279.26
35	185.00	EMS RR90-17-02DP	3	22.769	38.480	0.79	11.83	0.00	0.000	2.000	455.08	0.00	910.16
36	185.00	Kathrein 782 11056	3	22.769	38.480	0.67	0.42	12.00	0.000	2.000	16.24	0.00	32.48
Totals:							10,195.30				17,037.89		

Total Applied Force Summary

Structure: CT00707-S-SB

Code: EIA/TIA-222-F

4/13/2015



Site Name: North Easton

Exposure: C

Height: 185.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

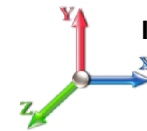
Struct Class: II

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Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00

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		462.09	1922.07	0.00	0.00
10.00		452.97	1907.30	0.00	0.00
15.00		443.86	1868.94	0.00	0.00
20.00		434.74	1830.59	0.00	0.00
25.00		425.63	1792.24	0.00	0.00
30.00		416.51	1753.89	0.00	0.00
35.00		414.30	1715.54	0.00	0.00
40.00		420.78	1677.19	0.00	0.00
45.00		425.22	1638.83	0.00	0.00
46.17		98.50	377.27	0.00	0.00
50.00		331.98	2297.06	0.00	0.00
54.00		347.53	2351.59	0.00	0.00
55.00		86.29	314.39	0.00	0.00
60.00		435.80	1547.15	0.00	0.00
65.00		434.82	1508.80	0.00	0.00
70.00		432.82	1470.45	0.00	0.00
75.00		429.91	1432.10	0.00	0.00
80.00		426.17	1393.75	0.00	0.00
85.00		421.67	1355.39	0.00	0.00
90.00		416.47	1317.04	0.00	0.00
94.08		335.34	1047.47	0.00	0.00
95.00		75.54	405.32	0.00	0.00
100.00		410.71	2169.13	0.00	0.00
100.17		13.48	71.21	0.00	0.00
105.00		390.12	1037.66	0.00	0.00
110.00		396.33	1040.42	0.00	0.00
115.00		388.37	1006.92	0.00	0.00
120.00		379.94	973.41	0.00	0.00
125.00		371.06	939.91	0.00	0.00
130.00		361.76	906.40	0.00	0.00
135.00		352.05	872.90	0.00	0.00
140.00		341.95	839.39	0.00	0.00
143.75		249.30	607.97	0.00	0.00
144.50	(1) appurtenances	241.68	189.71	0.00	0.00
145.00		41.83	112.55	0.00	0.00
145.75		62.58	213.85	0.00	0.00
148.08		193.56	658.06	0.00	0.00
149.50	(1) appurtenances	296.83	236.55	0.00	0.00
150.00		40.83	76.11	0.00	0.00
151.75		142.28	264.69	0.00	0.00
154.50	(1) appurtenances	389.75	262.57	0.00	0.00
155.00	(31) appurtenances	4143.53	2575.29	0.00	0.00
159.50	(1) appurtenances	455.82	385.04	0.00	0.00
160.00		29.53	39.79	0.00	0.00
164.50	(1) appurtenances	446.87	367.97	0.00	0.00
165.00	(21) appurtenances	3985.16	2174.99	0.00	0.00
169.50	(1) appurtenances	437.62	346.22	0.00	0.00
170.00		27.13	35.48	0.00	0.00

Total Applied Force Summary

Structure: CT00707-S-SB

Code: EIA/TIA-222-F

4/13/2015

Site Name: North Easton

Exposure: C

Height: 185.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

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174.50	(1) appurtenances	428.06	329.15	0.00	0.00
175.00	(25) appurtenances	4209.03	3275.28	0.00	0.00
179.50	(1) appurtenances	418.22	303.17	0.00	0.00
180.00		24.62	30.69	0.00	0.00
185.00	(19) appurtenances	<u>3548.40</u>	<u>2419.29</u>	<u>0.00</u>	<u>3471.25</u>
Totals:		31,387.38	57,686.13	0.00	3,471.25

Resulting Forces and Deflections

Structure: CT00707-S-SB
Site Name: North Easton
Height: 185.00 (ft)
Base Elev: 0.000 (ft)

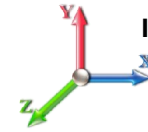
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

4/13/2015
 Page: 23



Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 25

Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	Deflect X (in)	Deflect Z (in)	Deflect Resultant (in)	Rotation Sway (deg)	Rotation Twist (deg)
0.00	-31.434	-57.660	0.000	0.000	0.000	-4257.7	0.000	0.000	0.000	0.000	0.000
5.00	-31.059	-55.689	0.000	0.000	0.000	-4100.5	-0.049	0.000	0.049	-0.091	0.000
10.00	-30.689	-53.733	0.000	0.000	0.000	-3945.2	-0.194	0.000	0.194	-0.183	0.000
15.00	-30.325	-51.815	0.000	0.000	0.000	-3791.8	-0.437	0.000	0.437	-0.278	0.000
20.00	-29.965	-49.936	0.000	0.000	0.000	-3640.1	-0.780	0.000	0.780	-0.375	0.000
25.00	-29.610	-48.095	0.000	0.000	0.000	-3490.3	-1.226	0.000	1.226	-0.474	0.000
30.00	-29.261	-46.293	0.000	0.000	0.000	-3342.3	-1.777	0.000	1.777	-0.575	0.000
35.00	-28.909	-44.529	0.000	0.000	0.000	-3196.0	-2.436	0.000	2.436	-0.679	0.000
40.00	-28.547	-42.804	0.000	0.000	0.000	-3051.4	-3.204	0.000	3.204	-0.785	0.000
45.00	-28.146	-41.138	0.000	0.000	0.000	-2908.7	-4.085	0.000	4.085	-0.894	0.000
46.17	-28.082	-40.735	0.000	0.000	0.000	-2875.9	-4.307	0.000	4.307	-0.920	0.000
50.00	-27.771	-38.401	0.000	0.000	0.000	-2768.2	-5.082	0.000	5.082	-1.007	0.000
54.00	-27.417	-36.029	0.000	0.000	0.000	-2657.1	-5.965	0.000	5.965	-1.098	0.000
55.00	-27.367	-35.683	0.000	0.000	0.000	-2629.7	-6.198	0.000	6.198	-1.122	0.000
60.00	-26.966	-34.093	0.000	0.000	0.000	-2492.9	-7.433	0.000	7.433	-1.233	0.000
65.00	-26.563	-32.541	0.000	0.000	0.000	-2358.1	-8.786	0.000	8.786	-1.347	0.000
70.00	-26.158	-31.028	0.000	0.000	0.000	-2225.2	-10.259	0.000	10.259	-1.463	0.000
75.00	-25.752	-29.554	0.000	0.000	0.000	-2094.5	-11.855	0.000	11.855	-1.582	0.000
80.00	-25.346	-28.119	0.000	0.000	0.000	-1965.7	-13.577	0.000	13.577	-1.703	0.000
85.00	-24.941	-26.723	0.000	0.000	0.000	-1839.0	-15.428	0.000	15.428	-1.827	0.000
90.00	-24.533	-25.371	0.000	0.000	0.000	-1714.3	-17.409	0.000	17.409	-1.953	0.000
94.08	-24.188	-24.308	0.000	0.000	0.000	-1614.1	-19.125	0.000	19.125	-2.058	0.000
95.00	-24.131	-23.873	0.000	0.000	0.000	-1591.9	-19.523	0.000	19.523	-2.083	0.000
100.00	-23.664	-21.693	0.000	0.000	0.000	-1471.3	-21.775	0.000	21.775	-2.214	0.000
100.17	-23.673	-21.595	0.000	0.000	0.000	-1467.3	-21.852	0.000	21.852	-2.218	0.000
105.00	-23.292	-20.517	0.000	0.000	0.000	-1352.9	-24.164	0.000	24.164	-2.346	0.000
110.00	-22.902	-19.435	0.000	0.000	0.000	-1236.4	-26.701	0.000	26.701	-2.494	0.000
115.00	-22.517	-18.388	0.000	0.000	0.000	-1121.9	-29.393	0.000	29.393	-2.643	0.000
120.00	-22.137	-17.376	0.000	0.000	0.000	-1009.4	-32.241	0.000	32.241	-2.792	0.000
125.00	-21.762	-16.400	0.000	0.000	0.000	-898.72	-35.245	0.000	35.245	-2.941	0.000
130.00	-21.392	-15.460	0.000	0.000	0.000	-789.91	-38.404	0.000	38.404	-3.088	0.000
135.00	-21.028	-14.555	0.000	0.000	0.000	-682.95	-41.716	0.000	41.716	-3.232	0.000
140.00	-20.667	-13.694	0.000	0.000	0.000	-577.81	-45.176	0.000	45.176	-3.372	0.000
143.75	-20.396	-13.081	0.000	0.000	0.000	-500.31	-47.865	0.000	47.865	-3.473	0.000
144.50	-20.147	-12.900	0.000	0.000	0.000	-485.01	-48.412	0.000	48.412	-3.493	0.000
145.00	-20.102	-12.784	0.000	0.000	0.000	-474.94	-48.778	0.000	48.778	-3.507	0.000
145.75	-20.033	-12.565	0.000	0.000	0.000	-459.86	-49.331	0.000	49.331	-3.527	0.000
148.08	-19.805	-11.909	0.000	0.000	0.000	-413.12	-51.064	0.000	51.064	-3.566	0.000
149.50	-19.498	-11.686	0.000	0.000	0.000	-385.06	-52.125	0.000	52.125	-3.589	0.000
150.00	-19.457	-11.604	0.000	0.000	0.000	-375.32	-52.501	0.000	52.501	-3.600	0.000
151.75	-19.308	-11.333	0.000	0.000	0.000	-341.27	-53.828	0.000	53.828	-3.638	0.000
154.50	-18.910	-11.083	0.000	0.000	0.000	-288.17	-55.939	0.000	55.939	-3.693	0.000
155.00	-14.622	-8.758	0.000	0.000	0.000	-278.71	-56.327	0.000	56.327	-3.713	0.000
159.50	-14.155	-8.383	0.000	0.000	0.000	-212.91	-59.905	0.000	59.905	-3.871	0.000
160.00	-14.134	-8.326	0.000	0.000	0.000	-205.84	-60.311	0.000	60.311	-3.888	0.000
164.50	-13.672	-7.974	0.000	0.000	0.000	-142.24	-64.040	0.000	64.040	-4.018	0.000
165.00	-9.550	-6.074	0.000	0.000	0.000	-135.40	-64.462	0.000	64.462	-4.031	0.000
169.50	-9.094	-5.752	0.000	0.000	0.000	-92.431	-68.310	0.000	68.310	-4.130	0.000
170.00	-9.069	-5.712	0.000	0.000	0.000	-87.884	-68.743	0.000	68.743	-4.141	0.000

Resulting Forces and Deflections

Structure: CT00707-S-SB

Code: EIA/TIA-222-F

4/13/2015

Site Name: North Easton

Exposure: C

Height: 185.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

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174.50	-8.621	-5.409	0.000	0.000	0.000	-47.075	-72.680	0.000	72.680	-4.210	0.000
175.00	-4.184	-2.451	0.000	0.000	0.000	-42.765	-73.121	0.000	73.121	-4.216	0.000
179.50	-3.745	-2.178	0.000	0.000	0.000	-23.938	-77.113	0.000	77.113	-4.257	0.000
180.00	-3.719	-2.148	0.000	0.000	0.000	-22.065	-77.558	0.000	77.558	-4.260	0.000
185.00	-3.548	0.000	0.000	0.000	0.000	-3.471	0.000	0.000	82.030	-4.281	0.000

Resulting Stresses

Structure: CT00707-S-SBA
Site Name: North Easton
Height: 185.00 (ft)
Base Elev: 0.000 (ft)

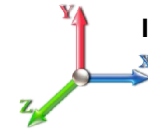
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

4/13/2015
 Page: 25



Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 25

Applied Stresses

Elev (ft)	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fvt Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	fb Combined (ksi)	Allow Stress (ksi)	f/Fb Stress Ratio
0.00	0.58	0.63	0.00	0.00	0.00	28.65	29.24	49.4	0.592
5.00	0.57	0.64	0.00	0.00	0.00	28.73	29.31	49.9	0.587
10.00	0.56	0.64	0.00	0.00	0.00	28.80	29.38	50.4	0.583
15.00	0.55	0.65	0.00	0.00	0.00	28.87	29.44	50.9	0.578
20.00	0.54	0.66	0.00	0.00	0.00	28.93	29.50	51.4	0.574
25.00	0.53	0.66	0.00	0.00	0.00	28.99	29.54	51.9	0.569
30.00	0.53	0.67	0.00	0.00	0.00	29.03	29.58	52.0	0.569
35.00	0.52	0.68	0.00	0.00	0.00	29.07	29.61	52.0	0.570
40.00	0.51	0.68	0.00	0.00	0.00	29.09	29.62	52.0	0.570
45.00	0.50	0.69	0.00	0.00	0.00	29.09	29.62	52.0	0.570
46.17	0.50	0.69	0.00	0.00	0.00	29.10	29.62	52.0	0.570
50.00	0.48	0.70	0.00	0.00	0.00	29.09	29.59	52.0	0.569
54.00	0.45	0.69	0.00	0.00	0.00	28.19	28.67	52.0	0.552
55.00	0.45	0.70	0.00	0.00	0.00	28.18	28.66	52.0	0.551
60.00	0.44	0.70	0.00	0.00	0.00	28.12	28.58	52.0	0.550
65.00	0.43	0.71	0.00	0.00	0.00	28.03	28.49	52.0	0.548
70.00	0.42	0.72	0.00	0.00	0.00	27.91	28.36	52.0	0.546
75.00	0.41	0.73	0.00	0.00	0.00	27.77	28.21	52.0	0.543
80.00	0.41	0.74	0.00	0.00	0.00	27.58	28.02	52.0	0.539
85.00	0.40	0.75	0.00	0.00	0.00	27.36	27.79	52.0	0.535
90.00	0.39	0.76	0.00	0.00	0.00	27.09	27.51	52.0	0.529
94.08	0.38	0.76	0.00	0.00	0.00	26.84	27.25	52.0	0.524
95.00	0.38	0.77	0.00	0.00	0.00	26.78	27.18	52.0	0.523
100.00	0.35	0.78	0.00	0.00	0.00	26.39	26.77	52.0	0.515
100.17	0.40	0.89	0.00	0.00	0.00	29.62	30.07	52.0	0.578
105.00	0.40	0.90	0.00	0.00	0.00	29.09	29.52	52.0	0.568
110.00	0.39	0.92	0.00	0.00	0.00	28.43	28.86	52.0	0.555
115.00	0.38	0.94	0.00	0.00	0.00	27.66	28.09	52.0	0.540
120.00	0.37	0.95	0.00	0.00	0.00	26.74	27.17	52.0	0.523
125.00	0.36	0.97	0.00	0.00	0.00	25.66	26.08	52.0	0.502
130.00	0.36	0.99	0.00	0.00	0.00	24.38	24.79	52.0	0.477
135.00	0.35	1.02	0.00	0.00	0.00	22.85	23.27	52.0	0.448
140.00	0.34	1.04	0.00	0.00	0.00	21.03	21.45	52.0	0.413
143.75	0.34	1.06	0.00	0.00	0.00	19.45	19.87	52.0	0.382
144.50	0.34	1.06	0.00	0.00	0.00	19.11	19.53	52.0	0.376
145.00	0.33	1.06	0.00	0.00	0.00	18.88	19.30	52.0	0.371
145.75	0.33	1.06	0.00	0.00	0.00	12.08	12.41	52.0	0.239
148.08	0.63	2.11	0.00	0.00	0.00	11.23	11.23	52.0	0.216
149.50	0.63	2.10	0.00	0.00	0.00	15.57	15.57	49.0	0.318
150.00	0.62	2.11	0.00	0.00	0.00	15.28	15.28	49.2	0.311
151.75	0.62	2.13	0.00	0.00	0.00	14.22	14.84	49.6	0.299
154.50	0.62	2.14	0.00	0.00	0.00	26.20	27.08	50.2	0.540
155.00	0.49	1.66	0.00	0.00	0.00	25.59	26.24	50.3	0.522
159.50	0.49	1.68	0.00	0.00	0.00	21.37	22.05	51.3	0.430
160.00	0.49	1.69	0.00	0.00	0.00	20.87	21.56	51.4	0.419
164.50	0.49	1.71	0.00	0.00	0.00	15.83	16.59	52.0	0.319
165.00	0.38	1.20	0.00	0.00	0.00	15.23	15.75	52.0	0.303

Resulting Stresses

Structure: CT00707-S-SBA

Code: EIA/TIA-222-F

4/13/2015



Site Name: North Easton

Exposure: C

Height: 185.00 (ft)

Gh: 1.69

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Base Elev: 0.000 (ft)

Struct Class: II

169.50	0.38	1.20	0.00	0.00	0.00	11.48	12.04	52.0	0.232
170.00	0.38	1.20	0.00	0.00	0.00	11.04	11.60	52.0	0.223
174.50	0.38	1.21	0.00	0.00	0.00	6.56	7.25	52.0	0.139
175.00	0.17	0.59	0.00	0.00	0.00	6.03	6.29	52.0	0.121
179.50	0.16	0.56	0.00	0.00	0.00	3.77	4.05	52.0	0.078
180.00	0.16	0.56	0.00	0.00	0.00	3.52	3.81	52.0	0.073
185.00	0.00	0.57	0.00	0.00	0.00	0.63	1.17	52.0	0.022

Wind Loading - Shaft

Structure: CT00707-S-SBA

Code: EIA/TIA-222-F

4/13/2015



Site Name: North Easton

Exposure: C

Height: 185.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

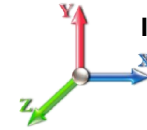
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Load Case: 50 mph Wind with 0" Ice

Iterations: 24

Dead Load Factor 1.00

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		0.00	1.00	6.400	10.82	302.08	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00	6.400	10.82	296.10	0.650	0.000	5.00	29.909	19.44	210.3	0.0	1685.5
10.00		0.00	1.00	6.400	10.82	290.12	0.650	0.000	5.00	29.311	19.05	206.1	0.0	1651.6
15.00		0.00	1.00	6.400	10.82	284.14	0.650	0.000	5.00	28.713	18.66	201.9	0.0	1617.7
20.00		0.00	1.00	6.400	10.82	278.15	0.650	0.000	5.00	28.114	18.27	197.7	0.0	1583.8
25.00		0.00	1.00	6.400	10.82	272.17	0.650	0.000	5.00	27.516	17.89	193.4	0.0	1549.8
30.00		0.00	1.00	6.400	10.82	266.19	0.650	0.000	5.00	26.918	17.50	189.2	0.0	1515.9
35.00		0.00	1.02	6.509	11.00	262.40	0.650	0.000	5.00	26.320	17.11	188.2	0.0	1482.0
40.00		0.00	1.06	6.762	11.43	261.31	0.650	0.000	5.00	25.721	16.72	191.0	0.0	1448.1
45.00		0.00	1.09	6.993	11.82	259.49	0.650	0.000	5.00	25.123	16.33	193.0	0.0	1414.2
46.17	Bot - Section 2	0.00	1.10	7.044	11.90	258.97	0.650	0.000	1.17	5.776	3.75	44.7	0.0	325.1
50.00		0.00	1.13	7.207	12.18	257.07	0.650	0.000	3.83	19.028	12.37	150.6	0.0	2126.1
54.00	Top - Section 1	0.00	1.15	7.367	12.45	254.78	0.650	0.000	4.00	19.481	12.66	157.7	0.0	2176.1
55.00		0.00	1.16	7.406	12.52	258.08	0.650	0.000	1.00	4.810	3.13	39.1	0.0	270.7
60.00		0.00	1.19	7.592	12.83	254.80	0.650	0.000	5.00	23.693	15.40	197.6	0.0	1333.1
65.00		0.00	1.21	7.768	13.13	251.14	0.650	0.000	5.00	23.095	15.01	197.1	0.0	1299.1
70.00		0.00	1.24	7.934	13.41	247.15	0.650	0.000	5.00	22.496	14.62	196.1	0.0	1265.2
75.00		0.00	1.26	8.092	13.68	242.87	0.650	0.000	5.00	21.898	14.23	194.7	0.0	1231.3
80.00		0.00	1.29	8.242	13.93	238.33	0.650	0.000	5.00	21.300	13.84	192.9	0.0	1197.4
85.00		0.00	1.31	8.387	14.17	233.55	0.650	0.000	5.00	20.702	13.46	190.7	0.0	1163.5
90.00		0.00	1.33	8.525	14.41	228.56	0.650	0.000	5.00	20.103	13.07	188.3	0.0	1129.5
94.08	Bot - Section 3	0.00	1.35	8.633	14.59	224.34	0.650	0.000	4.08	15.974	10.38	151.5	0.0	897.3
95.00		0.00	1.35	8.657	14.63	223.38	0.650	0.000	0.92	3.588	2.33	34.1	0.0	371.3
100.00		0.00	1.37	8.785	14.85	218.01	0.650	0.000	5.00	19.219	12.49	185.5	0.0	1988.2
100.17	Top - Section 2	0.00	1.37	8.789	14.85	217.83	0.650	0.000	0.17	0.630	0.41	6.1	0.0	65.2
105.00		0.00	1.39	8.908	15.06	216.16	0.650	0.000	4.83	17.991	11.69	176.1	0.0	867.0
110.00		0.00	1.41	9.028	15.26	210.50	0.650	0.000	5.00	18.023	11.71	178.7	0.0	868.3
115.00		0.00	1.43	9.143	15.45	204.69	0.650	0.000	5.00	17.425	11.33	175.0	0.0	839.2
120.00		0.00	1.45	9.255	15.64	198.75	0.650	0.000	5.00	16.826	10.94	171.1	0.0	810.2
125.00		0.00	1.46	9.363	15.82	192.67	0.650	0.000	5.00	16.228	10.55	166.9	0.0	781.1
130.00		0.00	1.48	9.469	16.00	186.48	0.650	0.000	5.00	15.630	10.16	162.6	0.0	752.0
135.00		0.00	1.50	9.572	16.18	180.17	0.650	0.000	5.00	15.032	9.77	158.0	0.0	722.9
140.00		0.00	1.51	9.672	16.35	173.75	0.650	0.000	5.00	14.433	9.38	153.3	0.0	693.9
143.75	Bot - Section 4	0.00	1.52	9.745	16.47	168.87	0.650	0.000	3.75	10.432	6.78	111.7	0.0	501.3
144.50	Appurtenance(s)	0.00	1.52	9.759	16.49	167.89	0.650	0.000	0.75	2.070	1.35	22.2	0.0	148.3
145.00		0.00	1.53	9.769	16.51	167.24	0.650	0.000	0.50	1.372	0.89	14.7	0.0	98.3
145.75	RB1	0.00	1.53	9.783	16.53	166.25	0.650	0.000	0.75	2.047	1.33	22.0	0.0	238.5
148.08	Top - Section 3	0.00	1.54	9.828	16.61	163.17	0.650	0.000	2.33	6.283	4.08	67.8	0.0	735.9
149.50	Appurtenance(s)	0.00	1.54	9.855	16.65	163.22	0.650	0.000	1.42	3.751	2.44	40.6	0.0	264.2
150.00		0.00	1.54	9.864	16.67	162.56	0.650	0.000	0.50	1.312	0.85	14.2	0.0	93.0
151.75	RT1	0.00	1.55	9.897	16.73	160.23	0.650	0.000	1.75	4.546	2.96	49.4	0.0	324.2
154.50	Appurtenance(s)	0.00	1.55	9.948	16.81	156.53	0.650	0.000	2.75	6.996	4.55	76.5	0.0	169.0
155.00	Appurtenance(s)	0.00	1.56	9.957	16.83	155.86	0.650	0.000	0.50	1.253	0.81	13.7	0.0	30.2
159.50	Appurtenance(s)	0.00	1.57	10.039	16.97	149.76	0.650	0.000	4.50	11.004	7.15	121.3	0.0	265.7
160.00		0.00	1.57	10.048	16.98	149.07	0.650	0.000	0.50	1.193	0.78	13.2	0.0	28.8
164.50	Appurtenance(s)	0.00	1.58	10.128	17.12	142.89	0.650	0.000	4.50	10.465	6.80	116.4	0.0	252.6
165.00	Appurtenance(s)	0.00	1.58	10.136	17.13	142.20	0.650	0.000	0.50	1.133	0.74	12.6	0.0	27.3
169.50	Appurtenance(s)	0.00	1.60	10.215	17.26	135.95	0.650	0.000	4.50	9.927	6.45	111.4	0.0	239.5

Wind Loading - Shaft

Structure: CT00707-S-SBA

Code: EIA/TIA-222-F

4/13/2015



Site Name: North Easton

Exposure: C

Height: 185.00 (ft)

Gh: 1.69

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Base Elev: 0.000 (ft)

Struct Class: II

170.00		0.00	1.60	10.223	17.28	135.25	0.650	0.000	0.50	1.073	0.70	12.1	0.0	25.9
174.50	Appurtenance(s)	0.00	1.61	10.300	17.41	128.92	0.650	0.000	4.50	9.389	6.10	106.2	0.0	226.4
175.00	Appurtenance(s)	0.00	1.61	10.308	17.42	128.22	0.650	0.000	0.50	1.013	0.66	11.5	0.0	24.4
179.50	Appurtenance(s)	0.00	1.62	10.383	17.55	121.82	0.650	0.000	4.50	8.850	5.75	100.9	0.0	213.4
180.00		0.00	1.62	10.392	17.56	121.11	0.650	0.000	0.50	0.953	0.62	10.9	0.0	23.0
185.00	Appurtenance(s)	0.00	1.64	10.473	17.70	113.93	0.650	0.000	5.00	9.205	5.98	105.9	0.0	221.8
Totals:									185.00	6,394.3			41,273.9	

Discrete Appurtenance Forces

Structure: CT00707-S-SB
Site Name: North Easton
Height: 185.00 (ft)
Base Elev: 0.000 (ft)

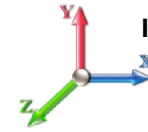
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

4/13/2015
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Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	144.50	11' Pole Branch	1	9.759	16.493	1.00	42.72	720.00	0.000	0.000	704.60	0.00	0.00
2	149.50	10' Pole Branch	1	9.855	16.655	1.00	50.00	700.00	0.000	0.000	832.73	0.00	0.00
3	154.50	9' Pole Branch	1	9.948	16.812	1.00	33.48	660.00	0.000	0.000	562.86	0.00	0.00
4	155.00	Cobra Arms	3	9.957	16.827	0.75	30.38	1200.00	0.000	0.000	511.13	0.00	0.00
5	155.00	Ericsson RRUS-11 RRUs	6	9.957	16.827	0.75	19.89	330.00	0.000	0.000	334.70	0.00	0.00
6	155.00	Powerwave 7770.00	6	9.957	16.827	0.78	27.52	210.00	0.000	0.000	463.06	0.00	0.00
7	155.00	Powerwave LGP 21401	6	9.957	16.827	0.50	2.85	105.00	0.000	0.000	47.96	0.00	0.00
8	155.00	Powerwave LGP21903	6	9.957	16.827	0.50	0.81	33.00	0.000	0.000	13.63	0.00	0.00
9	155.00	Powerwave P65-16-XLH-RR	3	9.957	16.827	0.78	19.66	159.00	0.000	0.000	330.76	0.00	0.00
10	155.00	Raycap DC6-48-60-18-8F	1	9.957	16.827	1.00	1.47	31.80	0.000	0.000	24.74	0.00	0.00
11	159.50	9' Pole Branch	1	10.039	16.965	1.00	45.00	660.00	0.000	0.000	763.45	0.00	0.00
12	164.50	8' Pole Branch	1	10.128	17.116	1.00	24.24	560.00	0.000	0.000	414.89	0.00	0.00
13	165.00	Antel BXA 171063/8BF	3	10.136	17.131	0.84	7.41	31.50	0.000	0.000	126.92	0.00	0.00
14	165.00	Antel BXA 70063/6CF 4	1	10.136	17.131	1.00	7.73	17.00	0.000	0.000	132.42	0.00	0.00
15	165.00	Antel LPA 80063/6CF	2	10.136	17.131	0.94	19.44	54.00	0.000	0.000	333.01	0.00	0.00
16	165.00	Cobra Arms	3	10.136	17.131	0.75	30.38	1200.00	0.000	0.000	520.34	0.00	0.00
17	165.00	RFS FD9R6004/2C-3L	6	10.136	17.131	0.67	1.45	18.60	0.000	0.000	24.79	0.00	0.00
18	165.00	Swedcom SC-E 6014 Rev 2	4	10.136	17.131	0.97	13.77	60.00	0.000	0.000	235.96	0.00	0.00
19	165.00	Swedcom SLCP 2x6014	2	10.136	17.131	0.93	13.41	40.00	0.000	0.000	229.73	0.00	0.00
20	169.50	8' Pole Branch	1	10.215	17.263	1.00	35.00	560.00	0.000	0.000	604.20	0.00	0.00
21	174.50	7' Pole Branch	1	10.300	17.407	1.00	15.00	460.00	0.000	0.000	261.10	0.00	0.00
22	175.00	Alcatel Lucent 1900 MHz	3	10.308	17.421	0.75	6.62	132.00	0.000	0.000	115.24	0.00	0.00
23	175.00	Alcatel Lucent 800 MHz	3	10.308	17.421	0.75	1.46	52.50	0.000	0.000	25.48	0.00	0.00
24	175.00	Alcatel Lucent 800 MHz	3	10.308	17.421	0.75	5.60	159.00	0.000	0.000	97.60	0.00	0.00
25	175.00	Alcatel Lucent	3	10.308	17.421	0.75	10.62	210.00	0.000	0.000	185.01	0.00	0.00
26	175.00	Cobra Arms	3	10.308	17.421	0.75	30.38	1200.00	0.000	0.000	529.16	0.00	0.00
27	175.00	RFS ACU-A20-N RETs	4	10.308	17.421	0.67	0.38	4.00	0.000	0.000	6.54	0.00	0.00
28	175.00	RFS APXVSP18-C-A20	3	10.308	17.421	0.83	20.57	171.00	0.000	0.000	358.31	0.00	0.00
29	175.00	RFS APXVTM14-C-120	3	10.308	17.421	0.79	16.35	168.00	0.000	0.000	284.89	0.00	0.00
30	179.50	6' Pole Branch	1	10.383	17.548	1.00	58.85	300.00	0.000	0.000	1032.69	0.00	0.00
31	185.00	6' Pole Branch	1	10.473	17.700	1.00	16.06	300.00	0.000	0.000	284.26	0.00	0.00
32	185.00	Allen Telecom	6	10.505	17.754	0.75	2.48	105.00	0.000	2.000	43.94	0.00	87.88
33	185.00	Cobra Arms	3	10.473	17.700	0.75	14.63	1050.00	0.000	0.000	258.86	0.00	0.00
34	185.00	Commscope LNX-6515DS	3	10.505	17.754	0.80	27.38	150.90	0.000	2.000	486.18	0.00	972.37
35	185.00	EMS RR90-17-02DP	3	10.505	17.754	0.79	10.33	54.00	0.000	2.000	183.46	0.00	366.92
36	185.00	Kathrein 782 11056	3	10.505	17.754	0.67	0.26	8.70	0.000	2.000	4.64	0.00	9.28
Totals:								11,875.00			11,369.20		

Total Applied Force Summary

Structure: CT00707-S-SB

Site Name: North Easton

Height: 185.00 (ft)

Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F

Exposure: C

Gh: 1.69

Struct Class: II

4/13/2015

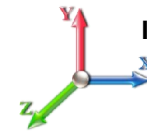
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Load Case: 50 mph Wind with 0" Ice

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		210.27	1701.24	0.00	0.00
10.00		206.07	1690.90	0.00	0.00
15.00		201.86	1656.98	0.00	0.00
20.00		197.66	1623.06	0.00	0.00
25.00		193.45	1589.14	0.00	0.00
30.00		189.24	1555.21	0.00	0.00
35.00		188.17	1521.29	0.00	0.00
40.00		191.05	1487.37	0.00	0.00
45.00		192.99	1453.45	0.00	0.00
46.17		44.70	334.26	0.00	0.00
50.00		150.64	2156.26	0.00	0.00
54.00		157.65	2207.50	0.00	0.00
55.00		39.13	278.54	0.00	0.00
60.00		197.60	1372.36	0.00	0.00
65.00		197.06	1338.44	0.00	0.00
70.00		196.07	1304.52	0.00	0.00
75.00		194.65	1270.60	0.00	0.00
80.00		192.86	1236.68	0.00	0.00
85.00		190.72	1202.75	0.00	0.00
90.00		188.25	1168.83	0.00	0.00
94.08		151.49	929.38	0.00	0.00
95.00		34.13	378.54	0.00	0.00
100.00		185.48	2027.47	0.00	0.00
100.17		6.09	66.50	0.00	0.00
105.00		176.06	905.01	0.00	0.00
110.00		178.73	907.62	0.00	0.00
115.00		175.01	878.55	0.00	0.00
120.00		171.07	849.47	0.00	0.00
125.00		166.92	820.40	0.00	0.00
130.00		162.58	791.32	0.00	0.00
135.00		158.05	762.25	0.00	0.00
140.00		153.34	733.17	0.00	0.00
143.75		111.68	530.80	0.00	0.00
144.50	(1) appurtenances	730.87	874.20	0.00	0.00
145.00		17.45	102.26	0.00	0.00
145.75		26.09	198.50	0.00	0.00
148.08		80.62	611.29	0.00	0.00
149.50	(1) appurtenances	881.12	888.52	0.00	0.00
150.00		16.97	66.26	0.00	0.00
151.75		59.08	230.75	0.00	0.00
154.50	(1) appurtenances	650.40	850.58	0.00	0.00
155.00	(31) appurtenances	1739.67	2102.98	0.00	0.00
159.50	(1) appurtenances	884.79	943.96	0.00	0.00
160.00		13.16	30.82	0.00	0.00
164.50	(1) appurtenances	531.32	830.87	0.00	0.00
165.00	(21) appurtenances	1615.78	1450.47	0.00	0.00
169.50	(1) appurtenances	715.59	813.11	0.00	0.00
170.00		12.05	27.40	0.00	0.00

Total Applied Force Summary

Structure: CT00707-S-SB

Code: EIA/TIA-222-F

4/13/2015

Site Name: North Easton

Exposure: C

Height: 185.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

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174.50	(1) appurtenances	367.33	700.03	0.00	0.00
175.00	(25) appurtenances	1613.70	2122.44	0.00	0.00
179.50	(1) appurtenances	1133.64	518.03	0.00	0.00
180.00		10.88	23.50	0.00	0.00
185.00	(19) appurtenances	<u>1367.25</u>	<u>1895.59</u>	<u>0.00</u>	<u>1436.45</u>
Totals:		17,818.47	54,011.41	0.00	1,436.45

Resulting Forces and Deflections

Structure: CT00707-S-SB
Site Name: North Easton
Height: 185.00 (ft)
Base Elev: 0.000 (ft)

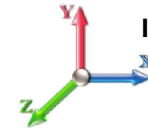
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

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Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 24

Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	Deflect X (in)	Deflect Z (in)	Deflect Resultant (in)	Rotation Sway (deg)	Rotation Twist (deg)
0.00	-17.843	-54.003	0.000	0.000	0.000	-2517.4	0.000	0.000	0.000	0.000	0.000
5.00	-17.682	-52.285	0.000	0.000	0.000	-2428.2	-0.029	0.000	0.029	-0.054	0.000
10.00	-17.522	-50.577	0.000	0.000	0.000	-2339.8	-0.115	0.000	0.115	-0.108	0.000
15.00	-17.365	-48.904	0.000	0.000	0.000	-2252.2	-0.259	0.000	0.259	-0.165	0.000
20.00	-17.210	-47.264	0.000	0.000	0.000	-2165.4	-0.462	0.000	0.462	-0.222	0.000
25.00	-17.057	-45.658	0.000	0.000	0.000	-2079.3	-0.727	0.000	0.727	-0.281	0.000
30.00	-16.906	-44.086	0.000	0.000	0.000	-1994.1	-1.054	0.000	1.054	-0.342	0.000
35.00	-16.755	-42.547	0.000	0.000	0.000	-1909.5	-1.445	0.000	1.445	-0.404	0.000
40.00	-16.599	-41.043	0.000	0.000	0.000	-1825.8	-1.902	0.000	1.902	-0.467	0.000
45.00	-16.421	-39.579	0.000	0.000	0.000	-1742.8	-2.427	0.000	2.427	-0.532	0.000
46.17	-16.396	-39.236	0.000	0.000	0.000	-1723.6	-2.559	0.000	2.559	-0.548	0.000
50.00	-16.258	-37.066	0.000	0.000	0.000	-1660.8	-3.020	0.000	3.020	-0.600	0.000
54.00	-16.098	-34.851	0.000	0.000	0.000	-1595.7	-3.547	0.000	3.547	-0.655	0.000
55.00	-16.080	-34.561	0.000	0.000	0.000	-1579.6	-3.686	0.000	3.686	-0.669	0.000
60.00	-15.905	-33.173	0.000	0.000	0.000	-1499.2	-4.422	0.000	4.422	-0.736	0.000
65.00	-15.728	-31.818	0.000	0.000	0.000	-1419.7	-5.230	0.000	5.230	-0.804	0.000
70.00	-15.551	-30.497	0.000	0.000	0.000	-1341.1	-6.110	0.000	6.110	-0.874	0.000
75.00	-15.373	-29.211	0.000	0.000	0.000	-1263.3	-7.064	0.000	7.064	-0.946	0.000
80.00	-15.195	-27.958	0.000	0.000	0.000	-1186.5	-8.095	0.000	8.095	-1.019	0.000
85.00	-15.017	-26.739	0.000	0.000	0.000	-1110.5	-9.202	0.000	9.202	-1.094	0.000
90.00	-14.837	-25.556	0.000	0.000	0.000	-1035.4	-10.389	0.000	10.389	-1.170	0.000
94.08	-14.683	-24.620	0.000	0.000	0.000	-974.86	-11.418	0.000	11.418	-1.234	0.000
95.00	-14.660	-24.230	0.000	0.000	0.000	-961.40	-11.656	0.000	11.656	-1.249	0.000
100.00	-14.445	-22.197	0.000	0.000	0.000	-888.10	-13.006	0.000	13.006	-1.327	0.000
100.17	-14.453	-22.121	0.000	0.000	0.000	-885.69	-13.052	0.000	13.052	-1.330	0.000
105.00	-14.286	-21.200	0.000	0.000	0.000	-815.84	-14.439	0.000	14.439	-1.407	0.000
110.00	-14.116	-20.275	0.000	0.000	0.000	-744.41	-15.962	0.000	15.962	-1.496	0.000
115.00	-13.948	-19.379	0.000	0.000	0.000	-673.83	-17.577	0.000	17.577	-1.586	0.000
120.00	-13.782	-18.514	0.000	0.000	0.000	-604.09	-19.287	0.000	19.287	-1.675	0.000
125.00	-13.617	-17.678	0.000	0.000	0.000	-535.18	-21.090	0.000	21.090	-1.764	0.000
130.00	-13.455	-16.872	0.000	0.000	0.000	-467.09	-22.985	0.000	22.985	-1.852	0.000
135.00	-13.296	-16.096	0.000	0.000	0.000	-399.82	-24.971	0.000	24.971	-1.937	0.000
140.00	-13.136	-15.353	0.000	0.000	0.000	-333.34	-27.043	0.000	27.043	-2.018	0.000
143.75	-13.014	-14.818	0.000	0.000	0.000	-284.08	-28.652	0.000	28.652	-2.076	0.000
144.50	-12.254	-13.969	0.000	0.000	0.000	-274.32	-28.979	0.000	28.979	-2.087	0.000
145.00	-12.235	-13.866	0.000	0.000	0.000	-268.20	-29.198	0.000	29.198	-2.095	0.000
145.75	-12.206	-13.665	0.000	0.000	0.000	-259.02	-29.528	0.000	29.528	-2.106	0.000
148.08	-12.107	-13.053	0.000	0.000	0.000	-230.54	-30.563	0.000	30.563	-2.128	0.000
149.50	-11.195	-12.196	0.000	0.000	0.000	-213.39	-31.196	0.000	31.196	-2.141	0.000
150.00	-11.179	-12.128	0.000	0.000	0.000	-207.79	-31.421	0.000	31.421	-2.147	0.000
151.75	-11.116	-11.895	0.000	0.000	0.000	-188.23	-32.212	0.000	32.212	-2.168	0.000
154.50	-10.438	-11.066	0.000	0.000	0.000	-157.66	-33.470	0.000	33.470	-2.198	0.000
155.00	-8.627	-9.024	0.000	0.000	0.000	-152.44	-33.701	0.000	33.701	-2.209	0.000
159.50	-7.712	-8.109	0.000	0.000	0.000	-113.62	-35.826	0.000	35.826	-2.295	0.000
160.00	-7.703	-8.073	0.000	0.000	0.000	-109.76	-36.067	0.000	36.067	-2.304	0.000
164.50	-7.143	-7.260	0.000	0.000	0.000	-75.104	-38.274	0.000	38.274	-2.373	0.000
165.00	-5.472	-5.875	0.000	0.000	0.000	-71.532	-38.523	0.000	38.523	-2.380	0.000
169.50	-4.725	-5.091	0.000	0.000	0.000	-46.910	-40.792	0.000	40.792	-2.431	0.000
170.00	-4.714	-5.062	0.000	0.000	0.000	-44.547	-41.047	0.000	41.047	-2.436	0.000

Resulting Forces and Deflections

Structure: CT00707-S-SB

Code: EIA/TIA-222-F

4/13/2015



Site Name: North Easton

Exposure: C

Height: 185.00 (ft)

Gh: 1.69

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Base Elev: 0.000 (ft)

Struct Class: II

174.50	-4.318	-4.377	0.000	0.000	0.000	-23.335	-43.362	0.000	43.362	-2.471	0.000
175.00	-2.615	-2.326	0.000	0.000	0.000	-21.176	-43.621	0.000	43.621	-2.474	0.000
179.50	-1.460	-1.857	0.000	0.000	0.000	-9.409	-45.962	0.000	45.962	-2.493	0.000
180.00	-1.449	-1.834	0.000	0.000	0.000	-8.679	-46.223	0.000	46.223	-2.494	0.000
185.00	-1.367	0.000	0.000	0.000	0.000	-1.436	0.000	0.000	48.841	-2.503	0.000

Resulting Stresses

Structure: CT00707-S-SBA
Site Name: North Easton
Height: 185.00 (ft)
Base Elev: 0.000 (ft)

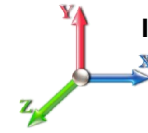
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

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Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 24

Applied Stresses

Elev (ft)	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fvt Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	fb Combined (ksi)	Allow Stress (ksi)	f/Fb Stress Ratio
0.00	0.54	0.36	0.00	0.00	0.00	16.94	17.49	49.4	0.354
5.00	0.53	0.36	0.00	0.00	0.00	17.01	17.56	49.9	0.352
10.00	0.53	0.37	0.00	0.00	0.00	17.08	17.62	50.4	0.349
15.00	0.52	0.37	0.00	0.00	0.00	17.15	17.68	50.9	0.347
20.00	0.51	0.38	0.00	0.00	0.00	17.21	17.74	51.4	0.345
25.00	0.51	0.38	0.00	0.00	0.00	17.27	17.79	51.9	0.343
30.00	0.50	0.39	0.00	0.00	0.00	17.32	17.83	52.0	0.343
35.00	0.49	0.39	0.00	0.00	0.00	17.37	17.87	52.0	0.344
40.00	0.49	0.40	0.00	0.00	0.00	17.40	17.91	52.0	0.344
45.00	0.48	0.40	0.00	0.00	0.00	17.43	17.93	52.0	0.345
46.17	0.48	0.40	0.00	0.00	0.00	17.44	17.93	52.0	0.345
50.00	0.46	0.41	0.00	0.00	0.00	17.45	17.93	52.0	0.345
54.00	0.44	0.41	0.00	0.00	0.00	16.93	17.38	52.0	0.334
55.00	0.44	0.41	0.00	0.00	0.00	16.93	17.38	52.0	0.334
60.00	0.43	0.41	0.00	0.00	0.00	16.91	17.35	52.0	0.334
65.00	0.42	0.42	0.00	0.00	0.00	16.87	17.31	52.0	0.333
70.00	0.42	0.43	0.00	0.00	0.00	16.82	17.25	52.0	0.332
75.00	0.41	0.43	0.00	0.00	0.00	16.75	17.17	52.0	0.330
80.00	0.40	0.44	0.00	0.00	0.00	16.65	17.07	52.0	0.328
85.00	0.40	0.45	0.00	0.00	0.00	16.52	16.94	52.0	0.326
90.00	0.39	0.46	0.00	0.00	0.00	16.36	16.77	52.0	0.323
94.08	0.39	0.46	0.00	0.00	0.00	16.21	16.61	52.0	0.320
95.00	0.38	0.47	0.00	0.00	0.00	16.17	16.57	52.0	0.319
100.00	0.36	0.47	0.00	0.00	0.00	15.93	16.31	52.0	0.314
100.17	0.41	0.54	0.00	0.00	0.00	17.88	18.32	52.0	0.352
105.00	0.41	0.55	0.00	0.00	0.00	17.54	17.97	52.0	0.346
110.00	0.40	0.57	0.00	0.00	0.00	17.12	17.55	52.0	0.338
115.00	0.40	0.58	0.00	0.00	0.00	16.61	17.04	52.0	0.328
120.00	0.40	0.59	0.00	0.00	0.00	16.01	16.43	52.0	0.316
125.00	0.39	0.61	0.00	0.00	0.00	15.28	15.71	52.0	0.302
130.00	0.39	0.63	0.00	0.00	0.00	14.42	14.84	52.0	0.286
135.00	0.39	0.64	0.00	0.00	0.00	13.38	13.81	52.0	0.266
140.00	0.38	0.66	0.00	0.00	0.00	12.13	12.57	52.0	0.242
143.75	0.38	0.68	0.00	0.00	0.00	11.04	11.49	52.0	0.221
144.50	0.36	0.64	0.00	0.00	0.00	10.81	11.23	52.0	0.216
145.00	0.36	0.65	0.00	0.00	0.00	10.66	11.08	52.0	0.213
145.75	0.36	0.65	0.00	0.00	0.00	6.81	7.17	52.0	0.138
148.08	0.69	1.29	0.00	0.00	0.00	6.27	6.27	52.0	0.121
149.50	0.65	1.21	0.00	0.00	0.00	8.63	8.63	49.0	0.176
150.00	0.65	1.21	0.00	0.00	0.00	8.46	8.46	49.2	0.172
151.75	0.65	1.22	0.00	0.00	0.00	7.84	8.49	49.6	0.171
154.50	0.62	1.18	0.00	0.00	0.00	14.34	15.10	50.2	0.301
155.00	0.51	0.98	0.00	0.00	0.00	14.00	14.60	50.3	0.290
159.50	0.48	0.92	0.00	0.00	0.00	11.40	11.99	51.3	0.234
160.00	0.48	0.92	0.00	0.00	0.00	11.13	11.71	51.4	0.228
164.50	0.45	0.89	0.00	0.00	0.00	8.36	8.95	52.0	0.172
165.00	0.37	0.69	0.00	0.00	0.00	8.05	8.50	52.0	0.163

Resulting Stresses

Structure: CT00707-S-SBA

Code: EIA/TIA-222-F

4/13/2015



Site Name: North Easton

Exposure: C

Height: 185.00 (ft)

Gh: 1.69

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Base Elev: 0.000 (ft)

Struct Class: II

169.50	0.33	0.62	0.00	0.00	0.00	5.83	6.25	52.0	0.120
170.00	0.33	0.63	0.00	0.00	0.00	5.59	6.03	52.0	0.116
174.50	0.30	0.60	0.00	0.00	0.00	3.25	3.71	52.0	0.071
175.00	0.16	0.37	0.00	0.00	0.00	2.99	3.21	52.0	0.062
179.50	0.14	0.22	0.00	0.00	0.00	1.48	1.66	52.0	0.032
180.00	0.14	0.22	0.00	0.00	0.00	1.39	1.57	52.0	0.030
185.00	0.00	0.22	0.00	0.00	0.00	0.26	0.46	52.0	0.009

Final Analysis Summary

Structure: CT00707-S-SBA
Site Name: North Easton
Height: 185.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
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)	t MZ (ft-kips)
85 mph Wind with 0" Ice	51.6	0.00	53.94	0.00	0.00	7262.73
73.61 mph Wind with 0.5" Ice	31.4	0.00	57.66	0.00	0.00	4257.72
50 mph Wind with 0" Ice	17.8	0.00	54.00	0.00	0.00	2517.49

Max Stresses

Load Case	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fvt Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	Combined Stress (ksi)	Allowable Stress (ksi)	Elev (ft)	Stress Ratio
85 mph Wind with 0" Ice	0.54	1.04	0.00	0.00	0.00	48.86	49.44	49.4	0.00	1.000
73.61 mph Wind with 0.5" Ice	0.58	0.63	0.00	0.00	0.00	28.65	29.24	49.4	0.00	0.592
50 mph Wind with 0" Ice	0.54	0.36	0.00	0.00	0.00	16.94	17.49	49.4	0.00	0.354

Additional Steel Summary

[Intermediate Connectors](#) |
 [Upper Termination](#) |
 [Lower Termination](#) |
 [Max Member](#)

Elev From (ft)	Elev To (ft)	Member	VQ/I (lb/in)	V (kips)	Shear Allow (kips)	MQ/I (kips)	Num Req'd	Num Actual	MQ/I (kips)	Num Req'd	Num Actual	MQ/I (kips)	Ta (kips)	Pa (kips)	Ratio
145.8	151.8	(3) LNP-LP6X100-G-10CT	679.5	16.31	22.5	137.9	5	8	120.9	1	8	151.7	260.0	257.3	0.589

Base Plate Summary

Structure: CT00707-S-SB
Site Name: North Easton
Height: 185.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

4/13/2015
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Reactions		Base Plate		Anchor Bolts	
Original Design		Yield (ksi):	50.00	Bolt Circle:	79.87
Moment (kip-ft):	7275.00	Width (in):	79.62	Number Bolts:	24.00
Axial (kip):	52.00	Style:	Square	Bolt Type:	2.25" 18J
Shear (kip):	52.50	Polygon Sides:	0.00	Bolt Diameter (in):	2.25
Analysis		Clip Length (in):	0.00	Yield (ksi):	75.00
Moment (kip-ft):	7262.73	Effective Len (in):	8.46	Ultimate (ksi):	100.00
Axial (kip):	57.66	Moment (kip-in):	679.02	Arrangement:	Clustered
Shear (kip):	51.57	Allow Stress (ksi):	50.00	Cluster Dist (in):	6.00
Moment Design %:	99.83	Applied Stress (ksi):	39.30	Start Angle (deg):	45.00
		Stress Ratio:	0.79	Compression	
				Force (kip):	184.27
				Allowable (kip):	195.00
				Ratio:	0.94
		Tension			
				Force (kip):	179.46
				Allowable (kip):	195.00
				Ratio:	0.92

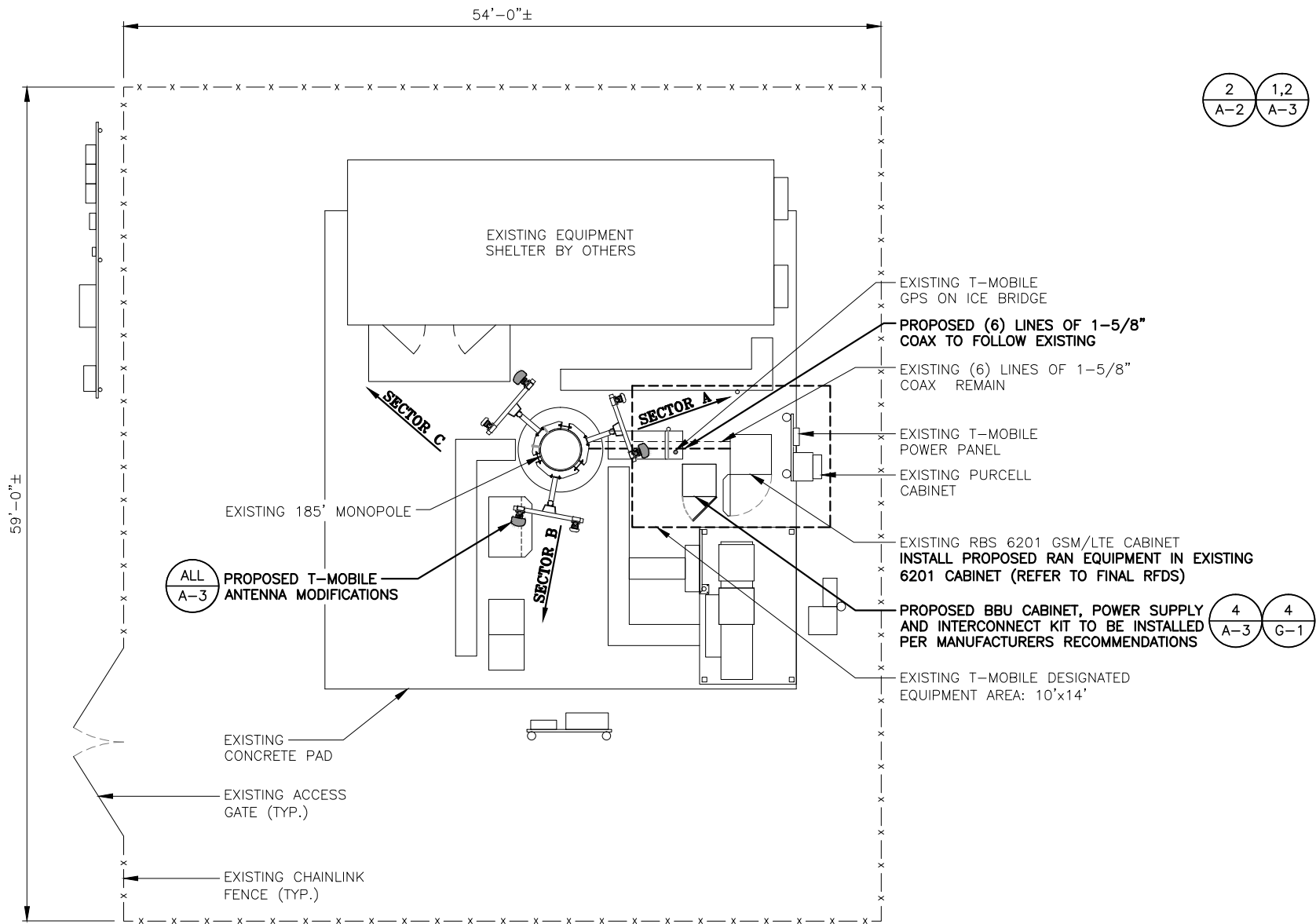
SPECIAL CONSTRUCTION NOTE:
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SPECIAL WORK NOTE:
PAINT-TO-MATCH BROWN ALL PROPOSED ANTENNA RADOMES & MOUNTS

STRUCTURAL NOTES:
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2. MOUNT ALL ANTENNAS, COAX, ETC. IN ACCORDANCE WITH STRUCTURAL ANALYSIS.

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

1
A-1

0 2'-8" 5'-4" 10'-8" 16'-0"

2
A-2

1,2
A-3

T-MOBILE T-ARMS
ELEV. = 185.0'± A.G.L (SBA*)

PROPOSED (6) LINES OF 1-5/8" COAX TO FOLLOW EXISTING INSIDE MONOPOLE

EXISTING (6) LINES OF 1-5/8" COAX AND TO REMAIN

4
A-3

4
G-1

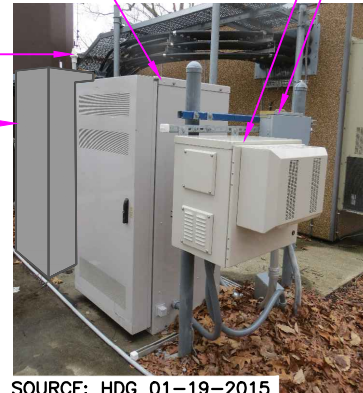
PARTIAL ELEVATION DETAIL
SCALE: N.T.S

2
A-1

EXISTING RBS 6201 GSM/LTE CABINET
INSTALL PROPOSED RAN EQUIPMENT IN EXISTING 6201 CABINET (REFER TO FINAL RFDS)

EXISTING T-MOBILE GPS ON ICE BRIDGE

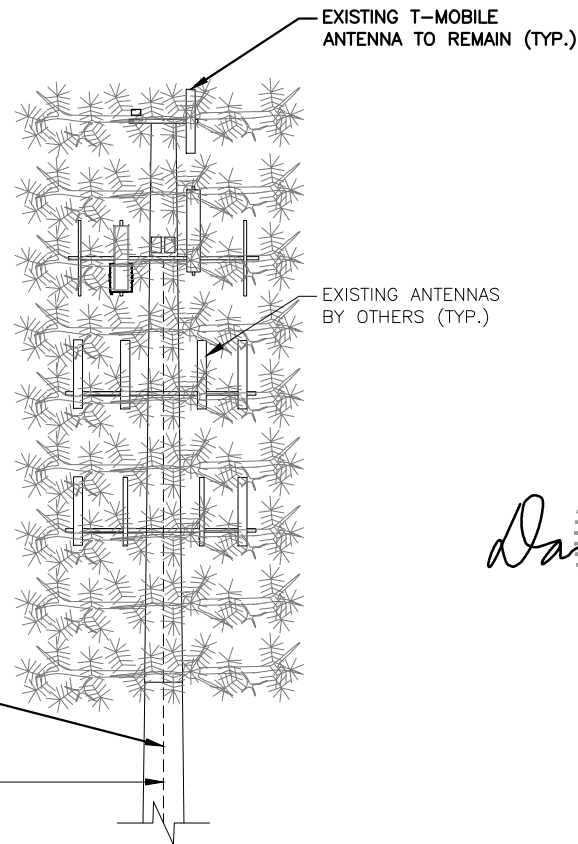
PROPOSED BBU CABINET, POWER SUPPLY AND INTERCONNECT KIT TO BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS



SOURCE: HDG 01-19-2015

EQUIPMENT PHOTO DETAIL
SCALE: N.T.S

3
A-1



Daniel P. Hamm

**T-MOBILE
NORTHEAST LLC**

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SBA

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MARLBOROUGH, MA 01752 FAX: (508) 251-1755

**Hudson
Design Group**

1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090 TEL: (978) 557-5553
N. ANDOVER, MA 01845 FAX: (978) 336-5586



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APPROVED BY: DPH

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SITE NUMBER:

CT11243A

SITE NAME:

EASTON-2/RT 59

SITE ADDRESS:

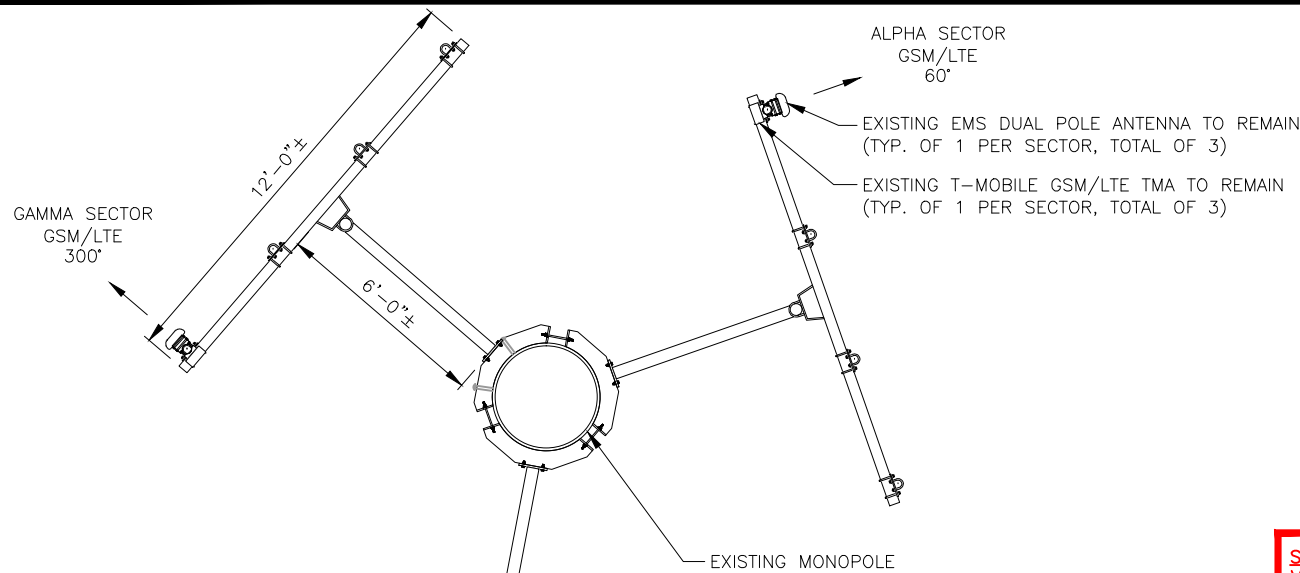
275 NORTH STREET
EASTON, CT 06612
FAIRFIELD COUNTY

SHEET TITLE

COMPOUND &
ELEVATION PLAN

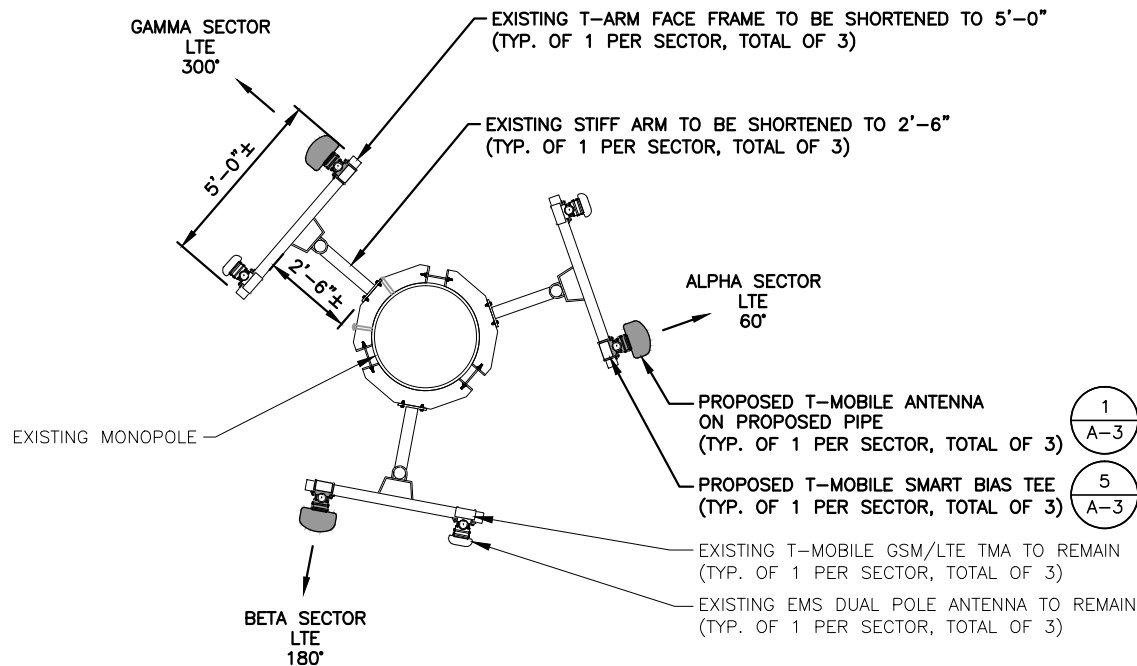
SHEET NUMBER

A-1



EXISTING ANTENNA PLAN
SCALE: N.T.S.

1
A-2



PROPOSED ANTENNA PLAN
SCALE: N.T.S.

2
A-2

STRUCTURAL NOTES:

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SPECIAL WORK NOTE:

PAINT-TO-MATCH BROWN ALL PROPOSED ANTENNA RADOMES & MOUNTS

SPECIAL WORK NOTE:

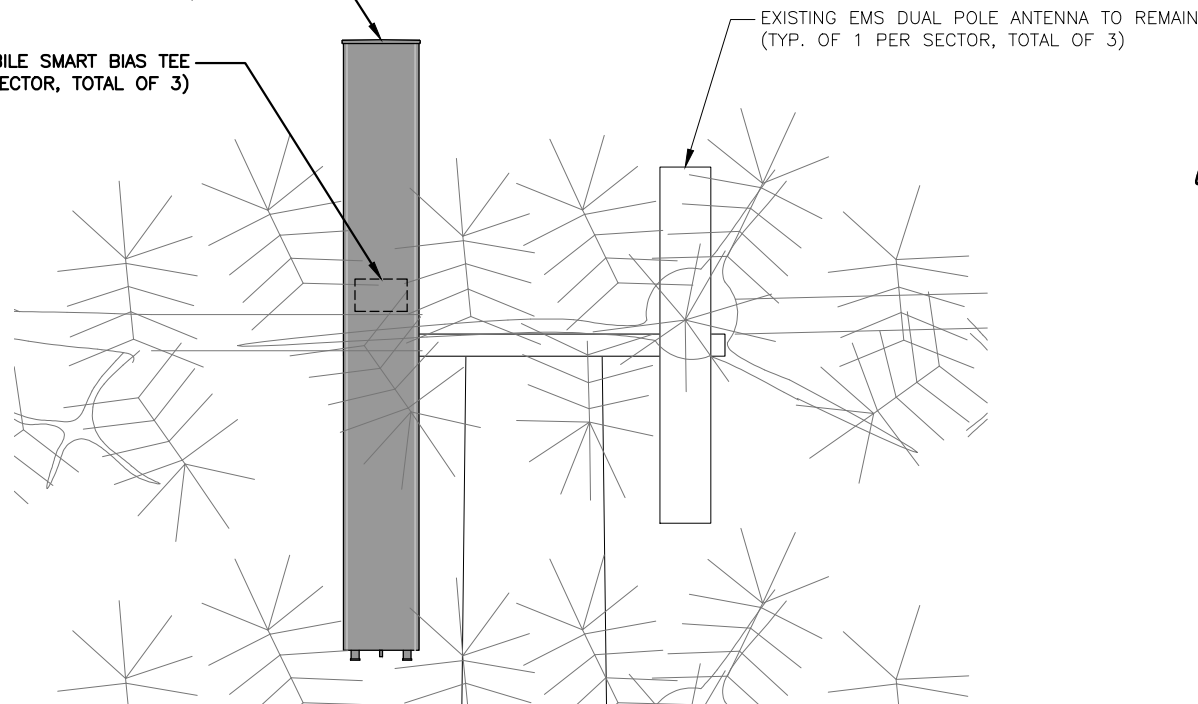
VERTICALLY CENTER ON EXISTING MOUNTING RAIL, THE PIPE MAST AND ANTENNA

1
A-3

PROPOSED T-MOBILE ANTENNA ON PROPOSED PIPE
(TYP. OF 1 PER SECTOR, TOTAL OF 3)

5
A-3

PROPOSED T-MOBILE SMART BIAS TEE
(TYP. OF 1 PER SECTOR, TOTAL OF 3)



PROPOSED ANTENNA DETAIL
SCALE: N.T.S.

3
A-2

**T-MOBILE
NORTHEAST LLC**

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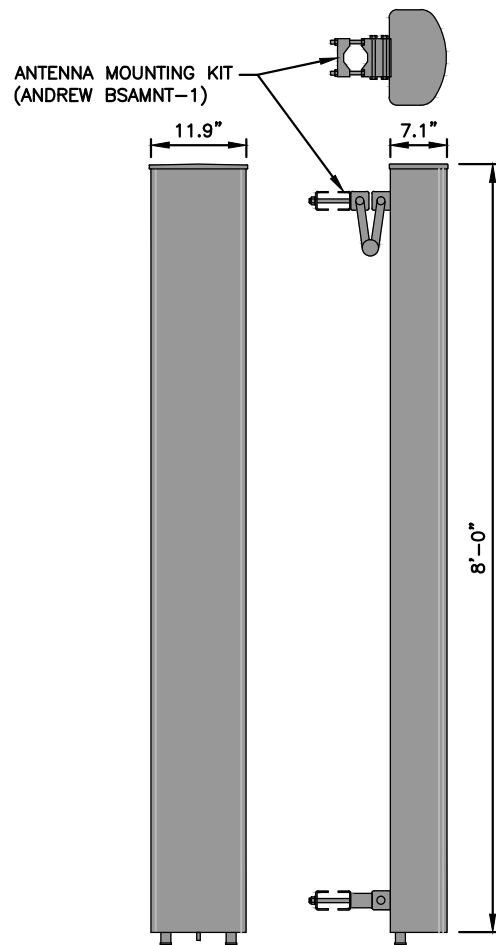
275 NORTH STREET
EASTON, CT 06612
FAIRFIELD COUNTY

SHEET TITLE

EXISTING &
PROPOSED ANTENNA
PLANS

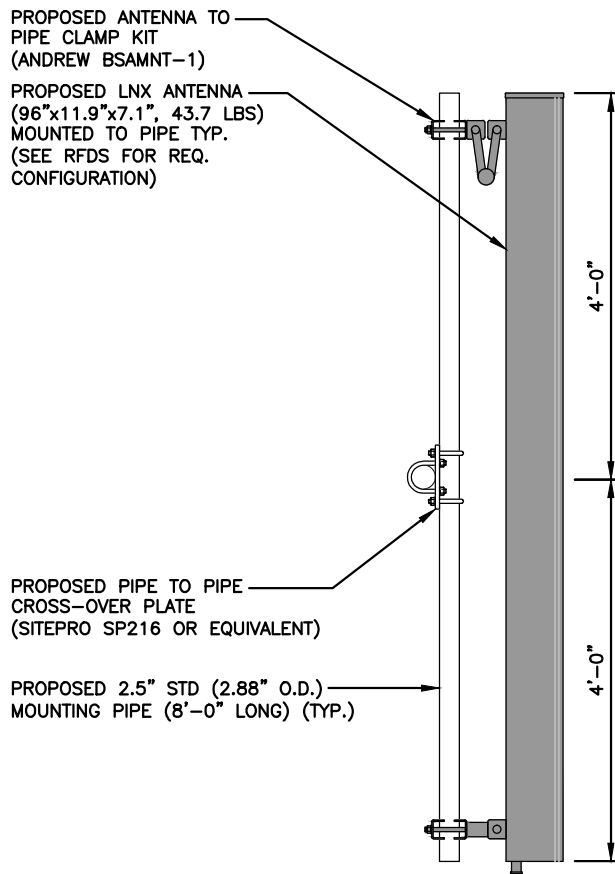
SHEET NUMBER

A-2



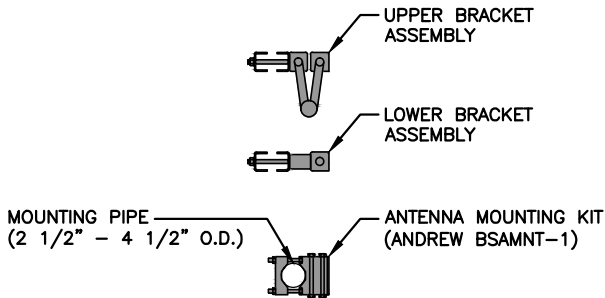
LNX ANTENNA DETAIL
SCALE: N.T.S.

1
A-3



PROPOSED ANTENNA MOUNTING DETAIL
SCALE: N.T.S.

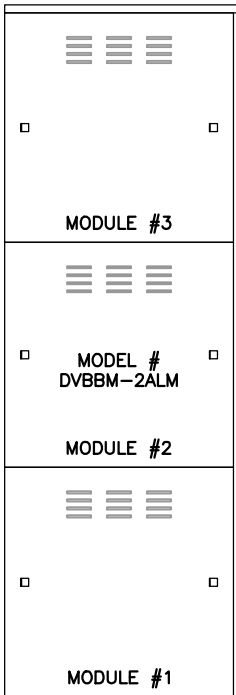
2
A-3



ANTENNA MOUNTING BRACKET
SCALE: N.T.S.

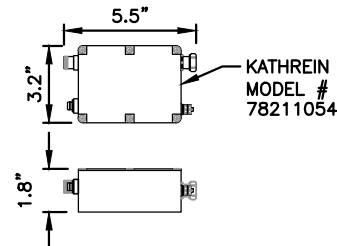
3
A-3

BBU DIMENSIONS	
MODEL #	DVBBM-2ALM
MANUF.	MSF DATA SERVICES
WIDTH	28.45"
DEPTH	28.45"
HEIGHT	29.67"
WEIGHT	1,264 LBS
MOUNT BASE WITH (4) 1/2" DROP IN ANCHOR'S WITH 2" MINIMUM EMBEDMENT (INSTALL PER MANUFACTURER'S INSTALLATION GUIDELINES)	



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

4
A-3



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

5
A-3

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SPECIAL WORK NOTE:
VERTICALLY CENTER ON EXISTING MOUNTING RAIL, THE PIPE MAST AND ANTENNA



T-MOBILE NORTHEAST LLC

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0	02/23/15	ISSUED FOR CONSTRUCTION	JA

SITE NUMBER:

CT11243A

SITE NAME:

EASTON-2/RT 59

SITE ADDRESS:

275 NORTH STREET
EASTON, CT 06612
FAIRFIELD COUNTY

SHEET TITLE

DETAILS

SHEET NUMBER

A-3

PROPOSED CARRIER: T-MOBILE

SBA SITE: CT00707-S / NORTH EASTON

COORDINATES (LATITUDE: 41.316417°, LONGITUDE: -73.314022°)

SBA SITE: CT00707-S / NORTH EASTON
COORDINATES (LATITUDE: 41.316417°, LONGITUDE: -73.314022°)

[illegible]

SHEET NUMBER: T-1	REV #: 0
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[illegible]

Tower Engineering Solutions

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PH: (972) 483-0607



5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
14918

CUSTOMER SITE NO:
CT00707-S
CUSTOMER SITE NAME:

275 NORTH STREET
EASTON, CT 06612

DRAWN BY:	KMM		
CHECKED BY:	WV/AD		
DATE:	04/23/15		
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SHEET NUMBER:

BOM

EV #:

0

GENERAL NOTES

- ALL WORK SHALL COMPLY WITH THE ANSI/TIA-222-G, TIA-1019-A 2012 AND ANY OTHER GOVERNING BUILDING CODES AND OSHA SAFETY REGULATIONS.
- ALL WORK INDICATED ON THE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TELECOMMUNICATIONS TOWER, POLE AND FOUNDATION CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND FABRICATION OF ALL MISCELLANEOUS PARTS (SUCH AS SHIMS), TEMPORARY SUPPORTS, AND GUYINGS, ETC., PER TIA-1019-A 2001, TO COMPLETE THE ASSEMBLY AS SHOWN IN THE DRAWINGS.
- CONTRACTOR SHALL PROCEED WITH THE INSTALLATION WORK CAREFULLY SO THE WORK WILL NOT DAMAGE ANY EXISTING CABLE, EQUIPMENT OR THE STRUCTURE.
- THE USE OF GAS TORCH OR WELDER, ARE NOT ALLOWED ON ANY TOWER STRUCTURE WITHOUT THE CONSENT OF THE TOWER OWNER.

FABRICATION

- ALL STEEL SHALL MEET OR EXCEED THE MINIMUM STRENGTH AS SPECIFIED IN THE DRAWINGS. IF YIELD STRENGTH WAS NOT NOTED IN THE DRAWINGS, CONTRACTORS SHALL CONTACT TES FOR DIRECTION.
- ALL FIELD CUT EDGES SHALL BE GROUND SMOOTH. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATES OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER’S RECOMMENDATIONS.

WELDING

- ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
- PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING APPROX. 0.5” BEYOND THE PROPOSED FIELD WELD SURFACES.
- AFTER INSPECTION, ALL FIELD WELDED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER’S RECOMMENDATIONS.

BOLTED ASSEMBLIES AND TIGHTENING OF CONNECTIONS

- ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE PROVISIONS OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS AS APPROVED BY THE RCSC.
- FLANGE BOLTS SHALL BE TIGHTENED BY THE AISC ”TURN-OF-THE-NUT” METHOD. THE FOLLOWING CHART SHOULD BE USED FOR THE ”TURN-OF-THE-NUT” TIGHTENING.
- SPLICE BOLTS AND ALL OTHER BOLTS IN BEARING TYPE CONNECTIONS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION.
- THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS ATTAINED BY EITHER A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER WITH AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.

WELDING

- ALL WELDS SHALL BE INSPECTED VISUALLY. A MINIMUM OF 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. 100% OF WELDS SHALL BE INSPECTED IF DEFECTS ARE FOUND.
- WELD INSPECTIONS SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.

VERIFICATION AND INSPECTION

- IF APPLICABLE, VERIFICATION INSPECTION TO BE PERFORMED SHALL BE IN ACCORDANCE TO IBC-2012 SECTION 1705 – TABLE 1705.2.2 FOR STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL AND TABLE 1705.3 FOR CONCRETE CONSTRUCTION.

TABLE 8.2 NUT ROTATION FROM SNUG-TIGHT
CONDITION FOR TURN-OF-NUT PRETENSIONING^{a,b}

BOLT LENGTH*	DISPOSITION OF OUTER FACE OF BOLTED PARTS		
	BOTH FACES NORMAL TO BOLT AXIS	ONE FACE NORMAL TO BOLT AXIS, OTHER SLOPED NOT MORE THAN 1:20 ^d	BOTH FACES SLOPED NOT MORE THAN 1:20 FROM NORMAL TO BOLT AXIS ^d
NOT MORE THAN 4d _b	1/3 TURN	1/2 TURN	2/3 TURN
MORE THAN 4d _b BUT NOT MORE THAN 8d _b	1/2 TURN	2/3 TURN	5/6 TURN
MORE THAN 8d _b BUT NOT MORE THAN 12d _b	2/3 TURN	5/6 TURN	1 TURN
^a NUT ROTATION IS RELATIVE TO BOLT REGARDLESS OF THE ELEMENT (NUT OR BOLT) BEING TURNED. FOR REQUIRED NUT ROTATIONS OF 1/2 TURN AND LESS, THE TOLERANCE IS PLUS OR MINUS 30 DEGREES; FOR REQUIRED NUT ROTATIONS OF 2/3 TURN AND MORE, THE TOLERANCE IS PLUS OR MINUS 45 DEGREES. ^b APPLICATION ONLY TO JOINTS IN WHICH ALL MATERIAL WITHIN THE GRIP IS STEEL. ^c WHEN THE BOLT LENGTH EXCEEDS 12d , THE REQUIRED NUT ROTATION SHALL BE DETERMINED BY ACTUAL TESTING IN A SUITABLE TENSION CALIBRATOR THAT SIMULATES THE CONDITIONS OF SOLIDLY FITTING STEEL. ^d BEVELED WASHER NOT USED.			

SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, JUNE 30, 2004
RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS

INSTALLATION TORQUE REQUIRED FOR HOLLO BOLTS AND AJAX BOLTS:

- M16 HOLLO BOLT: 140 FT-LBS
- M20 AJAX BOLT: 390 FT-LBS



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275 NORTH STREET
EASTON, CT 06612

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GN-1	0

NOTES:

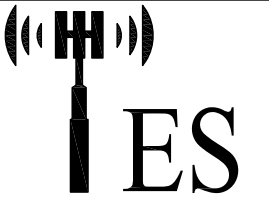
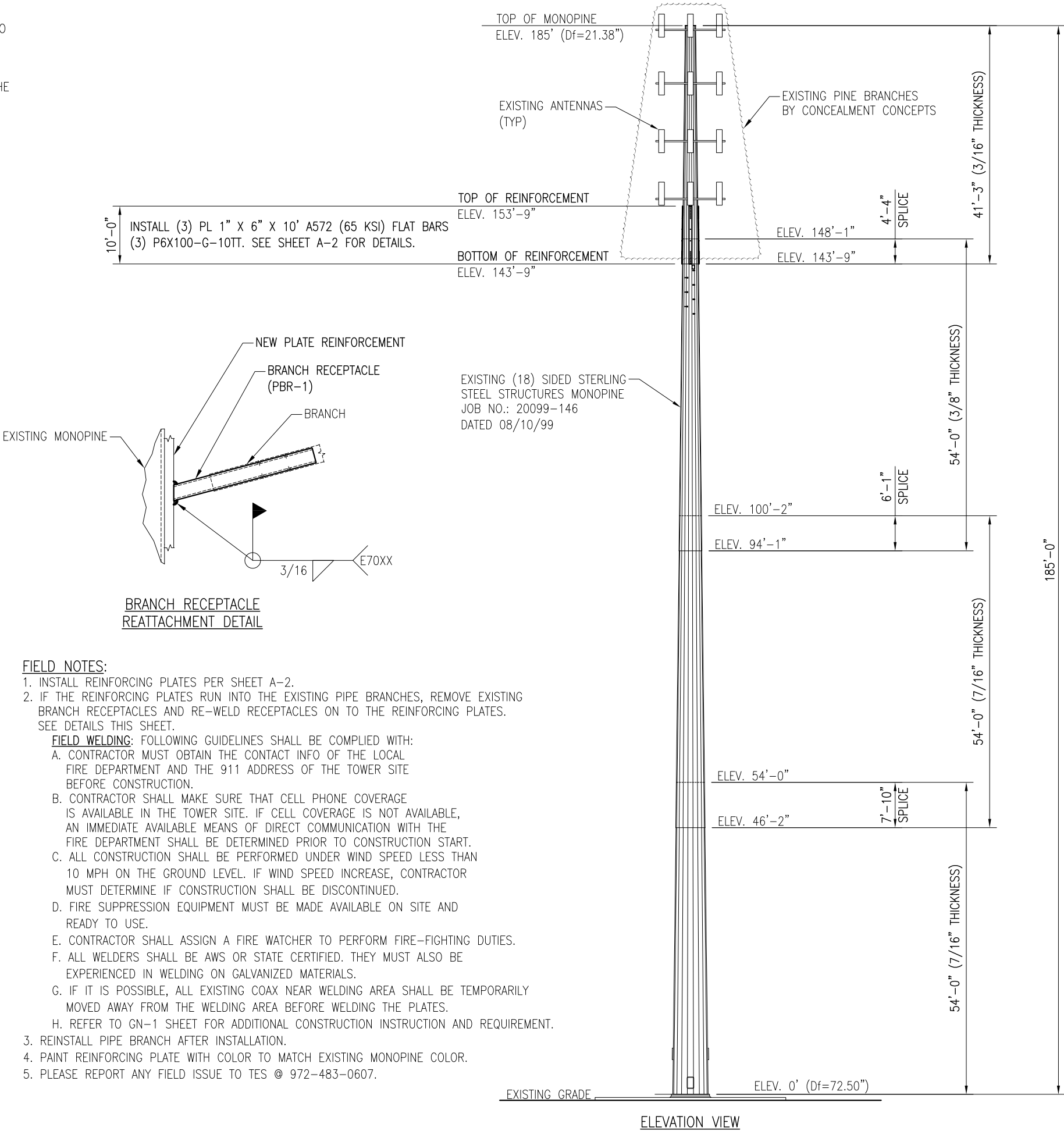
1. TEMPORARILY RELOCATE ANY EXISTING COAX ATTACHED TO THE MONOPOLE AND ANY OTHER MEMBERS WHERE OBSTRUCTION WITH THE PROPOSED MODIFICATION MAY OCCUR.
2. TEMPORARILY RELOCATE EXISTING EQUIPMENT AROUND THE FOUNDATION MAY BE REQUIRED DURING CONSTRUCTION.
3. REMOVE THE EXISTING STEP BOLTS IF NEW STEP BOLTS ARE INSTALLED.



PHOTO 1



PHOTO 2



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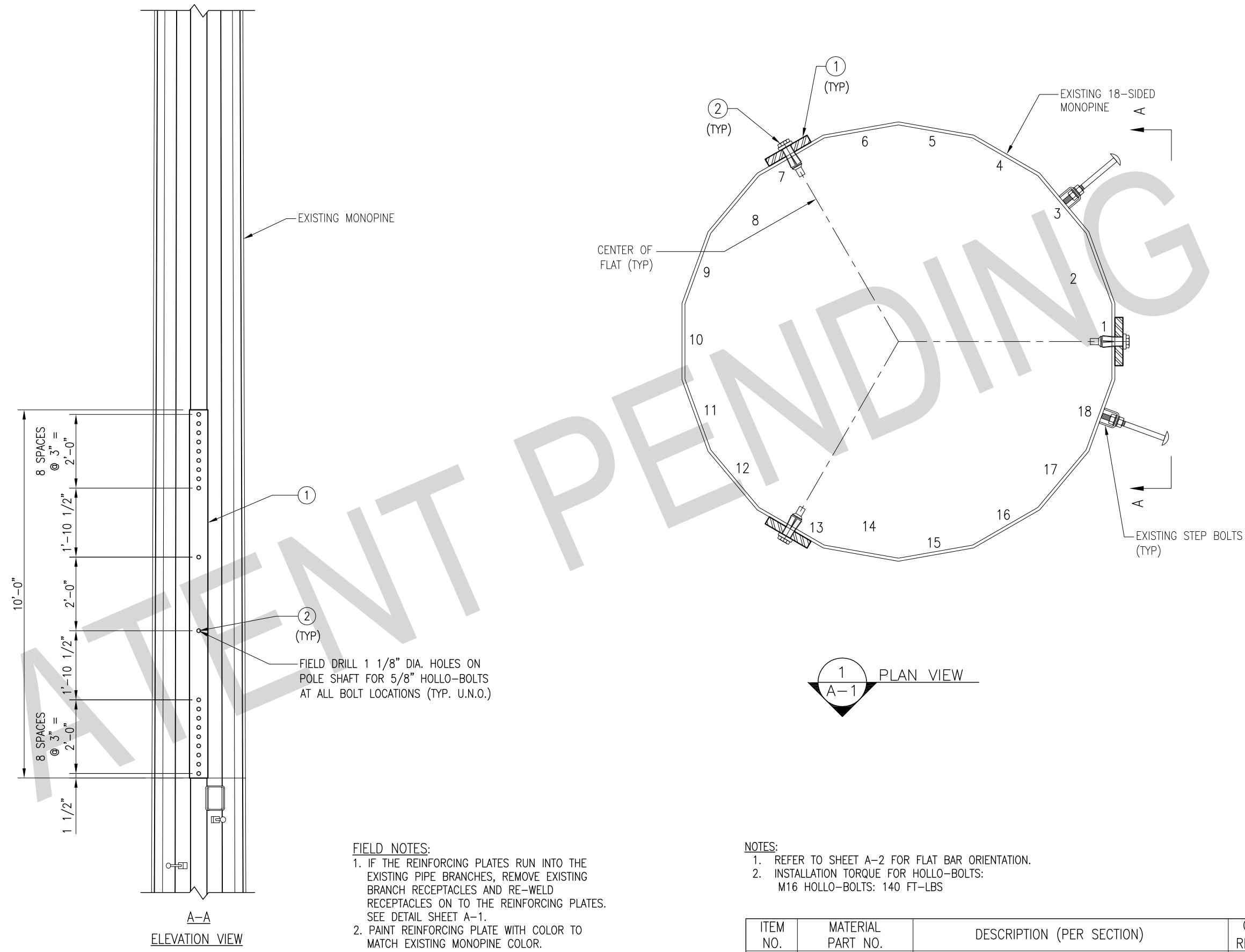
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SHEET NUMBER:
A-1

REV #:
0



FIELD NOTES:

1. IF THE REINFORCING PLATES RUN INTO THE EXISTING PIPE BRANCHES, REMOVE EXISTING BRANCH RECEPTACLES AND RE-WELD RECEPTACLES ON TO THE REINFORCING PLATES. SEE DETAIL SHEET A-1.
2. PAINT REINFORCING PLATE WITH COLOR TO MATCH EXISTING MONOPINE COLOR.

NOTES:

1. REFER TO SHEET A-2 FOR FLAT BAR ORIENTATION.
2. INSTALLATION TORQUE FOR HOLLO-BOLTS:
M16 HOLLO-BOLTS: 140 FT-LBS

ITEM NO.	MATERIAL PART NO.	DESCRIPTION (PER SECTION)	QTY. REQ'D.
1	P6X100-G-10TT	PL 1" X 6" X 12'-0" A572, (65 KSI)	3
2	HB16-2	LINDAPTER TYPE HB HOLLO-BOLT (HDG)	60



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1	FIRST ISSUE	KMM	04/23/15
2			
3			

SHEET TITLE:
REINFORCEMENT ASSEMBLY
P6X100-G-10TT
(18 SIDE 3 PIECES
ON FLAT # 1, 7, 13)

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