EMPIRE telecom
A QualTek Company

Jack Andrews
Zoning Manager, Empire Telecom
o/b/o AT&T Wireless
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July 29, 2016

Melanie Bachman
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

NOTICE OF EXEMPT MODIFICATION

360 Gaylord Mountain Road, Hamden, CT 06518
Lat: 41-26-1.41 (41.433725)
Long. 72-56-42.86 (-72.94523889)

Dear Ms. Bachman:

AT&T Wireless currently maintains six (6) antennas at the 180 foot level of an existing 625 foot tall lattice tower located at 360 Gaylord Mountain Road, in Hamden, CT. The tower is owned by Clear Channel Broadcasting. The property is likewise owned by Clear Channel Broadcasting. AT&T Wireless now seeks to replace three (3) existing antennas with three (3) new LTE Hexport antennas (700, 1900 MHz) antennas. These replacement antennas will be installed at the 180 foot level of the tower. AT&T Wireless also intends to install three (3) Ericsson RRUS-12 remote radio heads and three (3) Ericsson A2radio heads, to be leg mounted behind each replacement antenna.

The facility was approved by the Connecticut Siting Council in EM-CING-007-062-126-135-137-070809 on September 7, 2007. No conditions were enumerated in the Council's decision. The proposed modifications are minimal and will be in compliance with any prior conditions of approval.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies section 16-50j-73 for construction that constitutes an exempt modification pursuant to RCSA section 16-50j-72(b)(2). In accordance with RCSA section 16-50j-73, a copy of this letter and

attachments is being sent to the Honorable Curt B. Leng, the Mayor of the Town of Hamden, as well as Clear Channel Broadcasting, the property owner and the tower owner.

The planned modifications to the facility fall squarely within those activities expressly provided for in RCSA section 50j-72(b)(2).

1. The proposed modifications will not result in an increase in height of the existing structure.

2. The proposed modifications will not require an extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that will exceed state and local limits.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, AT&T Wireless respectfully submits that the proposed modifications to the above referenced telecommunications facility constitute an exempt modification under RCSA section 16-50j-72(b)(2).

Respectfully submitted,

Jack Andrews
Zoning Manager, Empire Telecom
o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
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cc: The Honorable Curt B. Leng - as elected official
Clear Channel Broadcasting – as tower and property owner

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July 29, 2016

The Honorable Curt B. Leng, Mayor
Town of Hamden
Hamden Government Center
2750 Dixwell Avenue
Hamden, CT 06518-3320

RE: Modifications to Telecommunication Facility - 360 Gaylord Mountain Road, Hamden, CT 06518

Dear Mr. Leng:

In order to accommodate technological changes, implement the Uniform Mobile Telecommunications System and enhance system performance in the State of Connecticut, AT&T Wireless ("AT&T") will be changing its equipment configuration at the above referenced telecommunications facility. AT&T currently maintains six (6) antennas at the 180 foot level of an existing 625 foot tall lattice tower located at 360 Gaylord Mountain Road. AT&T merely intends to replace three (3) existing antennas with three (3) new LTE antennas, to be located at the same level as the existing antennas. AT&T Wireless also intends to install three new (3) RRUS-12 remote radio heads and three (3) A2 radio heads, mounted behind each replacement antenna. The details are more fully described on page C-2 of the enclosed drawings.

As required by the Regulations of Connecticut State Agencies ("RCSA") section 16-50j-73, the Connecticut Siting Council ("CSC") has been notified of the proposed changes and will review AT&T's proposal. Please accept this letter as notification under RCSA section 16-50j-73 of construction which constitutes an exempt modification pursuant to RCSA section 16-50j-72(b)(2).

The enclosed letter to the CSC fully describes AT&T's proposal for the above referenced site. However, if you have any questions or require any additional information concerning our

plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachman, Acting Executive Director of the CSC at 860-872-2935.

Respectfully submitted,

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Enclosures

cc: Melanie Bachman, Connecticut Siting Council

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443-677-0144

July 29, 2016

General Manager
Clear Channel Broadcasting
495 Benhaven Street
New Haven, CT 06514

RE: AT&T Wireless Modifications to Telecommunication Facility –
Clear Channel Tower at 360 Gaylord Mountain Road, Hamden, CT 06518

Dear General Manager:

In order to accommodate technological changes, implement the Uniform Mobile Telecommunications System and enhance system performance in the State of Connecticut, AT&T Wireless ("AT&T") will be changing its equipment configuration at the above referenced telecommunications facility. AT&T currently maintains six (6) antennas at the 180 foot level on your existing 625 foot tall lattice tower located at 360 Gaylord Mountain Road. AT&T merely intends to replace three (3) existing antennas with three (3) new LTE antennas, to be located at the same level as the existing antennas. AT&T Wireless also intends to install three new (3) RRUS-12 remote radio heads and three (3) A2 radio heads, mounted behind each replacement antenna. The details are more fully described on page C-2 of the enclosed drawings.

As required by the Regulations of Connecticut State Agencies ("RCSA") section 16-50j-73, the Connecticut Siting Council ("CSC") has been notified of the proposed changes and will review AT&T's proposal. Please accept this letter as notification under RCSA section 16-50j-73 of construction which constitutes an exempt modification pursuant to RCSA section 16-50j-72(b)(2).

The enclosed letter to the CSC fully describes AT&T's proposal for the above referenced site. However, if you have any questions or require any additional information concerning our

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A QualTek Company

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Respectfully submitted,

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Enclosures

cc: Melanie Bachman, Connecticut Siting Council

EBI Consulting
environmental | engineering | due diligence

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

AT&T Existing Facility

Site ID: CT5663

Hamden
360 Gaylord Mountain Road
Hamden, CT 06518

July 8, 2016

EBI Project Number: 6216003136

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	2.62 %

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

EBI Consulting
environmental | engineering | due diligence

July 8, 2016

AT&T Mobility – New England
Attn: Cameron Syme, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CT5663 – Hamden**

EBI Consulting was directed to analyze the proposed AT&T facility located at **360 Gaylord Mountain Road, Hamden, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately 467 $\mu W/cm^2$ and 567 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed AT&T Wireless antenna facility located at **360 Gaylord Mountain Road, Hamden, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T 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 UMTS channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 2 GSM channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

3) 2 UMTS channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

4) 2 LTE channels (700 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

5) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

6) 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.

7) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

8) The antennas used in this modeling are the **Powerwave 7770 and the Commscope SBNHH-1D65A** for transmission in the 700 MHz, 850 MHz and 1900 MHz (PCS). This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. 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.

9) The antenna mounting height centerlines of the proposed antennas are **180 feet** above ground level (AGL) for **Sector A**, **180 feet** above ground level (AGL) for **Sector B** and **180 feet** above ground level (AGL) for Sector C.

10) 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.

AT&T Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770
Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd
Height (AGL):	**180 feet**	Height (AGL):	**180 feet**	Height (AGL):	**180 feet**
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	6	Channel Count	6	Channel Count	6
Total TX Power(W):	180 Watts	Total TX Power(W):	180 Watts	Total TX Power(W):	180 Watts
ERP (W):	2,969.12	ERP (W):	2,969.12	ERP (W):	2,969.12
Antenna A1 MPE%	**0.50 %**	Antenna B1 MPE%	**0.50 %**	Antenna C1 MPE%	**0.50 %**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Commscope SBNHH-1D65A	Make / Model:	Commscope SBNHH-1D65A	Make / Model:	Commscope SBNHH-1D65A
Gain:	10.85 / 14.55 dBd	Gain:	10.85 / 14.55 dBd	Gain:	10.85 / 14.55 dBd
Height (AGL):	**180 feet**	Height (AGL):	**180 feet**	Height (AGL):	**180 feet**
Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts
ERP (W):	4,880.65	ERP (W):	4,880.65	ERP (W):	4,880.65
Antenna A2 MPE%	**0.78 %**	Antenna B2 MPE%	**0.78 %**	Antenna C2 MPE%	**0.78 %**

Site Composite MPE%	
Carrier	**MPE%**
AT&T – Max per sector	**1.28 %**
MetroPCS	0.25 %
Clear Channel	0.49 %
Town	0.01 %
MediaFLO	0.59 %
Site Total MPE %:	**2.62 %**

AT&T Sector A Total:	1.28 %
AT&T Sector B Total:	1.28 %
AT&T Sector C Total:	1.28 %
Site Total:	2.62 %

AT&T _ Max Values Per Sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	414.12	180	0.98	850 MHz	567	0.17 %
AT&T 850 MHz GSM	2	414.12	180	0.98	850 MHz	567	0.17 %
AT&T 1900 MHz (PCS) UMTS	2	656.33	180	1.56	1900 MHz (PCS)	1000	0.16 %
AT&T 700 MHz LTE	2	729.71	180	1.73	700 MHz	467	0.37 %
AT&T 1900 MHz (PCS) LTE	2	1,710.61	180	4.06	1900 MHz (PCS)	1000	0.41 %
						Total:	**1.28 %**

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 AT&T 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:

AT&T Sector	Power Density Value (%)
Sector A:	1.28 %
Sector B:	1.28 %
Sector C:	1.28 %
AT&T Maximum Total (per sector):	1.28 %
Site Total:	2.62 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **2.62 %** 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.

CENTEK engineering

Centered on Solutions℠

Structural Analysis Report

625-ft Existing Guyed Lattice Tower

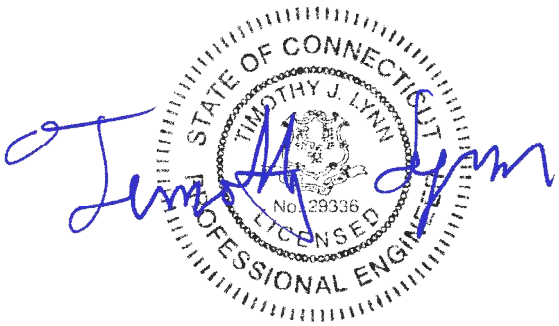
Proposed AT&T Mobility
Antenna Upgrade

AT&T Mobility Site Ref:
CT5663 Hamden -Talmadge

360 Gaylord Mountain Road
Hamden, CT

CENTEK Project No. 16071.22

Date: June 22, 2016



Prepared for:

AT&T Mobility
500 Enterprise Drive, Suite 3A
Rocky Hill, CT 06067

63-2 North Branford Road, Branford, CT 06405 203.488.0580 Fax 203.488.8587 www.CentekEng.com

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Introduction

The purpose of this report is to summarize the results of the non-linear, P-Δ structural analysis of the antenna upgrade proposed by AT&T on the existing guyed lattice (tower) located in Hamden, CT.

The host tower is a 625-ft, thirty (30) section, three legged guyed lattice tower with a 33-ft tall antenna pole, originally designed by Paul J. Ford and Company and constructed by Communications, Structures & Services in 2001. The tower geometry and structure member sizes were obtained from the original design documentation prepared by Paul J. Ford and Company, Job no. 37700-30, dated February 23, 2001 and a structural analysis report prepared by Centek job no 11118.64 dated June 6, 2012.

Antennae and appurtenance inventory were obtained from the aforementioned Centek structural analysis report, field verification from grade by Centek and a RF data sheet provide by AT&T.

The tower consists of thirty (30) vertical steel sections with solid round steel legs conforming to ASTM A572-50 together with a steel antenna pole mounted atop the structure conforming to ASTM A53 Grade B (35ksi). Diagonal and horizontal bracing consists of steel solid round and angle sections conforming to ASTM A36. All diagonal members were originally designed by Paul J. Ford and Company as 'Tension Only' members and were considered the same for the purpose of this analysis. The vertical tower legs are connected together with bolted flanges while bracing is connected by fully welded connections. The width of the tower face is 5.0-ft and comprises of a tapered base section.

AT&T proposes the replacement of three (3) existing panel antennas and the installation of three (3) remote radio heads mounted on three (3) 4-ft T-Frames. Refer to the Antenna and Appurtenance Summary below for a detailed description of the proposed antenna and appurtenance configuration.

Antenna and Appurtenance Summary

The existing, proposed and future loads considered in this analysis consist of the following:

- UNKNOWN (Existing):
  Appurtenance: One (1) ERI SHPX-4AC FM antenna with radomes mounted on a 33-ft tower top pole extension with a RAD center elevation of 612.5-ft above the tower base.
  Coaxial Cable: One (1) 4" dia. coax cable running on the face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (Existing):
  Appurtenance: One (1) ERI SHPX-2AC FM antenna without radome mounted to the leg of the existing tower with a RAD center elevation of 550-ft above the tower base.
  Coaxial Cable: One (1) 3" dia. coax cable running on the face of the existing tower as specified in Section 3 of this report.

- UNKNOWN (Existing):
  Appurtenance: One (1) 6-ft dia. Microwave dish antenna mounted to the face of the existing tower with a RAD center elevation of 490-ft above the tower base.
  Coaxial Cable: One (1) 1-5/8" dia. coax cable running on the face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (Existing):
  Appurtenance: One (1) 4-ft dia. Microwave dish antenna mounted to the leg of the existing tower with a RAD center elevation of 425-ft above the tower base.
  Coaxial Cable: One (1) 7/8" dia. coax cable running on the face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (Existing):
  Appurtenance: One (1) Decibel DB540K-E whip antenna and one (1) Decibel 224 4-Bay Dipole antenna mounted on 4-ft side arms with RAD center elevations of 400-ft above the tower base.
  Coaxial Cable: Two (2) 7/8" dia. coax cable running on the face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (Existing):
  Appurtenance: One (1) Kathrein Scala PR-950 Parabolic dish antenna mounted to the leg of the existing tower with a RAD center elevation of 395-ft +/- above the tower base.
  Coaxial Cable: One (1) 7/8" dia. coax cable running on the face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (Existing):
  Appurtenance: One (1) 14-ft x 3in dia. Omni-directional whip antenna mounted on a 4-ft side arm with RAD center elevation of 353-ft +/- above the tower base.
  Coaxial Cable: One (1) 7/8" dia. coax cable running on the face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (Existing):
  Appurtenance: One (1) 2ft-6in x 3in dia. Omni-directional whip antenna mounted on a 4-ft side arm with RAD center elevation of 348-ft +/- above the tower base.
  Coaxial Cable: One (1) 7/8" dia. coax cable running on the face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (Existing):
  Appurtenance: One (1) Misc. antenna mounted on a 2-ft side arm with RAD center elevation of 345-ft +/- above the tower base.
  Coaxial Cable: Unknown.
- UNKNOWN (Existing):
  Appurtenance: One (1) Decibel DB540K-E Omni-directional whip antenna mounted on a 4-ft side arm with RAD center elevation of 300-ft +/- above the tower base.
  Coaxial Cable: One (1) 7/8" dia. coax cable running on the face of the existing tower as specified in Section 3 of this report.

- UNKNOWN (Existing):
  Appurtenance: One (1) RFS PD620 Omni-directional whip antenna mounted on a 4-ft sidearm with a RAD center elevation of 250-ft above the tower base.
  Coaxial Cable: One (1) 7/8" dia. coax cable running on the face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (Existing):
  Appurtenance: One (1) 8-ft gird dish antenna mounted to the leg of the existing tower with a RAD center elevation of 145-ft +/- above the tower base.
  Coaxial Cable: One (1) 1-5/8" dia. coax cable running on the face of the existing tower as specified in Section 3 of this report.
- AT&T (Existing to Remain):
  Antennas: Three (3) Powerwave 7770 panel antennas and six (6) Powerwave LGP21401 TMAs mounted on three (3) 4-ft T-Arms with a RAD center elevation of 180-ft above the tower base.
  Appurtenances: Three (3) Ericsson RRUS-11 remote radio heads and one (1) Raycap DC6-48-60-18-8F surge arrestor leg mounted.
  Coax Cables: Six (6) 1-5/8" ∅ coax cables, one (1) fiber cable and two (2) dc control cables running on a face of the existing tower as specified in Section 3 of this report.
- AT&T (Existing to Remove):
  Antennas: Two (2) KMW AMX-CD-16-65-00T-RET and one (1) KMW AMX-CD-14-65-00T-RET panel antennas mounted on three (3) 4-ft T-Arms with a RAD center elevation of 180-ft above the tower base.
- **AT&T (Proposed):**
  Antennas: One (1) Andrew SBNHH-1D65A panel antenna and two (2) CCI HPA-65R-BUU-H6 panel antennas mounted on three (3) 4-ft T-Arms with a RAD center elevation of 180-ft above the tower base.
  Appurtenances: Three (3) Ericsson RRUS-12 remote radio heads and three (3) Ericsson A2s leg mounted.

Primary Assumptions Used in the Analysis

- The tower structure's theoretical capacity not including any assessment of the condition of the tower.
- The tower carries the horizontal and vertical loads due to the weight of antennas, ice load and wind.
- Tower is properly installed and maintained.
- Tower is in plumb condition.
- Tower loading for antennas and mounts as listed in this report.
- All bolts are appropriately tightened providing the necessary connection continuity.
- All welds are fabricated with ER-70S-6 electrodes.
- All members are assumed to be as specified in the original tower design documents or reinforcement drawings.
- All members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
- All member protective coatings are in good condition.
- All tower members were properly designed, detailed, fabricated, installed and have been properly maintained since erection.
- Any deviation from the analyzed antenna loading will require a new analysis for verification of structural adequacy.
- All coax cables routed as specified in section 3 of this report.

Analysis

The existing tower was analyzed using a comprehensive computer program entitled RISATower. The program analyzes the tower, considering the worst case loading condition. The tower is considered as loaded by concentric forces along the tower shaft, and the model assumes that the shaft members are subjected to bending, axial, and shear forces.

The existing tower was analyzed for the controlling basic wind speed (fastest mile) with no ice and a 75% reduction of wind force with ½ inch accumulative ice to determine stresses in members as per guidelines of TIA/EIA-222-F-96 entitled "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures", the American Institute of Steel Construction (AISC) and the Manual of Steel Construction; Allowable Stress Design (ASD).

The controlling wind speed is determined by evaluating the local available wind speed data as provided in Appendix K of the CSBC[1] and the wind speed data available in the TIA/EIA-222-F-96 Standard. The higher of the two wind speeds is utilized in preparation on the tower analysis.

Tower Loading

Tower loading was determined by the basic wind speed as applied to projected surface areas with modification factors per TIA/EIA-222-F, gravity loads of the tower structure and its components, and the application of ½" radial ice on the tower structure and its components.

Basic Wind Speed:	New Haven; v = 85 mph (fastest mile)	*[Section 16 of TIA/EIA-222-F-96]*
	Hamden; v = 105 mph (3 second gust) equivalent to v = 85 mph (fastest mile)	*[Appendix K of the 2005 CT Building Code Supplement]*
	TIA/EIA-222-F and Appendix K wind speeds are equal.	
Load Cases:	Load Case 1; 85 mph wind speed w/ no ice plus gravity load – used in calculation of tower stresses and rotation.	*[Section 2.3.16 of TIA/EIA-222-F-96]*
	Load Case 2; 74 mph wind speed w/ ½" radial ice plus gravity load – used in calculation of tower stresses. The 74 mph wind speed velocity represents 75% of the wind pressure generated by the 85 mph wind speed.	*[Section 2.3.16 of TIA/EIA-222-F-96]*
	Load Case 3; Seismic – not checked	*[Section 1614.5 of State Bldg. Code 2005] does not control in the design of this structure type*

[1] The 2005 Connecticut State Building Code as amended by the 2009 CT State Supplement. (CSBC)

Tower Capacity

Tower stresses were calculated utilizing the structural analysis software RISATower. Allowable stresses were determined based on Table 5 of the TIA/EIA code with a 1/3 increase per Section 3.1.1.1 of the same code.

Calculated stresses were found to be within allowable limits. In Load Case 2, per RISATower "Section Capacity Table", this tower was found to be at **81.3%** of its total capacity.

Tower Section	Elevation	Stress Ratio (percentage of capacity)	Result
Pole (L1)	592'-625'	81.3%	**PASS**
Leg (T11)	380'-400'	69.8%	**PASS**
Diagonal (T11)	380'-400'	67.5%	**PASS**
Horizontal (T4)	520'-540'	59.7%	**PASS**
Top Girt (T4)	520'-540'	28.3%	**PASS**
Bottom Girt (T30)	8'-20'	75.3%	**PASS**
Guy A (T1)	580'-592'	74.1%	**PASS**
Guy B (T1)	580'-592'	75.2%	**PASS**
Guy C (T1)	580'-592'	77.1%	**PASS**

Existing Guy Anchors and Tower Base

The existing tower base foundation system consists of a 5-ft square reinforced concrete pad bearing directly on the existing sub grade (rock). Guy wire loading is transferred to six (6) existing (three inner, three outer) reinforced concrete anchor support blocks located below the existing subgrade.

The worst case tower base and guy anchor reactions developed from the governing Load Case 2 were used in the verification of the anchorage foundations:

Tower Guy Reactions		
Vector	**Proposed Reactions Guy Anchor A @ Radius of 242-ft**	**Proposed Reactions Guy Anchor C @ Radius of 245-ft**
Horizontal (In Plane of GW)	**60 kips**	**79 kips**
Horizontal (Out of Plane of GW)	**2 kips**	**6 kips**
Vertical	**53 kips**	**127 kips**
Resultant Force at end of Guy Wire	**80 kips**	**150 kips**
Tower Base Reactions		
Vector	**Proposed Reaction**	
Horizontal Shear	**2 kips**	
Axial Compression	**442 kips**	
Moment	**0 kip-ft**	

Foundation	Design Limit	IBC 2003/2005 CT State Building Code Section 3108.4.2 (FS)[1]	Proposed Loading (FS)[1]	Result
Reinf. Conc. Anchor Block (A) at 242-ft radius.	Uplift	2.0	4.6	**PASS**
	Sliding	2.0	4.5	**PASS**
Reinf. Conc. Anchor Block (C) at 245-ft radius.	Uplift	2.0	2.14	**PASS**
	Sliding	2.0	3.2	**PASS**
		Allowable	**Proposed**	
Base Foundation	Bearing	25.0 ksf	18.9 ksf	**PASS**
	Overturning	2.0	118	**PASS**
	Sliding	2.0	113	**PASS**

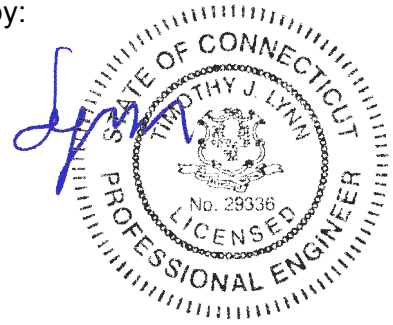
C o n c l u s i o n

This analysis shows that the subject tower **is adequate** to support the proposed modified antenna configuration.

The analysis is based, in part, on the information provided to this office by AT&T. If the existing conditions are different than the information in this report, Centek Engineering, Inc. must be contacted for resolution of any potential issues.

Please feel free to call with any questions or comments.

Respectfully Submitted by:



Timothy J. Lynn, PE
Structural Engineer

Standard Conditions for Furnishing of Professional Engineering Services on Existing Structures

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessarily limited to:

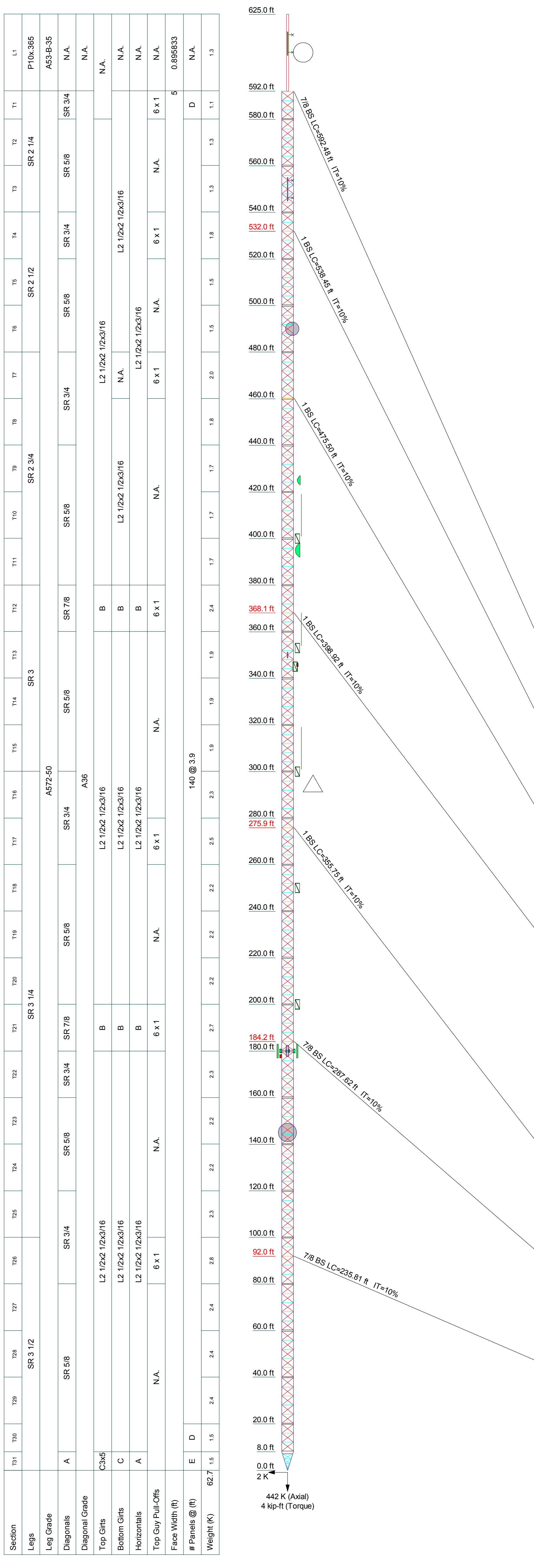
- Information supplied by the client regarding the structure itself, its foundations, the soil conditions, the antenna and feed line loading on the structure and its components, or other relevant information.
- Information from the field and/or drawings in the possession of CENTEK engineering, Inc. or generated by field inspections or measurements of the structure.
- It is the responsibility of the client to ensure that the information provide to CENTEK engineering, Inc. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated. It is therefore assumed that its capacity has not significantly changed from the "as new" condition.
- All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest revision of ANSI/ASCE10 & ANSI/EIA-222
- All services performed, results obtained, and recommendations made are in accordance with generally accepted engineering principles and practices. CENTEK engineering, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

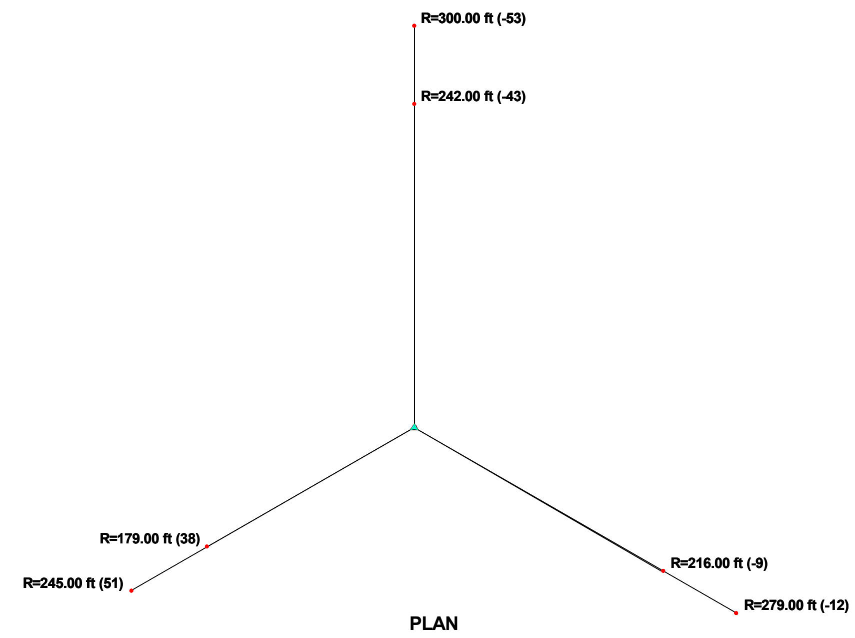
General Description of Structural Analysis Program

RISATower, is an integrated structural analysis and design software package for Designed specifically for the telecommunications industry, RISATower, formerly ERITower, automates much of the tower analysis and design required by the TIA/EIA 222 Standard.

RISATower Features:

- RISATower can analyze and design 3- and 4-sided guyed towers, 3- and 4-sided self-supporting towers and either round or tapered ground mounted poles with or without guys.
- The program analyzes towers using the TIA-222-G (2005) standard or any of the previous TIA/EIA standards back to RS-222 (1959). Steel design is checked using the AISC ASD 9th Edition or the AISC LRFD specifications.
- Linear and non-linear (P-delta) analyses can be used in determining displacements and forces in the structure. Wind pressures and forces are automatically calculated.
- Extensive graphics plots include material take-off, shear-moment, leg compression, displacement, twist, feed line, guy anchor and stress plots.
- RISATower contains unique features such as True Cable behavior, hog rod take-up, foundation stiffness and much more.





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
SHPX-4AC-Radomes (Unknown)	612.5	HPA-65R-BUU-H6 (ATT - Proposed)	180
SHPX-2AC (Unknown)	550	HPA-65R-BUU-H6 (ATT - Proposed)	180
6-ft Dish	490	(2) LGP21401 TMA (ATT - Existing)	180
4 FT DISH (Unknown)	425	(2) LGP21401 TMA (ATT - Existing)	180
DB224 (Unknown)	400	(2) LGP21401 TMA (ATT - Existing)	180
Generic 4'x8' Sidearm (Unknown)	400	RRUS-11 (ATT - Existing)	180
Generic 4'x8' Sidearm (Unknown)	400	RRUS-11 (ATT - Existing)	180
DB540K-E (Unknown)	400	RRUS-11 (ATT - Existing)	180
PR-950 (Unknown)	395	RRUS-12 (ATT - Proposed)	180
Generic 4'x8' Sidearm (Unknown)	353	RRUS-12 (ATT - Proposed)	180
14' x 3" Dia Omni (Unknown)	353	RRUS-12 (ATT - Proposed)	180
2'-6" x 3" Dia Omni (Unknown)	348	A2 (ATT - Proposed)	180
Generic 4'x8' Sidearm (Unknown)	348	A2 (ATT - Proposed)	180
2-ft Stand Off (Unknown)	345	A2 (ATT - Proposed)	180
MIsc Antenna (Unknown)	345	Andrew 4-ft T-Frame SF-DPM-B (ATT - Existing)	180
DB540K-E (Unknown)	300	Andrew 4-ft T-Frame SF-DPM-B (ATT - Existing)	180
Generic 4'x8' Sidearm (Unknown)	300	Andrew 4-ft T-Frame SF-DPM-B (ATT - Existing)	180
PD620 (Unknown)	250	7770.00 (ATT - Existing)	180
Generic 4'x8' Sidearm (Unknown)	250	7770.00 (ATT - Existing)	180
Generic 4'x8' Sidearm (Empty)	200	DC6-48-60-18-8F Surge Arrestor (ATT - Existing)	177
7770.00 (ATT - Existing)	180	8-ft Grid Dish	145
SBNHH-1D65A (ATT - Proposed)	180		

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	L3x3x3/8	D	3 @ 3.83333
B	L2 1/2x2 1/2x1/4	E	4 @ 2.05556
C	12x3/8		

MATERIAL STRENGTH

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

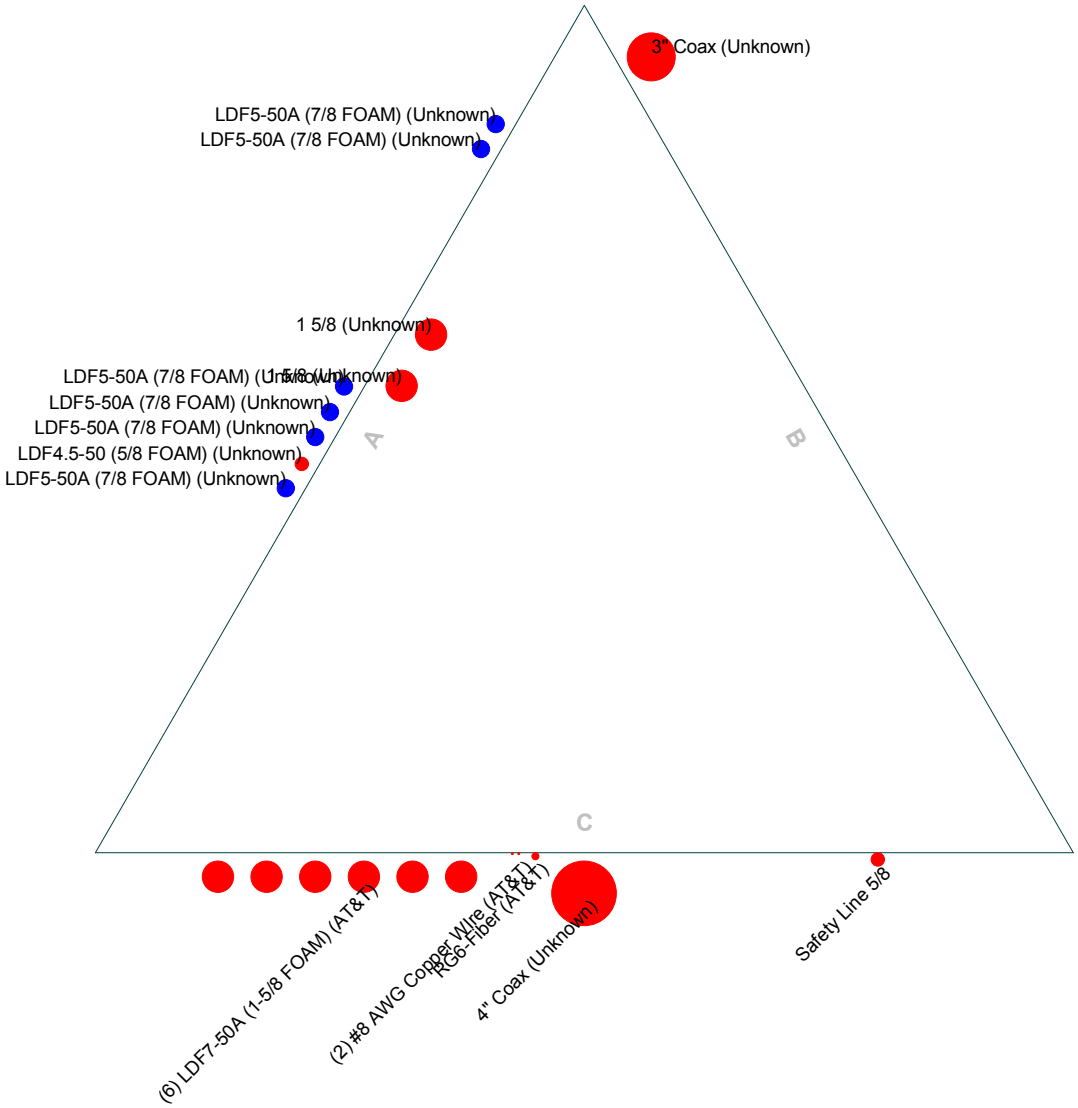
TOWER DESIGN NOTES

1. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
2. Tower is also designed for a 74 mph basic wind with 0.50 in ice.
3. Deflections are based upon a 50 mph wind.
4. TOWER RATING: 81.3%

Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587	Job: **16071.22 - CT5663**		
	Project: **592' Guyed Lattice Tower - 360 Gaylord Mountain Rd., Hamden, CT**		
	Client: AT&T Mobility	Drawn by: TJL	App'd:
	Code: TIA/EIA-222-F	Date: 06/22/16	Scale: NTS
	Path:		Dwg No. E-1

Feed Line Plan

Round Flat App In Face App Out Face



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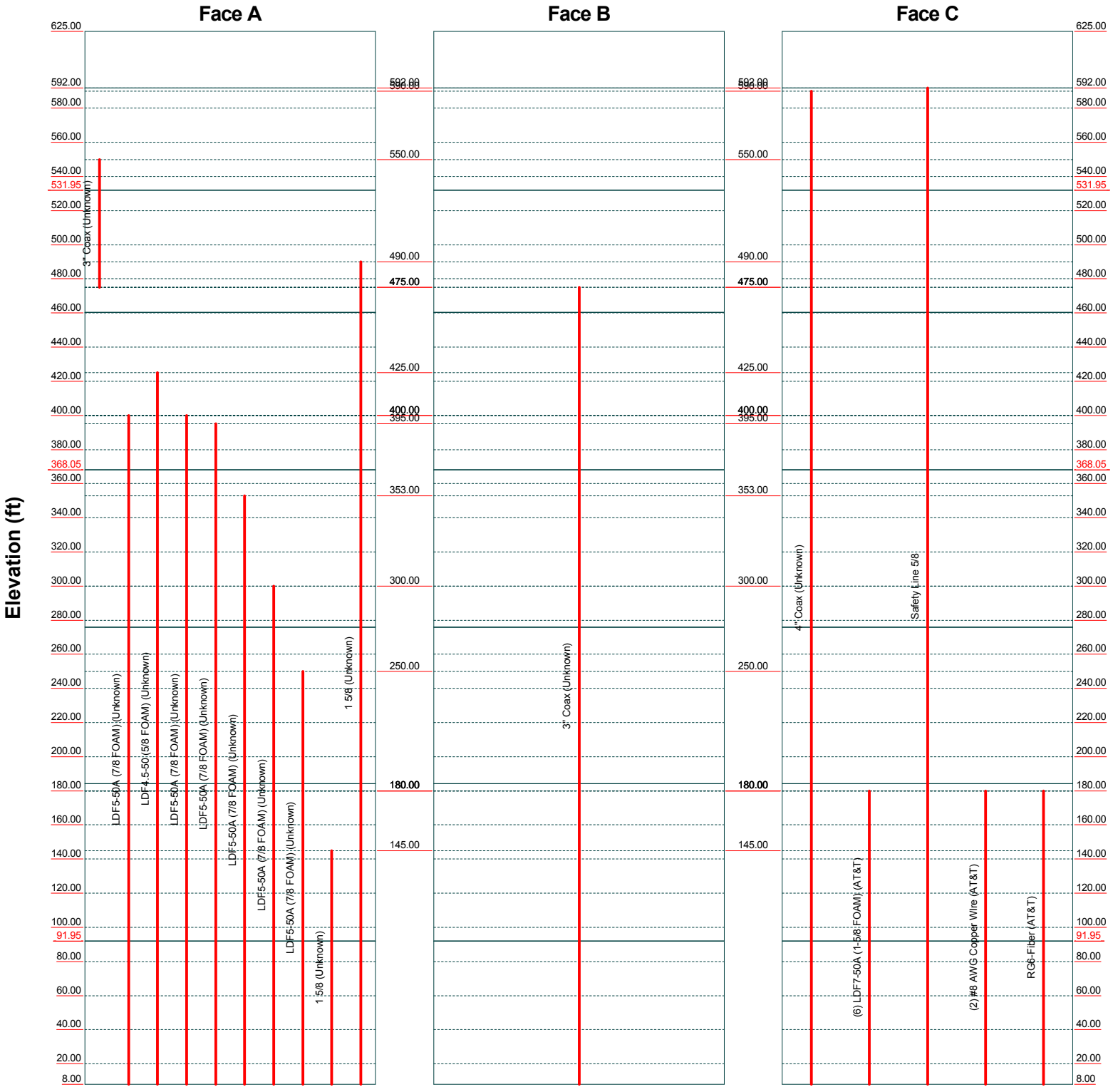
Path: J:\Jobs\1607100.WI\22_Hamden CT5663\04_Structural\Structural Analysis Report\Cals\ER\592' Guyed Tower Hamden.er		Dwg No. E-7

Feed Line Distribution Chart
8' - 625'

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



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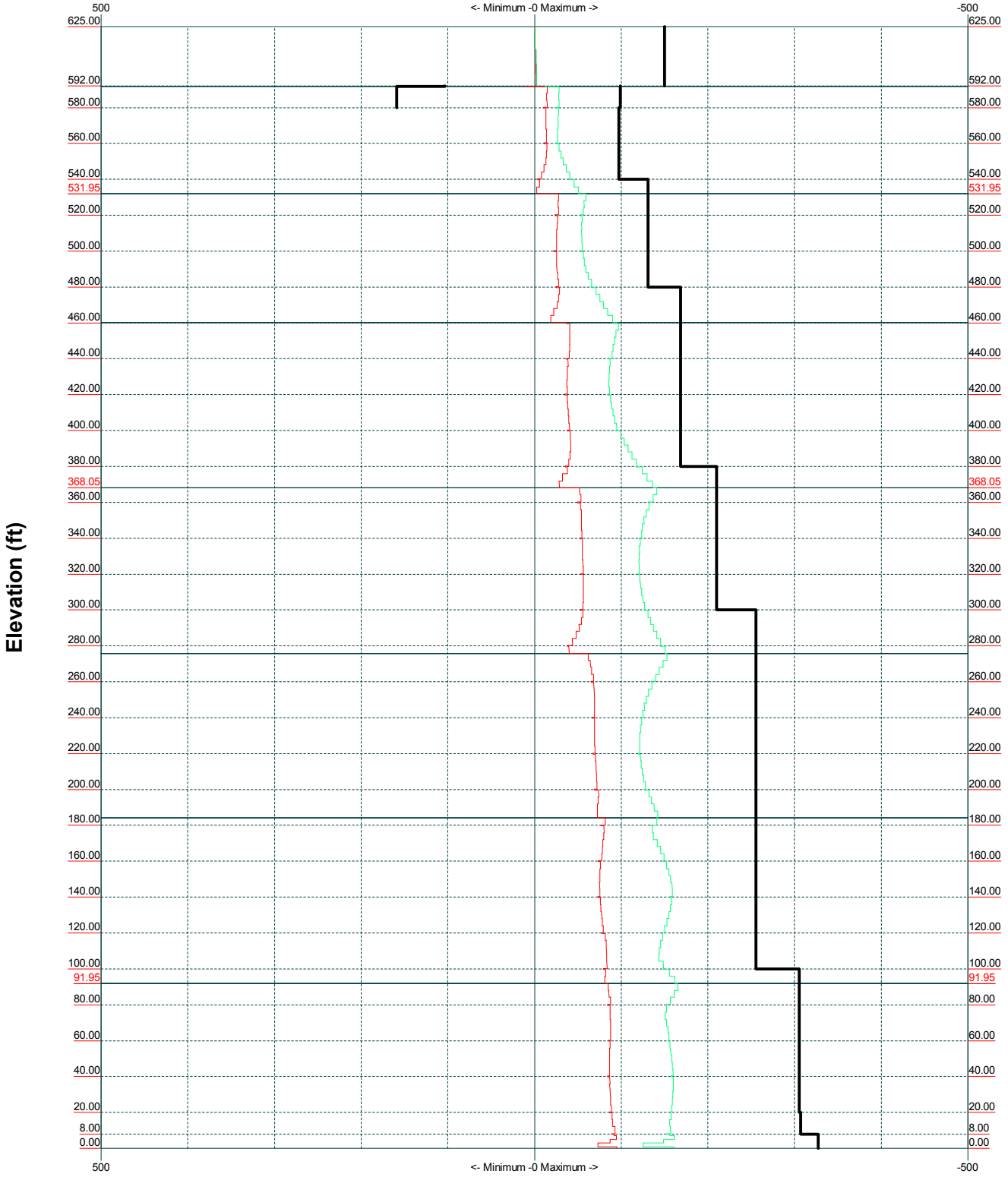
Path: J:\Jobs\1607100.WI\22_Hamden CT5663\04_Structural\Structural Analysis Report\Calcs\ER\592' Guyed Tower Hamden.er		Dwg No. E-7

TIA/EIA-222-F - 85 mph/74 mph 0.5000 in Ice

Leg Capacity ——— **Leg Compression (K)**



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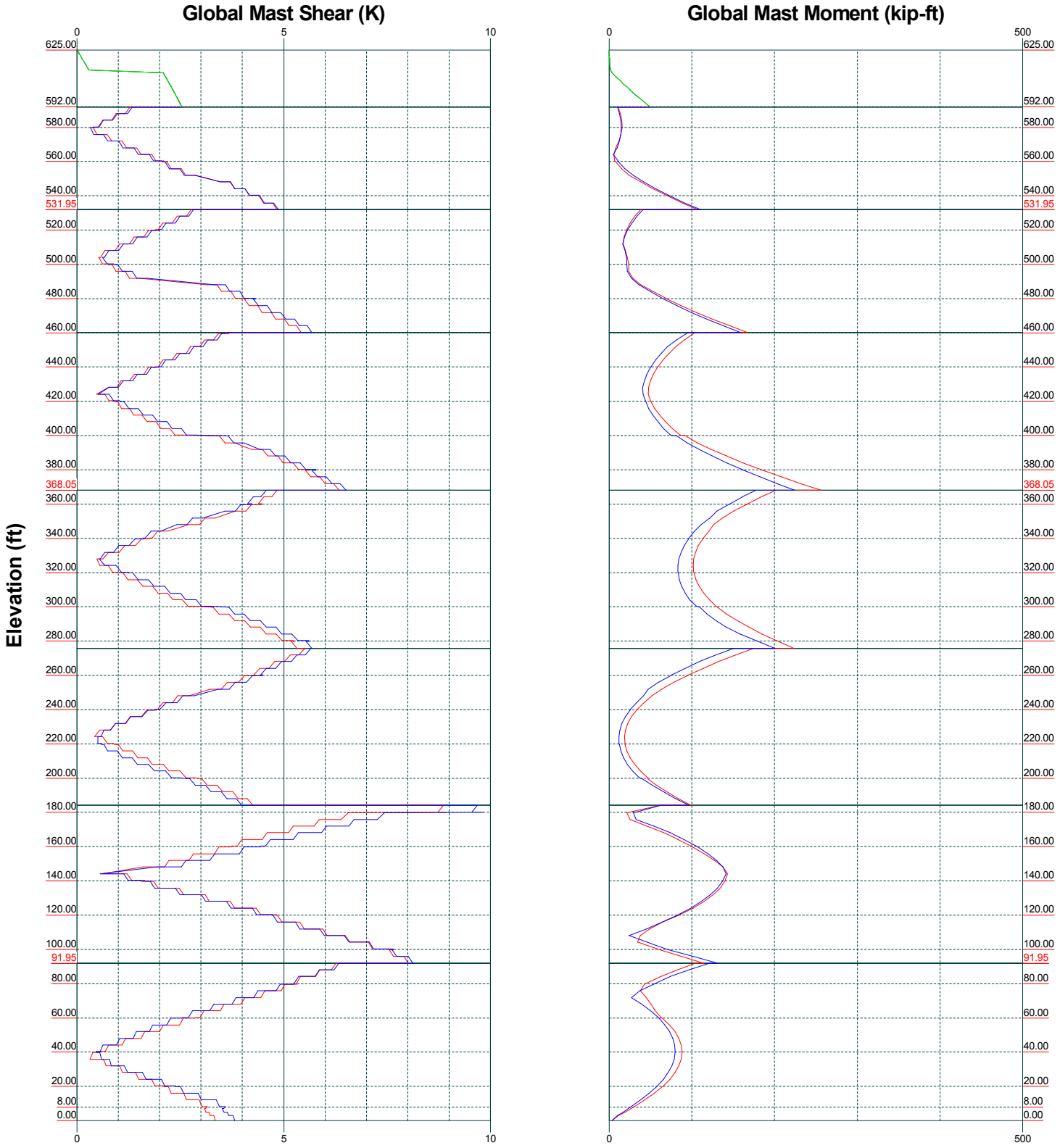
TIA/EIA-222-F - 85 mph/74 mph 0.5000 in Ice

Vx Vz

Maximum Values

Mx Mz



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Job: ***16071.22 - CT5663***		
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Client: AT&T Mobility	Drawn by: TJL	App'd:
Code: TIA/EIA-222-F	Date: 06/22/16	Scale: NTS
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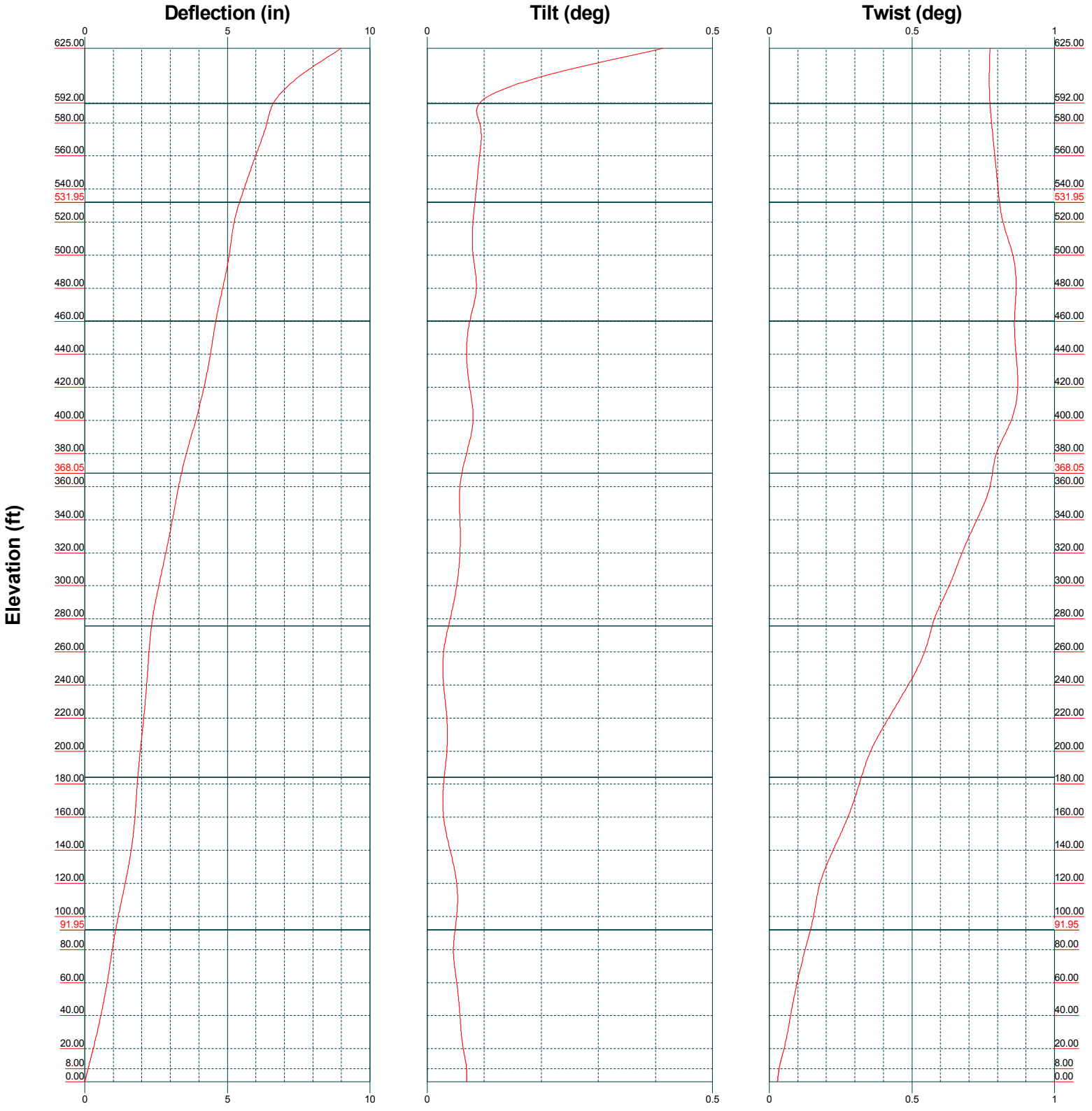
TIA/EIA-222-F - Service - 50 mph

Maximum Values



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Client: AT&T Mobility	Drawn by: TJL	App'd:
Code: TIA/EIA-222-F	Date: 06/22/16	Scale: NTS
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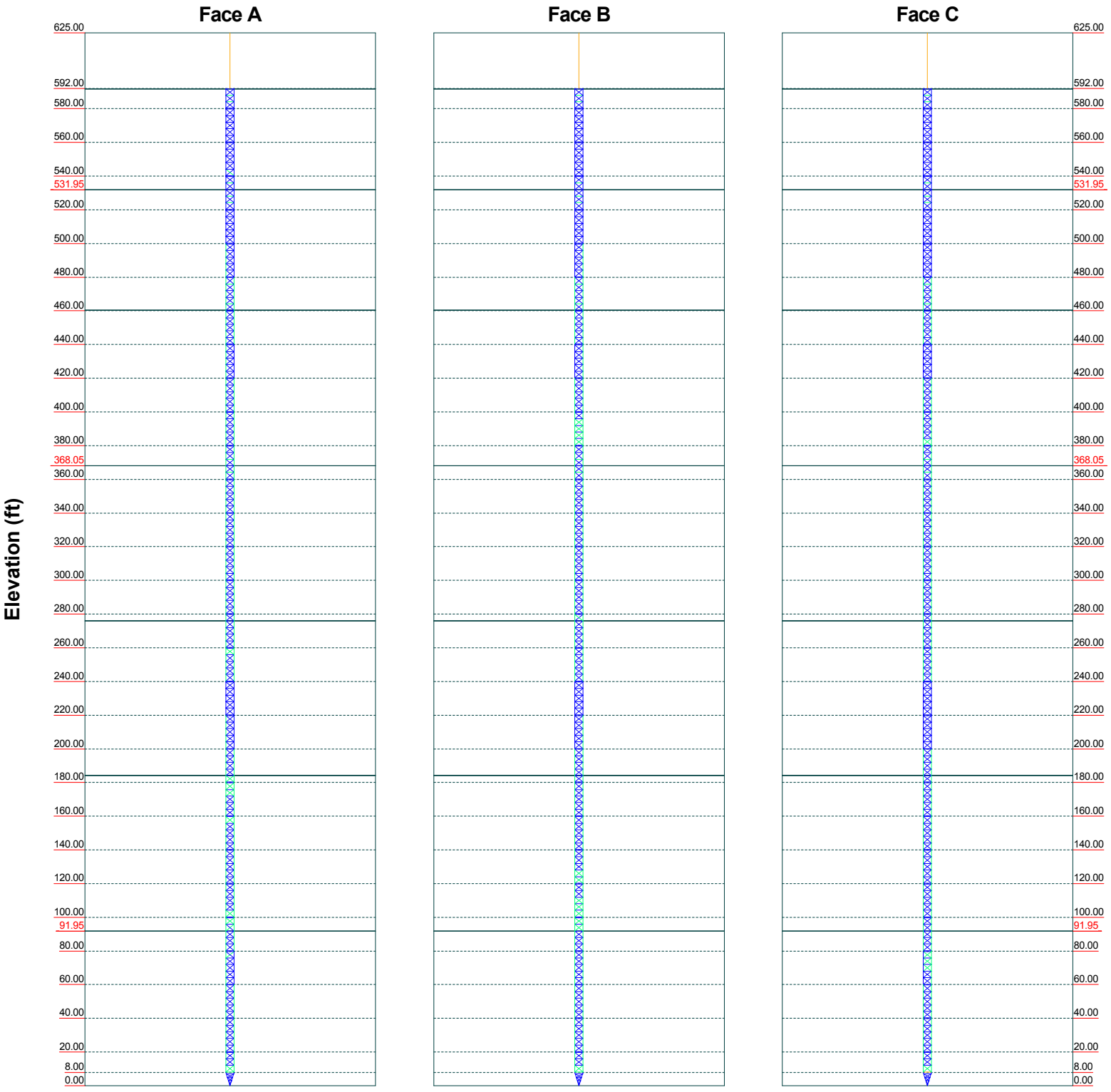
Stress Distribution Chart
0' - 625'

> 100% | 90%-100% | 75%-90% | 50%-75% | < 50% Overstress



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Code: TIA/EIA-222-F	Date: 06/22/16	Scale: NTS
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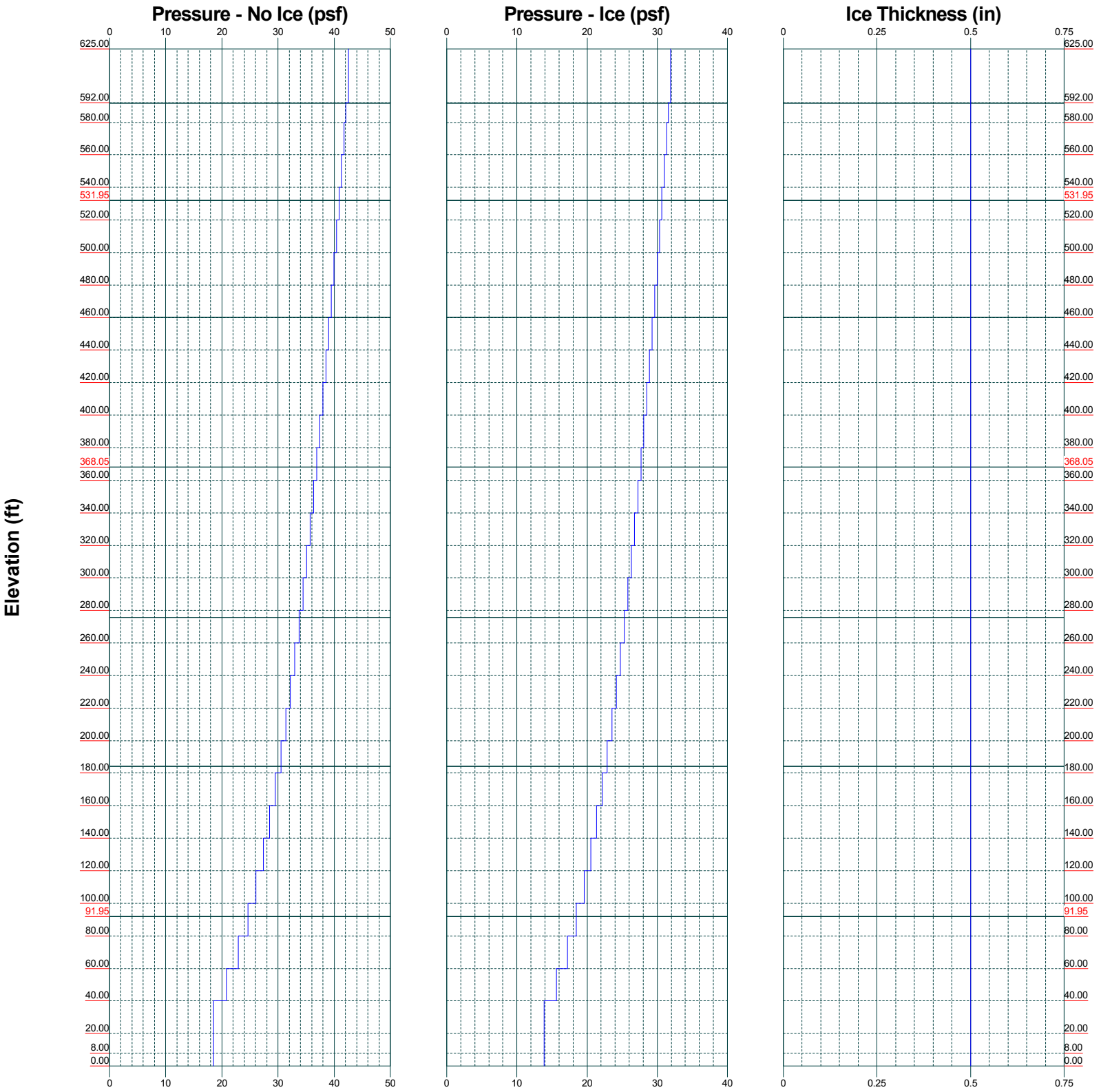
Wind Pressures and Ice Thickness

TIA/EIA-222-F - 85 mph/74 mph 0.5000 in Ice



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Code: TIA/EIA-222-F	Date: 06/22/16	Scale: NTS
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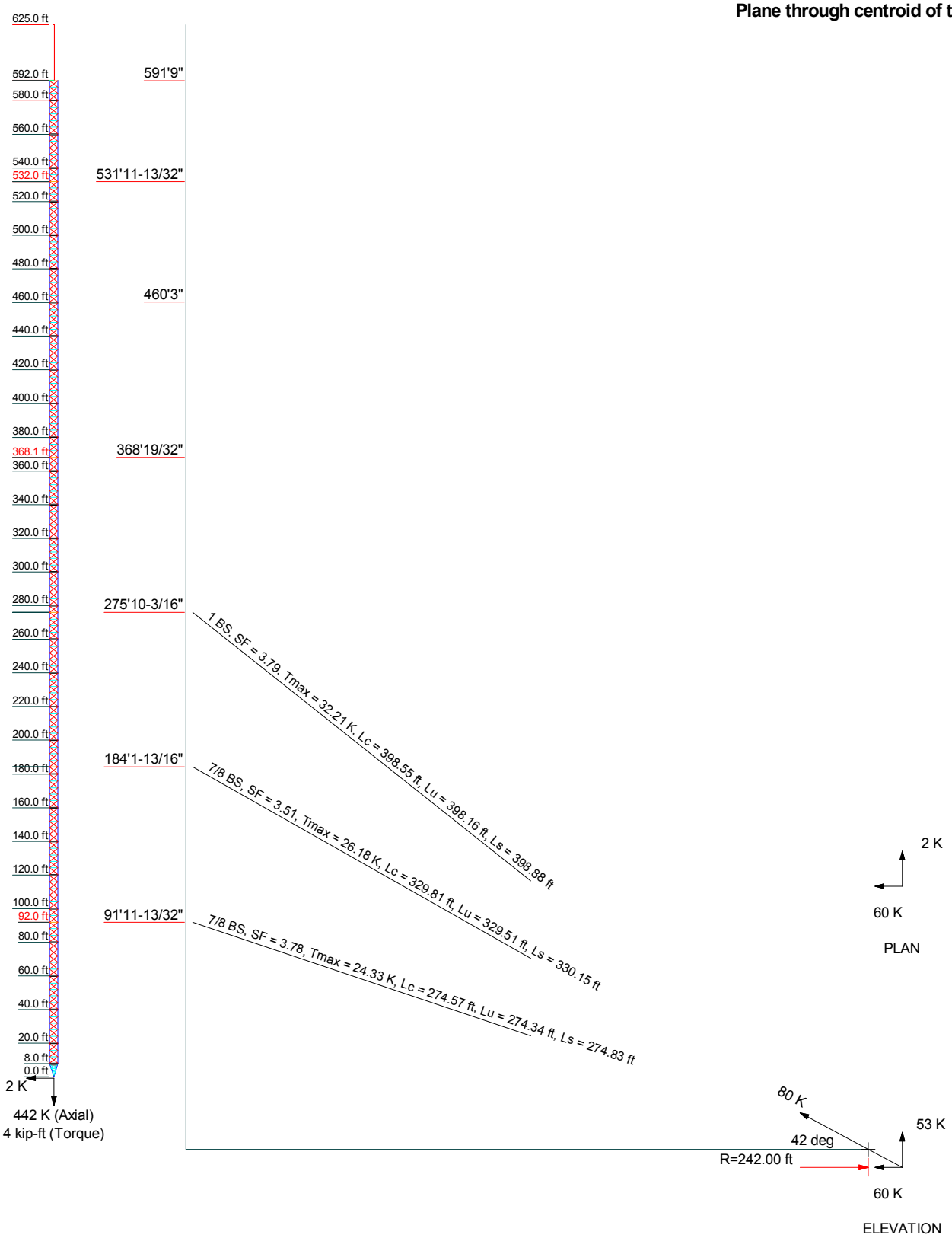
Guy Tensions and Tower Reactions

TIA/EIA-222-F - 85 mph/74 mph 0.5000 in Ice

Maximum Values

Anchor 'A'@242 ft Azimuth 0 deg Elev -43 ft

Plane through centroid of tower



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Path: J:\Jobs\1607100.WI\22. Hamden CT5663\04. Structural\Structural Analysis Report\Calcs\ER\592' Guyed Tower Hamden.er		Dwg No. E-6

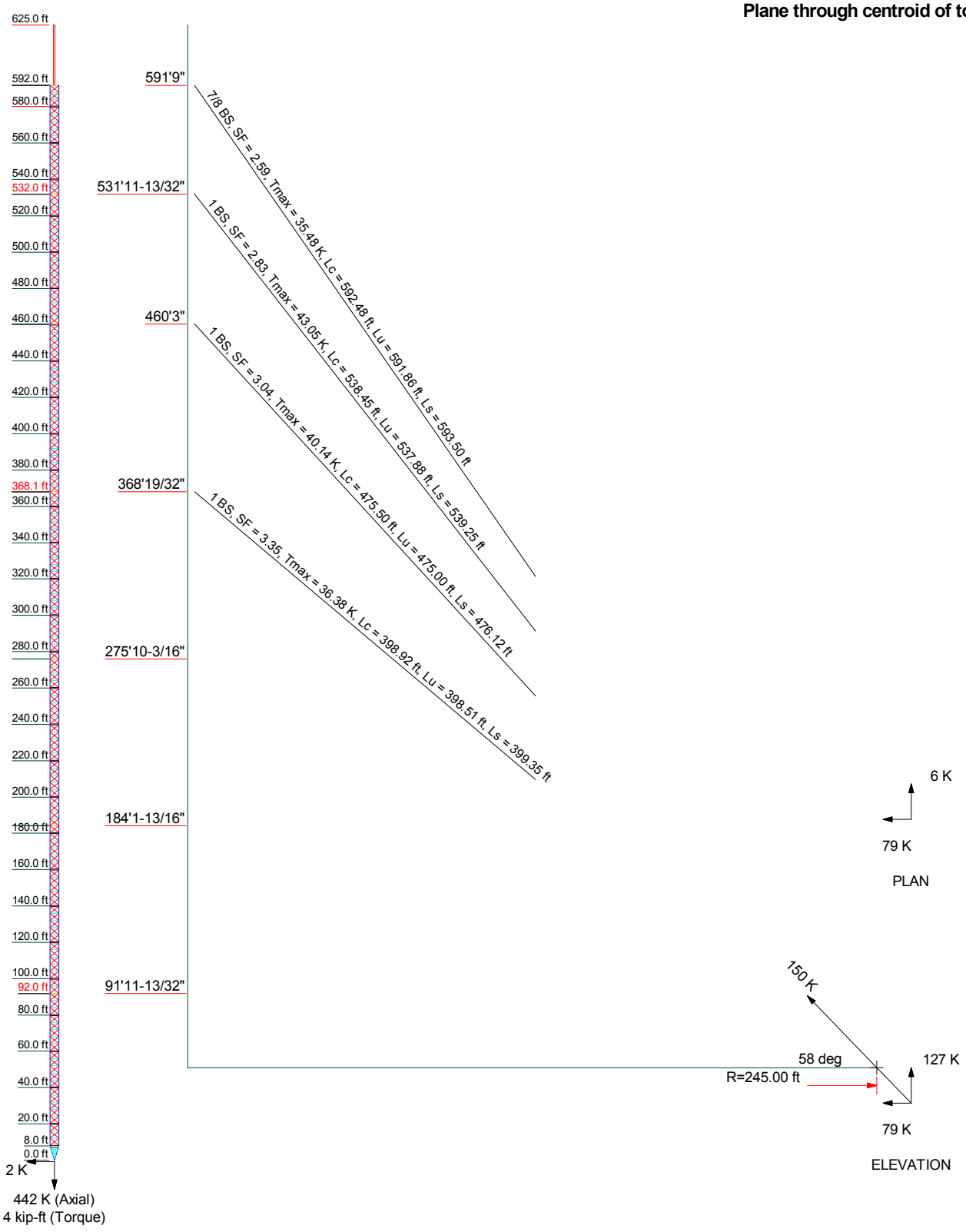
Guy Tensions and Tower Reactions

TIA/EIA-222-F - 85 mph/74 mph 0.5000 in Ice

Maximum Values

Anchor 'C'@245 ft Azimuth 240 deg Elev 51 ft

Plane through centroid of tower



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Path: J:\Jobs\16071\00.WI\22. Hamden CT5663\04. Structural\Structural Analysis Report\Calcs\ER\592' Guyed Tower Hamden.er		Dwg No. E-6

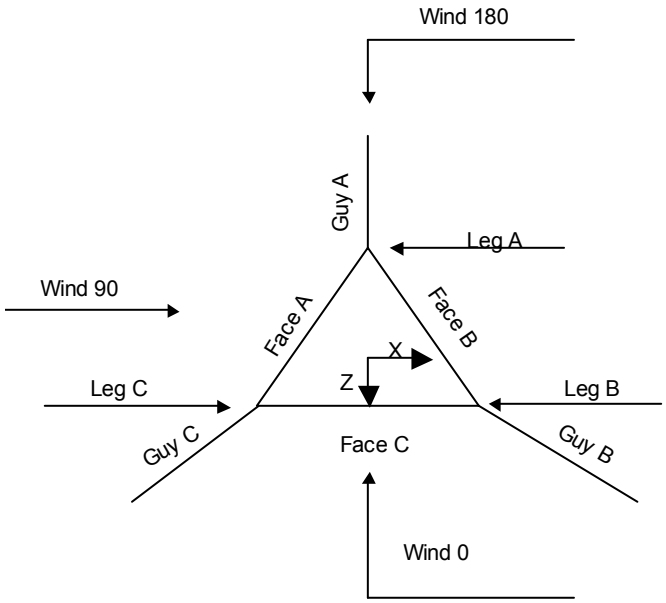
Tower Input Data

The main tower is a 3x guyed tower with an overall height of 625.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 5.00 ft at the top and tapered at the base.
An index plate is provided at the 3x guyed -tower connection.
There is a pole section.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Basic wind speed of 85 mph.
Nominal ice thickness of 0.5000 in.
Ice density of 56 pcf.
A wind speed of 74 mph is used in combination with ice.
Temperature drop of 60 °F.
Deflections calculated using a wind speed of 50 mph.
Tension only take-up is 0.0313 in.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.0664.
Safety factor used in guy design is 2.
Stress ratio used in tower member design is 1.333.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Horizontals	Assume Legs Pinned	Calculate Redundant Bracing Forces
Consider Moments - Diagonals	Assume Rigid Index Plate	Ignore Redundant Members in FEA
Use Moment Magnification	√ Use Clear Spans For Wind Area	SR Leg Bolts Resist Compression
√ Use Code Stress Ratios	√ Use Clear Spans For KL/r	√ All Leg Panels Have Same Allowable
√ Use Code Safety Factors - Guys	√ Retension Guys To Initial Tension	Offset Girt At Foundation
Escalate Ice	Bypass Mast Stability Checks	√ Consider Feed Line Torque
Always Use Max Kz	Use Azimuth Dish Coefficients	Include Angle Block Shear Check
Use Special Wind Profile	√ Project Wind Area of Appurt.	Use TIA-222-G Bracing Resist. Exemption
√ Include Bolts In Member Capacity	Autocalc Torque Arm Areas	Use TIA-222-G Tension Splice Exemption
√ Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Poles
Secondary Horizontal Braces Leg	√ Sort Capacity Reports By Component	Include Shear-Torsion Interaction
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Always Use Sub-Critical Flow
SR Members Have Cut Ends	√ Treat Feed Line Bundles As Cylinder	Use Top Mounted Sockets
SR Members Are Concentric		



Corner & Starmount Guyed Tower

Pole Section Geometry

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L1	625.00-592.00	33.00	P10x.365	A53-B-35 (35 ksi)	

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 625.00-592.00				1	1	1			

Tower Section Geometry

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T1	592.00-580.00			5.00	1	12.00
T2	580.00-560.00			5.00	1	20.00
T3	560.00-540.00			5.00	1	20.00
T4	540.00-520.00			5.00	1	20.00
T5	520.00-500.00			5.00	1	20.00
T6	500.00-480.00			5.00	1	20.00
T7	480.00-460.00			5.00	1	20.00
T8	460.00-440.00			5.00	1	20.00
T9	440.00-420.00			5.00	1	20.00
T10	420.00-400.00			5.00	1	20.00
T11	400.00-380.00			5.00	1	20.00
T12	380.00-360.00			5.00	1	20.00
T13	360.00-340.00			5.00	1	20.00
T14	340.00-320.00			5.00	1	20.00
T15	320.00-300.00			5.00	1	20.00
T16	300.00-280.00			5.00	1	20.00
T17	280.00-260.00			5.00	1	20.00
T18	260.00-240.00			5.00	1	20.00
T19	240.00-220.00			5.00	1	20.00
T20	220.00-200.00			5.00	1	20.00
T21	200.00-180.00			5.00	1	20.00
T22	180.00-160.00			5.00	1	20.00
T23	160.00-140.00			5.00	1	20.00
T24	140.00-120.00			5.00	1	20.00
T25	120.00-100.00			5.00	1	20.00
T26	100.00-80.00			5.00	1	20.00
T27	80.00-60.00			5.00	1	20.00
T28	60.00-40.00			5.00	1	20.00
T29	40.00-20.00			5.00	1	20.00
T30	20.00-8.00			5.00	1	12.00
T31	8.00-0.00			5.00	1	8.00

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T1	592.00-580.00	3.83	TX Brace	No	Yes	3.0000	3.0000
T2	580.00-560.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T3	560.00-540.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T4	540.00-520.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T5	520.00-500.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T6	500.00-480.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T7	480.00-460.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T8	460.00-440.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T9	440.00-420.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T10	420.00-400.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T11	400.00-380.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T12	380.00-360.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T13	360.00-340.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T14	340.00-320.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T15	320.00-300.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T16	300.00-280.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T17	280.00-260.00	3.90	TX Brace	No	Yes	3.0000	3.0000

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T18	260.00-240.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T19	240.00-220.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T20	220.00-200.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T21	200.00-180.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T22	180.00-160.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T23	160.00-140.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T24	140.00-120.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T25	120.00-100.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T26	100.00-80.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T27	80.00-60.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T28	60.00-40.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T29	40.00-20.00	3.90	TX Brace	No	Yes	3.0000	3.0000
T30	20.00-8.00	3.83	TX Brace	No	Yes	3.0000	3.0000
T31	8.00-0.00	2.06	X Brace	No	Yes	11.0000	11.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 592.00-580.00	Solid Round	2 1/4	A572-50 (50 ksi)	Solid Round	3/4	A36 (36 ksi)
T2 580.00-560.00	Solid Round	2 1/4	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T3 560.00-540.00	Solid Round	2 1/4	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T4 540.00-520.00	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	3/4	A36 (36 ksi)
T5 520.00-500.00	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T6 500.00-480.00	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T7 480.00-460.00	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	3/4	A36 (36 ksi)
T8 460.00-440.00	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	3/4	A36 (36 ksi)
T9 440.00-420.00	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T10 420.00-400.00	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T11 400.00-380.00	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T12 380.00-360.00	Solid Round	3	A572-50 (50 ksi)	Solid Round	7/8	A36 (36 ksi)
T13 360.00-340.00	Solid Round	3	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T14 340.00-320.00	Solid Round	3	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T15 320.00-300.00	Solid Round	3	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T16 300.00-280.00	Solid Round	3 1/4	A572-50 (50 ksi)	Solid Round	3/4	A36 (36 ksi)
T17 280.00-260.00	Solid Round	3 1/4	A572-50 (50 ksi)	Solid Round	3/4	A36 (36 ksi)
T18 260.00-240.00	Solid Round	3 1/4	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T19	Solid Round	3 1/4	A572-50	Solid Round	5/8	A36

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
240.00-220.00			(50 ksi)			(36 ksi)
T20 220.00-200.00	Solid Round	3 1/4	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T21 200.00-180.00	Solid Round	3 1/4	A572-50 (50 ksi)	Solid Round	7/8	A36 (36 ksi)
T22 180.00-160.00	Solid Round	3 1/4	A572-50 (50 ksi)	Solid Round	3/4	A36 (36 ksi)
T23 160.00-140.00	Solid Round	3 1/4	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T24 140.00-120.00	Solid Round	3 1/4	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T25 120.00-100.00	Solid Round	3 1/4	A572-50 (50 ksi)	Solid Round	3/4	A36 (36 ksi)
T26 100.00-80.00	Solid Round	3 1/2	A572-50 (50 ksi)	Solid Round	3/4	A36 (36 ksi)
T27 80.00-60.00	Solid Round	3 1/2	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T28 60.00-40.00	Solid Round	3 1/2	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T29 40.00-20.00	Solid Round	3 1/2	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T30 20.00-8.00	Solid Round	3 1/2	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T31 8.00-0.00	Solid Round	3 1/2	A572-50 (50 ksi)	Equal Angle	L3x3x3/8	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 592.00-580.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T2 580.00-560.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T3 560.00-540.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T4 540.00-520.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T5 520.00-500.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T6 500.00-480.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T7 480.00-460.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T8 460.00-440.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T9 440.00-420.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T10 420.00-400.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T11 400.00-380.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T12 380.00-360.00	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)
T13	Equal Angle	L2 1/2x2 1/2x3/16	A36	Equal Angle	L2 1/2x2 1/2x3/16	A36

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
360.00-340.00			(36 ksi)			(36 ksi)
T14 340.00-320.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T15 320.00-300.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T16 300.00-280.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T17 280.00-260.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T18 260.00-240.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T19 240.00-220.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T20 220.00-200.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T21 200.00-180.00	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)
T22 180.00-160.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T23 160.00-140.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T24 140.00-120.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T25 120.00-100.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T26 100.00-80.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T27 80.00-60.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T28 60.00-40.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T29 40.00-20.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T30 20.00-8.00	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T31 8.00-0.00	Channel	C3x5	A36 (36 ksi)	Flat Bar	12x3/8	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T1 592.00-580.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T2 580.00-560.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T3 560.00-540.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T4 540.00-520.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T5 520.00-500.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T6 500.00-480.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T7 480.00-460.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T8 460.00-440.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T9 440.00-420.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T10 420.00-400.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T11 400.00-380.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T12 380.00-360.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)
T13 360.00-340.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T14 340.00-320.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T15 320.00-300.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T16 300.00-280.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T17 280.00-260.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T18 260.00-240.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T19 240.00-220.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T20 220.00-200.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T21 200.00-180.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)
T22 180.00-160.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T23 160.00-140.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T24 140.00-120.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T25 120.00-100.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T26 100.00-80.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T27 80.00-60.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T28 60.00-40.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T29 40.00-20.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T30 20.00-8.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T31 8.00-0.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L3x3x3/8	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 592.00-580.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T2 580.00-560.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T3 560.00-540.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T4 540.00-520.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T5 520.00-500.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T6 500.00-480.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T7 480.00-460.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T8 460.00-440.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T9 440.00-420.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T10 420.00-400.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T11 400.00-380.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T12 380.00-360.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T13 360.00-340.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T14 340.00-320.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T15 320.00-300.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T16 300.00-280.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T17 280.00-260.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T18 260.00-240.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T19 240.00-220.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T20 220.00-200.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T21 200.00-180.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T22 180.00-160.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T23 160.00-140.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T24 140.00-120.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T25 120.00-100.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T26 100.00-80.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T27 80.00-60.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T28 60.00-40.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T29 40.00-20.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T30 20.00-8.00	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T31 8.00-0.00	0.00	0.0000	(36 ksi) A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T1	Yes	Yes	1	1	1	1	1	1	1	1
592.00-580.00				1	1	1	1	1	1	1
T2	Yes	Yes	1	1	1	1	1	1	1	1
580.00-560.00				1	1	1	1	1	1	1
T3	Yes	Yes	1	1	1	1	1	1	1	1
560.00-540.00				1	1	1	1	1	1	1
T4	Yes	Yes	1	1	1	1	1	1	1	1
540.00-520.00				1	1	1	1	1	1	1
T5	Yes	Yes	1	1	1	1	1	1	1	1
520.00-500.00				1	1	1	1	1	1	1
T6	Yes	Yes	1	1	1	1	1	1	1	1
500.00-480.00				1	1	1	1	1	1	1
T7	Yes	Yes	1	1	1	1	1	1	1	1
480.00-460.00				1	1	1	1	1	1	1
T8	Yes	Yes	1	1	1	1	1	1	1	1
460.00-440.00				1	1	1	1	1	1	1
T9	Yes	Yes	1	1	1	1	1	1	1	1
440.00-420.00				1	1	1	1	1	1	1
T10	Yes	Yes	1	1	1	1	1	1	1	1
420.00-400.00				1	1	1	1	1	1	1
T11	Yes	Yes	1	1	1	1	1	1	1	1
400.00-380.00				1	1	1	1	1	1	1
T12	Yes	Yes	1	1	1	1	1	1	1	1
380.00-360.00				1	1	1	1	1	1	1
T13	Yes	Yes	1	1	1	1	1	1	1	1
360.00-340.00				1	1	1	1	1	1	1
T14	Yes	Yes	1	1	1	1	1	1	1	1
340.00-320.00				1	1	1	1	1	1	1
T15	Yes	Yes	1	1	1	1	1	1	1	1
320.00-300.00				1	1	1	1	1	1	1
T16	Yes	Yes	1	1	1	1	1	1	1	1
300.00-280.00				1	1	1	1	1	1	1
T17	Yes	Yes	1	1	1	1	1	1	1	1
280.00-260.00				1	1	1	1	1	1	1
T18	Yes	Yes	1	1	1	1	1	1	1	1
260.00-240.00				1	1	1	1	1	1	1
T19	Yes	Yes	1	1	1	1	1	1	1	1
240.00-220.00				1	1	1	1	1	1	1
T20	Yes	Yes	1	1	1	1	1	1	1	1
220.00-200.00				1	1	1	1	1	1	1
T21	Yes	Yes	1	1	1	1	1	1	1	1
200.00-180.00				1	1	1	1	1	1	1
T22	Yes	Yes	1	1	1	1	1	1	1	1

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
180.00-160.00				1	1	1	1	1	1	1
T23	Yes	Yes	1	1	1	1	1	1	1	1
160.00-140.00				1	1	1	1	1	1	1
T24	Yes	Yes	1	1	1	1	1	1	1	1
140.00-120.00				1	1	1	1	1	1	1
T25	Yes	Yes	1	1	1	1	1	1	1	1
120.00-100.00				1	1	1	1	1	1	1
T26	Yes	Yes	1	1	1	1	1	1	1	1
100.00-80.00				1	1	1	1	1	1	1
T27	Yes	Yes	1	1	1	1	1	1	1	1
80.00-60.00				1	1	1	1	1	1	1
T28	Yes	Yes	1	1	1	1	1	1	1	1
60.00-40.00				1	1	1	1	1	1	1
T29	Yes	Yes	1	1	1	1	1	1	1	1
40.00-20.00				1	1	1	1	1	1	1
T30	Yes	Yes	1	1	1	1	1	1	1	1
20.00-8.00				1	1	1	1	1	1	1
T31 8.00-0.00	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Net Width Deduct in	Leg U	Diagonal Net Width Deduct in	Diagonal U	Top Girt Net Width Deduct in	Top Girt U	Bottom Girt Net Width Deduct in	Bottom Girt U	Mid Girt Net Width Deduct in	Mid Girt U	Long Horizontal Net Width Deduct in	Long Horizontal U	Short Horizontal Net Width Deduct in	Short Horizontal U
T1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
592.00-580.00														
T2	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
580.00-560.00														
T3	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
560.00-540.00														
T4	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
540.00-520.00														
T5	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
520.00-500.00														
T6	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
500.00-480.00														
T7	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
480.00-460.00														
T8	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
460.00-440.00														
T9	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
440.00-420.00														
T10	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
420.00-400.00														
T11	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
400.00-380.00														

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T12 380.00-360.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T13 360.00-340.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T14 340.00-320.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T15 320.00-300.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T16 300.00-280.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T17 280.00-260.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T18 260.00-240.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T19 240.00-220.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T20 220.00-200.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T21 200.00-180.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T22 180.00-160.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T23 160.00-140.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T24 140.00-120.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T25 120.00-100.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T26 100.00-80.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T27 80.00-60.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T28 60.00-40.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T29 40.00-20.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T30 20.00-8.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T31 8.00-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 592.00-580.00	Flange	0.7500 A325N	4	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T2 580.00-560.00	Flange	0.7500 A325N	4	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T3 560.00-540.00	Flange	0.7500 A325N	4	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T4	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
540.00-520.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T5	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
520.00-500.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T6	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
500.00-480.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T7	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
480.00-460.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T8	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
460.00-440.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T9	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
440.00-420.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T10	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
420.00-400.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T11	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
400.00-380.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T12	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
380.00-360.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T13	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
360.00-340.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T14	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
340.00-320.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T15	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
320.00-300.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T16	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
300.00-280.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T17	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
280.00-260.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T18	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
260.00-240.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T19	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
240.00-220.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T20	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
220.00-200.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T21	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
200.00-180.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T22	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
180.00-160.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T23	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
160.00-140.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T24	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
140.00-120.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T25	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
120.00-100.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T26	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
100.00-80.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T27	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
80.00-60.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T28	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
60.00-40.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T29	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
40.00-20.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T30 20.00-8.00	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T31 8.00-0.00	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	

Guy Data

Guy Elevation ft	Guy Grade		Guy Size	Initial Tension K	%	Guy Modulus ksi	Guy Weight plf	L_u ft	Anchor Radius ft	Anchor Azimuth Adj. °	Anchor Elevation ft	End Fitting Efficiency %
591.75	BS	A	7/8	9.20	10%	24000	1.610	709.36	300.00	0.0000	-53.00	100%
		B	7/8	9.20	10%	24000	1.610	663.37	279.00	0.0000	-12.00	100%
		C	7/8	9.20	10%	24000	1.610	592.00	245.00	0.0000	51.00	100%
531.95	BS	A	1	12.20	10%	24000	2.100	655.56	300.00	0.0000	-53.00	100%
		B	1	12.20	10%	24000	2.100	609.53	279.00	0.0000	-12.00	100%
		C	1	12.20	10%	24000	2.100	538.01	245.00	0.0000	51.00	100%
460.25	BS	A	1	12.20	10%	24000	2.100	592.58	300.00	0.0000	-53.00	100%
		B	1	12.20	10%	24000	2.100	546.61	279.00	0.0000	-12.00	100%
		C	1	12.20	10%	24000	2.100	475.12	245.00	0.0000	51.00	100%
368.05	BS	A	1	12.20	10%	24000	2.100	514.92	300.00	0.0000	-53.00	100%
		B	1	12.20	10%	24000	2.100	469.39	279.00	0.0000	-12.00	100%
		C	1	12.20	10%	24000	2.100	398.60	245.00	0.0000	51.00	100%
275.85	BS	A	1	12.20	10%	24000	2.100	398.23	242.00	0.0000	-43.00	100%
		B	1	12.20	10%	24000	2.100	355.46	216.00	0.0000	-9.00	100%
		C	1	12.20	10%	24000	2.100	295.71	179.00	0.0000	38.00	100%
184.15	BS	A	7/8	9.20	10%	24000	1.610	329.55	242.00	0.0000	-43.00	100%
		B	7/8	9.20	10%	24000	1.610	287.39	216.00	0.0000	-9.00	100%
		C	7/8	9.20	10%	24000	1.610	228.67	179.00	0.0000	38.00	100%
91.95	BS	A	7/8	9.20	10%	24000	1.610	274.35	242.00	0.0000	-43.00	100%
		B	7/8	9.20	10%	24000	1.610	235.63	216.00	0.0000	-9.00	100%
		C	7/8	9.20	10%	24000	1.610	184.04	179.00	0.0000	38.00	100%

Guy Data *(cont'd)*

Guy Elevation ft	Mount Type	Torque-Arm Spread ft	Torque-Arm Leg Angle °	Torque-Arm Style	Torque-Arm Grade	Torque-Arm Type	Torque-Arm Size
591.75	Corner						
531.95	Corner						
460.25	Corner						
368.05	Corner						
275.85	Corner						
184.15	Corner						
91.95	Corner						

Guy Data *(cont'd)*

Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap.	Pull-Off Grade	Pull-Off Type	Pull-Off Size
591.75	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Flat Bar	6 x 1
531.95	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Flat Bar	6 x 1
460.25	A572-50	Solid Round			No	A36	Flat Bar	6 x 1

Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap.	Pull-Off Grade	Pull-Off Type	Pull-Off Size
368.05	(50 ksi) A572-50	Solid Round			No	(36 ksi) A36	Flat Bar	6 x 1
275.85	(50 ksi) A572-50	Solid Round			No	(36 ksi) A36	Flat Bar	6 x 1
184.15	(50 ksi) A572-50	Solid Round			No	(36 ksi) A36	Flat Bar	6 x 1
91.95	(50 ksi) A572-50	Solid Round			No	(36 ksi) A36	Flat Bar	6 x 1

Guy Data *(cont'd)*

Guy Elevation ft	Cable Weight A K	Cable Weight B K	Cable Weight C K	Cable Weight D K	Tower Intercept A ft	Tower Intercept B ft	Tower Intercept C ft	Tower Intercept D ft
591.75	1.14	1.07	0.95		41.73 11.2 sec/pulse	36.61 10.4 sec/pulse	29.31 9.3 sec/pulse	
531.95	1.38	1.28	1.13		35.26 10.3 sec/pulse	30.58 9.5 sec/pulse	23.95 8.4 sec/pulse	
460.25	1.24	1.15	1.00		28.98 9.3 sec/pulse	24.74 8.6 sec/pulse	18.79 7.5 sec/pulse	
368.05	1.08	0.99	0.84		22.05 8.1 sec/pulse	18.38 7.4 sec/pulse	13.33 6.3 sec/pulse	
275.85	0.84	0.75	0.62		13.30 6.3 sec/pulse	10.62 5.6 sec/pulse	7.38 4.7 sec/pulse	
184.15	0.53	0.46	0.37		9.33 5.3 sec/pulse	7.11 4.6 sec/pulse	4.52 3.7 sec/pulse	
91.95	0.44	0.38	0.30		6.52 4.4 sec/pulse	4.82 3.8 sec/pulse	2.95 3.0 sec/pulse	

Guy Data *(cont'd)*

Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Torque Arm K_x	Torque Arm K_y	Pull Off K_x	Pull Off K_y	Diagonal K_x	Diagonal K_y
591.75	No	No			1	1	1	1
531.95	No	No			1	1	1	1
460.25	No	No			1	1	1	1
368.05	No	No			1	1	1	1
275.85	No	No			1	1	1	1
184.15	No	No			1	1	1	1
91.95	No	No			1	1	1	1

Guy Data *(cont'd)*

Guy Elevation ft	Torque-Arm Bolt Size in	Torque-Arm Number	Torque-Arm Net Width Deduct in	Torque-Arm U	Pull Off Bolt Size in	Pull Off Number	Pull Off Net Width Deduct in	Pull Off U	Diagonal Bolt Size in	Diagonal Number	Diagonal Net Width Deduct in	Diagonal U
591.75	0.0000 A325N	0	0.0000	1	0.0000 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
531.95	0.5000 A325N	4	0.0000	1	0.0000 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
460.25	0.6250 A325N	0	0.0000	0.75	0.0000 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
368.05	0.6250 A325N	0	0.0000	0.75	0.0000 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
275.85	0.6250 A325N	0	0.0000	0.75	0.0000 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
184.15	0.6250 A325N	0	0.0000	0.75	0.0000 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
91.95	0.6250 A325N	0	0.0000	0.75	0.0000 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75

Guy Pressures

Guy Elevation ft	Guy Location	z ft	q_z psf	q_z Ice psf	Ice Thickness in
591.75	A	269.38	34	25	0.5000
	B	289.88	34	26	0.5000
	C	321.38	35	27	0.5000
531.95	A	239.48	33	24	0.5000
	B	259.98	33	25	0.5000
	C	291.48	34	26	0.5000
460.25	A	203.63	31	23	0.5000
	B	224.13	32	24	0.5000
	C	255.63	33	25	0.5000
368.05	A	157.53	29	22	0.5000
	B	178.03	30	22	0.5000
	C	209.53	31	24	0.5000
275.85	A	116.43	27	20	0.5000
	B	133.43	28	21	0.5000
	C	156.93	29	22	0.5000
184.15	A	70.58	23	17	0.5000
	B	87.58	24	18	0.5000
	C	111.08	26	20	0.5000
91.95	A	24.48	18	14	0.5000
	B	41.48	20	15	0.5000
	C	64.98	22	17	0.5000

Guy-Mast Forces (Excluding Wind) - No Ice

Guy Elevation ft	Guy Location	Chord Angle °	Guy Tension Top Bottom K	F_x K	F_y K	F_z K	M_x kip-ft	M_y kip-ft	M_z kip-ft
591.75	A	65.2588	10.24 9.20	0.00	9.40	-4.06	-27.13	0.00	0.00
	B	65.4239	10.17	3.48	9.34	2.01	13.48	0.00	-23.35

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top / Bottom K	F_x	F_y	F_z	M_x	M_y	M_z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
			9.20						
	C	65.8802	10.07	-3.41	9.27	1.97	13.38	-0.00	23.17
			9.20						
			Sum:	**0.08**	28.01	**-0.08**	**-0.26**	0.00	**-0.18**
531.95	A	63.0727	13.43	0.00	12.11	-5.80	-34.96	0.00	0.00
			12.20						
	B	63.0873	13.34	5.00	12.03	2.89	17.36	0.00	-30.07
			12.20						
	C	63.2790	13.21	-4.94	11.91	2.85	17.19	-0.00	29.78
			12.20						
			Sum:	**0.06**	36.05	**-0.05**	**-0.41**	0.00	**-0.29**
460.25	A	59.9340	13.28	0.00	11.65	-6.38	-33.62	0.00	0.00
			12.20						
	B	59.6862	13.19	5.55	11.53	3.20	16.65	0.00	-28.83
			12.20						
	C	59.3913	13.06	-5.57	11.37	3.21	16.41	-0.00	28.42
			12.20						
			Sum:	**-0.02**	34.55	**0.04**	**-0.56**	0.00	**-0.41**
368.05	A	54.7914	13.08	0.00	10.87	-7.28	-31.38	0.00	0.00
			12.20						
	B	54.0009	13.00	6.41	10.68	3.70	15.42	0.00	-26.71
			12.20						
	C	52.6331	12.87	-6.58	10.38	3.80	14.98	-0.00	25.95
			12.20						
			Sum:	**-0.18**	31.93	**0.22**	**-0.97**	0.00	**-0.77**
275.85	A	53.1329	12.87	0.00	10.45	-7.52	-30.15	0.00	0.00
			12.20						
	B	53.1976	12.80	6.48	10.38	3.74	14.98	0.00	-25.95
			12.20						
	C	53.4823	12.70	-6.41	10.32	3.70	14.89	-0.00	25.79
			12.20						
			Sum:	**0.07**	31.14	**-0.07**	**-0.28**	0.00	**-0.16**
184.15	A	43.5302	9.57	0.00	6.73	-6.80	-19.42	0.00	0.00
			9.20						
	B	42.1868	9.51	6.00	6.51	3.47	9.40	0.00	-16.28
			9.20						
	C	39.6881	9.44	-6.21	6.13	3.58	8.85	-0.00	15.34
			9.20						
			Sum:	**-0.21**	19.37	**0.25**	**-1.16**	0.00	**-0.95**
91.95	A	29.4394	9.42	0.00	4.80	-8.10	-13.84	0.00	0.00
			9.20						
	B	25.3465	9.36	7.26	4.16	4.19	6.01	0.00	-10.41
			9.20						
	C	17.0318	9.29	-7.65	2.86	4.42	4.12	-0.00	7.14
			9.20						
			Sum:	**-0.39**	11.81	**0.51**	**-3.71**	0.00	**-3.27**

Guy-Mast Forces (Excluding Wind) - Ice

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top / Bottom K	F_x	F_y	F_z	M_x	M_y	M_z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F_x	F_y	F_z	M_x	M_y	M_z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
591.75	A	65.2588	14.92 13.34	0.00	13.70	-5.91	-39.55	0.00	0.00
	B	65.4239	14.82 13.34	5.07	13.62	2.93	19.66	0.00	-34.05
	C	65.8802	14.67 13.35	-4.95	13.51	2.86	19.50	-0.00	33.78
			Sum:	**0.11**	40.83	**-0.12**	**-0.39**	0.00	**-0.27**
531.95	A	63.0727	19.32 17.56	0.00	17.43	-8.34	-50.31	0.00	0.00
	B	63.0873	19.21 17.58	7.20	17.32	4.16	25.00	0.00	-43.30
	C	63.2790	19.04 17.59	-7.13	17.17	4.12	24.79	-0.00	42.93
			Sum:	**0.08**	51.92	**-0.07**	**-0.52**	0.00	**-0.37**
460.25	A	59.9340	19.12 17.58	0.00	16.77	-9.18	-48.42	0.00	0.00
	B	59.6862	19.02 17.60	8.00	16.63	4.62	24.00	0.00	-41.57
	C	59.3913	18.86 17.63	-8.04	16.42	4.64	23.69	-0.00	41.04
			Sum:	**-0.04**	49.82	**0.07**	**-0.72**	0.00	**-0.53**
368.05	A	54.7914	18.89 17.62	0.00	15.69	-10.52	-45.29	0.00	0.00
	B	54.0009	18.78 17.63	9.26	15.44	5.35	22.28	0.00	-38.59
	C	52.6331	18.62 17.66	-9.53	15.02	5.50	21.68	-0.00	37.55
			Sum:	**-0.27**	46.14	**0.34**	**-1.33**	0.00	**-1.05**
275.85	A	53.1329	18.62 17.66	0.00	15.12	-10.88	-43.63	0.00	0.00
	B	53.1976	18.54 17.68	9.39	15.04	5.42	21.70	0.00	-37.59
	C	53.4823	18.42 17.71	-9.31	14.96	5.37	21.60	-0.00	37.41
			Sum:	**0.09**	45.11	**-0.09**	**-0.34**	0.00	**-0.18**
184.15	A	43.5302	14.03 13.48	0.00	9.88	-9.97	-28.51	0.00	0.00
	B	42.1868	13.94 13.47	8.79	9.55	5.08	13.79	0.00	-23.89
	C	39.6881	13.83 13.47	-9.10	9.00	5.25	12.99	-0.00	22.50
			Sum:	**-0.31**	28.43	**0.36**	**-1.73**	0.00	**-1.39**
91.95	A	29.4394	13.83 13.50	0.00	7.05	-11.90	-20.36	0.00	0.00
	B	25.3465	13.75 13.51	10.67	6.12	6.16	8.84	0.00	-15.31
	C	17.0318	13.64 13.51	-11.24	4.20	6.49	6.07	-0.00	10.51
			Sum:	**-0.58**	17.38	**0.75**	**-5.46**	0.00	**-4.80**

Guy-Mast Forces (Excluding Wind) - Service

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F_x	F_y	F_z	M_x	M_y	M_z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
591.75	A	65.2588	10.24 9.20	0.00	9.40	-4.06	-27.13	0.00	0.00
	B	65.4239	10.17 9.20	3.48	9.34	2.01	13.48	0.00	-23.35
	C	65.8802	10.07 9.20	-3.41	9.27	1.97	13.38	-0.00	23.17
			Sum:	**0.08**	28.01	**-0.08**	**-0.26**	0.00	**-0.18**
531.95	A	63.0727	13.43 12.20	0.00	12.11	-5.80	-34.96	0.00	0.00
	B	63.0873	13.34 12.20	5.00	12.03	2.89	17.36	0.00	-30.07
	C	63.2790	13.21 12.20	-4.94	11.91	2.85	17.19	-0.00	29.78
			Sum:	**0.06**	36.05	**-0.05**	**-0.41**	0.00	**-0.29**
460.25	A	59.9340	13.28 12.20	0.00	11.65	-6.38	-33.62	0.00	0.00
	B	59.6862	13.19 12.20	5.55	11.53	3.20	16.65	0.00	-28.83
	C	59.3913	13.06 12.20	-5.57	11.37	3.21	16.41	-0.00	28.42
			Sum:	**-0.02**	34.55	**0.04**	**-0.56**	0.00	**-0.41**
368.05	A	54.7914	13.08 12.20	0.00	10.87	-7.28	-31.38	0.00	0.00
	B	54.0009	13.00 12.20	6.41	10.68	3.70	15.42	0.00	-26.71
	C	52.6331	12.87 12.20	-6.58	10.38	3.80	14.98	-0.00	25.95
			Sum:	**-0.18**	31.93	**0.22**	**-0.97**	0.00	**-0.77**
275.85	A	53.1329	12.87 12.20	0.00	10.45	-7.52	-30.15	0.00	0.00
	B	53.1976	12.80 12.20	6.48	10.38	3.74	14.98	0.00	-25.95
	C	53.4823	12.70 12.20	-6.41	10.32	3.70	14.89	-0.00	25.79
			Sum:	**0.07**	31.14	**-0.07**	**-0.28**	0.00	**-0.16**
184.15	A	43.5302	9.57 9.20	0.00	6.73	-6.80	-19.42	0.00	0.00
	B	42.1868	9.51 9.20	6.00	6.51	3.47	9.40	0.00	-16.28
	C	39.6881	9.44 9.20	-6.21	6.13	3.58	8.85	-0.00	15.34
			Sum:	**-0.21**	19.37	**0.25**	**-1.16**	0.00	**-0.95**
91.95	A	29.4394	9.42 9.20	0.00	4.80	-8.10	-13.84	0.00	0.00
	B	25.3465	9.36 9.20	7.26	4.16	4.19	6.01	0.00	-10.41
	C	17.0318	9.29 9.20	-7.65	2.86	4.42	4.12	-0.00	7.14
			Sum:	**-0.39**	11.81	**0.51**	**-3.71**	0.00	**-3.27**

Guy-Tensioning Information

Temperature At Time Of Tensioning						
0 F	20 F	40 F	60 F	80 F	100 F	120 F

Guy Elevation ft		H ft	V ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft
591.75	A	297.11	644.75	9.824	39.19	9.613	40.01	9.406	40.86	9.200	41.73	8.997	42.62	8.796	43.55	8.599	44.50
	B	276.11	603.75	9.830	34.36	9.618	35.09	9.408	35.84	9.200	36.61	8.994	37.41	8.791	38.24	8.591	39.09
	C	242.11	540.75	9.830	27.50	9.618	28.08	9.408	28.69	9.200	29.31	8.994	29.96	8.790	30.62	8.587	31.31
531.95	A	297.11	584.95	13.162	32.78	12.837	33.57	12.517	34.40	12.200	35.26	11.888	36.14	11.580	37.06	11.277	38.01
	B	276.11	543.95	13.190	28.37	12.859	29.07	12.524	29.82	12.200	30.58	11.880	31.37	11.565	32.19	11.254	33.04
	C	242.11	480.95	13.202	22.19	12.865	22.75	12.531	23.34	12.200	23.95	11.873	24.58	11.549	25.25	11.230	25.94
460.25	A	297.11	513.25	13.378	26.51	12.980	27.30	12.587	28.12	12.200	28.98	11.820	29.87	11.447	30.81	11.081	31.78
	B	276.11	472.25	13.423	22.56	13.009	23.25	12.602	23.98	12.200	24.74	11.805	25.54	11.416	26.37	11.035	27.25
	C	242.11	409.25	13.487	17.04	13.053	17.59	12.624	18.17	12.200	18.79	11.782	19.43	11.370	20.11	10.965	20.83
368.05	A	297.11	421.05	13.765	19.61	13.233	20.37	12.711	21.19	12.200	22.05	11.700	22.96	11.213	23.92	10.739	24.94
	B	276.11	380.05	13.864	16.23	13.299	16.90	12.744	17.62	12.200	18.38	11.667	19.20	11.148	20.06	10.643	20.98
	C	242.11	317.05	14.036	11.62	13.414	12.14	12.802	12.71	12.200	13.33	11.610	13.99	11.033	14.70	10.471	15.46
275.85	A	239.11	318.85	13.998	11.62	13.390	12.14	12.790	12.70	12.200	13.30	11.621	13.94	11.055	14.64	10.503	15.39
	B	213.11	284.85	14.034	9.26	13.415	9.68	12.803	10.13	12.200	10.62	11.606	11.16	11.023	11.73	10.453	12.36
	C	176.11	237.85	14.063	6.42	13.437	6.71	12.815	7.03	12.200	7.38	11.592	7.76	10.993	8.18	10.403	8.63
184.15	A	239.11	227.15	11.217	7.67	10.531	8.17	9.858	8.71	9.200	9.33	8.562	10.01	7.947	10.77	7.360	11.61
	B	213.11	193.15	11.352	5.78	10.622	6.17	9.904	6.62	9.200	7.11	8.515	7.68	7.852	8.31	7.217	9.03
	C	176.11	146.15	11.592	3.60	10.784	3.86	9.985	4.17	9.200	4.52	8.431	4.93	7.684	5.40	6.965	5.95
91.95	A	239.11	134.95	12.131	4.95	11.128	5.40	10.149	5.91	9.200	6.52	8.292	7.22	7.436	8.04	6.646	8.98
	B	213.11	100.95	12.431	3.57	11.330	3.92	10.250	4.33	9.200	4.82	8.192	5.41	7.240	6.11	6.363	6.95
	C	176.11	53.95	12.921	2.10	11.660	2.33	10.417	2.61	9.200	2.95	8.024	3.38	6.908	3.93	5.884	4.61

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
4" Coax (Unknown)	C	Yes	Ar (CfAe)	590.00 - 8.00	0.5000	0	1	1	4.0000	4.0000		5.50
3" Coax (Unknown)	A	Yes	Ar (CfAe)	550.00 - 475.00	0.5000	0.25	1	1	3.0100	3.0100		3.00
3" Coax (Unknown)	B	Yes	Ar (CfAe)	475.00 - 8.00	0.5000	-0.42	1	1	3.0100	3.0100		3.00
LDF5-50A (7/8 FOAM) (Unknown)	A	Yes	Ar (CaAa)	400.00 - 8.00	0.5000	-0.08	1	1	1.0900	1.0900		0.33
LDF4.5-50 (5/8 FOAM) (Unknown)	A	Yes	Ar (CfAe)	425.00 - 8.00	0.5000	-0.05	1	1	0.8700	0.8700		0.15
LDF5-50A (7/8 FOAM) (Unknown)	A	Yes	Ar (CaAa)	400.00 - 8.00	0.5000	-0.02	1	1	1.0900	1.0900		0.33
LDF5-50A (7/8 FOAM) (Unknown)	A	Yes	Ar (CaAa)	395.00 - 8.00	0.5000	0.01	1	1	1.0900	1.0900		0.33
LDF5-50A (7/8 FOAM) (Unknown)	A	Yes	Ar (CaAa)	353.00 - 8.00	0.5000	0.04	1	1	1.0900	1.0900		0.33
LDF5-50A (7/8 FOAM) (Unknown)	A	Yes	Ar (CaAa)	300.00 - 8.00	0.5000	0.32	1	1	1.0900	1.0900		0.33
LDF5-50A (7/8 FOAM) (Unknown)	A	Yes	Ar (CaAa)	250.00 - 8.00	0.5000	0.35	1	1	1.0900	1.0900		0.33
LDF7-50A (1-5/8 FOAM) (AT&T)	C	Yes	Ar (CfAe)	180.00 - 8.00	0.5000	0.25	6	6	1.0000 1.9800	1.9800		0.82
Safety Line 5/8	C	No	Ar (CfAe)	592.00 - 8.00	0.0000	-0.3	1	1	0.8800	0.8800		0.40
#8 AWG Copper WIre (AT&T)	C	Yes	Ar (CfAe)	180.00 - 8.00	0.0000	0.07	2	2	0.2500	0.1285		0.05

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
RG6-Fiber (AT&T)	C	Yes	Ar (CfAe)	180.00 - 8.00	0.0000	0.05	1	1	0.5000	0.5000		1.00
1 5/8 (Unknown)	A	Yes	Ar (CfAe)	145.00 - 8.00	-1.0000	0.07	1	1	1.9800	1.9800		1.04
1 5/8 (Unknown)	A	Yes	Ar (CfAe)	490.00 - 8.00	-1.0000	0.13	1	1	1.9800	1.9800		1.04

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	625.00-592.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
T1	592.00-580.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	4.213	0.000	0.000	0.000	0.06
T2	580.00-560.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	8.133	0.000	0.000	0.000	0.12
T3	560.00-540.00	A	2.508	0.000	0.000	0.000	0.03
		B	0.000	0.000	0.000	0.000	0.00
		C	8.133	0.000	0.000	0.000	0.12
T4	540.00-520.00	A	5.017	0.000	0.000	0.000	0.06
		B	0.000	0.000	0.000	0.000	0.00
		C	8.133	0.000	0.000	0.000	0.12
T5	520.00-500.00	A	5.017	0.000	0.000	0.000	0.06
		B	0.000	0.000	0.000	0.000	0.00
		C	8.133	0.000	0.000	0.000	0.12
T6	500.00-480.00	A	6.667	0.000	0.000	0.000	0.07
		B	0.000	0.000	0.000	0.000	0.00
		C	8.133	0.000	0.000	0.000	0.12
T7	480.00-460.00	A	4.554	0.000	0.000	0.000	0.04
		B	3.762	0.000	0.000	0.000	0.04
		C	8.133	0.000	0.000	0.000	0.12
T8	460.00-440.00	A	3.300	0.000	0.000	0.000	0.02
		B	5.017	0.000	0.000	0.000	0.06
		C	8.133	0.000	0.000	0.000	0.12
T9	440.00-420.00	A	3.662	0.000	0.000	0.000	0.02
		B	5.017	0.000	0.000	0.000	0.06
		C	8.133	0.000	0.000	0.000	0.12
T10	420.00-400.00	A	4.750	0.000	0.000	0.000	0.02
		B	5.017	0.000	0.000	0.000	0.06
		C	8.133	0.000	0.000	0.000	0.12
T11	400.00-380.00	A	4.750	0.000	5.995	0.000	0.04
		B	5.017	0.000	0.000	0.000	0.06
		C	8.133	0.000	0.000	0.000	0.12
T12	380.00-360.00	A	4.750	0.000	6.540	0.000	0.04
		B	5.017	0.000	0.000	0.000	0.06
		C	8.133	0.000	0.000	0.000	0.12
T13	360.00-340.00	A	4.750	0.000	7.957	0.000	0.05
		B	5.017	0.000	0.000	0.000	0.06
		C	8.133	0.000	0.000	0.000	0.12
T14	340.00-320.00	A	4.750	0.000	8.720	0.000	0.05
		B	5.017	0.000	0.000	0.000	0.06
		C	8.133	0.000	0.000	0.000	0.12

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T15	320.00-300.00	A	4.750	0.000	8.720	0.000	0.05
		B	5.017	0.000	0.000	0.000	0.06
		C	8.133	0.000	0.000	0.000	0.12
T16	300.00-280.00	A	4.750	0.000	10.900	0.000	0.06
		B	5.017	0.000	0.000	0.000	0.06
		C	8.133	0.000	0.000	0.000	0.12
T17	280.00-260.00	A	4.750	0.000	10.900	0.000	0.06
		B	5.017	0.000	0.000	0.000	0.06
		C	8.133	0.000	0.000	0.000	0.12
T18	260.00-240.00	A	4.750	0.000	11.990	0.000	0.06
		B	5.017	0.000	0.000	0.000	0.06
		C	8.133	0.000	0.000	0.000	0.12
T19	240.00-220.00	A	4.750	0.000	13.080	0.000	0.06
		B	5.017	0.000	0.000	0.000	0.06
		C	8.133	0.000	0.000	0.000	0.12
T20	220.00-200.00	A	4.750	0.000	13.080	0.000	0.06
		B	5.017	0.000	0.000	0.000	0.06
		C	8.133	0.000	0.000	0.000	0.12
T21	200.00-180.00	A	4.750	0.000	13.080	0.000	0.06
		B	5.017	0.000	0.000	0.000	0.06
		C	8.133	0.000	0.000	0.000	0.12
T22	180.00-160.00	A	4.750	0.000	13.080	0.000	0.06
		B	5.017	0.000	0.000	0.000	0.06
		C	29.195	0.000	0.000	0.000	0.24
T23	160.00-140.00	A	5.575	0.000	13.080	0.000	0.07
		B	5.017	0.000	0.000	0.000	0.06
		C	29.195	0.000	0.000	0.000	0.24
T24	140.00-120.00	A	8.050	0.000	13.080	0.000	0.08
		B	5.017	0.000	0.000	0.000	0.06
		C	29.195	0.000	0.000	0.000	0.24
T25	120.00-100.00	A	8.050	0.000	13.080	0.000	0.08
		B	5.017	0.000	0.000	0.000	0.06
		C	29.195	0.000	0.000	0.000	0.24
T26	100.00-80.00	A	8.050	0.000	13.080	0.000	0.08
		B	5.017	0.000	0.000	0.000	0.06
		C	29.195	0.000	0.000	0.000	0.24
T27	80.00-60.00	A	8.050	0.000	13.080	0.000	0.08
		B	5.017	0.000	0.000	0.000	0.06
		C	29.195	0.000	0.000	0.000	0.24
T28	60.00-40.00	A	8.050	0.000	13.080	0.000	0.08
		B	5.017	0.000	0.000	0.000	0.06
		C	29.195	0.000	0.000	0.000	0.24
T29	40.00-20.00	A	8.050	0.000	13.080	0.000	0.08
		B	5.017	0.000	0.000	0.000	0.06
		C	29.195	0.000	0.000	0.000	0.24
T30	20.00-8.00	A	4.830	0.000	7.848	0.000	0.05
		B	3.010	0.000	0.000	0.000	0.04
		C	17.517	0.000	0.000	0.000	0.14
T31	8.00-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	625.00-592.00	A	0.500	0.000	0.000	0.000	0.000	0.00

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
T1	592.00-580.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		6.047	0.000	0.000	0.000	0.10
T2	580.00-560.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		11.467	0.000	0.000	0.000	0.19
T3	560.00-540.00	A	0.500	3.342	0.000	0.000	0.000	0.05
		B		0.000	0.000	0.000	0.000	0.00
		C		11.467	0.000	0.000	0.000	0.19
T4	540.00-520.00	A	0.500	6.683	0.000	0.000	0.000	0.10
		B		0.000	0.000	0.000	0.000	0.00
		C		11.467	0.000	0.000	0.000	0.19
T5	520.00-500.00	A	0.500	6.683	0.000	0.000	0.000	0.10
		B		0.000	0.000	0.000	0.000	0.00
		C		11.467	0.000	0.000	0.000	0.19
T6	500.00-480.00	A	0.500	9.167	0.000	0.000	0.000	0.13
		B		0.000	0.000	0.000	0.000	0.00
		C		11.467	0.000	0.000	0.000	0.19
T7	480.00-460.00	A	0.500	6.638	0.000	0.000	0.000	0.08
		B		5.013	0.000	0.000	0.000	0.08
		C		11.467	0.000	0.000	0.000	0.19
T8	460.00-440.00	A	0.500	4.967	0.000	0.000	0.000	0.05
		B		6.683	0.000	0.000	0.000	0.10
		C		11.467	0.000	0.000	0.000	0.19
T9	440.00-420.00	A	0.500	5.746	0.000	0.000	0.000	0.06
		B		6.683	0.000	0.000	0.000	0.10
		C		11.467	0.000	0.000	0.000	0.19
T10	420.00-400.00	A	0.500	8.083	0.000	0.000	0.000	0.07
		B		6.683	0.000	0.000	0.000	0.10
		C		11.467	0.000	0.000	0.000	0.19
T11	400.00-380.00	A	0.500	8.083	0.000	11.495	0.000	0.14
		B		6.683	0.000	0.000	0.000	0.10
		C		11.467	0.000	0.000	0.000	0.19
T12	380.00-360.00	A	0.500	8.083	0.000	12.540	0.000	0.15
		B		6.683	0.000	0.000	0.000	0.10
		C		11.467	0.000	0.000	0.000	0.19
T13	360.00-340.00	A	0.500	8.083	0.000	15.257	0.000	0.17
		B		6.683	0.000	0.000	0.000	0.10
		C		11.467	0.000	0.000	0.000	0.19
T14	340.00-320.00	A	0.500	8.083	0.000	16.720	0.000	0.17
		B		6.683	0.000	0.000	0.000	0.10
		C		11.467	0.000	0.000	0.000	0.19
T15	320.00-300.00	A	0.500	8.083	0.000	16.720	0.000	0.17
		B		6.683	0.000	0.000	0.000	0.10
		C		11.467	0.000	0.000	0.000	0.19
T16	300.00-280.00	A	0.500	8.083	0.000	20.900	0.000	0.20
		B		6.683	0.000	0.000	0.000	0.10
		C		11.467	0.000	0.000	0.000	0.19
T17	280.00-260.00	A	0.500	8.083	0.000	20.900	0.000	0.20
		B		6.683	0.000	0.000	0.000	0.10
		C		11.467	0.000	0.000	0.000	0.19
T18	260.00-240.00	A	0.500	8.083	0.000	22.990	0.000	0.21
		B		6.683	0.000	0.000	0.000	0.10
		C		11.467	0.000	0.000	0.000	0.19
T19	240.00-220.00	A	0.500	8.083	0.000	25.080	0.000	0.23
		B		6.683	0.000	0.000	0.000	0.10
		C		11.467	0.000	0.000	0.000	0.19
T20	220.00-200.00	A	0.500	8.083	0.000	25.080	0.000	0.23
		B		6.683	0.000	0.000	0.000	0.10

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C		11.467	0.000	0.000	0.000	0.19
T21	200.00-180.00	A	0.500	8.083	0.000	25.080	0.000	0.23
		B		6.683	0.000	0.000	0.000	0.10
		C		11.467	0.000	0.000	0.000	0.19
T22	180.00-160.00	A	0.500	8.083	0.000	25.080	0.000	0.23
		B		6.683	0.000	0.000	0.000	0.10
		C		20.814	25.464	0.000	0.000	0.59
T23	160.00-140.00	A	0.500	9.325	0.000	25.080	0.000	0.24
		B		6.683	0.000	0.000	0.000	0.10
		C		20.814	25.464	0.000	0.000	0.59
T24	140.00-120.00	A	0.500	13.050	0.000	25.080	0.000	0.28
		B		6.683	0.000	0.000	0.000	0.10
		C		20.814	25.464	0.000	0.000	0.59
T25	120.00-100.00	A	0.500	13.050	0.000	25.080	0.000	0.28
		B		6.683	0.000	0.000	0.000	0.10
		C		20.814	25.464	0.000	0.000	0.59
T26	100.00-80.00	A	0.500	13.050	0.000	25.080	0.000	0.28
		B		6.683	0.000	0.000	0.000	0.10
		C		20.814	25.464	0.000	0.000	0.59
T27	80.00-60.00	A	0.500	13.050	0.000	25.080	0.000	0.28
		B		6.683	0.000	0.000	0.000	0.10
		C		20.814	25.464	0.000	0.000	0.59
T28	60.00-40.00	A	0.500	13.050	0.000	25.080	0.000	0.28
		B		6.683	0.000	0.000	0.000	0.10
		C		20.814	25.464	0.000	0.000	0.59
T29	40.00-20.00	A	0.500	13.050	0.000	25.080	0.000	0.28
		B		6.683	0.000	0.000	0.000	0.10
		C		20.814	25.464	0.000	0.000	0.59
T30	20.00-8.00	A	0.500	7.830	0.000	15.048	0.000	0.17
		B		4.010	0.000	0.000	0.000	0.06
		C		12.489	15.278	0.000	0.000	0.35
T31	8.00-0.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00

Feed Line Shielding

Section	Elevation ft	Face	A_R ft^2	A_R Ice ft^2	A_F ft^2	A_F Ice ft^2
L1	625.00-592.00		0.000	0.000	0.000	0.000
			0.000	0.000	0.000	0.000
			0.000	0.000	0.000	0.000
T1	592.00-580.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	0.131	0.499	0.197	0.246
T2	580.00-560.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	0.220	0.924	0.417	0.521
T3	560.00-540.00	A	0.083	0.370	0.157	0.209
		B	0.000	0.000	0.000	0.000
		C	0.220	0.924	0.417	0.521
T4	540.00-520.00	A	0.199	0.785	0.282	0.376
		B	0.000	0.000	0.000	0.000
		C	0.264	0.979	0.375	0.469
T5	520.00-500.00	A	0.166	0.741	0.314	0.418
		B	0.000	0.000	0.000	0.000

Section	Elevation ft	Face	A_R ft^2	A_R Ice ft^2	A_F ft^2	A_F Ice ft^2
		C	0.220	0.924	0.417	0.521
T6	500.00-480.00	A	0.220	1.016	0.417	0.573
		B	0.000	0.000	0.000	0.000
		C	0.220	0.924	0.417	0.521
T7	480.00-460.00	A	0.180	0.780	0.256	0.373
		B	0.149	0.589	0.212	0.282
		C	0.264	0.979	0.375	0.469
T8	460.00-440.00	A	0.131	0.583	0.206	0.310
		B	0.199	0.785	0.314	0.418
		C	0.264	0.979	0.417	0.521
T9	440.00-420.00	A	0.121	0.637	0.229	0.359
		B	0.166	0.741	0.314	0.418
		C	0.220	0.924	0.417	0.521
T10	420.00-400.00	A	0.157	0.896	0.297	0.505
		B	0.166	0.741	0.314	0.418
		C	0.220	0.924	0.417	0.521
T11	400.00-380.00	A	0.322	1.958	0.609	1.104
		B	0.166	0.741	0.314	0.418
		C	0.220	0.924	0.417	0.521
T12	380.00-360.00	A	0.472	2.300	0.574	1.043
		B	0.232	0.829	0.282	0.376
		C	0.308	1.034	0.375	0.469
T13	360.00-340.00	A	0.376	2.306	0.711	1.300
		B	0.166	0.741	0.314	0.418
		C	0.220	0.924	0.417	0.521
T14	340.00-320.00	A	0.397	2.441	0.751	1.376
		B	0.166	0.741	0.314	0.418
		C	0.220	0.924	0.417	0.521
T15	320.00-300.00	A	0.397	2.441	0.751	1.376
		B	0.166	0.741	0.314	0.418
		C	0.220	0.924	0.417	0.521
T16	300.00-280.00	A	0.548	2.996	0.865	1.594
		B	0.199	0.785	0.314	0.418
		C	0.264	0.979	0.417	0.521
T17	280.00-260.00	A	0.548	2.996	0.778	1.434
		B	0.199	0.785	0.282	0.376
		C	0.264	0.979	0.375	0.469
T18	260.00-240.00	A	0.487	3.020	0.921	1.703
		B	0.166	0.741	0.314	0.418
		C	0.220	0.924	0.417	0.521
T19	240.00-220.00	A	0.517	3.213	0.978	1.811
		B	0.166	0.741	0.314	0.418
		C	0.220	0.924	0.417	0.521
T20	220.00-200.00	A	0.517	3.213	0.978	1.811
		B	0.166	0.741	0.314	0.418
		C	0.220	0.924	0.417	0.521
T21	200.00-180.00	A	0.724	3.596	0.880	1.630
		B	0.232	0.829	0.282	0.376
		C	0.308	1.034	0.375	0.469
T22	180.00-160.00	A	0.620	3.405	0.978	1.811
		B	0.199	0.785	0.314	0.418
		C	1.099	5.068	1.733	2.697
T23	160.00-140.00	A	0.544	3.351	1.030	1.889
		B	0.166	0.741	0.314	0.418
		C	0.916	4.783	1.733	2.697
T24	140.00-120.00	A	0.626	3.764	1.184	2.122
		B	0.166	0.741	0.314	0.418
		C	0.916	4.783	1.733	2.697
T25	120.00-100.00	A	0.751	3.988	1.184	2.122
		B	0.199	0.785	0.314	0.418
		C	1.099	5.068	1.733	2.697

Section	Elevation	Face	A_R	A_R Ice	A_F	A_F Ice
	ft		ft^2	ft^2	ft^2	ft^2
T26	100.00-80.00	A	0.751	3.988	1.066	1.910
		B	0.199	0.785	0.282	0.376
		C	1.099	5.068	1.560	2.427
T27	80.00-60.00	A	0.626	3.764	1.184	2.122
		B	0.166	0.741	0.314	0.418
		C	0.916	4.783	1.733	2.697
T28	60.00-40.00	A	0.626	3.764	1.184	2.122
		B	0.166	0.741	0.314	0.418
		C	0.916	4.783	1.733	2.697
T29	40.00-20.00	A	0.626	3.764	1.184	2.122
		B	0.166	0.741	0.314	0.418
		C	0.916	4.783	1.733	2.697
T30	20.00-8.00	A	0.373	2.304	0.790	1.415
		B	0.099	0.454	0.209	0.278
		C	0.546	2.928	1.155	1.798
T31	8.00-0.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000

Feed Line Center of Pressure

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L1	625.00-592.00	0.0000	0.0000	0.0000	0.0000
T1	592.00-580.00	0.4600	2.1838	0.6069	1.8153
T2	580.00-560.00	0.4585	2.5280	0.6092	2.0758
T3	560.00-540.00	0.0910	1.5735	0.3239	1.3594
T4	540.00-520.00	-0.2398	0.6621	0.0537	0.6670
T5	520.00-500.00	-0.2405	0.6632	0.0535	0.6677
T6	500.00-480.00	-0.4471	0.3221	-0.1355	0.3654
T7	480.00-460.00	0.0289	-0.4332	0.2087	-0.2689
T8	460.00-440.00	0.2407	-0.5563	0.3766	-0.3704
T9	440.00-420.00	0.1639	-0.6053	0.2756	-0.4205
T10	420.00-400.00	-0.0776	-0.6872	-0.0351	-0.5285
T11	400.00-380.00	-1.0440	-0.9499	-1.1074	-0.8519
T12	380.00-360.00	-1.0472	-0.9298	-1.1278	-0.8537
T13	360.00-340.00	-1.2015	-1.0452	-1.2807	-0.9724
T14	340.00-320.00	-1.2640	-1.0896	-1.3442	-1.0213
T15	320.00-300.00	-1.2640	-1.0896	-1.3442	-1.0213
T16	300.00-280.00	-1.2274	-1.3950	-1.3112	-1.3761
T17	280.00-260.00	-1.2527	-1.4240	-1.3318	-1.3980
T18	260.00-240.00	-1.2547	-1.5995	-1.3276	-1.5852
T19	240.00-220.00	-1.2552	-1.7616	-1.3227	-1.7569
T20	220.00-200.00	-1.2552	-1.7616	-1.3227	-1.7569
T21	200.00-180.00	-1.2284	-1.7242	-1.3012	-1.7286
T22	180.00-160.00	-2.9025	0.8912	-2.3896	0.1589
T23	160.00-140.00	-2.9966	0.8456	-2.4627	0.1165
T24	140.00-120.00	-3.1193	0.6634	-2.5729	-0.0279
T25	120.00-100.00	-3.0651	0.6516	-2.5358	-0.0318
T26	100.00-80.00	-3.0675	0.6524	-2.5470	-0.0278
T27	80.00-60.00	-3.0703	0.6530	-2.5490	-0.0276
T28	60.00-40.00	-3.0703	0.6530	-2.5490	-0.0276
T29	40.00-20.00	-3.0703	0.6530	-2.5490	-0.0276
T30	20.00-8.00	-3.0166	0.6413	-2.4983	-0.0330
T31	8.00-0.00	0.0000	0.0000	0.0000	0.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
SHPX-4AC-Radomes	A	None		0.0000	612.50	No Ice	39.00	39.00	0.68
(Unknown)						1/2" Ice	47.00	47.00	1.30
SHPX-2AC	A	From Leg	1.00	0.0000	550.00	No Ice	12.00	12.00	0.25
(Unknown)			0.00			1/2" Ice	15.00	15.00	0.41
			0.00						
DB540K-E	B	From Leg	4.00	0.0000	400.00	No Ice	4.50	4.50	0.07
(Unknown)			0.00			1/2" Ice	6.33	6.33	0.10
			10.00						
Generic 4'x8' Sidearm	B	From Leg	2.00	0.0000	400.00	No Ice	4.00	8.00	0.50
(Unknown)			0.00			1/2" Ice	5.50	9.50	0.55
			0.00						
DB224	A	From Leg	4.00	0.0000	400.00	No Ice	3.15	3.15	0.03
(Unknown)			0.00			1/2" Ice	5.67	5.67	0.04
			11.00						
Generic 4'x8' Sidearm	A	From Leg	2.00	0.0000	400.00	No Ice	4.00	8.00	0.50
(Unknown)			0.00			1/2" Ice	5.50	9.50	0.55
			0.00						
PR-950	B	From Leg	1.00	0.0000	395.00	No Ice	6.35	6.35	0.04
(Unknown)			0.00			1/2" Ice	11.43	11.43	0.05
			0.00						
14' x 3" Dia Omni	B	From Leg	4.00	0.0000	353.00	No Ice	4.20	4.20	0.04
(Unknown)			0.00			1/2" Ice	5.63	5.63	0.07
			8.00						
Generic 4'x8' Sidearm	B	From Leg	2.00	0.0000	353.00	No Ice	4.00	8.00	0.50
(Unknown)			0.00			1/2" Ice	5.50	9.50	0.55
			0.00						
2'-6" x 3" Dia Omni	A	From Leg	4.00	0.0000	348.00	No Ice	0.54	0.54	0.02
(Unknown)			0.00			1/2" Ice	0.70	0.70	0.03
			2.00						
Generic 4'x8' Sidearm	A	From Leg	2.00	0.0000	348.00	No Ice	4.00	8.00	0.50
(Unknown)			0.00			1/2" Ice	5.50	9.50	0.55
			0.00						
2-ft Stand Off	B	From Leg	1.00	0.0000	345.00	No Ice	1.07	1.07	0.02
(Unknown)			0.00			1/2" Ice	1.62	1.62	0.03
			0.00						
MIsc Antenna	B	From Leg	2.00	0.0000	345.00	No Ice	1.05	0.35	0.02
(Unknown)			0.00			1/2" Ice	1.19	0.45	0.02
			0.00						
DB540K-E	B	From Leg	4.00	0.0000	300.00	No Ice	4.50	4.50	0.07
(Unknown)			0.00			1/2" Ice	6.33	6.33	0.10
			10.00						
Generic 4'x8' Sidearm	B	From Leg	2.00	0.0000	300.00	No Ice	4.00	8.00	0.50
(Unknown)			0.00			1/2" Ice	5.50	9.50	0.55
			0.00						
PD620	B	From Leg	4.00	0.0000	250.00	No Ice	4.27	4.27	0.05
(Unknown)			0.00			1/2" Ice	7.68	7.68	0.10
			10.00						
Generic 4'x8' Sidearm	B	From Leg	2.00	0.0000	250.00	No Ice	4.00	8.00	0.50
(Unknown)			0.00			1/2" Ice	5.50	9.50	0.55
			0.00						

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Generic 4'x8' Sidearm	B	From Leg	2.00	0.0000	200.00	No Ice	4.00	8.00	0.50
(Empty)			0.00			1/2" Ice	5.50	9.50	0.55
			0.00						
7770.00	A	From Leg	2.00	0.0000	180.00	No Ice	5.88	2.93	0.04
(AT&T - Existing)			0.00			1/2" Ice	6.31	3.27	0.07
			0.00						
7770.00	B	From Leg	2.00	0.0000	180.00	No Ice	5.88	2.93	0.04
(AT&T - Existing)			0.00			1/2" Ice	6.31	3.27	0.07
			0.00						
7770.00	C	From Leg	2.00	0.0000	180.00	No Ice	5.88	2.93	0.04
(AT&T - Existing)			0.00			1/2" Ice	6.31	3.27	0.07
			0.00						
SBNHH-1D65A	A	From Leg	2.00	0.0000	180.00	No Ice	6.36	3.86	0.04
(AT&T - Proposed)			0.00			1/2" Ice	6.80	4.22	0.08
			0.00						
HPA-65R-BUU-H6	B	From Leg	2.00	0.0000	180.00	No Ice	10.36	6.45	0.05
(AT&T - Proposed)			0.00			1/2" Ice	10.93	6.91	0.11
			0.00						
HPA-65R-BUU-H6	C	From Leg	2.00	0.0000	180.00	No Ice	10.36	6.45	0.05
(AT&T - Proposed)			0.00			1/2" Ice	10.93	6.91	0.11
			0.00						
(2) LGP21401 TMA	A	From Leg	0.50	0.0000	180.00	No Ice	0.95	0.37	0.02
(AT&T - Existing)			0.00			1/2" Ice	1.09	0.48	0.02
			0.00						
(2) LGP21401 TMA	B	From Leg	0.50	0.0000	180.00	No Ice	0.95	0.37	0.02
(AT&T - Existing)			0.00			1/2" Ice	1.09	0.48	0.02
			0.00						
(2) LGP21401 TMA	C	From Leg	0.50	0.0000	180.00	No Ice	0.95	0.37	0.02
(AT&T - Existing)			0.00			1/2" Ice	1.09	0.48	0.02
			0.00						
RRUS-11	A	From Leg	0.50	0.0000	180.00	No Ice	2.99	1.25	0.05
(AT&T - Existing)			0.00			1/2" Ice	3.23	1.41	0.07
			0.00						
RRUS-11	B	From Leg	0.50	0.0000	180.00	No Ice	2.99	1.25	0.05
(AT&T - Existing)			0.00			1/2" Ice	3.23	1.41	0.07
			0.00						
RRUS-11	C	From Leg	0.50	0.0000	180.00	No Ice	2.99	1.25	0.05
(AT&T - Existing)			0.00			1/2" Ice	3.23	1.41	0.07
			0.00						
RRUS-12	A	From Leg	0.50	0.0000	180.00	No Ice	3.67	1.49	0.06
(AT&T - Proposed)			0.00			1/2" Ice	3.93	1.67	0.08
			0.00						
RRUS-12	B	From Leg	0.50	0.0000	180.00	No Ice	3.67	1.49	0.06
(AT&T - Proposed)			0.00			1/2" Ice	3.93	1.67	0.08
			0.00						
RRUS-12	C	From Leg	0.50	0.0000	180.00	No Ice	3.67	1.49	0.06
(AT&T - Proposed)			0.00			1/2" Ice	3.93	1.67	0.08
			0.00						
A2	A	From Leg	0.50	0.0000	180.00	No Ice	2.42	0.54	0.02
(AT&T - Proposed)			0.00			1/2" Ice	2.63	0.67	0.03
			0.00						
A2	B	From Leg	0.50	0.0000	180.00	No Ice	2.42	0.54	0.02
(AT&T - Proposed)			0.00			1/2" Ice	2.63	0.67	0.03
			0.00						
A2	C	From Leg	0.50	0.0000	180.00	No Ice	2.42	0.54	0.02
(AT&T - Proposed)			0.00			1/2" Ice	2.63	0.67	0.03
			0.00						

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
DC6-48-60-18-8F Surge Arrestor (AT&T - Existing)	C	From Leg	0.50 0.00 0.00	0.0000	177.00	No Ice 1/2" Ice	2.23 2.45	2.23 2.45	0.02 0.04
Andrew 4-ft T-Frame SF-DPM-B (AT&T - Existing)	A	From Leg	0.75 0.00 0.00	0.0000	180.00	No Ice 1/2" Ice	3.50 4.68	3.50 4.68	0.26 0.37
Andrew 4-ft T-Frame SF-DPM-B (AT&T - Existing)	B	From Leg	0.75 0.00 0.00	0.0000	180.00	No Ice 1/2" Ice	3.50 4.68	3.50 4.68	0.26 0.37
Andrew 4-ft T-Frame SF-DPM-B (AT&T - Existing)	C	From Leg	0.75 0.00 0.00	0.0000	180.00	No Ice 1/2" Ice	3.50 4.68	3.50 4.68	0.26 0.37

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
4 FT DISH (Unknown)	B	Paraboloid w/o Radome	From Leg	2.00 0.00 0.00	Worst		425.00	4.00	No Ice 1/2" Ice	12.56 13.09	0.17 0.24
8-ft Grid Dish	A	Grid	From Leg	1.00 0.00 0.00	Worst		145.00	8.00	No Ice 1/2" Ice	50.27 51.32	0.05 0.06
6-ft Dish	B	Paraboloid w/o Radome	From Face	1.00 0.00 0.00	Worst		490.00	6.00	No Ice 1/2" Ice	28.27 29.07	0.05 0.06

Tower Pressures - No Ice

G_H = 1.047 (base tower), 1.047 (upper structure)

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1 625.00-592.00	608.53	2.3	43	29.563	A B C	0.000 0.000 0.000	29.563 29.563 29.563	29.563	100.00 100.00 100.00	0.000 0.000 0.000	0.000 0.000 0.000
T1 592.00-580.00	586.00	2.275	42	62.250	A B C	3.409 3.409 3.212	6.774 6.774 10.856	4.500	44.19 44.19 31.99	0.000 0.000 0.000	0.000 0.000 0.000
T2 580.00-560.00	570.00	2.257	42	103.750	A B C	6.016 6.016 5.599	10.679 10.679 18.592	7.500	44.93 44.93 31.00	0.000 0.000 0.000	0.000 0.000 0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T3	550.00	2.234	41	103.750	A	5.859	13.104	7.500	39.55	0.000	0.000
560.00-540.00					B	6.016	10.679		44.93	0.000	0.000
					C	5.599	18.592		31.00	0.000	0.000
T4	530.00	2.211	41	104.167	A	5.108	16.949	8.333	37.78	0.000	0.000
540.00-520.00					B	5.391	12.131		47.56	0.000	0.000
					C	5.016	20.001		33.31	0.000	0.000
T5	510.00	2.186	40	104.167	A	5.676	16.349	8.333	37.84	0.000	0.000
520.00-500.00					B	5.990	11.498		47.65	0.000	0.000
					C	5.573	19.412		33.35	0.000	0.000
T6	490.00	2.162	40	104.167	A	5.573	17.945	8.333	35.43	0.000	0.000
500.00-480.00					B	5.990	11.498		47.65	0.000	0.000
					C	5.573	19.412		33.35	0.000	0.000
T7	470.00	2.136	40	104.583	A	5.111	17.322	9.167	40.86	0.000	0.000
480.00-460.00					B	5.156	16.562		42.21	0.000	0.000
					C	4.992	20.817		35.52	0.000	0.000
T8	450.00	2.11	39	104.583	A	5.757	16.117	9.167	41.91	0.000	0.000
460.00-440.00					B	5.650	17.766		39.15	0.000	0.000
					C	5.547	20.817		34.77	0.000	0.000
T9	430.00	2.082	39	104.583	A	5.735	15.860	9.167	42.45	0.000	0.000
440.00-420.00					B	5.650	17.169		40.17	0.000	0.000
					C	5.547	20.231		35.56	0.000	0.000
T10	410.00	2.054	38	104.583	A	5.667	16.911	9.167	40.60	0.000	0.000
420.00-400.00					B	5.650	17.169		40.17	0.000	0.000
					C	5.547	20.231		35.56	0.000	0.000
T11	390.00	2.025	37	104.583	A	5.354	16.746	9.167	41.48	5.995	0.000
400.00-380.00					B	5.650	17.169		40.17	0.000	0.000
					C	5.547	20.231		35.56	0.000	0.000
T12	370.00	1.995	37	105.000	A	4.770	18.671	10.000	42.66	6.540	0.000
380.00-360.00					B	5.062	19.177		41.26	0.000	0.000
					C	4.969	22.218		36.78	0.000	0.000
T13	350.00	1.963	36	105.000	A	5.226	17.512	10.000	43.98	7.957	0.000
360.00-340.00					B	5.624	17.989		42.35	0.000	0.000
					C	5.521	21.051		37.63	0.000	0.000
T14	330.00	1.931	36	105.000	A	5.186	17.491	10.000	44.10	8.720	0.000
340.00-320.00					B	5.624	17.989		42.35	0.000	0.000
					C	5.521	21.051		37.63	0.000	0.000
T15	310.00	1.897	35	105.000	A	5.186	17.491	10.000	44.10	8.720	0.000
320.00-300.00					B	5.624	17.989		42.35	0.000	0.000
					C	5.521	21.051		37.63	0.000	0.000
T16	290.00	1.861	34	105.417	A	5.047	18.784	10.833	45.46	10.900	0.000
300.00-280.00					B	5.598	19.400		43.34	0.000	0.000
					C	5.495	22.451		38.77	0.000	0.000
T17	270.00	1.823	34	105.417	A	4.542	18.784	10.833	46.44	10.900	0.000
280.00-260.00					B	5.038	19.400		44.33	0.000	0.000
					C	4.945	22.451		39.54	0.000	0.000
T18	250.00	1.783	33	105.417	A	4.990	18.220	10.833	46.67	11.990	0.000
260.00-240.00					B	5.598	18.808		44.39	0.000	0.000
					C	5.495	21.870		39.59	0.000	0.000
T19	230.00	1.741	32	105.417	A	4.933	18.190	10.833	46.85	13.080	0.000
240.00-220.00					B	5.598	18.808		44.39	0.000	0.000
					C	5.495	21.870		39.59	0.000	0.000
T20	210.00	1.697	31	105.417	A	4.933	18.190	10.833	46.85	13.080	0.000
220.00-200.00					B	5.598	18.808		44.39	0.000	0.000
					C	5.495	21.870		39.59	0.000	0.000
T21	190.00	1.649	30	105.417	A	4.440	19.233	10.833	45.76	13.080	0.000
200.00-180.00					B	5.038	19.991		43.28	0.000	0.000
					C	4.945	23.032		38.72	0.000	0.000
T22	170.00	1.597	30	105.417	A	4.933	18.712	10.833	45.82	13.080	0.000
180.00-160.00					B	5.598	19.400		43.34	0.000	0.000
					C	4.178	42.678		23.12	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T23	150.00	1.541	29	105.417	A	4.882	18.988	10.833	45.39	13.080	0.000
160.00-140.00					B	5.598	18.808		44.39	0.000	0.000
					C	4.178	42.236		23.34	0.000	0.000
T24	130.00	1.48	27	105.417	A	4.727	21.381	10.833	41.49	13.080	0.000
140.00-120.00					B	5.598	18.808		44.39	0.000	0.000
					C	4.178	42.236		23.34	0.000	0.000
T25	110.00	1.411	26	105.417	A	4.727	21.881	10.833	40.71	13.080	0.000
120.00-100.00					B	5.598	19.400		43.34	0.000	0.000
					C	4.178	42.678		23.12	0.000	0.000
T26	90.00	1.332	25	105.833	A	4.231	22.698	11.667	43.32	13.080	0.000
100.00-80.00					B	5.015	20.217		46.24	0.000	0.000
					C	3.737	43.495		24.70	0.000	0.000
T27	70.00	1.24	23	105.833	A	4.701	22.201	11.667	43.37	13.080	0.000
80.00-60.00					B	5.572	19.628		46.30	0.000	0.000
					C	4.152	43.056		24.71	0.000	0.000
T28	50.00	1.126	21	105.833	A	4.701	22.201	11.667	43.37	13.080	0.000
60.00-40.00					B	5.572	19.628		46.30	0.000	0.000
					C	4.152	43.056		24.71	0.000	0.000
T29	30.00	1	18	105.833	A	4.701	22.201	11.667	43.37	13.080	0.000
40.00-20.00					B	5.572	19.628		46.30	0.000	0.000
					C	4.152	43.056		24.71	0.000	0.000
T30 20.00-8.00	14.00	1	18	63.500	A	3.134	13.311	7.000	42.57	7.848	0.000
					B	3.715	11.765		45.22	0.000	0.000
					C	2.768	25.825		24.48	0.000	0.000
T31 8.00-0.00	4.00	1	18	22.445	A	6.787	4.961	4.961	42.23	0.000	0.000
					B	6.787	4.961		42.23	0.000	0.000
					C	6.787	4.961		42.23	0.000	0.000

Tower Pressure - With Ice

G_H = 1.047 (base tower), 1.047 (upper structure)

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1	608.53	2.3	32	0.5000	32.313	A	0.000	32.313	32.313	100.00	0.000	0.000
625.00-592.00						B	0.000	32.313		100.00	0.000	0.000
						C	0.000	32.313		100.00	0.000	0.000
T1	586.00	2.275	32	0.5000	63.250	A	3.409	13.410	6.500	38.65	0.000	0.000
592.00-580.00						B	3.409	13.410		38.65	0.000	0.000
						C	3.163	18.958		29.38	0.000	0.000
T2	570.00	2.257	31	0.5000	105.417	A	6.016	21.505	10.833	39.37	0.000	0.000
580.00-560.00						B	6.016	21.505		39.37	0.000	0.000
						C	5.495	32.047		28.86	0.000	0.000
T3	550.00	2.234	31	0.5000	105.417	A	5.807	24.476	10.833	35.77	0.000	0.000
560.00-540.00						B	6.016	21.505		39.37	0.000	0.000
						C	5.495	32.047		28.86	0.000	0.000
T4	530.00	2.211	31	0.5000	105.833	A	5.015	28.823	11.667	34.48	0.000	0.000
540.00-520.00						B	5.391	22.925		41.20	0.000	0.000
						C	4.922	33.412		30.43	0.000	0.000
T5	510.00	2.186	30	0.5000	105.833	A	5.572	28.234	11.667	34.51	0.000	0.000
520.00-500.00						B	5.990	22.292		41.25	0.000	0.000
						C	5.469	32.834		30.46	0.000	0.000
T6	490.00	2.162	30	0.5000	105.833	A	5.417	30.442	11.667	32.54	0.000	0.000
500.00-480.00						B	5.990	22.292		41.25	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
						C	5.469	32.834		30.46	0.000	0.000
T7	470.00	2.136	30	0.5000	106.250	A	4.994	29.567	12.500	36.17	0.000	0.000
480.00-460.00						B	5.085	28.133		37.63	0.000	0.000
						C	4.898	34.197		31.97	0.000	0.000
T8	450.00	2.11	29	0.5000	106.250	A	5.653	28.092	12.500	37.04	0.000	0.000
460.00-440.00						B	5.546	29.607		35.56	0.000	0.000
						C	5.443	34.197		31.53	0.000	0.000
T9	430.00	2.082	29	0.5000	106.250	A	5.604	28.188	12.500	36.99	0.000	0.000
440.00-420.00						B	5.546	29.021		36.16	0.000	0.000
						C	5.443	33.622		32.00	0.000	0.000
T10	410.00	2.054	28	0.5000	106.250	A	5.458	30.266	12.500	34.99	0.000	0.000
420.00-400.00						B	5.546	29.021		36.16	0.000	0.000
						C	5.443	33.622		32.00	0.000	0.000
T11	390.00	2.025	28	0.5000	106.250	A	4.860	29.204	12.500	36.70	11.495	0.000
400.00-380.00						B	5.546	29.021		36.16	0.000	0.000
						C	5.443	33.622		32.00	0.000	0.000
T12	370.00	1.995	28	0.5000	106.667	A	4.301	30.905	13.333	37.87	12.540	0.000
380.00-360.00						B	4.968	30.975		37.10	0.000	0.000
						C	4.875	35.554		32.98	0.000	0.000
T13	350.00	1.963	27	0.5000	106.667	A	4.638	29.643	13.333	38.89	15.257	0.000
360.00-340.00						B	5.520	29.808		37.74	0.000	0.000
						C	5.417	34.409		33.48	0.000	0.000
T14	330.00	1.931	27	0.5000	106.667	A	4.561	29.508	13.333	39.14	16.720	0.000
340.00-320.00						B	5.520	29.808		37.74	0.000	0.000
						C	5.417	34.409		33.48	0.000	0.000
T15	310.00	1.897	26	0.5000	106.667	A	4.561	29.508	13.333	39.14	16.720	0.000
320.00-300.00						B	5.520	29.808		37.74	0.000	0.000
						C	5.417	34.409		33.48	0.000	0.000
T16	290.00	1.861	26	0.5000	107.083	A	4.318	30.366	14.167	40.85	20.900	0.000
300.00-280.00						B	5.494	31.176		38.63	0.000	0.000
						C	5.391	35.766		34.42	0.000	0.000
T17	270.00	1.823	25	0.5000	107.083	A	3.886	30.366	14.167	41.36	20.900	0.000
280.00-260.00						B	4.944	31.176		39.22	0.000	0.000
						C	4.852	35.766		34.88	0.000	0.000
T18	250.00	1.783	25	0.5000	107.083	A	4.209	29.716	14.167	41.76	22.990	0.000
260.00-240.00						B	5.494	30.595		39.25	0.000	0.000
						C	5.391	35.196		34.90	0.000	0.000
T19	230.00	1.741	24	0.5000	107.083	A	4.100	29.523	14.167	42.13	25.080	0.000
240.00-220.00						B	5.494	30.595		39.25	0.000	0.000
						C	5.391	35.196		34.90	0.000	0.000
T20	210.00	1.697	24	0.5000	107.083	A	4.100	29.523	14.167	42.13	25.080	0.000
220.00-200.00						B	5.494	30.595		39.25	0.000	0.000
						C	5.391	35.196		34.90	0.000	0.000
T21	190.00	1.649	23	0.5000	107.083	A	3.690	30.390	14.167	41.57	25.080	0.000
200.00-180.00						B	4.944	31.757		38.60	0.000	0.000
						C	4.852	36.335		34.40	0.000	0.000
T22	170.00	1.597	22	0.5000	107.083	A	4.100	29.956	14.167	41.60	25.080	0.000
180.00-160.00						B	5.494	31.176		38.63	0.000	0.000
						C	28.679	41.024		20.32	0.000	0.000
T23	150.00	1.541	21	0.5000	107.083	A	4.022	30.627	14.167	40.89	25.080	0.000
160.00-140.00						B	5.494	30.595		39.25	0.000	0.000
						C	28.679	40.684		20.42	0.000	0.000
T24	130.00	1.48	21	0.5000	107.083	A	3.790	33.939	14.167	37.55	25.080	0.000
140.00-120.00						B	5.494	30.595		39.25	0.000	0.000
						C	28.679	40.684		20.42	0.000	0.000
T25	110.00	1.411	20	0.5000	107.083	A	3.790	34.340	14.167	37.15	25.080	0.000
120.00-100.00						B	5.494	31.176		38.63	0.000	0.000
						C	28.679	41.024		20.32	0.000	0.000
T26	90.00	1.332	18	0.5000	107.500	A	3.387	35.124	15.000	38.95	25.080	0.000
100.00-80.00						B	4.921	31.960		40.67	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
						C	28.334	41.808		21.39	0.000	0.000
T27 80.00-60.00	70.00	1.24	17	0.5000	107.500	A	3.764	34.726	15.000	38.97	25.080	0.000
						B	5.468	31.383		40.71	0.000	0.000
						C	28.653	41.471		21.39	0.000	0.000
T28 60.00-40.00	50.00	1.126	16	0.5000	107.500	A	3.764	34.726	15.000	38.97	25.080	0.000
						B	5.468	31.383		40.71	0.000	0.000
						C	28.653	41.471		21.39	0.000	0.000
T29 40.00-20.00	30.00	1	14	0.5000	107.500	A	3.764	34.726	15.000	38.97	25.080	0.000
						B	5.468	31.383		40.71	0.000	0.000
						C	28.653	41.471		21.39	0.000	0.000
T30 20.00-8.00	14.00	1	14	0.5000	64.500	A	2.509	20.916	9.000	38.42	15.048	0.000
						B	3.645	18.946		39.84	0.000	0.000
						C	17.404	24.951		21.25	0.000	0.000
T31 8.00-0.00	4.00	1	14	0.5000	23.143	A	6.787	8.571	6.379	41.54	0.000	0.000
						B	6.787	8.571		41.54	0.000	0.000
						C	6.787	8.571		41.54	0.000	0.000

Tower Pressure - Service

G_H = 1.047 (base tower), 1.047 (upper structure)

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1	608.53	2.3	15	29.563	A	0.000	29.563	29.563	100.00	0.000	0.000
625.00-592.00					B	0.000	29.563		100.00	0.000	0.000
					C	0.000	29.563		100.00	0.000	0.000
T1	586.00	2.275	15	62.250	A	3.409	6.774	4.500	44.19	0.000	0.000
592.00-580.00					B	3.409	6.774		44.19	0.000	0.000
					C	3.212	10.856		31.99	0.000	0.000
T2	570.00	2.257	14	103.750	A	6.016	10.679	7.500	44.93	0.000	0.000
580.00-560.00					B	6.016	10.679		44.93	0.000	0.000
					C	5.599	18.592		31.00	0.000	0.000
T3	550.00	2.234	14	103.750	A	5.859	13.104	7.500	39.55	0.000	0.000
560.00-540.00					B	6.016	10.679		44.93	0.000	0.000
					C	5.599	18.592		31.00	0.000	0.000
T4	530.00	2.211	14	104.167	A	5.108	16.949	8.333	37.78	0.000	0.000
540.00-520.00					B	5.391	12.131		47.56	0.000	0.000
					C	5.016	20.001		33.31	0.000	0.000
T5	510.00	2.186	14	104.167	A	5.676	16.349	8.333	37.84	0.000	0.000
520.00-500.00					B	5.990	11.498		47.65	0.000	0.000
					C	5.573	19.412		33.35	0.000	0.000
T6	490.00	2.162	14	104.167	A	5.573	17.945	8.333	35.43	0.000	0.000
500.00-480.00					B	5.990	11.498		47.65	0.000	0.000
					C	5.573	19.412		33.35	0.000	0.000
T7	470.00	2.136	14	104.583	A	5.111	17.322	9.167	40.86	0.000	0.000
480.00-460.00					B	5.156	16.562		42.21	0.000	0.000
					C	4.992	20.817		35.52	0.000	0.000
T8	450.00	2.11	14	104.583	A	5.757	16.117	9.167	41.91	0.000	0.000
460.00-440.00					B	5.650	17.766		39.15	0.000	0.000
					C	5.547	20.817		34.77	0.000	0.000
T9	430.00	2.082	13	104.583	A	5.735	15.860	9.167	42.45	0.000	0.000
440.00-420.00					B	5.650	17.169		40.17	0.000	0.000
					C	5.547	20.231		35.56	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg % %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T10	410.00	2.054	13	104.583	A	5.667	16.911	9.167	40.60	0.000	0.000
420.00-400.00					B	5.650	17.169		40.17	0.000	0.000
					C	5.547	20.231		35.56	0.000	0.000
T11	390.00	2.025	13	104.583	A	5.354	16.746	9.167	41.48	5.995	0.000
400.00-380.00					B	5.650	17.169		40.17	0.000	0.000
					C	5.547	20.231		35.56	0.000	0.000
T12	370.00	1.995	13	105.000	A	4.770	18.671	10.000	42.66	6.540	0.000
380.00-360.00					B	5.062	19.177		41.26	0.000	0.000
					C	4.969	22.218		36.78	0.000	0.000
T13	350.00	1.963	13	105.000	A	5.226	17.512	10.000	43.98	7.957	0.000
360.00-340.00					B	5.624	17.989		42.35	0.000	0.000
					C	5.521	21.051		37.63	0.000	0.000
T14	330.00	1.931	12	105.000	A	5.186	17.491	10.000	44.10	8.720	0.000
340.00-320.00					B	5.624	17.989		42.35	0.000	0.000
					C	5.521	21.051		37.63	0.000	0.000
T15	310.00	1.897	12	105.000	A	5.186	17.491	10.000	44.10	8.720	0.000
320.00-300.00					B	5.624	17.989		42.35	0.000	0.000
					C	5.521	21.051		37.63	0.000	0.000
T16	290.00	1.861	12	105.417	A	5.047	18.784	10.833	45.46	10.900	0.000
300.00-280.00					B	5.598	19.400		43.34	0.000	0.000
					C	5.495	22.451		38.77	0.000	0.000
T17	270.00	1.823	12	105.417	A	4.542	18.784	10.833	46.44	10.900	0.000
280.00-260.00					B	5.038	19.400		44.33	0.000	0.000
					C	4.945	22.451		39.54	0.000	0.000
T18	250.00	1.783	11	105.417	A	4.990	18.220	10.833	46.67	11.990	0.000
260.00-240.00					B	5.598	18.808		44.39	0.000	0.000
					C	5.495	21.870		39.59	0.000	0.000
T19	230.00	1.741	11	105.417	A	4.933	18.190	10.833	46.85	13.080	0.000
240.00-220.00					B	5.598	18.808		44.39	0.000	0.000
					C	5.495	21.870		39.59	0.000	0.000
T20	210.00	1.697	11	105.417	A	4.933	18.190	10.833	46.85	13.080	0.000
220.00-200.00					B	5.598	18.808		44.39	0.000	0.000
					C	5.495	21.870		39.59	0.000	0.000
T21	190.00	1.649	11	105.417	A	4.440	19.233	10.833	45.76	13.080	0.000
200.00-180.00					B	5.038	19.991		43.28	0.000	0.000
					C	4.945	23.032		38.72	0.000	0.000
T22	170.00	1.597	10	105.417	A	4.933	18.712	10.833	45.82	13.080	0.000
180.00-160.00					B	5.598	19.400		43.34	0.000	0.000
					C	4.178	42.678		23.12	0.000	0.000
T23	150.00	1.541	10	105.417	A	4.882	18.988	10.833	45.39	13.080	0.000
160.00-140.00					B	5.598	18.808		44.39	0.000	0.000
					C	4.178	42.236		23.34	0.000	0.000
T24	130.00	1.48	9	105.417	A	4.727	21.381	10.833	41.49	13.080	0.000
140.00-120.00					B	5.598	18.808		44.39	0.000	0.000
					C	4.178	42.236		23.34	0.000	0.000
T25	110.00	1.411	9	105.417	A	4.727	21.881	10.833	40.71	13.080	0.000
120.00-100.00					B	5.598	19.400		43.34	0.000	0.000
					C	4.178	42.678		23.12	0.000	0.000
T26	90.00	1.332	9	105.833	A	4.231	22.698	11.667	43.32	13.080	0.000
100.00-80.00					B	5.015	20.217		46.24	0.000	0.000
					C	3.737	43.495		24.70	0.000	0.000
T27	70.00	1.24	8	105.833	A	4.701	22.201	11.667	43.37	13.080	0.000
80.00-60.00					B	5.572	19.628		46.30	0.000	0.000
					C	4.152	43.056		24.71	0.000	0.000
T28	50.00	1.126	7	105.833	A	4.701	22.201	11.667	43.37	13.080	0.000
60.00-40.00					B	5.572	19.628		46.30	0.000	0.000
					C	4.152	43.056		24.71	0.000	0.000
T29	30.00	1	6	105.833	A	4.701	22.201	11.667	43.37	13.080	0.000
40.00-20.00					B	5.572	19.628		46.30	0.000	0.000
					C	4.152	43.056		24.71	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T30 20.00-8.00	14.00	1	6	63.500	A	3.134	13.311	7.000	42.57	7.848	0.000
					B	3.715	11.765		45.22	0.000	0.000
					C	2.768	25.825		24.48	0.000	0.000
T31 8.00-0.00	4.00	1	6	22.445	A	6.787	4.961	4.961	42.23	0.000	0.000
					B	6.787	4.961		42.23	0.000	0.000
					C	6.787	4.961		42.23	0.000	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1	0.00	1.34	A	1	0.59	1	1	1	29.563	0.78	23.54	C
625.00-592.00			B	1	0.59	1	1	1	29.563			
			C	1	0.59	1	1	1	29.563			
T1	0.06	1.10	A	0.164	2.722	0.584	1	1	7.362	1.07	89.30	C
592.00-580.00			B	0.164	2.722	0.584	1	1	7.362			
			C	0.226	2.511	0.596	1	1	9.683			
T2	0.12	1.29	A	0.161	2.732	0.583	1	1	12.244	1.82	90.92	C
580.00-560.00			B	0.161	2.732	0.583	1	1	12.244			
			C	0.233	2.489	0.598	1	1	16.712			
T3	0.15	1.29	A	0.183	2.655	0.587	1	1	13.552	1.80	90.00	C
560.00-540.00			B	0.161	2.732	0.583	1	1	12.244			
			C	0.233	2.489	0.598	1	1	16.712			
T4	0.18	1.82	A	0.212	2.557	0.593	1	1	15.157	1.80	89.82	C
540.00-520.00			B	0.168	2.706	0.584	1	1	12.481			
			C	0.24	2.467	0.599	1	1	17.004			
T5	0.18	1.48	A	0.211	2.558	0.593	1	1	15.368	1.80	89.93	C
520.00-500.00			B	0.168	2.707	0.584	1	1	12.709			
			C	0.24	2.468	0.599	1	1	17.207			
T6	0.19	1.48	A	0.226	2.512	0.596	1	1	16.268	1.78	88.91	C
500.00-480.00			B	0.168	2.707	0.584	1	1	12.709			
			C	0.24	2.468	0.599	1	1	17.207			
T7	0.20	2.04	A	0.214	2.548	0.593	1	1	15.391	1.77	88.61	C
480.00-460.00			B	0.208	2.571	0.592	1	1	14.960			
			C	0.247	2.447	0.601	1	1	17.505			
T8	0.20	1.77	A	0.209	2.566	0.592	1	1	15.304	1.80	89.85	C
460.00-440.00			B	0.224	2.518	0.596	1	1	16.231			
			C	0.252	2.431	0.602	1	1	18.087			
T9	0.20	1.69	A	0.206	2.575	0.592	1	1	15.119	1.75	87.41	C
440.00-420.00			B	0.218	2.536	0.594	1	1	15.853			
			C	0.246	2.448	0.601	1	1	17.705			
T10	0.20	1.69	A	0.216	2.544	0.594	1	1	15.708	1.72	86.23	C
420.00-400.00			B	0.218	2.536	0.594	1	1	15.853			
			C	0.246	2.448	0.601	1	1	17.705			
T11	0.22	1.69	A	0.211	2.559	0.593	1	1	15.281	1.94	96.77	C
400.00-380.00			B	0.218	2.536	0.594	1	1	15.853			
			C	0.246	2.448	0.601	1	1	17.705			
T12	0.22	2.44	A	0.223	2.52	0.595	1	1	15.887	1.97	98.31	C
380.00-360.00			B	0.231	2.496	0.597	1	1	16.514			
			C	0.259	2.411	0.604	1	1	18.392			
T13	0.23	1.92	A	0.217	2.542	0.594	1	1	15.627	1.98	99.20	C
360.00-340.00			B	0.225	2.515	0.596	1	1	16.341			
			C	0.253	2.428	0.603	1	1	18.207			
T14	0.23	1.92	A	0.216	2.544	0.594	1	1	15.572	1.98	98.98	C
340.00-320.00			B	0.225	2.515	0.596	1	1	16.341			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
			C	0.253	2.428	0.603	1	1	18.207			
T15	0.23	1.92	A	0.216	2.544	0.594	1	1	15.572	1.94	97.22	C
320.00-300.00			B	0.225	2.515	0.596	1	1	16.341			
			C	0.253	2.428	0.603	1	1	18.207			
T16	0.23	2.26	A	0.226	2.511	0.596	1	1	16.243	2.04	101.99	C
300.00-280.00			B	0.237	2.477	0.599	1	1	17.212			
			C	0.265	2.393	0.606	1	1	19.097			
T17	0.23	2.52	A	0.221	2.526	0.595	1	1	15.718	1.96	97.97	C
280.00-260.00			B	0.232	2.493	0.597	1	1	16.628			
			C	0.26	2.408	0.604	1	1	18.516			
T18	0.24	2.17	A	0.22	2.53	0.595	1	1	15.826	1.97	98.57	C
260.00-240.00			B	0.232	2.494	0.597	1	1	16.833			
			C	0.26	2.409	0.604	1	1	18.712			
T19	0.24	2.17	A	0.219	2.533	0.595	1	1	15.748	1.96	98.09	C
240.00-220.00			B	0.232	2.494	0.597	1	1	16.833			
			C	0.26	2.409	0.604	1	1	18.712			
T20	0.24	2.17	A	0.219	2.533	0.595	1	1	15.748	1.91	95.57	C
220.00-200.00			B	0.232	2.494	0.597	1	1	16.833			
			C	0.26	2.409	0.604	1	1	18.712			
T21	0.24	2.69	A	0.225	2.516	0.596	1	1	15.897	1.86	93.09	C
200.00-180.00			B	0.237	2.476	0.599	1	1	17.008			
			C	0.265	2.392	0.606	1	1	18.901			
T22	0.36	2.26	A	0.224	2.517	0.596	1	1	16.079	2.42	120.85	C
180.00-160.00			B	0.237	2.477	0.599	1	1	17.212			
			C	0.444	1.983	0.671	1	1	32.805			
T23	0.37	2.17	A	0.226	2.51	0.596	1	1	16.201	2.32	115.84	C
160.00-140.00			B	0.232	2.494	0.597	1	1	16.833			
			C	0.44	1.99	0.669	1	1	32.429			
T24	0.38	2.17	A	0.248	2.445	0.601	1	1	17.583	2.22	111.20	C
140.00-120.00			B	0.232	2.494	0.597	1	1	16.833			
			C	0.44	1.99	0.669	1	1	32.429			
T25	0.38	2.26	A	0.252	2.43	0.602	1	1	17.910	2.13	106.72	C
120.00-100.00			B	0.237	2.477	0.599	1	1	17.212			
			C	0.444	1.983	0.671	1	1	32.805			
T26	0.38	2.79	A	0.254	2.424	0.603	1	1	17.918	2.02	101.01	C
100.00-80.00			B	0.238	2.473	0.599	1	1	17.124			
			C	0.446	1.98	0.672	1	1	32.947			
T27	0.38	2.44	A	0.254	2.425	0.603	1	1	18.087	1.89	94.30	C
80.00-60.00			B	0.238	2.474	0.599	1	1	17.327			
			C	0.446	1.98	0.671	1	1	33.063			
T28	0.38	2.44	A	0.254	2.425	0.603	1	1	18.087	1.71	85.66	C
60.00-40.00			B	0.238	2.474	0.599	1	1	17.327			
			C	0.446	1.98	0.671	1	1	33.063			
T29	0.38	2.44	A	0.254	2.425	0.603	1	1	18.087	1.52	76.07	C
40.00-20.00			B	0.238	2.474	0.599	1	1	17.327			
			C	0.446	1.98	0.671	1	1	33.063			
T30	0.23	1.48	A	0.259	2.411	0.604	1	1	11.177	0.92	76.87	C
20.00-8.00			B	0.244	2.456	0.6	1	1	10.777			
			C	0.45	1.973	0.673	1	1	20.159			
T31 8.00-0.00	0.00	1.47	A	0.523	1.871	0.71	1	1	10.308	0.37	46.71	C
			B	0.523	1.871	0.71	1	1	10.308			
			C	0.523	1.871	0.71	1	1	10.308			
Sum Weight:	7.48	62.73								56.93		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1	0.00	1.34	A	1	0.59	1	1	1	29.563	0.78	23.54	C
625.00-592.00			B	1	0.59	1	1	1	29.563			
			C	1	0.59	1	1	1	29.563			
T1	0.06	1.10	A	0.164	2.722	0.584	0.8	1	6.681	1.00	83.37	C
592.00-580.00			B	0.164	2.722	0.584	0.8	1	6.681			
			C	0.226	2.511	0.596	0.8	1	9.040			
T2	0.12	1.29	A	0.161	2.732	0.583	0.8	1	11.040	1.70	84.83	C
580.00-560.00			B	0.161	2.732	0.583	0.8	1	11.040			
			C	0.233	2.489	0.598	0.8	1	15.592			
T3	0.15	1.29	A	0.183	2.655	0.587	0.8	1	12.380	1.68	83.97	C
560.00-540.00			B	0.161	2.732	0.583	0.8	1	11.040			
			C	0.233	2.489	0.598	0.8	1	15.592			
T4	0.18	1.82	A	0.212	2.557	0.593	0.8	1	14.135	1.69	84.52	C
540.00-520.00			B	0.168	2.706	0.584	0.8	1	11.402			
			C	0.24	2.467	0.599	0.8	1	16.001			
T5	0.18	1.48	A	0.211	2.558	0.593	0.8	1	14.233	1.68	84.11	C
520.00-500.00			B	0.168	2.707	0.584	0.8	1	11.511			
			C	0.24	2.468	0.599	0.8	1	16.092			
T6	0.19	1.48	A	0.226	2.512	0.596	0.8	1	15.153	1.66	83.15	C
500.00-480.00			B	0.168	2.707	0.584	0.8	1	11.511			
			C	0.24	2.468	0.599	0.8	1	16.092			
T7	0.20	2.04	A	0.214	2.548	0.593	0.8	1	14.369	1.67	83.56	C
480.00-460.00			B	0.208	2.571	0.592	0.8	1	13.929			
			C	0.247	2.447	0.601	0.8	1	16.506			
T8	0.20	1.77	A	0.209	2.566	0.592	0.8	1	14.152	1.69	84.33	C
460.00-440.00			B	0.224	2.518	0.596	0.8	1	15.101			
			C	0.252	2.431	0.602	0.8	1	16.978			
T9	0.20	1.69	A	0.206	2.575	0.592	0.8	1	13.972	1.64	81.94	C
440.00-420.00			B	0.218	2.536	0.594	0.8	1	14.723			
			C	0.246	2.448	0.601	0.8	1	16.596			
T10	0.20	1.69	A	0.216	2.544	0.594	0.8	1	14.575	1.62	80.83	C
420.00-400.00			B	0.218	2.536	0.594	0.8	1	14.723			
			C	0.246	2.448	0.601	0.8	1	16.596			
T11	0.22	1.69	A	0.211	2.559	0.593	0.8	1	14.210	1.83	91.44	C
400.00-380.00			B	0.218	2.536	0.594	0.8	1	14.723			
			C	0.246	2.448	0.601	0.8	1	16.596			
T12	0.22	2.44	A	0.223	2.52	0.595	0.8	1	14.933	1.87	93.68	C
380.00-360.00			B	0.231	2.496	0.597	0.8	1	15.501			
			C	0.259	2.411	0.604	0.8	1	17.399			
T13	0.23	1.92	A	0.217	2.542	0.594	0.8	1	14.581	1.88	94.11	C
360.00-340.00			B	0.225	2.515	0.596	0.8	1	15.217			
			C	0.253	2.428	0.603	0.8	1	17.103			
T14	0.23	1.92	A	0.216	2.544	0.594	0.8	1	14.535	1.88	93.96	C
340.00-320.00			B	0.225	2.515	0.596	0.8	1	15.217			
			C	0.253	2.428	0.603	0.8	1	17.103			
T15	0.23	1.92	A	0.216	2.544	0.594	0.8	1	14.535	1.85	92.30	C
320.00-300.00			B	0.225	2.515	0.596	0.8	1	15.217			
			C	0.253	2.428	0.603	0.8	1	17.103			
T16	0.23	2.26	A	0.226	2.511	0.596	0.8	1	15.234	1.95	97.25	C
300.00-280.00			B	0.237	2.477	0.599	0.8	1	16.093			
			C	0.265	2.393	0.606	0.8	1	17.998			
T17	0.23	2.52	A	0.221	2.526	0.595	0.8	1	14.809	1.88	93.77	C
280.00-260.00			B	0.232	2.493	0.597	0.8	1	15.620			
			C	0.26	2.408	0.604	0.8	1	17.527			
T18	0.24	2.17	A	0.22	2.53	0.595	0.8	1	14.828	1.88	94.00	C
260.00-240.00			B	0.232	2.494	0.597	0.8	1	15.713			
			C	0.26	2.409	0.604	0.8	1	17.614			
T19	0.24	2.17	A	0.219	2.533	0.595	0.8	1	14.761	1.87	93.62	C
240.00-220.00			B	0.232	2.494	0.597	0.8	1	15.713			
			C	0.26	2.409	0.604	0.8	1	17.614			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T20	0.24	2.17	A	0.219	2.533	0.595	0.8	1	14.761	1.82	91.22	C
220.00-200.00			B	0.232	2.494	0.597	0.8	1	15.713			
			C	0.26	2.409	0.604	0.8	1	17.614			
T21	0.24	2.69	A	0.225	2.516	0.596	0.8	1	15.009	1.79	89.31	C
200.00-180.00			B	0.237	2.476	0.599	0.8	1	16.000			
			C	0.265	2.392	0.606	0.8	1	17.912			
T22	0.36	2.26	A	0.224	2.517	0.596	0.8	1	15.092	2.37	118.29	C
180.00-160.00			B	0.237	2.477	0.599	0.8	1	16.093			
			C	0.444	1.983	0.671	0.8	1	31.969			
T23	0.37	2.17	A	0.226	2.51	0.596	0.8	1	15.225	2.27	113.36	C
160.00-140.00			B	0.232	2.494	0.597	0.8	1	15.713			
			C	0.44	1.99	0.669	0.8	1	31.593			
T24	0.38	2.17	A	0.248	2.445	0.601	0.8	1	16.638	2.18	108.82	C
140.00-120.00			B	0.232	2.494	0.597	0.8	1	15.713			
			C	0.44	1.99	0.669	0.8	1	31.593			
T25	0.38	2.26	A	0.252	2.43	0.602	0.8	1	16.965	2.09	104.46	C
120.00-100.00			B	0.237	2.477	0.599	0.8	1	16.093			
			C	0.444	1.983	0.671	0.8	1	31.969			
T26	0.38	2.79	A	0.254	2.424	0.603	0.8	1	17.072	1.98	99.10	C
100.00-80.00			B	0.238	2.473	0.599	0.8	1	16.121			
			C	0.446	1.98	0.672	0.8	1	32.200			
T27	0.38	2.44	A	0.254	2.425	0.603	0.8	1	17.147	1.85	92.33	C
80.00-60.00			B	0.238	2.474	0.599	0.8	1	16.213			
			C	0.446	1.98	0.671	0.8	1	32.233			
T28	0.38	2.44	A	0.254	2.425	0.603	0.8	1	17.147	1.68	83.87	C
60.00-40.00			B	0.238	2.474	0.599	0.8	1	16.213			
			C	0.446	1.98	0.671	0.8	1	32.233			
T29	0.38	2.44	A	0.254	2.425	0.603	0.8	1	17.147	1.49	74.48	C
40.00-20.00			B	0.238	2.474	0.599	0.8	1	16.213			
			C	0.446	1.98	0.671	0.8	1	32.233			
T30	0.23	1.48	A	0.259	2.411	0.604	0.8	1	10.550	0.90	75.11	C
20.00-8.00			B	0.244	2.456	0.6	0.8	1	10.034			
			C	0.45	1.973	0.673	0.8	1	19.605			
T31 8.00-0.00	0.00	1.47	A	0.523	1.871	0.71	0.8	1	8.950	0.32	40.55	C
			B	0.523	1.871	0.71	0.8	1	8.950			
			C	0.523	1.871	0.71	0.8	1	8.950			
Sum Weight:	7.48	62.73								54.42		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1	0.00	1.34	A	1	0.59	1	1	1	29.563	0.78	23.54	C
625.00-592.00			B	1	0.59	1	1	1	29.563			
			C	1	0.59	1	1	1	29.563			
T1	0.06	1.10	A	0.164	2.722	0.584	0.85	1	6.851	1.02	84.85	C
592.00-580.00			B	0.164	2.722	0.584	0.85	1	6.851			
			C	0.226	2.511	0.596	0.85	1	9.201			
T2	0.12	1.29	A	0.161	2.732	0.583	0.85	1	11.341	1.73	86.35	C
580.00-560.00			B	0.161	2.732	0.583	0.85	1	11.341			
			C	0.233	2.489	0.598	0.85	1	15.872			
T3	0.15	1.29	A	0.183	2.655	0.587	0.85	1	12.673	1.71	85.47	C
560.00-540.00			B	0.161	2.732	0.583	0.85	1	11.341			
			C	0.233	2.489	0.598	0.85	1	15.872			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T4	0.18	1.82	A	0.212	2.557	0.593	0.85	1	14.391	1.72	85.85	C
540.00-520.00			B	0.168	2.706	0.584	0.85	1	11.672			
			C	0.24	2.467	0.599	0.85	1	16.252			
T5	0.18	1.48	A	0.211	2.558	0.593	0.85	1	14.517	1.71	85.56	C
520.00-500.00			B	0.168	2.707	0.584	0.85	1	11.811			
			C	0.24	2.468	0.599	0.85	1	16.371			
T6	0.19	1.48	A	0.226	2.512	0.596	0.85	1	15.432	1.69	84.59	C
500.00-480.00			B	0.168	2.707	0.584	0.85	1	11.811			
			C	0.24	2.468	0.599	0.85	1	16.371			
T7	0.20	2.04	A	0.214	2.548	0.593	0.85	1	14.624	1.70	84.82	C
480.00-460.00			B	0.208	2.571	0.592	0.85	1	14.187			
			C	0.247	2.447	0.601	0.85	1	16.756			
T8	0.20	1.77	A	0.209	2.566	0.592	0.85	1	14.440	1.71	85.71	C
460.00-440.00			B	0.224	2.518	0.596	0.85	1	15.383			
			C	0.252	2.431	0.602	0.85	1	17.255			
T9	0.20	1.69	A	0.206	2.575	0.592	0.85	1	14.259	1.67	83.31	C
440.00-420.00			B	0.218	2.536	0.594	0.85	1	15.006			
			C	0.246	2.448	0.601	0.85	1	16.873			
T10	0.20	1.69	A	0.216	2.544	0.594	0.85	1	14.858	1.64	82.18	C
420.00-400.00			B	0.218	2.536	0.594	0.85	1	15.006			
			C	0.246	2.448	0.601	0.85	1	16.873			
T11	0.22	1.69	A	0.211	2.559	0.593	0.85	1	14.478	1.86	92.77	C
400.00-380.00			B	0.218	2.536	0.594	0.85	1	15.006			
			C	0.246	2.448	0.601	0.85	1	16.873			
T12	0.22	2.44	A	0.223	2.52	0.595	0.85	1	15.172	1.90	94.84	C
380.00-360.00			B	0.231	2.496	0.597	0.85	1	15.755			
			C	0.259	2.411	0.604	0.85	1	17.647			
T13	0.23	1.92	A	0.217	2.542	0.594	0.85	1	14.843	1.91	95.38	C
360.00-340.00			B	0.225	2.515	0.596	0.85	1	15.498			
			C	0.253	2.428	0.603	0.85	1	17.379			
T14	0.23	1.92	A	0.216	2.544	0.594	0.85	1	14.794	1.90	95.22	C
340.00-320.00			B	0.225	2.515	0.596	0.85	1	15.498			
			C	0.253	2.428	0.603	0.85	1	17.379			
T15	0.23	1.92	A	0.216	2.544	0.594	0.85	1	14.794	1.87	93.53	C
320.00-300.00			B	0.225	2.515	0.596	0.85	1	15.498			
			C	0.253	2.428	0.603	0.85	1	17.379			
T16	0.23	2.26	A	0.226	2.511	0.596	0.85	1	15.486	1.97	98.44	C
300.00-280.00			B	0.237	2.477	0.599	0.85	1	16.372			
			C	0.265	2.393	0.606	0.85	1	18.272			
T17	0.23	2.52	A	0.221	2.526	0.595	0.85	1	15.037	1.90	94.82	C
280.00-260.00			B	0.232	2.493	0.597	0.85	1	15.872			
			C	0.26	2.408	0.604	0.85	1	17.774			
T18	0.24	2.17	A	0.22	2.53	0.595	0.85	1	15.078	1.90	95.14	C
260.00-240.00			B	0.232	2.494	0.597	0.85	1	15.993			
			C	0.26	2.409	0.604	0.85	1	17.888			
T19	0.24	2.17	A	0.219	2.533	0.595	0.85	1	15.008	1.89	94.74	C
240.00-220.00			B	0.232	2.494	0.597	0.85	1	15.993			
			C	0.26	2.409	0.604	0.85	1	17.888			
T20	0.24	2.17	A	0.219	2.533	0.595	0.85	1	15.008	1.85	92.31	C
220.00-200.00			B	0.232	2.494	0.597	0.85	1	15.993			
			C	0.26	2.409	0.604	0.85	1	17.888			
T21	0.24	2.69	A	0.225	2.516	0.596	0.85	1	15.231	1.81	90.26	C
200.00-180.00			B	0.237	2.476	0.599	0.85	1	16.252			
			C	0.265	2.392	0.606	0.85	1	18.159			
T22	0.36	2.26	A	0.224	2.517	0.596	0.85	1	15.339	2.38	118.93	C
180.00-160.00			B	0.237	2.477	0.599	0.85	1	16.372			
			C	0.444	1.983	0.671	0.85	1	32.178			
T23	0.37	2.17	A	0.226	2.51	0.596	0.85	1	15.469	2.28	113.98	C
160.00-140.00			B	0.232	2.494	0.597	0.85	1	15.993			
			C	0.44	1.99	0.669	0.85	1	31.802			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T24	0.38	2.17	A	0.248	2.445	0.601	0.85	1	16.874	2.19	109.41	C
140.00-120.00			B	0.232	2.494	0.597	0.85	1	15.993			
			C	0.44	1.99	0.669	0.85	1	31.802			
T25	0.38	2.26	A	0.252	2.43	0.602	0.85	1	17.201	2.10	105.02	C
120.00-100.00			B	0.237	2.477	0.599	0.85	1	16.372			
			C	0.444	1.983	0.671	0.85	1	32.178			
T26	0.38	2.79	A	0.254	2.424	0.603	0.85	1	17.283	1.99	99.58	C
100.00-80.00			B	0.238	2.473	0.599	0.85	1	16.372			
			C	0.446	1.98	0.672	0.85	1	32.387			
T27	0.38	2.44	A	0.254	2.425	0.603	0.85	1	17.382	1.86	92.82	C
80.00-60.00			B	0.238	2.474	0.599	0.85	1	16.491			
			C	0.446	1.98	0.671	0.85	1	32.441			
T28	0.38	2.44	A	0.254	2.425	0.603	0.85	1	17.382	1.69	84.31	C
60.00-40.00			B	0.238	2.474	0.599	0.85	1	16.491			
			C	0.446	1.98	0.671	0.85	1	32.441			
T29	0.38	2.44	A	0.254	2.425	0.603	0.85	1	17.382	1.50	74.88	C
40.00-20.00			B	0.238	2.474	0.599	0.85	1	16.491			
			C	0.446	1.98	0.671	0.85	1	32.441			
T30	0.23	1.48	A	0.259	2.411	0.604	0.85	1	10.706	0.91	75.55	C
20.00-8.00			B	0.244	2.456	0.6	0.85	1	10.220			
			C	0.45	1.973	0.673	0.85	1	19.744			
T31 8.00-0.00	0.00	1.47	A	0.523	1.871	0.71	0.85	1	9.290	0.34	42.09	C
			B	0.523	1.871	0.71	0.85	1	9.290			
			C	0.523	1.871	0.71	0.85	1	9.290			
Sum Weight:	7.48	62.73								55.04		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
L1	0.00	1.56	A	1	0.59	1	1	1	32.313	0.64	19.30	C
625.00-592.00			B	1	0.59	1	1	1	32.313			
			C	1	0.59	1	1	1	32.313			
T1	0.10	1.40	A	0.266	2.391	0.606	1	1	11.536	1.09	90.64	C
592.00-580.00			B	0.266	2.391	0.606	1	1	11.536			
			C	0.35	2.172	0.632	1	1	15.152			
T2	0.19	1.73	A	0.261	2.405	0.605	1	1	19.021	1.83	91.37	C
580.00-560.00			B	0.261	2.405	0.605	1	1	19.021			
			C	0.356	2.157	0.635	1	1	25.835			
T3	0.24	1.73	A	0.287	2.33	0.612	1	1	20.788	1.81	90.44	C
560.00-540.00			B	0.261	2.405	0.605	1	1	19.021			
			C	0.356	2.157	0.635	1	1	25.835			
T4	0.29	2.30	A	0.32	2.245	0.622	1	1	22.946	1.80	90.19	C
540.00-520.00			B	0.268	2.386	0.607	1	1	19.295			
			C	0.362	2.144	0.637	1	1	26.203			
T5	0.29	1.93	A	0.319	2.246	0.622	1	1	23.134	1.80	89.83	C
520.00-500.00			B	0.267	2.387	0.606	1	1	19.508			
			C	0.362	2.144	0.637	1	1	26.378			
T6	0.32	1.93	A	0.339	2.198	0.629	1	1	24.551	1.78	88.81	C
500.00-480.00			B	0.267	2.387	0.606	1	1	19.508			
			C	0.362	2.144	0.637	1	1	26.378			
T7	0.34	2.52	A	0.325	2.231	0.624	1	1	23.442	1.77	88.44	C
480.00-460.00			B	0.313	2.263	0.62	1	1	22.523			
			C	0.368	2.131	0.639	1	1	26.752			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T8	0.34	2.25	A	0.318	2.25	0.621	1	1	23.111	1.78	88.88	C
460.00-440.00			B	0.331	2.217	0.626	1	1	24.075			
			C	0.373	2.12	0.641	1	1	27.362			
T9	0.35	2.15	A	0.318	2.249	0.622	1	1	23.125	1.74	86.81	C
440.00-420.00			B	0.325	2.231	0.624	1	1	23.654			
			C	0.368	2.132	0.639	1	1	26.925			
T10	0.36	2.15	A	0.336	2.204	0.628	1	1	24.455	1.71	85.64	C
420.00-400.00			B	0.325	2.231	0.624	1	1	23.654			
			C	0.368	2.132	0.639	1	1	26.925			
T11	0.44	2.15	A	0.321	2.243	0.622	1	1	23.037	2.03	101.33	C
400.00-380.00			B	0.325	2.231	0.624	1	1	23.654			
			C	0.368	2.132	0.639	1	1	26.925			
T12	0.44	2.95	A	0.33	2.219	0.626	1	1	23.634	2.06	102.88	C
380.00-360.00			B	0.337	2.202	0.628	1	1	24.417			
			C	0.379	2.107	0.643	1	1	27.745			
T13	0.46	2.39	A	0.321	2.241	0.623	1	1	23.096	2.10	104.80	C
360.00-340.00			B	0.331	2.216	0.626	1	1	24.178			
			C	0.373	2.119	0.641	1	1	27.476			
T14	0.47	2.39	A	0.319	2.246	0.622	1	1	22.916	2.10	105.10	C
340.00-320.00			B	0.331	2.216	0.626	1	1	24.178			
			C	0.373	2.119	0.641	1	1	27.476			
T15	0.47	2.39	A	0.319	2.246	0.622	1	1	22.916	2.06	103.24	C
320.00-300.00			B	0.331	2.216	0.626	1	1	24.178			
			C	0.373	2.119	0.641	1	1	27.476			
T16	0.49	2.75	A	0.324	2.234	0.624	1	1	23.251	2.18	108.90	C
300.00-280.00			B	0.342	2.189	0.63	1	1	25.129			
			C	0.384	2.096	0.645	1	1	28.471			
T17	0.49	3.02	A	0.32	2.245	0.622	1	1	22.779	2.11	105.40	C
280.00-260.00			B	0.337	2.201	0.628	1	1	24.524			
			C	0.379	2.106	0.643	1	1	27.862			
T18	0.51	2.65	A	0.317	2.252	0.621	1	1	22.668	2.13	106.29	C
260.00-240.00			B	0.337	2.202	0.628	1	1	24.705			
			C	0.379	2.107	0.643	1	1	28.031			
T19	0.52	2.65	A	0.314	2.259	0.62	1	1	22.413	2.13	106.43	C
240.00-220.00			B	0.337	2.202	0.628	1	1	24.705			
			C	0.379	2.107	0.643	1	1	28.031			
T20	0.52	2.65	A	0.314	2.259	0.62	1	1	22.413	2.07	103.70	C
220.00-200.00			B	0.337	2.202	0.628	1	1	24.705			
			C	0.379	2.107	0.643	1	1	28.031			
T21	0.52	3.21	A	0.318	2.249	0.622	1	1	22.582	2.02	101.07	C
200.00-180.00			B	0.343	2.189	0.63	1	1	24.948			
			C	0.385	2.095	0.645	1	1	28.304			
T22	0.92	2.75	A	0.318	2.249	0.622	1	1	22.720	3.10	155.02	C
180.00-160.00			B	0.342	2.189	0.63	1	1	25.129			
			C	0.651	1.781	0.786	1	1	60.927			
T23	0.93	2.65	A	0.324	2.235	0.623	1	1	23.115	2.98	148.93	C
160.00-140.00			B	0.337	2.202	0.628	1	1	24.705			
			C	0.648	1.782	0.784	1	1	60.574			
T24	0.97	2.65	A	0.352	2.166	0.633	1	1	25.284	2.86	142.97	C
140.00-120.00			B	0.337	2.202	0.628	1	1	24.705			
			C	0.648	1.782	0.784	1	1	60.574			
T25	0.97	2.75	A	0.356	2.158	0.635	1	1	25.584	2.74	136.89	C
120.00-100.00			B	0.342	2.189	0.63	1	1	25.129			
			C	0.651	1.781	0.786	1	1	60.927			
T26	0.97	3.30	A	0.358	2.153	0.635	1	1	25.707	2.60	129.78	C
100.00-80.00			B	0.343	2.188	0.63	1	1	25.057			
			C	0.652	1.781	0.787	1	1	61.242			
T27	0.97	2.93	A	0.358	2.153	0.635	1	1	25.828	2.42	120.87	C
80.00-60.00			B	0.343	2.188	0.63	1	1	25.236			
			C	0.652	1.781	0.787	1	1	61.291			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T28	0.97	2.93	A	0.358	2.153	0.635	1	1	25.828	2.20	109.79	C
60.00-40.00			B	0.343	2.188	0.63	1	1	25.236			
			C	0.652	1.781	0.787	1	1	61.291			
T29	0.97	2.93	A	0.358	2.153	0.635	1	1	25.828	1.95	97.50	C
40.00-20.00			B	0.343	2.188	0.63	1	1	25.236			
			C	0.652	1.781	0.787	1	1	61.291			
T30	0.58	1.79	A	0.363	2.142	0.637	1	1	15.838	1.18	98.18	C
20.00-8.00			B	0.35	2.171	0.633	1	1	15.630			
			C	0.657	1.78	0.79	1	1	37.113			
T31 8.00-0.00	0.00	1.78	A	0.664	1.778	0.795	1	1	13.597	0.35	43.91	C
			B	0.664	1.778	0.795	1	1	13.597			
			C	0.664	1.778	0.795	1	1	13.597			
Sum Weight:	16.41	77.23								63.08		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1	0.00	1.56	A	1	0.59	1	1	1	32.313	0.64	19.30	C
625.00-592.00			B	1	0.59	1	1	1	32.313			
			C	1	0.59	1	1	1	32.313			
T1	0.10	1.40	A	0.266	2.391	0.606	0.8	1	10.855	1.04	86.85	C
592.00-580.00			B	0.266	2.391	0.606	0.8	1	10.855			
			C	0.35	2.172	0.632	0.8	1	14.519			
T2	0.19	1.73	A	0.261	2.405	0.605	0.8	1	17.818	1.75	87.49	C
580.00-560.00			B	0.261	2.405	0.605	0.8	1	17.818			
			C	0.356	2.157	0.635	0.8	1	24.736			
T3	0.24	1.73	A	0.287	2.33	0.612	0.8	1	19.627	1.73	86.60	C
560.00-540.00			B	0.261	2.405	0.605	0.8	1	17.818			
			C	0.356	2.157	0.635	0.8	1	24.736			
T4	0.29	2.30	A	0.32	2.245	0.622	0.8	1	21.943	1.74	86.80	C
540.00-520.00			B	0.268	2.386	0.607	0.8	1	18.216			
			C	0.362	2.144	0.637	0.8	1	25.218			
T5	0.29	1.93	A	0.319	2.246	0.622	0.8	1	22.020	1.72	86.10	C
520.00-500.00			B	0.267	2.387	0.606	0.8	1	18.310			
			C	0.362	2.144	0.637	0.8	1	25.284			
T6	0.32	1.93	A	0.339	2.198	0.629	0.8	1	23.468	1.70	85.12	C
500.00-480.00			B	0.267	2.387	0.606	0.8	1	18.310			
			C	0.362	2.144	0.637	0.8	1	25.284			
T7	0.34	2.52	A	0.325	2.231	0.624	0.8	1	22.444	1.70	85.21	C
480.00-460.00			B	0.313	2.263	0.62	0.8	1	21.506			
			C	0.368	2.131	0.639	0.8	1	25.772			
T8	0.34	2.25	A	0.318	2.25	0.621	0.8	1	21.980	1.71	85.34	C
460.00-440.00			B	0.331	2.217	0.626	0.8	1	22.966			
			C	0.373	2.12	0.641	0.8	1	26.274			
T9	0.35	2.15	A	0.318	2.249	0.622	0.8	1	22.005	1.67	83.30	C
440.00-420.00			B	0.325	2.231	0.624	0.8	1	22.545			
			C	0.368	2.132	0.639	0.8	1	25.836			
T10	0.36	2.15	A	0.336	2.204	0.628	0.8	1	23.363	1.64	82.17	C
420.00-400.00			B	0.325	2.231	0.624	0.8	1	22.545			
			C	0.368	2.132	0.639	0.8	1	25.836			
T11	0.44	2.15	A	0.321	2.243	0.622	0.8	1	22.065	1.96	97.92	C
400.00-380.00			B	0.325	2.231	0.624	0.8	1	22.545			
			C	0.368	2.132	0.639	0.8	1	25.836			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T12	0.44	2.95	A	0.33	2.219	0.626	0.8	1	22.774	2.00	99.90	C
380.00-360.00			B	0.337	2.202	0.628	0.8	1	23.424			
			C	0.379	2.107	0.643	0.8	1	26.770			
T13	0.46	2.39	A	0.321	2.241	0.623	0.8	1	22.168	2.03	101.52	C
360.00-340.00			B	0.331	2.216	0.626	0.8	1	23.074			
			C	0.373	2.119	0.641	0.8	1	26.393			
T14	0.47	2.39	A	0.319	2.246	0.622	0.8	1	22.004	2.04	101.88	C
340.00-320.00			B	0.331	2.216	0.626	0.8	1	23.074			
			C	0.373	2.119	0.641	0.8	1	26.393			
T15	0.47	2.39	A	0.319	2.246	0.622	0.8	1	22.004	2.00	100.08	C
320.00-300.00			B	0.331	2.216	0.626	0.8	1	23.074			
			C	0.373	2.119	0.641	0.8	1	26.393			
T16	0.49	2.75	A	0.324	2.234	0.624	0.8	1	22.387	2.12	105.84	C
300.00-280.00			B	0.342	2.189	0.63	0.8	1	24.030			
			C	0.384	2.096	0.645	0.8	1	27.393			
T17	0.49	3.02	A	0.32	2.245	0.622	0.8	1	22.002	2.05	102.69	C
280.00-260.00			B	0.337	2.201	0.628	0.8	1	23.535			
			C	0.379	2.106	0.643	0.8	1	26.892			
T18	0.51	2.65	A	0.317	2.252	0.621	0.8	1	21.826	2.07	103.35	C
260.00-240.00			B	0.337	2.202	0.628	0.8	1	23.607			
			C	0.379	2.107	0.643	0.8	1	26.953			
T19	0.52	2.65	A	0.314	2.259	0.62	0.8	1	21.593	2.07	103.56	C
240.00-220.00			B	0.337	2.202	0.628	0.8	1	23.607			
			C	0.379	2.107	0.643	0.8	1	26.953			
T20	0.52	2.65	A	0.314	2.259	0.62	0.8	1	21.593	2.02	100.90	C
220.00-200.00			B	0.337	2.202	0.628	0.8	1	23.607			
			C	0.379	2.107	0.643	0.8	1	26.953			
T21	0.52	3.21	A	0.318	2.249	0.622	0.8	1	21.844	1.97	98.63	C
200.00-180.00			B	0.343	2.189	0.63	0.8	1	23.959			
			C	0.385	2.095	0.645	0.8	1	27.334			
T22	0.92	2.75	A	0.318	2.249	0.622	0.8	1	21.900	2.86	143.16	C
180.00-160.00			B	0.342	2.189	0.63	0.8	1	24.030			
			C	0.651	1.781	0.786	0.8	1	55.191			
T23	0.93	2.65	A	0.324	2.235	0.623	0.8	1	22.311	2.75	137.49	C
160.00-140.00			B	0.337	2.202	0.628	0.8	1	23.607			
			C	0.648	1.782	0.784	0.8	1	54.839			
T24	0.97	2.65	A	0.352	2.166	0.633	0.8	1	24.526	2.64	131.98	C
140.00-120.00			B	0.337	2.202	0.628	0.8	1	23.607			
			C	0.648	1.782	0.784	0.8	1	54.839			
T25	0.97	2.75	A	0.356	2.158	0.635	0.8	1	24.826	2.53	126.42	C
120.00-100.00			B	0.342	2.189	0.63	0.8	1	24.030			
			C	0.651	1.781	0.786	0.8	1	55.191			
T26	0.97	3.30	A	0.358	2.153	0.635	0.8	1	25.029	2.40	120.02	C
100.00-80.00			B	0.343	2.188	0.63	0.8	1	24.073			
			C	0.652	1.781	0.787	0.8	1	55.575			
T27	0.97	2.93	A	0.358	2.153	0.635	0.8	1	25.075	2.23	111.68	C
80.00-60.00			B	0.343	2.188	0.63	0.8	1	24.143			
			C	0.652	1.781	0.787	0.8	1	55.561			
T28	0.97	2.93	A	0.358	2.153	0.635	0.8	1	25.075	2.03	101.44	C
60.00-40.00			B	0.343	2.188	0.63	0.8	1	24.143			
			C	0.652	1.781	0.787	0.8	1	55.561			
T29	0.97	2.93	A	0.358	2.153	0.635	0.8	1	25.075	1.80	90.09	C
40.00-20.00			B	0.343	2.188	0.63	0.8	1	24.143			
			C	0.652	1.781	0.787	0.8	1	55.561			
T30	0.58	1.79	A	0.363	2.142	0.637	0.8	1	15.336	1.09	90.68	C
20.00-8.00			B	0.35	2.171	0.633	0.8	1	14.901			
			C	0.657	1.78	0.79	0.8	1	33.633			
T31 8.00-0.00	0.00	1.78	A	0.664	1.778	0.795	0.8	1	12.239	0.32	39.52	C
			B	0.664	1.778	0.795	0.8	1	12.239			
			C	0.664	1.778	0.795	0.8	1	12.239			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
Sum Weight:	16.41	77.23								60.02		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
L1	0.00	1.56	A	1	0.59	1	1	1	32.313	0.64	19.30	C
625.00-592.00			B	1	0.59	1	1	1	32.313			
			C	1	0.59	1	1	1	32.313			
T1	0.10	1.40	A	0.266	2.391	0.606	0.85	1	11.025	1.05	87.80	C
592.00-580.00			B	0.266	2.391	0.606	0.85	1	11.025			
			C	0.35	2.172	0.632	0.85	1	14.677			
T2	0.19	1.73	A	0.261	2.405	0.605	0.85	1	18.118	1.77	88.46	C
580.00-560.00			B	0.261	2.405	0.605	0.85	1	18.118			
			C	0.356	2.157	0.635	0.85	1	25.010			
T3	0.24	1.73	A	0.287	2.33	0.612	0.85	1	19.917	1.75	87.56	C
560.00-540.00			B	0.261	2.405	0.605	0.85	1	18.118			
			C	0.356	2.157	0.635	0.85	1	25.010			
T4	0.29	2.30	A	0.32	2.245	0.622	0.85	1	22.194	1.75	87.65	C
540.00-520.00			B	0.268	2.386	0.607	0.85	1	18.486			
			C	0.362	2.144	0.637	0.85	1	25.464			
T5	0.29	1.93	A	0.319	2.246	0.622	0.85	1	22.299	1.74	87.03	C
520.00-500.00			B	0.267	2.387	0.606	0.85	1	18.609			
			C	0.362	2.144	0.637	0.85	1	25.557			
T6	0.32	1.93	A	0.339	2.198	0.629	0.85	1	23.738	1.72	86.04	C
500.00-480.00			B	0.267	2.387	0.606	0.85	1	18.609			
			C	0.362	2.144	0.637	0.85	1	25.557			
T7	0.34	2.52	A	0.325	2.231	0.624	0.85	1	22.693	1.72	86.02	C
480.00-460.00			B	0.313	2.263	0.62	0.85	1	21.760			
			C	0.368	2.131	0.639	0.85	1	26.017			
T8	0.34	2.25	A	0.318	2.25	0.621	0.85	1	22.263	1.72	86.23	C
460.00-440.00			B	0.331	2.217	0.626	0.85	1	23.243			
			C	0.373	2.12	0.641	0.85	1	26.546			
T9	0.35	2.15	A	0.318	2.249	0.622	0.85	1	22.285	1.68	84.18	C
440.00-420.00			B	0.325	2.231	0.624	0.85	1	22.823			
			C	0.368	2.132	0.639	0.85	1	26.108			
T10	0.36	2.15	A	0.336	2.204	0.628	0.85	1	23.636	1.66	83.04	C
420.00-400.00			B	0.325	2.231	0.624	0.85	1	22.823			
			C	0.368	2.132	0.639	0.85	1	26.108			
T11	0.44	2.15	A	0.321	2.243	0.622	0.85	1	22.308	1.98	98.77	C
400.00-380.00			B	0.325	2.231	0.624	0.85	1	22.823			
			C	0.368	2.132	0.639	0.85	1	26.108			
T12	0.44	2.95	A	0.33	2.219	0.626	0.85	1	22.989	2.01	100.65	C
380.00-360.00			B	0.337	2.202	0.628	0.85	1	23.672			
			C	0.379	2.107	0.643	0.85	1	27.014			
T13	0.46	2.39	A	0.321	2.241	0.623	0.85	1	22.400	2.05	102.34	C
360.00-340.00			B	0.331	2.216	0.626	0.85	1	23.350			
			C	0.373	2.119	0.641	0.85	1	26.663			
T14	0.47	2.39	A	0.319	2.246	0.622	0.85	1	22.232	2.05	102.69	C
340.00-320.00			B	0.331	2.216	0.626	0.85	1	23.350			
			C	0.373	2.119	0.641	0.85	1	26.663			
T15	0.47	2.39	A	0.319	2.246	0.622	0.85	1	22.232	2.02	100.87	C
320.00-300.00			B	0.331	2.216	0.626	0.85	1	23.350			
			C	0.373	2.119	0.641	0.85	1	26.663			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T16	0.49	2.75	A	0.324	2.234	0.624	0.85	1	22.603	2.13	106.61	C
300.00-280.00			B	0.342	2.189	0.63	0.85	1	24.305			
			C	0.384	2.096	0.645	0.85	1	27.663			
T17	0.49	3.02	A	0.32	2.245	0.622	0.85	1	22.196	2.07	103.37	C
280.00-260.00			B	0.337	2.201	0.628	0.85	1	23.782			
			C	0.379	2.106	0.643	0.85	1	27.134			
T18	0.51	2.65	A	0.317	2.252	0.621	0.85	1	22.037	2.08	104.09	C
260.00-240.00			B	0.337	2.202	0.628	0.85	1	23.881			
			C	0.379	2.107	0.643	0.85	1	27.222			
T19	0.52	2.65	A	0.314	2.259	0.62	0.85	1	21.798	2.09	104.28	C
240.00-220.00			B	0.337	2.202	0.628	0.85	1	23.881			
			C	0.379	2.107	0.643	0.85	1	27.222			
T20	0.52	2.65	A	0.314	2.259	0.62	0.85	1	21.798	2.03	101.60	C
220.00-200.00			B	0.337	2.202	0.628	0.85	1	23.881			
			C	0.379	2.107	0.643	0.85	1	27.222			
T21	0.52	3.21	A	0.318	2.249	0.622	0.85	1	22.028	1.98	99.24	C
200.00-180.00			B	0.343	2.189	0.63	0.85	1	24.206			
			C	0.385	2.095	0.645	0.85	1	27.576			
T22	0.92	2.75	A	0.318	2.249	0.622	0.85	1	22.105	2.92	146.13	C
180.00-160.00			B	0.342	2.189	0.63	0.85	1	24.305			
			C	0.651	1.781	0.786	0.85	1	56.625			
T23	0.93	2.65	A	0.324	2.235	0.623	0.85	1	22.512	2.81	140.35	C
160.00-140.00			B	0.337	2.202	0.628	0.85	1	23.881			
			C	0.648	1.782	0.784	0.85	1	56.273			
T24	0.97	2.65	A	0.352	2.166	0.633	0.85	1	24.715	2.69	134.73	C
140.00-120.00			B	0.337	2.202	0.628	0.85	1	23.881			
			C	0.648	1.782	0.784	0.85	1	56.273			
T25	0.97	2.75	A	0.356	2.158	0.635	0.85	1	25.015	2.58	129.04	C
120.00-100.00			B	0.342	2.189	0.63	0.85	1	24.305			
			C	0.651	1.781	0.786	0.85	1	56.625			
T26	0.97	3.30	A	0.358	2.153	0.635	0.85	1	25.199	2.45	122.46	C
100.00-80.00			B	0.343	2.188	0.63	0.85	1	24.319			
			C	0.652	1.781	0.787	0.85	1	56.992			
T27	0.97	2.93	A	0.358	2.153	0.635	0.85	1	25.263	2.28	113.98	C
80.00-60.00			B	0.343	2.188	0.63	0.85	1	24.416			
			C	0.652	1.781	0.787	0.85	1	56.993			
T28	0.97	2.93	A	0.358	2.153	0.635	0.85	1	25.263	2.07	103.53	C
60.00-40.00			B	0.343	2.188	0.63	0.85	1	24.416			
			C	0.652	1.781	0.787	0.85	1	56.993			
T29	0.97	2.93	A	0.358	2.153	0.635	0.85	1	25.263	1.84	91.94	C
40.00-20.00			B	0.343	2.188	0.63	0.85	1	24.416			
			C	0.652	1.781	0.787	0.85	1	56.993			
T30	0.58	1.79	A	0.363	2.142	0.637	0.85	1	15.462	1.11	92.56	C
20.00-8.00			B	0.35	2.171	0.633	0.85	1	15.083			
			C	0.657	1.78	0.79	0.85	1	34.503			
T31 8.00-0.00	0.00	1.78	A	0.664	1.778	0.795	0.85	1	12.579	0.32	40.62	C
			B	0.664	1.778	0.795	0.85	1	12.579			
			C	0.664	1.778	0.795	0.85	1	12.579			
Sum Weight:	16.41	77.23								60.78		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
L1	0.00	1.34	A	1	0.59	1	1	1	29.563	0.27	8.15	C
625.00-592.00			B	1	0.59	1	1	1	29.563			
			C	1	0.59	1	1	1	29.563			
T1	0.06	1.10	A	0.164	2.722	0.584	1	1	7.362	0.37	30.90	C
592.00-580.00			B	0.164	2.722	0.584	1	1	7.362			
			C	0.226	2.511	0.596	1	1	9.683			
T2	0.12	1.29	A	0.161	2.732	0.583	1	1	12.244	0.63	31.46	C
580.00-560.00			B	0.161	2.732	0.583	1	1	12.244			
			C	0.233	2.489	0.598	1	1	16.712			
T3	0.15	1.29	A	0.183	2.655	0.587	1	1	13.552	0.62	31.14	C
560.00-540.00			B	0.161	2.732	0.583	1	1	12.244			
			C	0.233	2.489	0.598	1	1	16.712			
T4	0.18	1.82	A	0.212	2.557	0.593	1	1	15.157	0.62	31.08	C
540.00-520.00			B	0.168	2.706	0.584	1	1	12.481			
			C	0.24	2.467	0.599	1	1	17.004			
T5	0.18	1.48	A	0.211	2.558	0.593	1	1	15.368	0.62	31.12	C
520.00-500.00			B	0.168	2.707	0.584	1	1	12.709			
			C	0.24	2.468	0.599	1	1	17.207			
T6	0.19	1.48	A	0.226	2.512	0.596	1	1	16.268	0.62	30.77	C
500.00-480.00			B	0.168	2.707	0.584	1	1	12.709			
			C	0.24	2.468	0.599	1	1	17.207			
T7	0.20	2.04	A	0.214	2.548	0.593	1	1	15.391	0.61	30.66	C
480.00-460.00			B	0.208	2.571	0.592	1	1	14.960			
			C	0.247	2.447	0.601	1	1	17.505			
T8	0.20	1.77	A	0.209	2.566	0.592	1	1	15.304	0.62	31.09	C
460.00-440.00			B	0.224	2.518	0.596	1	1	16.231			
			C	0.252	2.431	0.602	1	1	18.087			
T9	0.20	1.69	A	0.206	2.575	0.592	1	1	15.119	0.60	30.25	C
440.00-420.00			B	0.218	2.536	0.594	1	1	15.853			
			C	0.246	2.448	0.601	1	1	17.705			
T10	0.20	1.69	A	0.216	2.544	0.594	1	1	15.708	0.60	29.84	C
420.00-400.00			B	0.218	2.536	0.594	1	1	15.853			
			C	0.246	2.448	0.601	1	1	17.705			
T11	0.22	1.69	A	0.211	2.559	0.593	1	1	15.281	0.67	33.48	C
400.00-380.00			B	0.218	2.536	0.594	1	1	15.853			
			C	0.246	2.448	0.601	1	1	17.705			
T12	0.22	2.44	A	0.223	2.52	0.595	1	1	15.887	0.68	34.02	C
380.00-360.00			B	0.231	2.496	0.597	1	1	16.514			
			C	0.259	2.411	0.604	1	1	18.392			
T13	0.23	1.92	A	0.217	2.542	0.594	1	1	15.627	0.69	34.33	C
360.00-340.00			B	0.225	2.515	0.596	1	1	16.341			
			C	0.253	2.428	0.603	1	1	18.207			
T14	0.23	1.92	A	0.216	2.544	0.594	1	1	15.572	0.68	34.25	C
340.00-320.00			B	0.225	2.515	0.596	1	1	16.341			
			C	0.253	2.428	0.603	1	1	18.207			
T15	0.23	1.92	A	0.216	2.544	0.594	1	1	15.572	0.67	33.64	C
320.00-300.00			B	0.225	2.515	0.596	1	1	16.341			
			C	0.253	2.428	0.603	1	1	18.207			
T16	0.23	2.26	A	0.226	2.511	0.596	1	1	16.243	0.71	35.29	C
300.00-280.00			B	0.237	2.477	0.599	1	1	17.212			
			C	0.265	2.393	0.606	1	1	19.097			
T17	0.23	2.52	A	0.221	2.526	0.595	1	1	15.718	0.68	33.90	C
280.00-260.00			B	0.232	2.493	0.597	1	1	16.628			
			C	0.26	2.408	0.604	1	1	18.516			
T18	0.24	2.17	A	0.22	2.53	0.595	1	1	15.826	0.68	34.11	C
260.00-240.00			B	0.232	2.494	0.597	1	1	16.833			
			C	0.26	2.409	0.604	1	1	18.712			
T19	0.24	2.17	A	0.219	2.533	0.595	1	1	15.748	0.68	33.94	C
240.00-220.00			B	0.232	2.494	0.597	1	1	16.833			
			C	0.26	2.409	0.604	1	1	18.712			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T20	0.24	2.17	A	0.219	2.533	0.595	1	1	15.748	0.66	33.07	C
220.00-200.00			B	0.232	2.494	0.597	1	1	16.833			
			C	0.26	2.409	0.604	1	1	18.712			
T21	0.24	2.69	A	0.225	2.516	0.596	1	1	15.897	0.64	32.21	C
200.00-180.00			B	0.237	2.476	0.599	1	1	17.008			
			C	0.265	2.392	0.606	1	1	18.901			
T22	0.36	2.26	A	0.224	2.517	0.596	1	1	16.079	0.84	41.82	C
180.00-160.00			B	0.237	2.477	0.599	1	1	17.212			
			C	0.444	1.983	0.671	1	1	32.805			
T23	0.37	2.17	A	0.226	2.51	0.596	1	1	16.201	0.80	40.08	C
160.00-140.00			B	0.232	2.494	0.597	1	1	16.833			
			C	0.44	1.99	0.669	1	1	32.429			
T24	0.38	2.17	A	0.248	2.445	0.601	1	1	17.583	0.77	38.48	C
140.00-120.00			B	0.232	2.494	0.597	1	1	16.833			
			C	0.44	1.99	0.669	1	1	32.429			
T25	0.38	2.26	A	0.252	2.43	0.602	1	1	17.910	0.74	36.93	C
120.00-100.00			B	0.237	2.477	0.599	1	1	17.212			
			C	0.444	1.983	0.671	1	1	32.805			
T26	0.38	2.79	A	0.254	2.424	0.603	1	1	17.918	0.70	34.95	C
100.00-80.00			B	0.238	2.473	0.599	1	1	17.124			
			C	0.446	1.98	0.672	1	1	32.947			
T27	0.38	2.44	A	0.254	2.425	0.603	1	1	18.087	0.65	32.63	C
80.00-60.00			B	0.238	2.474	0.599	1	1	17.327			
			C	0.446	1.98	0.671	1	1	33.063			
T28	0.38	2.44	A	0.254	2.425	0.603	1	1	18.087	0.59	29.64	C
60.00-40.00			B	0.238	2.474	0.599	1	1	17.327			
			C	0.446	1.98	0.671	1	1	33.063			
T29	0.38	2.44	A	0.254	2.425	0.603	1	1	18.087	0.53	26.32	C
40.00-20.00			B	0.238	2.474	0.599	1	1	17.327			
			C	0.446	1.98	0.671	1	1	33.063			
T30	0.23	1.48	A	0.259	2.411	0.604	1	1	11.177	0.32	26.60	C
20.00-8.00			B	0.244	2.456	0.6	1	1	10.777			
			C	0.45	1.973	0.673	1	1	20.159			
T31 8.00-0.00	0.00	1.47	A	0.523	1.871	0.71	1	1	10.308	0.13	16.16	C
			B	0.523	1.871	0.71	1	1	10.308			
			C	0.523	1.871	0.71	1	1	10.308			
Sum Weight:	7.48	62.73								19.70		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
L1	0.00	1.34	A	1	0.59	1	1	1	29.563	0.27	8.15	C
625.00-592.00			B	1	0.59	1	1	1	29.563			
			C	1	0.59	1	1	1	29.563			
T1	0.06	1.10	A	0.164	2.722	0.584	0.8	1	6.681	0.35	28.85	C
592.00-580.00			B	0.164	2.722	0.584	0.8	1	6.681			
			C	0.226	2.511	0.596	0.8	1	9.040			
T2	0.12	1.29	A	0.161	2.732	0.583	0.8	1	11.040	0.59	29.35	C
580.00-560.00			B	0.161	2.732	0.583	0.8	1	11.040			
			C	0.233	2.489	0.598	0.8	1	15.592			
T3	0.15	1.29	A	0.183	2.655	0.587	0.8	1	12.380	0.58	29.05	C
560.00-540.00			B	0.161	2.732	0.583	0.8	1	11.040			
			C	0.233	2.489	0.598	0.8	1	15.592			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T4	0.18	1.82	A	0.212	2.557	0.593	0.8	1	14.135	0.58	29.25	C
540.00-520.00			B	0.168	2.706	0.584	0.8	1	11.402			
			C	0.24	2.467	0.599	0.8	1	16.001			
T5	0.18	1.48	A	0.211	2.558	0.593	0.8	1	14.233	0.58	29.10	C
520.00-500.00			B	0.168	2.707	0.584	0.8	1	11.511			
			C	0.24	2.468	0.599	0.8	1	16.092			
T6	0.19	1.48	A	0.226	2.512	0.596	0.8	1	15.153	0.58	28.77	C
500.00-480.00			B	0.168	2.707	0.584	0.8	1	11.511			
			C	0.24	2.468	0.599	0.8	1	16.092			
T7	0.20	2.04	A	0.214	2.548	0.593	0.8	1	14.369	0.58	28.91	C
480.00-460.00			B	0.208	2.571	0.592	0.8	1	13.929			
			C	0.247	2.447	0.601	0.8	1	16.506			
T8	0.20	1.77	A	0.209	2.566	0.592	0.8	1	14.152	0.58	29.18	C
460.00-440.00			B	0.224	2.518	0.596	0.8	1	15.101			
			C	0.252	2.431	0.602	0.8	1	16.978			
T9	0.20	1.69	A	0.206	2.575	0.592	0.8	1	13.972	0.57	28.35	C
440.00-420.00			B	0.218	2.536	0.594	0.8	1	14.723			
			C	0.246	2.448	0.601	0.8	1	16.596			
T10	0.20	1.69	A	0.216	2.544	0.594	0.8	1	14.575	0.56	27.97	C
420.00-400.00			B	0.218	2.536	0.594	0.8	1	14.723			
			C	0.246	2.448	0.601	0.8	1	16.596			
T11	0.22	1.69	A	0.211	2.559	0.593	0.8	1	14.210	0.63	31.64	C
400.00-380.00			B	0.218	2.536	0.594	0.8	1	14.723			
			C	0.246	2.448	0.601	0.8	1	16.596			
T12	0.22	2.44	A	0.223	2.52	0.595	0.8	1	14.933	0.65	32.41	C
380.00-360.00			B	0.231	2.496	0.597	0.8	1	15.501			
			C	0.259	2.411	0.604	0.8	1	17.399			
T13	0.23	1.92	A	0.217	2.542	0.594	0.8	1	14.581	0.65	32.56	C
360.00-340.00			B	0.225	2.515	0.596	0.8	1	15.217			
			C	0.253	2.428	0.603	0.8	1	17.103			
T14	0.23	1.92	A	0.216	2.544	0.594	0.8	1	14.535	0.65	32.51	C
340.00-320.00			B	0.225	2.515	0.596	0.8	1	15.217			
			C	0.253	2.428	0.603	0.8	1	17.103			
T15	0.23	1.92	A	0.216	2.544	0.594	0.8	1	14.535	0.64	31.94	C
320.00-300.00			B	0.225	2.515	0.596	0.8	1	15.217			
			C	0.253	2.428	0.603	0.8	1	17.103			
T16	0.23	2.26	A	0.226	2.511	0.596	0.8	1	15.234	0.67	33.65	C
300.00-280.00			B	0.237	2.477	0.599	0.8	1	16.093			
			C	0.265	2.393	0.606	0.8	1	17.998			
T17	0.23	2.52	A	0.221	2.526	0.595	0.8	1	14.809	0.65	32.45	C
280.00-260.00			B	0.232	2.493	0.597	0.8	1	15.620			
			C	0.26	2.408	0.604	0.8	1	17.527			
T18	0.24	2.17	A	0.22	2.53	0.595	0.8	1	14.828	0.65	32.53	C
260.00-240.00			B	0.232	2.494	0.597	0.8	1	15.713			
			C	0.26	2.409	0.604	0.8	1	17.614			
T19	0.24	2.17	A	0.219	2.533	0.595	0.8	1	14.761	0.65	32.40	C
240.00-220.00			B	0.232	2.494	0.597	0.8	1	15.713			
			C	0.26	2.409	0.604	0.8	1	17.614			
T20	0.24	2.17	A	0.219	2.533	0.595	0.8	1	14.761	0.63	31.56	C
220.00-200.00			B	0.232	2.494	0.597	0.8	1	15.713			
			C	0.26	2.409	0.604	0.8	1	17.614			
T21	0.24	2.69	A	0.225	2.516	0.596	0.8	1	15.009	0.62	30.90	C
200.00-180.00			B	0.237	2.476	0.599	0.8	1	16.000			
			C	0.265	2.392	0.606	0.8	1	17.912			
T22	0.36	2.26	A	0.224	2.517	0.596	0.8	1	15.092	0.82	40.93	C
180.00-160.00			B	0.237	2.477	0.599	0.8	1	16.093			
			C	0.444	1.983	0.671	0.8	1	31.969			
T23	0.37	2.17	A	0.226	2.51	0.596	0.8	1	15.225	0.78	39.22	C
160.00-140.00			B	0.232	2.494	0.597	0.8	1	15.713			
			C	0.44	1.99	0.669	0.8	1	31.593			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T24	0.38	2.17	A	0.248	2.445	0.601	0.8	1	16.638	0.75	37.65	C
140.00-120.00			B	0.232	2.494	0.597	0.8	1	15.713			
			C	0.44	1.99	0.669	0.8	1	31.593			
T25	0.38	2.26	A	0.252	2.43	0.602	0.8	1	16.965	0.72	36.14	C
120.00-100.00			B	0.237	2.477	0.599	0.8	1	16.093			
			C	0.444	1.983	0.671	0.8	1	31.969			
T26	0.38	2.79	A	0.254	2.424	0.603	0.8	1	17.072	0.69	34.29	C
100.00-80.00			B	0.238	2.473	0.599	0.8	1	16.121			
			C	0.446	1.98	0.672	0.8	1	32.200			
T27	0.38	2.44	A	0.254	2.425	0.603	0.8	1	17.147	0.64	31.95	C
80.00-60.00			B	0.238	2.474	0.599	0.8	1	16.213			
			C	0.446	1.98	0.671	0.8	1	32.233			
T28	0.38	2.44	A	0.254	2.425	0.603	0.8	1	17.147	0.58	29.02	C
60.00-40.00			B	0.238	2.474	0.599	0.8	1	16.213			
			C	0.446	1.98	0.671	0.8	1	32.233			
T29	0.38	2.44	A	0.254	2.425	0.603	0.8	1	17.147	0.52	25.77	C
40.00-20.00			B	0.238	2.474	0.599	0.8	1	16.213			
			C	0.446	1.98	0.671	0.8	1	32.233			
T30	0.23	1.48	A	0.259	2.411	0.604	0.8	1	10.550	0.31	25.99	C
20.00-8.00			B	0.244	2.456	0.6	0.8	1	10.034			
			C	0.45	1.973	0.673	0.8	1	19.605			
T31 8.00-0.00	0.00	1.47	A	0.523	1.871	0.71	0.8	1	8.950	0.11	14.03	C
			B	0.523	1.871	0.71	0.8	1	8.950			
			C	0.523	1.871	0.71	0.8	1	8.950			
Sum Weight:	7.48	62.73								18.83		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
L1	0.00	1.34	A	1	0.59	1	1	1	29.563	0.27	8.15	C
625.00-592.00			B	1	0.59	1	1	1	29.563			
			C	1	0.59	1	1	1	29.563			
T1	0.06	1.10	A	0.164	2.722	0.584	0.85	1	6.851	0.35	29.36	C
592.00-580.00			B	0.164	2.722	0.584	0.85	1	6.851			
			C	0.226	2.511	0.596	0.85	1	9.201			
T2	0.12	1.29	A	0.161	2.732	0.583	0.85	1	11.341	0.60	29.88	C
580.00-560.00			B	0.161	2.732	0.583	0.85	1	11.341			
			C	0.233	2.489	0.598	0.85	1	15.872			
T3	0.15	1.29	A	0.183	2.655	0.587	0.85	1	12.673	0.59	29.58	C
560.00-540.00			B	0.161	2.732	0.583	0.85	1	11.341			
			C	0.233	2.489	0.598	0.85	1	15.872			
T4	0.18	1.82	A	0.212	2.557	0.593	0.85	1	14.391	0.59	29.71	C
540.00-520.00			B	0.168	2.706	0.584	0.85	1	11.672			
			C	0.24	2.467	0.599	0.85	1	16.252			
T5	0.18	1.48	A	0.211	2.558	0.593	0.85	1	14.517	0.59	29.61	C
520.00-500.00			B	0.168	2.707	0.584	0.85	1	11.811			
			C	0.24	2.468	0.599	0.85	1	16.371			
T6	0.19	1.48	A	0.226	2.512	0.596	0.85	1	15.432	0.59	29.27	C
500.00-480.00			B	0.168	2.707	0.584	0.85	1	11.811			
			C	0.24	2.468	0.599	0.85	1	16.371			
T7	0.20	2.04	A	0.214	2.548	0.593	0.85	1	14.624	0.59	29.35	C
480.00-460.00			B	0.208	2.571	0.592	0.85	1	14.187			
			C	0.247	2.447	0.601	0.85	1	16.756			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T8	0.20	1.77	A	0.209	2.566	0.592	0.85	1	14.440	0.59	29.66	C
460.00-440.00			B	0.224	2.518	0.596	0.85	1	15.383			
			C	0.252	2.431	0.602	0.85	1	17.255			
T9	0.20	1.69	A	0.206	2.575	0.592	0.85	1	14.259	0.58	28.83	C
440.00-420.00			B	0.218	2.536	0.594	0.85	1	15.006			
			C	0.246	2.448	0.601	0.85	1	16.873			
T10	0.20	1.69	A	0.216	2.544	0.594	0.85	1	14.858	0.57	28.44	C
420.00-400.00			B	0.218	2.536	0.594	0.85	1	15.006			
			C	0.246	2.448	0.601	0.85	1	16.873			
T11	0.22	1.69	A	0.211	2.559	0.593	0.85	1	14.478	0.64	32.10	C
400.00-380.00			B	0.218	2.536	0.594	0.85	1	15.006			
			C	0.246	2.448	0.601	0.85	1	16.873			
T12	0.22	2.44	A	0.223	2.52	0.595	0.85	1	15.172	0.66	32.81	C
380.00-360.00			B	0.231	2.496	0.597	0.85	1	15.755			
			C	0.259	2.411	0.604	0.85	1	17.647			
T13	0.23	1.92	A	0.217	2.542	0.594	0.85	1	14.843	0.66	33.00	C
360.00-340.00			B	0.225	2.515	0.596	0.85	1	15.498			
			C	0.253	2.428	0.603	0.85	1	17.379			
T14	0.23	1.92	A	0.216	2.544	0.594	0.85	1	14.794	0.66	32.95	C
340.00-320.00			B	0.225	2.515	0.596	0.85	1	15.498			
			C	0.253	2.428	0.603	0.85	1	17.379			
T15	0.23	1.92	A	0.216	2.544	0.594	0.85	1	14.794	0.65	32.36	C
320.00-300.00			B	0.225	2.515	0.596	0.85	1	15.498			
			C	0.253	2.428	0.603	0.85	1	17.379			
T16	0.23	2.26	A	0.226	2.511	0.596	0.85	1	15.486	0.68	34.06	C
300.00-280.00			B	0.237	2.477	0.599	0.85	1	16.372			
			C	0.265	2.393	0.606	0.85	1	18.272			
T17	0.23	2.52	A	0.221	2.526	0.595	0.85	1	15.037	0.66	32.81	C
280.00-260.00			B	0.232	2.493	0.597	0.85	1	15.872			
			C	0.26	2.408	0.604	0.85	1	17.774			
T18	0.24	2.17	A	0.22	2.53	0.595	0.85	1	15.078	0.66	32.92	C
260.00-240.00			B	0.232	2.494	0.597	0.85	1	15.993			
			C	0.26	2.409	0.604	0.85	1	17.888			
T19	0.24	2.17	A	0.219	2.533	0.595	0.85	1	15.008	0.66	32.78	C
240.00-220.00			B	0.232	2.494	0.597	0.85	1	15.993			
			C	0.26	2.409	0.604	0.85	1	17.888			
T20	0.24	2.17	A	0.219	2.533	0.595	0.85	1	15.008	0.64	31.94	C
220.00-200.00			B	0.232	2.494	0.597	0.85	1	15.993			
			C	0.26	2.409	0.604	0.85	1	17.888			
T21	0.24	2.69	A	0.225	2.516	0.596	0.85	1	15.231	0.62	31.23	C
200.00-180.00			B	0.237	2.476	0.599	0.85	1	16.252			
			C	0.265	2.392	0.606	0.85	1	18.159			
T22	0.36	2.26	A	0.224	2.517	0.596	0.85	1	15.339	0.82	41.15	C
180.00-160.00			B	0.237	2.477	0.599	0.85	1	16.372			
			C	0.444	1.983	0.671	0.85	1	32.178			
T23	0.37	2.17	A	0.226	2.51	0.596	0.85	1	15.469	0.79	39.44	C
160.00-140.00			B	0.232	2.494	0.597	0.85	1	15.993			
			C	0.44	1.99	0.669	0.85	1	31.802			
T24	0.38	2.17	A	0.248	2.445	0.601	0.85	1	16.874	0.76	37.86	C
140.00-120.00			B	0.232	2.494	0.597	0.85	1	15.993			
			C	0.44	1.99	0.669	0.85	1	31.802			
T25	0.38	2.26	A	0.252	2.43	0.602	0.85	1	17.201	0.73	36.34	C
120.00-100.00			B	0.237	2.477	0.599	0.85	1	16.372			
			C	0.444	1.983	0.671	0.85	1	32.178			
T26	0.38	2.79	A	0.254	2.424	0.603	0.85	1	17.283	0.69	34.46	C
100.00-80.00			B	0.238	2.473	0.599	0.85	1	16.372			
			C	0.446	1.98	0.672	0.85	1	32.387			
T27	0.38	2.44	A	0.254	2.425	0.603	0.85	1	17.382	0.64	32.12	C
80.00-60.00			B	0.238	2.474	0.599	0.85	1	16.491			
			C	0.446	1.98	0.671	0.85	1	32.441			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T28	0.38	2.44	A	0.254	2.425	0.603	0.85	1	17.382	0.58	29.17	C
60.00-40.00			B	0.238	2.474	0.599	0.85	1	16.491			
			C	0.446	1.98	0.671	0.85	1	32.441			
T29	0.38	2.44	A	0.254	2.425	0.603	0.85	1	17.382	0.52	25.91	C
40.00-20.00			B	0.238	2.474	0.599	0.85	1	16.491			
			C	0.446	1.98	0.671	0.85	1	32.441			
T30	0.23	1.48	A	0.259	2.411	0.604	0.85	1	10.706	0.31	26.14	C
20.00-8.00			B	0.244	2.456	0.6	0.85	1	10.220			
			C	0.45	1.973	0.673	0.85	1	19.744			
T31 8.00-0.00	0.00	1.47	A	0.523	1.871	0.71	0.85	1	9.290	0.12	14.56	C
			B	0.523	1.871	0.71	0.85	1	9.290			
			C	0.523	1.871	0.71	0.85	1	9.290			
Sum Weight:	7.48	62.73								19.05		

Force Totals (Does not include forces on guys)

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Torques kip-ft
Leg Weight	45.10			
Bracing Weight	17.63			
Total Member Self-Weight	62.73			
Guy Weight	17.93			
Total Weight	94.75			
Wind 0 deg - No Ice		0.30	-67.76	12.11
Wind 30 deg - No Ice		33.20	-57.20	8.83
Wind 60 deg - No Ice		56.66	-32.88	3.08
Wind 90 deg - No Ice		65.88	-0.30	-3.56
Wind 120 deg - No Ice		58.53	33.62	-9.16
Wind 150 deg - No Ice		32.68	56.90	-12.39
Wind 180 deg - No Ice		-0.30	65.25	-12.30
Wind 210 deg - No Ice		-33.20	57.20	-8.83
Wind 240 deg - No Ice		-58.84	34.14	-2.95
Wind 270 deg - No Ice		-65.88	0.30	3.56
Wind 300 deg - No Ice		-56.36	-32.36	9.22
Wind 330 deg - No Ice		-32.68	-56.90	12.39
Member Ice	14.50			
Guy Ice	8.30			
Total Weight Ice	128.67			
Wind 0 deg - Ice		0.23	-73.85	10.20
Wind 30 deg - Ice		35.98	-62.08	4.90
Wind 60 deg - Ice		61.42	-35.59	-1.96
Wind 90 deg - Ice		71.56	-0.23	-8.40
Wind 120 deg - Ice		63.85	36.73	-12.40
Wind 150 deg - Ice		35.58	61.86	-13.30
Wind 180 deg - Ice		-0.23	70.79	-10.61
Wind 210 deg - Ice		-35.98	62.08	-4.90
Wind 240 deg - Ice		-64.08	37.12	2.19
Wind 270 deg - Ice		-71.56	0.23	8.40
Wind 300 deg - Ice		-61.20	-35.20	12.57
Wind 330 deg - Ice		-35.58	-61.86	13.30
Total Weight	94.75			
Wind 0 deg - Service		0.10	-23.45	4.19
Wind 30 deg - Service		11.49	-19.79	3.06
Wind 60 deg - Service		19.61	-11.38	1.07

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Torques kip-ft
Wind 90 deg - Service		22.80	-0.10	-1.23
Wind 120 deg - Service		20.25	11.63	-3.17
Wind 150 deg - Service		11.31	19.69	-4.29
Wind 180 deg - Service		-0.10	22.58	-4.26
Wind 210 deg - Service		-11.49	19.79	-3.06
Wind 240 deg - Service		-20.36	11.81	-1.02
Wind 270 deg - Service		-22.80	0.10	1.23
Wind 300 deg - Service		-19.50	-11.20	3.19
Wind 330 deg - Service		-11.31	-19.69	4.29

Load Combinations

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	625 - 592	Pole	Max Tension	25	0.00	0.02	0.00
			Max. Compression	14	-2.86	0.07	-0.10
			Max. Mx	5	-1.99	-49.10	0.72
			Max. My	2	-1.99	-1.39	49.07
			Max. Vy	5	2.54	-49.10	0.72
			Max. Vx	2	-2.53	-1.39	49.07
			Max. Torque	8			-0.02
T1	592 - 580	Leg	Max Tension	4	10.67	0.00	0.00
			Max. Compression	17	-28.62	0.04	-0.03
			Max. Mx	18	7.89	-0.31	0.06
			Max. My	21	-27.37	-0.00	-0.33
			Max. Vy	18	1.23	-0.31	0.06
			Max. Vx	21	1.30	-0.00	-0.33
		Diagonal	Max Tension	7	4.33	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	1	-5.47	0.00	0.00
			Max. Mx	14	-5.39	-0.02	0.00
			Max. My	15	-4.75	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	32	-2.71	0.00	0.00
			Max. Mx	14	-2.65	-0.02	0.00
			Max. My	15	-2.46	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Guy A	Bottom Tension	21	32.53		
			Top Tension	21	34.10		
			Top Cable Vert	21	31.64		
			Top Cable Norm	21	12.71		
			Top Cable Tan	21	0.02		
			Bot Cable Vert	21	-28.68		
			Bot Cable Norm	21	15.35		
			Bot Cable Tan	21	0.02		
		Guy B	Bottom Tension	25	33.14		
			Top Tension	25	34.60		
			Top Cable Vert	25	32.09		
			Top Cable Norm	25	12.93		
			Top Cable Tan	25	0.03		
			Bot Cable Vert	25	-29.31		
			Bot Cable Norm	25	15.46		
			Bot Cable Tan	25	0.03		
		Guy C	Bottom Tension	17	34.17		
			Top Tension	17	35.48		
			Top Cable Vert	17	32.93		
			Top Cable Norm	17	13.19		
			Top Cable Tan	17	0.01		
			Bot Cable Vert	17	-30.43		
			Bot Cable Norm	17	15.54		
			Bot Cable Tan	17	0.01		
		Top Guy Pull-Off	Max Tension	15	5.49	0.00	0.00
			Max. Compression	33	-1.28	0.00	0.00
			Max. Mx	14	-0.49	0.07	0.00
			Max. My	15	0.65	0.00	-0.00
			Max. Vy	14	-0.06	0.00	0.00
			Max. Vx	15	0.00	0.00	0.00
		Index Plate	Max Tension	17	1.38	-26.40	-0.07
			Max. Compression	10	-0.73	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	2	-0.68	34.63	-0.03
			Max. My	15	0.70	-12.44	-2.06
			Max. Vy	2	12.00	34.63	-0.03
			Max. Vx	15	-0.71	-12.44	-2.06
T2	580 - 560	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-27.72	-0.01	0.00
			Max. Mx	18	-24.05	0.20	-0.01
			Max. My	15	-24.30	0.04	-0.20
			Max. Vy	18	0.82	-0.02	0.01
			Max. Vx	15	-0.80	-0.00	-0.00
		Diagonal	Max Tension	18	3.35	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	1	-3.97	0.00	0.00
			Max. Mx	14	-3.90	-0.02	0.00
			Max. My	15	-3.60	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	1	-2.13	0.00	0.00
			Max. Mx	14	-2.10	-0.02	0.00
			Max. My	15	-1.93	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	2	-2.09	0.00	0.00
			Max. Mx	14	-2.02	-0.02	0.00
			Max. My	15	-1.74	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
T3	560 - 540	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-40.65	0.03	-0.35
			Max. Mx	18	-36.82	0.31	0.07
			Max. My	15	-39.90	0.03	-0.35
			Max. Vy	18	1.59	-0.09	-0.01
			Max. Vx	15	-1.81	-0.01	0.10
		Diagonal	Max Tension	16	4.42	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	1	-3.96	0.00	0.00
			Max. Mx	14	-3.86	-0.02	0.00
			Max. My	15	-3.43	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	4	-2.14	0.00	0.00
			Max. Mx	14	-2.02	-0.02	0.00
			Max. My	15	-1.97	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	2	-2.48	0.00	0.00
			Max. Mx	14	-2.04	-0.02	0.00
			Max. My	15	-1.58	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
T4	540 - 520	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-59.27	0.00	0.02
			Max. Mx	18	-7.71	-0.51	0.12
			Max. My	15	-39.91	-0.05	0.55
			Max. Vy	18	1.59	-0.49	-0.08
			Max. Vx	15	-1.81	-0.05	0.55
		Diagonal	Max Tension	16	5.73	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	2	-5.85	0.00	0.00
			Max. Mx	14	-4.63	-0.02	0.00
			Max. My	15	-5.02	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-2.90	0.00	0.00
			Max. Mx	14	-2.65	-0.02	0.00
			Max. My	15	-2.65	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	33	-2.52	0.00	0.00
			Max. Mx	14	-2.37	-0.02	0.00
			Max. My	15	-2.06	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Guy A	Bottom Tension	21	39.50		
			Top Tension	21	41.25		
			Top Cable Vert	21	37.49		
			Top Cable Norm	21	17.19		
			Top Cable Tan	21	0.02		
			Bot Cable Vert	21	-34.31		
			Bot Cable Norm	21	19.57		
			Bot Cable Tan	21	0.02		
		Guy B	Bottom Tension	25	40.26		
			Top Tension	25	41.89		
			Top Cable Vert	25	38.02		
			Top Cable Norm	25	17.58		
			Top Cable Tan	25	0.04		
			Bot Cable Vert	25	-35.04		
			Bot Cable Norm	25	19.84		
			Bot Cable Tan	25	0.04		
		Guy C	Bottom Tension	17	41.62		
			Top Tension	17	43.05		
			Top Cable Vert	17	39.04		
			Top Cable Norm	17	18.14		
			Top Cable Tan	17	0.01		
			Bot Cable Vert	17	-36.38		
			Bot Cable Norm	17	20.22		
			Bot Cable Tan	17	0.01		
		Top Guy Pull-Off	Max Tension	15	4.49	0.00	0.00
			Max. Compression	33	-3.00	0.00	0.00
			Max. Mx	14	-1.94	0.07	0.00
			Max. My	15	-0.15	0.00	-0.00
			Max. Vy	14	-0.06	0.00	0.00
			Max. Vx	15	0.00	0.00	0.00
T5	520 - 500	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	16	-55.36	0.09	-0.07
			Max. Mx	10	-37.46	-0.22	0.07
			Max. My	8	-38.64	0.02	0.24
			Max. Vy	10	0.89	0.00	0.01
			Max. Vx	8	-1.04	0.02	-0.02
		Diagonal	Max Tension	8	3.48	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	32	-3.68	0.00	0.00
			Max. Mx	14	-3.55	-0.02	0.00
			Max. My	15	-3.01	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	27	-2.03	0.00	0.00
			Max. Mx	14	-1.93	-0.02	0.00
			Max. My	15	-1.57	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	32	-1.93	0.00	0.00
			Max. Mx	14	-1.84	-0.02	0.00
			Max. My	15	-1.52	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
T6	500 - 480	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-66.02	0.00	-0.36
			Max. Mx	12	-39.70	-0.75	0.10
			Max. My	8	-37.50	0.06	0.77
			Max. Vy	19	1.54	-0.09	-0.07
			Max. Vx	15	-1.90	0.00	0.11
		Diagonal	Max Tension	13	3.92	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	32	-3.67	0.00	0.00
			Max. Mx	14	-3.51	-0.02	0.00
			Max. My	15	-2.95	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	1	-1.91	0.00	0.00
			Max. Mx	14	-1.84	-0.02	0.00
			Max. My	15	-1.60	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	2	-2.16	0.00	0.00
			Max. Mx	14	-1.91	-0.02	0.00
			Max. My	15	-1.39	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
T7	480 - 460	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-95.13	0.02	0.11
			Max. Mx	5	-21.69	-0.77	0.18
			Max. My	21	-25.42	-0.08	-0.82
			Max. Vy	4	-2.33	-0.77	0.33
			Max. Vx	8	-2.46	-0.08	-0.81
		Diagonal	Max Tension	12	5.62	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	27	-5.17	0.00	0.00
			Max. Mx	14	-4.96	-0.02	0.00
			Max. My	15	-4.06	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-2.70	0.00	0.00
			Max. Mx	14	-2.44	-0.02	0.00
			Max. My	15	-2.30	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Guy A	Bottom Tension	21	37.45		
			Top Tension	21	38.99		
			Top Cable Vert	21	34.44		
			Top Cable Norm	21	18.29		
			Top Cable Tan	21	0.02		

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Bot Cable Vert	21	-31.56		
			Bot Cable Norm	21	20.16		
			Bot Cable Tan	21	0.02		
		Guy B	Bottom Tension	25	37.95		
			Top Tension	25	39.36		
			Top Cable Vert	25	34.63		
			Top Cable Norm	25	18.71		
			Top Cable Tan	25	0.03		
			Bot Cable Vert	25	-31.95		
			Bot Cable Norm	25	20.48		
			Bot Cable Tan	25	0.03		
		Guy C	Bottom Tension	17	38.92		
			Top Tension	17	40.14		
			Top Cable Vert	17	35.12		
			Top Cable Norm	17	19.44		
			Top Cable Tan	17	0.01		
			Bot Cable Vert	17	-32.76		
			Bot Cable Norm	17	21.02		
			Bot Cable Tan	17	0.01		
		Top Guy Pull-Off	Max Tension	15	6.92	0.00	0.00
			Max. Compression	8	-0.84	0.00	0.00
			Max. Mx	14	0.83	0.07	0.00
			Max. My	15	1.96	0.00	-0.00
			Max. Vy	14	-0.06	0.00	0.00
			Max. Vx	15	0.00	0.00	0.00
T8	460 - 440	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-96.74	0.01	0.06
			Max. Mx	4	-47.63	0.40	-0.14
			Max. My	8	-45.62	0.03	0.42
			Max. Vy	4	-2.34	-0.18	0.10
			Max. Vx	8	-2.46	-0.02	-0.20
		Diagonal	Max Tension	11	4.60	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	1	-4.65	0.00	0.00
			Max. Mx	23	-3.73	-0.02	0.00
			Max. My	15	-3.51	0.00	0.00
			Max. Vy	23	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	27	-2.00	0.00	0.00
			Max. Mx	14	-1.81	-0.02	0.00
			Max. My	15	-1.25	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	33	-2.38	0.00	0.00
			Max. Mx	23	-1.74	-0.02	0.00
			Max. My	15	-1.82	0.00	0.00
			Max. Vy	23	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
T9	440 - 420	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-87.44	0.01	0.08
			Max. Mx	11	-55.54	-0.24	0.01
			Max. My	3	-59.96	-0.09	-0.32
			Max. Vy	5	-0.95	-0.00	0.02
			Max. Vx	21	-0.88	0.02	-0.02
		Diagonal	Max Tension	4	3.20	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	33	-3.54	0.00	0.00
			Max. Mx	14	-3.30	-0.02	0.00
			Max. My	15	-2.66	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	27	-1.92	0.00	0.00
			Max. Mx	23	-1.66	-0.02	0.00
			Max. My	15	-1.39	0.00	0.00
			Max. Vy	23	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	1	-1.81	0.00	0.00
			Max. Mx	14	-1.72	-0.02	0.00
			Max. My	15	-1.32	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
T10	420 - 400	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-94.83	-0.11	-0.34
			Max. Mx	10	-61.86	-0.34	0.16
			Max. My	2	-69.00	-0.13	-0.36
			Max. Vy	10	-1.10	-0.06	0.02
			Max. Vx	2	-1.23	-0.07	-0.05
		Diagonal	Max Tension	7	3.30	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	32	-3.49	0.00	0.00
			Max. Mx	14	-3.28	-0.02	0.00
			Max. My	15	-2.63	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	33	-1.83	0.00	0.00
			Max. Mx	14	-1.72	-0.02	0.00
			Max. My	15	-1.43	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	27	-1.82	0.00	0.00
			Max. Mx	14	-1.71	-0.02	0.00
			Max. My	15	-1.21	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
T11	400 - 380	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-117.72	0.12	0.24
			Max. Mx	10	-84.90	-0.39	0.23
			Max. My	2	-92.36	-0.01	-0.41
			Max. Vy	10	-2.34	0.20	-0.06
			Max. Vx	2	-2.48	0.11	0.21
		Diagonal	Max Tension	7	5.96	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	7	-4.45	0.00	0.00
			Max. Mx	14	-3.23	-0.02	0.00
			Max. My	15	-2.54	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-1.94	0.00	0.00
			Max. Mx	14	-1.70	-0.02	0.00
			Max. My	15	-1.51	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-2.35	0.00	0.00
			Max. Mx	14	-1.81	-0.02	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	15	-1.13	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
T12	380 - 360	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-141.10	0.01	-0.03
			Max. Mx	23	-109.85	0.80	-0.37
			Max. My	15	-56.80	0.05	0.87
			Max. Vy	10	-2.33	0.78	-0.36
			Max. Vx	2	-2.48	0.24	0.83
		Diagonal	Max Tension	8	7.25	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	27	-6.59	0.00	0.00
			Max. Mx	14	-5.98	-0.02	0.00
			Max. My	15	-4.66	0.00	0.00
			Max. Vy	14	0.02	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	33	-3.28	0.00	0.00
			Max. Mx	14	-3.04	-0.02	0.00
			Max. My	15	-2.65	0.00	0.00
			Max. Vy	14	0.02	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	33	-3.03	0.00	0.00
			Max. Mx	14	-2.84	-0.02	0.00
			Max. My	15	-2.32	0.00	0.00
			Max. Vy	14	0.02	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Guy A	Bottom Tension	21	34.24		
			Top Tension	21	35.51		
			Top Cable Vert	21	29.66		
			Top Cable Norm	21	19.52		
			Top Cable Tan	21	0.01		
			Bot Cable Vert	21	-27.21		
			Bot Cable Norm	21	20.79		
			Bot Cable Tan	21	0.01		
		Guy B	Bottom Tension	25	34.57		
			Top Tension	25	35.71		
			Top Cable Vert	25	29.50		
			Top Cable Norm	25	20.12		
			Top Cable Tan	25	0.02		
			Bot Cable Vert	25	-27.24		
			Bot Cable Norm	25	21.29		
			Bot Cable Tan	25	0.02		
		Guy C	Bottom Tension	17	35.43		
			Top Tension	17	36.38		
			Top Cable Vert	17	29.45		
			Top Cable Norm	17	21.36		
			Top Cable Tan	17	0.01		
			Bot Cable Vert	17	-27.49		
			Bot Cable Norm	17	22.34		
			Bot Cable Tan	17	0.01		
		Top Guy Pull-Off	Max Tension	16	3.73	0.00	0.00
			Max. Compression	33	-3.43	0.00	0.00
			Max. Mx	14	-1.71	0.07	0.00
			Max. My	15	-0.11	0.00	-0.00
			Max. Vy	14	-0.06	0.00	0.00
			Max. Vx	15	0.00	0.00	0.00
T13	360 - 340	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-131.97	0.04	0.19
			Max. Mx	5	-96.82	0.36	0.07

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	2	-105.76	0.04	-0.38
			Max. Vy	18	-1.70	-0.09	0.03
			Max. Vx	15	1.86	-0.04	0.09
		Diagonal	Max Tension	16	4.14	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	1	-3.35	0.00	0.00
			Max. Mx	14	-3.14	-0.02	0.00
			Max. My	20	-2.50	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	20	0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	2	-2.01	0.00	0.00
			Max. Mx	14	-1.71	-0.02	0.00
			Max. My	15	-1.31	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	28	-1.76	0.00	0.00
			Max. Mx	14	-1.66	-0.02	0.00
			Max. My	20	-1.35	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	20	0.00	0.00	0.00
T14	340 - 320	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-122.24	-0.02	0.10
			Max. Mx	6	-94.95	0.17	-0.04
			Max. My	8	-78.41	-0.03	0.19
			Max. Vy	19	-0.72	-0.01	-0.00
			Max. Vx	15	0.84	-0.02	0.05
		Diagonal	Max Tension	2	2.99	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	1	-3.34	0.00	0.00
			Max. Mx	14	-3.13	-0.02	0.00
			Max. My	20	-2.51	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	20	0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	1	-1.76	0.00	0.00
			Max. Mx	14	-1.62	-0.02	0.00
			Max. My	20	-1.26	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	20	0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	1	-1.75	0.00	0.00
			Max. Mx	14	-1.66	-0.02	0.00
			Max. My	20	-1.35	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	20	0.00	0.00	0.00
T15	320 - 300	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-127.22	-0.13	-0.25
			Max. Mx	10	-98.19	-0.31	0.10
			Max. My	8	-83.45	0.05	0.30
			Max. Vy	10	-1.35	0.03	-0.07
			Max. Vx	7	1.38	-0.02	-0.06
		Diagonal	Max Tension	7	3.69	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	1	-3.32	0.00	0.00
			Max. Mx	14	-3.10	-0.02	0.00
			Max. My	20	-2.51	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	20	0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	32	-1.76	0.00	0.00
			Max. Mx	14	-1.62	-0.02	0.00
			Max. My	20	-1.26	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	20	0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	35	-1.91	0.00	0.00
			Max. Mx	14	-1.77	-0.02	0.00
			Max. My	20	-1.45	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	20	0.00	0.00	0.00
T16	300 - 280	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-145.42	-0.13	-0.53
			Max. Mx	10	-118.85	-0.59	0.25
			Max. My	2	-121.73	-0.17	-0.56
			Max. Vy	10	-2.44	0.02	-0.02
			Max. Vx	2	-2.42	0.02	0.05
		Diagonal	Max Tension	7	6.05	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	1	-4.56	0.00	0.00
			Max. Mx	14	-4.28	-0.02	0.00
			Max. My	20	-3.66	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	20	0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	33	-2.33	0.00	0.00
			Max. Mx	14	-2.15	-0.02	0.00
			Max. My	20	-1.77	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	20	0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	10	-2.94	0.00	0.00
			Max. Mx	14	-2.50	-0.02	0.00
			Max. My	20	-2.41	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	20	0.00	0.00	0.00
T17	280 - 260	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-153.09	-0.03	0.11
			Max. Mx	10	-118.86	0.63	-0.29
			Max. My	2	-121.75	0.21	0.65
			Max. Vy	10	-2.44	0.63	-0.29
			Max. Vx	2	-2.42	0.21	0.65
		Diagonal	Max Tension	8	6.44	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	35	-4.50	0.00	0.00
			Max. Mx	14	-4.04	-0.02	0.00
			Max. My	20	-3.51	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	20	0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	34	-2.62	0.00	0.00
			Max. Mx	14	-2.48	-0.02	0.00
			Max. My	20	-2.20	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	20	0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	33	-2.20	0.00	0.00
			Max. Mx	14	-2.02	-0.02	0.00
			Max. My	26	-1.66	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	26	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Guy A	Bottom Tension	21	31.25		
			Top Tension	21	32.21		
			Top Cable Vert	21	26.26		
			Top Cable Norm	21	18.65		
			Top Cable Tan	21	0.01		
			Bot Cable Vert	21	-24.42		
			Bot Cable Norm	21	19.50		
			Bot Cable Tan	21	0.01		
		Guy B	Bottom Tension	25	31.26		
			Top Tension	25	32.12		
			Top Cable Vert	25	26.16		
			Top Cable Norm	25	18.63		
			Top Cable Tan	25	0.02		
			Bot Cable Vert	25	-24.50		
			Bot Cable Norm	25	19.42		
			Bot Cable Tan	25	0.02		
		Guy C	Bottom Tension	17	31.37		
			Top Tension	17	32.08		
			Top Cable Vert	17	26.15		
			Top Cable Norm	17	18.58		
			Top Cable Tan	17	0.01		
			Bot Cable Vert	17	-24.74		
			Bot Cable Norm	17	19.28		
			Bot Cable Tan	17	0.01		
		Top Guy Pull-Off	Max Tension	16	3.98	0.00	0.00
			Max. Compression	8	-2.00	0.00	0.00
			Max. Mx	14	-0.13	0.07	0.00
			Max. My	20	1.83	0.00	0.00
			Max. Vy	14	-0.06	0.00	0.00
			Max. Vx	20	-0.00	0.00	0.00
T18	260 - 240	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-135.48	0.01	0.15
			Max. Mx	6	-111.87	0.41	0.20
			Max. My	15	-135.02	0.02	-0.45
			Max. Vy	19	-1.86	-0.06	-0.03
			Max. Vx	15	2.10	-0.05	0.07
		Diagonal	Max Tension	22	4.96	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	22	-3.60	0.00	0.00
			Max. Mx	14	-3.05	-0.02	0.00
			Max. My	26	-2.47	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	26	0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	22	-2.00	0.00	0.00
			Max. Mx	14	-1.72	-0.02	0.00
			Max. My	26	-1.38	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	26	0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	33	-1.73	0.00	0.00
			Max. Mx	14	-1.59	-0.02	0.00
			Max. My	25	-1.25	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	25	0.00	0.00	0.00
T19	240 - 220	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-123.54	-0.02	0.09
			Max. Mx	22	-106.65	-0.24	0.15
			Max. My	22	-114.22	-0.08	0.34
			Max. Vy	23	0.95	0.01	-0.04
			Max. Vx	22	-1.23	-0.03	0.03

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Diagonal	Max Tension	9	3.51	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	1	-3.25	0.00	0.00
			Max. Mx	14	-3.03	-0.02	0.00
			Max. My	25	-2.47	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	25	0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	1	-1.71	0.00	0.00
			Max. Mx	14	-1.60	-0.02	0.00
			Max. My	25	-1.34	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	25	0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	1	-1.70	0.00	0.00
			Max. Mx	14	-1.58	-0.02	0.00
			Max. My	25	-1.31	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	25	0.00	0.00	0.00
T20	220 - 200	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-128.12	-0.09	-0.30
			Max. Mx	23	-118.78	-0.29	0.06
			Max. My	15	-128.12	-0.09	-0.30
			Max. Vy	17	1.30	-0.12	0.03
			Max. Vx	8	1.30	0.06	-0.06
		Diagonal	Max Tension	8	3.55	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	1	-3.23	0.00	0.00
			Max. Mx	14	-2.99	-0.02	0.00
			Max. My	25	-2.46	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	25	0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	36	-1.71	0.00	0.00
			Max. Mx	14	-1.59	-0.02	0.00
			Max. My	25	-1.26	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	25	0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	35	-1.86	0.00	0.00
			Max. Mx	14	-1.69	-0.02	0.00
			Max. My	25	-1.48	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	25	0.00	0.00	0.00
T21	200 - 180	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-142.23	-0.03	0.05
			Max. Mx	19	-128.83	-0.89	-0.55
			Max. My	15	-132.28	-0.18	1.04
			Max. Vy	19	-3.69	-0.89	-0.55
			Max. Vx	15	4.30	-0.18	1.04
		Diagonal	Max Tension	22	9.79	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	35	-5.87	0.00	0.00
			Max. Mx	14	-5.26	-0.02	0.00
			Max. My	25	-4.40	0.00	-0.00
			Max. Vy	14	0.02	0.00	0.00
			Max. Vx	25	0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	33	-2.90	0.00	0.00
			Max. Mx	14	-2.67	-0.02	0.00
			Max. My	25	-2.10	0.00	-0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	14	0.02	0.00	0.00
			Max. Vx	25	0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	23	-3.89	0.00	0.00
			Max. Mx	14	-2.91	-0.02	0.00
			Max. My	25	-2.20	0.00	-0.00
			Max. Vy	14	0.02	0.00	0.00
			Max. Vx	25	0.00	0.00	0.00
		Guy A	Bottom Tension	21	25.63		
			Top Tension	21	26.18		
			Top Cable Vert	21	18.40		
			Top Cable Norm	21	18.62		
			Top Cable Tan	21	0.01		
			Bot Cable Vert	21	-17.21		
			Bot Cable Norm	21	18.99		
			Bot Cable Tan	21	0.01		
		Guy B	Bottom Tension	25	26.13		
			Top Tension	25	26.60		
			Top Cable Vert	25	18.19		
			Top Cable Norm	25	19.40		
			Top Cable Tan	25	0.01		
			Bot Cable Vert	25	-17.14		
			Bot Cable Norm	25	19.72		
			Bot Cable Tan	25	0.01		
		Guy C	Bottom Tension	17	26.75		
			Top Tension	17	27.11		
			Top Cable Vert	17	17.58		
			Top Cable Norm	17	20.64		
			Top Cable Tan	17	0.01		
			Bot Cable Vert	17	-16.74		
			Bot Cable Norm	17	20.86		
			Bot Cable Tan	17	0.01		
		Top Guy Pull-Off	Max Tension	16	3.64	0.00	0.00
			Max. Compression	8	-3.75	0.00	0.00
			Max. Mx	14	-1.20	0.07	0.00
			Max. My	25	2.33	0.00	0.00
			Max. Vy	14	-0.06	0.00	0.00
			Max. Vx	25	-0.00	0.00	0.00
T22	180 - 160	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-149.66	0.30	0.23
			Max. Mx	19	-129.63	0.82	0.50
			Max. My	15	-133.02	0.07	-0.95
			Max. Vy	19	-3.69	0.03	0.01
			Max. Vx	15	4.29	-0.06	-0.03
		Diagonal	Max Tension	22	8.05	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	22	-5.78	0.00	0.00
			Max. Mx	14	-3.68	-0.02	0.00
			Max. My	25	-2.85	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	25	0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	22	-3.22	0.00	0.00
			Max. Mx	14	-2.15	-0.02	0.00
			Max. My	25	-2.35	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	25	0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	23	-2.18	0.00	0.00
			Max. Mx	14	-1.83	-0.02	0.00
			Max. My	25	-1.28	0.00	-0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	25	0.00	0.00	0.00
T23	160 - 140	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	20	-159.08	0.24	0.18
			Max. Mx	24	-129.61	-0.88	-0.00
			Max. My	23	-90.58	0.06	0.55
			Max. Vy	19	-1.73	0.02	-0.01
			Max. Vx	15	2.09	-0.06	-0.01
		Diagonal	Max Tension	22	4.81	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	22	-3.40	0.00	0.00
			Max. Mx	14	-2.78	-0.02	0.00
			Max. My	25	-1.98	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	25	0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	22	-1.97	0.00	0.00
			Max. Mx	14	-1.57	-0.02	0.00
			Max. My	25	-1.32	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	25	0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	32	-1.61	0.00	0.00
			Max. Mx	14	-1.45	-0.02	0.00
			Max. My	25	-1.22	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	25	0.00	0.00	0.00
T24	140 - 120	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	20	-158.24	0.08	0.11
			Max. Mx	23	-105.22	-0.48	0.32
			Max. My	15	-112.24	-0.04	-0.54
			Max. Vy	23	-1.83	-0.02	-0.03
			Max. Vx	15	-2.15	0.04	0.00
		Diagonal	Max Tension	26	5.43	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-3.91	0.00	0.00
			Max. Mx	14	-2.74	-0.02	0.00
			Max. My	24	-2.23	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	33	-1.65	0.00	0.00
			Max. Mx	14	-1.46	-0.02	0.00
			Max. My	25	-1.21	0.00	-0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	25	0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	25	-2.20	0.00	0.00
			Max. Mx	14	-1.54	-0.02	0.00
			Max. My	24	-1.27	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
T25	120 - 100	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	16	-148.74	0.20	-0.71
			Max. Mx	23	-135.22	-0.70	0.53
			Max. My	15	-140.53	-0.08	-0.83
			Max. Vy	23	-2.95	0.04	-0.00
			Max. Vx	15	-3.48	-0.01	0.04
		Diagonal	Max Tension	20	7.80	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	20	-5.66	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	14	-3.56	-0.02	0.00
			Max. My	24	-2.94	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-2.36	0.00	0.00
			Max. Mx	14	-1.81	-0.02	0.00
			Max. My	24	-1.45	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	20	-3.09	0.00	0.00
			Max. Mx	14	-1.88	-0.02	0.00
			Max. My	24	-1.97	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
T26	100 - 80	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	16	-165.55	-0.05	0.09
			Max. Mx	18	-118.30	-0.90	0.14
			Max. My	21	-117.69	-0.10	-1.07
			Max. Vy	23	-2.95	0.78	-0.54
			Max. Vx	15	-3.48	0.05	0.91
		Diagonal	Max Tension	20	8.37	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	20	-6.04	0.00	0.00
			Max. Mx	14	-3.74	-0.02	0.00
			Max. My	24	-3.99	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	19	-3.37	0.00	0.00
			Max. Mx	14	-2.06	-0.02	0.00
			Max. My	24	-2.17	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	18	-2.42	0.00	0.00
			Max. Mx	14	-1.86	-0.02	0.00
			Max. My	24	-2.41	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
		Guy A	Bottom Tension	21	24.00		
			Top Tension	21	24.33		
			Top Cable Vert	21	12.27		
			Top Cable Norm	21	21.01		
			Top Cable Tan	21	0.00		
			Bot Cable Vert	21	-11.44		
			Bot Cable Norm	21	21.10		
			Bot Cable Tan	21	0.00		
		Guy B	Bottom Tension	25	24.35		
			Top Tension	25	24.60		
			Top Cable Vert	25	10.80		
			Top Cable Norm	25	22.10		
			Top Cable Tan	25	0.01		
			Bot Cable Vert	25	-10.11		
			Bot Cable Norm	25	22.15		
			Bot Cable Tan	25	0.01		
		Guy C	Bottom Tension	17	24.39		
			Top Tension	17	24.52		
			Top Cable Vert	17	7.40		
			Top Cable Norm	17	23.38		

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Top Cable Tan	17	0.00		
			Bot Cable Vert	17	-6.89		
			Bot Cable Norm	17	23.39		
			Bot Cable Tan	17	0.00		
		Top Guy Pull-Off	Max Tension	15	7.12	0.00	0.00
			Max. Compression	8	-1.87	0.00	0.00
			Max. Mx	14	2.12	0.07	0.00
			Max. My	24	2.45	0.00	-0.00
			Max. Vy	14	-0.06	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
T27	80 - 60	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	19	-155.26	0.01	-0.11
			Max. Mx	19	-139.07	0.50	0.26
			Max. My	15	-143.05	0.00	-0.56
			Max. Vy	18	-2.41	-0.13	0.10
			Max. Vx	15	2.49	-0.05	0.06
		Diagonal	Max Tension	18	5.66	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	18	-4.13	0.00	0.00
			Max. Mx	14	-2.83	-0.02	0.00
			Max. My	24	-4.09	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	18	-2.33	0.00	0.00
			Max. Mx	14	-1.62	-0.02	0.00
			Max. My	24	-2.30	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	33	-1.69	0.00	0.00
			Max. Mx	14	-1.50	-0.02	0.00
			Max. My	24	-1.49	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
T28	60 - 40	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	20	-159.86	0.06	0.01
			Max. Mx	18	-133.72	0.43	-0.03
			Max. My	15	-126.82	0.03	-0.37
			Max. Vy	18	-1.36	0.09	0.01
			Max. Vx	15	1.15	-0.01	-0.08
		Diagonal	Max Tension	18	3.54	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	33	-3.15	0.00	0.00
			Max. Mx	14	-2.82	-0.02	0.00
			Max. My	24	-2.49	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	1	-1.65	0.00	0.00
			Max. Mx	14	-1.48	-0.02	0.00
			Max. My	24	-1.42	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	33	-1.65	0.00	0.00
			Max. Mx	14	-1.49	-0.02	0.00
			Max. My	24	-1.24	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
T29	40 - 20	Leg	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-160.14	-0.04	-0.05
			Max. Mx	23	-126.48	-0.25	0.26
			Max. My	15	-129.07	-0.02	-0.33
			Max. Vy	24	-0.89	-0.02	-0.01
			Max. Vx	15	-1.15	-0.00	-0.05
		Diagonal	Max Tension	19	3.04	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	33	-3.14	0.00	0.00
			Max. Mx	14	-2.81	-0.02	0.00
			Max. My	24	-2.37	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	33	-1.66	0.00	0.00
			Max. Mx	14	-1.47	-0.02	0.00
			Max. My	24	-1.25	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	1	-1.66	0.00	0.00
			Max. Mx	14	-1.51	-0.02	0.00
			Max. My	24	-1.26	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
T30	20 - 8	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	17	-157.67	-0.07	0.02
			Max. Mx	17	-151.87	-9.00	4.90
			Max. My	20	-148.62	0.08	-10.03
			Max. Vy	17	34.44	-9.00	4.90
			Max. Vx	20	39.16	0.08	-10.03
		Diagonal	Max Tension	19	5.50	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	33	-4.01	0.00	0.00
			Max. Mx	14	-3.89	-0.02	0.00
			Max. My	24	-2.44	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
		Top Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	33	-1.66	0.00	0.00
			Max. Mx	14	-1.45	-0.02	0.00
			Max. My	24	-1.21	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
		Bottom Girt	Max Tension	16	19.56	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	14	13.79	-0.02	0.00
			Max. My	24	18.53	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	24	-0.00	0.00	0.00
T31	8 - 0	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	17	-161.12	-1.21	-2.37
			Max. Mx	17	-156.38	10.24	0.24
			Max. My	24	-151.27	-1.13	3.31
			Max. Vy	17	14.36	-3.74	-0.08
			Max. Vx	24	-3.34	-1.13	3.31
		Diagonal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	18	-23.13	0.13	0.20
			Max. Mx	18	-22.26	-0.55	0.20
			Max. My	24	-15.66	0.23	-0.21
			Max. Vy	18	-0.97	0.00	0.00
			Max. Vx	24	-0.37	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Horizontal	Max Tension	16	13.75	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	23	4.86	-0.01	0.00
			Max. My	23	4.82	0.00	-0.00
			Max. Vy	23	0.02	0.00	0.00
			Max. Vx	23	0.00	0.00	0.00
		Top Girt	Max Tension	16	10.85	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	23	10.66	0.02	0.00
			Max. My	23	10.07	0.00	0.00
			Max. Vy	23	0.02	0.00	0.00
			Max. Vx	23	-0.00	0.00	0.00
		Bottom Girt	Max Tension	16	13.68	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	17	13.31	0.00	0.00
			Max. My	23	12.94	0.00	0.00
			Max. Vy	17	-0.01	0.00	0.00
			Max. Vx	23	-0.00	0.00	0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Mast	Max. Vert	17	442.39	-1.41	0.66
	Max. H_x	24	427.75	1.71	-0.14
	Max. H_z	15	436.25	0.05	2.00
	Max. M_x	1	0.00	0.02	-0.05
	Max. M_z	1	0.00	0.02	-0.05
	Max. Torsion	18	3.51	-1.71	-0.11
	Min. Vert	1	269.61	0.02	-0.05
	Min. H_x	19	432.49	-1.75	-1.10
	Min. H_z	8	335.83	0.07	-1.59
	Min. M_x	1	0.00	0.02	-0.05
	Min. M_z	1	0.00	0.02	-0.05
	Min. Torsion	24	-3.68	1.71	-0.14
Guy C @ 245 ft Elev 51 ft Azimuth 240 deg	Max. Vert	10	-13.80	-4.68	2.70
	Max. H_x	10	-13.80	-4.68	2.70
	Max. H_z	16	-120.70	-63.46	39.78
	Min. Vert	17	-127.05	-68.50	39.59
	Min. H_x	17	-127.05	-68.50	39.59
	Min. H_z	10	-13.80	-4.68	2.70
Guy B @ 279 ft Elev -12 ft Azimuth 120 deg	Max. Vert	6	-15.65	5.49	3.16
	Max. H_x	25	-123.54	66.68	38.63
	Max. H_z	26	-118.61	62.29	39.41
	Min. Vert	25	-123.54	66.68	38.63
	Min. H_x	6	-15.65	5.49	3.16
	Min. H_z	6	-15.65	5.49	3.16
Guy A @ 300 ft Elev -53 ft Azimuth 0 deg	Max. Vert	2	-16.86	0.00	-6.91
	Max. H_x	24	-72.13	6.27	-42.12
	Max. H_z	2	-16.86	0.00	-6.91

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Min. Vert	21	-121.77	-0.08	-75.88
	Min. H_x	18	-75.07	-6.30	-43.81
	Min. H_z	21	-121.77	-0.08	-75.88
Guy C @ 179 ft Elev 38 ft Azimuth 240 deg	Max. Vert	10	-1.51	-2.10	1.21
	Max. H_x	10	-1.51	-2.10	1.21
	Max. H_z	17	-48.38	-55.01	31.78
	Min. Vert	17	-48.38	-55.01	31.78
	Min. H_x	17	-48.38	-55.01	31.78
	Min. H_z	10	-1.51	-2.10	1.21
Guy B @ 216 ft Elev -9 ft Azimuth 120 deg	Max. Vert	6	-2.38	2.83	1.63
	Max. H_x	25	-51.75	53.06	30.68
	Max. H_z	25	-51.75	53.06	30.68
	Min. Vert	25	-51.75	53.06	30.68
	Min. H_x	6	-2.38	2.83	1.63
	Min. H_z	6	-2.38	2.83	1.63
Guy A @ 242 ft Elev -43 ft Azimuth 0 deg	Max. Vert	2	-3.08	0.00	-3.95
	Max. H_x	24	-28.76	1.82	-32.32
	Max. H_z	2	-3.08	0.00	-3.95
	Min. Vert	21	-53.08	-0.02	-59.58
	Min. H_x	18	-30.66	-1.82	-34.61
	Min. H_z	21	-53.08	-0.02	-59.58

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	269.61	-0.02	0.05	0.00	0.00	-0.01
Dead+Wind 0 deg - No Ice+Guy	354.02	-0.02	-1.69	0.00	0.00	0.60
Dead+Wind 30 deg - No Ice+Guy	354.23	0.82	-1.29	0.00	0.00	0.36
Dead+Wind 60 deg - No Ice+Guy	351.46	1.40	-0.72	0.00	0.00	-0.62
Dead+Wind 90 deg - No Ice+Guy	350.37	1.62	0.03	0.00	0.00	-1.54
Dead+Wind 120 deg - No Ice+Guy	350.86	1.46	0.88	0.00	0.00	-1.38
Dead+Wind 150 deg - No Ice+Guy	344.82	0.68	1.37	0.00	0.00	-0.87
Dead+Wind 180 deg - No Ice+Guy	335.83	-0.07	1.59	0.00	0.00	-0.92
Dead+Wind 210 deg - No Ice+Guy	340.29	-0.71	1.35	0.00	0.00	-0.51
Dead+Wind 240 deg - No Ice+Guy	348.35	-1.34	0.78	0.00	0.00	0.68
Dead+Wind 270 deg - No Ice+Guy	342.04	-1.59	0.01	0.00	0.00	1.59
Dead+Wind 300 deg - No Ice+Guy	342.38	-1.44	-0.66	0.00	0.00	1.43
Dead+Wind 330 deg - No	350.63	-0.86	-1.24	0.00	0.00	0.76

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Ice+Guy						
Dead+Ice+Temp+Guy	329.82	-0.05	0.11	0.00	0.00	-0.00
Dead+Wind 0 deg+Ice+Temp+Guy	436.25	-0.05	-2.00	0.00	0.00	-0.33
Dead+Wind 30 deg+Ice+Temp+Guy	441.91	0.83	-1.32	0.00	0.00	-1.25
Dead+Wind 60 deg+Ice+Temp+Guy	442.39	1.41	-0.66	0.00	0.00	-2.66
Dead+Wind 90 deg+Ice+Temp+Guy	437.98	1.71	0.11	0.00	0.00	-3.51
Dead+Wind 120 deg+Ice+Temp+Guy	432.49	1.75	1.10	0.00	0.00	-2.63
Dead+Wind 150 deg+Ice+Temp+Guy	430.23	0.68	1.42	0.00	0.00	-1.14
Dead+Wind 180 deg+Ice+Temp+Guy	424.19	-0.13	1.56	0.00	0.00	-0.02
Dead+Wind 210 deg+Ice+Temp+Guy	424.75	-0.82	1.40	0.00	0.00	1.19
Dead+Wind 240 deg+Ice+Temp+Guy	428.60	-1.64	0.98	0.00	0.00	2.93
Dead+Wind 270 deg+Ice+Temp+Guy	427.75	-1.71	0.14	0.00	0.00	3.68
Dead+Wind 300 deg+Ice+Temp+Guy	432.04	-1.47	-0.55	0.00	0.00	2.68
Dead+Wind 330 deg+Ice+Temp+Guy	437.28	-0.89	-1.23	0.00	0.00	1.03
Dead+Wind 0 deg - Service+Guy	276.77	-0.03	-0.65	0.00	0.00	0.50
Dead+Wind 30 deg - Service+Guy	279.14	0.30	-0.53	0.00	0.00	0.37
Dead+Wind 60 deg - Service+Guy	280.63	0.55	-0.27	0.00	0.00	-0.16
Dead+Wind 90 deg - Service+Guy	278.75	0.65	0.07	0.00	0.00	-0.65
Dead+Wind 120 deg - Service+Guy	275.62	0.59	0.40	0.00	0.00	-0.69
Dead+Wind 150 deg - Service+Guy	274.98	0.33	0.63	0.00	0.00	-0.55
Dead+Wind 180 deg - Service+Guy	275.34	-0.02	0.70	0.00	0.00	-0.55
Dead+Wind 210 deg - Service+Guy	274.61	-0.37	0.62	0.00	0.00	-0.40
Dead+Wind 240 deg - Service+Guy	274.23	-0.63	0.40	0.00	0.00	0.16
Dead+Wind 270 deg - Service+Guy	276.21	-0.70	0.06	0.00	0.00	0.66
Dead+Wind 300 deg - Service+Guy	277.63	-0.59	-0.28	0.00	0.00	0.68
Dead+Wind 330 deg - Service+Guy	276.97	-0.36	-0.54	0.00	0.00	0.52

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.00	-94.75	0.00	-0.01	94.75	0.02	0.018%
2	0.40	-94.84	-90.20	-0.40	94.84	90.15	0.035%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
3	44.66	-94.19	-76.74	-44.67	94.19	76.70	0.031%
4	76.47	-93.68	-44.26	-76.47	93.68	44.23	0.027%
5	88.66	-94.39	-0.40	-88.64	94.39	0.43	0.030%
6	78.16	-95.20	44.78	-78.13	95.19	-44.75	0.035%
7	43.92	-94.95	76.26	-43.88	94.95	-76.24	0.035%
8	-0.40	-94.66	87.69	0.44	94.66	-87.67	0.032%
9	-44.66	-95.31	76.74	44.62	95.31	-76.72	0.032%
10	-78.64	-95.82	45.52	78.60	95.82	-45.49	0.035%
11	-88.66	-95.11	0.40	88.64	95.11	-0.38	0.030%
12	-75.99	-94.31	-43.52	76.00	94.31	43.48	0.030%
13	-43.92	-94.55	-76.26	43.92	94.55	76.22	0.033%
14	0.00	-128.66	0.00	0.02	128.66	-0.03	0.033%
15	0.38	-128.81	-108.29	-0.38	128.80	108.23	0.031%
16	53.56	-127.80	-92.06	-53.57	127.80	92.02	0.028%
17	91.82	-127.02	-53.05	-91.81	127.02	53.00	0.027%
18	106.52	-128.11	-0.38	-106.49	128.11	0.42	0.027%
19	93.97	-129.35	53.85	-93.93	129.35	-53.82	0.030%
20	52.83	-128.98	91.57	-52.79	128.97	-91.55	0.029%
21	-0.38	-128.52	105.22	0.42	128.52	-105.20	0.028%
22	-53.56	-129.53	92.06	53.52	129.53	-92.05	0.027%
23	-94.47	-130.31	54.58	94.43	130.31	-54.55	0.028%
24	-106.52	-129.22	0.38	106.49	129.22	-0.35	0.026%
25	-91.32	-127.98	-52.32	91.33	127.98	52.28	0.028%
26	-52.83	-128.35	-91.57	52.84	128.35	91.52	0.031%
27	0.14	-94.78	-31.22	-0.14	94.78	31.22	0.002%
28	15.45	-94.56	-26.55	-15.45	94.56	26.55	0.007%
29	26.46	-94.38	-15.32	-26.45	94.38	15.31	0.009%
30	30.68	-94.63	-0.14	-30.67	94.63	0.14	0.008%
31	27.04	-94.91	15.49	-27.04	94.91	-15.49	0.002%
32	15.20	-94.82	26.39	-15.20	94.82	-26.38	0.008%
33	-0.14	-94.72	30.34	0.14	94.72	-30.33	0.009%
34	-15.45	-94.95	26.55	15.45	94.95	-26.55	0.008%
35	-27.21	-95.12	15.75	27.21	95.12	-15.75	0.003%
36	-30.68	-94.88	0.14	30.67	94.88	-0.15	0.008%
37	-26.29	-94.60	-15.06	26.29	94.60	15.05	0.010%
38	-15.20	-94.68	-26.39	15.19	94.68	26.38	0.008%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	32	0.00015000	0.00001662
2	Yes	98	0.00014325	0.00004316
3	Yes	93	0.00014419	0.00003588
4	Yes	33	0.00014080	0.00003021
5	Yes	97	0.00014577	0.00003308
6	Yes	103	0.00014405	0.00004124
7	Yes	94	0.00014577	0.00003992
8	Yes	50	0.00014571	0.00003061
9	Yes	99	0.00014444	0.00003365
10	Yes	109	0.00014441	0.00003793
11	Yes	100	0.00014367	0.00003112
12	Yes	53	0.00014680	0.00003051
13	Yes	91	0.00014307	0.00003996
14	Yes	16	0.00015000	0.00003993
15	Yes	108	0.00014493	0.00004492

16	Yes	104	0.00014376	0.00003815
17	Yes	50	0.00014883	0.00003645
18	Yes	107	0.00014789	0.00003567
19	Yes	113	0.00014583	0.00004218
20	Yes	105	0.00014340	0.00004035
21	Yes	65	0.00014637	0.00003371
22	Yes	108	0.00014677	0.00003488
23	Yes	118	0.00014794	0.00003800
24	Yes	108	0.00014959	0.00003363
25	Yes	69	0.00014953	0.00003397
26	Yes	101	0.00014953	0.00004370
27	Yes	34	0.00000001	0.00000674
28	Yes	36	0.00013346	0.00000948
29	Yes	37	0.00014051	0.00001181
30	Yes	35	0.00013745	0.00001036
31	Yes	33	0.00000001	0.00000696
32	Yes	38	0.00013936	0.00000913
33	Yes	41	0.00013568	0.00001013
34	Yes	38	0.00013688	0.00000851
35	Yes	28	0.00000001	0.00000733
36	Yes	37	0.00014674	0.00000967
37	Yes	40	0.00014396	0.00001090
38	Yes	38	0.00013514	0.00000906

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	625 - 592	8.977	29	0.4102	0.7732
T1	592 - 580	6.619	29	0.0932	0.7736
T2	580 - 560	6.387	29	0.0934	0.7791
T3	560 - 540	5.989	29	0.0943	0.7916
T4	540 - 520	5.582	29	0.0871	0.8037
T5	520 - 500	5.239	29	0.0790	0.8204
T6	500 - 480	5.063	33	0.0815	0.8523
T7	480 - 460	4.835	33	0.0834	0.8637
T8	460 - 440	4.592	33	0.0731	0.8577
T9	440 - 420	4.405	33	0.0703	0.8668
T10	420 - 400	4.178	33	0.0751	0.8702
T11	400 - 380	3.890	33	0.0790	0.8467
T12	380 - 360	3.560	33	0.0711	0.7950
T13	360 - 340	3.291	33	0.0572	0.7722
T14	340 - 320	3.074	33	0.0550	0.7292
T15	320 - 300	2.841	33	0.0554	0.6783
T16	300 - 280	2.595	33	0.0520	0.6292
T17	280 - 260	2.372	33	0.0395	0.5814
T18	260 - 240	2.252	33	0.0277	0.5439
T19	240 - 220	2.169	33	0.0285	0.4852
T20	220 - 200	2.068	33	0.0316	0.4178
T21	200 - 180	1.944	33	0.0322	0.3526
T22	180 - 160	1.838	33	0.0261	0.3154
T23	160 - 140	1.758	33	0.0289	0.2733
T24	140 - 120	1.626	33	0.0406	0.2246
T25	120 - 100	1.417	33	0.0503	0.1803
T26	100 - 80	1.173	33	0.0521	0.1522
T27	80 - 60	0.966	33	0.0479	0.1284
T28	60 - 40	0.784	33	0.0512	0.0992
T29	40 - 20	0.562	33	0.0583	0.0730
T30	20 - 8	0.295	33	0.0653	0.0497

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T31	8 - 0	0.116	33	0.0678	0.0356

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
612.50	SHPX-4AC-Radomes	29	7.873	0.2514	0.7719	8858
591.75	Guy	29	6.611	0.0926	0.7737	3809
550.00	SHPX-2AC	29	5.777	0.0910	0.7978	77570
531.95	Guy	29	5.438	0.0833	0.8087	85252
490.00	6-ft Dish	33	4.956	0.0838	0.8616	80433
460.25	Guy	33	4.595	0.0732	0.8577	40385
425.00	4 FT DISH	33	4.241	0.0736	0.8711	70440
400.00	DB540K-E	33	3.890	0.0790	0.8467	63497
395.00	PR-950	33	3.808	0.0783	0.8341	117958
368.05	Guy	33	3.390	0.0615	0.7806	44851
353.00	14' x 3" Dia Omni	33	3.213	0.0554	0.7602	87652
348.00	2'-6" x 3" Dia Omni	33	3.160	0.0549	0.7491	216747
345.00	2-ft Stand Off	33	3.128	0.0548	0.7419	175752
300.00	DB540K-E	33	2.595	0.0520	0.6292	349515
275.85	Guy	33	2.339	0.0365	0.5736	39543
250.00	PD620	33	2.210	0.0272	0.5171	221530
200.00	Generic 4'x8' Sidearm	33	1.944	0.0322	0.3526	187942
184.15	Guy	33	1.857	0.0271	0.3223	79376
180.00	7770.00	33	1.838	0.0261	0.3154	76935
177.00	DC6-48-60-18-8F Surge Arrestor	33	1.826	0.0257	0.3101	95885
145.00	8-ft Grid Dish	33	1.666	0.0375	0.2333	57699
91.95	Guy	33	1.084	0.0503	0.1431	66609

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	625 - 592	57.476	15	1.6382	1.6105
T1	592 - 580	47.392	15	0.8187	1.7258
T2	580 - 560	45.332	15	0.8247	1.7451
T3	560 - 540	41.835	15	0.8310	1.7894
T4	540 - 520	38.315	15	0.8043	1.8323
T5	520 - 500	35.021	15	0.7708	1.8895
T6	500 - 480	31.822	15	0.7598	1.9975
T7	480 - 460	28.620	15	0.7356	2.0461
T8	460 - 440	25.573	15	0.6743	2.0396
T9	440 - 420	22.887	15	0.6327	2.0826
T10	420 - 400	20.673	20	0.6057	2.1165
T11	400 - 380	18.560	20	0.5706	2.0719
T12	380 - 360	16.465	20	0.4990	1.9161
T13	360 - 340	14.766	20	0.4081	1.8625
T14	340 - 320	13.389	20	0.3478	1.7641
T15	320 - 300	12.105	20	0.3011	1.6429
T16	300 - 280	10.920	20	0.2523	1.5270

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T17	280 - 260	9.905	20	0.1982	1.4056
T18	260 - 240	9.282	20	0.1471	1.3143
T19	240 - 220	8.836	20	0.1337	1.1668
T20	220 - 200	8.380	20	0.1363	1.0667
T21	200 - 180	7.886	20	0.1310	1.0396
T22	180 - 160	7.465	20	0.1111	1.0282
T23	160 - 140	7.152	20	0.1253	1.0528
T24	140 - 120	6.616	20	0.1652	1.0544
T25	120 - 100	5.773	23	0.2074	0.9026
T26	100 - 80	4.776	23	0.2154	0.7916
T27	80 - 60	3.928	23	0.1966	0.6719
T28	60 - 40	3.194	23	0.2085	0.4948
T29	40 - 20	2.289	23	0.2378	0.3797
T30	20 - 8	1.199	23	0.2660	0.2672
T31	8 - 0	0.470	23	0.2760	0.1918

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
612.50	SHPX-4AC-Radomes	15	53.114	1.2257	1.7199	3055
591.75	Guy	15	47.341	0.8173	1.7261	1313
550.00	SHPX-2AC	15	40.051	0.8195	1.8114	21366
531.95	Guy	15	36.966	0.7896	1.8499	20510
490.00	6-ft Dish	15	30.217	0.7525	2.0329	39813
460.25	Guy	15	25.609	0.6750	2.0395	10156
425.00	4 FT DISH	20	21.199	0.6121	2.1122	40247
400.00	DB540K-E	20	18.560	0.5706	2.0719	31754
395.00	PR-950	20	18.021	0.5564	2.0352	32857
368.05	Guy	20	15.398	0.4430	1.8788	9290
353.00	14' x 3" Dia Omni	20	14.261	0.3833	1.8363	14968
348.00	2'-6" x 3" Dia Omni	20	13.919	0.3685	1.8110	20955
345.00	2-ft Stand Off	20	13.718	0.3604	1.7940	27573
300.00	DB540K-E	20	10.920	0.2523	1.5270	31336
275.85	Guy	20	9.745	0.1861	1.3862	10320
250.00	PD620	20	9.052	0.1347	1.2473	65137
200.00	Generic 4'x8' Sidearm	20	7.886	0.1310	1.0396	45575
184.15	Guy	20	7.539	0.1128	1.0277	17579
180.00	7770.00	20	7.465	0.1111	1.0282	16784
177.00	DC6-48-60-18-8F Surge Arrestor	20	7.416	0.1110	1.0299	21250
145.00	8-ft Grid Dish	20	6.783	0.1533	1.0631	11967
91.95	Guy	23	4.409	0.2078	0.7511	15692

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	592	Leg	A325N	0.7500	4	2.67	19.43	0.137 ✔	1.333	Bolt Tension

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
T2	580	Leg	A325N	0.7500	4	0.00	19.44	0.000 ✔	1.333	Bolt Tension
T3	560	Leg	A325N	0.7500	4	0.00	19.43	0.000 ✔	1.333	Bolt Tension
T4	540	Leg	A325N	0.7500	4	0.00	19.43	0.000 ✔	1.333	Bolt Tension
T5	520	Leg	A325N	0.7500	4	0.00	19.44	0.000 ✔	1.333	Bolt Tension
T6	500	Leg	A325N	0.7500	4	0.00	19.44	0.000 ✔	1.333	Bolt Tension
T7	480	Leg	A325N	0.7500	4	0.00	19.43	0.000 ✔	1.333	Bolt Tension
T8	460	Leg	A325N	0.7500	4	0.00	19.43	0.000 ✔	1.333	Bolt Tension
T9	440	Leg	A325N	0.7500	4	0.00	19.44	0.000 ✔	1.333	Bolt Tension
T10	420	Leg	A325N	0.7500	4	0.00	19.44	0.000 ✔	1.333	Bolt Tension
T11	400	Leg	A325N	0.7500	4	0.00	19.44	0.000 ✔	1.333	Bolt Tension
T12	380	Leg	A325N	0.7500	4	0.00	19.43	0.000 ✔	1.333	Bolt Tension
T13	360	Leg	A325N	0.7500	4	0.00	19.43	0.000 ✔	1.333	Bolt Tension
T14	340	Leg	A325N	0.7500	4	0.00	19.44	0.000 ✔	1.333	Bolt Tension
T15	320	Leg	A325N	0.7500	4	0.00	19.44	0.000 ✔	1.333	Bolt Tension
T16	300	Leg	A325N	0.7500	4	0.00	19.44	0.000 ✔	1.333	Bolt Tension
T17	280	Leg	A325N	0.7500	4	0.00	19.43	0.000 ✔	1.333	Bolt Tension
T18	260	Leg	A325N	0.7500	4	0.00	19.43	0.000 ✔	1.333	Bolt Tension
T19	240	Leg	A325N	0.7500	4	0.00	19.43	0.000 ✔	1.333	Bolt Tension
T20	220	Leg	A325N	0.7500	4	0.00	19.44	0.000 ✔	1.333	Bolt Tension
T21	200	Leg	A325N	0.7500	4	0.00	19.44	0.000 ✔	1.333	Bolt Tension
T22	180	Leg	A325N	0.7500	4	0.00	19.39	0.000 ✔	1.333	Bolt Tension
T23	160	Leg	A325N	0.7500	4	0.00	19.43	0.000 ✔	1.333	Bolt Tension
T24	140	Leg	A325N	0.7500	4	0.00	19.44	0.000 ✔	1.333	Bolt Tension
T25	120	Leg	A325N	0.7500	4	0.00	19.44	0.000 ✔	1.333	Bolt Tension
T26	100	Leg	A325N	0.7500	4	0.00	19.43	0.000 ✔	1.333	Bolt Tension
T27	80	Leg	A325N	0.7500	4	0.00	19.42	0.000 ✔	1.333	Bolt Tension
T28	60	Leg	A325N	0.7500	4	0.00	19.43	0.000 ✔	1.333	Bolt Tension
T29	40	Leg	A325N	0.7500	4	0.00	19.44	0.000 ✔	1.333	Bolt Tension
T30	20	Leg	A325N	0.7500	4	0.00	19.44	0.000 ✔	1.333	Bolt Tension
T31	8	Leg	A325N	0.7500	4	0.00	18.03	0.000 ✔	1.333	Bolt Tension

Guy Design Data

Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T K	Allowable T_a K	Required S.F.	Actual S.F.
T1	591.75 (A) (1531)	7/8 BS	9.20	92.00	34.10	46.00	2.000	2.698 ✔
	591.75 (B) (1530)	7/8 BS	9.20	92.00	34.60	46.00	2.000	2.659 ✔

Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T K	Allowable T_a K	Required S.F.	Actual S.F.
	591.75 (C) (1529)	7/8 BS	9.20	92.00	35.48	46.00	2.000	2.593 ✔
T4	531.95 (A) (1534)	1 BS	12.20	122.00	41.25	61.00	2.000	2.958 ✔
	531.95 (B) (1533)	1 BS	12.20	122.00	41.89	61.00	2.000	2.912 ✔
	531.95 (C) (1532)	1 BS	12.20	122.00	43.05	61.00	2.000	2.834 ✔
T7	460.25 (A) (1537)	1 BS	12.20	122.00	38.99	61.00	2.000	3.129 ✔
	460.25 (B) (1536)	1 BS	12.20	122.00	39.36	61.00	2.000	3.099 ✔
	460.25 (C) (1535)	1 BS	12.20	122.00	40.14	61.00	2.000	3.039 ✔
T12	368.05 (A) (1540)	1 BS	12.20	122.00	35.51	61.00	2.000	3.436 ✔
	368.05 (B) (1539)	1 BS	12.20	122.00	35.71	61.00	2.000	3.417 ✔
	368.05 (C) (1538)	1 BS	12.20	122.00	36.38	61.00	2.000	3.354 ✔
T17	275.85 (A) (1543)	1 BS	12.20	122.00	32.21	61.00	2.000	3.788 ✔
	275.85 (B) (1542)	1 BS	12.20	122.00	32.12	61.00	2.000	3.799 ✔
	275.85 (C) (1541)	1 BS	12.20	122.00	32.08	61.00	2.000	3.803 ✔
T21	184.15 (A) (1546)	7/8 BS	9.20	92.00	26.18	46.00	2.000	3.514 ✔
	184.15 (B) (1545)	7/8 BS	9.20	92.00	26.60	46.00	2.000	3.459 ✔
	184.15 (C) (1544)	7/8 BS	9.20	92.00	27.11	46.00	2.000	3.394 ✔
T26	91.95 (A) (1549)	7/8 BS	9.20	92.00	24.33	46.00	2.000	3.781 ✔
	91.95 (B) (1548)	7/8 BS	9.20	92.00	24.60	46.00	2.000	3.740 ✔
	91.95 (C) (1547)	7/8 BS	9.20	92.00	24.52	46.00	2.000	3.752 ✔

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
L1	625 - 592 (1)	P10x.365	33.00	33.00	107.8	11.829	11.9083	-1.99	140.87	0.014

Pole Bending Design Data

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
L1	625 - 592 (1)	P10x.365	49.11	-19.706	23.100	0.853	0.00	0.000	23.100	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Size	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	625 - 592 (1)	P10x.365	0.014	0.853	0.000	0.867 ✔	1.066	H1-3 ✔

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	Mast Stability Index	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	592 - 580	2 1/4	12.00	3.83	81.8 K=1.00	1.00	18.655	3.9761	-28.62	74.17	0.386
T2	580 - 560	2 1/4	20.00	3.90	83.2 K=1.00	1.00	18.365	3.9761	-27.72	73.02	0.380
T3	560 - 540	2 1/4	20.00	3.90	83.2 K=1.00	1.00	18.365	3.9761	-40.65	73.02	0.557
T4	540 - 520	2 1/2	20.00	3.90	74.9 K=1.00	1.00	20.017	4.9087	-59.27	98.26	0.603
T5	520 - 500	2 1/2	20.00	3.90	74.9 K=1.00	1.00	20.017	4.9087	-55.36	98.26	0.563
T6	500 - 480	2 1/2	20.00	3.90	74.9 K=1.00	1.00	20.017	4.9087	-66.02	98.26	0.672
T7	480 - 460	2 3/4	20.00	3.90	68.1 K=1.00	1.00	21.292	5.9396	-95.13	126.47	0.752
T8	460 - 440	2 3/4	20.00	3.90	68.1 K=1.00	1.00	21.292	5.9396	-96.74	126.47	0.765
T9	440 - 420	2 3/4	20.00	3.90	68.1 K=1.00	1.00	21.292	5.9396	-87.44	126.47	0.691
T10	420 - 400	2 3/4	20.00	3.90	68.1 K=1.00	1.00	21.292	5.9396	-94.83	126.47	0.750
T11	400 - 380	2 3/4	20.00	3.90	68.1 K=1.00	1.00	21.292	5.9396	-117.72	126.47	0.931
T12	380 - 360	3	20.00	3.90	62.4 K=1.00	1.00	22.304	7.0686	-141.10	157.66	0.895
T13	360 - 340	3	20.00	3.90	62.4 K=1.00	1.00	22.304	7.0686	-131.97	157.66	0.837
T14	340 - 320	3	20.00	3.90	62.4 K=1.00	1.00	22.304	7.0686	-122.24	157.66	0.775
T15	320 - 300	3	20.00	3.90	62.4 K=1.00	1.00	22.304	7.0686	-127.22	157.66	0.807
T16	300 - 280	3 1/4	20.00	3.90	57.6 K=1.00	1.00	23.123	8.2958	-145.41	191.82	0.758
T17	280 - 260	3 1/4	20.00	3.90	57.6 K=1.00	1.00	23.123	8.2958	-153.09	191.82	0.798
T18	260 - 240	3 1/4	20.00	3.90	57.6 K=1.00	1.00	23.123	8.2958	-135.48	191.82	0.706

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	Mast Stability Index	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T19	240 - 220	3 1/4	20.00	3.90	57.6 K=1.00	1.00	23.123	8.2958	-123.54	191.82	0.644
T20	220 - 200	3 1/4	20.00	3.90	57.6 K=1.00	1.00	23.123	8.2958	-128.12	191.82	0.668
T21	200 - 180	3 1/4	20.00	3.90	57.6 K=1.00	1.00	23.123	8.2958	-142.23	191.82	0.741
T22	180 - 160	3 1/4	20.00	3.90	57.6 K=1.00	1.00	23.123	8.2958	-149.66	191.82	0.780
T23	160 - 140	3 1/4	20.00	3.90	57.6 K=1.00	1.00	23.123	8.2958	-159.08	191.82	0.829
T24	140 - 120	3 1/4	20.00	3.90	57.6 K=1.00	1.00	23.123	8.2958	-158.24	191.82	0.825
T25	120 - 100	3 1/4	20.00	3.90	57.6 K=1.00	1.00	23.123	8.2958	-148.74	191.82	0.775
T26	100 - 80	3 1/2	20.00	3.90	53.5 K=1.00	1.00	23.798	9.6211	-165.55	228.97	0.723
T27	80 - 60	3 1/2	20.00	3.90	53.5 K=1.00	1.00	23.798	9.6211	-155.26	228.97	0.678
T28	60 - 40	3 1/2	20.00	3.90	53.5 K=1.00	1.00	23.798	9.6211	-159.86	228.97	0.698
T29	40 - 20	3 1/2	20.00	3.90	53.5 K=1.00	1.00	23.798	9.6211	-160.15	228.97	0.699
T30	20 - 8	3 1/2	12.00	3.83	52.6 K=1.00	1.00	23.945	9.6211	-157.66	230.38	0.684
T31	8 - 0	3 1/2	8.50	2.19	30.0 K=1.00	0.94	25.516	9.6211	-161.12	245.49	0.656

Leg Bending Design Data (Compression)

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
T1	592 - 580	2 1/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T2	580 - 560	2 1/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T3	560 - 540	2 1/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T4	540 - 520	2 1/2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T5	520 - 500	2 1/2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T6	500 - 480	2 1/2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T7	480 - 460	2 3/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T8	460 - 440	2 3/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T9	440 - 420	2 3/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T10	420 - 400	2 3/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T11	400 - 380	2 3/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T12	380 - 360	3	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T13	360 - 340	3	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T14	340 - 320	3	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T15	320 - 300	3	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T16	300 - 280	3 1/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T17	280 - 260	3 1/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T18	260 - 240	3 1/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T19	240 - 220	3 1/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T20	220 - 200	3 1/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T21	200 - 180	3 1/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T22	180 - 160	3 1/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
T23	160 - 140	3 1/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T24	140 - 120	3 1/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T25	120 - 100	3 1/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T26	100 - 80	3 1/2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T27	80 - 60	3 1/2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T28	60 - 40	3 1/2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T29	40 - 20	3 1/2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T30	20 - 8	3 1/2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T31	8 - 0	3 1/2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000

Leg Interaction Design Data (Compression)

Section No.	Elevation ft	Size	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	592 - 580	2 1/4	0.386	0.000	0.000	0.386 ✔	1.333	H1-3 ✔
T2	580 - 560	2 1/4	0.380	0.000	0.000	0.380 ✔	1.333	H1-3 ✔
T3	560 - 540	2 1/4	0.557	0.000	0.000	0.557 ✔	1.333	H1-3 ✔
T4	540 - 520	2 1/2	0.603	0.000	0.000	0.603 ✔	1.333	H1-3 ✔
T5	520 - 500	2 1/2	0.563	0.000	0.000	0.563 ✔	1.333	H1-3 ✔
T6	500 - 480	2 1/2	0.672	0.000	0.000	0.672 ✔	1.333	H1-3 ✔
T7	480 - 460	2 3/4	0.752	0.000	0.000	0.752 ✔	1.333	H1-3 ✔
T8	460 - 440	2 3/4	0.765	0.000	0.000	0.765 ✔	1.333	H1-3 ✔
T9	440 - 420	2 3/4	0.691	0.000	0.000	0.691 ✔	1.333	H1-3 ✔
T10	420 - 400	2 3/4	0.750	0.000	0.000	0.750 ✔	1.333	H1-3 ✔
T11	400 - 380	2 3/4	0.931	0.000	0.000	0.931 ✔	1.333	H1-3 ✔
T12	380 - 360	3	0.895	0.000	0.000	0.895 ✔	1.333	H1-3 ✔
T13	360 - 340	3	0.837	0.000	0.000	0.837 ✔	1.333	H1-3 ✔
T14	340 - 320	3	0.775	0.000	0.000	0.775 ✔	1.333	H1-3 ✔
T15	320 - 300	3	0.807	0.000	0.000	0.807 ✔	1.333	H1-3 ✔
T16	300 - 280	3 1/4	0.758	0.000	0.000	0.758 ✔	1.333	H1-3 ✔
T17	280 - 260	3 1/4	0.798	0.000	0.000	0.798 ✔	1.333	H1-3 ✔
T18	260 - 240	3 1/4	0.706	0.000	0.000	0.706 ✔	1.333	H1-3 ✔

Section No.	Elevation ft	Size	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T19	240 - 220	3 1/4	0.644	0.000	0.000	0.644 ✔	1.333	H1-3 ✔
T20	220 - 200	3 1/4	0.668	0.000	0.000	0.668 ✔	1.333	H1-3 ✔
T21	200 - 180	3 1/4	0.741	0.000	0.000	0.741 ✔	1.333	H1-3 ✔
T22	180 - 160	3 1/4	0.780	0.000	0.000	0.780 ✔	1.333	H1-3 ✔
T23	160 - 140	3 1/4	0.829	0.000	0.000	0.829 ✔	1.333	H1-3 ✔
T24	140 - 120	3 1/4	0.825	0.000	0.000	0.825 ✔	1.333	H1-3 ✔
T25	120 - 100	3 1/4	0.775	0.000	0.000	0.775 ✔	1.333	H1-3 ✔
T26	100 - 80	3 1/2	0.723	0.000	0.000	0.723 ✔	1.333	H1-3 ✔
T27	80 - 60	3 1/2	0.678	0.000	0.000	0.678 ✔	1.333	H1-3 ✔
T28	60 - 40	3 1/2	0.698	0.000	0.000	0.698 ✔	1.333	H1-3 ✔
T29	40 - 20	3 1/2	0.699	0.000	0.000	0.699 ✔	1.333	H1-3 ✔
T30	20 - 8	3 1/2	0.684	0.000	0.000	0.684 ✔	1.333	H1-3 ✔
T31	8 - 0	3 1/2	0.656	0.000	0.000	0.656 ✔	1.333	H1-3 ✔

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T31	8 - 0	L3x3x3/8	2.42	1.57	54.1 K=1.68	17.986	2.1100	-23.13	37.95	0.610 ✔

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	592 - 580	L2 1/2x2 1/2x3/16	5.00	4.81	118.3 K=1.01	10.520	0.9020	-5.47	9.49	0.576* ✔
T2	580 - 560	L2 1/2x2 1/2x3/16	5.00	4.81	118.3 K=1.01	10.520	0.9020	-3.97	9.49	0.418* ✔
T3	560 - 540	L2 1/2x2 1/2x3/16	5.00	4.81	118.3 K=1.01	10.520	0.9020	-3.96	9.49	0.417* ✔
T4	540 - 520	L2 1/2x2 1/2x3/16	5.00	4.79	118.1	10.556	0.9020	-5.69	9.52	0.597*

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
					K=1.02					✓
T5	520 - 500	L2 1/2x2 1/2x3/16	5.00	4.79	118.1	10.556	0.9020	-3.67	9.52	0.386*
					K=1.02					✓
T6	500 - 480	L2 1/2x2 1/2x3/16	5.00	4.79	118.1	10.556	0.9020	-3.67	9.52	0.385*
					K=1.02					✓
T7	480 - 460	L2 1/2x2 1/2x3/16	5.00	4.77	117.8	10.592	0.9020	-5.12	9.55	0.536*
					K=1.02					✓
T8	460 - 440	L2 1/2x2 1/2x3/16	5.00	4.77	117.8	10.592	0.9020	-4.65	9.55	0.487*
					K=1.02					✓
T9	440 - 420	L2 1/2x2 1/2x3/16	5.00	4.77	117.8	10.592	0.9020	-3.48	9.55	0.364*
					K=1.02					✓
T10	420 - 400	L2 1/2x2 1/2x3/16	5.00	4.77	117.8	10.592	0.9020	-3.47	9.55	0.363*
					K=1.02					✓
T11	400 - 380	L2 1/2x2 1/2x3/16	5.00	4.77	117.8	10.592	0.9020	-3.45	9.55	0.361*
					K=1.02					✓
T12	380 - 360	L2 1/2x2 1/2x1/4	5.00	4.75	118.0	10.561	1.1900	-6.50	12.57	0.517*
					K=1.02					✓
T13	360 - 340	L2 1/2x2 1/2x3/16	5.00	4.75	117.6	10.627	0.9020	-3.35	9.59	0.349*
					K=1.02					✓
T14	340 - 320	L2 1/2x2 1/2x3/16	5.00	4.75	117.6	10.627	0.9020	-3.34	9.59	0.348*
					K=1.02					✓
T15	320 - 300	L2 1/2x2 1/2x3/16	5.00	4.75	117.6	10.627	0.9020	-3.32	9.59	0.346*
					K=1.02					✓
T16	300 - 280	L2 1/2x2 1/2x3/16	5.00	4.73	117.3	10.663	0.9020	-4.56	9.62	0.474*
					K=1.02					✓
T17	280 - 260	L2 1/2x2 1/2x3/16	5.00	4.73	117.3	10.663	0.9020	-4.46	9.62	0.464*
					K=1.02					✓
T18	260 - 240	L2 1/2x2 1/2x3/16	5.00	4.73	117.3	10.663	0.9020	-3.25	9.62	0.338*
					K=1.02					✓
T19	240 - 220	L2 1/2x2 1/2x3/16	5.00	4.73	117.3	10.663	0.9020	-3.25	9.62	0.338*
					K=1.02					✓
T20	220 - 200	L2 1/2x2 1/2x3/16	5.00	4.73	117.3	10.663	0.9020	-3.23	9.62	0.336*
					K=1.02					✓
T21	200 - 180	L2 1/2x2 1/2x1/4	5.00	4.73	117.8	10.597	1.1900	-5.84	12.61	0.463*
					K=1.02					✓
T22	180 - 160	L2 1/2x2 1/2x3/16	5.00	4.73	117.3	10.663	0.9020	-5.78	9.62	0.601
					K=1.02					✓
T23	160 - 140	L2 1/2x2 1/2x3/16	5.00	4.73	117.3	10.663	0.9020	-3.06	9.62	0.318*
					K=1.02					✓
T24	140 - 120	L2 1/2x2 1/2x3/16	5.00	4.73	117.3	10.663	0.9020	-3.06	9.62	0.318*
					K=1.02					✓
T25	120 - 100	L2 1/2x2 1/2x3/16	5.00	4.73	117.3	10.663	0.9020	-5.66	9.62	0.589
					K=1.02					✓
T26	100 - 80	L2 1/2x2 1/2x3/16	5.00	4.71	117.1	10.698	0.9020	-6.04	9.65	0.625
					K=1.03					✓
T27	80 - 60	L2 1/2x2 1/2x3/16	5.00	4.71	117.1	10.698	0.9020	-3.14	9.65	0.326*
					K=1.03					✓
T28	60 - 40	L2 1/2x2 1/2x3/16	5.00	4.71	117.1	10.698	0.9020	-3.13	9.65	0.325*
					K=1.03					✓
T29	40 - 20	L2 1/2x2 1/2x3/16	5.00	4.71	117.1	10.698	0.9020	-3.12	9.65	0.323*
					K=1.03					✓
T30	20 - 8	L2 1/2x2 1/2x3/16	5.00	4.71	117.1	10.698	0.9020	-4.00	9.65	0.414*
					K=1.03					

Section No.	Elevation	Size	L	L_u	Kl/r	F_a	A	Actual P	Allow. P_a	Ratio $\frac{P}{P_a}$
	ft		ft	ft		ksi	in^2	K	K	
										✔

* DL controls

Top Girt Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	F_a	A	Actual P	Allow. P_a	Ratio $\frac{P}{P_a}$
	ft		ft	ft		ksi	in^2	K	K	
T2	580 - 560	L2 1/2x2 1/2x3/16	5.00	4.81	118.3 K=1.01	10.520	0.9020	-2.13	9.49	0.224* ✔
T3	560 - 540	L2 1/2x2 1/2x3/16	5.00	4.81	118.3 K=1.01	10.520	0.9020	-2.06	9.49	0.217* ✔
T4	540 - 520	L2 1/2x2 1/2x3/16	5.00	4.79	118.1 K=1.02	10.556	0.9020	-2.69	9.52	0.283* ✔
T5	520 - 500	L2 1/2x2 1/2x3/16	5.00	4.79	118.1 K=1.02	10.556	0.9020	-1.99	9.52	0.209* ✔
T6	500 - 480	L2 1/2x2 1/2x3/16	5.00	4.79	118.1 K=1.02	10.556	0.9020	-1.91	9.52	0.200* ✔
T7	480 - 460	L2 1/2x2 1/2x3/16	5.00	4.77	117.8 K=1.02	10.592	0.9020	-2.52	9.55	0.264* ✔
T8	460 - 440	L2 1/2x2 1/2x3/16	5.00	4.77	117.8 K=1.02	10.592	0.9020	-1.91	9.55	0.200* ✔
T9	440 - 420	L2 1/2x2 1/2x3/16	5.00	4.77	117.8 K=1.02	10.592	0.9020	-1.90	9.55	0.199* ✔
T10	420 - 400	L2 1/2x2 1/2x3/16	5.00	4.77	117.8 K=1.02	10.592	0.9020	-1.81	9.55	0.189* ✔
T11	400 - 380	L2 1/2x2 1/2x3/16	5.00	4.77	117.8 K=1.02	10.592	0.9020	-1.80	9.55	0.188* ✔
T12	380 - 360	L2 1/2x2 1/2x1/4	5.00	4.75	118.0 K=1.02	10.561	1.1900	-3.20	12.57	0.254* ✔
T13	360 - 340	L2 1/2x2 1/2x3/16	5.00	4.75	117.6 K=1.02	10.627	0.9020	-1.85	9.59	0.193* ✔
T14	340 - 320	L2 1/2x2 1/2x3/16	5.00	4.75	117.6 K=1.02	10.627	0.9020	-1.76	9.59	0.183* ✔
T15	320 - 300	L2 1/2x2 1/2x3/16	5.00	4.75	117.6 K=1.02	10.627	0.9020	-1.75	9.59	0.182* ✔
T16	300 - 280	L2 1/2x2 1/2x3/16	5.00	4.73	117.3 K=1.02	10.663	0.9020	-2.28	9.62	0.237* ✔
T17	280 - 260	L2 1/2x2 1/2x3/16	5.00	4.73	117.3 K=1.02	10.663	0.9020	-2.61	9.62	0.272* ✔
T18	260 - 240	L2 1/2x2 1/2x3/16	5.00	4.73	117.3 K=1.02	10.663	0.9020	-1.84	9.62	0.191* ✔
T19	240 - 220	L2 1/2x2 1/2x3/16	5.00	4.73	117.3 K=1.02	10.663	0.9020	-1.71	9.62	0.177* ✔
T20	220 - 200	L2 1/2x2 1/2x3/16	5.00	4.73	117.3 K=1.02	10.663	0.9020	-1.70	9.62	0.177* ✔
T21	200 - 180	L2 1/2x2 1/2x1/4	5.00	4.73	117.8 K=1.02	10.597	1.1900	-2.87	12.61	0.227* ✔
T22	180 - 160	L2 1/2x2 1/2x3/16	5.00	4.73	117.3	10.663	0.9020	-3.22	9.62	0.335

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T23	160 - 140	L2 1/2x2 1/2x3/16	5.00	4.73	117.3 K=1.02	10.663	0.9020	-1.72	9.62	0.179*
T24	140 - 120	L2 1/2x2 1/2x3/16	5.00	4.73	117.3 K=1.02	10.663	0.9020	-1.60	9.62	0.167*
T25	120 - 100	L2 1/2x2 1/2x3/16	5.00	4.73	117.3 K=1.02	10.663	0.9020	-2.00	9.62	0.208*
T26	100 - 80	L2 1/2x2 1/2x3/16	5.00	4.71	117.1 K=1.03	10.698	0.9020	-3.37	9.65	0.349
T27	80 - 60	L2 1/2x2 1/2x3/16	5.00	4.71	117.1 K=1.03	10.698	0.9020	-1.80	9.65	0.187*
T28	60 - 40	L2 1/2x2 1/2x3/16	5.00	4.71	117.1 K=1.03	10.698	0.9020	-1.65	9.65	0.171*
T29	40 - 20	L2 1/2x2 1/2x3/16	5.00	4.71	117.1 K=1.03	10.698	0.9020	-1.64	9.65	0.170*
T30	20 - 8	L2 1/2x2 1/2x3/16	5.00	4.71	117.1 K=1.03	10.698	0.9020	-1.63	9.65	0.169*

* DL controls

Bottom Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	592 - 580	L2 1/2x2 1/2x3/16	5.00	4.81	118.3 K=1.01	10.520	0.9020	-2.70	9.49	0.284*
T2	580 - 560	L2 1/2x2 1/2x3/16	5.00	4.81	118.3 K=1.01	10.520	0.9020	-2.06	9.49	0.217*
T3	560 - 540	L2 1/2x2 1/2x3/16	5.00	4.81	118.3 K=1.01	10.520	0.9020	-2.09	9.49	0.220*
T4	540 - 520	L2 1/2x2 1/2x3/16	5.00	4.79	118.1 K=1.02	10.556	0.9020	-2.46	9.52	0.258*
T5	520 - 500	L2 1/2x2 1/2x3/16	5.00	4.79	118.1 K=1.02	10.556	0.9020	-1.91	9.52	0.201*
T6	500 - 480	L2 1/2x2 1/2x3/16	5.00	4.79	118.1 K=1.02	10.556	0.9020	-1.99	9.52	0.209*
T8	460 - 440	L2 1/2x2 1/2x3/16	5.00	4.77	117.8 K=1.02	10.592	0.9020	-2.32	9.55	0.243*
T9	440 - 420	L2 1/2x2 1/2x3/16	5.00	4.77	117.8 K=1.02	10.592	0.9020	-1.81	9.55	0.189*
T10	420 - 400	L2 1/2x2 1/2x3/16	5.00	4.77	117.8 K=1.02	10.592	0.9020	-1.80	9.55	0.188*
T11	400 - 380	L2 1/2x2 1/2x3/16	5.00	4.77	117.8 K=1.02	10.592	0.9020	-1.92	9.55	0.201*
T12	380 - 360	L2 1/2x2 1/2x1/4	5.00	4.75	118.0 K=1.02	10.561	1.1900	-3.00	12.57	0.239*
T13	360 - 340	L2 1/2x2 1/2x3/16	5.00	4.75	117.6 K=1.02	10.627	0.9020	-1.75	9.59	0.183*
T14	340 - 320	L2 1/2x2 1/2x3/16	5.00	4.75	117.6	10.627	0.9020	-1.75	9.59	0.182*

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
					K=1.02					✓
T15	320 - 300	L2 1/2x2 1/2x3/16	5.00	4.75	117.6 K=1.02	10.627	0.9020	-1.87	9.59	0.195* ✓
T16	300 - 280	L2 1/2x2 1/2x3/16	5.00	4.73	117.3 K=1.02	10.663	0.9020	-2.61	9.62	0.271* ✓
T17	280 - 260	L2 1/2x2 1/2x3/16	5.00	4.73	117.3 K=1.02	10.663	0.9020	-2.15	9.62	0.224* ✓
T18	260 - 240	L2 1/2x2 1/2x3/16	5.00	4.73	117.3 K=1.02	10.663	0.9020	-1.70	9.62	0.177* ✓
T19	240 - 220	L2 1/2x2 1/2x3/16	5.00	4.73	117.3 K=1.02	10.663	0.9020	-1.70	9.62	0.177* ✓
T20	220 - 200	L2 1/2x2 1/2x3/16	5.00	4.73	117.3 K=1.02	10.663	0.9020	-1.82	9.62	0.190* ✓
T21	200 - 180	L2 1/2x2 1/2x1/4	5.00	4.73	117.8 K=1.02	10.597	1.1900	-3.17	12.61	0.251* ✓
T22	180 - 160	L2 1/2x2 1/2x3/16	5.00	4.73	117.3 K=1.02	10.663	0.9020	-2.02	9.62	0.210* ✓
T23	160 - 140	L2 1/2x2 1/2x3/16	5.00	4.73	117.3 K=1.02	10.663	0.9020	-1.61	9.62	0.167* ✓
T24	140 - 120	L2 1/2x2 1/2x3/16	5.00	4.73	117.3 K=1.02	10.663	0.9020	-1.71	9.62	0.178* ✓
T25	120 - 100	L2 1/2x2 1/2x3/16	5.00	4.73	117.3 K=1.02	10.663	0.9020	-3.09	9.62	0.322 ✓
T26	100 - 80	L2 1/2x2 1/2x3/16	5.00	4.71	117.1 K=1.03	10.698	0.9020	-2.05	9.65	0.212* ✓
T27	80 - 60	L2 1/2x2 1/2x3/16	5.00	4.71	117.1 K=1.03	10.698	0.9020	-1.65	9.65	0.171* ✓
T28	60 - 40	L2 1/2x2 1/2x3/16	5.00	4.71	117.1 K=1.03	10.698	0.9020	-1.64	9.65	0.170* ✓
T29	40 - 20	L2 1/2x2 1/2x3/16	5.00	4.71	117.1 K=1.03	10.698	0.9020	-1.66	9.65	0.172* ✓

* DL controls

Top Guy Pull-Off Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	592 - 580	6 x 1	5.00	4.81	200.1 K=1.00	3.731	6.0000	-1.28	22.39	0.057 ✓
		KL/R > 200 (C) - 5								
T4	540 - 520	6 x 1	5.00	4.79	199.2 K=1.00	3.764	6.0000	-2.44	22.58	0.108* ✓
T7	480 - 460	6 x 1	5.00	4.77	198.3 K=1.00	3.797	6.0000	-0.84	22.78	0.037 ✓
T12	380 - 360	6 x 1	5.00	4.75	197.5 K=1.00	3.830	6.0000	-2.72	22.98	0.118* ✓
T17	280 - 260	6 x 1	5.00	4.73	196.6 K=1.00	3.864	6.0000	-2.00	23.18	0.086 ✓

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T21	200 - 180	6 x 1	5.00	4.73	196.6 K=1.00	3.864	6.0000	-3.75	23.18	0.162 ✔
T26	100 - 80	6 x 1	5.00	4.71	195.7 K=1.00	3.898	6.0000	-1.87	23.39	0.080 ✔

* DL controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	592 - 580	2 1/4	12.00	3.83	81.8	30.000	3.9761	10.67	119.28	0.089

Leg Bending Design Data (Tension)

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
T1	592 - 580	2 1/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000

Leg Interaction Design Data (Tension)

Section No.	Elevation ft	Size	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	592 - 580	2 1/4	0.089	0.000	0.000	0.089 ✔	1.333	H2-1 ✔

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	592 - 580	3/4	6.30	6.06	388.1	21.600	0.4418	3.83	9.54	0.402* ✔
T2	580 - 560	5/8	6.34	6.10	468.7	21.600	0.3068	2.62	6.63	0.395* ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T3	560 - 540	5/8	6.34	6.10	468.7	21.600	0.3068	4.42	6.63	0.667 ✔
T4	540 - 520	3/4	6.34	6.08	388.9	21.600	0.4418	5.73	9.54	0.600 ✔
T5	520 - 500	5/8	6.34	6.08	466.7	21.600	0.3068	3.48	6.63	0.525 ✔
T6	500 - 480	5/8	6.34	6.08	466.7	21.600	0.3068	3.92	6.63	0.591 ✔
T7	480 - 460	3/4	6.34	6.05	387.2	21.600	0.4418	5.62	9.54	0.589 ✔
T8	460 - 440	3/4	6.34	6.05	387.2	21.600	0.4418	4.60	9.54	0.482 ✔
T9	440 - 420	5/8	6.34	6.05	464.7	21.600	0.3068	3.20	6.63	0.484 ✔
T10	420 - 400	5/8	6.34	6.05	464.7	21.600	0.3068	3.30	6.63	0.499 ✔
T11	400 - 380	5/8	6.34	6.05	464.7	21.600	0.3068	5.96	6.63	0.900 ✔
T12	380 - 360	7/8	6.34	6.02	330.5	21.600	0.6013	7.25	12.99	0.558 ✔
T13	360 - 340	5/8	6.34	6.02	462.6	21.600	0.3068	4.14	6.63	0.624 ✔
T14	340 - 320	5/8	6.34	6.02	462.6	21.600	0.3068	2.27	6.63	0.343* ✔
T15	320 - 300	5/8	6.34	6.02	462.6	21.600	0.3068	3.69	6.63	0.558 ✔
T16	300 - 280	3/4	6.34	6.00	383.9	21.600	0.4418	6.05	9.54	0.634 ✔
T17	280 - 260	3/4	6.34	6.00	383.9	21.600	0.4418	6.44	9.54	0.675 ✔
T18	260 - 240	5/8	6.34	6.00	460.6	21.600	0.3068	4.96	6.63	0.748 ✔
T19	240 - 220	5/8	6.34	6.00	460.6	21.600	0.3068	3.51	6.63	0.530 ✔
T20	220 - 200	5/8	6.34	6.00	460.6	21.600	0.3068	3.55	6.63	0.535 ✔
T21	200 - 180	7/8	6.34	6.00	329.0	21.600	0.6013	9.79	12.99	0.754 ✔
T22	180 - 160	3/4	6.34	6.00	383.9	21.600	0.4418	8.05	9.54	0.844 ✔
T23	160 - 140	5/8	6.34	6.00	460.6	21.600	0.3068	4.81	6.63	0.726 ✔
T24	140 - 120	5/8	6.34	6.00	460.6	21.600	0.3068	5.43	6.63	0.819 ✔
T25	120 - 100	3/4	6.34	6.00	383.9	21.600	0.4418	7.80	9.54	0.817 ✔
T26	100 - 80	3/4	6.34	5.97	382.2	21.600	0.4418	8.37	9.54	0.878 ✔
T27	80 - 60	5/8	6.34	5.97	458.6	21.600	0.3068	5.66	6.63	0.855 ✔
T28	60 - 40	5/8	6.34	5.97	458.6	21.600	0.3068	3.54	6.63	0.535 ✔
T29	40 - 20	5/8	6.34	5.97	458.6	21.600	0.3068	3.04	6.63	0.459 ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T30	20 - 8	5/8	6.30	5.93	455.6	21.600	0.3068	5.50	6.63	0.830 ✔

* DL controls

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T31	8 - 0	L3x3x3/8	1.86	1.57	20.6	21.600	2.1100	13.75	45.58	0.302 ✔

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T31	8 - 0	C3x5	4.43	4.14	121.0	21.600	1.4700	10.85	31.75	0.342 ✔

Bottom Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T30	20 - 8	L2 1/2x2 1/2x3/16	5.00	4.71	72.6	21.600	0.9020	19.56	19.48	1.004 ✔
T31	8 - 0	12x3/8	0.57	0.28	31.2	21.600	4.5000	13.68	97.20	0.141 ✔

Top Guy Pull-Off Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	592 - 580	6 x 1	5.00	4.81	200.1	21.600	6.0000	5.49	129.60	0.042 ✔
T4	540 - 520	6 x 1	5.00	4.79	199.2	21.600	6.0000	4.49	129.60	0.035 ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T7	480 - 460	6 x 1	5.00	4.77	198.3	21.600	6.0000	6.92	129.60	0.053 ✔
T12	380 - 360	6 x 1	5.00	4.75	197.5	21.600	6.0000	3.73	129.60	0.029 ✔
T17	280 - 260	6 x 1	5.00	4.73	196.6	21.600	6.0000	3.98	129.60	0.031 ✔
T21	200 - 180	6 x 1	5.00	4.73	196.6	21.600	6.0000	3.64	129.60	0.028 ✔
T26	100 - 80	6 x 1	5.00	4.71	195.7	21.600	6.0000	7.12	129.60	0.055 ✔

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
L1	625 - 592	Pole	P10x.365	1	-1.99	150.22	81.3	Pass
T1	592 - 580	Leg	2 1/4	2	-28.62	98.87	29.0	Pass
T2	580 - 560	Leg	2 1/4	36	-27.72	97.34	28.5	Pass
T3	560 - 540	Leg	2 1/4	88	-40.65	97.34	41.8	Pass
T4	540 - 520	Leg	2 1/2	139	-59.27	130.97	45.3	Pass
T5	520 - 500	Leg	2 1/2	190	-55.36	130.97	42.3	Pass
T6	500 - 480	Leg	2 1/2	241	-66.02	130.97	50.4	Pass
T7	480 - 460	Leg	2 3/4	292	-95.13	168.58	56.4	Pass
T8	460 - 440	Leg	2 3/4	343	-96.74	168.58	57.4	Pass
T9	440 - 420	Leg	2 3/4	394	-87.44	168.58	51.9	Pass
T10	420 - 400	Leg	2 3/4	445	-94.83	168.58	56.3	Pass
T11	400 - 380	Leg	2 3/4	496	-117.72	168.58	69.8	Pass
T12	380 - 360	Leg	3	547	-141.10	210.15	67.1	Pass
T13	360 - 340	Leg	3	598	-131.97	210.15	62.8	Pass
T14	340 - 320	Leg	3	649	-122.24	210.15	58.2	Pass
T15	320 - 300	Leg	3	700	-127.22	210.15	60.5	Pass
T16	300 - 280	Leg	3 1/4	751	-145.41	255.70	56.9	Pass
T17	280 - 260	Leg	3 1/4	802	-153.09	255.70	59.9	Pass
T18	260 - 240	Leg	3 1/4	853	-135.48	255.70	53.0	Pass
T19	240 - 220	Leg	3 1/4	904	-123.54	255.70	48.3	Pass
T20	220 - 200	Leg	3 1/4	955	-128.12	255.70	50.1	Pass
T21	200 - 180	Leg	3 1/4	1006	-142.23	255.70	55.6	Pass
T22	180 - 160	Leg	3 1/4	1056	-149.66	255.70	58.5	Pass
T23	160 - 140	Leg	3 1/4	1108	-159.08	255.70	62.2	Pass
T24	140 - 120	Leg	3 1/4	1159	-158.24	255.70	61.9	Pass
T25	120 - 100	Leg	3 1/4	1210	-148.74	255.70	58.2	Pass
T26	100 - 80	Leg	3 1/2	1261	-165.55	305.21	54.2	Pass
T27	80 - 60	Leg	3 1/2	1312	-155.26	305.21	50.9	Pass
T28	60 - 40	Leg	3 1/2	1363	-159.86	305.21	52.4	Pass
T29	40 - 20	Leg	3 1/2	1413	-160.15	305.21	52.5	Pass
T30	20 - 8	Leg	3 1/2	1463	-157.66	307.09	51.3	Pass
T31	8 - 0	Leg	3 1/2	1496	-161.12	327.24	49.2	Pass
T1	592 - 580	Diagonal	3/4	34	3.83	9.54	40.2	Pass
T2	580 - 560	Diagonal	5/8	85	2.62	6.63	39.5	Pass
T3	560 - 540	Diagonal	5/8	100	4.42	8.83	50.0	Pass
T4	540 - 520	Diagonal	3/4	178	5.73	12.72	45.0	Pass
T5	520 - 500	Diagonal	5/8	235	3.48	8.83	39.4	Pass
T6	500 - 480	Diagonal	5/8	250	3.92	8.83	44.3	Pass
T7	480 - 460	Diagonal	3/4	301	5.62	12.72	44.2	Pass
T8	460 - 440	Diagonal	3/4	386	4.60	12.72	36.1	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P_{allow} K	% Capacity	Pass Fail
T9	440 - 420	Diagonal	5/8	438	3.20	8.83	36.3	Pass
T10	420 - 400	Diagonal	5/8	455	3.30	8.83	37.4	Pass
T11	400 - 380	Diagonal	5/8	506	5.96	8.83	67.5	Pass
T12	380 - 360	Diagonal	7/8	575	7.25	17.31	41.9	Pass
T13	360 - 340	Diagonal	5/8	645	4.14	8.83	46.8	Pass
T14	340 - 320	Diagonal	5/8	696	2.27	6.63	34.3	Pass
T15	320 - 300	Diagonal	5/8	710	3.69	8.83	41.8	Pass
T16	300 - 280	Diagonal	3/4	761	6.05	12.72	47.6	Pass
T17	280 - 260	Diagonal	3/4	848	6.44	12.72	50.6	Pass
T18	260 - 240	Diagonal	5/8	901	4.96	8.83	56.1	Pass
T19	240 - 220	Diagonal	5/8	952	3.51	8.83	39.7	Pass
T20	220 - 200	Diagonal	5/8	965	3.55	8.83	40.2	Pass
T21	200 - 180	Diagonal	7/8	1018	9.79	17.31	56.5	Pass
T22	180 - 160	Diagonal	3/4	1105	8.05	12.72	63.3	Pass
T23	160 - 140	Diagonal	5/8	1156	4.81	8.83	54.4	Pass
T24	140 - 120	Diagonal	5/8	1168	5.43	8.83	61.4	Pass
T25	120 - 100	Diagonal	3/4	1220	7.80	12.72	61.3	Pass
T26	100 - 80	Diagonal	3/4	1307	8.37	12.72	65.8	Pass
T27	80 - 60	Diagonal	5/8	1356	5.66	8.83	64.1	Pass
T28	60 - 40	Diagonal	5/8	1407	3.54	8.83	40.1	Pass
T29	40 - 20	Diagonal	5/8	1424	3.04	8.83	34.4	Pass
T30	20 - 8	Diagonal	5/8	1475	5.50	8.83	62.2	Pass
T31	8 - 0	Diagonal	L3x3x3/8	1509	-23.13	50.59	45.7	Pass
T1	592 - 580	Horizontal	L2 1/2x2 1/2x3/16	27	-5.47	9.49	57.6	Pass
T2	580 - 560	Horizontal	L2 1/2x2 1/2x3/16	52	-3.97	9.49	41.8	Pass
T3	560 - 540	Horizontal	L2 1/2x2 1/2x3/16	130	-3.96	9.49	41.7	Pass
T4	540 - 520	Horizontal	L2 1/2x2 1/2x3/16	179	-5.69	9.52	59.7	Pass
T5	520 - 500	Horizontal	L2 1/2x2 1/2x3/16	203	-3.67	9.52	38.6	Pass
T6	500 - 480	Horizontal	L2 1/2x2 1/2x3/16	281	-3.67	9.52	38.5	Pass
T7	480 - 460	Horizontal	L2 1/2x2 1/2x3/16	305	-5.12	9.55	53.6	Pass
T8	460 - 440	Horizontal	L2 1/2x2 1/2x3/16	383	-4.65	9.55	48.7	Pass
T9	440 - 420	Horizontal	L2 1/2x2 1/2x3/16	407	-3.48	9.55	36.4	Pass
T10	420 - 400	Horizontal	L2 1/2x2 1/2x3/16	485	-3.47	9.55	36.3	Pass
T11	400 - 380	Horizontal	L2 1/2x2 1/2x3/16	536	-3.45	9.55	36.1	Pass
T12	380 - 360	Horizontal	L2 1/2x2 1/2x1/4	578	-6.50	12.57	51.7	Pass
T13	360 - 340	Horizontal	L2 1/2x2 1/2x3/16	611	-3.35	9.59	34.9	Pass
T14	340 - 320	Horizontal	L2 1/2x2 1/2x3/16	689	-3.34	9.59	34.8	Pass
T15	320 - 300	Horizontal	L2 1/2x2 1/2x3/16	741	-3.32	9.59	34.6	Pass
T16	300 - 280	Horizontal	L2 1/2x2 1/2x3/16	792	-4.56	9.62	47.4	Pass
T17	280 - 260	Horizontal	L2 1/2x2 1/2x3/16	834	-4.46	9.62	46.4	Pass
T18	260 - 240	Horizontal	L2 1/2x2 1/2x3/16	867	-3.25	9.62	33.8	Pass
T19	240 - 220	Horizontal	L2 1/2x2 1/2x3/16	945	-3.25	9.62	33.8	Pass
T20	220 - 200	Horizontal	L2 1/2x2 1/2x3/16	996	-3.23	9.62	33.6	Pass
T21	200 - 180	Horizontal	L2 1/2x2 1/2x1/4	1030	-5.84	12.61	46.3	Pass
T22	180 - 160	Horizontal	L2 1/2x2 1/2x3/16	1099	-5.78	12.82	45.1	Pass
T23	160 - 140	Horizontal	L2 1/2x2 1/2x3/16	1121	-3.06	9.62	31.8	Pass
T24	140 - 120	Horizontal	L2 1/2x2 1/2x3/16	1199	-3.06	9.62	31.8	Pass
T25	120 - 100	Horizontal	L2 1/2x2 1/2x3/16	1224	-5.66	12.82	44.2	Pass
T26	100 - 80	Horizontal	L2 1/2x2 1/2x3/16	1302	-6.04	12.86	46.9	Pass
T27	80 - 60	Horizontal	L2 1/2x2 1/2x3/16	1325	-3.14	9.65	32.6	Pass
T28	60 - 40	Horizontal	L2 1/2x2 1/2x3/16	1403	-3.13	9.65	32.5	Pass
T29	40 - 20	Horizontal	L2 1/2x2 1/2x3/16	1454	-3.12	9.65	32.3	Pass
T30	20 - 8	Horizontal	L2 1/2x2 1/2x3/16	1478	-4.00	9.65	41.4	Pass
T31	8 - 0	Horizontal	L3x3x3/8	1511	13.75	60.75	22.6	Pass
T2	580 - 560	Top Girt	L2 1/2x2 1/2x3/16	39	-2.13	9.49	22.4	Pass
T3	560 - 540	Top Girt	L2 1/2x2 1/2x3/16	90	-2.06	9.49	21.7	Pass
T4	540 - 520	Top Girt	L2 1/2x2 1/2x3/16	141	-2.69	9.52	28.3	Pass
T5	520 - 500	Top Girt	L2 1/2x2 1/2x3/16	191	-1.99	9.52	20.9	Pass
T6	500 - 480	Top Girt	L2 1/2x2 1/2x3/16	242	-1.91	9.52	20.0	Pass
T7	480 - 460	Top Girt	L2 1/2x2 1/2x3/16	293	-2.52	9.55	26.4	Pass
T8	460 - 440	Top Girt	L2 1/2x2 1/2x3/16	344	-1.91	9.55	20.0	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P_{allow} K	% Capacity	Pass Fail
T9	440 - 420	Top Girt	L2 1/2x2 1/2x3/16	395	-1.90	9.55	19.9	Pass
T10	420 - 400	Top Girt	L2 1/2x2 1/2x3/16	446	-1.81	9.55	18.9	Pass
T11	400 - 380	Top Girt	L2 1/2x2 1/2x3/16	497	-1.80	9.55	18.8	Pass
T12	380 - 360	Top Girt	L2 1/2x2 1/2x1/4	548	-3.20	12.57	25.4	Pass
T13	360 - 340	Top Girt	L2 1/2x2 1/2x3/16	599	-1.85	9.59	19.3	Pass
T14	340 - 320	Top Girt	L2 1/2x2 1/2x3/16	650	-1.76	9.59	18.3	Pass
T15	320 - 300	Top Girt	L2 1/2x2 1/2x3/16	701	-1.75	9.59	18.2	Pass
T16	300 - 280	Top Girt	L2 1/2x2 1/2x3/16	752	-2.28	9.62	23.7	Pass
T17	280 - 260	Top Girt	L2 1/2x2 1/2x3/16	805	-2.61	9.62	27.2	Pass
T18	260 - 240	Top Girt	L2 1/2x2 1/2x3/16	855	-1.84	9.62	19.1	Pass
T19	240 - 220	Top Girt	L2 1/2x2 1/2x3/16	906	-1.71	9.62	17.7	Pass
T20	220 - 200	Top Girt	L2 1/2x2 1/2x3/16	957	-1.70	9.62	17.7	Pass
T21	200 - 180	Top Girt	L2 1/2x2 1/2x1/4	1009	-2.87	12.61	22.7	Pass
T22	180 - 160	Top Girt	L2 1/2x2 1/2x3/16	1060	-3.22	12.82	25.1	Pass
T23	160 - 140	Top Girt	L2 1/2x2 1/2x3/16	1111	-1.72	9.62	17.9	Pass
T24	140 - 120	Top Girt	L2 1/2x2 1/2x3/16	1162	-1.60	9.62	16.7	Pass
T25	120 - 100	Top Girt	L2 1/2x2 1/2x3/16	1211	-2.00	9.62	20.8	Pass
T26	100 - 80	Top Girt	L2 1/2x2 1/2x3/16	1263	-3.37	12.86	26.2	Pass
T27	80 - 60	Top Girt	L2 1/2x2 1/2x3/16	1313	-1.80	9.65	18.7	Pass
T28	60 - 40	Top Girt	L2 1/2x2 1/2x3/16	1364	-1.65	9.65	17.1	Pass
T29	40 - 20	Top Girt	L2 1/2x2 1/2x3/16	1415	-1.64	9.65	17.0	Pass
T30	20 - 8	Top Girt	L2 1/2x2 1/2x3/16	1466	-1.63	9.65	16.9	Pass
T31	8 - 0	Top Girt	C3x5	1499	10.85	42.33	25.6	Pass
T1	592 - 580	Bottom Girt	L2 1/2x2 1/2x3/16	8	-2.70	9.49	28.4	Pass
T2	580 - 560	Bottom Girt	L2 1/2x2 1/2x3/16	41	-2.06	9.49	21.7	Pass
T3	560 - 540	Bottom Girt	L2 1/2x2 1/2x3/16	92	-2.09	9.49	22.0	Pass
T4	540 - 520	Bottom Girt	L2 1/2x2 1/2x3/16	143	-2.46	9.52	25.8	Pass
T5	520 - 500	Bottom Girt	L2 1/2x2 1/2x3/16	194	-1.91	9.52	20.1	Pass
T6	500 - 480	Bottom Girt	L2 1/2x2 1/2x3/16	245	-1.99	9.52	20.9	Pass
T8	460 - 440	Bottom Girt	L2 1/2x2 1/2x3/16	347	-2.32	9.55	24.3	Pass
T9	440 - 420	Bottom Girt	L2 1/2x2 1/2x3/16	398	-1.81	9.55	18.9	Pass
T10	420 - 400	Bottom Girt	L2 1/2x2 1/2x3/16	449	-1.80	9.55	18.8	Pass
T11	400 - 380	Bottom Girt	L2 1/2x2 1/2x3/16	500	-1.92	9.55	20.1	Pass
T12	380 - 360	Bottom Girt	L2 1/2x2 1/2x1/4	552	-3.00	12.57	23.9	Pass
T13	360 - 340	Bottom Girt	L2 1/2x2 1/2x3/16	603	-1.75	9.59	18.3	Pass
T14	340 - 320	Bottom Girt	L2 1/2x2 1/2x3/16	654	-1.75	9.59	18.2	Pass
T15	320 - 300	Bottom Girt	L2 1/2x2 1/2x3/16	705	-1.87	9.59	19.5	Pass
T16	300 - 280	Bottom Girt	L2 1/2x2 1/2x3/16	756	-2.61	9.62	27.1	Pass
T17	280 - 260	Bottom Girt	L2 1/2x2 1/2x3/16	807	-2.15	9.62	22.4	Pass
T18	260 - 240	Bottom Girt	L2 1/2x2 1/2x3/16	857	-1.70	9.62	17.7	Pass
T19	240 - 220	Bottom Girt	L2 1/2x2 1/2x3/16	908	-1.70	9.62	17.7	Pass
T20	220 - 200	Bottom Girt	L2 1/2x2 1/2x3/16	959	-1.82	9.62	19.0	Pass
T21	200 - 180	Bottom Girt	L2 1/2x2 1/2x1/4	1010	-3.17	12.61	25.1	Pass
T22	180 - 160	Bottom Girt	L2 1/2x2 1/2x3/16	1061	-2.02	9.62	21.0	Pass
T23	160 - 140	Bottom Girt	L2 1/2x2 1/2x3/16	1112	-1.61	9.62	16.7	Pass
T24	140 - 120	Bottom Girt	L2 1/2x2 1/2x3/16	1163	-1.71	9.62	17.8	Pass
T25	120 - 100	Bottom Girt	L2 1/2x2 1/2x3/16	1215	-3.09	12.82	24.1	Pass
T26	100 - 80	Bottom Girt	L2 1/2x2 1/2x3/16	1265	-2.05	9.65	21.2	Pass
T27	80 - 60	Bottom Girt	L2 1/2x2 1/2x3/16	1316	-1.65	9.65	17.1	Pass
T28	60 - 40	Bottom Girt	L2 1/2x2 1/2x3/16	1368	-1.64	9.65	17.0	Pass
T29	40 - 20	Bottom Girt	L2 1/2x2 1/2x3/16	1419	-1.66	9.65	17.2	Pass
T30	20 - 8	Bottom Girt	L2 1/2x2 1/2x3/16	1469	19.56	25.97	75.3	Pass
T31	8 - 0	Bottom Girt	12x3/8	1502	13.68	129.57	10.6	Pass
T1	592 - 580	Guy A@591.75	7/8	1531	34.10	46.00	74.1	Pass
T4	540 - 520	Guy A@531.95	1	1534	41.25	61.00	67.6	Pass
T7	480 - 460	Guy A@460.25	1	1537	38.99	61.00	63.9	Pass
T12	380 - 360	Guy A@368.05	1	1540	35.51	61.00	58.2	Pass
T17	280 - 260	Guy A@275.85	1	1543	32.21	61.00	52.8	Pass
T21	200 - 180	Guy A@184.15	7/8	1546	26.18	46.00	56.9	Pass
T26	100 - 80	Guy A@91.95	7/8	1549	24.33	46.00	52.9	Pass
T1	592 - 580	Guy B@591.75	7/8	1530	34.60	46.00	75.2	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
T4	540 - 520	Guy B@531.95	1	1533	41.89	61.00	68.7	Pass
T7	480 - 460	Guy B@460.25	1	1536	39.36	61.00	64.5	Pass
T12	380 - 360	Guy B@368.05	1	1539	35.71	61.00	58.5	Pass
T17	280 - 260	Guy B@275.85	1	1542	32.12	61.00	52.6	Pass
T21	200 - 180	Guy B@184.15	7/8	1545	26.60	46.00	57.8	Pass
T26	100 - 80	Guy B@91.95	7/8	1548	24.60	46.00	53.5	Pass
T1	592 - 580	Guy C@591.75	7/8	1529	35.48	46.00	77.1	Pass
T4	540 - 520	Guy C@531.95	1	1532	43.05	61.00	70.6	Pass
T7	480 - 460	Guy C@460.25	1	1535	40.14	61.00	65.8	Pass
T12	380 - 360	Guy C@368.05	1	1538	36.38	61.00	59.6	Pass
T17	280 - 260	Guy C@275.85	1	1541	32.08	61.00	52.6	Pass
T21	200 - 180	Guy C@184.15	7/8	1544	27.11	46.00	58.9	Pass
T26	100 - 80	Guy C@91.95	7/8	1547	24.52	46.00	53.3	Pass
T1	592 - 580	Top Guy Pull-Off@591.75	6 x 1	5	-1.28	29.84	4.3	Pass
T4	540 - 520	Top Guy Pull-Off@531.95	6 x 1	170	-2.44	22.58	10.8	Pass
T7	480 - 460	Top Guy Pull-Off@460.25	6 x 1	296	6.92	172.76	4.0	Pass
T12	380 - 360	Top Guy Pull-Off@368.05	6 x 1	570	-2.72	22.98	11.8	Pass
T17	280 - 260	Top Guy Pull-Off@275.85	6 x 1	842	-2.00	30.90	6.5	Pass
T21	200 - 180	Top Guy Pull-Off@184.15	6 x 1	1019	-3.75	30.90	12.1	Pass
T26	100 - 80	Top Guy Pull-Off@91.95	6 x 1	1292	-1.87	31.18	6.0	Pass

	Summary	
Pole (L1)	81.3	Pass
Leg (T11)	69.8	Pass
Diagonal (T11)	67.5	Pass
Horizontal (T4)	59.7	Pass
Top Girt (T4)	28.3	Pass
Bottom Girt (T30)	75.3	Pass
Guy A (T1)	74.1	Pass
Guy B (T1)	75.2	Pass
Guy C (T1)	77.1	Pass
Top Guy Pull-Off (T21)	12.1	Pass
Bolt Checks	10.3	Pass
RATING =	**81.3**	**Pass**

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63-2 North Branford Road P: (203) 488-0580
Branford, CT 06405 F: (203) 488-8587

Job :	AT&T ~ CT5663: 592-ft Guyed Lattice Tower	**Project No.**	16071.22	**Sheet**	1	of	2
Address:	360 Gaylord Mountain Road., Hamden, CT	**Computed by**	TJL	**Date**		6/22/16	
Description:	Guy Anchor Evaluation - 2005 CSBC 3108.4.2/TIA Req	**Checked by**	CFC	**Date**			

CHECK UPLIFT RESISTANCE

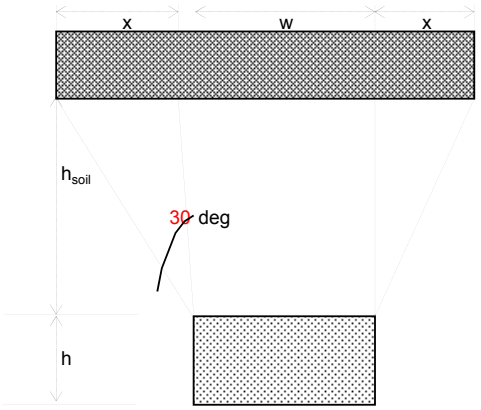
ANCHOR (A) AT 242.0ft RADIUS

RESULTS FROM COMPUTER ANALYSIS:

Uplift =	53	kips
Sliding =	60	kips
Wdepth =	50	ft

CONCRETE PARAMETERS:

γ_{conc} =	150	pcf
$\gamma_{conc.sub}$ =	87.6	pcf
w =	8	ft
h =	4	ft
d =	17.5	ft
Vol. =	*560.00*	ft^3
Vol.sub =	*0.00*	ft^3
Wc =	*84.00*	kips



Foundation Section

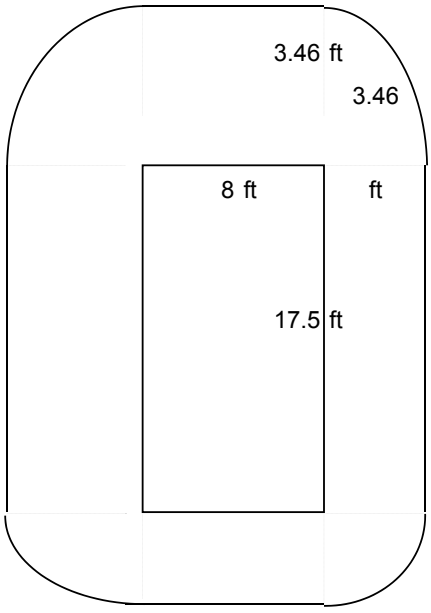
SOIL PARAMETERS:

γ_{soil} =	110	pcf
$\gamma_{soil.sub}$ =	60	pcf
h_{soil} =	6	ft
x =	*3.46*	ft

Soil Weight (Wr):

B1 =	140.00
B2 =	140.00
B3 =	364.67

W.soil =	160.74	kips
W.soil.sub =	0.00	kips
Total =	*160.74*	kips



Foundation Plan View

CHECK UPLIFT (PER EIA/TIA-222-F STANDARD AND 2005 CT BUILDING CODE):

SF AGAINST SLIDING

4.62 **>** *2* ***OK***

→ ***GUY ANCHORS AGAINST UPLIFT ARE ADEQUATE***

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Job :	Verizon ~ Ledyard: 347-ft Guyed Lattice Tower	**Project No.**	15001.037	**Sheet**	2	of	2
Address:	889 Colonel Ledyard Rd., Ledyard, CT	**Computed by**	TJL	**Date**		6/22/16	
Description:	Guy Anchor Evaluation - 2005 CSBC 3108.4.2/TIA Req	**Checked by**	CFC	**Date**			

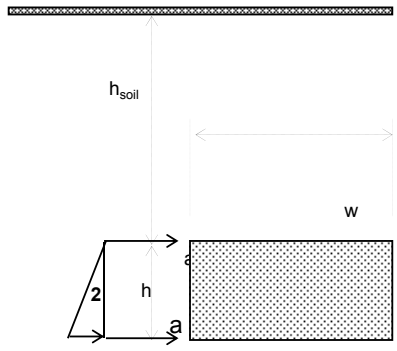
CHECK SLIDING RESISTANCE

SOIL PARAMETERS

γ soil =	110	pcf
γ soil =	60	pcf
h_{soil} =	6	ft
h =	4	ft
ϕ =	30	degrees

ANCHOR PARAMETERS

w =	8.0	ft
h =	4.0	ft
d =	17.5	ft



Foundation Elevation View

K_p = 3.00

HORIZONTAL FORCES

	1.98	ksf
	3.30	ksf
RESIST TO SLIDING =	184.80	k

SOIL & CONCRETE WEIGHT =	Wr + Wc =	244.74	k
UPLIFT REACTIONS =		-53	k
SUM =		191.74	k

COEF. OF FRICTION, (0.45) =	86.28	k
RESIST TO SLIDING =	184.80	k
SUM =	271.08	k

SF AGAINST SLIDING

SF = 4.5 > 2 OK

→ ***GUY ANCHORS AGAINST SLIDING ARE ADEQUATE***

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Job :	AT&T ~ CT5663: 592-ft Guyed Lattice Tower	**Project No.**	16071.22	**Sheet**	1	of	2
Address:	360 Gaylord Mountain Road., Hamden, CT	**Computed by**	TJL	**Date**		6/22/16	
Description:	Guy Anchor Evaluation - 2005 CSBC 3108.4.2/TIA Req	**Checked by**	CFC	**Date**			

CHECK UPLIFT RESISTANCE

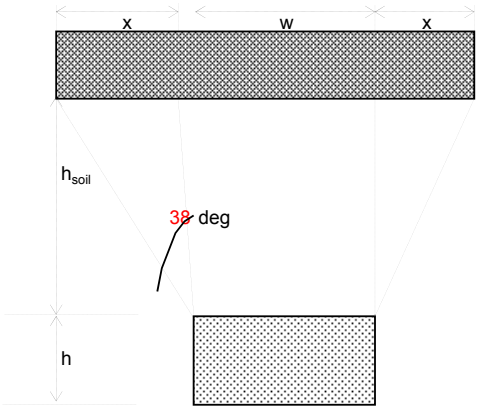
ANCHOR (C) AT 245.0ft RADIUS

RESULTS FROM COMPUTER ANALYSIS:

Uplift =	127	kips
Sliding =	79	kips
Wdepth =	50	ft

CONCRETE PARAMETERS:

γ conc =	150	pcf
γ conc.sub =	87.6	pcf
w =	8	ft
h =	4	ft
d =	15.5	ft
Vol. =	*496.00*	ft^3
Vol.sub =	*0.00*	ft^3
Wc =	*74.40*	kips



Foundation Section

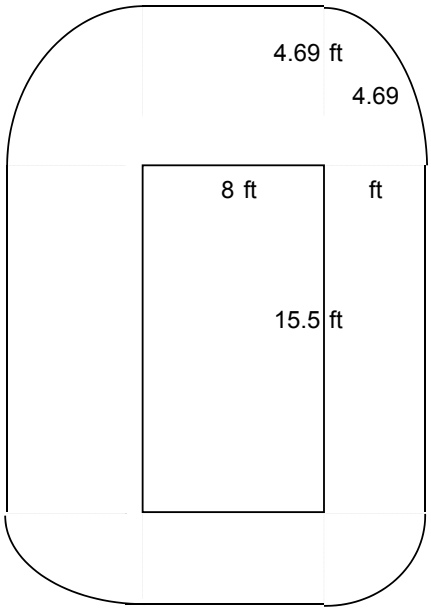
SOIL PARAMETERS:

γ_{soil} =	125	pcf
$\gamma_{soil.sub}$ =	60	pcf
h_{soil} =	6	ft
x =	*4.69*	ft

Soil Weight (Wr):

B1 =	124.00
B2 =	124.00
B3 =	432.22

W.soil =	196.93	kips
W.soil.sub =	0.00	kips
Total =	*196.93*	kips



Foundation Plan View

CHECK UPLIFT (PER EIA/TIA-222-F STANDARD AND 2005 CT BUILDING CODE):

SF AGAINST SLIDING

2.14 **>** *2* ***OK***

→ ***GUY ANCHORS AGAINST UPLIFT ARE ADEQUATE***

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Job :	Verizon ~ Ledyard: 347-ft Guyed Lattice Tower	**Project No.**	15001.037	**Sheet**	2	of	2
Address:	889 Colonel Ledyard Rd., Ledyard, CT	**Computed by**	TJL	**Date**		6/22/16	
Description:	Guy Anchor Evaluation - 2005 CSBC 3108.4.2/TIA Req	**Checked by**	CFC	**Date**			

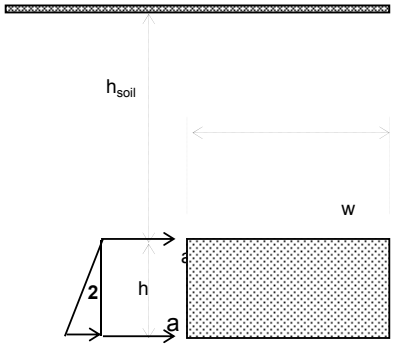
CHECK SLIDING RESISTANCE

SOIL PARAMETERS

γ soil =	125	pcf
γ soil =	60	pcf
h_{soil} =	6	ft
h =	4	ft
ϕ =	30	degrees

ANCHOR PARAMETERS

w =	8.0	ft
h =	4.0	ft
d =	15.5	ft



Foundation Elevation View

K_p = 3.00

HORIZONTAL FORCES

	2.25	ksf
	3.75	ksf
RESIST TO SLIDING =	186.00	k

SOIL & CONCRETE WEIGHT =	Wr + Wc =	271.33	k
UPLIFT REACTIONS =		-127	k
SUM =		144.33	k

COEF. OF FRICTION, (0.45) =	64.95	k
RESIST TO SLIDING =	186.00	k
SUM =	250.95	k

SF AGAINST SLIDING

SF = 3.2 > 2 OK

→ ***GUY ANCHORS AGAINST SLIDING ARE ADEQUATE***

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63-2 North Branford Road P: (203) 488-0580
Branford, CT 06405 F: (203) 488-8587

Subject:	Base Foundation Analysis
Location:	592-ft Guyed Lattice Tower Hamden, CT
Rev. 0: 6/22/16	Prepared by: T.J.L. Checked by: C.F.C. Job No. 16071.22

Guyed Tower Foundation:

Input Data:

Tower Data

Shear Force =	$Shear := 2 \cdot kip$	(User Input from tnxTower)	
Axial Force =	$Axial := 442 \cdot kip$	(User Input from tnxTower)	
Axial Force =	$Moment := 0 \cdot kip \cdot ft$	(User Input from tnxTower)	
Tower Height =	$H_t := 592 \cdot ft$	(User Input)	

Footing Data:

Overall Depth of Footing =	$D_f := 4.5 \cdot ft$	(User Input)	
Length of Pier =	$L_p := 0 \cdot ft$	(User Input)	
Extension of Pier Above Grade =	$L_{pag} := 0 \cdot ft$	(User Input)	
Width of Pier =	$d_p := 0 \cdot ft$	(User Input)	
Thickness of Footing =	$T_f := 5 \cdot ft$	(User Input)	
Width of Footing =	$W_f := 5 \cdot ft$	(User Input)	

Material Properties:

Concrete Compressive Strength =	$f_c := 3000 \cdot psi$	(User Input)	
Steel Reinforcement Yield Strength =	$f_y := 60000 \cdot psi$	(User Input)	
Internal Friction Angle of Soil =	$\Phi_s := 30 \cdot deg$	(User Input)	
Allowable Bearing Capacity =	$q_s := 25000 \cdot psf$	(User Input)	
Unit Weight of Soil =	$\gamma_{soil} := 120 \cdot pcf$	(User Input)	
Unit Weight of Concrete =	$\gamma_{conc} := 150 \cdot pcf$	(User Input)	
Foundation Bouyancy =	$Bouyancy := 0$	(User Input)	(Yes=1 / No=0)
Depth to Neglect =	$n := 0 \cdot ft$	(User Input)	
Cohesion of Clay Type Soil =	$c := 0 \cdot ksf$	(User Input)	(Use 0 for Sandy Soil)
Coefficient of Friction Between Concrete =	$\mu := 0.45$	(User Input)	
Overturning/Sliding Factor of Safety Required =	$FS_{req} := 2$	(User Input)	

Coefficient of Lateral Soil Pressure =

$$K_p := \frac{1 + \sin(\Phi_s)}{1 - \sin(\Phi_s)} = 3$$

Load Factor =

$$LF := \begin{cases} 1.333 & \text{if } H_t \le 700\cdot ft \\ 1.7 & \text{if } H_t \ge 1200\cdot ft \\ 1.333 + \left(\frac{H_t - 700ft}{1200ft - 700ft}\right)\cdot 0.4 & \text{otherwise} \end{cases} = 1.333$$

Stability of Footing:

Adjusted Concrete Unit Weight =

$$\gamma_c := if(Bouyancy = 1, \gamma_{conc} - 62.4pcf, \gamma_{conc}) = 150\cdot pcf$$

Adjusted Soil Unit Weight =

$$\gamma_s := if(Bouyancy = 1, \gamma_{soil} - 62.4pcf, \gamma_{soil}) = 120\cdot pcf$$

Passive Pressure =

$$P_{pn} := K_p\cdot\gamma_s\cdot n + c\cdot 2\cdot\sqrt{K_p} = 0\cdot ksf$$

$$P_{pt} := K_p\cdot\gamma_s\cdot(D_f - T_f) + c\cdot 2\cdot\sqrt{K_p} = -0.18\cdot ksf$$

$$P_{top} := if[n < (D_f - T_f), P_{pt}, P_{pn}] = 0\cdot ksf$$

$$P_{bot} := K_p\cdot\gamma_s\cdot D_f + c\cdot 2\cdot\sqrt{K_p} = 1.62\cdot ksf$$

$$P_{ave} := \frac{P_{top} + P_{bot}}{2} = 0.81\cdot ksf$$

$$T_p := if[n < (D_f - T_f), T_f, (D_f - n)] = 4.5$$

$$A_p := W_f\cdot T_p = 22.5$$

Ultimate Shear =

$$S_u := P_{ave}\cdot A_p = 18.225\cdot kip$$

Weight of Concrete =

$$WT_c := \left[\left(W_f^2\cdot T_f\right) + d_p^2 L_p\right]\cdot\gamma_c = 18.75\cdot kip$$

Total Weight =

$$WT_{tot} := WT_c + Axial = 460.75\cdot kip$$

Resisting Moment =

$$M_r := (WT_{tot})\cdot\frac{W_f}{2} + S_u\cdot\frac{T_f}{3} = 1182\cdot kip\cdot ft$$

Overturning Moment =

$$M_{ot} := Moment + Shear\cdot(L_p + T_f) = 10\cdot kip\cdot ft$$

Factor of Safety Actual =

$$FS := \frac{M_r}{M_{ot}} = 118.22$$

Factor of Safety Required =

$$FS_{req} := 2$$

$$OverTurning\_Moment\_Check := if(FS \ge FS_{req}, "Okay", "No Good")$$

OverTurning_Moment_Check = "Okay"

Soil/Concrete Friction Resistance = $Sl_2 := \mu \cdot WT_{tot} = 207.34 \cdot kips$

Total Sliding Resistance = $Sl_{tot} := S_u + Sl_2 = 225.56 \cdot kips$

Factor of Safety Actual = $FS := \frac{Sl_{tot}}{Shear} = 112.78$

$Sliding\_Resistance\_Check := if(FS \geq FS_{req}, "Okay", "No Good")$

$Sliding\_Resistance\_Check = "Okay"$

Bearing Pressure Caused by Footing:

Overturning Moment = $M_{ot} := Moment + Shear \cdot (L_p + T_f) = 10 \cdot kip \cdot ft$

Area of the Mat = $A_{mat} := W_f^2 = 25$

Section Modulus of Mat = $S := \frac{W_f^3}{6} = 20.83 \cdot ft^3$

Maximum Pressure in Mat = $P_{max} := \frac{WT_{tot}}{A_{mat}} + \frac{M_{ot}}{S} = 18.91 \cdot ksf$

$Max\_Pressure\_Check := if(P_{max} < q_s, "Okay", "No Good")$

$Max\_Pressure\_Check = "Okay"$

Minimum Pressure in Mat = $P_{min} := \frac{WT_{tot}}{A_{mat}} - \frac{M_{ot}}{S} = 17.95 \cdot ksf$

$Min\_Pressure\_Check := if[(P_{min} \geq 0) \cdot (P_{min} < q_s), "Okay", "No Good"]$

$Min\_Pressure\_Check = "Okay"$

Section 1 - RFDS GENERAL INFORMATION

RFDS NAME:	CTV5663	DATE:	3/22/2016	RF DESIGN ENG:	Omair Mohammed	RF PERF ENG:		RFDS PROGRAM TYPE:	2017 LTE Next Carrier
ISSUE:	Bronze Standard	Approved? (Y/N):	Yes	RF DESIGN PHONE:	860-721-4315	RF PERF PHONE:		RFDS TECHNOLOGY:	LTE 2C
REVISION:	Preliminary	RF MANAGER:	Cameron Syme	RF DESIGN EMAIL:	OM636A@US.ATT.COM	RF PERF EMAIL:		State:	Final
						TRIDENT:		Status:	RF Approval
						GSM FREQUENCY:	850	RFDS ID:	1123255
						UMTS FREQUENCY:	850,1900	Version	1.00
						LTE FREQUENCY:	700,1900	Created By:	om636a
								Date Created:	3/16/2016
								Date Updated:	3/22/2016
INITIATIVE / PROJECT:	LTE 2C w/ Bronze Standard Configuration							Updated By:	om636a
						I-PLAN JOB # 1:	NER-RCTB-12-04701	Product Group || Sub Group #1:	LTE Next Carrier || LTE 2C
						I-PLAN JOB # 2:		Product Group || Sub Group #2	
						I-PLAN JOB # 3:		Product Group || Sub Group #3	
						I-PLAN JOB # 4:		Product Group || Sub Group #4	

Section 2 - LOCATION INFORMATION

USID:	27036	FA LOCATION CODE:	10071061	LOCATION NAME:	HAMDEN - TALMADGE	ORACLE PRJT # 1:		PACE JOB #1:	MRCTB018209
REGION:	NORTHEAST	MARKET CLUSTER:	NEW ENGLAND	MARKET:	CONNECTICUT	ORACLE PRJT # 2:		PACE JOB #2:	
ADDRESS:	360 GAYLORD MOUNTAIN ROAD	CITY:	HAMDEN	STATE:	CT	ORACLE PRJT # 3:		PACE JOB #3:	
ZIP CODE:	06518	COUNTY:	NEW HAVEN	MSA / RSA:		ORACLE PRJT # 4:		PACE JOB #4:	
LATITUDE (D-M-S):	41d 26m .57084s	LONGITUDE (D-M-S):	-72d -56m -41.63604s	LAT (DEC. DEG.):	41.4334919	SEARCH RING NAME:			
DIRECTIONS, ACCESS AND EQUIPMENT LOCATION:	UPDATED 12/2008 5663_GSM HAMDEN WEST MERRITT PARKWAY TO EXIT 59 AT THE END OF RAMP TURN LEFT ON ROUTE 69 NORTH.GO ABOUT 5 OR 6 MILES AND TURN RIGHT ONTO GAYLORD MOUNTAIN ROAD. FOLLOW TO 50FT BEFORE 2ND STOP SIGN .TURN RIGHT INTO THE DRIVEWAY (458) AND THEN 2ND LEFT FOLLOW (PAVED) ROAD ALONG HIGH TENSION LINES TO GATE. USE COMBO OPEN SMALL GATE TOO. YOU WILL SEE THE TOWER. DEMARC IS IN TELCO BOX ON THE RIGHT SIDE OF BUILDING.(OUTSIDE) OUR CELL EQUIPMENT UP HILL IN BACK. ADDRESS: 458 GAYLORD MOUNTAIN ROAD, HAMDEN, CONNECTICUT ACCESS: 24/7 KEY PAD AT GATE IS 1617 AND SESAME LOCK IS 1617 CONTACT: POWER COMPANY: UNITED ILLUMINATING (800) 722-5584 GSM CKTS-HCGS-702120, HCGS 710392 UMTS CKTS-HCGS 743716, HCGS 743717, HCGS 747659					SEARCH RING ID:		CASPR INITIATIVE #1:	
						BTA:		CASPR INITIATIVE #2:	
						LONG (DEC. DEG.):	-72.9448989	CASPR INITIATIVE #3:	
						BORDER CELL WITH CONTOUR COORD:		CASPR INITIATIVE #4:	
						AM STUDY REQ'D (Y/N):	No		
						FREQ COORD:			

Section 3 - LICENSE COVERAGE/FILING INFORMATION

CGSA - NO FILING TRIGGERED (Yes/No):	No	CGSA LOSS:		PCS REDUCED - UPS ZIP:		CGSA CALL SIGNS:	z_KNLB312,z_KNLB312,z_KNLB312
CGSA - MINOR FILING NEEDED (Yes/No):	No	CGSA EXT AGMT NEEDED:		PCS POPS REDUCED:			
CGSA - MAJOR FILING NEEDED (Yes/No):	Yes	CGSA SCORECARD UPDATED:					

Section 4 - TOWER/REGULATORY INFORMATION

STRUCTURE AT&T OWNED?:	Yes	GROUND ELEVATION (ft):		STRUCTURE TYPE:	GUYED	MARKET LOCATION 700 MHz Band:	
ADDITIONAL REGULATORY?:	Yes	HEIGHT OVERALL (ft):	650.00	FCC ASR NUMBER:	1216288	MARKET LOCATION 850 MHz Band:	
SUB-LEASE RIGHTS?:	Yes	STRUCTURE HEIGHT (ft):	650.00			MARKET LOCATION 1900 MHz Band:	
LIGHTING TYPE:	PAINT AND RED LIGHT					MARKET LOCATION AWS Band:	
						MARKET LOCATION WCS Band:	
						MARKET LOCATION Future Band:	

Section 5 - E-911 INFORMATION - existing

	PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER:	LMU REQUIRED:	ESRN:	DATE LIVE PH1:	DATE LIVE PH2:
SECTOR A E-911	CONNECTICUT STATE POLICE-I TROOP	1321		INTRADO_MIAMI		0		
SECTOR B	CONNECTICUT STATE POLICE-I TROOP	1321		INTRADO_MIAMI		0		
SECTOR C	HAMDEN EMERGENCY COMMUNICATION CENTER	1347		INTRADO_MIAMI		0		
SECTOR D								
SECTOR E								
SECTOR F								
OMNI								

Section 5 - E-911 INFORMATION - final

	PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER:	LMU REQUIRED:	ESRN:	DATE LIVE PH1:	DATE LIVE PH2:
SECTOR A E-911	CONNECTICUT STATE POLICE-I TROOP	1321		INTRADO_MIAMI		0		
SECTOR B	CONNECTICUT STATE POLICE-I TROOP	1321		INTRADO_MIAMI		0		
SECTOR C	HAMDEN EMERGENCY COMMUNICATION CENTER	1347		INTRADO_MIAMI		0		
SECTOR D								
SECTOR E								
SECTOR F								
OMNI								

Section 6 - RBS GENERAL INFORMATION - existing				
	GSM 1ST RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS
RBS ID:	217457	210668	290932	366985
CTS COMMON ID:	318D5663	CTV5663	CTU5663	CTL05663
BTA/TID:	318G	318U	318W	318L
4-DIGIT SITE ID:	5663	5663	5663	5663
COW OR TOY?:	No	No	No	No
CELL SITE TYPE:	SECTORIZED	SECTORIZED	SECTORIZED	SECTORIZED
SITE TYPE:	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL
BTS LOCATION ID:	GROUND	GROUND	GROUND	INTERNAL
ORIGINATING CO:	CINGULAR	CINGULAR	CINGULAR	CINGULAR
CELLULAR NETWORK:	GOLD	GOLD	GOLD	GOLD
OPS DISTRICT:	CT SOUTH-WEST	CT SOUTH-WEST	CT SOUTH-WEST	CT-SOUTH
RF DISTRICT:	NPO TRIAGE	BRIDGEPORT	NPO TRIAGE	NPO TRIAGE
OPS ZONE:	NE_CT_S_NHVN_NW_CS	NE_CT_S_NHVN_NW_CS	NE_CT_S_NHVN_NW_CS	NE_CT_S_NHVN_NW_CS
RF ZONE:	HOTSEAT	BBP07	HOTSEAT	HOTSEAT
BASE STATION TYPE:	BASE	BASE	OVERLAY	BASE
EQUIPMENT NAME:	HAMDEN - TALMADGE	HAMDEN - TALMADGE	HAMDEN - TALMADGE	HAMDEN - TALMADGE
DISASTER PRIORITY:	3	0	0	3

Section 6 - RBS GENERAL INFORMATION - final				
	GSM 1ST RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS
RBS ID:	217457	210668	290932	366985
CTS COMMON ID:	318D5663	CTV5663	CTU5663	CTL05663
BTA/TID:	318G	318U	318W	318L
4-DIGIT SITE ID:	5663	5663	5663	5663
COW OR TOY?:	No	No	No	No
CELL SITE TYPE:	SECTORIZED	SECTORIZED	SECTORIZED	SECTORIZED
SITE TYPE:	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL
BTS LOCATION ID:	GROUND	GROUND	GROUND	INTERNAL
ORIGINATING CO:	CINGULAR	CINGULAR	CINGULAR	CINGULAR
CELLULAR NETWORK:	GOLD	GOLD	GOLD	GOLD
OPS DISTRICT:	CT-South	CT-South	CT-South	CT-South
RF DISTRICT:	NPO Triage	Bridgeport	NPO Triage	NPO Triage
OPS ZONE:	NE_CT_S_NHVN_NW_CS	NE_CT_S_NHVN_NW_CS	NE_CT_S_NHVN_NW_CS	NE_CT_S_NHVN_NW_CS
RF ZONE:	Hotseat	BBP07	Hotseat	Hotseat
BASE STATION TYPE:	BASE	BASE	OVERLAY	BASE
EQUIPMENT NAME:	HAMDEN - TALMADGE	HAMDEN - TALMADGE	HAMDEN - TALMADGE	HAMDEN - TALMADGE
DISASTER PRIORITY:	3	0	0	3

Section 7 - RBS SPECIFIC INFORMATION - existing

	GSM 1ST RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS
MSC:				
BSC/RNC/MME POOL ID:	BRPTCTBSC07	BRPTCT04CR0R05	BRPTCT04CR0R05	FF01
LAC:	05016	05991	05991	
RAC:				
EQUIPMENT VENDOR:	NOKIA	ERICSSON	ERICSSON	ERICSSON
EQUIPMENT TYPE:	ULTRASITE	3106 OUTDOOR	3106 OUTDOOR	6601 INDOOR MU
BASEBAND CONFIGURATION:				
LOCATION:				
CABINET LOCATION:				
MARKET STATE CODE:				CT
AGPS:	Yes	Yes	Yes	Yes
NODE B NUMBER:	0	0	0	5663
PARENT NAME:	BRIDGEPORT BSC 07	BRIDGEPORT CT RNC5	BRIDGEPORT CT RNC5	FF01

Section 7 - RBS SPECIFIC INFORMATION - final

	GSM 1ST RBS	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS
MSC:				
BSC/RNC/MME POOL ID:	BRPTCTBSC07	BRPTCT04CR0R05	BRPTCT04CR0R05	FF01
LAC:	05016	05991	05991	
RAC:				
EQUIPMENT VENDOR:	NOKIA	ERICSSON	ERICSSON	ERICSSON
EQUIPMENT TYPE:	ULTRASITE	3106 OUTDOOR	3106 OUTDOOR	6601 INDOOR MU
BASEBAND CONFIGURATION:				
LOCATION:				
CABINET LOCATION:				
MARKET STATE CODE:				CT
AGPS:	Yes	Yes	Yes	Yes
NODE B NUMBER:	0	0	0	5663
PARENT NAME:	BRIDGEPORT BSC 07	BRIDGEPORT CT RNC5	BRIDGEPORT CT RNC5	

Section 8 - RBS INDIVIDUAL INFORMATION - existing																								
	GSM 1ST 850	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 1900																			
RBS ID:	217457	210668	290932	366985																				
CELL ID/BCF:	318D5663	CTV5663	CTV5663	CTL05663																				
CTS COMMON ID:	318D5663	CTV5663	CTU5663	CTL05663																				

Section 8 - RBS INDIVIDUAL INFORMATION - final																								
	GSM 1ST 850	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 1900																			
RBS ID:	217457	210668	290932	366985	366985																			
CELL ID/BCF:	318D5663	CTV5663	CTV5663	CTL05663	CTL05663																			
CTS COMMON ID:	318D5663	CTV5663	CTU5663	CTL05663	CTL05663																			

Section 9 - SOFT SECTOR ID - existing

	GSM 1ST 850	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST WCS	LTE 2ND 700
USEID (excluding Hard Sector)	27036.850.25G.1	27036.850.3G.1	27036.1900.3G.2	27036.700.4G.1				
SECTOR A SOFT SECTOR ID	318G56631	CTV56631	CTU56637	CTL05663_7A_1				
SECTOR_B	318G56632	CTV56632	CTU56638	CTL05663_7B_1				
SECTOR_C	318G56633	CTV56633	CTU56639	CTL05663_7C_1				
SECTOR_D								
SECTOR_E								
SECTOR_F								
OMNI								

Section 9 - SOFT SECTOR ID - final

	GSM 1ST 850	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST WCS	LTE 2ND 700
USEID (excluding Hard Sector)	27036.850.25G.1	27036.850.3G.1	27036.1900.3G.2	27036.700.4G.1		27036.1900.4G.tmp		
SECTOR A SOFT SECTOR ID	318G56631	CTV56631	CTU56637	CTL05663_7A_1	CTL05663_8A_1	CTL05663_9A_1	CTL05663_3A_1	CTL05663_7A_2
SECTOR_B	318G56632	CTV56632	CTU56638	CTL05663_7B_1	CTL05663_8B_1	CTL05663_9B_1	CTL05663_3B_1	CTL05663_7B_2
SECTOR_C	318G56633	CTV56633	CTU56639	CTL05663_7C_1	CTL05663_8C_1	CTL05663_9C_1	CTL05663_3C_1	CTL05663_7C_2
SECTOR_D								
SECTOR_E								
SECTOR_F								
OMNI								

Section 9 - Cell Number - existing

	GSM 1ST 850	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST WCS	LTE 2ND 700
USEID (excluding Hard Sector)	27036.850.25G.1	27036.850.3G.1	27036.1900.3G.2	27036.700.4G.1				
SECTOR A CELL NUMBER	0	0	0	15				
SECTOR B	0	0	0	16				
SECTOR C	0	0	0	17				
SECTOR D								
SECTOR E								
SECTOR F								
OMNI								

Section 9 - Cell Number - final

	GSM 1ST 850	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST WCS	LTE 2ND 700
USEID (excluding Hard Sector)	27036.850.25G.1	27036.850.3G.1	27036.1900.3G.2	27036.700.4G.1		27036.1900.4G.tmp		
SECTOR A CELL NUMBER	0	0	0	15		8		
SECTOR B	0	0	0	16		9		
SECTOR C	0	0	0	17		10		
SECTOR D								
SECTOR E								
SECTOR F								
OMNI								

Section 10 - CID/SAC - existing																									
	GSM 1ST 850	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST WCS	LTE 2ND 700																	
SECTOR A CID/SAC	56631	56631	56637																						
SECTOR B	56632	56632	56638																						
SECTOR C	56633	56633	56639																						
SECTOR D																									
SECTOR E																									
SECTOR F																									
OMNI																									

Section 10 - CID/SAC - final																									
	GSM 1ST 850	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST WCS	LTE 2ND 700																	
SECTOR A CID/SAC	56631	56631	56637																						
SECTOR B	56632	56632	56638																						
SECTOR C	56633	56633	56639																						
SECTOR D																									
SECTOR E																									
SECTOR F																									
OMNI																									

Section 11 - CURRENT RADIO COUNTS existing																									
	GSM 1ST 850	GSM 1ST 1900	GSM 2ND 850	GSM 2ND 1900	UMTS 1ST 850	UMTS 1ST 1900	UMTS 2ND 850	UMTS 2ND 1900	UMTS 3RD 850	UMTS 3RD 1900	UMTS 4TH 850	UMTS 4TH 1900	UMTS 5TH 850	UMTS 5TH 1900	UMTS 6TH 850	UMTS 6TH 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 1ST FUTURE		
SECTOR A RADIO COUNTS																									
SECTOR B																									
SECTOR C																									
SECTOR D																									
SECTOR E																									
SECTOR F																									
OMNI																									
																	LTE 2ND 700	LTE 2ND 850	LTE 2ND 1900	LTE 2ND AWS	LTE 2ND WCS	LTE 2ND FUTURE		
SECTOR A RADIO COUNTS																									
SECTOR B																									
SECTOR C																									
SECTOR D																									
SECTOR E																									
SECTOR F																									
OMNI																									

Section 12 - CURRENT T1 COUNTS existing

	GSM 1ST Cabinet	GSM 2ND Cabinet	UMTS 1ST Cabinet	UMTS 2ND Cabinet	UMTS 3RD Cabinet	UMTS 4TH Cabinet	UMTS 5TH Cabinet	UMTS 6TH Cabinet	LTE 1ST Cabinet	LTE 2ND Cabinet	LTE 3RD Cabinet	LTE 4TH Cabinet
# T1s												
LINK PROFILE												
RF COMBINING												
FIBER or ETHERNET?												
Tx Board Model												
Tx Board QTY												
RAX/ECU Board Model												
RAX/ECU Board QTY												
BBU Board Model												
BBU Board QTY												
RRU - location												
FIBER JUMPER												
DC CABLE												
DC/Fiber Dem. Box												
Bundled Fiber Cable												
Bundled DC Cable												

Section 13 - NEW/PROPOSED RADIO COUNTS

	GSM 1ST 850	GSM 1ST 1900	GSM 2ND 850	GSM 2ND 1900	UMTS 1ST 850	UMTS 1ST 1900	UMTS 2ND 850	UMTS 2ND 1900	UMTS 3RD 850	UMTS 3RD 1900	UMTS 4TH 850	UMTS 4TH 1900	UMTS 5TH 850	UMTS 5TH 1900	UMTS 6TH 850	UMTS 6TH 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST AWS	LTE 1ST WCS	LTE 1ST FUTURE		
SECTOR A RADIO COUNTS																								
SECTOR B																								
SECTOR C																								
SECTOR D																								
SECTOR E																								
SECTOR F																								
OMNI																								
																	LTE 2ND 700	LTE 2ND 850	LTE 2ND 1900	LTE 2ND AWS	LTE 2ND WCS	LTE 2ND FUTURE		
SECTOR A RADIO COUNTS																								
SECTOR B																								
SECTOR C																								
SECTOR D																								
SECTOR E																								
SECTOR F																								
OMNI																								

Section 14 - NEW/PROPOSED T1 COUNTS

	GSM 1ST Cabinet	GSM 2ND Cabinet	UMTS 1ST Cabinet	UMTS 2ND Cabinet	UMTS 3RD Cabinet	UMTS 4TH Cabinet	UMTS 5TH Cabinet	UMTS 6TH Cabinet	LTE 1ST Cabinet	LTE 2ND Cabinet	LTE 3RD Cabinet	LTE 4TH Cabinet
# T1s												
LINK PROFILE												
RF COMBINING												
FIBER or ETHERNET?												
Tx Board Model												
Tx Board QTY												
RAX/ECU Board Model												
RAX/ECU Board QTY												
BBU Board Model												
BBU Board QTY												
RRU - location												
FIBER JUMPER												
DC CABLE												
DC/Fiber Dem. Box												
Bundled Fiber Cable												
Bundled DC Cable												

Section 15A - CURRENT SECTOR/CELL INFORMATION - SECTOR A (OR OMNI)

ANTENNA COMMON FIELDS	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	7770		AM-X-CD-14-65-00T-RET				
ANTENNA VENDOR	Powerwave		KMW				
ANTENNA SIZE (H x W x D)	55X11X5		48X11.8X5.9				
ANTENNA WEIGHT	35		36.4				
AZIMUTH	90		90				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	180		180				
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT	2		0				
FEEDER AMOUNT	2						
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)	2 Powerwave 7020		Internal				
SURGE ARRESTOR (QTY/MODEL)			1 DC/Fiber Squid				
DIPLEXER (QTY/MODEL)	2 Powerwave / LGP 21901						
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)	1 Powerwave 7070		LTE RRH				
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)	2 21401 (DB - 850 Bypass)						
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2 Polyphaser 1000860						
PDU FOR TMAS (QTY/MODEL)	1 (1900 AND 850 Bypass TMA)						
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)			1 RRUS-11				
RRH - 850 band (QTY/MODEL)							
RRH - 1900 band (QTY/MODEL)							
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1							
Local Market Note 2							
Local Market Note 3							

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(cssng)
ANTENNA POSITION 1	PORT 1		27036.A.850.3G.1	CTV56631	CTV56631		UMTS 850	7770.00.850.10	13.5		10	None	Andrew 1-5/8 (850)	210.053777									
	PORT 2		27036.A.850.25G.1	318G56631	318G56631		GSM 850	7770.00.850.10	13.5		10	None	1-5/8 at 850 MHz	210.053777	RxAIT 850				11.22	145.21			
	PORT 3		27036.A.1900.3G.2	CTU56637	CTU56637		UMTS 1900	7770.00.1900.06	15.5		6	None	Andrew 1-5/8 (1900)	210.053777									
ANTENNA POSITION 3	PORT 1		27036.A.700.4G.1	CTL05663_7A_1	CTL05663_7A_1		LTE 700	00T-RET_725MHz_1	14.1		13	Top	Fiber	0									

Section 15B - CURRENT SECTOR/CELL INFORMATION - SECTOR B

ANTENNA COMMON FIELDS	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	7770		AM-X-CD-16-65-00T-RET				
ANTENNA VENDOR	Powerwave		KMW				
ANTENNA SIZE (H x W x D)	55X11X5		72X11.8X5.9				
ANTENNA WEIGHT	35		48.5				
AZIMUTH	200		200				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	180		180				
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT	2		0				
FEEDER AMOUNT	2						
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)	2 Powerwave 7020		Internal				
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)	2 Powerwave / LGP 21901						
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)			LTE RRH				
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)	2 21401 (DB - 850 Bypass)						
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2 Polyphaser 1000860						
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)			1 RRUS-11				
RRH - 850 band (QTY/MODEL)							
RRH - 1900 band (QTY/MODEL)							
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1							
Local Market Note 2							
Local Market Note 3							

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(cssng)
ANTENNA POSITION 1	PORT 1		27036.B.850.3G.1	CTV56632	CTV56632		UMTS 850	7770.00.850.04	13.5		4	None	Andrew 1-5/8 (850)	210.053777									
	PORT 2		27036.B.850.25G.1	318G56632	318G56632		GSM 850	7770.00.850.04	13.5		4	None	1-5/8 at 850 MHz	210.053777	RxAIT 850				11.22	145.21			
	PORT 3		27036.B.1900.3G.2	CTU56638	CTU56638		UMTS 1900	7770.00.1900.02	15.5		2	None	Andrew 1-5/8 (1900)	210.053777									
ANTENNA POSITION 3	PORT 1		27036.B.700.4G.1	CTL05663_7B_1	CTL05663_7B_1		LTE 700	00T-RET_725MHz_0	15.6		8	Top	Fiber	0									

Section 15C - CURRENT SECTOR/CELL INFORMATION - SECTOR C

ANTENNA COMMON FIELDS	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	7770		AM-X-CD-16-65-00T-RET				
ANTENNA VENDOR	Powerwave		KMW				
ANTENNA SIZE (H x W x D)	55X11X5		72X11.8X5.9				
ANTENNA WEIGHT	35		48.5				
AZIMUTH	300		300				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	180		180				
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT	2		0				
FEEDER AMOUNT	2						
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)	2 Powerwave 7020		Internal				
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)	2 Powerwave / LGP 21901						
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)			LTE RRH				
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)	2 21401 (DB - 850 Bypass)						
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2 Polyphaser 1000860						
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)			1 RRUS-11				
RRH - 850 band (QTY/MODEL)							
RRH - 1900 band (QTY/MODEL)							
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1							
Local Market Note 2							
Local Market Note 3							

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(cssng)
ANTENNA POSITION 1	PORT 1		27036.C.850.3G.1	CTV56633	CTV56633		UMTS 850	7770.00.850.05	13.5		5	None	Andrew 1-5/8 (850)	210.053777									
	PORT 2		27036.C.850.25G.1	318G56633	318G56633		GSM 850	7770.00.850.05	13.5		5	None	1-5/8 at 850 MHz	210.053777	RxAIT 850				11.22	145.21			
	PORT 3		27036.C.1900.3G.2	CTU56639	CTU56639		UMTS 1900	7770.00.1900.03	15.5		3	None	Andrew 1-5/8 (1900)	210.053777									
ANTENNA POSITION 3	PORT 1		27036.C.700.4G.1	CTL05663_7C_1	CTL05663_7C_1		LTE 700	00T-RET_725MHz_0	15.6		3	Top	Fiber	0									

Section 16A - NEW/PROPOSED SECTOR/CELL INFORMATION - SECTOR A (OR OMNI)

ANTENNA COMMON FIELDS	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
Existing Antenna?							
ANTENNA MAKE - MODEL		SBNHH-1D65A					
ANTENNA VENDOR		Andrew					
ANTENNA SIZE (H x W x D)		55X11.9X7.1					
ANTENNA WEIGHT		33.5					
AZIMUTH		90					
MAGNETIC DECLINATION							
RADIATION CENTER (feet)		180					
ANTENNA TIP HEIGHT		182					
MECHANICAL DOWNTILT		0					
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)		Internal					
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)							
RRH - 850 band (QTY/MODEL)							
RRH - 1900 band (QTY/MODEL)		1 RRUS-12+RRUS-A2					
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	- Replace existing LTE Antenna with Hex por Antenna and Install at Pos 2						
Local Market Note 2							
Local Market Note 3							

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(cssng)
ANTENNA POSITION 2	PORT 3		27036.A.1900.4G.1	CTL05663_9A_1	CTL05663_9A_1		LTE 1900	1D65A_1930MHz_04DT	17.1	90	4	Top	Fiber	0						3228.4941		3	

Section 16B - NEW/PROPOSED SECTOR/CELL INFORMATION - SECTOR B

ANTENNA COMMON FIELDS	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
Existing Antenna?							
ANTENNA MAKE - MODEL		HPA-65R-BUU-H6					
ANTENNA VENDOR		CCI Products					
ANTENNA SIZE (H x W x D)		72X14.8X9					
ANTENNA WEIGHT		51					
AZIMUTH		200					
MAGNETIC DECLINATION							
RADIATION CENTER (feet)		180					
ANTENNA TIP HEIGHT		183					
MECHANICAL DOWNTILT		0					
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)		Internal					
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)							
RRH - 850 band (QTY/MODEL)							
RRH - 1900 band (QTY/MODEL)		1 RRUS-12+RRUS-A2					
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	- Replace existing LTE Antenna with Hex por Antenna and Install at Pos 2						
Local Market Note 2							
Local Market Note 3							

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(cssng)
ANTENNA POSITION 2	PORT 3		27036.B.1900.4 G.1	CTL05663_9B_1	CTL05663_9B_1		LTE 1900	H6_1930MHz_06 DT	17.18	200	6	Top	Fiber	0						3258.367		11	

Section 16C - NEW/PROPOSED SECTOR/CELL INFORMATION - SECTOR C

ANTENNA COMMON FIELDS	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
Existing Antenna?							
ANTENNA MAKE - MODEL		HPA-65R-BUU-H6					
ANTENNA VENDOR		CCI Products					
ANTENNA SIZE (H x W x D)		72X14.8X9					
ANTENNA WEIGHT		51					
AZIMUTH		300					
MAGNETIC DECLINATION							
RADIATION CENTER (feet)		180					
ANTENNA TIP HEIGHT		183					
MECHANICAL DOWNTILT		0					
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)		Internal					
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)							
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)							
RRH - 850 band (QTY/MODEL)							
RRH - 1900 band (QTY/MODEL)		1 RRUS-12+RRUS-A2					
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	- Replace existing LTE Antenna with Hex por Antenna and Install at Pos 2						
Local Market Note 2							
Local Market Note 3							

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(cssng)
ANTENNA POSITION 2	PORT 3		27036.C.1900.4G.1	CTL05663_9C_1	CTL05663_9C_1		LTE 1900	H6_1930MHz_06DT	17.18	300	6	Top	Fiber	0						3258.367		19	

Section 17A - FINAL SECTOR/CELL INFORMATION - SECTOR A (OR OMNI)

ANTENNA COMMON FIELDS	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	7770		SBNHH-1D65A											
ANTENNA VENDOR	Powerwave		Andrew											
ANTENNA SIZE (H x W x D)	55X11X5		55X11.9X7.1											
ANTENNA WEIGHT	35		33.5											
AZIMUTH	90		90											
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	180		180											
ANTENNA TIP HEIGHT	182		182											
MECHANICAL DOWNTILT	2		0											
FEEDER AMOUNT	2													
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020		Internal										
SURGE ARRESTOR (QTY/MODEL)			1	DC/Fiber Squid										
DIPLEXER (QTY/MODEL)	2	Powerwave / LGP 21901												
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)	1	Powerwave 7070		LTE RRH										
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	2	21401 (DB - 850 Bypass)												
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser 1000860												
PDU FOR TMAS (QTY/MODEL)	1	(1900 AND 850 Bypass TMA)												
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)			1	RRUS-11										
RRH - 850 band (QTY/MODEL)														
RRH - 1900 band (QTY/MODEL)			1	RRUS-12+RRUS-A2										
RRH - AWS band (QTY/MODEL)														
RRH - WCS band (QTY/MODEL)														
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	- Replace existing LTE Antenna with Hex por Antenna and Install at Pos 2													
Local Market Note 2														
Local Market Note 3														

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(cssng)
ANTENNA POSITION 1	PORT 1	27036.A.850.3G.1	27036.A.850.3G.1	CTV56631	CTV56631		UMTS 850	7770.00.850.10	13.5	90	10	None	Andrew 1-5/8 (850)	210.053777						244.34		1	
	PORT 2	27036.A.850.25G.1	27036.A.850.25G.1	318G56631	318G56631		GSM 850	7770.00.850.10	13.5	90	10	None	Andrew 1-5/8 (850)	210.053777	RxAIT 850				11.22	145.21		1	
	PORT 3	27036.A.1900.3G.2	27036.A.1900.3G.2	CTU56637	CTU56637		UMTS 1900	7770.00.1900.06	15.5	90	6	None	Andrew 1-5/8 (1900)	210.053777						353.18		2	
ANTENNA POSITION 2	PORT 1	27036.A.700.4G.1	27036.A.700.4G.1	CTL05663_7A_1	CTL05663_7A_1		LTE 700	1D65A_722MHz_13DT	12.9	90	13	Top	Fiber	0						629.5061		3	
	PORT 3	27036.A.1900.4G.tmp1	27036.A.1900.4G.1	CTL05663_9A_1	CTL05663_9A_1		LTE 1900	1D65A_1930MHz_04DT	17.1	90	4	Top	Fiber	0						3228.4941		3	

Section 17B - FINAL SECTOR/CELL INFORMATION - SECTOR B

ANTENNA COMMON FIELDS	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	7770	HPA-65R-BUU-H6					
ANTENNA VENDOR	Powerwave	CCI Products					
ANTENNA SIZE (H x W x D)	55X11X5	72X14.8X9					
ANTENNA WEIGHT	35	51					
AZIMUTH	200	200					
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	180	180					
ANTENNA TIP HEIGHT	182	183					
MECHANICAL DOWNTILT	2	0					
FEEDER AMOUNT	2						
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)	2 Powerwave 7020	Internal					
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)	2 Powerwave / LGP 21901						
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)		LTE RRH					
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)	2 21401 (DB - 850 Bypass)						
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2 Polyphaser 1000860						
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)		1 RRUS-11					
RRH - 850 band (QTY/MODEL)							
RRH - 1900 band (QTY/MODEL)		1 RRUS-12+RRUS-A2					
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	- Replace existing LTE Antenna with Hex por Antenna and Install at Pos 2						
Local Market Note 2							
Local Market Note 3							

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(cssng)
ANTENNA POSITION 1	PORT 1	27036.B.850.3G.1	27036.B.850.3G.1	CTV56632	CTV56632		UMTS 850	7770.00.850.04	13.5	200	4	None	Andrew 1-5/8 (850)	210.053777						244.34		9	
	PORT 2	27036.B.850.25G.1	27036.B.850.25G.1	318G56632	318G56632		GSM 850	7770.00.850.04	13.5	200	4	None	Andrew 1-5/8 (850)	210.053777	RxAIT 850				11.22	145.21		9	
	PORT 3	27036.B.1900.3G.2	27036.B.1900.3G.2	CTU56638	CTU56638		UMTS 1900	7770.00.1900.02	15.5	200	2	None	Andrew 1-5/8 (1900)	210.053777						353.18		10	
ANTENNA POSITION 2	PORT 1	27036.B.700.4G.1	27036.B.700.4G.1	CTL05663_7B_1	CTL05663_7B_1		LTE 700	H6_719MHz_08DT	13.97	200	8	Top	Fiber	0						827.9421		11	
	PORT 3	27036.B.1900.4G.tmp1	27036.B.1900.4G.1	CTL05663_9B_1	CTL05663_9B_1		LTE 1900	H6_1930MHz_06DT	17.18	200	6	Top	Fiber	0						3258.367		11	

Section 17C - FINAL SECTOR/CELL INFORMATION - SECTOR C

ANTENNA COMMON FIELDS	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	7770		HPA-65R-BUU-H6											
ANTENNA VENDOR	Powerwave		CCI Products											
ANTENNA SIZE (H x W x D)	55X11X5		72X14.8X9											
ANTENNA WEIGHT	35		51											
AZIMUTH	300		300											
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	180		180											
ANTENNA TIP HEIGHT	182		183											
MECHANICAL DOWNTILT	2		0											
FEEDER AMOUNT	2													
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020		Internal										
SURGE ARRESTOR (QTY/MODEL)														
DIPLEXER (QTY/MODEL)	2	Powerwave / LGP 21901												
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)				LTE RRH										
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	2	21401 (DB - 850 Bypass)												
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser 1000860												
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)			1	RRUS-11										
RRH - 850 band (QTY/MODEL)														
RRH - 1900 band (QTY/MODEL)			1	RRUS-12+RRUS-A2										
RRH - AWS band (QTY/MODEL)														
RRH - WCS band (QTY/MODEL)														
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	- Replace existing LTE Antenna with Hex por Antenna and Install at Pos 2													
Local Market Note 2														
Local Market Note 3														

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(cssng)
ANTENNA POSITION 1	PORT 1	27036.C.850.3G.1	27036.C.850.3G.1	CTV56633	CTV56633		UMTS 850	7770.00.850.05	13.5	300	5	None	Andrew 1-5/8 (850)	210.053777						244.34		17	
	PORT 2	27036.C.850.25G.1	27036.C.850.25G.1	318G56633	318G56633		GSM 850	7770.00.850.05	13.5	300	5	None	Andrew 1-5/8 (850)	210.053777	RxAIT 850				11.22	145.21		17	
	PORT 3	27036.C.1900.3G.2	27036.C.1900.3G.2	CTU56639	CTU56639		UMTS 1900	7770.00.1900.03	15.5	300	3	None	Andrew 1-5/8 (1900)	210.053777						353.18		18	
ANTENNA POSITION 2	PORT 1	27036.C.700.4G.1	27036.C.700.4G.1	CTL05663_7C_1	CTL05663_7C_1		LTE 700	H6_719MHz_03DT	14.22	300	3	Top	Fiber	0						827.9421		19	
	PORT 3	27036.C.1900.4G.tmp1	27036.C.1900.4G.1	CTL05663_9C_1	CTL05663_9C_1		LTE 1900	H6_1930MHz_06DT	17.18	300	6	Top	Fiber	0						3258.367		19	

Product Specifications

COMMSCOPE®

POWERED BY ANDREW

SBNHH-1D65A

Andrew® Tri-band Antenna, 698–896 and 2x 1695–2360 MHz, 65° horizontal beamwidth, internal RET. Both high bands share the same electrical tilt.

- Interleaved dipole technology providing for attractive, low wind load mechanical package

Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2180	2300–2360
Gain, dBi	13.6	13.7	16.5	16.9	17.1	17.6
Beamwidth, Horizontal, degrees	66	61	70	65	62	61
Beamwidth, Vertical, degrees	17.6	15.9	7.1	6.6	6.2	5.5
Beam Tilt, degrees	0–18	0–18	0–10	0–10	0–10	0–10
USLS, dB	16	13	13	13	12	12
Front-to-Back Ratio at 180°, dB	25	27	28	28	27	29
CPR at Boresight, dB	20	16	20	23	17	20
CPR at Sector, dB	10	5	11	6	1	4
Isolation, dB	25	25	25	25	25	25
Isolation, Intersystem, dB	30	30	30	30	30	30
VSWR | Return Loss, dB	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350	350	350	300
Polarization	±45°	±45°	±45°	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm

Electrical Specifications, BASTA*

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2180	2300–2360
Gain by all Beam Tilts, average, dBi	13.1	13.1	16.1	16.5	16.7	17.2
Gain by all Beam Tilts Tolerance, dB	±0.5	±0.5	±0.5	±0.3	±0.5	±0.4
	0 ° | 13.4	0 ° | 13.4	0 ° | 16.0	0 ° | 16.3	0 ° | 16.5	0 ° | 17.0
Gain by Beam Tilt, average, dBi	9 ° | 13.1	9 ° | 13.1	5 ° | 16.2	5 ° | 16.5	5 ° | 16.8	5 ° | 17.3
	18 ° | 12.7	18 ° | 12.7	10 ° | 16.1	10 ° | 16.5	10 ° | 16.6	10 ° | 16.9
Beamwidth, Horizontal Tolerance, degrees	±3.1	±5.4	±2.8	±4	±6.6	±4.6
Beamwidth, Vertical Tolerance, degrees	±1.8	±1.4	±0.3	±0.4	±0.5	±0.3
USLS, dB	15	14	15	15	15	14
Front-to-Back Total Power at 180° ± 30°, dB	22	21	26	26	24	25
CPR at Boresight, dB	22	16	22	25	21	22
CPR at Sector, dB	10	6	12	8	5	4

* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, download the whitepaper Time to Raise the Bar on BSAs.

General Specifications

Antenna Brand	Andrew®
Antenna Type	DualPol® multiband with internal RET
Band	Multiband
Brand	DualPol® | Teletilt®
Operating Frequency Band	1695 – 2360 MHz | 698 – 896 MHz

Product Specifications

SBNHH-1D65A

Mechanical Specifications

Color	Light gray
Lightning Protection	dc Ground
Radiator Material	Aluminum | Low loss circuit board
Radome Material	Fiberglass, UV resistant
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, total	6
Wind Loading, maximum	445.0 N @ 150 km/h 100.0 lbf @ 150 km/h
Wind Speed, maximum	241.4 km/h | 150.0 mph

Dimensions

Depth	180.0 mm | 7.1 in
Length	1409.0 mm | 55.5 in
Width	301.0 mm | 11.9 in
Net Weight	15.2 kg | 33.5 lb

Remote Electrical Tilt (RET) Information

Input Voltage	10–30 Vdc
Power Consumption, idle state, maximum	2.0 W
Power Consumption, normal conditions, maximum	13.0 W
Protocol	3GPP/AISG 2.0 (Multi-RET)
RET Interface	8-pin DIN Female | 8-pin DIN Male
RET Interface, quantity	1 female | 1 male
RET System	Teletilt®

Regulatory Compliance/Certifications

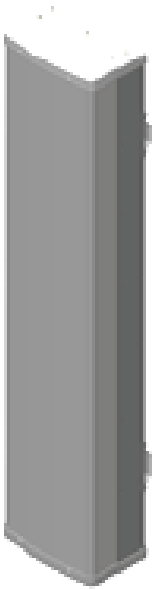
Agency	Classification
RoHS 2011/65/EU	Compliant by Exemption
China RoHS SJ/T 11364-2006	Above Maximum Concentration Value (MCV)
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system

Included Products

BSAMNT-1 — Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

HexPort Multi-Band Antenna

Model HPA-65R-BUU-H6



The CCI Hexport Multi-Band Antenna Array is an industry first 6-port antenna with full WCS Band Coverage. With four high band ports and two low band ports, our hexport antenna is ready for 4X4 high band MIMO.

Modern networks demand high performance, consequently CCI has incorporated several new and innovative design techniques to provide an antenna with excellent side-lobe performance, sharp elevation beams, and high front to back ratio.

Multiple networks can now be connected to a single antenna, reducing tower loading and leasing expense, while decreasing deployment time and installation cost.

Full band capability for 700 MHz , Cellular 850 MHz, PCS 1900 MHz, AWS 1710/2170 MHz and WCS 2300 MHz coverage in a single enclosure.

Hexport Multi-Band Antenna Array

Benefits

- **Includes WCS Band**
- **Reduces tower loading**
- **Frees up space for tower mounted E-nodes**
- **Single radome with six ports**
- **All Band design simplifies radio assignments**
- **Sharp elevation beam eases network planning**

Features

- High Band Ports include WCS Band
- Four High Band ports with two Low Band ports in one antenna
- Sharp elevation beam
- Excellent elevation side-lobe performance
- Excellent MIMO performance due to array spacing
- Excellent PIM Performance
- A multi-network solution in one radome

Applications

- 4x4 MIMO on High Band and 2x2 MIMO on Low Band
- Adding additional capacity without adding additional antennas
- Adding WCS Band without increasing antenna count

ISO 9001:2008
Quality Management Systems
Système de Qualité
www.ca.sgs.com

HexPort Multi-Band Antenna

Model HPA-65R-BUU-H6

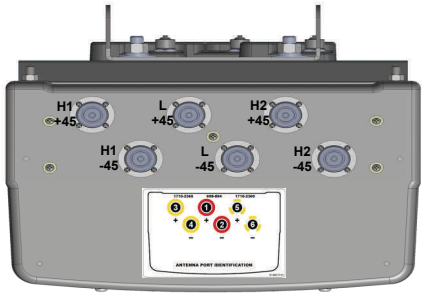
HPA-65R Multi-Band Antenna

Electrical Specifications

Frequency Range	2 X Low Band Ports which cover the full range from 698-894 MHz		4 X High Band Ports which cover the full range from 1710-2360 MHz			
	698-806 MHz	824-894 MHz	1850-1990 MHz	1710-1755/2110-2170 MHz		2305-2360 MHz
Gain	14.1 dBi	14.8 dBi	16.9 dBi	16.3 dBi	17.2 dBi	17.4 dBi
Azimuth Beamwidth (-3dB)	66°	65°	61°	66°	62°	57°
Elevation Beamwidth (-3dB)	12.5°	10.5°	5.7°	6.3°	5.1°	4.5°
Electrical Downtilt	0° to 10°	0° to 10°	0° to 8°	0° to 8°	0° to 8°	0° to 8°
Elevation Sidelobes (1st Upper)	< -17 dB	< -19 dB	< -19 dB	< -18 dB	< -18 dB	< -17 dB
Front-to-Back Ratio @180°	> 30 dB	> 30 dB	> 30 dB	> 30 dB	> 30 dB	> 30 dB
Front-to-Back Ratio over ± 20°	> 30 dB	> 30 dB	> 30 dB	> 30 dB	> 30 dB	> 30 dB
Cross-Polar Discrimination (at Peak)	> 25 dB	> 20 dB	> 25 dB	> 25 dB	> 25 dB	> 25 dB
Cross-Polar Discrimination (at ± 60°)	> 17 dB	> 14 dB	> 17 dB	> 17 dB	> 17 dB	> 17 dB
Cross-Polar Port-to-Port Isolation	> 25 dB	> 25 dB	> 26 dB	> 25 dB	> 26 dB	> 26 dB
VSWR	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1
Passive Intermodulation (2x20W)	≤ -150dBc	≤ -150dBc	≤ -150dBc	≤ -150dBc	≤ -150dBc	≤ -150dBc
Input Power	500 Watts CW	500 Watts CW	300 Watts CW	300 Watts CW	300 Watts CW	300 Watts CW
Polarization	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°
Input Impedance	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms
Lightning Protection	DC Ground	DC Ground	DC Ground	DC Ground	DC Ground	DC Ground

Mechanical Specifications

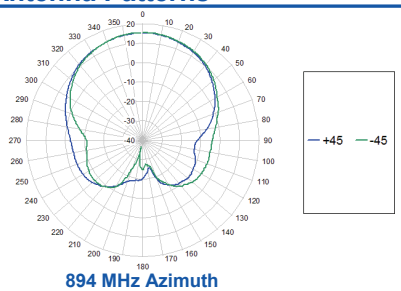
Dimensions (LxWxD)	72.0 x 14.8 x 9.0 inches (1828 x 376 x 229 mm)
Survival Wind Speed	> 150 mph
Front Wind Load	247 lbs (1099 N) @ 100 mph (161 kph)
Side Wind Load	165 lbs (735 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	9.7 ft^2 (0.90 m^2)
Weight (without Mounting)	51 lbs (23 kg)
RET System Weight	5.0 lbs (2.3 kg)
Connector	6; 7-16 DIN female long neck
Mounting Pole	2-5 inches (5-12 cm)



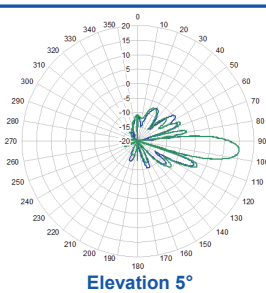
Bottom View

Rear View

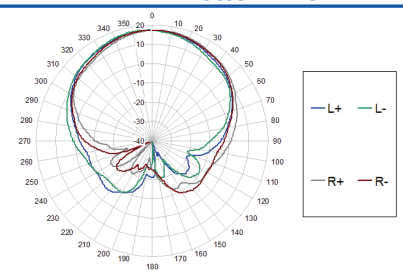
Antenna Patterns*



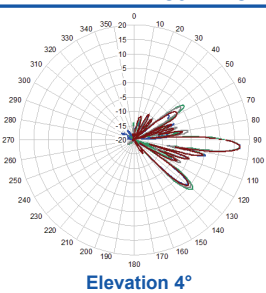
894 MHz Azimuth



Elevation 5°



1920 MHz Azimuth



Elevation 4°

*Typical antenna patterns. For detail information on antenna pattern, please contact us at info@cciproducts.com. All specifications are subject to change without notice.

Dual Broadband Antenna

90° 1.4 m MET Antenna

806-960/1710-2170 MHz

Part Number: 7770.00

Horizontal Beamwidth: 90°
Gain: 13.5/16 dBi

Electrical Downtilt: Adjustable
Connector Type: 7/16 female

The Powerwave dual band dual polarized broadband antenna has individual adjustable electrical downtilt per band (upgradeable to Remote Electrical Tilt (RET). Four connector ports allow separate tilts on each frequency band and ensure the use of diversity concepts. The phase shifter technology, based on a patented sliding dielectric, minimizes intermodulation distortion and maximizes efficiency. The slant +/- 45° dual polarization system provides the independent fading signals needed for achieving top-quality coverage via diversity concepts. The Powerwave Broadband antenna design is based on a patented stacked aperture-coupled patch technology, which provides high isolation performance and a wide VSWR bandwidth. The antennas have superior radiation patterns due to a unique reflector design which provides a very small variation of the –3dB horizontal beam width over the frequency band as well as a high front-to-back ratio.

Key Benefits

- Excellent broad- and multi-band capabilities
- Polarization purity makes good diversity gain
- Excellent pattern performance and high gain over frequency
- High passive intermodulation performance
- Light, slim and robust design

Preliminary

ANTENNA SYSTEMS

BASE STATION SYSTEMS

COVERAGE SYSTEMS

806-960/1710-2170 MHz

Dual Broadband Antenna

Electrical Specifications (Preliminary)

Frequency band (MHz)	806-960		1710-2170
Gain, ± 0.5dB (dBi)	13.5		16.0
Polarization		Dual linear ±45°	
Nominal Impedance (Ohm)		50	
VSWR	1.5:1		
VSWR			1.5:1
Isolation between inputs (dB)	30		
Isolation between inputs (dB)			30
Inter band isolation (dB)		40	
Horizontal -3 dB beamwidth	85 ± 5°		85 ± 5°
Tracking, Horizontal plane, ±60° (dB)	<2.0		
Tracking, Horizontal plane, ±60° (dB)			<2.0
Electrical downtilt range (adjustable)	0° to 10°		0° to 8°
Vertical -3 dB beamwidth	14.3 ± 2.0°		6.6 ± 1°
Sidelobe suppression, Vertical 1 st upper (dB)	>17,16,15 x=0, 5, 10° MET		> 17, 16,15 x=0, 4, 8° MET
Vertical beam squint	<0.8°		<0.5°
First null-fill (dB)	<-25		<-25
Front-to-back ratio (dB)	>25		>27
Front-to-back ratio, total power (dB)	>20		>23
IM3, 2Tx@43dBm (dBc)	<-153		
IM3, 2Tx@43dBm (dBc)			<-153
IM7, 2Tx@43dBm (dBc)			<-160
Power Handling, Average per input (W)	400		250
Power Handling, Average total (W)	800		500

All specifications are subject to change without notice.
Contact your Powerwave representative for complete performance data.

Mechanical Specifications

Connector Type	4 x 7/16 DIN female
Connector Position	Bottom
Dimensions, HxWxD	1408mm x 280mm x 125mm (55”x11”x5”)
Weight Including Brackets	15.8 kg (35 lbs)
Wind Load, Frontal, 42m/s Cd=1	435N (98 lbf)
Survival Wind Speed (m/s)	70 (156mph)
Lightning Protection	DC grounded
Radome Material	GRP
Radome Color	Light Gray
Mounting	Pre-mounted Standard Brackets
Packing Size	1550mm x 355mm x 255mm (61”x14”x10”)

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Powerwave technologies

COVERAGE AND CAPACITY | TECHNOLOGY LEADERSHIP | GLOBAL PARTNER | INTEGRATED SOLUTIONS | QUALITY AND RELIABILITY

D031-08208 Rev A

Tower Mounted Amplifier

Dual Band 1900 MHz with 850 MHz Bypass

1900/850 MHz

Part Number:
LGP 214nn

Up-link: 1850-1910 MHz
Down-link: 1930-1990 MHz
Bypass: 824-894 MHz

Gain: 12 dB
Noise Figure: < 1.7 dB

The Powerwave® TMA-DD 1900/850 is a dual band Tower Mounted Amplifier (TMA) to be installed near the antenna. Deployed in an AMPS, GSM, GPRS, EDGE and CDMA network it will increase capacity and coverage as well as extend the battery life time for the handsets. The TMA System will provide enhanced coverage and improved up-link signal quality. Appropriate for new rollouts by optimizing coverage with a reduced number of BTSs or as an upgrade to existing BTSs for enhancing the existing coverage.

Extended band TMA facilitates simplified logistics, especially when the frequency bands are scattered. The unit comprises of high Q band-pass filters, dual balanced low noise amplifiers with circuits for active bias, supervision, alarms and lightning protection circuit. The Powerwave patented design with all active components integrated within the filter body provides an extremely reliable, compact and lightweight TMA solution. The vented enclosure design is employed to prevent the effect of condensation, thereby guaranteeing long, reliable, maintenance-free service in all environmental conditions. These TMAs offer an easy to install, maintenance free, cost effective solution for coverage enhancement and increased quality in mobile communication networks.

Key Benefits:

- 850 MHz Bypass
- Improved Network Quality
- Increased Coverage
- State of the Art Performance
- Excellent Power Handling
- Low Tx Loss
- Exceptional Reliability

ANTENNA SYSTEMS

BASE STATION SYSTEMS

COVERAGE SYSTEMS

Powerwave technologies

Tower Mounted Amplifier

1900/850 MHz

Technical Specifications

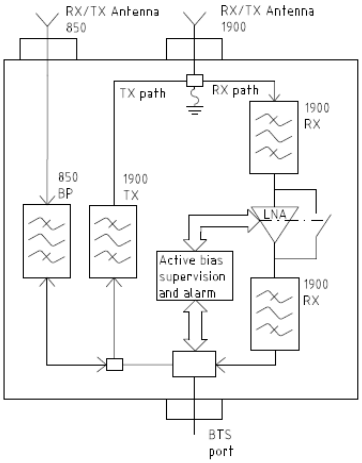
Product Number	LGP214nn	
850 MHz	Bypass (MHz)	824-894
	Return loss* (dB)	> 20
	Insertion loss* (dB)	< 0.3
1900 MHz		
Up-link	Frequency range, full band (60 MHz)	1850-1910
	Nominal gain (dB)	12
	Return loss* (dB)	> 20
	Noise figure* (dB)	< 1.7
	Output 3rd order Intercept Point* (dBm)	> +23
Down-link	Frequency range, full band (60 MHz)	1930-1990
	Insertion loss* (dB)	< 0.6
	Return loss* (dB)	> 20
Intermodulation	2 Tx@x43 dBm (dBc)	<-158
Alarm Functionality	Two levels,individually supervised LNAs	
Power Consumption	@12 VDC	1.2 W

* Typical

All specifications subject to change without notice. Please contact your Powerwave representative for complete performance data.

Mechanical Specifications

Size,W x H x D (without mounting plate)	235 x 366 x 66 mm (9.2 x 14.4 x 2.6 in)
Weight	6.4 kg (14.1 lbs)
Color	Off white (NCS 1502-R)
Housing	Aluminum
RF-connectors	DIN 7/16 female.
Mounting kit	Mounting kit for pole and wall is included
Temperature range	-40 °C to +65 °C (-40 °F to +149 °F)
MTBF	>1 million hours
Safety	UL 60 950
Ingress protection, IP 65	EN 60 529
Environmental	ETS 300 019
EMC	FCC Part 15



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RRUS 11

Frequency (AT&T)
- ✓ Band 12 (Lower 700 MHz)
- ✓ Band 4 (AWS, 17/2100 MHz) — 2Q2011

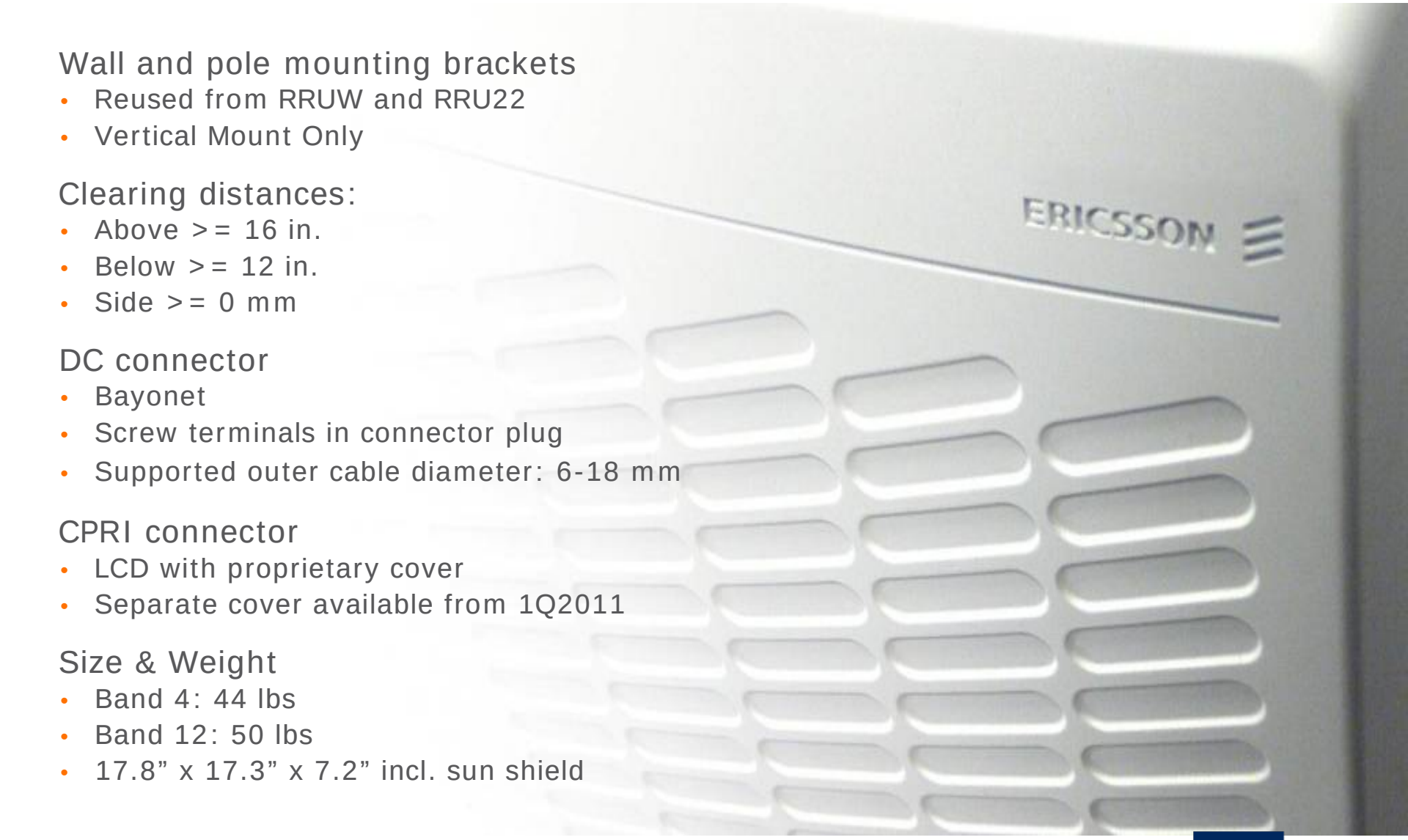
RF Characteristics
- ✓ Output power: 2x30 Watts
- ✓ 2x2 MIMO Capable
- ✓ IBW of 20 MHz
- ✓ Rx Sens.: Better than -105 dBm (5 MHz)

RET/TMA Support
- ✓ AISG 2.0 Compatible
- ✓ Via RET Port and Centre Conductor
- ✓ Cascading
- ✓ 30 VDC Bias

Environmental
- ✓ Self Convection
- ✓ Temperature -40 to 131 F

Power
- ✓ Input voltage: -48 VDC or AC (exemption)
- ✓ Fuse size: 13 – 32 A
  - Recommended: 25 A
- ✓ Power Consumption:
  - Typical 200 Watts
  - Max 310 Watts
  - Excl. RET and TMA load

RRUS 11 Mechanics



Wall and pole mounting brackets
- Reused from RRUW and RRU22
- Vertical Mount Only

Clearing distances:
- Above >= 16 in.
- Below >= 12 in.
- Side >= 0 mm

DC connector
- Bayonet
- Screw terminals in connector plug
- Supported outer cable diameter: 6-18 mm

CPRI connector
- LCD with proprietary cover
- Separate cover available from 1Q2011

Size & Weight
- Band 4: 44 lbs
- Band 12: 50 lbs
- 17.8” x 17.3” x 7.2” incl. sun shield

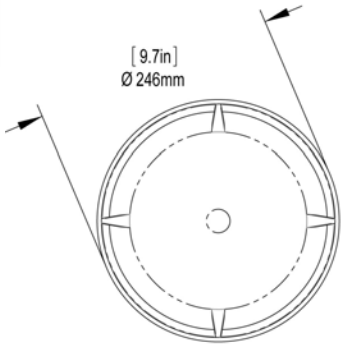
DC6-48-60-18-8F

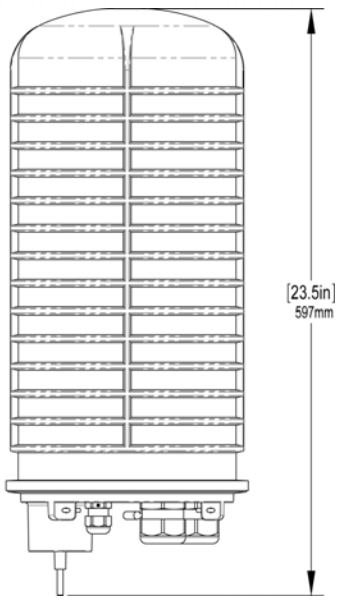
DC Surge Suppression Solution

The DC6-48-60-18 is a dual chambered, DC surge suppression system for use in multi-circuit, Distributed Antenna Systems. The system will protect up to 6 Remote Radio Heads from voltage surges and lightning, and connect up to 18 fiber pairs. The system is enclosed in a NEMA 4 rated, waterproof enclosure.

FEATURES

- Protects up to 6 Remote Radio Heads, each with its own protection circuit.
- Flexible design allows for installation at the top of a tower for Remote Radio Head protection.
- Includes fiber connections for up to 18 pairs of fiber.
- LED indicators on individual circuits provide visual indication of suppressor status.
- Form 'C' relays allow for remote monitoring of the suppressor status.
- Patented Strikesorb technology provides over 60 kA of surge current capacity per circuit.
- Strikesorb suppression modules are fully recognized to UL 1449-3rd Edition Safety Standard, meeting all intermediate and high current fault requirements to facilitate use in OEM applications.
- Raycap recommends that DC protection system be installed within 2 meters or 6 feet of the radio.
- Dome design is lightweight and aerodynamic providing maximum flexibility for installation on top of towers.





Raycap

Phone 208.777.1166 Toll Free 800.890.2569 Fax 208.777.4466 www.raycapsurgeprotection.com

DC6-48-60-18-8F

DC Power Surge Protection

Electrical Specifications	
Model Number	DC6-48-60-18-8F
Nominal Operating Voltage	48 VDC
Nominal Discharge Current (I_n)	20 kA 8/20 µs
Maximum Discharge Current (I_{max}) per NEMA LS-1	60 kA 8/20 µs
Maximum Continuous Operating Voltage (U_c)	75 VDC
Voltage Protection Rating	400 V

Mechanical Specifications	
Suppression Connection Method	Compression lug, #2-#14 AWG Copper, #2-#12 Aluminum
Fiber Connection Method	LC-LC Single mode duplex
Environmental Rating	IP 68, 7m 72hrs
Operating Temperature	-40° C to + 80° C
Storage Temperature	-70° C to + 80° C
Cold Temperature Cycling	IEC 61300-2-22e -30° C to + 60° C 200 hrs @ 5 psi
Resistance to Aggressive Materials	CEI IEC 61073-2 including acids and bases
UV Protection	ISO 4892-2 Method A Xenon-Arc 2160 hrs
Weight	20 lbs without Mounting Bracket

STANDARDS

Strikesorb modules are compliant to the following Surge Protection Device (SPD) Standards:

- ANSI/UL 1449 – 3rd Edition
- IEEE C62.41
- NEMA LS-1, IEC 61643-1:2005 2nd Edition:2005
- IEC 61643-12
- EN 61643-11:2002 (including A11:2007)

GS-07F-0435V

Certified to ISO 9001:2000

TÜV Rheinland of North America

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