



Trylon

Prepared For



Report

Structural Analysis



Michael F. Plahovinsak, P.E.

Sole Proprietor - Independent Engineer

18301 SR 161, Plain City, Ohio

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MFP Project #23216-042

FA 10035230 -
CT2218 - PROSPECT
BRADSHAW TWR
10/20/2016



STRUCTURAL ANALYSIS REPORT

EMPIRE TELECOM

16 Esquire Road
Billerica, MA 01862

Attention: Mr. Dave Cooper

Reference: Guyed Tower Analysis – Engineering Assessment, 160-ft Guyed Lattice Tower located at 54 Waterbury Road, Prospect, New Haven County, CT 06712.

County:	New Haven
State:	Connecticut
FA Code.:	10035230
PACE Job:	MRCTB018764
USID:	61203
Site Code:	CT2218
AT&T Site Name:	PROSPECT BRADSHAW TWR
Trylon File:	119646

Dear Sir:

We are pleased to provide you with our engineering analysis of the 160-ft guyed tower located at 54 Waterbury Road, Prospect, New Haven County, CT 06712. The existing and proposed antennas/lines are shown in drawing E-1 & E-7.

The following design parameters have been used in our analysis:

Design Standard:	TIA-222-G
Basic Design Wind Speed:	94.5 (mph)
Serviceability Wind Speed:	60.0 (mph)
Reliability Category:	Class II
Topographic Category:	Category 1
Exposure Category:	C
Ice Thickness:	0.75 (in)

ASSUMPTIONS AND LIMITATIONS OF ANALYSIS ON EXISTING TOWER

Please note the following assumptions and limitations inherent in this analysis and report:

- A) Trylon has not obtained, reviewed, or carried out an inspection of this structure to determine its current condition. We have assumed that this tower is in good, undamaged and non-corroded condition. The tower geometry, guy cables characteristics and anchor positions were measured and determined by a field crew and provided to us in a *Steel & Antenna Mapping Report* by Structural Components dated 10-Oct-2016. The new analysis is in accordance with TIA-222-G.
- B) We considered the existing and proposed antennas/lines are as indicated in drawing E-1 & E-7.
- C) Existing loads are as per *Steel & Antenna Mapping Report* by Structural Components, dated 10-Oct-2016.
- D) Proposed loads are as per RFDS document dated 13-May-2016.



- E) Information regarding the foundations and ground anchors of the tower, as well as the soil parameters, could not be obtained through mapping, therefore we did not review the tower foundations and anchors.
- F) The steel grade of the tower members and the existing reinforcing could not be determined through mapping. We considered the tower members steel grade to be A572-50, as considered in the previous Analysis Report by Armor Tower Engineering, dated 22-Jun-2012.

CONCLUSIONS & RECOMMENDATIONS:

The proposed 160-ft guyed tower located at FA10035230, 54 Waterbury Road, Prospect, New Haven County, CT 06712 is **ADEQUATE** to support its overall and total load (tower rating is **99.1%** foundations not evaluated), subject to the attached Standard Conditions on page 3 and the above mentioned assumptions and limitations.

Should you have any questions, comments or require additional information, please do not hesitate to call.

Sincerely,

Analysis performed by:

Alexandru Fabian
Trylon Engineer

Reviewed by:



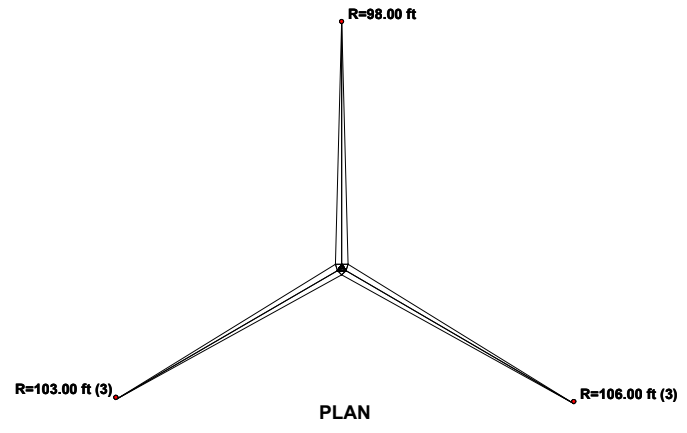
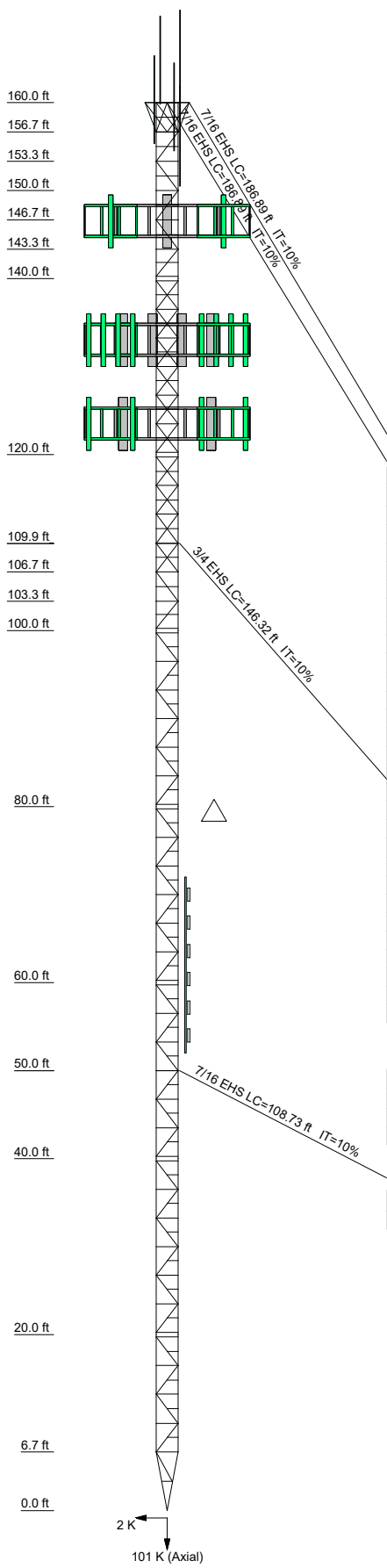
Michael F. Plahovinsak, P.E.



Standard Conditions for Providing Structural Consulting Services on Existing Structures

1. The following standard conditions are a general overview of key issues regarding the work product. Refer to document “Scope of Work – Existing Tower Structures” for a detailed explanation of the scope of work that we have performed.
2. If the existing conditions are not as represented in this structural report or attached sketches, we should be contacted to evaluate the significance of the deviation and revise the structural assessment accordingly.
3. The structural analysis has been performed assuming that the structure is in “like new” condition. No allowance was made for excessive corrosion, damaged or missing structural members, loose bolts, etc. If there are any known deficiencies in the structure that potentially compromise structural integrity, we should be made aware of the deficiencies. If we are aware of a deficiency that exists in a structure at the time of our analysis, a general explanation of the structural concern due to the deficiency will be included in the structural report, but the deficiency will not be reflected in capacity calculations.
4. The structural analysis provided is an assessment of the primary load carrying capacity of the structure. We provide a limited scope of service, in that we have not verified the capacity of every weld, plate, connection detail, etc. In most cases, structural fabrication details are unknown at the time of our analysis, and the detailed field measurement of this information is beyond the scope of our services. In instances where we have not performed connection capacity calculations, it is assumed that existing manufactured connections develop the full capacity of the primary members being connected.
5. We will not accept any liability for the adequacy of the existing foundation system unless accurate structural foundation drawings are provided with a site-specific geotechnical report. Foundations will be assumed installed per the drawings with no construction deficiency due to initial installation or age.
6. Miscellaneous items such as antenna mounts, coax supports, etc. have not been designed, detailed, or specified as part of our work. It is assumed that material of adequate size and strength will be purchased from a reputable component manufacturer. The attached report and sketches are schematic in nature and should not be used to fabricate or purchase hardware and accessories to be attached to the structure. We recommend field measurement of the structure before fabricating or purchasing new hardware and accessories. We are not responsible for proper fit and clearance of hardware and accessory items in the field.
7. The structural analysis has been performed considering minimum code requirements or recommendations. If alternate wind, ice, or deflection criteria are to be considered, then we shall be made aware of the alternate criteria.

Section	T16	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs				2.875"x0.203" (2.5 STD)						2.875"x0.276						
Leg Grade																
Diagonals					A572-50											
Diagonal Grade																
Top Girts				1.315x0.109						1.315x0.109						
Bottom Girts																
Horizontal				1.05x0.113 (3/4 STD)						1.315x0.109						
Sec. Horizontal																
Top Guy Pull-Offs				1.05x0.113 (3/4 STD)												
Bot Guy Pull-Offs																
Face Width (ft)																
# Panels @ (ft)					24 @ 3.25					6 @ 3.25						
Weight (K)	4.9															



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
15' x 1-1/4" Omni (unknown)	164.8	BXA-171063-12BF-EDIN-2 (Verizon)	133.6
5' x 1-3/4" Dipole Element (unknown)	160.8	BXA-171063-12BF-EDIN-2 (Verizon)	133.6
20' x 1-5/8" Tapered Omni (unknown)	160.5	BXA-171063-12BF-EDIN-2 (Verizon)	133.6
15' x 2-3/8" Omni (unknown)	160.3	B4 RRH2x60-4R (Verizon)	133
Lightning Rod 4"10" x 9/16" (unknown)	160	B4 RRH2x60-4R (Verizon)	133
15' x 1-5/8" Omni (unknown)	159.5	B4 RRH2x60-4R (Verizon)	133
APXVSPP18-C-A20 (Sprint/Nextel)	147.3	Standoff T-Frames (Verizon)	133
APXVSPP18-C-A20 (Sprint/Nextel)	147.3	Standoff T-Frames (Verizon)	133
APXVSPP18-C-A20 (Sprint/Nextel)	147.3	Standoff T-Frames (Verizon)	133
RRH2x50 800 (Sprint/Nextel)	147.3	RRUS-11 (AT T)	125.7
RRH2x50 800 (Sprint/Nextel)	147.3	RRUS-11 (AT T)	125.7
RRH2x50 800 (Sprint/Nextel)	147.3	RRUS-11 (AT T)	125.7
RRH1900-4x45 (Sprint/Nextel)	146.5	AM-X-CD-16-65-00T-RET (AT T)	123.75
RRH1900-4x45 (Sprint/Nextel)	146.5	AM-X-CD-16-65-00T-RET (AT T)	123.75
RRH1900-4x45 (Sprint/Nextel)	146.5	(2) SBNH-1D6565C (AT T)	123.75
Standoff V-Frames (Sprint/Nextel)	146.5	(2) AM-X-CD-16-65-00T-RET (AT T)	123.75
Standoff V-Frames (Sprint/Nextel)	146.5	(2) DTMAP7819VG12A TMA (AT T)	123.5
Standoff V-Frames (Sprint/Nextel)	146.5	(2) DTMAP7819VG12A TMA (AT T)	123.5
Raycap RRFDC-3315-PF-48 (Verizon)	136	Standoff T-Frames (AT T)	123.5
Raycap RRFDC-3315-PF-48 (Verizon)	136	Standoff T-Frames (AT T)	123.5
LNX-8514DS-VTM (Verizon)	135.7	Standoff T-Frames (AT T)	123.5
SWCP 2x5514 (Verizon)	134.8	HPA-65R-BUU-H8 (AT T - Proposed)	123.5
SWCP 2x5514 (Verizon)	134.8	HPA-65R-BUU-H8 (AT T - Proposed)	123.5
BXA-70063-6CF-EDIN-2 (Verizon)	134.5	HPA-65R-BUU-H8 (AT T - Proposed)	123.5
BXA-70063-6CF-EDIN-2 (Verizon)	134.5	RRUS-32 B2 (AT T - Proposed)	123.5
HBXX-6517DS-A2M (Verizon)	134.5	RRUS-32 B2 (AT T - Proposed)	123.5
BXA-70063-6CF-EDIN-2 (Verizon)	134.5	RRUS-32 B2 (AT T - Proposed)	123.5
HBXX-6517DS-A2M (Verizon)	134.5	Raycap DC6-48-60-18-8F (AT T)	118.75
HBXX-6517DS-A2M (Verizon)	134.5	20' x 2" Dipole Element (unknown)	72 - 52

SYMBOL LIST

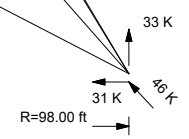
MARK	SIZE	MARK	SIZE
A	Pipe 1.315x0.109	D	1 @ 3.08333
B	Pipe 1.05x0.113 (3/4 STD)	E	1 @ 3.33333
C	L3x3x3/8	F	2 @ 3.33333

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi			

TOWER DESIGN NOTES

- Tower designed for Exposure C to the TIA-222-G Standard.
- Tower designed for a 95 mph basic wind in accordance with the TIA-222-G Standard.
- Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
- Deflections are based upon a 60 mph wind.
- Tower Structure Class II.
- Topographic Category 1 with Crest Height of 0.00 ft
- TOWER RATING: 99.1%**



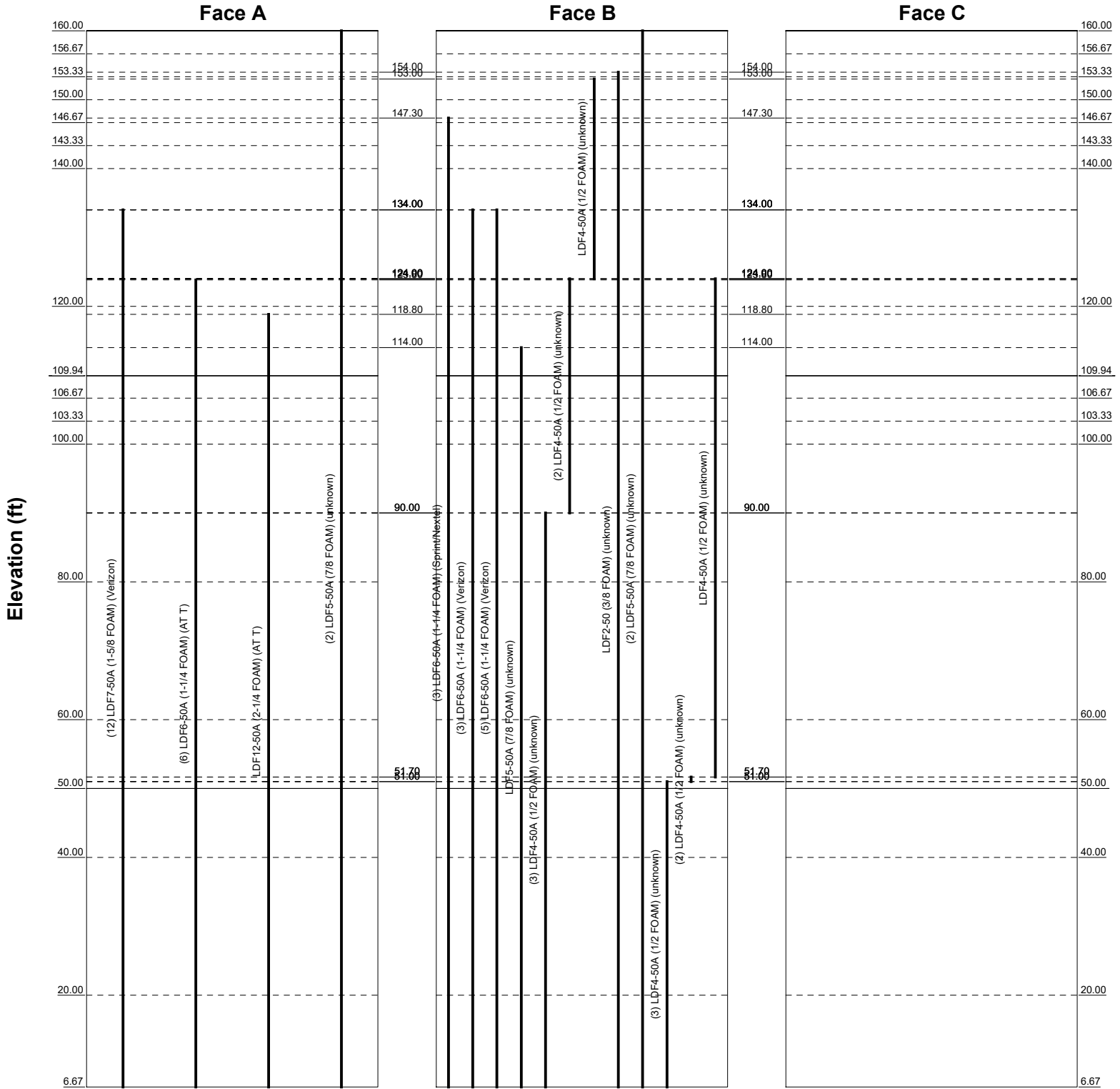
ALL REACTIONS ARE FACTORED

Trylon 1825 W. Walnut Hill Lane, Suite 302 Irving, TX 75038 Phone: (519) 669-5421 FAX: www.trylon.com		Job: 119646	
		Project: CT2218 - PROSPECT BRADSHAW TWR	
Client: EMPIRE TELECOM		Drawn by: Kirk Hall	App'd:
Code: TIA-222-G		Date: 01/03/17	Scale: NTS
Path: C:\Tower\Trylon\Structurals\119646\119646.eri		Dwg No. E-1	

Feed Line Distribution Chart

6'8-1/32" - 160'

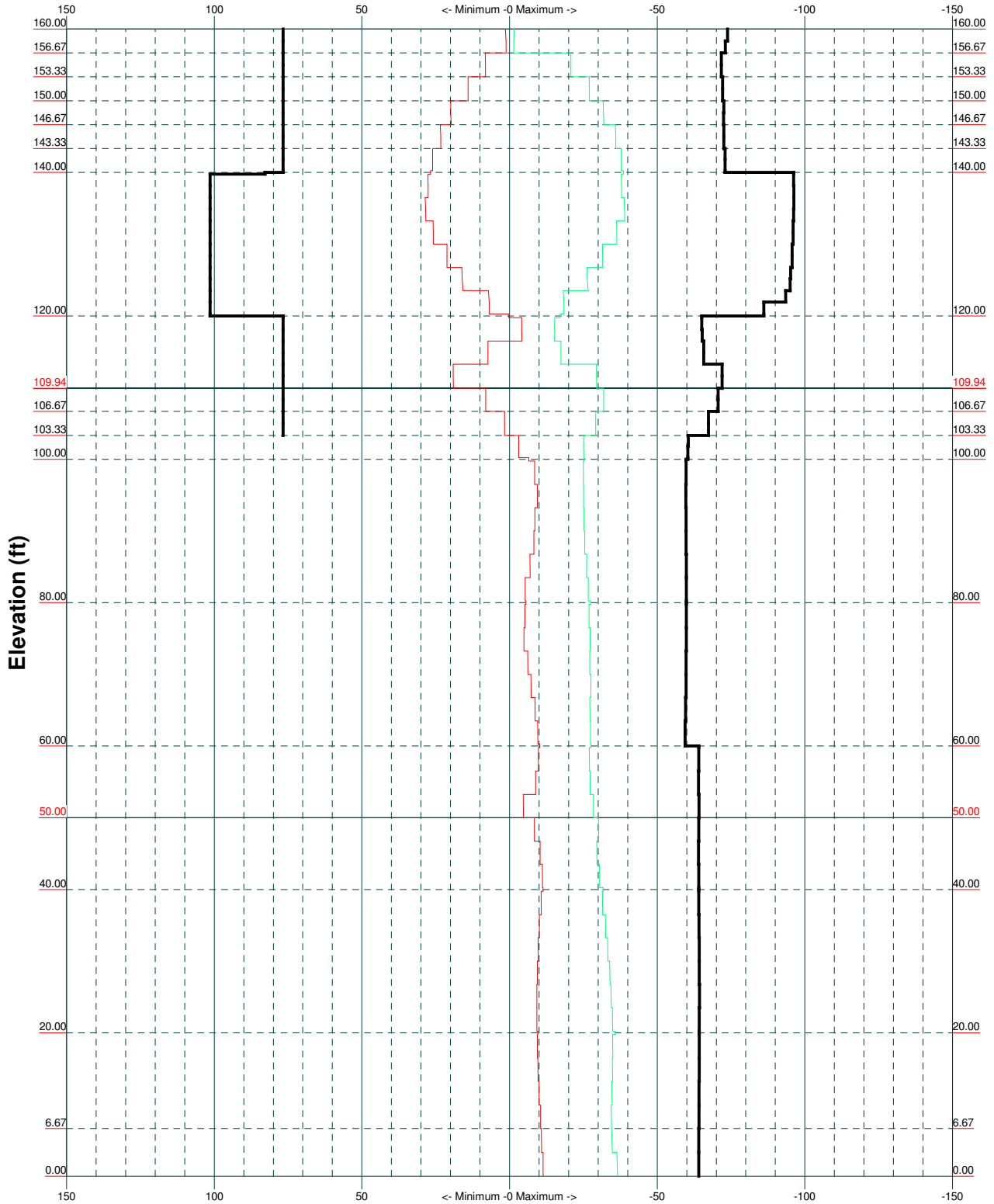
Round
Flat
App In Face
App Out Face
Truss Leg



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Irving, TX 75038		Client: EMPIRE TELECOM	Drawn by: Kirk Hall
Phone: (519) 669-5421		Code: TIA-222-G	Date: 01/03/17
FAX: www.trylon.com		Scale: NTS	Dwg No. E-7
Path: C:\Tower\Trylon\Structurals\119646\119646.eri			

TIA-222-G - 95 mph/50 mph 0.7500 in Ice Exposure C

Leg Capacity ———
Leg Compression (K)

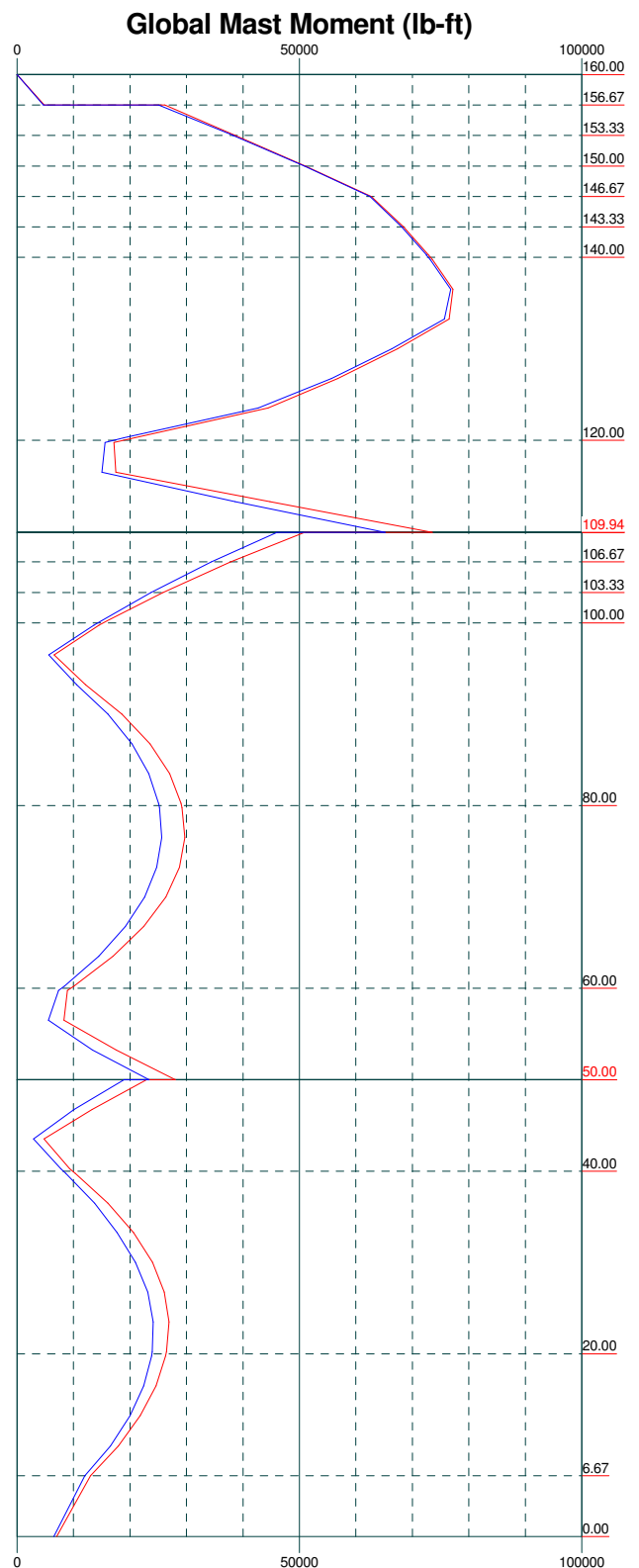
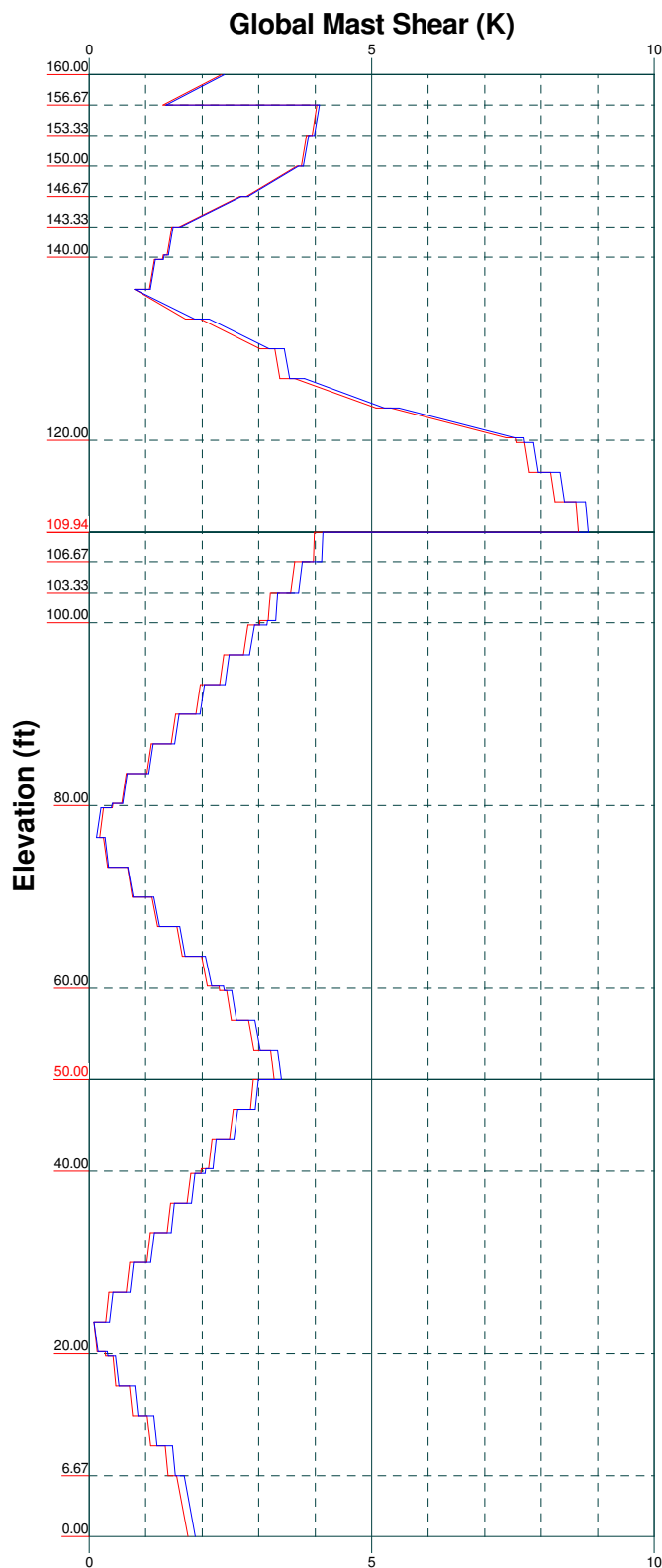


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 Trylon 1825 W. Walnut Hill Lane Suite 302
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Project: CT2218 - PROSPECT BRADSHAW TWR		
Client: EMPIRE TELECOM	Drawn by: AF	App'd:
Code: TIA-222-G	Date: 10/20/16	Scale: NTS
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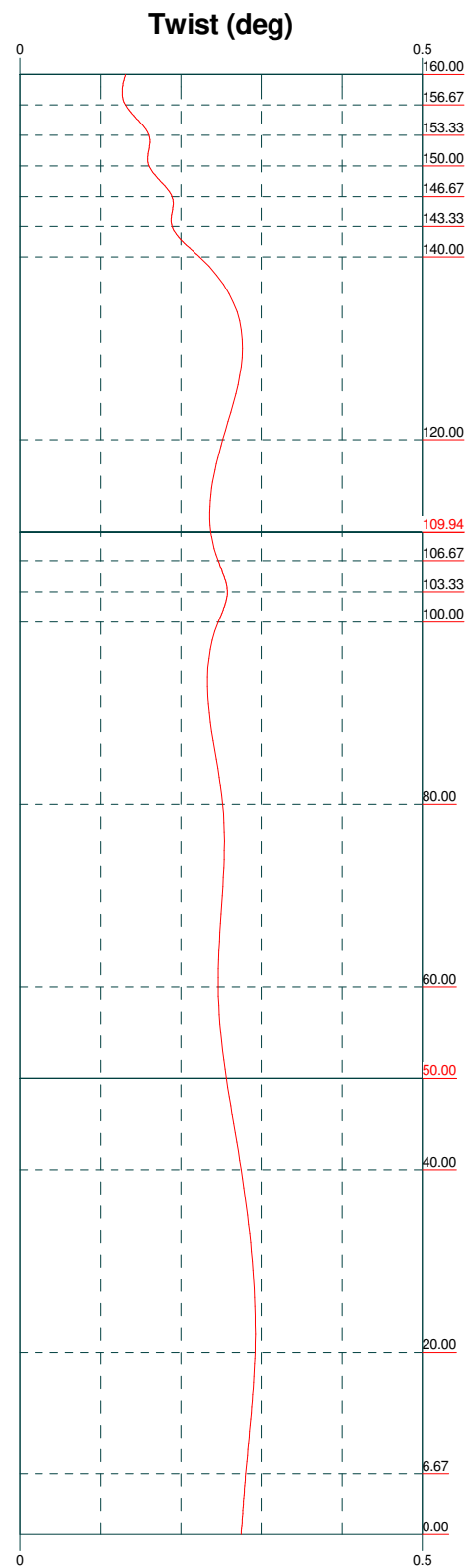
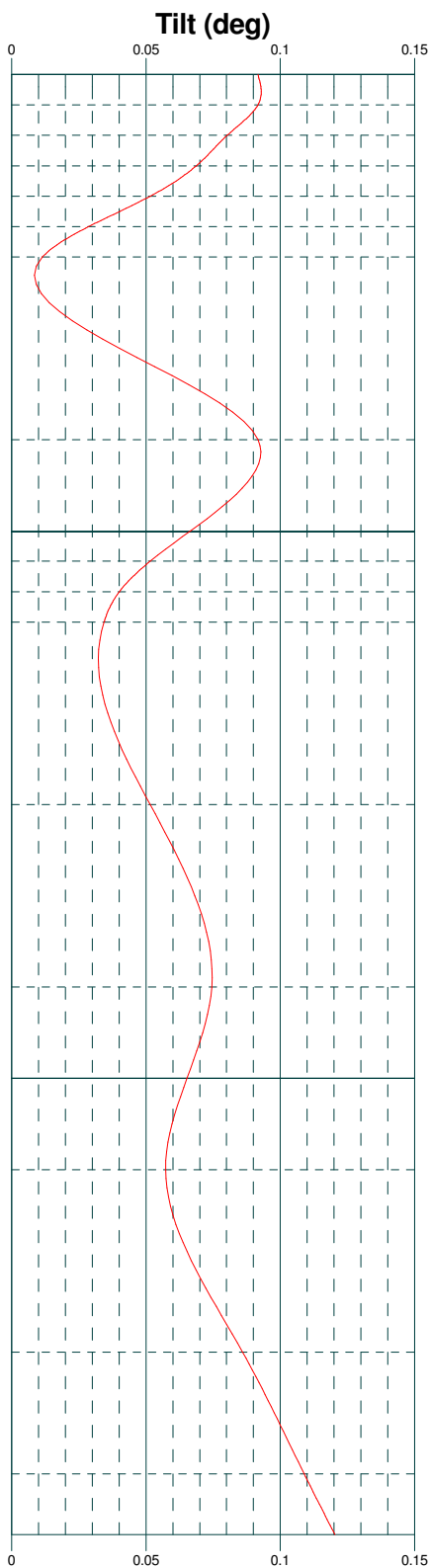
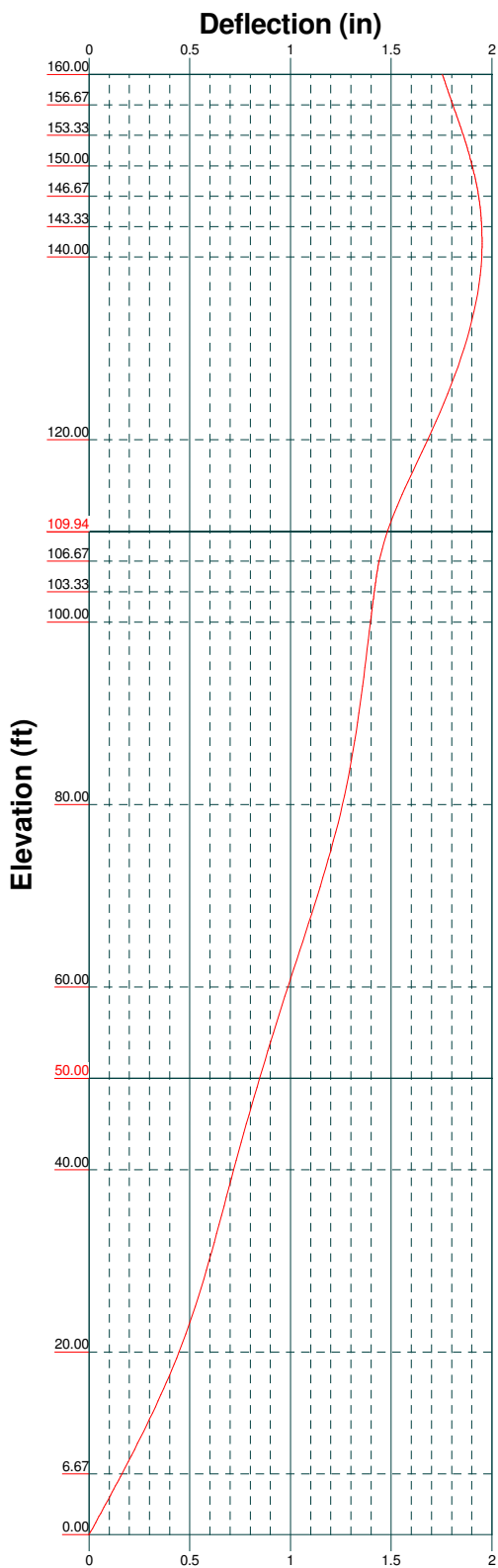
Vx Vz

Mx Mz



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Code: TIA-222-G	Date: 10/20/16	Scale: NTS
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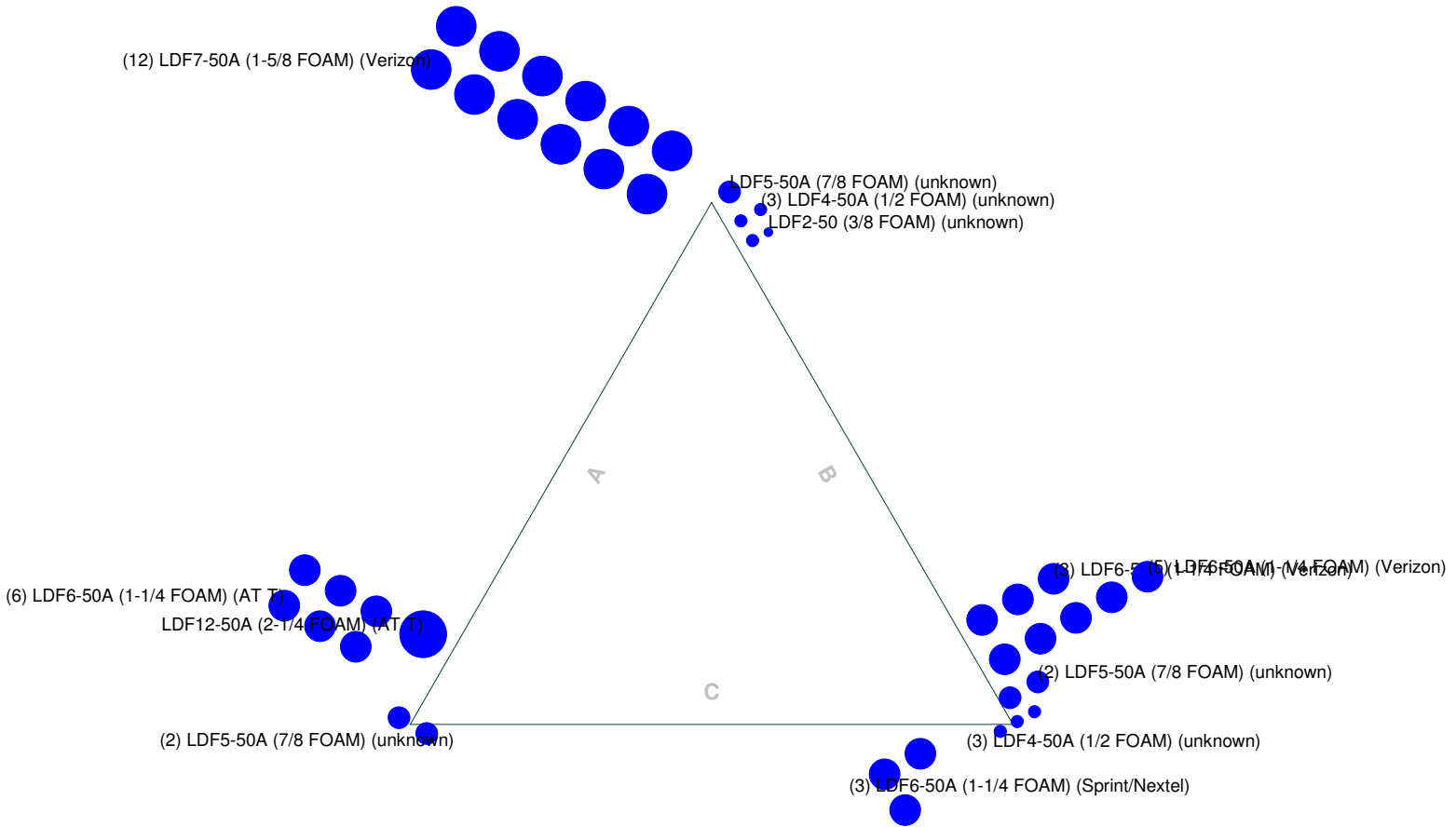
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Job: **119646**
 Project: **CT2218 - PROSPECT BRADSHAW TWR**
 Client: **EMPIRE TELECOM** Drawn by: **AF** App'd:
 Code: **TIA-222-G** Date: **10/20/16** Scale: **NTS**
 Path: D:\JOBS\US\119646 - FA-10035230 - CT2218 PROSPECT BRADSHAW TWR\tower analysis\119646.er Dwg No. **E-5**

Consulting Engineers

Feed Line Plan

— Round
 — Flat
 — App In Face
 — App Out Face

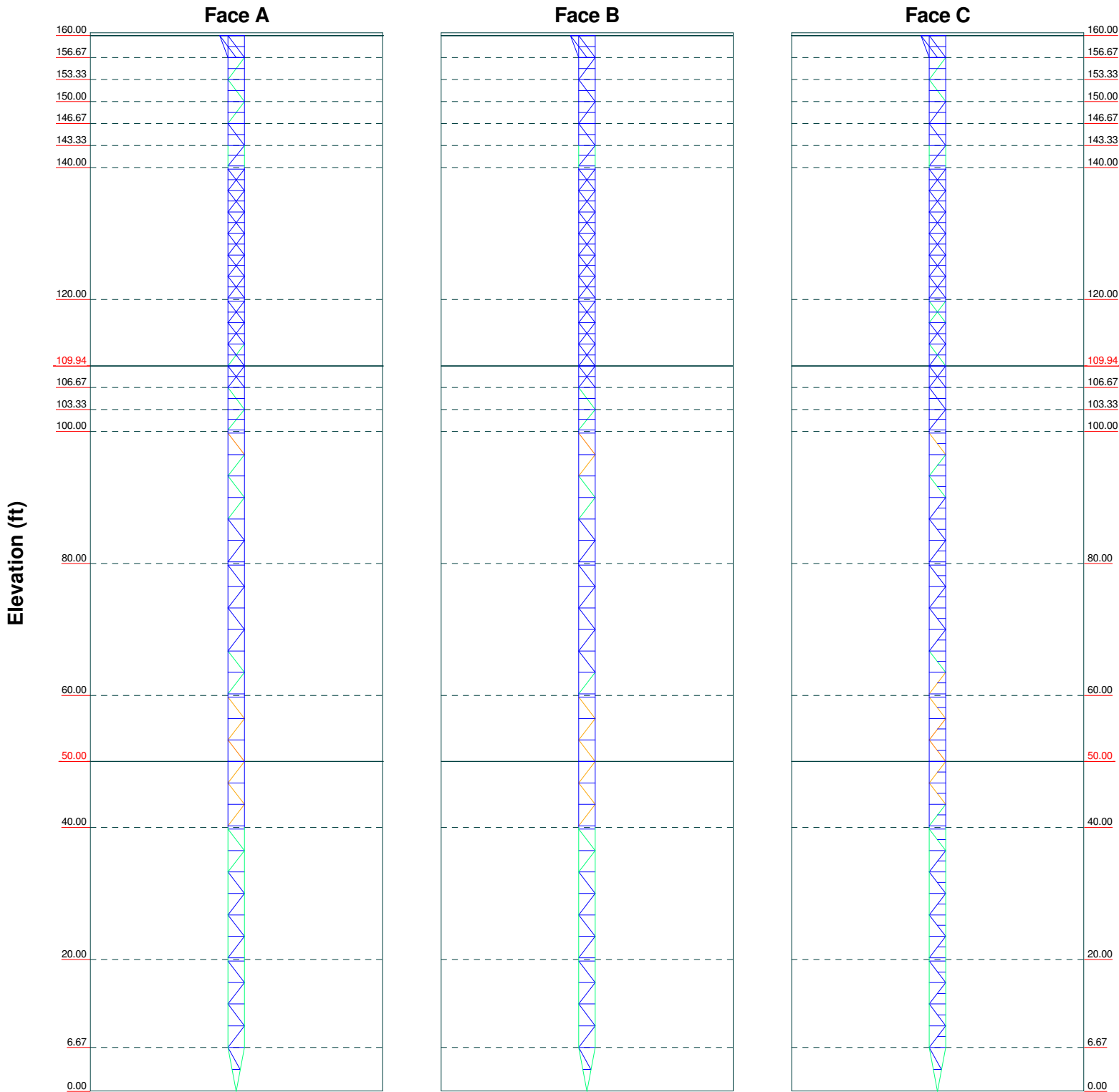


Trylon 1825 W. Walnut Hill Lane Suite 302 Irving, TX 75038 Phone: (519)-572-9995 FAX:	Job: 119646	
	Project: CT2218 - PROSPECT BRADSHAW TWR	
	Client: EMPIRE TELECOM	Drawn by: AF
	Code: TIA-222-G	Date: 10/20/16
	Path: D:\JOBS\US\119646 - FA-10035230 - CT2218 PROSPECT BRADSHAW TWR\tower analysis\119646.ed	App'd: _____ Scale: NTS Dwg No. E-7

Stress Distribution Chart

0' - 160'

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



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 Client: EMPIRE TELECOM Drawn by: AF App'd:
 Code: TIA-222-G Date: 10/20/16 Scale: NTS
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tnxTower Trylon 1825 W. Walnut Hill Lane Suite 302 Irving, TX 75038 Phone: (519)-572-9995 FAX:	Job 119646	Page 1 of 66
	Project CT2218 - PROSPECT BRADSHAW TWR	Date 13:48:46 10/20/16
	Client EMPIRE TELECOM	Designed by AF

Tower Input Data

The main tower is a 3x guyed tower with an overall height of 160.00 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 2.50 ft at the top and tapered at the base.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

Basic wind speed of 95 mph.

Structure Class II.

Exposure Category C.

Topographic Category 1.

Crest Height 0.00 ft.

Nominal ice thickness of 0.7500 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

Pressures are calculated at each section.

Safety factor used in guy design is 1.

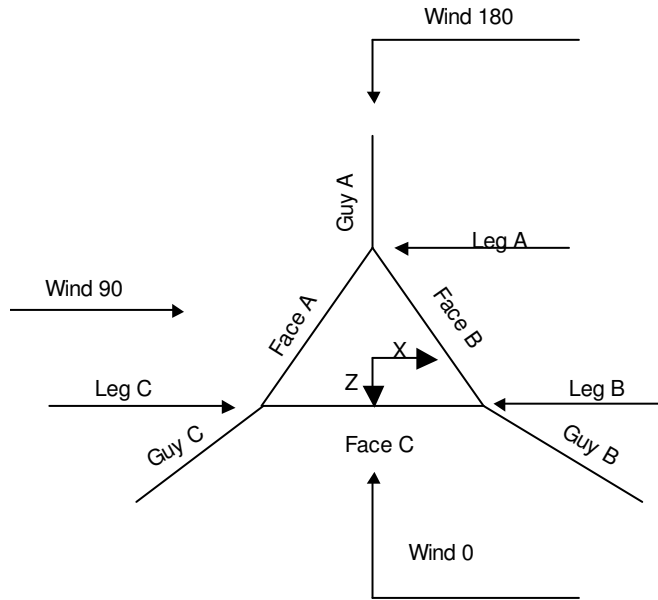
Stress ratio used in tower member design is 1.

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

Options

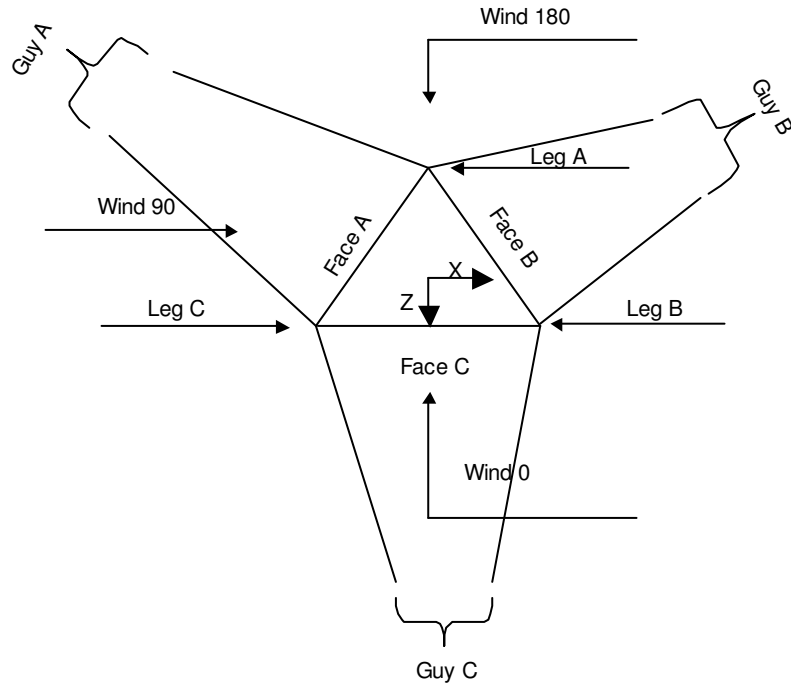
<ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile √ Include Bolts In Member Capacity √ Leg Bolts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

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Project	CT2218 - PROSPECT BRADSHAW TWR	Date	13:48:46 10/20/16
Client	EMPIRE TELECOM	Designed by	AF



Corner & Starmount Guyed Tower

tnxTower Trylon 1825 W. Walnut Hill Lane Suite 302 Irving, TX 75038 Phone: (519)-572-9995 FAX:	Job 119646	Page 3 of 66
	Project CT2218 - PROSPECT BRADSHAW TWR	Date 13:48:46 10/20/16
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Face Guyed

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	160.00-156.67			2.50	1	3.33
T2	156.67-153.33			2.50	1	3.33
T3	153.33-150.00			2.50	1	3.33
T4	150.00-146.67			2.50	1	3.33
T5	146.67-143.33			2.50	1	3.33
T6	143.33-140.00			2.50	1	3.33
T7	140.00-120.00			2.50	1	20.00
T8	120.00-106.67			2.50	1	13.33
T9	106.67-103.33			2.50	1	3.33
T10	103.33-100.00			2.50	1	3.33
T11	100.00-80.00			2.50	1	20.00
T12	80.00-60.00			2.50	1	20.00
T13	60.00-40.00			2.50	1	20.00
T14	40.00-20.00			2.50	1	20.00
T15	20.00-6.67			2.50	1	13.33
T16	6.67-0.00			2.50	1	6.67

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	Project	CT2218 - PROSPECT BRADSHAW TWR	Date	13:48:46 10/20/16
	Client	EMPIRE TELECOM	Designed by	AF

Tower Section Geometry (cont'd)

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	160.00-156.67	3.33	Diag Down	No	Yes	0.0000	0.0000
T2	156.67-153.33	3.33	Diag Up	No	Yes	0.0000	0.0000
T3	153.33-150.00	3.33	Diag Down	No	Yes	0.0000	0.0000
T4	150.00-146.67	3.33	Diag Up	No	Yes	0.0000	0.0000
T5	146.67-143.33	3.33	Diag Down	No	Yes	0.0000	0.0000
T6	143.33-140.00	3.08	Diag Up	No	Yes	0.0000	3.0000
T7	140.00-120.00	3.25	X Brace	No	Yes	3.0000	3.0000
T8	120.00-106.67	3.27	X Brace	No	Yes	3.0000	0.0000
T9	106.67-103.33	3.33	Diag Down	No	Yes	0.0000	0.0000
T10	103.33-100.00	3.08	Diag Up	No	Yes	0.0000	3.0000
T11	100.00-80.00	3.25	K Brace Left	No	Yes+Steps	3.0000	3.0000
T12	80.00-60.00	3.25	K Brace Left	No	Yes+Steps	3.0000	3.0000
T13	60.00-40.00	3.25	K Brace Left	No	Yes+Steps	3.0000	3.0000
T14	40.00-20.00	3.25	K Brace Left	No	Yes+Steps	3.0000	3.0000
T15	20.00-6.67	3.27	K Brace Left	No	Yes+Steps	3.0000	0.0000
T16	6.67-0.00	3.33	K Brace Left	No	Yes	0.0000	0.0000

Tower Section Geometry (cont'd)

Tower Elevation	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
ft						
T1 160.00-156.67	Pipe	Pipe 2.875"x0.203" (2.5 STD)	A572-50 (50 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T2 156.67-153.33	Pipe	Pipe 2.875"x0.203" (2.5 STD)	A572-50 (50 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T3 153.33-150.00	Pipe	Pipe 2.875"x0.203" (2.5 STD)	A572-50 (50 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T4 150.00-146.67	Pipe	Pipe 2.875"x0.203" (2.5 STD)	A572-50 (50 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T5 146.67-143.33	Pipe	Pipe 2.875"x0.203" (2.5 STD)	A572-50 (50 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T6 143.33-140.00	Pipe	Pipe 2.875"x0.203" (2.5 STD)	A572-50 (50 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T7 140.00-120.00	Pipe	Pipe 2.875x0.276	A572-50 (50 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T8 120.00-106.67	Pipe	Pipe 2.875"x0.203" (2.5 STD)	A572-50 (50 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T9 106.67-103.33	Pipe	Pipe 2.875"x0.203" (2.5 STD)	A572-50 (50 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T10 103.33-100.00	Pipe	Pipe 2.875"x0.203" (2.5 STD)	A572-50 (50 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T11 100.00-80.00	Pipe	Pipe 2.875"x0.203" (2.5 STD)	A572-50 (50 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T12 80.00-60.00	Pipe	Pipe 2.875"x0.203" (2.5 STD)	A572-50 (50 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T13 60.00-40.00	Pipe	Pipe 2.875"x0.203" (2.5 STD)	A572-50 (50 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T14 40.00-20.00	Pipe	Pipe 2.875"x0.203" (2.5 STD)	A572-50 (50 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)

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Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T15 20.00-6.67	Pipe	Pipe 2.875"x0.203" (2.5 STD)	A572-50 (50 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T16 6.67-0.00	Pipe	Pipe 2.875"x0.203" (2.5 STD)	A572-50 (50 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 160.00-156.67	Pipe	Pipe 1.315x0.109	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T6 143.33-140.00	Flat Bar		A572-50 (50 ksi)	Pipe	Pipe 1.315x0.109	A572-50 (50 ksi)
T7 140.00-120.00	Pipe	Pipe 1.315x0.109	A572-50 (50 ksi)	Pipe	Pipe 1.315x0.109	A572-50 (50 ksi)
T8 120.00-106.67	Pipe	Pipe 1.315x0.109	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T10 103.33-100.00	Flat Bar		A572-50 (50 ksi)	Pipe	Pipe 1.315x0.109	A572-50 (50 ksi)
T11 100.00-80.00	Pipe	Pipe 1.315x0.109	A572-50 (50 ksi)	Pipe	Pipe 1.315x0.109	A572-50 (50 ksi)
T12 80.00-60.00	Pipe	Pipe 1.315x0.109	A572-50 (50 ksi)	Pipe	Pipe 1.315x0.109	A572-50 (50 ksi)
T13 60.00-40.00	Pipe	Pipe 1.315x0.109	A572-50 (50 ksi)	Pipe	Pipe 1.315x0.109	A572-50 (50 ksi)
T14 40.00-20.00	Pipe	Pipe 1.315x0.109	A572-50 (50 ksi)	Pipe	Pipe 1.315x0.109	A572-50 (50 ksi)
T15 20.00-6.67	Pipe	Pipe 1.315x0.109	A572-50 (50 ksi)	Solid Round		A572-50 (50 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 160.00-156.67	None	Flat Bar		A36 (36 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T2 156.67-153.33	None	Flat Bar		A36 (36 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T3 153.33-150.00	None	Flat Bar		A36 (36 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T4 150.00-146.67	None	Flat Bar		A36 (36 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T5 146.67-143.33	None	Flat Bar		A36 (36 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T6 143.33-140.00	None	Flat Bar		A36 (36 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T7 140.00-120.00	None	Flat Bar		A36 (36 ksi)	Pipe	Pipe 0.84x0.109 (0.5 STD)	A572-50 (50 ksi)

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Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T8 120.00-106.67	None	Flat Bar		A36 (36 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T9 106.67-103.33	None	Flat Bar		A36 (36 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T10 103.33-100.00	None	Flat Bar		A36 (36 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T11 100.00-80.00	None	Flat Bar		A36 (36 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T12 80.00-60.00	None	Flat Bar		A36 (36 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T13 60.00-40.00	None	Flat Bar		A36 (36 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T14 40.00-20.00	None	Flat Bar		A36 (36 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T15 20.00-6.67	None	Flat Bar		A36 (36 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)
T16 6.67-0.00	None	Flat Bar		A36 (36 ksi)	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T1 160.00-156.67	Solid Round	3/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T2 156.67-153.33	Solid Round	3/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T3 153.33-150.00	Solid Round	3/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T4 150.00-146.67	Solid Round	3/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T5 146.67-143.33	Solid Round	3/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T6 143.33-140.00	Solid Round	3/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T7 140.00-120.00	Solid Round	3/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T8 120.00-106.67	Solid Round	3/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T9 106.67-103.33	Solid Round	3/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T10 103.33-100.00	Solid Round	3/4	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T11 100.00-80.00	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T12 80.00-60.00	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T13 60.00-40.00	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T14 40.00-20.00	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)
T15 20.00-6.67	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)

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Tower Elevation	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
ft						
T16 6.67-0.00	Pipe	Pipe 1.05x0.113 (3/4 STD)	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation	Gusset Area (per face)	Gusset Thickness	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
ft	ft ²	in						
T1	0.00	0.0000	A36	1	1	1	36.0000	36.0000
160.00-156.67			(36 ksi)					
T2	0.00	0.0000	A36	1	1	1	36.0000	36.0000
156.67-153.33			(36 ksi)					
T3	0.00	0.0000	A36	1	1	1	36.0000	36.0000
153.33-150.00			(36 ksi)					
T4	0.00	0.0000	A36	1	1	1	36.0000	36.0000
150.00-146.67			(36 ksi)					
T5	0.00	0.0000	A36	1	1	1	36.0000	36.0000
146.67-143.33			(36 ksi)					
T6	0.00	0.0000	A36	1	1	1	36.0000	36.0000
143.33-140.00			(36 ksi)					
T7	0.00	0.0000	A36	1	1	1	36.0000	36.0000
140.00-120.00			(36 ksi)					
T8	0.00	0.0000	A36	1	1	1	36.0000	36.0000
120.00-106.67			(36 ksi)					
T9	0.00	0.0000	A36	1	1	1	36.0000	36.0000
106.67-103.33			(36 ksi)					
T10	0.00	0.0000	A36	1	1	1	36.0000	36.0000
103.33-100.00			(36 ksi)					
T11	0.00	0.0000	A36	1	1	1	36.0000	36.0000
100.00-80.00			(36 ksi)					
T12	0.00	0.0000	A36	1	1	1	36.0000	36.0000
80.00-60.00			(36 ksi)					
T13	0.00	0.0000	A36	1	1	1	36.0000	36.0000
60.00-40.00			(36 ksi)					
T14	0.00	0.0000	A36	1	1	1	36.0000	36.0000
40.00-20.00			(36 ksi)					
T15 20.00-6.67	0.00	0.0000	A36	1	1	1	36.0000	36.0000
T16 6.67-0.00	0.00	0.0000	A36	1	1	1	36.0000	36.0000
			(36 ksi)					

Tower Section Geometry (cont'd)

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	Legs	K Factors ¹						
				X Brace Diags	K Brace Diags	Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace
ft				X	X	X	X	X	X	X
				Y	Y	Y	Y	Y	Y	Y
T1	Yes	Yes	1	1	1	0.7	1	1	1	1

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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.
T13 60.00-40.00	Flange	0.6250 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
T14 40.00-20.00	Flange	0.6250 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
T15 20.00-6.67	Flange	0.6250 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
T16 6.67-0.00	Flange	0.7500 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

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 %
160	EHS	A 7/16	2.08	10%	21000	0.399	186.73	98.00	0.0000	0.00	100%
		B 7/16	2.08	10%	21000	0.399	188.49	106.00	0.0000	3.00	100%
		C 7/16	2.08	10%	21000	0.399	186.84	103.00	0.0000	3.00	100%
109.938	EHS	A 3/4	5.83	10%	19000	1.155	146.19	98.00	0.0000	0.00	100%
		B 3/4	5.83	10%	19000	1.155	149.42	106.00	0.0000	3.00	100%
		C 3/4	5.83	10%	19000	1.155	147.34	103.00	0.0000	3.00	100%
50	EHS	A 7/16	2.08	10%	21000	0.399	108.64	98.00	0.0000	0.00	100%
		B 7/16	2.08	10%	21000	0.399	114.54	106.00	0.0000	3.00	100%
		C 7/16	2.08	10%	21000	0.399	111.81	103.00	0.0000	3.00	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
160	Torque Arm	5.00	45.0000	Bat Ear	A36 (36 ksi)	Single Angle	L3x3x3/8
109.938	Corner						
50	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
160.00	A572-50 (50 ksi)	Solid Round			Yes	A36 (36 ksi)	Single Angle	L3x3x3/8
109.94	A572-50 (50 ksi)	Solid Round			Yes	A36 (36 ksi)	Flat Bar	3x1/4

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Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap.	Pull-Off Grade	Pull-Off Type	Pull-Off Size
50.00	A572-50 (50 ksi)	Solid Round			Yes	A36 (36 ksi)	Flat Bar	3x1/4

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		Tower Intercept	
					A ft	B ft	C ft	D ft
160	0.07	0.08	0.07		3.30	3.36	3.30	
109.938	0.17	0.17	0.17		3.1 sec/pulse 2.10	3.2 sec/pulse 2.19	3.1 sec/pulse 2.13	
50	0.04	0.05	0.04		2.5 sec/pulse 1.13	2.6 sec/pulse 1.25	2.5 sec/pulse 1.19	
					1.8 sec/pulse	1.9 sec/pulse	1.9 sec/pulse	

Guy Data (cont'd)

Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Torque Arm		Pull Off		Diagonal	
			K _x	K _y	K _x	K _y	K _x	K _y
160	Yes	Yes	1	1	1	1	1	1
109.938	No	No			1	1	1	1
50	No	No			1	1	1	1

Guy Data (cont'd)

Guy Elevation ft	Torque-Arm				Pull Off				Diagonal			
	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U
160	0.7500 A325N	2	0.0000	1	0.7500 A325N	1	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
109.938	0.6250 A325N	0	0.0000	0.75	0.0000 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
50	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
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Guy Elevation ft	Guy Location	z ft	qz psf	qz Ice psf	Ice Thickness in
160	A	80.00	23	7	1.6389
	B	81.50	24	7	1.6419
	C	81.50	24	7	1.6419
109.938	A	54.97	22	6	1.5785
	B	56.47	22	6	1.5828
	C	56.47	22	6	1.5828
50	A	25.00	18	5	1.4589
	B	26.50	19	5	1.4675
	C	26.50	19	5	1.4675

Guy-Tensioning Information

Temperature At Time Of Tensioning																	
Guy Elevation ft	H ft	V ft	0 F		20 F		40 F		60 F		80 F		100 F		120 F		
			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	
160	A	96.59	160.00	2.327	2.95	2.244	3.06	2.162	3.17	2.080	3.30	1.998	3.43	1.917	3.57	1.836	3.73
	B	104.59	157.00	2.363	2.96	2.268	3.08	2.174	3.22	2.080	3.36	1.987	3.52	1.894	3.69	1.802	3.87
	C	101.59	157.00	2.352	2.92	2.261	3.04	2.170	3.17	2.080	3.30	1.990	3.45	1.901	3.61	1.812	3.78
109.938	A	96.56	109.94	6.888	1.78	6.534	1.87	6.181	1.98	5.830	2.10	5.481	2.23	5.134	2.38	4.791	2.55
	B	104.56	106.94	7.014	1.82	6.617	1.93	6.222	2.05	5.830	2.19	5.441	2.35	5.055	2.52	4.674	2.73
	C	101.56	106.94	6.980	1.78	6.595	1.88	6.211	2.00	5.830	2.13	5.451	2.28	5.076	2.44	4.705	2.63
50	A	96.56	50.00	2.812	0.83	2.567	0.91	2.322	1.01	2.080	1.13	1.840	1.27	1.605	1.46	1.376	1.70
	B	104.56	47.00	2.850	0.92	2.591	1.01	2.335	1.12	2.080	1.25	1.829	1.43	1.583	1.65	1.346	1.93
	C	101.56	47.00	2.843	0.87	2.587	0.96	2.332	1.07	2.080	1.19	1.831	1.36	1.586	1.56	1.350	1.84

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
LDF6-50A (1-1/4 FOAM) (Sprint/Nextel)	B	No	Ar (CaAa)	147.30 - 0.00	-6.0000	0.5	3	2	0.5000	1.5500		0.66
LDF7-50A (1-5/8 FOAM) (Verizon)	A	No	Ar (CaAa)	134.00 - 0.00	2.0000	0.5	12	2	0.5000	1.9800		0.82
LDF6-50A (1-1/4 FOAM) (Verizon)	B	No	Ar (CaAa)	134.00 - 0.00	0.5000	0.325	3	1	0.5000	1.5500		0.66
LDF6-50A (1-1/4 FOAM) (Verizon)	B	No	Ar (CaAa)	134.00 - 0.00	0.5000	0.4	5	1	0.5000	1.5500		0.66
LDF6-50A (1-1/4 FOAM) (AT T)	A	No	Ar (CaAa)	123.80 - 0.00	3.5000	-0.4	6	2	0.5000	1.5500		0.66
LDF12-50A (2-1/4 FOAM) (AT T)	A	No	Ar (CaAa)	118.80 - 0.00	0.5000	-0.36	1	1	2.3500	2.3500		1.22
LDF5-50A (7/8 FOAM) (unknown)	B	No	Ar (CaAa)	114.00 - 0.00	0.5000	-0.5	1	1	1.0900	1.0900		0.33
LDF4-50A (1/2 FOAM)	B	No	Ar (CaAa)	90.00 - 0.00	0.5000	-0.43	3	2	0.5000	0.6300		0.15

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Client	EMPIRE TELECOM	Designed by	AF

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
(unknown) LDF4-50A (1/2 FOAM)	B	No	Ar (CaAa)	124.00 - 90.00	0.5000	-0.43	2	1	0.5000	0.6300		0.15
(unknown) LDF4-50A (1/2 FOAM)	B	No	Ar (CaAa)	153.00 - 124.00	0.5000	-0.43	1	1	0.5000	0.6300		0.15
(unknown) LDF2-50 (3/8 FOAM)	B	No	Ar (CaAa)	154.00 - 0.00	1.5000	-0.41	1	1	0.4400	0.4400		0.08
(unknown) LDF5-50A (7/8 FOAM)	B	No	Ar (CaAa)	160.00 - 0.00	0.0000	0.46	2	1	0.5000	1.0900		0.33
(unknown) LDF4-50A (1/2 FOAM)	B	No	Ar (CaAa)	51.00 - 0.00	-0.4000	0.5	3	1	0.3500	0.6300		0.15
(unknown) LDF4-50A (1/2 FOAM)	B	No	Ar (CaAa)	51.70 - 51.00	-0.4000	0.5	2	1	0.3500	0.6300		0.15
(unknown) LDF4-50A (1/2 FOAM)	B	No	Ar (CaAa)	124.00 - 51.70	-0.4000	0.5	1	1	0.3500	0.6300		0.15
(unknown) LDF5-50A (7/8 FOAM)	A	No	Ar (CaAa)	160.00 - 0.00	-0.4000	-0.5	2	1	0.5000	1.0900		0.33

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
T1	160.00-156.67	A	0.000	0.000	0.727	0.000	0.00
		B	0.000	0.000	0.727	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
T2	156.67-153.33	A	0.000	0.000	0.727	0.000	0.00
		B	0.000	0.000	0.756	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
T3	153.33-150.00	A	0.000	0.000	0.727	0.000	0.00
		B	0.000	0.000	1.062	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
T4	150.00-146.67	A	0.000	0.000	0.727	0.000	0.00
		B	0.000	0.000	1.378	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
T5	146.67-143.33	A	0.000	0.000	0.727	0.000	0.00
		B	0.000	0.000	2.633	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.00
T6	143.33-140.00	A	0.000	0.000	0.727	0.000	0.00
		B	0.000	0.000	2.633	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.00
T7	140.00-120.00	A	0.000	0.000	41.158	0.000	0.17
		B	0.000	0.000	33.664	0.000	0.13
		C	0.000	0.000	0.000	0.000	0.00
T8	120.00-106.67	A	0.000	0.000	49.838	0.000	0.21
		B	0.000	0.000	29.546	0.000	0.12
		C	0.000	0.000	0.000	0.000	0.00
T9	106.67-103.33	A	0.000	0.000	12.530	0.000	0.05
		B	0.000	0.000	7.550	0.000	0.03

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Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
T10	103.33-100.00	C	0.000	0.000	0.000	0.000	0.00
		A	0.000	0.000	12.530	0.000	0.05
		B	0.000	0.000	7.550	0.000	0.03
T11	100.00-80.00	C	0.000	0.000	0.000	0.000	0.00
		A	0.000	0.000	75.180	0.000	0.31
		B	0.000	0.000	45.930	0.000	0.18
T12	80.00-60.00	C	0.000	0.000	0.000	0.000	0.00
		A	0.000	0.000	75.180	0.000	0.31
		B	0.000	0.000	46.560	0.000	0.18
T13	60.00-40.00	C	0.000	0.000	0.000	0.000	0.00
		A	0.000	0.000	75.180	0.000	0.31
		B	0.000	0.000	47.971	0.000	0.18
T14	40.00-20.00	C	0.000	0.000	0.000	0.000	0.00
		A	0.000	0.000	75.180	0.000	0.31
		B	0.000	0.000	49.080	0.000	0.18
T15	20.00-6.67	C	0.000	0.000	0.000	0.000	0.00
		A	0.000	0.000	50.120	0.000	0.21
		B	0.000	0.000	32.720	0.000	0.12
T16	6.67-0.00	C	0.000	0.000	0.000	0.000	0.00
		A	0.000	0.000	25.060	0.000	0.10
		B	0.000	0.000	16.360	0.000	0.06
		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 _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
T1	160.00-156.67	A	1.755	0.000	0.000	3.213	0.000	0.04
		B		0.000	0.000	3.213	0.000	0.04
		C		0.000	0.000	0.000	0.000	0.00
T2	156.67-153.33	A	1.751	0.000	0.000	3.209	0.000	0.04
		B		0.000	0.000	3.471	0.000	0.05
		C		0.000	0.000	0.000	0.000	0.00
T3	153.33-150.00	A	1.747	0.000	0.000	3.204	0.000	0.04
		B		0.000	0.000	5.753	0.000	0.07
		C		0.000	0.000	0.000	0.000	0.00
T4	150.00-146.67	A	1.743	0.000	0.000	3.200	0.000	0.04
		B		0.000	0.000	6.674	0.000	0.09
		C		0.000	0.000	0.000	0.000	0.00
T5	146.67-143.33	A	1.739	0.000	0.000	3.195	0.000	0.04
		B		0.000	0.000	10.042	0.000	0.13
		C		0.000	0.000	0.000	0.000	0.00
T6	143.33-140.00	A	1.735	0.000	0.000	3.190	0.000	0.04
		B		0.000	0.000	10.027	0.000	0.12
		C		0.000	0.000	0.000	0.000	0.00
T7	140.00-120.00	A	1.720	0.000	0.000	58.614	0.000	1.00
		B		0.000	0.000	105.967	0.000	1.62
		C		0.000	0.000	0.000	0.000	0.00
T8	120.00-106.67	A	1.697	0.000	0.000	70.993	0.000	1.21
		B		0.000	0.000	94.315	0.000	1.45
		C		0.000	0.000	0.000	0.000	0.00
T9	106.67-103.33	A	1.684	0.000	0.000	17.868	0.000	0.30
		B		0.000	0.000	24.152	0.000	0.37
		C		0.000	0.000	0.000	0.000	0.00
T10	103.33-100.00	A	1.679	0.000	0.000	17.845	0.000	0.30
		B		0.000	0.000	24.110	0.000	0.37
		C		0.000	0.000	0.000	0.000	0.00

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Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
T11	100.00-80.00	A	1.658	0.000	0.000	106.573	0.000	1.79
		B		0.000	0.000	144.654	0.000	2.14
		C		0.000	0.000	0.000	0.000	0.00
T12	80.00-60.00	A	1.617	0.000	0.000	105.561	0.000	1.75
		B		0.000	0.000	143.683	0.000	2.06
		C		0.000	0.000	0.000	0.000	0.00
T13	60.00-40.00	A	1.564	0.000	0.000	104.246	0.000	1.70
		B		0.000	0.000	146.745	0.000	2.06
		C		0.000	0.000	0.000	0.000	0.00
T14	40.00-20.00	A	1.486	0.000	0.000	102.333	0.000	1.63
		B		0.000	0.000	146.963	0.000	1.99
		C		0.000	0.000	0.000	0.000	0.00
T15	20.00-6.67	A	1.370	0.000	0.000	66.329	0.000	1.02
		B		0.000	0.000	94.185	0.000	1.19
		C		0.000	0.000	0.000	0.000	0.00
T16	6.67-0.00	A	1.193	0.000	0.000	31.717	0.000	0.46
		B		0.000	0.000	44.194	0.000	0.50
		C		0.000	0.000	0.000	0.000	0.00

Feed Line Center of Pressure

Section	Elevation ft	CP _X in	CP _Z in	CP _X Ice in	CP _Z Ice in
T1	160.00-156.67	0.0248	0.5638	0.0137	0.3108
T2	156.67-153.33	0.0291	0.5444	0.0198	0.2843
T3	153.33-150.00	0.0676	0.3283	0.0868	-0.0012
T4	150.00-146.67	0.2146	0.4624	0.1118	0.0042
T5	146.67-143.33	0.6790	0.9533	0.1967	0.1152
T6	143.33-140.00	0.6486	0.9107	0.1553	0.0913
T7	140.00-120.00	0.4141	-1.0462	0.4574	-0.2264
T8	120.00-106.67	-0.1925	-1.1022	0.3490	-0.2866
T9	106.67-103.33	-0.2064	-1.1535	0.4629	-0.4444
T10	103.33-100.00	-0.2035	-1.1374	0.4131	-0.3972
T11	100.00-80.00	-0.2033	-1.1728	0.4821	-0.4123
T12	80.00-60.00	-0.1994	-1.1874	0.4731	-0.3559
T13	60.00-40.00	-0.1517	-1.1438	0.5146	-0.3260
T14	40.00-20.00	-0.1175	-1.1225	0.5613	-0.3188
T15	20.00-6.67	-0.1177	-1.1249	0.5683	-0.3393
T16	6.67-0.00	-0.4654	-1.3087	0.3274	-0.6580

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T1	12	LDF5-50A (7/8 FOAM)	156.67 - 160.00	0.6000	0.2168
T1	16	LDF5-50A (7/8 FOAM)	156.67 - 160.00	0.6000	0.2168
T2	11	LDF2-50 (3/8 FOAM)	153.33 - 154.00	0.6000	0.2227

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T2	12	LDF5-50A (7/8 FOAM)	153.33 - 156.67	0.6000	0.2227
T2	16	LDF5-50A (7/8 FOAM)	153.33 - 156.67	0.6000	0.2227
T3	10	LDF4-50A (1/2 FOAM)	150.00 - 153.00	0.6000	0.3447
T3	11	LDF2-50 (3/8 FOAM)	150.00 - 153.33	0.6000	0.3447
T3	12	LDF5-50A (7/8 FOAM)	150.00 - 153.33	0.6000	0.3447
T3	16	LDF5-50A (7/8 FOAM)	150.00 - 153.33	0.6000	0.3447
T4	1	LDF6-50A (1-1/4 FOAM)	146.67 - 147.30	0.6000	0.3455
T4	10	LDF4-50A (1/2 FOAM)	146.67 - 150.00	0.6000	0.3455
T4	11	LDF2-50 (3/8 FOAM)	146.67 - 150.00	0.6000	0.3455
T4	12	LDF5-50A (7/8 FOAM)	146.67 - 150.00	0.6000	0.3455
T4	16	LDF5-50A (7/8 FOAM)	146.67 - 150.00	0.6000	0.3455
T5	1	LDF6-50A (1-1/4 FOAM)	143.33 - 146.67	0.6000	0.3463
T5	10	LDF4-50A (1/2 FOAM)	143.33 - 146.67	0.6000	0.3463
T5	11	LDF2-50 (3/8 FOAM)	143.33 - 146.67	0.6000	0.3463
T5	12	LDF5-50A (7/8 FOAM)	143.33 - 146.67	0.6000	0.3463
T5	16	LDF5-50A (7/8 FOAM)	143.33 - 146.67	0.6000	0.3463
T6	1	LDF6-50A (1-1/4 FOAM)	140.00 - 143.33	0.6000	0.2645
T6	10	LDF4-50A (1/2 FOAM)	140.00 - 143.33	0.6000	0.2645
T6	11	LDF2-50 (3/8 FOAM)	140.00 - 143.33	0.6000	0.2645
T6	12	LDF5-50A (7/8 FOAM)	140.00 - 143.33	0.6000	0.2645
T6	16	LDF5-50A (7/8 FOAM)	140.00 - 143.33	0.6000	0.2645
T7	1	LDF6-50A (1-1/4 FOAM)	120.00 - 140.00	0.6000	0.2026
T7	2	LDF7-50A (1-5/8 FOAM)	120.00 - 134.00	0.6000	0.2026
T7	3	LDF6-50A (1-1/4 FOAM)	120.00 - 134.00	0.6000	0.2026
T7	4	LDF6-50A (1-1/4 FOAM)	120.00 - 134.00	0.6000	0.2026
T7	5	LDF6-50A (1-1/4 FOAM)	120.00 - 123.80	0.6000	0.2026
T7	9	LDF4-50A (1/2 FOAM)	120.00 - 124.00	0.6000	0.2026
T7	10	LDF4-50A (1/2 FOAM)	124.00 - 140.00	0.6000	0.2026
T7	11	LDF2-50 (3/8 FOAM)	120.00 - 140.00	0.6000	0.2026
T7	12	LDF5-50A (7/8 FOAM)	120.00 - 140.00	0.6000	0.2026
T7	15	LDF4-50A (1/2 FOAM)	120.00 - 124.00	0.6000	0.2026

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Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T7	16	LDF5-50A (7/8 FOAM)	120.00 - 140.00	0.6000	0.2026
T8	1	LDF6-50A (1-1/4 FOAM)	106.67 - 120.00	0.6000	0.1890
T8	2	LDF7-50A (1-5/8 FOAM)	106.67 - 120.00	0.6000	0.1890
T8	3	LDF6-50A (1-1/4 FOAM)	□ ö	0.6000	0.1890
T8	4	LDF6-50A (1-1/4 FOAM)	106.67 - 120.00	0.6000	0.1890
T8	5	LDF6-50A (1-1/4 FOAM)	106.67 - 120.00	0.6000	0.1890
T8	6	LDF12-50A (2-1/4 FOAM)	106.67 - 118.80	0.6000	0.1890
T8	7	LDF5-50A (7/8 FOAM)	106.67 - 114.00	0.6000	0.1890
T8	9	LDF4-50A (1/2 FOAM)	106.67 - 120.00	0.6000	0.1890
T8	11	LDF2-50 (3/8 FOAM)	106.67 - 120.00	0.6000	0.1890
T8	12	LDF5-50A (7/8 FOAM)	106.67 - 120.00	0.6000	0.1890
T8	15	LDF4-50A (1/2 FOAM)	106.67 - 120.00	0.6000	0.1890
T8	16	LDF5-50A (7/8 FOAM)	106.67 - 120.00	0.6000	0.1890
T9	1	LDF6-50A (1-1/4 FOAM)	103.33 - 106.67	0.6000	0.3580
T9	2	LDF7-50A (1-5/8 FOAM)	103.33 - 106.67	0.6000	0.3580
T9	3	LDF6-50A (1-1/4 FOAM)	103.33 - 106.67	0.6000	0.3580
T9	4	LDF6-50A (1-1/4 FOAM)	103.33 - 106.67	0.6000	0.3580
T9	5	LDF6-50A (1-1/4 FOAM)	103.33 - 106.67	0.6000	0.3580
T9	6	LDF12-50A (2-1/4 FOAM)	103.33 - 106.67	0.6000	0.3580
T9	7	LDF5-50A (7/8 FOAM)	103.33 - 106.67	0.6000	0.3580
T9	9	LDF4-50A (1/2 FOAM)	103.33 - 106.67	0.6000	0.3580
T9	11	LDF2-50 (3/8 FOAM)	103.33 - 106.67	0.6000	0.3580
T9	12	LDF5-50A (7/8 FOAM)	103.33 - 106.67	0.6000	0.3580
T9	15	LDF4-50A (1/2 FOAM)	103.33 - 106.67	0.6000	0.3580
T9	16	LDF5-50A (7/8 FOAM)	103.33 - 106.67	0.6000	0.3580
T10	1	LDF6-50A (1-1/4 FOAM)	100.00 - 103.33	0.6000	0.2782
T10	2	LDF7-50A (1-5/8 FOAM)	100.00 - 103.33	0.6000	0.2782
T10	3	LDF6-50A (1-1/4 FOAM)	100.00 - 103.33	0.6000	0.2782
T10	4	LDF6-50A (1-1/4 FOAM)	100.00 - 103.33	0.6000	0.2782
T10	5	LDF6-50A (1-1/4 FOAM)	100.00 - 103.33	0.6000	0.2782
T10	6	LDF12-50A (2-1/4 FOAM)	100.00 - 103.33	0.6000	0.2782

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Client	EMPIRE TELECOM	Designed by	AF

<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T10	7	LDF5-50A (7/8 FOAM)	100.00 - 103.33	0.6000	0.2782
T10	9	LDF4-50A (1/2 FOAM)	100.00 - 103.33	0.6000	0.2782
T10	11	LDF2-50 (3/8 FOAM)	100.00 - 103.33	0.6000	0.2782
T10	12	LDF5-50A (7/8 FOAM)	100.00 - 103.33	0.6000	0.2782
T10	15	LDF4-50A (1/2 FOAM)	100.00 - 103.33	0.6000	0.2782
T10	16	LDF5-50A (7/8 FOAM)	100.00 - 103.33	0.6000	0.2782
T11	1	LDF6-50A (1-1/4 FOAM)	80.00 - 100.00	0.6000	0.4265
T11	2	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.4265
T11	3	LDF6-50A (1-1/4 FOAM)	80.00 - 100.00	0.6000	0.4265
T11	4	LDF6-50A (1-1/4 FOAM)	80.00 - 100.00	0.6000	0.4265
T11	5	LDF6-50A (1-1/4 FOAM)	80.00 - 100.00	0.6000	0.4265
T11	6	LDF12-50A (2-1/4 FOAM)	80.00 - 100.00	0.6000	0.4265
T11	7	LDF5-50A (7/8 FOAM)	80.00 - 100.00	0.6000	0.4265
T11	8	LDF4-50A (1/2 FOAM)	80.00 - 90.00	0.6000	0.4265
T11	9	LDF4-50A (1/2 FOAM)	90.00 - 100.00	0.6000	0.4265
T11	11	LDF2-50 (3/8 FOAM)	80.00 - 100.00	0.6000	0.4265
T11	12	LDF5-50A (7/8 FOAM)	80.00 - 100.00	0.6000	0.4265
T11	15	LDF4-50A (1/2 FOAM)	80.00 - 100.00	0.6000	0.4265
T11	16	LDF5-50A (7/8 FOAM)	80.00 - 100.00	0.6000	0.4265
T12	1	LDF6-50A (1-1/4 FOAM)	60.00 - 80.00	0.6000	0.4341
T12	2	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.4341
T12	3	LDF6-50A (1-1/4 FOAM)	60.00 - 80.00	0.6000	0.4341
T12	4	LDF6-50A (1-1/4 FOAM)	60.00 - 80.00	0.6000	0.4341
T12	5	LDF6-50A (1-1/4 FOAM)	60.00 - 80.00	0.6000	0.4341
T12	6	LDF12-50A (2-1/4 FOAM)	60.00 - 80.00	0.6000	0.4341
T12	7	LDF5-50A (7/8 FOAM)	60.00 - 80.00	0.6000	0.4341
T12	8	LDF4-50A (1/2 FOAM)	60.00 - 80.00	0.6000	0.4341
T12	11	LDF2-50 (3/8 FOAM)	60.00 - 80.00	0.6000	0.4341
T12	12	LDF5-50A (7/8 FOAM)	60.00 - 80.00	0.6000	0.4341
T12	15	LDF4-50A (1/2 FOAM)	60.00 - 80.00	0.6000	0.4341
T12	16	LDF5-50A (7/8 FOAM)	60.00 - 80.00	0.6000	0.4341
T13	1	LDF6-50A (1-1/4 FOAM)	40.00 - 60.00	0.6000	0.4248
T13	2	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.4248
T13	3	LDF6-50A (1-1/4 FOAM)	40.00 - 60.00	0.6000	0.4248
T13	4	LDF6-50A (1-1/4 FOAM)	40.00 - 60.00	0.6000	0.4248
T13	5	LDF6-50A (1-1/4 FOAM)	40.00 - 60.00	0.6000	0.4248
T13	6	LDF12-50A (2-1/4 FOAM)	40.00 - 60.00	0.6000	0.4248
T13	7	LDF5-50A (7/8 FOAM)	40.00 - 60.00	0.6000	0.4248
T13	8	LDF4-50A (1/2 FOAM)	40.00 - 60.00	0.6000	0.4248
T13	11	LDF2-50 (3/8 FOAM)	40.00 - 60.00	0.6000	0.4248
T13	12	LDF5-50A (7/8 FOAM)	40.00 - 60.00	0.6000	0.4248
T13	13	LDF4-50A (1/2 FOAM)	40.00 - 51.00	0.6000	0.4248
T13	14	LDF4-50A (1/2 FOAM)	51.00 - 51.70	0.6000	0.4248
T13	15	LDF4-50A (1/2 FOAM)	51.70 - 60.00	0.6000	0.4248
T13	16	LDF5-50A (7/8 FOAM)	40.00 - 60.00	0.6000	0.4248
T14	1	LDF6-50A (1-1/4 FOAM)	20.00 - 40.00	0.6000	0.4586
T14	2	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.4586
T14	3	LDF6-50A (1-1/4 FOAM)	20.00 - 40.00	0.6000	0.4586
T14	4	LDF6-50A (1-1/4 FOAM)	20.00 - 40.00	0.6000	0.4586
T14	5	LDF6-50A (1-1/4 FOAM)	20.00 - 40.00	0.6000	0.4586
T14	6	LDF12-50A (2-1/4 FOAM)	20.00 - 40.00	0.6000	0.4586
T14	7	LDF5-50A (7/8 FOAM)	20.00 - 40.00	0.6000	0.4586
T14	8	LDF4-50A (1/2 FOAM)	20.00 - 40.00	0.6000	0.4586
T14	11	LDF2-50 (3/8 FOAM)	20.00 - 40.00	0.6000	0.4586
T14	12	LDF5-50A (7/8 FOAM)	20.00 - 40.00	0.6000	0.4586
T14	13	LDF4-50A (1/2 FOAM)	20.00 - 40.00	0.6000	0.4586

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	Client	EMPIRE TELECOM	Designed by	AF

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T14	16	LDF5-50A (7/8 FOAM)	20.00 - 40.00	0.6000	0.4586
T15	1	LDF6-50A (1-1/4 FOAM)	6.67 - 20.00	0.6000	0.4924
T15	2	LDF7-50A (1-5/8 FOAM)	6.67 - 20.00	0.6000	0.4924
T15	3	LDF6-50A (1-1/4 FOAM)	6.67 - 20.00	0.6000	0.4924
T15	4	LDF6-50A (1-1/4 FOAM)	6.67 - 20.00	0.6000	0.4924
T15	5	LDF6-50A (1-1/4 FOAM)	6.67 - 20.00	0.6000	0.4924
T15	6	LDF12-50A (2-1/4 FOAM)	6.67 - 20.00	0.6000	0.4924
T15	7	LDF5-50A (7/8 FOAM)	6.67 - 20.00	0.6000	0.4924
T15	8	LDF4-50A (1/2 FOAM)	6.67 - 20.00	0.6000	0.4924
T15	11	LDF2-50 (3/8 FOAM)	6.67 - 20.00	0.6000	0.4924
T15	12	LDF5-50A (7/8 FOAM)	6.67 - 20.00	0.6000	0.4924
T15	13	LDF4-50A (1/2 FOAM)	6.67 - 20.00	0.6000	0.4924
T15	16	LDF5-50A (7/8 FOAM)	6.67 - 20.00	0.6000	0.4924
T16	1	LDF6-50A (1-1/4 FOAM)	0.00 - 6.67	0.6000	0.3032
T16	2	LDF7-50A (1-5/8 FOAM)	0.00 - 6.67	0.6000	0.3032
T16	3	LDF6-50A (1-1/4 FOAM)	0.00 - 6.67	0.6000	0.3032
T16	4	LDF6-50A (1-1/4 FOAM)	0.00 - 6.67	0.6000	0.3032
T16	5	LDF6-50A (1-1/4 FOAM)	0.00 - 6.67	0.6000	0.3032
T16	6	LDF12-50A (2-1/4 FOAM)	0.00 - 6.67	0.6000	0.3032
T16	7	LDF5-50A (7/8 FOAM)	0.00 - 6.67	0.6000	0.3032
T16	8	LDF4-50A (1/2 FOAM)	0.00 - 6.67	0.6000	0.3032
T16	11	LDF2-50 (3/8 FOAM)	0.00 - 6.67	0.6000	0.3032
T16	12	LDF5-50A (7/8 FOAM)	0.00 - 6.67	0.6000	0.3032
T16	13	LDF4-50A (1/2 FOAM)	0.00 - 6.67	0.6000	0.3032
T16	16	LDF5-50A (7/8 FOAM)	0.00 - 6.67	0.6000	0.3032

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C_{AA} Front	C_{AA} Side	Weight
			Horz Lateral	Vert					
			ft	ft	°	ft	ft ²	ft ²	K
15' x 1-1/4" Omni (unknown)	A	From Face	0.20	0.0000	164.80	No Ice	1.88	1.88	0.03
			0.00	0.0000		1/2" Ice	3.39	3.39	0.05
			0.00	0.0000		1" Ice	4.93	4.93	0.07
5' x 1-3/4" Dipole Element (unknown)	A	From Leg	0.20	0.0000	160.80	No Ice	1.50	1.50	0.02
			0.00	0.0000		1/2" Ice	2.63	2.63	0.04
			0.00	0.0000		1" Ice	3.75	3.75	0.05
20' x 1-5/8" Tapered Omni (unknown)	B	From Leg	0.20	0.0000	160.50	No Ice	3.00	3.00	0.04
			0.00	0.0000		1/2" Ice	5.02	5.02	0.06
			0.00	0.0000		1" Ice	7.06	7.06	0.10
15' x 2-3/8" Omni (unknown)	C	From Leg	0.20	0.0000	160.30	No Ice	3.56	3.56	0.01
			0.00	0.0000		1/2" Ice	5.09	5.09	0.04
			0.00	0.0000		1" Ice	6.64	6.64	0.07
Lightning Rod 4'10" x 9/16" (unknown)	B	From Leg	0.20	0.0000	160.00	No Ice	0.27	0.27	0.02
			0.00	0.0000		1/2" Ice	0.77	0.77	0.02
			0.00	0.0000		1" Ice	1.24	1.24	0.02
15' x 1-5/8" Omni (unknown)	B	From Face	0.20	0.0000	159.50	No Ice	2.44	2.44	0.03
			0.00	0.0000		1/2" Ice	3.96	3.96	0.05
			0.00	0.0000		1" Ice	5.50	5.50	0.08
20' x 2" Dipole Element (unknown)	B	From Leg	1.00	0.0000	72.00 - 52.00	No Ice	4.79	4.79	0.05
			0.00	0.0000		1/2" Ice	8.38	8.38	0.11

tnxTower

Trylon
 1825 W. Walnut Hill Lane Suite 302
 Irving, TX 75038
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 FAX:

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA}		Weight	
			Horz	Lateral			Front	Side		
			ft	ft	°	ft	ft ²	ft ²	K	
APXVSPPI8-C-A20 (Sprint/Nextel)	A	From Leg	0.00		0.0000	147.30	1" Ice	11.98	11.98	0.16
			3.00				No Ice	8.26	5.28	0.06
			0.00				1/2" Ice	8.81	5.74	0.11
			0.00				1" Ice	9.36	6.20	0.16
APXVSPPI8-C-A20 (Sprint/Nextel)	B	From Leg	3.00		0.0000	147.30	No Ice	8.26	5.28	0.06
			0.00				1/2" Ice	8.81	5.74	0.11
			0.00				1" Ice	9.36	6.20	0.16
			3.00				No Ice	8.26	5.28	0.06
APXVSPPI8-C-A20 (Sprint/Nextel)	C	From Leg	0.00		0.0000	147.30	1/2" Ice	8.81	5.74	0.11
			0.00				1" Ice	9.36	6.20	0.16
			3.00				No Ice	8.26	5.28	0.06
			0.00				1/2" Ice	8.81	5.74	0.11
RRH2x50 800 (Sprint/Nextel)	A	From Leg	1.00		0.0000	147.30	No Ice	2.49	2.21	0.05
			0.00				1/2" Ice	2.71	2.42	0.07
			0.00				1" Ice	2.94	2.63	0.10
			1.00				No Ice	2.49	2.21	0.05
RRH2x50 800 (Sprint/Nextel)	B	From Leg	0.00		0.0000	147.30	1/2" Ice	2.71	2.42	0.07
			0.00				1" Ice	2.94	2.63	0.10
			1.00				No Ice	2.49	2.21	0.05
			0.00				1/2" Ice	2.71	2.42	0.07
RRH2x50 800 (Sprint/Nextel)	C	From Leg	1.00		0.0000	147.30	No Ice	2.49	2.21	0.05
			0.00				1/2" Ice	2.71	2.42	0.07
			0.00				1" Ice	2.94	2.63	0.10
			1.00				No Ice	2.49	2.21	0.05
RRH1900-4x45 (Sprint/Nextel)	A	From Leg	1.00		0.0000	146.50	No Ice	2.27	1.54	0.05
			0.00				1/2" Ice	2.48	1.73	0.06
			0.00				1" Ice	2.70	1.92	0.08
			1.00				No Ice	2.27	1.54	0.05
RRH1900-4x45 (Sprint/Nextel)	B	From Leg	0.00		0.0000	146.50	1/2" Ice	2.48	1.73	0.06
			0.00				1" Ice	2.70	1.92	0.08
			1.00				No Ice	2.27	1.54	0.05
			0.00				1/2" Ice	2.48	1.73	0.06
RRH1900-4x45 (Sprint/Nextel)	C	From Leg	1.00		0.0000	146.50	No Ice	2.27	1.54	0.05
			0.00				1/2" Ice	2.48	1.73	0.06
			0.00				1" Ice	2.70	1.92	0.08
			1.00				No Ice	2.27	1.54	0.05
Standoff V-Frames (Sprint/Nextel)	A	From Leg	0.00		0.0000	146.50	No Ice	10.00	10.00	0.03
			0.00				1/2" Ice	15.00	15.00	0.08
			0.00				1" Ice	20.00	20.00	0.13
			0.00				No Ice	10.00	10.00	0.03
Standoff V-Frames (Sprint/Nextel)	B	From Leg	0.00		0.0000	146.50	1/2" Ice	15.00	15.00	0.08
			0.00				1" Ice	20.00	20.00	0.13
			0.00				No Ice	10.00	10.00	0.03
			0.00				1/2" Ice	15.00	15.00	0.08
Standoff V-Frames (Sprint/Nextel)	C	From Leg	1.00		0.0000	146.50	No Ice	10.00	10.00	0.03
			0.00				1/2" Ice	15.00	15.00	0.08
			0.00				1" Ice	20.00	20.00	0.13
			0.00				No Ice	10.00	10.00	0.03
HBXX-6517DS-A2M (Verizon)	A	From Leg	3.00		0.0000	134.50	No Ice	8.75	5.25	0.04
			0.00				1/2" Ice	9.32	5.72	0.09
			0.00				1" Ice	9.90	6.19	0.15
			3.00				No Ice	8.75	5.25	0.04
HBXX-6517DS-A2M (Verizon)	B	From Leg	0.00		0.0000	134.50	1/2" Ice	9.32	5.72	0.09
			0.00				1" Ice	9.90	6.19	0.15
			3.00				No Ice	8.75	5.25	0.04
			0.00				1/2" Ice	9.32	5.72	0.09
HBXX-6517DS-A2M (Verizon)	C	From Leg	1.00		0.0000	134.50	No Ice	8.75	5.25	0.04
			0.00				1/2" Ice	9.32	5.72	0.09
			0.00				1" Ice	9.90	6.19	0.15
			3.00				No Ice	8.75	5.25	0.04
BXA-70063-6CF-EDIN-2 (Verizon)	A	From Leg	3.00		0.0000	134.50	No Ice	7.73	4.16	0.02
			0.00				1/2" Ice	8.27	4.60	0.06
			0.00				1" Ice	8.81	5.04	0.11
			3.00				No Ice	7.73	4.16	0.02
BXA-70063-6CF-EDIN-2 (Verizon)	B	From Leg	0.00		0.0000	134.50	1/2" Ice	8.27	4.60	0.06
			0.00				1" Ice	8.81	5.04	0.11
			3.00				No Ice	7.73	4.16	0.02
			0.00				1/2" Ice	8.27	4.60	0.06
BXA-70063-6CF-EDIN-2 (Verizon)	C	From Leg	1.00		0.0000	134.50	No Ice	7.73	4.16	0.02
			0.00				1/2" Ice	8.27	4.60	0.06
			0.00				1" Ice	8.81	5.04	0.11
			3.00				No Ice	7.73	4.16	0.02
BXA-171063-12BF-EDIN-2 (Verizon)	A	From Leg	3.00		0.0000	133.60	No Ice	4.80	3.63	0.01
			0.00				1/2" Ice	5.25	4.06	0.04

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
			0.00						
BXA-171063-12BF-EDIN-2 (Verizon)	B	From Leg	3.00		0.0000	133.60	1" Ice 5.71	4.51	0.07
			0.00				No Ice 4.80	3.63	0.01
			0.00				1/2" Ice 5.25	4.06	0.04
			0.00				1" Ice 5.71	4.51	0.07
BXA-171063-12BF-EDIN-2 (Verizon)	C	From Leg	3.00		0.0000	133.60	No Ice 4.80	3.63	0.01
			0.00				1/2" Ice 5.25	4.06	0.04
			0.00				1" Ice 5.71	4.51	0.07
SWCP 2x5514 (Verizon)	A	From Leg	3.00		0.0000	134.80	No Ice 7.99	6.49	0.02
			0.00				1/2" Ice 8.46	6.95	0.08
			0.00				1" Ice 8.95	7.42	0.14
SWCP 2x5514 (Verizon)	B	From Leg	3.00		0.0000	134.80	No Ice 7.99	6.49	0.02
			0.00				1/2" Ice 8.46	6.95	0.08
			0.00				1" Ice 8.95	7.42	0.14
LNX-8514DS-VTM (Verizon)	C	From Leg	3.00		0.0000	135.70	No Ice 11.45	7.70	0.05
			0.00				1/2" Ice 12.06	8.29	0.12
			0.00				1" Ice 12.69	8.89	0.19
B4 RRH2x60-4R (Verizon)	A	From Leg	1.00		0.0000	133.00	No Ice 2.27	1.54	0.05
			0.00				1/2" Ice 2.48	1.73	0.06
			0.00				1" Ice 2.70	1.92	0.08
B4 RRH2x60-4R (Verizon)	B	From Leg	1.00		0.0000	133.00	No Ice 2.27	1.54	0.05
			0.00				1/2" Ice 2.48	1.73	0.06
			0.00				1" Ice 2.70	1.92	0.08
B4 RRH2x60-4R (Verizon)	C	From Leg	1.00		0.0000	133.00	No Ice 2.27	1.54	0.05
			0.00				1/2" Ice 2.48	1.73	0.06
			0.00				1" Ice 2.70	1.92	0.08
Raycap RRFDC-3315-PF-48 (Verizon)	B	From Leg	0.00		0.0000	136.00	No Ice 2.93	1.91	0.03
			0.00				1/2" Ice 3.16	2.11	0.05
			0.00				1" Ice 3.40	2.31	0.08
Raycap RRFDC-3315-PF-48 (Verizon)	C	From Leg	0.00		0.0000	136.00	No Ice 2.93	1.91	0.03
			0.00				1/2" Ice 3.16	2.11	0.05
			0.00				1" Ice 3.40	2.31	0.08
Standoff T-Frames (Verizon)	A	From Leg	0.00		0.0000	133.00	No Ice 10.00	10.00	0.03
			0.00				1/2" Ice 15.00	15.00	0.08
			0.00				1" Ice 20.00	20.00	0.13
Standoff T-Frames (Verizon)	B	From Leg	0.00		0.0000	133.00	No Ice 10.00	10.00	0.03
			0.00				1/2" Ice 15.00	15.00	0.08
			0.00				1" Ice 20.00	20.00	0.13
Standoff T-Frames (Verizon)	C	From Leg	0.00		0.0000	133.00	No Ice 10.00	10.00	0.03
			0.00				1/2" Ice 15.00	15.00	0.08
			0.00				1" Ice 20.00	20.00	0.13
(2) SBNH-1D6565C (AT T)	C	From Leg	3.00		0.0000	123.75	No Ice 11.41	7.70	0.06
			0.00				1/2" Ice 12.03	8.29	0.13
			0.00				1" Ice 12.65	8.89	0.20
(2) AM-X-CD-16-65-00T-RET (AT T)	A	From Leg	3.00		0.0000	123.75	No Ice 6.62	4.13	0.03
			0.00				1/2" Ice 7.05	4.54	0.07
			0.00				1" Ice 7.50	4.95	0.12
AM-X-CD-16-65-00T-RET (AT T)	B	From Leg	3.00		0.0000	123.75	No Ice 6.62	4.13	0.03
			0.00				1/2" Ice 7.05	4.54	0.07
			0.00				1" Ice 7.50	4.95	0.12
AM-X-CD-16-65-00T-RET (AT T)	C	From Leg	3.00		0.0000	123.75	No Ice 6.62	4.13	0.03
			0.00				1/2" Ice 7.05	4.54	0.07
			0.00				1" Ice 7.50	4.95	0.12
(2) DTMABP7819VG12A TMA (AT T)	A	From Leg	1.00		0.0000	123.50	No Ice 0.68	0.39	0.01
			0.00				1/2" Ice 0.80	0.48	0.02
			0.00				1" Ice 0.92	0.59	0.02
(2) DTMABP7819VG12A TMA	C	From Leg	1.00		0.0000	123.50	No Ice 0.68	0.39	0.01
			0.00				1/2" Ice 0.80	0.48	0.02

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
(AT T)			0.00			1" Ice 0.92	0.59	0.02
RRUS-11	A	From Leg	1.00	0.0000	125.70	No Ice 3.26	1.38	0.05
(AT T)			0.00			1/2" Ice 3.50	1.56	0.07
			0.00			1" Ice 3.75	1.74	0.10
RRUS-11	B	From Leg	1.00	0.0000	125.70	No Ice 3.26	1.38	0.05
(AT T)			0.00			1/2" Ice 3.50	1.56	0.07
			0.00			1" Ice 3.75	1.74	0.10
RRUS-11	C	From Leg	1.00	0.0000	125.70	No Ice 3.26	1.38	0.05
(AT T)			0.00			1/2" Ice 3.50	1.56	0.07
			0.00			1" Ice 3.75	1.74	0.10
Raycap DC6-48-60-18-8F	A	From Leg	0.00	0.0000	118.75	No Ice 0.90	0.90	0.01
(AT T)			0.00			1/2" Ice 1.05	1.05	0.02
			0.00			1" Ice 1.22	1.22	0.03
Standoff T-Frames	A	From Leg	0.00	0.0000	123.50	No Ice 10.00	10.00	0.03
(AT T)			0.00			1/2" Ice 15.00	15.00	0.08
			0.00			1" Ice 20.00	20.00	0.13
Standoff T-Frames	B	From Leg	0.00	0.0000	123.50	No Ice 10.00	10.00	0.03
(AT T)			0.00			1/2" Ice 15.00	15.00	0.08
			0.00			1" Ice 20.00	20.00	0.13
Standoff T-Frames	C	From Leg	0.00	0.0000	123.50	No Ice 10.00	10.00	0.03
(AT T)			0.00			1/2" Ice 15.00	15.00	0.08
			0.00			1" Ice 20.00	20.00	0.13
HPA-65R-BUU-H8	A	From Leg	3.00	0.0000	123.50	No Ice 13.30	7.52	0.07
(AT T - Proposed)			0.00			1/2" Ice 13.99	8.09	0.14
			0.00			1" Ice 14.70	8.67	0.22
HPA-65R-BUU-H8	B	From Leg	3.00	0.0000	123.50	No Ice 13.30	7.52	0.07
(AT T - Proposed)			0.00			1/2" Ice 13.99	8.09	0.14
			0.00			1" Ice 14.70	8.67	0.22
HPA-65R-BUU-H8	C	From Leg	3.00	0.0000	123.50	No Ice 13.30	7.52	0.07
(AT T - Proposed)			0.00			1/2" Ice 13.99	8.09	0.14
			0.00			1" Ice 14.70	8.67	0.22
RRUS-32 B2	A	From Leg	1.00	0.0000	123.50	No Ice 3.14	1.74	0.06
(AT T - Proposed)			0.00			1/2" Ice 3.40	1.96	0.08
			0.00			1" Ice 3.66	2.19	0.10
RRUS-32 B2	B	From Leg	1.00	0.0000	123.50	No Ice 3.14	1.74	0.06
(AT T - Proposed)			0.00			1/2" Ice 3.40	1.96	0.08
			0.00			1" Ice 3.66	2.19	0.10
RRUS-32 B2	C	From Leg	1.00	0.0000	123.50	No Ice 3.14	1.74	0.06
(AT T - Proposed)			0.00			1/2" Ice 3.40	1.96	0.08
			0.00			1" Ice 3.66	2.19	0.10

Tower Pressures - No Ice

$$G_H = 0.850$$

Section Elevation	z	K _Z	q _z	A _G	F _a	A _F	A _R	A _{leg}	Leg %	C _{AA} In Face	C _{AA} Out Face
ft	ft		psf	ft ²	e	ft ²	ft ²	ft ²		ft ²	ft ²
T1	158.33	1.394	27	9.132	A	0.565	2.316	1.597	55.44	0.727	0.000

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	Client	EMPIRE TELECOM		Designed by	AF

Section Elevation ft	z ft	K _Z	q _z psf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _{AA} In Face ft ²	C _{AA} Out Face ft ²
160.00-156.67					B	0.565	2.316		55.44	0.727	0.000
					C	0.565	2.316		55.44	0.000	0.000
T2 156.67-153.33	155.00	1.388	27	9.132	A	0.565	2.266	1.597	56.42	0.727	0.000
					B	0.565	2.266		56.42	0.756	0.000
					C	0.565	2.266		56.42	0.000	0.000
T3 153.33-150.00	151.67	1.382	27	9.132	A	0.000	2.266	1.597	70.49	0.727	0.000
					B	0.000	2.266		70.49	1.062	0.000
					C	0.000	2.266		70.49	0.000	0.000
T4 150.00-146.67	148.33	1.375	27	9.132	A	0.000	2.266	1.597	70.49	0.727	0.000
					B	0.000	2.266		70.49	1.378	0.000
					C	0.000	2.266		70.49	0.000	0.000
T5 146.67-143.33	145.00	1.369	27	9.132	A	0.000	2.266	1.597	70.49	0.727	0.000
					B	0.000	2.266		70.49	2.633	0.000
					C	0.000	2.266		70.49	0.000	0.000
T6 143.33-140.00	141.67	1.362	26	9.132	A	0.000	2.498	1.597	63.94	0.727	0.000
					B	0.000	2.498		63.94	2.633	0.000
					C	0.000	2.498		63.94	0.000	0.000
T7 140.00-120.00	130.00	1.337	26	54.792	A	0.000	15.610	9.583	61.39	41.158	0.000
					B	0.000	15.610		61.39	33.664	0.000
					C	0.000	15.610		61.39	0.000	0.000
T8 120.00-106.67	113.33	1.299	25	36.528	A	0.565	10.401	6.389	58.26	49.838	0.000
					B	0.565	10.401		58.26	29.546	0.000
					C	0.565	10.401		58.26	0.000	0.000
T9 106.67-103.33	105.00	1.279	25	9.132	A	0.000	2.266	1.597	70.49	12.530	0.000
					B	0.000	2.266		70.49	7.550	0.000
					C	0.000	2.266		70.49	0.000	0.000
T10 103.33-100.00	101.67	1.27	25	9.132	A	0.000	2.498	1.597	63.94	12.530	0.000
					B	0.000	2.498		63.94	7.550	0.000
					C	0.000	2.498		63.94	0.000	0.000
T11 100.00-80.00	90.00	1.238	24	54.792	A	0.000	13.014	9.583	73.64	75.180	0.000
					B	0.000	13.014		73.64	45.930	0.000
					C	0.000	13.608		70.43	0.000	0.000
T12 80.00-60.00	70.00	1.174	23	54.792	A	0.000	13.014	9.583	73.64	75.180	0.000
					B	0.000	13.014		73.64	46.560	0.000
					C	0.000	13.608		70.43	0.000	0.000
T13 60.00-40.00	50.00	1.094	21	54.792	A	0.565	13.014	9.583	70.57	75.180	0.000
					B	0.565	13.014		70.57	47.971	0.000
					C	0.565	13.608		67.62	0.000	0.000
T14 40.00-20.00	30.00	0.982	19	54.792	A	0.000	13.014	9.583	73.64	75.180	0.000
					B	0.000	13.014		73.64	49.080	0.000
					C	0.000	13.608		70.43	0.000	0.000
T15 20.00-6.67	13.33	0.85	17	36.528	A	0.000	8.533	6.389	74.87	50.120	0.000
					B	0.000	8.533		74.87	32.720	0.000
					C	0.000	8.928		71.56	0.000	0.000
T16 6.67-0.00	3.33	0.85	17	9.958	A	0.000	3.849	3.268	84.93	25.060	0.000
					B	0.000	3.849		84.93	16.360	0.000
					C	0.000	3.849		84.93	0.000	0.000

Tower Pressure - With Ice

$$G_H = 0.850$$

Section Elevation ft	z ft	K _Z	q _z psf	t _z in	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _{AA} In Face ft ²	C _{AA} Out Face ft ²
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tnxTower Trylon 1825 W. Walnut Hill Lane Suite 302 Irving, TX 75038 Phone: (519)-572-9995 FAX:	Job	119646	Page	24 of 66	
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	Client	EMPIRE TELECOM		Designed by	AF

Section Elevation ft	z ft	K _z	q _z psf	t _z in	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _{AA} In Face ft ²	C _{AA} Out Face ft ²
T1 160.00-156.67	158.33	1.394	8	1.7547	10.107	A	0.565	7.350	3.547	44.81	3.213	0.000
						B	0.565	7.350		44.81	3.213	0.000
						C	0.565	7.350		44.81	0.000	0.000
T2 156.67-153.33	155.00	1.388	8	1.7509	10.105	A	0.565	7.290	3.543	45.10	3.209	0.000
						B	0.565	7.290		45.10	3.471	0.000
						C	0.565	7.290		45.10	0.000	0.000
T3 153.33-150.00	151.67	1.382	8	1.7471	10.103	A	0.000	6.621	3.538	53.45	3.204	0.000
						B	0.000	6.621		53.45	5.753	0.000
						C	0.000	6.621		53.45	0.000	0.000
T4 150.00-146.67	148.33	1.375	7	1.7433	10.100	A	0.000	6.611	3.534	53.46	3.200	0.000
						B	0.000	6.611		53.46	6.674	0.000
						C	0.000	6.611		53.46	0.000	0.000
T5 146.67-143.33	145.00	1.369	7	1.7393	10.098	A	0.000	6.601	3.530	53.47	3.195	0.000
						B	0.000	6.601		53.47	10.042	0.000
						C	0.000	6.601		53.47	0.000	0.000
T6 143.33-140.00	141.67	1.362	7	1.7353	10.096	A	0.000	7.425	3.525	47.48	3.190	0.000
						B	0.000	7.425		47.48	10.027	0.000
						C	0.000	7.425		47.48	0.000	0.000
T7 140.00-120.00	130.00	1.337	7	1.7204	60.526	A	0.000	48.262	21.053	43.62	58.614	0.000
						B	0.000	48.262		43.62	105.967	0.000
						C	0.000	48.262		43.62	0.000	0.000
T8 120.00-106.67	113.33	1.299	7	1.6970	40.299	A	0.565	32.119	13.931	42.62	70.993	0.000
						B	0.565	32.119		42.62	94.315	0.000
						C	0.565	32.119		42.62	0.000	0.000
T9 106.67-103.33	105.00	1.279	7	1.6841	10.068	A	0.000	6.463	3.468	53.66	17.868	0.000
						B	0.000	6.463		53.66	24.152	0.000
						C	0.000	6.463		53.66	0.000	0.000
T10 103.33-100.00	101.67	1.27	7	1.6786	10.065	A	0.000	7.265	3.462	47.66	17.845	0.000
						B	0.000	7.265		47.66	24.110	0.000
						C	0.000	7.265		47.66	0.000	0.000
T11 100.00-80.00	90.00	1.238	7	1.6583	60.319	A	0.000	34.591	20.639	59.67	106.573	0.000
						B	0.000	34.591		59.67	144.654	0.000
						C	0.000	37.059		55.69	0.000	0.000
T12 80.00-60.00	70.00	1.174	6	1.6171	60.182	A	0.000	34.055	20.364	59.80	105.561	0.000
						B	0.000	34.055		59.80	143.683	0.000
						C	0.000	36.477		55.83	0.000	0.000
T13 60.00-40.00	50.00	1.094	6	1.5636	60.004	A	0.565	33.948	20.008	57.97	104.246	0.000
						B	0.565	33.948		57.97	146.745	0.000
						C	0.565	36.309		54.26	0.000	0.000
T14 40.00-20.00	30.00	0.982	5	1.4858	59.744	A	0.000	32.346	19.488	60.25	102.333	0.000
						B	0.000	32.346		60.25	146.963	0.000
						C	0.000	34.619		56.29	0.000	0.000
T15 20.00-6.67	13.33	0.85	5	1.3700	39.572	A	0.000	20.086	12.478	62.12	66.329	0.000
						B	0.000	20.086		62.12	94.185	0.000
						C	0.000	21.514		58.00	0.000	0.000
T16 6.67-0.00	3.33	0.85	5	1.1927	11.307	A	0.000	7.878	5.980	75.91	31.717	0.000
						B	0.000	7.878		75.91	44.194	0.000
						C	0.000	7.878		75.91	0.000	0.000

Tower Pressure - Service

$$G_H = 0.850$$

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	Project CT2218 - PROSPECT BRADSHAW TWR	Date 13:48:46 10/20/16
	Client EMPIRE TELECOM	Designed by AF

Section Elevation ft	z ft	K _Z	q _z psf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
T1 160.00-156.67	158.33	1.394	11	9.132	A	0.565	2.316	1.597	55.44	0.727	0.000
					B	0.565	2.316		55.44	0.727	0.000
					C	0.565	2.316		55.44	0.000	0.000
T2 156.67-153.33	155.00	1.388	11	9.132	A	0.565	2.266	1.597	56.42	0.727	0.000
					B	0.565	2.266		56.42	0.756	0.000
					C	0.565	2.266		56.42	0.000	0.000
T3 153.33-150.00	151.67	1.382	11	9.132	A	0.000	2.266	1.597	70.49	0.727	0.000
					B	0.000	2.266		70.49	1.062	0.000
					C	0.000	2.266		70.49	0.000	0.000
T4 150.00-146.67	148.33	1.375	11	9.132	A	0.000	2.266	1.597	70.49	0.727	0.000
					B	0.000	2.266		70.49	1.378	0.000
					C	0.000	2.266		70.49	0.000	0.000
T5 146.67-143.33	145.00	1.369	11	9.132	A	0.000	2.266	1.597	70.49	0.727	0.000
					B	0.000	2.266		70.49	2.633	0.000
					C	0.000	2.266		70.49	0.000	0.000
T6 143.33-140.00	141.67	1.362	11	9.132	A	0.000	2.498	1.597	63.94	0.727	0.000
					B	0.000	2.498		63.94	2.633	0.000
					C	0.000	2.498		63.94	0.000	0.000
T7 140.00-120.00	130.00	1.337	10	54.792	A	0.000	15.610	9.583	61.39	41.158	0.000
					B	0.000	15.610		61.39	33.664	0.000
					C	0.000	15.610		61.39	0.000	0.000
T8 120.00-106.67	113.33	1.299	10	36.528	A	0.565	10.401	6.389	58.26	49.838	0.000
					B	0.565	10.401		58.26	29.546	0.000
					C	0.565	10.401		58.26	0.000	0.000
T9 106.67-103.33	105.00	1.279	10	9.132	A	0.000	2.266	1.597	70.49	12.530	0.000
					B	0.000	2.266		70.49	7.550	0.000
					C	0.000	2.266		70.49	0.000	0.000
T10 103.33-100.00	101.67	1.27	10	9.132	A	0.000	2.498	1.597	63.94	12.530	0.000
					B	0.000	2.498		63.94	7.550	0.000
					C	0.000	2.498		63.94	0.000	0.000
T11 100.00-80.00	90.00	1.238	10	54.792	A	0.000	13.014	9.583	73.64	75.180	0.000
					B	0.000	13.014		73.64	45.930	0.000
					C	0.000	13.608		70.43	0.000	0.000
T12 80.00-60.00	70.00	1.174	9	54.792	A	0.000	13.014	9.583	73.64	75.180	0.000
					B	0.000	13.014		73.64	46.560	0.000
					C	0.000	13.608		70.43	0.000	0.000
T13 60.00-40.00	50.00	1.094	9	54.792	A	0.565	13.014	9.583	70.57	75.180	0.000
					B	0.565	13.014		70.57	47.971	0.000
					C	0.565	13.608		67.62	0.000	0.000
T14 40.00-20.00	30.00	0.982	8	54.792	A	0.000	13.014	9.583	73.64	75.180	0.000
					B	0.000	13.014		73.64	49.080	0.000
					C	0.000	13.608		70.43	0.000	0.000
T15 20.00-6.67	13.33	0.85	7	36.528	A	0.000	8.533	6.389	74.87	50.120	0.000
					B	0.000	8.533		74.87	32.720	0.000
					C	0.000	8.928		71.56	0.000	0.000
T16 6.67-0.00	3.33	0.85	7	9.958	A	0.000	3.849	3.268	84.93	25.060	0.000
					B	0.000	3.849		84.93	16.360	0.000
					C	0.000	3.849		84.93	0.000	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F K	w plf	Ctrl. Face
T1 160.00-156.67	0.00	0.15 TA 0.29	A B	0.315 0.315	2.256 2.256	27	1 1	1 1	1.964 1.964	0.12	36.62	C

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	Project	CT2218 - PROSPECT BRADSHAW TWR	Date	13:48:46 10/20/16
	Client	EMPIRE TELECOM	Designed by	AF

Section Elevation ft	Add Weight K	Self Weight K	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F K	w plf	Ctrl. Face
T2 156.67-153.33	0.00	0.15	C	0.315	2.256		1	1	1.964			
			A	0.31	2.27	27	1	1	1.929	0.12	36.24	C
			B	0.31	2.27		1	1	1.929			
T3 153.33-150.00	0.01	0.09	C	0.248	2.443	27	1	1	1.325	0.10	29.50	C
			A	0.248	2.443		1	1	1.325			
			B	0.248	2.443		1	1	1.325			
T4 150.00-146.67	0.01	0.09	C	0.248	2.443	27	1	1	1.325	0.10	30.62	C
			A	0.248	2.443		1	1	1.325			
			B	0.248	2.443		1	1	1.325			
T5 146.67-143.33	0.01	0.09	C	0.248	2.443	27	1	1	1.325	0.12	35.41	C
			A	0.248	2.443		1	1	1.325			
			B	0.248	2.443		1	1	1.325			
T6 143.33-140.00	0.01	0.10	C	0.274	2.369	26	1	1	1.477	0.12	37.01	C
			A	0.274	2.369		1	1	1.477			
			B	0.274	2.369		1	1	1.477			
T7 140.00-120.00	0.30	0.75	C	0.285	2.337	26	1	1	9.278	1.29	64.37	C
			A	0.285	2.337		1	1	9.278			
			B	0.285	2.337		1	1	9.278			
T8 120.00-106.67	0.32	0.44	C	0.3	2.295	25	1	1	6.795	1.15	86.44	C
			A	0.3	2.295		1	1	6.795			
			B	0.3	2.295		1	1	6.795			
T9 106.67-103.33	0.08	0.09	C	0.248	2.443	25	1	1	1.325	0.27	81.75	C
			A	0.248	2.443		1	1	1.325			
			B	0.248	2.443		1	1	1.325			
T10 103.33-100.00	0.08	0.10	C	0.274	2.369	25	1	1	1.477	0.28	82.84	C
			A	0.274	2.369		1	1	1.477			
			B	0.274	2.369		1	1	1.477			
T11 100.00-80.00	0.49	0.50	C	0.238	2.475	24	1	1	7.575	1.59	79.54	C
			A	0.238	2.475		1	1	7.575			
			B	0.238	2.475		1	1	7.575			
T12 80.00-60.00	0.49	0.50	C	0.248	2.442	23	1	1	7.955	1.52	75.80	C
			A	0.238	2.475		1	1	7.575			
			B	0.238	2.475		1	1	7.575			
T13 60.00-40.00	0.50	0.52	C	0.248	2.442	21	1	1	7.955	1.45	72.47	C
			A	0.248	2.444		1	1	8.171			
			B	0.248	2.444		1	1	8.171			
T14 40.00-20.00	0.50	0.50	C	0.259	2.412	19	1	1	8.555	1.29	64.65	C
			A	0.238	2.475		1	1	7.575			
			B	0.238	2.475		1	1	7.575			
T15 20.00-6.67	0.33	0.33	C	0.248	2.442	17	1	1	7.955	0.74	55.77	C
			A	0.234	2.488		1	1	4.959			
			B	0.234	2.488		1	1	4.959			
T16 6.67-0.00	0.17	0.14	C	0.244	2.454	17	1	1	5.211	0.29*	44.04	C
			A	0.386	2.091		1	1	2.427			
			B	0.386	2.091		1	1	2.427			
Sum Weight:	3.30	4.85			*2.1A _g limit				10.56			

Tower Forces - No Ice - Wind 60 To Face

tnxTower Trylon 1825 W. Walnut Hill Lane Suite 302 Irving, TX 75038 Phone: (519)-572-9995 FAX:	Job	119646	Page	27 of 66
	Project	CT2218 - PROSPECT BRADSHAW TWR	Date	13:48:46 10/20/16
	Client	EMPIRE TELECOM	Designed by	AF

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K				psf			ft ²	K	plf	
T1 160.00-156.67	0.00	0.15 TA 0.29	A	0.315	2.256	27	0.8	1	1.851	0.12	34.86	A
			B	0.315	2.256		0.8	1	1.851			
			C	0.315	2.256		0.8	1	1.851			
T2 156.67-153.33	0.00	0.15	A	0.31	2.27	27	0.8	1	1.816	0.11	34.47	A
			B	0.31	2.27		0.8	1	1.816			
			C	0.31	2.27		0.8	1	1.816			
T3 153.33-150.00	0.01	0.09	A	0.248	2.443	27	0.8	1	1.325	0.10	29.50	A
			B	0.248	2.443		0.8	1	1.325			
			C	0.248	2.443		0.8	1	1.325			
T4 150.00-146.67	0.01	0.09	A	0.248	2.443	27	0.8	1	1.325	0.10	30.62	A
			B	0.248	2.443		0.8	1	1.325			
			C	0.248	2.443		0.8	1	1.325			
T5 146.67-143.33	0.01	0.09	A	0.248	2.443	27	0.8	1	1.325	0.12	35.41	A
			B	0.248	2.443		0.8	1	1.325			
			C	0.248	2.443		0.8	1	1.325			
T6 143.33-140.00	0.01	0.10	A	0.274	2.369	26	0.8	1	1.477	0.12	37.01	A
			B	0.274	2.369		0.8	1	1.477			
			C	0.274	2.369		0.8	1	1.477			
T7 140.00-120.00	0.30	0.75	A	0.285	2.337	26	0.8	1	9.278	1.29	64.37	A
			B	0.285	2.337		0.8	1	9.278			
			C	0.285	2.337		0.8	1	9.278			
T8 120.00-106.67	0.32	0.44	A	0.3	2.295	25	0.8	1	6.682	1.15	86.02	A
			B	0.3	2.295		0.8	1	6.682			
			C	0.3	2.295		0.8	1	6.682			
T9 106.67-103.33	0.08	0.09	A	0.248	2.443	25	0.8	1	1.325	0.27	81.75	A
			B	0.248	2.443		0.8	1	1.325			
			C	0.248	2.443		0.8	1	1.325			
T10 103.33-100.00	0.08	0.10	A	0.274	2.369	25	0.8	1	1.477	0.28	82.84	A
			B	0.274	2.369		0.8	1	1.477			
			C	0.274	2.369		0.8	1	1.477			
T11 100.00-80.00	0.49	0.50	A	0.238	2.475	24	0.8	1	7.575	1.58	78.84	A
			B	0.238	2.475		0.8	1	7.575			
			C	0.248	2.442		0.8	1	7.955			
T12 80.00-60.00	0.49	0.50	A	0.238	2.475	23	0.8	1	7.575	1.50	75.15	A
			B	0.238	2.475		0.8	1	7.575			
			C	0.248	2.442		0.8	1	7.955			
T13 60.00-40.00	0.50	0.52	A	0.248	2.444	21	0.8	1	8.058	1.43	71.62	A
			B	0.248	2.444		0.8	1	8.058			
			C	0.259	2.412		0.8	1	8.442			
T14 40.00-20.00	0.50	0.50	A	0.238	2.475	19	0.8	1	7.575	1.28	64.10	A
			B	0.238	2.475		0.8	1	7.575			
			C	0.248	2.442		0.8	1	7.955			
T15 20.00-6.67	0.33	0.33	A	0.234	2.488	17	0.8	1	4.959	0.74	55.29	A
			B	0.234	2.488		0.8	1	4.959			
			C	0.244	2.454		0.8	1	5.211			
T16 6.67-0.00	0.17	0.14	A	0.386	2.091	17	0.8	1	2.427	0.29*	44.04	C
			B	0.386	2.091		0.8	1	2.427			
			C	0.386	2.091		0.8	1	2.427			
Sum Weight:	3.30	4.85			*2.1A _g limit					10.48		

Tower Forces - No Ice - Wind 90 To Face

tnxTower Trylon 1825 W. Walnut Hill Lane Suite 302 Irving, TX 75038 Phone: (519)-572-9995 FAX:	Job	119646	Page	28 of 66
	Project	CT2218 - PROSPECT BRADSHAW TWR	Date	13:48:46 10/20/16
	Client	EMPIRE TELECOM	Designed by	AF

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K				psf			ft ²	K	plf	
T1 160.00-156.67	0.00	0.15 TA 0.29	A	0.315	2.256	27	0.85	1	1.879	0.12	34.86	B
			B	0.315	2.256		0.85	1	1.879			
			C	0.315	2.256		0.85	1	1.879			
T2 156.67-153.33	0.00	0.15	A	0.31	2.27	27	0.85	1	1.845	0.11	34.47	B
			B	0.31	2.27		0.85	1	1.845			
			C	0.31	2.27		0.85	1	1.845			
T3 153.33-150.00	0.01	0.09	A	0.248	2.443	27	0.85	1	1.325	0.10	29.06	B
			B	0.248	2.443		0.85	1	1.325			
			C	0.248	2.443		0.85	1	1.325			
T4 150.00-146.67	0.01	0.09	A	0.248	2.443	27	0.85	1	1.325	0.10	30.18	B
			B	0.248	2.443		0.85	1	1.325			
			C	0.248	2.443		0.85	1	1.325			
T5 146.67-143.33	0.01	0.09	A	0.248	2.443	27	0.85	1	1.325	0.12	34.98	B
			B	0.248	2.443		0.85	1	1.325			
			C	0.248	2.443		0.85	1	1.325			
T6 143.33-140.00	0.01	0.10	A	0.274	2.369	26	0.85	1	1.477	0.12	36.58	B
			B	0.274	2.369		0.85	1	1.477			
			C	0.274	2.369		0.85	1	1.477			
T7 140.00-120.00	0.30	0.75	A	0.285	2.337	26	0.85	1	9.278	1.25	62.61	A
			B	0.285	2.337		0.85	1	9.278			
			C	0.285	2.337		0.85	1	9.278			
T8 120.00-106.67	0.32	0.44	A	0.3	2.295	25	0.85	1	6.710	1.12	84.35	A
			B	0.3	2.295		0.85	1	6.710			
			C	0.3	2.295		0.85	1	6.710			
T9 106.67-103.33	0.08	0.09	A	0.248	2.443	25	0.85	1	1.325	0.27	80.00	A
			B	0.248	2.443		0.85	1	1.325			
			C	0.248	2.443		0.85	1	1.325			
T10 103.33-100.00	0.08	0.10	A	0.274	2.369	25	0.85	1	1.477	0.27	81.10	A
			B	0.274	2.369		0.85	1	1.477			
			C	0.274	2.369		0.85	1	1.477			
T11 100.00-80.00	0.49	0.50	A	0.238	2.475	24	0.85	1	7.575	1.54	77.22	A
			B	0.238	2.475		0.85	1	7.575			
			C	0.248	2.442		0.85	1	7.955			
T12 80.00-60.00	0.49	0.50	A	0.238	2.475	23	0.85	1	7.575	1.47	73.68	A
			B	0.238	2.475		0.85	1	7.575			
			C	0.248	2.442		0.85	1	7.955			
T13 60.00-40.00	0.50	0.52	A	0.248	2.444	21	0.85	1	8.087	1.40	70.03	A
			B	0.248	2.444		0.85	1	8.087			
			C	0.259	2.412		0.85	1	8.470			
T14 40.00-20.00	0.50	0.50	A	0.238	2.475	19	0.85	1	7.575	1.25	62.39	A
			B	0.238	2.475		0.85	1	7.575			
			C	0.248	2.442		0.85	1	7.955			
T15 20.00-6.67	0.33	0.33	A	0.234	2.488	17	0.85	1	4.959	0.72	53.82	A
			B	0.234	2.488		0.85	1	4.959			
			C	0.244	2.454		0.85	1	5.211			
T16 6.67-0.00	0.17	0.14	A	0.386	2.091	17	0.85	1	2.427	0.29*	44.04	B
			B	0.386	2.091		0.85	1	2.427			
			C	0.386	2.091		0.85	1	2.427			
Sum Weight:	3.30	4.85			*2.1A _g limit					10.26		

Tower Forces - With Ice - Wind Normal To Face

tnxTower Trylon 1825 W. Walnut Hill Lane Suite 302 Irving, TX 75038 Phone: (519)-572-9995 FAX:	Job	119646	Page	29 of 66
	Project	CT2218 - PROSPECT BRADSHAW TWR	Date	13:48:46 10/20/16
	Client	EMPIRE TELECOM	Designed by	AF

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K				psf			ft ²	K	plf	
T1 160.00-156.67	0.09	0.51 TA 0.80	A B C	0.783 0.783 0.783	1.805 1.805 1.805	8	1 1 1	1 1 1	6.979 6.979 6.979	0.09	26.38	C
T2 156.67-153.33	0.09	0.50	A B C	0.777 0.777 0.777	1.801 1.801 1.801	8	1 1 1	1 1 1	6.893 6.893 6.893	0.09	26.08	C
T3 153.33-150.00	0.12	0.35	A B C	0.655 0.655 0.655	1.78 1.78 1.78	8	1 1 1	1 1 1	5.164 5.164 5.164	0.07	22.48	C
T4 150.00-146.67	0.13	0.35	A B C	0.655 0.655 0.655	1.78 1.78 1.78	7	1 1 1	1 1 1	5.153 5.153 5.153	0.08	22.81	C
T5 146.67-143.33	0.17	0.35	A B C	0.654 0.654 0.654	1.781 1.781 1.781	7	1 1 1	1 1 1	5.142 5.142 5.142	0.08	24.24	C
T6 143.33-140.00	0.17	0.40	A B C	0.735 0.735 0.735	1.782 1.782 1.782	7	1 1 1	1 1 1	6.213 6.213 6.213	0.09	26.12	C
T7 140.00-120.00	2.63	2.72	A B C	0.797 0.797 0.797	1.814 1.814 1.814	7	1 1 1	1 1 1	42.639 42.639 42.639	0.64	32.01	C
T8 120.00-106.67	2.66	1.79	A B C	0.811 0.811 0.811	1.825 1.825 1.825	7	1 1 1	1 1 1	29.283 29.283 29.283	0.47	35.23	C
T9 106.67-103.33	0.67	0.34	A B C	0.642 0.642 0.642	1.784 1.784 1.784	7	1 1 1	1 1 1	4.984 4.984 4.984	0.12	37.03	C
T10 103.33-100.00	0.67	0.39	A B C	0.722 0.722 0.722	1.779 1.779 1.779	7	1 1 1	1 1 1	6.006 6.006 6.006	0.12	35.20	C
T11 100.00-80.00	3.93	1.80	A B C	0.573 0.573 0.614	1.823 1.823 1.796	7	1 1 1	1 1 1	25.157 25.157 27.903	0.73*	36.25	C
T12 80.00-60.00	3.81	1.75	A B C	0.566 0.566 0.606	1.829 1.829 1.8	6	1 1 1	1 1 1	24.610 24.610 27.271	0.69*	34.31	C
T13 60.00-40.00	3.77	1.77	A B C	0.575 0.575 0.615	1.821 1.821 1.796	6	1 1 1	1 1 1	25.290 25.290 27.907	0.64*	31.87	C
T14 40.00-20.00	3.63	1.60	A B C	0.541 0.541 0.579	1.852 1.852 1.818	5	1 1 1	1 1 1	22.907 22.907 25.304	0.57*	28.49	C
T15 20.00-6.67	2.21	0.96	A B C	0.508 0.508 0.544	1.89 1.89 1.85	5	1 1 1	1 1 1	13.842 13.842 15.265	0.33*	24.50	C
T16 6.67-0.00	0.96	0.34	A B C	0.697 0.697 0.697	1.776 1.776 1.776	5	1 1 1	1 1 1	6.372 6.372 6.372	0.09*	14.00	C
Sum Weight:	25.68	16.71			*2.1A _g limit					4.88		

Tower Forces - With Ice - Wind 60 To Face

tnxTower Trylon 1825 W. Walnut Hill Lane Suite 302 Irving, TX 75038 Phone: (519)-572-9995 FAX:	Job	119646	Page	30 of 66
	Project	CT2218 - PROSPECT BRADSHAW TWR	Date	13:48:46 10/20/16
	Client	EMPIRE TELECOM	Designed by	AF

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K				psf			ft ²	K	plf	
T1 160.00-156.67	0.09	0.51 TA 0.80	A	0.783	1.805	8	0.8	1	6.866	0.09	25.99	A
			B	0.783	1.805		0.8	1	6.866			
			C	0.783	1.805		0.8	1	6.866			
T2 156.67-153.33	0.09	0.50	A	0.777	1.801	8	0.8	1	6.780	0.09	25.69	A
			B	0.777	1.801		0.8	1	6.780			
			C	0.777	1.801		0.8	1	6.780			
T3 153.33-150.00	0.12	0.35	A	0.655	1.78	8	0.8	1	5.164	0.07	22.48	A
			B	0.655	1.78		0.8	1	5.164			
			C	0.655	1.78		0.8	1	5.164			
T4 150.00-146.67	0.13	0.35	A	0.655	1.78	7	0.8	1	5.153	0.08	22.81	A
			B	0.655	1.78		0.8	1	5.153			
			C	0.655	1.78		0.8	1	5.153			
T5 146.67-143.33	0.17	0.35	A	0.654	1.781	7	0.8	1	5.142	0.08	24.24	A
			B	0.654	1.781		0.8	1	5.142			
			C	0.654	1.781		0.8	1	5.142			
T6 143.33-140.00	0.17	0.40	A	0.735	1.782	7	0.8	1	6.213	0.09	26.12	A
			B	0.735	1.782		0.8	1	6.213			
			C	0.735	1.782		0.8	1	6.213			
T7 140.00-120.00	2.63	2.72	A	0.797	1.814	7	0.8	1	42.639	0.64	32.01	A
			B	0.797	1.814		0.8	1	42.639			
			C	0.797	1.814		0.8	1	42.639			
T8 120.00-106.67	2.66	1.79	A	0.811	1.825	7	0.8	1	29.170	0.47	35.14	A
			B	0.811	1.825		0.8	1	29.170			
			C	0.811	1.825		0.8	1	29.170			
T9 106.67-103.33	0.67	0.34	A	0.642	1.784	7	0.8	1	4.984	0.12	37.03	A
			B	0.642	1.784		0.8	1	4.984			
			C	0.642	1.784		0.8	1	4.984			
T10 103.33-100.00	0.67	0.39	A	0.722	1.779	7	0.8	1	6.006	0.12	35.20	A
			B	0.722	1.779		0.8	1	6.006			
			C	0.722	1.779		0.8	1	6.006			
T11 100.00-80.00	3.93	1.80	A	0.573	1.823	7	0.8	1	25.157	0.73*	36.25	A
			B	0.573	1.823		0.8	1	25.157			
			C	0.614	1.796		0.8	1	27.903			
T12 80.00-60.00	3.81	1.75	A	0.566	1.829	6	0.8	1	24.610	0.69*	34.31	A
			B	0.566	1.829		0.8	1	24.610			
			C	0.606	1.8		0.8	1	27.271			
T13 60.00-40.00	3.77	1.77	A	0.575	1.821	6	0.8	1	25.177	0.64*	31.87	A
			B	0.575	1.821		0.8	1	25.177			
			C	0.615	1.796		0.8	1	27.794			
T14 40.00-20.00	3.63	1.60	A	0.541	1.852	5	0.8	1	22.907	0.57*	28.49	A
			B	0.541	1.852		0.8	1	22.907			
			C	0.579	1.818		0.8	1	25.304			
T15 20.00-6.67	2.21	0.96	A	0.508	1.89	5	0.8	1	13.842	0.33*	24.50	A
			B	0.508	1.89		0.8	1	13.842			
			C	0.544	1.85		0.8	1	15.265			
T16 6.67-0.00	0.96	0.34	A	0.697	1.776	5	0.8	1	6.372	0.09*	14.00	C
			B	0.697	1.776		0.8	1	6.372			
			C	0.697	1.776		0.8	1	6.372			
Sum Weight:	25.68	16.71			*2.1A _g limit					4.88		

Tower Forces - With Ice - Wind 90 To Face

tnxTower Trylon 1825 W. Walnut Hill Lane Suite 302 Irving, TX 75038 Phone: (519)-572-9995 FAX:	Job	119646	Page	31 of 66
	Project	CT2218 - PROSPECT BRADSHAW TWR	Date	13:48:46 10/20/16
	Client	EMPIRE TELECOM	Designed by	AF

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K				psf			ft ²	K	plf	
T1 160.00-156.67	0.09	0.51 TA 0.80	A B C	0.783 0.783 0.783	1.805 1.805 1.805	8	0.85 0.85 0.85	1 1 1	6.894 6.894 6.894	0.09	26.01	B
T2 156.67-153.33	0.09	0.50	A B C	0.777 0.777 0.777	1.801 1.801 1.801	8	0.85 0.85 0.85	1 1 1	6.809 6.809 6.809	0.09	25.72	B
T3 153.33-150.00	0.12	0.35	A B C	0.655 0.655 0.655	1.78 1.78 1.78	8	0.85 0.85 0.85	1 1 1	5.164 5.164 5.164	0.07	22.37	B
T4 150.00-146.67	0.13	0.35	A B C	0.655 0.655 0.655	1.78 1.78 1.78	7	0.85 0.85 0.85	1 1 1	5.153 5.153 5.153	0.08	22.70	B
T5 146.67-143.33	0.17	0.35	A B C	0.654 0.654 0.654	1.781 1.781 1.781	7	0.85 0.85 0.85	1 1 1	5.142 5.142 5.142	0.08	24.13	B
T6 143.33-140.00	0.17	0.40	A B C	0.735 0.735 0.735	1.782 1.782 1.782	7	0.85 0.85 0.85	1 1 1	6.213 6.213 6.213	0.09	26.04	B
T7 140.00-120.00	2.63	2.72	A B C	0.797 0.797 0.797	1.814 1.814 1.814	7	0.85 0.85 0.85	1 1 1	42.639 42.639 42.639	0.63	31.72	B
T8 120.00-106.67	2.66	1.79	A B C	0.811 0.811 0.811	1.825 1.825 1.825	7	0.85 0.85 0.85	1 1 1	29.198 29.198 29.198	0.46	34.73	B
T9 106.67-103.33	0.67	0.34	A B C	0.642 0.642 0.642	1.784 1.784 1.784	7	0.85 0.85 0.85	1 1 1	4.984 4.984 4.984	0.12	36.23	B
T10 103.33-100.00	0.67	0.39	A B C	0.722 0.722 0.722	1.779 1.779 1.779	7	0.85 0.85 0.85	1 1 1	6.006 6.006 6.006	0.12	34.59	B
T11 100.00-80.00	3.93	1.80	A B C	0.573 0.573 0.614	1.823 1.823 1.796	7	0.85 0.85 0.85	1 1 1	25.157 25.157 27.903	0.73*	36.25	B
T12 80.00-60.00	3.81	1.75	A B C	0.566 0.566 0.606	1.829 1.829 1.8	6	0.85 0.85 0.85	1 1 1	24.610 24.610 27.271	0.69*	34.31	B
T13 60.00-40.00	3.77	1.77	A B C	0.575 0.575 0.615	1.821 1.821 1.796	6	0.85 0.85 0.85	1 1 1	25.205 25.205 27.823	0.64*	31.87	B
T14 40.00-20.00	3.63	1.60	A B C	0.541 0.541 0.579	1.852 1.852 1.818	5	0.85 0.85 0.85	1 1 1	22.907 22.907 25.304	0.57*	28.49	B
T15 20.00-6.67	2.21	0.96	A B C	0.508 0.508 0.544	1.89 1.89 1.85	5	0.85 0.85 0.85	1 1 1	13.842 13.842 15.265	0.33*	24.50	B
T16 6.67-0.00	0.96	0.34	A B C	0.697 0.697 0.697	1.776 1.776 1.776	5	0.85 0.85 0.85	1 1 1	6.372 6.372 6.372	0.09*	14.00	C
Sum Weight:	25.68	16.71			*2.1A _g limit					4.86		

Tower Forces - Service - Wind Normal To Face

tnxTower Trylon 1825 W. Walnut Hill Lane Suite 302 Irving, TX 75038 Phone: (519)-572-9995 FAX:	Job	119646	Page	32 of 66
	Project	CT2218 - PROSPECT BRADSHAW TWR	Date	13:48:46 10/20/16
	Client	EMPIRE TELECOM	Designed by	AF

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K				psf			ft ²	K	plf	
T1 160.00-156.67	0.00	0.15 TA 0.29	A	0.315	2.256	11	1	1	1.964	0.05	14.76	C
			B	0.315	2.256		1	1	1.964			
			C	0.315	2.256		1	1	1.964			
T2 156.67-153.33	0.00	0.15	A	0.31	2.27	11	1	1	1.929	0.05	14.61	C
			B	0.31	2.27		1	1	1.929			
			C	0.31	2.27		1	1	1.929			
T3 153.33-150.00	0.01	0.09	A	0.248	2.443	11	1	1	1.325	0.04	11.89	C
			B	0.248	2.443		1	1	1.325			
			C	0.248	2.443		1	1	1.325			
T4 150.00-146.67	0.01	0.09	A	0.248	2.443	11	1	1	1.325	0.04	12.34	C
			B	0.248	2.443		1	1	1.325			
			C	0.248	2.443		1	1	1.325			
T5 146.67-143.33	0.01	0.09	A	0.248	2.443	11	1	1	1.325	0.05	14.28	C
			B	0.248	2.443		1	1	1.325			
			C	0.248	2.443		1	1	1.325			
T6 143.33-140.00	0.01	0.10	A	0.274	2.369	11	1	1	1.477	0.05	14.92	C
			B	0.274	2.369		1	1	1.477			
			C	0.274	2.369		1	1	1.477			
T7 140.00-120.00	0.30	0.75	A	0.285	2.337	10	1	1	9.278	0.52	25.95	C
			B	0.285	2.337		1	1	9.278			
			C	0.285	2.337		1	1	9.278			
T8 120.00-106.67	0.32	0.44	A	0.3	2.295	10	1	1	6.795	0.46	34.85	C
			B	0.3	2.295		1	1	6.795			
			C	0.3	2.295		1	1	6.795			
T9 106.67-103.33	0.08	0.09	A	0.248	2.443	10	1	1	1.325	0.11	32.95	C
			B	0.248	2.443		1	1	1.325			
			C	0.248	2.443		1	1	1.325			
T10 103.33-100.00	0.08	0.10	A	0.274	2.369	10	1	1	1.477	0.11	33.39	C
			B	0.274	2.369		1	1	1.477			
			C	0.274	2.369		1	1	1.477			
T11 100.00-80.00	0.49	0.50	A	0.238	2.475	10	1	1	7.575	0.64	32.06	C
			B	0.238	2.475		1	1	7.575			
			C	0.248	2.442		1	1	7.955			
T12 80.00-60.00	0.49	0.50	A	0.238	2.475	9	1	1	7.575	0.61	30.56	C
			B	0.238	2.475		1	1	7.575			
			C	0.248	2.442		1	1	7.955			
T13 60.00-40.00	0.50	0.52	A	0.248	2.444	9	1	1	8.171	0.58	29.21	C
			B	0.248	2.444		1	1	8.171			
			C	0.259	2.412		1	1	8.555			
T14 40.00-20.00	0.50	0.50	A	0.238	2.475	8	1	1	7.575	0.52	26.06	C
			B	0.238	2.475		1	1	7.575			
			C	0.248	2.442		1	1	7.955			
T15 20.00-6.67	0.33	0.33	A	0.234	2.488	7	1	1	4.959	0.30	22.48	C
			B	0.234	2.488		1	1	4.959			
			C	0.244	2.454		1	1	5.211			
T16 6.67-0.00	0.17	0.14	A	0.386	2.091	7	1	1	2.427	0.12*	17.75	C
			B	0.386	2.091		1	1	2.427			
			C	0.386	2.091		1	1	2.427			
Sum Weight:	3.30	4.85			*2.1A _g limit					4.26		

Tower Forces - Service - Wind 60 To Face

tnxTower Trylon 1825 W. Walnut Hill Lane Suite 302 Irving, TX 75038 Phone: (519)-572-9995 FAX:	Job	119646	Page	33 of 66
	Project	CT2218 - PROSPECT BRADSHAW TWR	Date	13:48:46 10/20/16
	Client	EMPIRE TELECOM	Designed by	AF

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K				psf			ft ²	K	plf	
T1 160.00-156.67	0.00	0.15 TA 0.29	A	0.315	2.256	11	0.8	1	1.851	0.05	14.05	A
			B	0.315	2.256		0.8	1	1.851			
			C	0.315	2.256		0.8	1	1.851			
T2 156.67-153.33	0.00	0.15	A	0.31	2.27	11	0.8	1	1.816	0.05	13.90	A
			B	0.31	2.27		0.8	1	1.816			
			C	0.31	2.27		0.8	1	1.816			
T3 153.33-150.00	0.01	0.09	A	0.248	2.443	11	0.8	1	1.325	0.04	11.89	A
			B	0.248	2.443		0.8	1	1.325			
			C	0.248	2.443		0.8	1	1.325			
T4 150.00-146.67	0.01	0.09	A	0.248	2.443	11	0.8	1	1.325	0.04	12.34	A
			B	0.248	2.443		0.8	1	1.325			
			C	0.248	2.443		0.8	1	1.325			
T5 146.67-143.33	0.01	0.09	A	0.248	2.443	11	0.8	1	1.325	0.05	14.28	A
			B	0.248	2.443		0.8	1	1.325			
			C	0.248	2.443		0.8	1	1.325			
T6 143.33-140.00	0.01	0.10	A	0.274	2.369	11	0.8	1	1.477	0.05	14.92	A
			B	0.274	2.369		0.8	1	1.477			
			C	0.274	2.369		0.8	1	1.477			
T7 140.00-120.00	0.30	0.75	A	0.285	2.337	10	0.8	1	9.278	0.52	25.95	A
			B	0.285	2.337		0.8	1	9.278			
			C	0.285	2.337		0.8	1	9.278			
T8 120.00-106.67	0.32	0.44	A	0.3	2.295	10	0.8	1	6.682	0.46	34.68	A
			B	0.3	2.295		0.8	1	6.682			
			C	0.3	2.295		0.8	1	6.682			
T9 106.67-103.33	0.08	0.09	A	0.248	2.443	10	0.8	1	1.325	0.11	32.95	A
			B	0.248	2.443		0.8	1	1.325			
			C	0.248	2.443		0.8	1	1.325			
T10 103.33-100.00	0.08	0.10	A	0.274	2.369	10	0.8	1	1.477	0.11	33.39	A
			B	0.274	2.369		0.8	1	1.477			
			C	0.274	2.369		0.8	1	1.477			
T11 100.00-80.00	0.49	0.50	A	0.238	2.475	10	0.8	1	7.575	0.64	31.78	A
			B	0.238	2.475		0.8	1	7.575			
			C	0.248	2.442		0.8	1	7.955			
T12 80.00-60.00	0.49	0.50	A	0.238	2.475	9	0.8	1	7.575	0.61	30.29	A
			B	0.238	2.475		0.8	1	7.575			
			C	0.248	2.442		0.8	1	7.955			
T13 60.00-40.00	0.50	0.52	A	0.248	2.444	9	0.8	1	8.058	0.58	28.87	A
			B	0.248	2.444		0.8	1	8.058			
			C	0.259	2.412		0.8	1	8.442			
T14 40.00-20.00	0.50	0.50	A	0.238	2.475	8	0.8	1	7.575	0.52	25.84	A
			B	0.238	2.475		0.8	1	7.575			
			C	0.248	2.442		0.8	1	7.955			
T15 20.00-6.67	0.33	0.33	A	0.234	2.488	7	0.8	1	4.959	0.30	22.29	A
			B	0.234	2.488		0.8	1	4.959			
			C	0.244	2.454		0.8	1	5.211			
T16 6.67-0.00	0.17	0.14	A	0.386	2.091	7	0.8	1	2.427	0.12*	17.75	C
			B	0.386	2.091		0.8	1	2.427			
			C	0.386	2.091		0.8	1	2.427			
Sum Weight:	3.30	4.85			*2.1A _g limit					4.23		

Tower Forces - Service - Wind 90 To Face

tnxTower Trylon 1825 W. Walnut Hill Lane Suite 302 Irving, TX 75038 Phone: (519)-572-9995 FAX:	Job	119646	Page	34 of 66
	Project	CT2218 - PROSPECT BRADSHAW TWR	Date	13:48:46 10/20/16
	Client	EMPIRE TELECOM	Designed by	AF

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K				psf			ft ²	K	plf	
T1 160.00-156.67	0.00	0.15 TA 0.29	A B C	0.315 0.315 0.315	2.256 2.256 2.256	11	0.85 0.85 0.85	1 1 1	1.879 1.879 1.879	0.05	14.05	B
T2 156.67-153.33	0.00	0.15	A B C	0.31 0.31 0.31	2.27 2.27 2.27	11	0.85 0.85 0.85	1 1 1	1.845 1.845 1.845	0.05	13.90	B
T3 153.33-150.00	0.01	0.09	A B C	0.248 0.248 0.248	2.443 2.443 2.443	11	0.85 0.85 0.85	1 1 1	1.325 1.325 1.325	0.04	11.72	B
T4 150.00-146.67	0.01	0.09	A B C	0.248 0.248 0.248	2.443 2.443 2.443	11	0.85 0.85 0.85	1 1 1	1.325 1.325 1.325	0.04	12.17	B
T5 146.67-143.33	0.01	0.09	A B C	0.248 0.248 0.248	2.443 2.443 2.443	11	0.85 0.85 0.85	1 1 1	1.325 1.325 1.325	0.05	14.10	B
T6 143.33-140.00	0.01	0.10	A B C	0.274 0.274 0.274	2.369 2.369 2.369	11	0.85 0.85 0.85	1 1 1	1.477 1.477 1.477	0.05	14.74	B
T7 140.00-120.00	0.30	0.75	A B C	0.285 0.285 0.285	2.337 2.337 2.337	10	0.85 0.85 0.85	1 1 1	9.278 9.278 9.278	0.50	25.24	A
T8 120.00-106.67	0.32	0.44	A B C	0.3 0.3 0.3	2.295 2.295 2.295	10	0.85 0.85 0.85	1 1 1	6.710 6.710 6.710	0.45	34.00	A
T9 106.67-103.33	0.08	0.09	A B C	0.248 0.248 0.248	2.443 2.443 2.443	10	0.85 0.85 0.85	1 1 1	1.325 1.325 1.325	0.11	32.25	A
T10 103.33-100.00	0.08	0.10	A B C	0.274 0.274 0.274	2.369 2.369 2.369	10	0.85 0.85 0.85	1 1 1	1.477 1.477 1.477	0.11	32.69	A
T11 100.00-80.00	0.49	0.50	A B C	0.238 0.238 0.248	2.475 2.475 2.442	10	0.85 0.85 0.85	1 1 1	7.575 7.575 7.955	0.62	31.13	A
T12 80.00-60.00	0.49	0.50	A B C	0.238 0.238 0.248	2.475 2.475 2.442	9	0.85 0.85 0.85	1 1 1	7.575 7.575 7.955	0.59	29.70	A
T13 60.00-40.00	0.50	0.52	A B C	0.248 0.248 0.259	2.444 2.444 2.412	9	0.85 0.85 0.85	1 1 1	8.087 8.087 8.470	0.56	28.23	A
T14 40.00-20.00	0.50	0.50	A B C	0.238 0.238 0.248	2.475 2.475 2.442	8	0.85 0.85 0.85	1 1 1	7.575 7.575 7.955	0.50	25.15	A
T15 20.00-6.67	0.33	0.33	A B C	0.234 0.234 0.244	2.488 2.488 2.454	7	0.85 0.85 0.85	1 1 1	4.959 4.959 5.211	0.29	21.69	A
T16 6.67-0.00	0.17	0.14	A B C	0.386 0.386 0.386	2.091 2.091 2.091	7	0.85 0.85 0.85	1 1 1	2.427 2.427 2.427	0.12*	17.75	B
Sum Weight:	3.30	4.85			*2.1A _g limit					4.14		

Force Totals (Does not include forces on guys)

tnxTower Trylon 1825 W. Walnut Hill Lane Suite 302 Irving, TX 75038 Phone: (519)-572-9995 FAX:	Job	119646	Page	35 of 66
	Project	CT2218 - PROSPECT BRADSHAW TWR	Date	13:48:46 10/20/16
	Client	EMPIRE TELECOM	Designed by	AF

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Torques lb-ft
Leg Weight	2.90			
Bracing Weight	1.95			
Total Member Self-Weight	4.85			
Guy Weight	1.09			
Total Weight	11.52			
Wind 0 deg - No Ice		0.08	-16.43	-1025.09
Wind 30 deg - No Ice		8.16	-14.01	-1083.44
Wind 60 deg - No Ice		13.05	-7.55	-755.79
Wind 90 deg - No Ice		14.58	-0.08	-243.71
Wind 120 deg - No Ice		12.68	7.25	285.74
Wind 150 deg - No Ice		7.58	13.16	723.74
Wind 180 deg - No Ice		-0.08	16.35	1024.19
Wind 210 deg - No Ice		-8.16	14.01	1083.44
Wind 240 deg - No Ice		-13.02	7.53	751.15
Wind 270 deg - No Ice		-14.58	0.08	243.71
Wind 300 deg - No Ice		-12.66	-7.23	-286.06
Wind 330 deg - No Ice		-7.58	-13.16	-723.74
Member Ice	11.86			
Guy Ice	7.82			
Total Weight Ice	62.28			
Wind 0 deg - Ice		0.02	-7.84	-25.20
Wind 30 deg - Ice		3.93	-6.77	30.94
Wind 60 deg - Ice		6.69	-3.86	80.14
Wind 90 deg - Ice		7.61	-0.02	113.02
Wind 120 deg - Ice		6.62	3.80	113.64
Wind 150 deg - Ice		3.90	6.76	75.82
Wind 180 deg - Ice		-0.02	7.83	25.24
Wind 210 deg - Ice		-3.93	6.77	-30.94
Wind 240 deg - Ice		-6.61	3.82	-80.60
Wind 270 deg - Ice		-7.61	0.02	-113.02
Wind 300 deg - Ice		-6.61	-3.80	-113.68
Wind 330 deg - Ice		-3.90	-6.76	-75.82
Total Weight	11.52			
Wind 0 deg - Service		0.03	-6.62	-413.24
Wind 30 deg - Service		3.29	-5.65	-436.76
Wind 60 deg - Service		5.26	-3.04	-304.68
Wind 90 deg - Service		5.88	-0.03	-98.25
Wind 120 deg - Service		5.11	2.92	115.19
Wind 150 deg - Service		3.06	5.30	291.76
Wind 180 deg - Service		-0.03	6.59	412.88
Wind 210 deg - Service		-3.29	5.65	436.76
Wind 240 deg - Service		-5.25	3.04	302.81
Wind 270 deg - Service		-5.88	0.03	98.25
Wind 300 deg - Service		-5.10	-2.92	-115.32
Wind 330 deg - Service		-3.06	-5.30	-291.76

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice+1.0 Guy
3	1.2 Dead+1.6 Wind 30 deg - No Ice+1.0 Guy
4	1.2 Dead+1.6 Wind 60 deg - No Ice+1.0 Guy

tnxTower Trylon 1825 W. Walnut Hill Lane Suite 302 Irving, TX 75038 Phone: (519)-572-9995 FAX:	Job	119646	Page	36 of 66
	Project	CT2218 - PROSPECT BRADSHAW TWR	Date	13:48:46 10/20/16
	Client	EMPIRE TELECOM	Designed by	AF

<i>Comb. No.</i>	<i>Description</i>
5	1.2 Dead+1.6 Wind 90 deg - No Ice+1.0 Guy
6	1.2 Dead+1.6 Wind 120 deg - No Ice+1.0 Guy
7	1.2 Dead+1.6 Wind 150 deg - No Ice+1.0 Guy
8	1.2 Dead+1.6 Wind 180 deg - No Ice+1.0 Guy
9	1.2 Dead+1.6 Wind 210 deg - No Ice+1.0 Guy
10	1.2 Dead+1.6 Wind 240 deg - No Ice+1.0 Guy
11	1.2 Dead+1.6 Wind 270 deg - No Ice+1.0 Guy
12	1.2 Dead+1.6 Wind 300 deg - No Ice+1.0 Guy
13	1.2 Dead+1.6 Wind 330 deg - No Ice+1.0 Guy
14	1.2 Dead+1.0 Ice+1.0 Temp+Guy
15	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy
16	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy
17	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy
18	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy
19	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy
20	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy
21	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy
22	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy
23	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy
24	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy
25	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy
26	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 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

<i>Section No.</i>	<i>Elevation ft</i>	<i>Component Type</i>	<i>Condition</i>	<i>Gov. Load Comb.</i>	<i>Axial K</i>	<i>Major Axis Moment lb-ft</i>	<i>Minor Axis Moment lb-ft</i>	
T1	160 - 156.667	Leg	Max Tension	3	1.43	0.01	0.00	
			Max. Compression	9	-1.56	0.00	0.00	
			Max. Mx	5	0.58	-198.57	62.40	
			Max. My	2	-0.01	132.18	213.63	
			Max. Vy	5	-0.26	0.00	0.00	
			Max. Vx	2	0.27	0.01	0.00	
			Diagonal	Max Tension	9	1.89	0.00	0.00
				Max. Compression	3	-1.85	0.00	0.00
				Max. Mx	15	0.58	9.65	0.00
				Max. My	16	0.28	0.00	-0.05
		Max. Vy		15	-0.01	0.00	0.00	
		Secondary Horizontal	Max. Vx	16	0.00	0.00	0.00	
			Max Tension	9	0.03	0.00	0.00	
			Max. Compression	9	-0.03	0.00	0.00	
			Max. Mx	26	0.02	5.60	0.00	
			Max. My	3	0.01	0.00	-0.00	
			Max. Vy	26	-0.01	0.00	0.00	
			Max. Vx	3	0.00	0.00	0.00	

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
		Top Girt	Max Tension	9	0.22	0.00	0.00
			Max. Compression	7	-0.22	0.00	0.00
			Max. Mx	26	-0.05	6.46	0.00
			Max. My	3	0.09	0.00	-0.00
			Max. Vy	26	-0.01	0.00	0.00
			Max. Vx	3	0.00	0.00	0.00
		Guy A	Bottom Tension	9	7.32		
			Top Tension	9	7.39		
			Top Cable Vert	9	6.36		
			Top Cable Norm	9	3.75		
			Top Cable Tan	9	0.03		
			Bot Cable Vert	9	-6.20		
			Bot Cable Norm	9	3.90		
			Bot Cable Tan	9	0.08		
		Guy B	Bottom Tension	11	6.71		
			Top Tension	11	6.78		
			Top Cable Vert	11	5.69		
			Top Cable Norm	11	3.69		
			Top Cable Tan	11	0.03		
			Bot Cable Vert	11	-5.52		
			Bot Cable Norm	11	3.83		
			Bot Cable Tan	11	0.08		
		Guy C	Bottom Tension	3	7.03		
			Top Tension	3	7.09		
			Top Cable Vert	3	6.00		
			Top Cable Norm	3	3.78		
			Top Cable Tan	3	0.03		
			Bot Cable Vert	3	-5.83		
			Bot Cable Norm	3	3.93		
			Bot Cable Tan	3	0.08		
		Top Guy Pull-Off	Max Tension	9	1.14	0.00	0.00
			Max. Compression	7	-1.12	0.00	0.00
			Max. Mx	26	-0.27	-16.78	0.00
			Max. My	3	0.44	0.00	0.00
			Max. Vy	26	0.03	0.00	0.00
			Max. Vx	3	-0.00	0.00	0.00
		Torque Arm Top	Max Tension	9	5.45	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	21	3.96	-16.78	0.00
			Max. My	3	4.19	0.00	0.00
			Max. Vy	21	0.03	0.00	0.00
			Max. Vx	3	-0.00	0.00	0.00
		Torque Arm Bottom	Max Tension	3	1.96	0.00	0.00
			Max. Compression	9	-10.69	0.00	0.00
			Max. Mx	15	-5.25	-28.12	0.00
			Max. My	8	-9.53	0.00	0.16
			Max. Vy	15	0.03	0.00	0.00
			Max. Vx	8	-0.00	0.00	0.00
T2	156.667 - 153.333	Leg	Max Tension	10	8.20	81.45	-45.72
			Max. Compression	4	-20.78	-26.87	-225.15
			Max. Mx	6	-15.97	276.13	-50.23
			Max. My	10	-15.35	-100.51	260.55
			Max. Vy	6	-0.16	-189.49	6.13
			Max. Vx	3	0.15	72.62	213.43
		Diagonal	Max Tension	3	4.68	0.00	0.00
			Max. Compression	9	-5.03	0.00	0.00
			Max. Mx	15	1.14	9.62	0.00
			Max. My	26	0.44	0.00	0.06
			Max. Vy	15	0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment lb-ft	Minor Axis Moment lb-ft	
T3	153.333 - 150	Horizontal	Max Tension	4	0.36	0.00	0.00	
			Max. Compression	4	-0.36	0.00	0.00	
			Max. Mx	26	0.22	5.74	0.00	
			Max. My	26	0.15	0.00	-0.00	
			Max. Vy	26	0.01	0.00	0.00	
			Max. Vx	26	-0.00	0.00	0.00	
			Secondary Horizontal	Max Tension	4	0.36	0.00	0.00
				Max. Compression	4	-0.36	0.00	0.00
				Max. Mx	17	0.23	5.59	0.00
				Max. My	3	0.36	0.00	-0.00
		Max. Vy		17	-0.01	0.00	0.00	
		Bottom Guy Pull-Off	Max. Vx	3	0.00	0.00	0.00	
			Max Tension	7	1.50	0.00	0.00	
			Max. Compression	13	-1.47	0.00	0.00	
			Max. Mx	26	-0.36	-16.75	0.00	
			Max. My	3	-0.64	0.00	0.00	
			Max. Vy	26	0.03	0.00	0.00	
			Max. Vx	3	-0.00	0.00	0.00	
			Leg	Max Tension	2	14.06	38.56	-118.39
				Max. Compression	8	-26.97	-247.66	24.83
				Max. Mx	9	-26.31	-285.02	-48.76
		Max. My		6	-18.99	46.63	282.71	
		Max. Vy		7	0.14	-206.82	88.73	
		Max. Vx		5	-0.16	110.80	2.33	
		Diagonal		Max Tension	9	4.75	0.00	0.00
				Max. Compression	3	-5.21	0.00	0.00
				Max. Mx	15	0.99	9.59	0.00
				Max. My	26	0.99	0.00	0.04
			Max. Vy	15	-0.01	0.00	0.00	
		Horizontal	Max. Vx	26	0.00	0.00	0.00	
			Max Tension	8	0.47	0.00	0.00	
			Max. Compression	8	-0.47	0.00	0.00	
			Max. Mx	17	0.26	5.73	0.00	
			Max. My	26	0.15	0.00	-0.00	
			Max. Vy	17	-0.01	0.00	0.00	
			Max. Vx	26	0.00	0.00	0.00	
			Secondary Horizontal	Max Tension	8	0.47	0.00	0.00
				Max. Compression	8	-0.47	0.00	0.00
				Max. Mx	18	0.25	5.57	0.00
		Max. My		3	0.39	0.00	-0.00	
Max. Vy	18	-0.01		0.00	0.00			
T4	150 - 146.667	Leg	Max. Vx	3	0.00	0.00	0.00	
			Max Tension	10	19.95	-47.35	30.63	
			Max. Compression	4	-31.91	-108.50	-282.25	
			Max. Mx	6	-21.62	357.55	-91.98	
			Max. My	10	-21.39	-103.89	344.36	
		Diagonal	Max. Vy	4	0.32	-108.50	-282.25	
			Max. Vx	13	-0.33	-201.54	133.52	
			Max Tension	3	4.28	0.00	0.00	
			Max. Compression	9	-4.74	0.00	0.00	
			Max. Mx	15	0.92	9.56	0.00	
Horizontal	Max. My	26	0.23	0.00	0.05			
	Max. Vy	15	-0.01	0.00	0.00			
	Max. Vx	26	-0.00	0.00	0.00			
	Max Tension	4	0.55	0.00	0.00			
	Max. Compression	4	-0.55	0.00	0.00			
	Max. Mx	18	0.28	5.71	0.00			
	Max. My	26	0.17	0.00	-0.00			

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T5	146.667 - 143.333	Secondary Horizontal	Max. Vy	18	0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	4	0.55	0.00	0.00
			Max. Compression	4	-0.55	0.00	0.00
			Max. Mx	25	0.30	5.56	0.00
			Max. My	26	0.17	0.00	-0.00
		Leg	Max. Vy	25	0.01	0.00	0.00
			Max. Vx	26	0.00	0.00	0.00
			Max Tension	2	23.43	-43.83	-80.24
			Max. Compression	8	-35.96	-267.99	92.90
			Max. Mx	6	-22.00	365.44	-91.99
			Max. My	10	-22.35	-103.89	344.36
		Diagonal	Max. Vy	5	-0.43	-21.73	-246.83
			Max. Vx	13	0.43	-201.54	133.52
			Max Tension	9	2.31	0.00	0.00
			Max. Compression	3	-2.76	0.00	0.00
			Max. Mx	15	0.23	9.53	0.00
			Max. My	26	0.10	0.00	0.04
		Horizontal	Max. Vy	15	-0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	7	0.73	0.00	0.00
			Max. Compression	8	-0.62	0.00	0.00
			Max. Mx	24	0.38	5.69	0.00
			Max. My	26	0.17	0.00	-0.00
Secondary Horizontal	Max. Vy	24	-0.01	0.00	0.00		
	Max. Vx	26	0.00	0.00	0.00		
	Max Tension	8	0.62	0.00	0.00		
	Max. Compression	8	-0.62	0.00	0.00		
	Max. Mx	25	0.33	5.54	0.00		
	Max. My	26	0.16	0.00	-0.00		
T6	143.333 - 140	Leg	Max. Vy	25	-0.01	0.00	0.00
			Max. Vx	26	0.00	0.00	0.00
			Max Tension	10	26.74	-42.48	62.71
			Max. Compression	4	-38.51	36.51	-218.71
			Max. Mx	10	-23.24	-346.51	-99.58
			Max. My	6	-23.03	96.19	335.19
		Diagonal	Max. Vy	10	0.65	56.35	63.77
			Max. Vx	3	0.59	-17.15	-44.46
			Max Tension	3	2.12	0.00	0.00
			Max. Compression	9	-2.42	0.00	0.00
			Max. Mx	15	0.27	9.04	0.00
			Max. My	26	-0.11	0.00	0.04
		Horizontal	Max. Vy	15	0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	4	0.67	0.00	0.00
			Max. Compression	4	-0.67	0.00	0.00
			Max. Mx	22	0.32	5.67	0.00
			Max. My	26	0.18	0.00	-0.00
		Secondary Horizontal	Max. Vy	22	-0.01	0.00	0.00
			Max. Vx	26	0.00	0.00	0.00
			Max Tension	4	0.67	0.00	0.00
			Max. Compression	4	-0.67	0.00	0.00
			Max. Mx	21	0.10	5.53	0.00
			Max. My	26	0.18	0.00	-0.00
Bottom Girt	Max. Vy	21	-0.01	0.00	0.00		
	Max. Vx	26	0.00	0.00	0.00		
	Max Tension	7	0.68	0.00	0.00		

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment lb-ft	Minor Axis Moment lb-ft	
T7	140 - 120	Leg	Max. Compression	2	-0.50	0.00	0.00	
			Max. Mx	21	0.07	6.37	0.00	
			Max. My	26	-0.02	0.00	-0.00	
			Max. Vy	21	-0.01	0.00	0.00	
			Max. Vx	26	-0.00	0.00	0.00	
			Max Tension	10	28.59	89.80	-69.07	
			Max. Compression	4	-38.98	-216.90	109.32	
			Max. Mx	11	-0.55	-834.91	114.80	
			Max. My	2	0.14	56.59	-896.33	
			Max. Vy	5	2.98	70.46	18.20	
			Max. Vx	8	3.29	-5.50	59.42	
			Max Tension	11	4.24	0.00	0.00	
		Diagonal	Max. Compression	5	-5.18	-3.95	3.18	
			Max. Mx	8	-0.73	-8.37	-0.81	
			Max. My	12	-4.88	-3.83	-3.56	
			Max. Vy	26	0.01	-5.62	0.01	
			Max. Vx	12	0.00	-3.83	-3.56	
			Max Tension	10	1.77	0.00	0.00	
			Horizontal	Max. Compression	4	-0.83	0.00	0.00
				Max. Mx	18	0.53	5.00	0.00
				Max. My	8	0.93	0.00	0.00
				Max. Vy	18	-0.01	0.00	0.00
				Max. Vx	8	-0.00	0.00	0.00
				Max Tension	4	0.68	0.00	0.00
		Secondary Horizontal		Max. Compression	4	-0.68	0.00	0.00
				Max. Mx	24	0.26	5.47	0.00
			Max. My	8	0.67	0.00	0.00	
			Max. Vy	24	0.01	0.00	0.00	
			Max. Vx	8	-0.00	0.00	0.00	
			Max Tension	10	0.60	0.00	0.00	
			Top Girt	Max. Compression	13	-0.19	0.00	0.00
				Max. Mx	18	0.28	6.30	0.00
Max. My	8	0.47		0.00	0.00			
Max. Vy	18	-0.01		0.00	0.00			
Max. Vx	8	-0.00		0.00	0.00			
Max Tension	21	0.77		0.00	0.00			
Bottom Girt	Max. Compression	2		-0.06	0.00	0.00		
	Max. Mx	21		0.77	6.30	0.00		
	Max. My	8	0.05	0.00	0.00			
	Max. Vy	21	-0.01	0.00	0.00			
	Max. Vx	8	-0.00	0.00	0.00			
	Max Tension	8	19.09	4.30	-78.32			
	T8	120 - 106.667	Leg	Max. Compression	10	-31.87	-147.25	-234.96
				Max. Mx	12	-4.70	676.64	335.48
Max. My				8	-4.75	43.26	-763.48	
Max. Vy				5	2.98	-674.32	156.63	
Max. Vx				8	3.29	43.29	-763.47	
Max Tension				8	4.66	0.00	0.00	
Diagonal				Max. Compression	6	-5.50	0.00	0.00
				Max. Mx	9	-3.64	-7.72	-0.07
			Max. My	12	-4.97	-1.06	-2.95	
			Max. Vy	21	0.01	-6.79	0.00	
			Max. Vx	12	0.00	-1.06	-2.95	
			Max Tension	10	2.39	0.00	0.00	
			Horizontal	Max. Compression	2	-0.20	0.00	0.00
				Max. Mx	15	1.29	5.51	0.00
Max. My				8	0.45	0.00	0.00	
Max. Vy				15	-0.01	0.00	0.00	
Max. Vx	8	-0.00		0.00	0.00			
Max Tension	10	0.55		0.00	0.00			
Secondary	Max. Compression	2		-0.20	0.00	0.00		
	Max. Mx	15		1.29	5.51	0.00		

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		Horizontal	Max. Compression	10	-0.55	0.00	0.00
			Max. Mx	15	0.37	5.37	0.00
			Max. My	8	0.39	0.00	0.00
			Max. Vy	15	0.01	0.00	0.00
			Max. Vx	8	-0.00	0.00	0.00
		Top Girt	Max Tension	10	1.12	0.00	0.00
			Max. Compression	4	-0.33	0.00	0.00
			Max. Mx	21	0.51	6.20	0.00
			Max. My	8	0.64	0.00	0.00
			Max. Vy	21	0.01	0.00	0.00
			Max. Vx	8	-0.00	0.00	0.00
		Guy A	Bottom Tension	9	23.72		
			Top Tension	9	23.85		
			Top Cable Vert	9	17.96		
			Top Cable Norm	9	15.69		
			Top Cable Tan	9	0.03		
			Bot Cable Vert	9	-17.67		
			Bot Cable Norm	9	15.82		
			Bot Cable Tan	9	0.17		
		Guy B	Bottom Tension	11	22.39		
			Top Tension	11	22.51		
			Top Cable Vert	11	16.15		
			Top Cable Norm	11	15.68		
			Top Cable Tan	11	0.02		
			Bot Cable Vert	11	-15.86		
			Bot Cable Norm	11	15.80		
			Bot Cable Tan	11	0.15		
		Guy C	Bottom Tension	3	22.86		
			Top Tension	3	22.98		
			Top Cable Vert	3	16.71		
			Top Cable Norm	3	15.77		
			Top Cable Tan	3	0.02		
			Bot Cable Vert	3	-16.43		
			Bot Cable Norm	3	15.89		
			Bot Cable Tan	3	0.16		
		Top Guy Pull-Off	Max Tension	10	5.38	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	19	3.08	10.02	0.00
			Max. My	9	3.95	0.00	0.00
			Max. Vy	19	0.02	0.00	0.00
			Max. Vx	9	-0.00	0.00	0.00
T9	106.667 - 103.333	Leg	Max Tension	4	1.66	-137.99	62.76
			Max. Compression	10	-29.20	99.62	349.05
			Max. Mx	17	-23.92	-377.05	-64.28
			Max. My	25	-24.80	140.33	355.80
			Max. Vy	13	0.26	340.16	0.19
			Max. Vx	17	0.24	-73.70	286.31
		Diagonal	Max Tension	13	3.91	0.00	0.00
			Max. Compression	7	-4.59	0.00	0.00
			Max. Mx	21	-1.76	9.12	0.00
			Max. My	20	-0.14	0.00	-0.03
			Max. Vy	21	-0.01	0.00	0.00
			Max. Vx	20	-0.00	0.00	0.00
		Horizontal	Max Tension	6	2.11	0.00	0.00
			Max. Compression	12	-0.57	0.00	0.00
			Max. Mx	18	1.45	5.46	0.00
			Max. My	9	0.49	0.00	0.00
			Max. Vy	18	0.01	0.00	0.00
			Max. Vx	9	-0.00	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T10	103.333 - 100	Secondary Horizontal	Max Tension	10	0.51	0.00	0.00
			Max. Compression	10	-0.51	0.00	0.00
		Leg	Max. Mx	18	0.43	5.32	0.00
			Max. My	9	0.47	0.00	0.00
			Max. Vy	18	-0.01	0.00	0.00
			Max. Vx	9	-0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	20	-25.21	-242.19	-331.89
			Max. Mx	10	-15.00	550.97	-329.18
			Max. My	2	-13.74	37.66	649.50
			Max. Vy	5	-1.38	-529.76	-168.08
			Max. Vx	13	1.48	126.99	634.81
		Diagonal	Max Tension	7	3.56	0.00	0.00
			Max. Compression	13	-4.67	0.00	0.00
			Max. Mx	21	-1.39	8.65	0.00
			Max. My	9	1.20	0.00	-0.03
			Max. Vy	21	0.01	0.00	0.00
			Max. Vx	9	-0.00	0.00	0.00
		Horizontal	Max Tension	10	0.51	0.00	0.00
			Max. Compression	10	-0.51	0.00	0.00
			Max. Mx	24	0.42	5.43	0.00
			Max. My	9	0.47	0.00	0.00
			Max. Vy	24	0.01	0.00	0.00
			Max. Vx	9	-0.00	0.00	0.00
		Secondary Horizontal	Max Tension	20	0.44	0.00	0.00
			Max. Compression	20	-0.44	0.00	0.00
			Max. Mx	24	0.41	5.30	0.00
			Max. My	9	0.37	0.00	0.00
			Max. Vy	24	-0.01	0.00	0.00
			Max. Vx	9	-0.00	0.00	0.00
Bottom Girt	Max Tension		12	0.84	0.00	0.00	
	Max. Compression		6	-0.56	0.00	0.00	
	Max. Mx		18	0.03	6.11	0.00	
	Max. My		9	0.65	0.00	0.00	
	Max. Vy		18	0.01	0.00	0.00	
	Max. Vx		9	-0.00	0.00	0.00	
	Leg		Max Tension	1	0.00	0.00	0.00
			Max. Compression	19	-27.42	-167.08	-343.51
Max. Mx		5	-17.48	480.48	-71.77		
Max. My		7	-16.41	7.19	521.81		
Max. Vy		5	-1.38	-185.66	-196.75		
Max. Vx		13	1.48	-70.04	265.46		
Diagonal		Max Tension	13	3.25	0.00	0.00	
		Max. Compression	7	-4.19	0.00	0.00	
		Max. Mx	21	-1.87	8.79	0.00	
		Max. My	16	-0.50	0.00	-0.03	
		Max. Vy	21	-0.01	0.00	0.00	
		Max. Vx	16	0.00	0.00	0.00	
Horizontal	Max Tension	7	0.64	0.00	0.00		
	Max. Compression	19	-0.47	0.00	0.00		
	Max. Mx	15	0.50	5.35	0.00		
	Max. My	9	0.46	0.00	0.00		
	Max. Vy	15	0.01	0.00	0.00		
	Max. Vx	9	-0.00	0.00	0.00		
Secondary Horizontal	Max Tension	17	0.00	-1.34	-0.00		
	Max. Compression	25	-0.00	-1.32	-0.00		
	Max. Mx	3	0.00	-2.00	0.01		
	Max. My	2	0.00	-1.54	0.01		

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T12	80 - 60	Top Girt	Max. Vy	18	0.01	-1.41	0.00
			Max. Vx	2	-0.00	-1.54	0.01
			Max Tension	6	0.85	0.00	0.00
			Max. Compression	12	-0.51	0.00	0.00
			Max. Mx	18	0.38	6.02	0.00
			Max. My	9	-0.25	0.00	0.00
			Max. Vy	18	-0.01	0.00	0.00
			Max. Vx	9	-0.00	0.00	0.00
			Max Tension	12	0.44	0.00	0.00
			Max. Compression	6	-0.08	0.00	0.00
			Max. Mx	25	0.20	6.02	0.00
			Max. My	9	0.26	0.00	0.00
		Bottom Girt	Max. Vy	25	-0.01	0.00	0.00
			Max. Vx	9	-0.00	0.00	0.00
			Max Tension	12	0.44	0.00	0.00
			Max. Compression	6	-0.08	0.00	0.00
			Max. Mx	25	0.20	6.02	0.00
			Max. My	9	0.26	0.00	0.00
			Max. Vy	25	-0.01	0.00	0.00
			Max. Vx	9	-0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	19	-27.58	-112.61	-343.82
			Max. Mx	19	-26.96	503.99	-14.20
			Max. My	7	-15.95	12.30	457.40
		Leg	Max. Vy	5	1.16	-128.72	-250.93
			Max. Vx	2	-1.00	277.97	-20.07
			Max Tension	5	2.12	0.00	0.00
			Max. Compression	11	-3.20	0.00	0.00
			Max. Mx	18	-0.10	8.52	0.00
			Max. My	16	-0.70	0.00	-0.05
			Max. Vy	18	-0.01	0.00	0.00
			Max. Vx	16	0.00	0.00	0.00
			Max Tension	9	0.62	0.00	0.00
			Max. Compression	19	-0.48	0.00	0.00
			Max. Mx	14	0.51	5.18	0.00
			Max. My	9	0.46	0.00	0.00
		Diagonal	Max. Vy	14	0.01	0.00	0.00
			Max. Vx	9	-0.00	0.00	0.00
			Max Tension	18	0.00	-1.35	-0.00
			Max. Compression	24	-0.00	-1.27	-0.00
Max. Mx	3		0.00	-2.94	0.01		
Max. My	2		0.00	-2.30	0.02		
Max. Vy	26		0.01	-1.39	0.00		
Max. Vx	2		-0.00	-2.30	0.02		
Max Tension	6		0.33	0.00	0.00		
Max. Compression	1		0.00	0.00	0.00		
Max. Mx	25		0.24	5.84	0.00		
Max. My	9		0.20	0.00	0.00		
Horizontal	Max. Vy	25	0.01	0.00	0.00		
	Max. Vx	9	-0.00	0.00	0.00		
	Max Tension	2	0.69	0.00	0.00		
	Max. Compression	8	-0.34	0.00	0.00		
	Max. Mx	14	0.24	5.84	0.00		
	Max. My	9	-0.25	0.00	0.00		
	Max. Vy	14	0.01	0.00	0.00		
	Max. Vx	9	-0.00	0.00	0.00		
	Max Tension	1	0.00	0.00	0.00		
	Max. Compression	21	-31.71	487.94	6.27		
	Max. Mx	5	-19.56	-614.19	-30.10		
	Max. My	2	-16.47	151.23	581.03		
Secondary Horizontal	Max. Vy	5	1.16	-418.93	-263.31		
	Max. Vx	2	-1.00	193.61	229.70		
	Max Tension	11	2.80	0.00	0.00		
	Max. Compression	5	-4.13	0.00	0.00		
	Max. Mx	20	-0.05	8.17	0.00		
	Max. My	16	-0.59	0.00	-0.05		
	Top Girt	Max. Vy	14	0.01	0.00	0.00	
		Max. Vx	9	-0.00	0.00	0.00	
		Max Tension	2	0.69	0.00	0.00	
		Max. Compression	8	-0.34	0.00	0.00	
		Max. Mx	14	0.24	5.84	0.00	
		Max. My	9	-0.25	0.00	0.00	
Max. Vy		14	0.01	0.00	0.00		
Max. Vx		9	-0.00	0.00	0.00		
Max Tension		1	0.00	0.00	0.00		
Max. Compression		21	-31.71	487.94	6.27		
Max. Mx		5	-19.56	-614.19	-30.10		
Max. My		2	-16.47	151.23	581.03		
Bottom Girt	Max. Vy	5	1.16	-418.93	-263.31		
	Max. Vx	2	-1.00	193.61	229.70		
	Max Tension	11	2.80	0.00	0.00		
	Max. Compression	5	-4.13	0.00	0.00		
	Max. Mx	20	-0.05	8.17	0.00		
	Max. My	16	-0.59	0.00	-0.05		
	Leg	Max. Vy	14	0.01	0.00	0.00	
		Max. Vx	9	-0.00	0.00	0.00	
		Max Tension	1	0.00	0.00	0.00	
		Max. Compression	21	-31.71	487.94	6.27	
		Max. Mx	5	-19.56	-614.19	-30.10	
		Max. My	2	-16.47	151.23	581.03	
Max. Vy		5	1.16	-418.93	-263.31		
Max. Vx		2	-1.00	193.61	229.70		
Max Tension		11	2.80	0.00	0.00		
Max. Compression		5	-4.13	0.00	0.00		
Max. Mx		20	-0.05	8.17	0.00		
Max. My		16	-0.59	0.00	-0.05		
Diagonal	Max. Vy	14	0.01	0.00	0.00		
	Max. Vx	9	-0.00	0.00	0.00		
	Max Tension	1	0.00	0.00	0.00		
	Max. Compression	21	-31.71	487.94	6.27		
	Max. Mx	5	-19.56	-614.19	-30.10		
	Max. My	2	-16.47	151.23	581.03		
	Max. Vy	5	1.16	-418.93	-263.31		
	Max. Vx	2	-1.00	193.61	229.70		
	Max Tension	11	2.80	0.00	0.00		
	Max. Compression	5	-4.13	0.00	0.00		
	Max. Mx	20	-0.05	8.17	0.00		
	Max. My	16	-0.59	0.00	-0.05		

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
			Max. Vy	20	0.01	0.00	0.00
			Max. Vx	16	0.00	0.00	0.00
		Horizontal	Max Tension	7	1.49	0.00	0.00
			Max. Compression	21	-0.55	0.00	0.00
			Max. Mx	19	0.58	4.96	0.00
			Max. My	9	0.43	0.00	0.00
			Max. Vy	19	0.01	0.00	0.00
			Max. Vx	9	-0.00	0.00	0.00
		Secondary Horizontal	Max Tension	18	0.00	-1.29	-0.00
			Max. Compression	23	-0.00	-1.06	-0.00
			Max. Mx	3	0.00	-3.05	0.01
			Max. My	2	0.00	-2.40	0.02
			Max. Vy	26	0.01	-1.34	0.00
			Max. Vx	2	-0.00	-2.40	0.02
		Top Girt	Max Tension	8	0.80	0.00	0.00
			Max. Compression	2	-0.48	0.00	0.00
			Max. Mx	14	0.26	5.61	0.00
			Max. My	9	0.72	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	9	-0.00	0.00	0.00
		Bottom Girt	Max Tension	12	0.76	0.00	0.00
			Max. Compression	6	-0.38	0.00	0.00
			Max. Mx	14	0.27	5.61	0.00
			Max. My	3	-0.31	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	3	-0.00	0.00	0.00
		Guy A	Bottom Tension	9	8.71		
			Top Tension	9	8.73		
			Top Cable Vert	9	4.03		
			Top Cable Norm	9	7.74		
			Top Cable Tan	9	0.01		
			Bot Cable Vert	9	-3.96		
			Bot Cable Norm	9	7.76		
			Bot Cable Tan	9	0.05		
		Guy B	Bottom Tension	11	8.34		
			Top Tension	11	8.35		
			Top Cable Vert	11	3.45		
			Top Cable Norm	11	7.61		
			Top Cable Tan	11	0.00		
			Bot Cable Vert	11	-3.38		
			Bot Cable Norm	11	7.62		
			Bot Cable Tan	11	0.04		
		Guy C	Bottom Tension	5	8.42		
			Top Tension	5	8.44		
			Top Cable Vert	5	3.57		
			Top Cable Norm	5	7.65		
			Top Cable Tan	5	0.00		
			Bot Cable Vert	5	-3.50		
			Bot Cable Norm	5	7.66		
			Bot Cable Tan	5	0.04		
		Top Guy Pull-Off	Max Tension	7	3.36	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	14	1.71	9.22	0.00
			Max. My	9	3.20	0.00	0.00
			Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	9	-0.00	0.00	0.00
T14	40 - 20	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	21	-35.74	529.87	15.09
			Max. Mx	20	-33.90	617.39	0.71
			Max. My	23	-32.69	-293.55	537.04

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment lb-ft	Minor Axis Moment lb-ft	
T15	20 - 6.66667	Diagonal	Max. Vy	5	-0.88	-144.86	-287.05	
			Max. Vx	9	-0.86	322.87	23.62	
			Max Tension	9	1.68	0.00	0.00	
			Max. Compression	3	-2.94	0.00	0.00	
			Max. Mx	18	-0.94	7.67	0.00	
			Max. My	22	-1.02	0.00	0.05	
			Max. Vy	18	-0.01	0.00	0.00	
			Max. Vx	22	-0.00	0.00	0.00	
			Max Tension	22	0.71	0.00	0.00	
			Max. Compression	21	-0.62	0.00	0.00	
			Max. Mx	19	0.66	4.66	0.00	
			Max. My	10	0.51	0.00	-0.00	
		Horizontal	Max. Vy	15	-0.01	0.00	0.00	
			Max. Vx	10	0.00	0.00	0.00	
			Max Tension	18	0.00	-1.22	-0.00	
			Max. Compression	24	-0.00	-1.13	-0.00	
			Max. Mx	3	0.00	-3.29	0.02	
			Max. My	2	0.00	-2.69	0.03	
			Max. Vy	26	0.00	-1.29	0.00	
			Max. Vx	2	-0.00	-2.69	0.03	
			Max Tension	6	0.66	0.00	0.00	
			Max. Compression	12	-0.29	0.00	0.00	
			Max. Mx	14	0.30	5.29	0.00	
			Max. My	3	0.58	0.00	0.00	
		Secondary Horizontal	Max. Vy	14	0.01	0.00	0.00	
			Max. Vx	3	-0.00	0.00	0.00	
			Max Tension	26	0.33	0.00	0.00	
			Max. Compression	1	0.00	0.00	0.00	
			Max. Mx	15	0.33	5.29	0.00	
			Max. My	3	0.17	0.00	0.00	
			Max. Vy	15	0.01	0.00	0.00	
			Max. Vx	3	-0.00	0.00	0.00	
			Max Tension	1	0.00	0.00	0.00	
			Max. Compression	21	-35.75	535.01	-2.85	
			Top Girt	Max. Mx	20	-34.35	628.57	-16.61
				Max. My	23	-33.53	-285.43	551.82
		Max. Vy		20	-0.38	-614.60	24.43	
		Max. Vx		22	-0.34	273.65	-519.64	
		Max Tension		5	0.82	0.00	0.00	
		Max. Compression		11	-2.07	0.00	0.00	
		Max. Mx		22	-0.42	6.99	0.00	
		Max. My		16	-0.77	0.00	-0.05	
Max. Vy	22	-0.01		0.00	0.00			
Max. Vx	16	0.00		0.00	0.00			
Max Tension	22	0.69		0.00	0.00			
Max. Compression	21	-0.62		0.00	0.00			
Diagonal	Max. Mx	15	0.67	4.23	0.00			
	Max. My	10	0.51	0.00	-0.00			
	Max. Vy	15	-0.01	0.00	0.00			
	Max. Vx	10	0.00	0.00	0.00			
	Max Tension	18	0.00	-1.11	-0.00			
	Max. Compression	24	-0.00	-1.02	-0.00			
	Max. Mx	3	0.00	-3.83	0.02			
	Max. My	2	0.00	-3.12	0.04			
	Max. Vy	26	0.00	-1.20	0.00			
	Max. Vx	2	-0.00	-3.12	0.04			
	Max Tension	20	0.36	0.00	0.00			
	Max. Compression	1	0.00	0.00	0.00			
Horizontal	Max. Mx	15	0.31	4.83	0.00			

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T16	6.66667 - 0	Leg	Max. My	3	0.11	0.00	0.00
			Max. Vy	15	0.01	0.00	0.00
			Max. Vx	3	-0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	21	-36.60	-29.09	475.56
			Max. Mx	3	-25.01	148.35	281.47
		Diagonal	Max. My	20	-34.43	-31.79	-553.32
			Max. Vy	11	0.11	142.74	294.29
			Max. Vx	24	0.31	78.69	487.24
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	20	-1.68	0.00	0.00
			Max. Mx	19	-1.51	4.27	0.00
		Horizontal	Max. My	16	-1.50	0.00	-0.04
			Max. Vy	19	-0.00	0.00	0.00
			Max. Vx	16	-0.00	0.00	0.00
			Max Tension	21	4.90	0.00	0.00
			Max. Compression	21	-0.64	0.00	0.00
			Max. Mx	15	4.79	3.61	0.00
			Max. My	10	3.47	0.00	-0.00
			Max. Vy	15	-0.01	0.00	0.00
			Max. Vx	10	0.00	0.00	0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K	
Mast	Max. Vert	21	101.44	0.03	-0.33	
	Max. H _x	12	51.74	1.31	0.75	
	Max. H _z	2	67.78	0.02	1.19	
	Max. M _x	1	0.00	-0.00	-0.01	
	Max. M _z	1	0.00	-0.00	-0.01	
	Max. Torsion	1	0.00	-0.00	-0.01	
	Min. Vert	1	37.25	-0.00	-0.01	
	Min. H _x	4	52.58	-1.30	0.73	
	Min. H _z	8	54.04	-0.02	-1.47	
	Min. M _x	1	0.00	-0.00	-0.01	
	Min. M _z	1	0.00	-0.00	-0.01	
	Min. Torsion	1	0.00	-0.00	-0.01	
	Guy C @ 103 ft Elev 3 ft Azimuth 240 deg	Max. Vert	10	-1.08	-0.49	0.28
		Max. H _x	10	-1.08	-0.49	0.28
Max. H _z		3	-31.05	-26.70	15.84	
Min. Vert		3	-31.05	-26.70	15.84	
Min. H _x		5	-30.90	-26.97	15.15	
Min. H _z		10	-1.08	-0.49	0.28	
Guy B @ 106 ft Elev 3 ft Azimuth 120 deg	Max. Vert	6	-1.04	0.49	0.28	
	Max. H _x	11	-30.03	26.95	15.14	
	Max. H _z	13	-29.89	26.47	15.68	
	Min. Vert	11	-30.03	26.95	15.14	
	Min. H _x	6	-1.04	0.49	0.28	
	Min. H _z	6	-1.04	0.49	0.28	
Guy A @ 98 ft Elev 0 ft	Max. Vert	2	-1.28	-0.00	-0.62	

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Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Azimuth 0 deg	Max. H _x	10	-29.10	0.63	-26.97
	Max. H _z	2	-1.28	-0.00	-0.62
	Min. Vert	9	-33.48	0.39	-31.03
	Min. H _x	18	-12.96	-0.62	-12.71
	Min. H _z	9	-33.48	0.39	-31.03

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x lb-ft	Overturning Moment, M _z lb-ft	Torque lb-ft
Dead Only	37.25	0.00	0.01	-0.01	-0.02	-0.00
1.2 Dead+1.6 Wind 0 deg - No Ice+1.0 Guy	67.78	-0.02	-1.19	-0.02	-0.04	0.00
1.2 Dead+1.6 Wind 30 deg - No Ice+1.0 Guy	62.37	0.71	-1.05	-0.02	-0.04	0.00
1.2 Dead+1.6 Wind 60 deg - No Ice+1.0 Guy	52.58	1.30	-0.73	-0.02	-0.03	-0.00
1.2 Dead+1.6 Wind 90 deg - No Ice+1.0 Guy	63.61	1.26	-0.11	-0.02	-0.04	-0.00
1.2 Dead+1.6 Wind 120 deg - No Ice+1.0 Guy	70.06	1.00	0.56	-0.02	-0.04	-0.00
1.2 Dead+1.6 Wind 150 deg - No Ice+1.0 Guy	64.50	0.53	1.11	-0.02	-0.04	-0.00
1.2 Dead+1.6 Wind 180 deg - No Ice+1.0 Guy	54.04	0.02	1.47	-0.02	-0.03	-0.00
1.2 Dead+1.6 Wind 210 deg - No Ice+1.0 Guy	64.68	-0.51	1.10	-0.02	-0.04	-0.00
1.2 Dead+1.6 Wind 240 deg - No Ice+1.0 Guy	69.97	-0.99	0.55	-0.02	-0.04	0.00
1.2 Dead+1.6 Wind 270 deg - No Ice+1.0 Guy	63.13	-1.27	-0.11	-0.02	-0.04	0.00
1.2 Dead+1.6 Wind 300 deg - No Ice+1.0 Guy	51.74	-1.31	-0.75	-0.02	-0.03	0.00
1.2 Dead+1.6 Wind 330 deg - No Ice+1.0 Guy	61.71	-0.74	-1.07	-0.02	-0.04	0.00
1.2 Dead+1.0 Ice+1.0 Temp+Guy	98.62	-0.03	0.04	-0.03	-0.06	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy	100.05	-0.04	-0.23	-0.03	-0.06	0.00
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy	100.44	0.12	-0.20	-0.03	-0.06	0.00
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy	100.88	0.23	-0.11	-0.03	-0.06	-0.00
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy	101.00	0.25	0.02	-0.03	-0.06	-0.00
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy	101.11	0.19	0.17	-0.03	-0.06	-0.00
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy	101.33	0.09	0.29	-0.03	-0.06	-0.00
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy	101.44	-0.03	0.33	-0.03	-0.06	-0.00
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy	101.12	-0.16	0.29	-0.03	-0.06	-0.00
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy	100.73	-0.26	0.17	-0.03	-0.06	-0.00

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Load Combination	Vertical	Shear _x	Shear _z	Overturning Moment, M _x	Overturning Moment, M _z	Torque
	K	K	K	lb-ft	lb-ft	lb-ft
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy	100.60	-0.32	0.03	-0.03	-0.06	0.00
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy	100.55	-0.30	-0.11	-0.03	-0.06	0.00
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy	100.24	-0.19	-0.20	-0.03	-0.06	0.00
Dead+Wind 0 deg - Service+Guy	37.49	-0.00	-0.40	-0.01	-0.02	0.00
Dead+Wind 30 deg - Service+Guy	37.56	0.20	-0.33	-0.01	-0.02	0.00
Dead+Wind 60 deg - Service+Guy	37.64	0.35	-0.19	-0.01	-0.02	-0.00
Dead+Wind 90 deg - Service+Guy	37.63	0.40	0.01	-0.01	-0.02	-0.00
Dead+Wind 120 deg - Service+Guy	37.64	0.36	0.21	-0.01	-0.02	-0.00
Dead+Wind 150 deg - Service+Guy	37.67	0.20	0.35	-0.01	-0.02	-0.00
Dead+Wind 180 deg - Service+Guy	37.71	0.00	0.41	-0.01	-0.02	-0.00
Dead+Wind 210 deg - Service+Guy	37.63	-0.20	0.35	-0.01	-0.02	-0.00
Dead+Wind 240 deg - Service+Guy	37.56	-0.35	0.21	-0.01	-0.02	-0.00
Dead+Wind 270 deg - Service+Guy	37.53	-0.40	0.01	-0.01	-0.02	0.00
Dead+Wind 300 deg - Service+Guy	37.55	-0.35	-0.19	-0.01	-0.02	0.00
Dead+Wind 330 deg - Service+Guy	37.50	-0.20	-0.33	-0.01	-0.02	0.00

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-11.52	0.00	-0.00	11.52	0.00	0.005%
2	0.13	-13.70	-28.42	-0.13	13.70	28.42	0.010%
3	14.11	-13.61	-24.26	-14.11	13.61	24.26	0.007%
4	24.61	-13.52	-14.26	-24.61	13.52	14.26	0.005%
5	27.98	-13.61	-0.13	-27.97	13.61	0.13	0.010%
6	24.59	-13.69	14.09	-24.59	13.69	-14.09	0.007%
7	13.88	-13.60	24.12	-13.88	13.60	-24.12	0.010%
8	-0.13	-13.52	28.30	0.13	13.52	-28.30	0.006%
9	-14.11	-13.61	24.26	14.11	13.61	-24.26	0.010%
10	-24.72	-13.70	14.32	24.72	13.70	-14.32	0.007%
11	-27.98	-13.61	0.13	27.97	13.61	-0.13	0.009%
12	-24.48	-13.53	-14.03	24.48	13.53	14.03	0.006%
13	-13.88	-13.61	-24.12	13.88	13.61	24.12	0.007%
14	0.00	-64.37	0.00	0.00	64.37	0.00	0.004%
15	0.03	-64.48	-10.59	-0.03	64.48	10.59	0.004%
16	5.30	-64.37	-9.17	-5.30	64.37	9.17	0.002%
17	9.15	-64.26	-5.32	-9.15	64.26	5.32	0.001%
18	10.52	-64.36	-0.03	-10.51	64.36	0.03	0.002%
19	9.12	-64.46	5.26	-9.12	64.46	-5.26	0.003%
20	5.24	-64.36	9.13	-5.24	64.36	-9.13	0.002%
21	-0.03	-64.26	10.59	0.03	64.26	-10.59	0.001%
22	-5.30	-64.36	9.17	5.30	64.36	-9.17	0.002%

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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
23	-9.15	-64.47	5.32	9.15	64.47	-5.32	0.002%
24	-10.52	-64.37	0.03	10.52	64.37	-0.03	0.002%
25	-9.11	-64.27	-5.26	9.11	64.27	5.26	0.003%
26	-5.24	-64.38	-9.13	5.24	64.38	9.13	0.002%
27	0.03	-11.55	-7.16	-0.03	11.55	7.16	0.006%
28	3.56	-11.52	-6.11	-3.56	11.52	6.11	0.005%
29	6.20	-11.50	-3.59	-6.20	11.50	3.59	0.003%
30	7.05	-11.52	-0.03	-7.05	11.52	0.03	0.004%
31	6.19	-11.54	3.55	-6.19	11.54	-3.55	0.006%
32	3.50	-11.52	6.08	-3.50	11.52	-6.08	0.004%
33	-0.03	-11.50	7.13	0.03	11.50	-7.13	0.004%
34	-3.56	-11.52	6.11	3.56	11.52	-6.11	0.006%
35	-6.23	-11.55	3.61	6.23	11.55	-3.61	0.007%
36	-7.05	-11.52	0.03	7.05	11.52	-0.03	0.005%
37	-6.17	-11.50	-3.53	6.17	11.50	3.53	0.011%
38	-3.50	-11.52	-6.08	3.50	11.52	6.08	0.011%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	8	0.00000001	0.00013269
2	Yes	19	0.00009318	0.00011953
3	Yes	19	0.00007862	0.00009283
4	Yes	17	0.00009635	0.00005667
5	Yes	19	0.00010987	0.00013505
6	Yes	20	0.00006663	0.00009191
7	Yes	19	0.00011217	0.00013877
8	Yes	15	0.00010020	0.00005987
9	Yes	19	0.00010865	0.00012907
10	Yes	20	0.00006352	0.00008253
11	Yes	19	0.00010443	0.00011798
12	Yes	17	0.00011057	0.00005762
13	Yes	19	0.00007697	0.00008674
14	Yes	11	0.00015000	0.00013600
15	Yes	14	0.00000001	0.00007252
16	Yes	14	0.00000001	0.00005279
17	Yes	14	0.00000001	0.00005462
18	Yes	15	0.00000001	0.00004723
19	Yes	15	0.00000001	0.00006415
20	Yes	15	0.00000001	0.00004669
21	Yes	14	0.00000001	0.00005799
22	Yes	15	0.00000001	0.00003579
23	Yes	15	0.00000001	0.00004908
24	Yes	15	0.00000001	0.00003420
25	Yes	13	0.00000001	0.00009533
26	Yes	14	0.00000001	0.00004740
27	Yes	11	0.00000001	0.00008667
28	Yes	11	0.00000001	0.00007666
29	Yes	11	0.00000001	0.00005938
30	Yes	11	0.00000001	0.00006394
31	Yes	11	0.00000001	0.00007865
32	Yes	11	0.00000001	0.00006489
33	Yes	11	0.00000001	0.00006277
34	Yes	11	0.00000001	0.00008549
35	Yes	11	0.00000001	0.00010060

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36	Yes	11	0.00000001	0.00006436
37	Yes	9	0.00000001	0.00011259
38	Yes	10	0.00000001	0.00014141

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	160 - 156.667	1.754	33	0.0899	0.1304
T2	156.667 - 153.333	1.806	33	0.0892	0.1307
T3	153.333 - 150	1.858	33	0.0799	0.1585
T4	150 - 146.667	1.902	33	0.0666	0.1584
T5	146.667 - 143.333	1.934	33	0.0497	0.1895
T6	143.333 - 140	1.949	33	0.0303	0.1913
T7	140 - 120	1.949	33	0.0143	0.2213
T8	120 - 106.667	1.681	33	0.0900	0.2526
T9	106.667 - 103.333	1.440	33	0.0518	0.2467
T10	103.333 - 100	1.416	33	0.0427	0.2603
T11	100 - 80	1.397	33	0.0371	0.2438
T12	80 - 60	1.258	33	0.0505	0.2495
T13	60 - 40	0.987	31	0.0759	0.2487
T14	40 - 20	0.718	31	0.0555	0.2756
T15	20 - 6.66667	0.446	31	0.0863	0.2929
T16	6.66667 - 0	0.163	31	0.1086	0.2813

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
164.80	15' x 1-1/4" Omni	33	1.754	0.0899	0.1304	36913
160.80	5' x 1-3/4" Dipole Element	33	1.754	0.0899	0.1304	36913
160.50	20' x 1-5/8" Tapered Omni	33	1.754	0.0899	0.1304	36913
160.30	15' x 2-3/8" Omni	33	1.754	0.0899	0.1304	36913
160.00	Guy	33	1.754	0.0899	0.1304	36913
159.50	15' x 1-5/8" Omni	33	1.762	0.0901	0.1313	36913
147.30	APXVSPP18-C-A20	33	1.929	0.0531	0.1848	8276
146.50	RRH1900-4x45	33	1.935	0.0488	0.1901	8038
136.00	Raycap RRFDC-3315-PF-48	33	1.929	0.0344	0.2557	8930
135.70	LNx-8514DS-VTM	33	1.927	0.0360	0.2571	9037
134.80	SWCP 2x5514	33	1.919	0.0407	0.2603	9392
134.50	HBXX-6517DS-A2M	33	1.916	0.0423	0.2612	9518
133.60	BXA-171063-12BF-EDIN-2	33	1.907	0.0470	0.2629	9917
133.00	B4 RRH2x60-4R	33	1.901	0.0501	0.2636	10203
125.70	RRUS-11	33	1.792	0.0814	0.2529	15692
123.75	(2) SBNH-1D6565C	33	1.756	0.0864	0.2498	18154
123.50	(2) DTMABP7819VG12A TMA	33	1.752	0.0869	0.2496	18551
118.75	Raycap DC6-48-60-18-8F	33	1.654	0.0891	0.2572	65141
109.94	Guy	33	1.482	0.0634	0.2802	8150
72.00	20' x 2" Dipole Element	31	1.163	0.0652	0.2361	32307
67.00	20' x 2" Dipole Element	31	1.092	0.0724	0.2368	76652
62.00	20' x 2" Dipole Element	31	1.017	0.0760	0.2452	114304
57.00	20' x 2" Dipole Element	31	0.943	0.0741	0.2531	63347
52.00	20' x 2" Dipole Element	31	0.873	0.0680	0.2612	66584

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Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
50.00	Guy	31	0.846	0.0650	0.2639	68347

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	160 - 156.667	13.726	10	0.2649	0.7070
T2	156.667 - 153.333	13.912	10	0.2629	0.7079
T3	153.333 - 150	14.106	10	0.2473	0.7235
T4	150 - 146.667	14.266	10	0.2263	0.8036
T5	146.667 - 143.333	14.379	10	0.2001	0.8267
T6	143.333 - 140	14.418	10	0.1704	0.9085
T7	140 - 120	14.397	10	0.1386	0.9306
T8	120 - 106.667	13.086	10	0.4463	1.0144
T9	106.667 - 103.333	11.844	10	0.3271	0.9626
T10	103.333 - 100	11.662	10	0.2998	1.0201
T11	100 - 80	11.494	10	0.2863	0.9419
T12	80 - 60	10.244	10	0.4034	0.8708
T13	60 - 40	8.090	10	0.5712	0.9091
T14	40 - 20	5.764	10	0.5377	0.9967
T15	20 - 6.66667	3.285	10	0.6924	1.0643
T16	6.66667 - 0	1.158	10	0.7943	1.0611

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
164.80	15' x 1-1/4" Omni	10	13.726	0.2649	0.7070	9481
160.80	5' x 1-3/4" Dipole Element	10	13.726	0.2649	0.7070	9481
160.50	20' x 1-5/8" Tapered Omni	10	13.726	0.2649	0.7070	9481
160.30	15' x 2-3/8" Omni	10	13.726	0.2649	0.7070	9481
160.00	Guy	10	13.726	0.2649	0.7070	9481
159.50	15' x 1-5/8" Omni	10	13.753	0.2658	0.7075	9481
147.30	APXVSPP18-C-A20	10	14.363	0.2054	0.8198	2032
146.50	RRH1900-4x45	10	14.382	0.1987	0.8294	1973
136.00	Raycap RRFDC-3315-PF-48	10	14.285	0.2342	0.9489	2170
135.70	LNx-8514DS-VTM	10	14.272	0.2422	0.9509	2194
134.80	SWCP 2x5514	10	14.233	0.2653	0.9575	2273
134.50	HBXX-6517DS-A2M	10	14.219	0.2727	0.9598	2300
133.60	BXA-171063-12BF-EDIN-2	10	14.174	0.2941	0.9669	2388
133.00	B4 RRH2x60-4R	10	14.142	0.3076	0.9718	2450
125.70	RRUS-11	10	13.621	0.4235	1.0224	3581
123.75	(2) SBNH-1D6565C	10	13.448	0.4383	1.0268	4094
123.50	(2) DTMABP7819VG12A TMA	10	13.425	0.4397	1.0269	4177
118.75	Raycap DC6-48-60-18-8F	10	12.958	0.4428	1.0029	11807
109.94	Guy	10	12.087	0.3626	0.9261	1981
72.00	20' x 2" Dipole Element	10	9.466	0.4897	0.8629	5876
67.00	20' x 2" Dipole Element	10	8.910	0.5354	0.8776	10212
62.00	20' x 2" Dipole Element	10	8.326	0.5653	0.8996	30678
57.00	20' x 2" Dipole Element	10	7.737	0.5725	0.9229	16757

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Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
52.00	20' x 2" Dipole Element	10	7.152	0.5613	0.9450	17774
50.00	Guy	10	6.919	0.5546	0.9537	18321

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	160	Secondary Horizontal	A325N	0.5000	1	0.03	7.95	0.003	✓	1	Bolt Shear
		Top Guy	A325N	0.7500	1	1.14	17.89	0.064	✓	1	Bolt Shear
		Pull-Off@160 Torque Arm Top@160	A325N	0.7500	2	2.73	17.89	0.152	✓	1	Bolt Shear
		Torque Arm Bottom@160	A325N	0.7500	2	5.34	17.89	0.299	✓	1	Bolt Shear
T2	156.667	Secondary Horizontal	A325N	0.5000	1	0.36	7.95	0.045	✓	1	Bolt Shear
		Bottom Guy Pull-Off@160	A325N	0.7500	1	1.50	17.89	0.084	✓	1	Bolt Shear
T3	153.333	Secondary Horizontal	A325N	0.5000	1	0.47	7.95	0.059	✓	1	Bolt Shear
T4	150	Secondary Horizontal	A325N	0.5000	1	0.55	7.95	0.069	✓	1	Bolt Shear
T5	146.667	Secondary Horizontal	A325N	0.5000	1	0.62	7.95	0.078	✓	1	Bolt Shear
T6	143.333	Secondary Horizontal	A325N	0.5000	1	0.67	7.95	0.084	✓	1	Bolt Shear
T7	140	Leg	A325N	0.6250	4	6.69	20.71	0.323	✓	1	Bolt Tension
		Secondary Horizontal	A325N	0.5000	1	0.68	7.95	0.085	✓	1	Bolt Shear
T8	120	Leg	A325N	0.6250	4	1.42	20.71	0.069	✓	1	Bolt Tension
		Secondary Horizontal	A325N	0.5000	1	0.55	7.95	0.069	✓	1	Bolt Shear
T9	106.667	Secondary Horizontal	A325N	0.5000	1	0.51	7.95	0.064	✓	1	Bolt Shear
T10	103.333	Secondary Horizontal	A325N	0.5000	1	0.44	7.95	0.055	✓	1	Bolt Shear
T11	100	Leg	A325N	0.6250	4	2.10	20.71	0.101	✓	1	Bolt Tension
T12	80	Leg	A325N	0.6250	4	2.28	20.71	0.110	✓	1	Bolt Tension
T13	60	Leg	A325N	0.6250	4	2.30	20.71	0.111	✓	1	Bolt Tension
T14	40	Leg	A325N	0.6250	4	2.64	20.71	0.128	✓	1	Bolt Tension
T15	20	Leg	A325N	0.6250	4	2.98	20.71	0.144	✓	1	Bolt Tension

Guy Design Data

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Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T_u K	Allowable ϕT_n K	Required S.F.	Actual S.F.
T1	160.00 (A) (485)	7/16 EHS	2.08	20.80	7.03	12.48	1.000	1.775 ✓
	160.00 (A) (486)	7/16 EHS	2.08	20.80	7.39	12.48	1.000	1.690 ✓
	160.00 (B) (479)	7/16 EHS	2.08	20.80	6.78	12.48	1.000	1.842 ✓
	160.00 (B) (480)	7/16 EHS	2.08	20.80	6.65	12.48	1.000	1.877 ✓
	160.00 (C) (467)	7/16 EHS	2.08	20.80	7.09	12.48	1.000	1.760 ✓
	160.00 (C) (468)	7/16 EHS	2.08	20.80	6.88	12.48	1.000	1.815 ✓
T8	109.94 (A) (496)	3/4 EHS	5.83	58.30	23.85	34.98	1.000	1.467 ✓
	109.94 (B) (495)	3/4 EHS	5.83	58.30	22.51	34.98	1.000	1.554 ✓
	109.94 (C) (491)	3/4 EHS	5.83	58.30	22.98	34.98	1.000	1.522 ✓
T13	50.00 (A) (502)	7/16 EHS	2.08	20.80	8.73	12.48	1.000	1.430 ✓
	50.00 (B) (501)	7/16 EHS	2.08	20.80	8.35	12.48	1.000	1.494 ✓
	50.00 (C) (497)	7/16 EHS	2.08	20.80	8.44	12.48	1.000	1.479 ✓

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	Mast Stability Index	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	160 - 156.667	Pipe 2.875"x0.203" (2.5 STD)	3.33	1.67	21.1 K=1.00	1.7040	0.99	-1.56	73.80	0.021 ¹ ✓
T2	156.667 - 153.333	Pipe 2.875"x0.203" (2.5 STD)	3.33	1.67	21.1 K=1.00	1.7040	0.97	-20.78	71.71	0.290 ¹ ✓
T3	153.333 - 150	Pipe 2.875"x0.203" (2.5 STD)	3.33	1.67	21.1 K=1.00	1.7040	0.97	-26.97	72.17	0.374 ¹ ✓
T4	150 - 146.667	Pipe 2.875"x0.203" (2.5 STD)	3.33	1.67	21.1 K=1.00	1.7040	0.98	-31.91	72.51	0.440 ¹ ✓
T5	146.667 - 143.333	Pipe 2.875"x0.203" (2.5 STD)	3.33	1.67	21.1 K=1.00	1.7040	0.98	-35.96	72.60	0.495 ¹ ✓
T6	143.333 - 140	Pipe 2.875"x0.203" (2.5 STD)	3.33	1.54	19.5 K=1.00	1.7040	0.98	-38.51	73.00	0.528 ¹ ✓
T7	140 - 120	Pipe 2.875x0.276	20.00	1.63	21.1 K=1.00	2.2535	0.98	-38.98	96.23	0.405 ¹ ✓
T8	120 - 106.667	Pipe 2.875"x0.203" (2.5 STD)	13.33	1.64	20.7 K=1.00	1.7040	0.95	-31.87	70.60	0.451 ¹ ✓
T9	106.667 - 103.333	Pipe 2.875"x0.203" (2.5 STD)	3.33	1.67	21.1 K=1.00	1.7040	0.91	-29.20	67.34	0.434 ¹ ✓
T10	103.333 - 100	Pipe 2.875"x0.203"	3.33	1.54	19.5	1.7040	0.81	-25.21	60.39	0.417 ¹ ✓

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	Mast Stability Index	P _u K	φP _n K	Ratio P _u / φP _n
T11	100 - 80	(2.5 STD) Pipe 2.875"x0.203"	20.00	3.25	K=1.00 41.2	1.7040	0.88	-27.42	59.85	0.458 ¹
T12	80 - 60	(2.5 STD) Pipe 2.875"x0.203"	20.00	3.25	K=1.00 41.2	1.7040	0.88	-27.58	59.41	0.464 ¹
T13	60 - 40	(2.5 STD) Pipe 2.875"x0.203"	20.00	3.25	K=1.00 41.2	1.7040	0.95	-31.71	64.05	0.495 ¹
T14	40 - 20	(2.5 STD) Pipe 2.875"x0.203"	20.00	3.25	K=1.00 41.2	1.7040	0.95	-35.74	64.27	0.556 ¹
T15	20 - 6.66667	(2.5 STD) Pipe 2.875"x0.203"	13.33	3.27	K=1.00 41.4	1.7040	0.95	-35.75	64.26	0.556 ¹
T16	6.66667 - 0	(2.5 STD) Pipe 2.875"x0.203"	6.82	3.41	K=1.00 43.2	1.7040	0.96	-36.60	64.04	0.572 ¹

¹ P_u / φP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
T1	160 - 156.667	Pipe 1.05x0.113 (3/4 STD)	4.17	3.77	94.8 K=0.70	0.3326	-1.85	7.75	0.238 ¹
T2	156.667 - 153.333	Pipe 1.05x0.113 (3/4 STD)	4.17	3.77	94.8 K=0.70	0.3326	-5.03	7.75	0.648 ¹
T3	153.333 - 150	Pipe 1.05x0.113 (3/4 STD)	4.17	3.77	94.8 K=0.70	0.3326	-5.21	7.75	0.672 ¹
T4	150 - 146.667	Pipe 1.05x0.113 (3/4 STD)	4.17	3.77	94.8 K=0.70	0.3326	-4.74	7.75	0.611 ¹
T5	146.667 - 143.333	Pipe 1.05x0.113 (3/4 STD)	4.17	3.77	94.8 K=0.70	0.3326	-2.76	7.75	0.356 ¹
T6	143.333 - 140	Pipe 1.05x0.113 (3/4 STD)	3.97	3.59	90.4 K=0.70	0.3326	-2.42	8.24	0.294 ¹
T7	140 - 120	Pipe 1.05x0.113 (3/4 STD)	4.10	1.85	66.7 K=1.00	0.3326	-5.18	10.82	0.478 ¹
T8	120 - 106.667	Pipe 1.05x0.113 (3/4 STD)	4.12	1.86	66.9 K=1.00	0.3326	-5.50	10.79	0.510 ¹
T9	106.667 - 103.333	Pipe 1.05x0.113 (3/4 STD)	4.17	3.77	94.8 K=0.70	0.3326	-4.59	7.75	0.592 ¹
T10	103.333 - 100	Pipe 1.05x0.113 (3/4 STD)	3.97	3.59	90.4 K=0.70	0.3326	-4.67	8.24	0.567 ¹
T11	100 - 80	Pipe 1.05x0.113 (3/4 STD)	4.10	3.71	133.3 K=1.00	0.3326	-4.19	4.23	0.991 ¹
T12	80 - 60	Pipe 1.05x0.113 (3/4 STD)	4.10	3.71	133.3 K=1.00	0.3326	-3.20	4.23	0.756 ¹
T13	60 - 40	Pipe 1.05x0.113 (3/4 STD)	4.10	3.71	133.3 K=1.00	0.3326	-4.13	4.23	0.978 ¹
T14	40 - 20	Pipe 1.05x0.113 (3/4 STD)	4.10	3.71	133.3 K=1.00	0.3326	-2.94	4.23	0.696 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T15	20 - 6.66667	Pipe 1.05x0.113 (3/4 STD)	4.12	3.72	133.9 K=1.00	0.3326	-2.07	4.19	0.493 ¹
T16	6.66667 - 0	Pipe 1.05x0.113 (3/4 STD)	3.84	3.36	120.8 K=1.00	0.3326	-1.68	5.15	0.326 ¹

¹ P_u / φP_n controls

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T2	156.667 - 153.333	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3 K=1.00	0.3326	-0.36	9.23	0.039 ¹
T3	153.333 - 150	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3 K=1.00	0.3326	-0.47	9.23	0.051 ¹
T4	150 - 146.667	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3 K=1.00	0.3326	-0.55	9.23	0.060 ¹
T5	146.667 - 143.333	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3 K=1.00	0.3326	-0.62	9.23	0.067 ¹
T6	143.333 - 140	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3 K=1.00	0.3326	-0.67	9.23	0.072 ¹
T7	140 - 120	Pipe 0.84x0.109 (0.5 STD)	2.50	2.26	103.8 K=1.00	0.2503	-0.83	5.12	0.162 ¹
T8	120 - 106.667	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3 K=1.00	0.3326	-0.20	9.23	0.022 ¹
T9	106.667 - 103.333	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3 K=1.00	0.3326	-0.57	9.23	0.061 ¹
T10	103.333 - 100	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3 K=1.00	0.3326	-0.51	9.23	0.055 ¹
T11	100 - 80	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3 K=1.00	0.3326	-0.47	9.23	0.051 ¹
T12	80 - 60	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3 K=1.00	0.3326	-0.48	9.23	0.052 ¹
T13	60 - 40	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3 K=1.00	0.3326	-0.55	9.23	0.059 ¹
T14	40 - 20	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3 K=1.00	0.3326	-0.62	9.23	0.067 ¹
T15	20 - 6.66667	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3 K=1.00	0.3326	-0.62	9.23	0.067 ¹
T16	6.66667 - 0	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3 K=1.00	0.3326	-0.64	9.23	0.070 ¹

¹ P_u / φP_n controls

Secondary Horizontal Design Data (Compression)

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	160 - 156.667	3/4	2.50	2.26	101.3 K=0.70	0.4418	-0.03	9.39	0.003 ¹
T2	156.667 - 153.333	3/4	2.50	2.26	101.3 K=0.70	0.4418	-0.36	9.39	0.038 ¹
T3	153.333 - 150	3/4	2.50	2.26	101.3 K=0.70	0.4418	-0.47	9.39	0.050 ¹
T4	150 - 146.667	3/4	2.50	2.26	101.3 K=0.70	0.4418	-0.55	9.39	0.059 ¹
T5	146.667 - 143.333	3/4	2.50	2.26	101.3 K=0.70	0.4418	-0.62	9.39	0.066 ¹
T6	143.333 - 140	3/4	2.50	2.26	101.3 K=0.70	0.4418	-0.67	9.39	0.071 ¹
T7	140 - 120	3/4	2.50	2.26	101.3 K=0.70	0.4418	-0.68	9.39	0.072 ¹
T8	120 - 106.667	3/4	2.50	2.26	101.3 K=0.70	0.4418	-0.55	9.39	0.059 ¹
T9	106.667 - 103.333	3/4	2.50	2.26	101.3 K=0.70	0.4418	-0.51	9.39	0.054 ¹
T10	103.333 - 100	3/4	2.50	2.26	101.3 K=0.70	0.4418	-0.44	9.39	0.046 ¹
T11	100 - 80	Pipe 1.05x0.113 (3/4 STD)	1.25	1.13	40.7 K=1.00	0.3326	-0.00	13.26	0.000 ¹
T12	80 - 60	Pipe 1.05x0.113 (3/4 STD)	1.25	1.13	40.7 K=1.00	0.3326	-0.00	13.26	0.000 ¹
T13	60 - 40	Pipe 1.05x0.113 (3/4 STD)	1.25	1.13	40.7 K=1.00	0.3326	-0.00	13.26	0.000 ¹
T14	40 - 20	Pipe 1.05x0.113 (3/4 STD)	1.25	1.13	40.7 K=1.00	0.3326	-0.00	13.26	0.000 ¹
T15	20 - 6.66667	Pipe 1.05x0.113 (3/4 STD)	1.25	1.13	40.7 K=1.00	0.3326	-0.00	13.26	0.000 ¹

¹ P_u / φP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	160 - 156.667	Pipe 1.315x0.109	2.50	2.26	63.4 K=1.00	0.4130	-0.22	13.86	0.016 ¹
T7	140 - 120	Pipe 1.315x0.109	2.50	2.26	63.4 K=1.00	0.4130	-0.19	13.86	0.014 ¹
T8	120 - 106.667	Pipe 1.315x0.109	2.50	2.26	63.4 K=1.00	0.4130	-0.33	13.86	0.023 ¹
T11	100 - 80	Pipe 1.315x0.109	2.50	2.26	63.4 K=1.00	0.4130	-0.51	13.86	0.037 ¹
T13	60 - 40	Pipe 1.315x0.109	2.50	2.26	63.4 K=1.00	0.4130	-0.48	13.86	0.034 ¹
T14	40 - 20	Pipe 1.315x0.109	2.50	2.26	63.4	0.4130	-0.29	13.86	0.021 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
K=1.00									✓

¹ P_u / φP_n controls

Bottom Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T6	143.333 - 140	Pipe 1.315x0.109	2.50	2.26	63.4 K=1.00	0.4130	-0.50	13.86	0.036 ¹ ✓
T7	140 - 120	Pipe 1.315x0.109	2.50	2.26	63.4 K=1.00	0.4130	-0.06	13.86	0.004 ¹ ✓
T10	103.333 - 100	Pipe 1.315x0.109	2.50	2.26	63.4 K=1.00	0.4130	-0.56	13.86	0.040 ¹ ✓
T11	100 - 80	Pipe 1.315x0.109	2.50	2.26	63.4 K=1.00	0.4130	-0.08	13.86	0.006 ¹ ✓
T12	80 - 60	Pipe 1.315x0.109	2.50	2.26	63.4 K=1.00	0.4130	-0.34	13.86	0.025 ¹ ✓
T13	60 - 40	Pipe 1.315x0.109	2.50	2.26	63.4 K=1.00	0.4130	-0.38	13.86	0.027 ¹ ✓

¹ P_u / φP_n controls

Top Guy Pull-Off Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	160 - 156.667	L3x3x3/8	2.50	1.99	73.1 K=2.79	2.1100	-1.12	51.61	0.022 ¹ ✓

¹ P_u / φP_n controls

Bottom Guy Pull-Off Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T2	156.667 - 153.333	L3x3x3/8	2.50	1.99	73.1 K=2.79	2.1100	-1.47	51.61	0.028 ¹ ✓

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¹ $P_u / \phi P_n$ controls

Torque-Arm Bottom Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	160 - 156.667 (474)	L3x3x3/8	4.17	3.51	95.9 K=1.34	2.1100	-10.34	42.14	0.245 ¹ ✓
T1	160 - 156.667 (475)	L3x3x3/8	4.17	3.51	95.9 K=1.34	2.1100	-10.69	42.14	0.254 ¹ ✓
T1	160 - 156.667 (483)	L3x3x3/8	4.17	3.51	95.9 K=1.34	2.1100	-9.89	42.14	0.235 ¹ ✓
T1	160 - 156.667 (484)	L3x3x3/8	4.17	3.51	95.9 K=1.34	2.1100	-9.81	42.14	0.233 ¹ ✓
T1	160 - 156.667 (489)	L3x3x3/8	4.17	3.51	95.9 K=1.34	2.1100	-9.55	42.14	0.227 ¹ ✓
T1	160 - 156.667 (490)	L3x3x3/8	4.17	3.51	95.9 K=1.34	2.1100	-10.04	42.14	0.238 ¹ ✓

¹ $P_u / \phi P_n$ controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	160 - 156.667	Pipe 2.875"x0.203" (2.5 STD)	3.33	1.67	21.1	1.7040	1.43	76.68	0.019 ¹ ✓
T2	156.667 - 153.333	Pipe 2.875"x0.203" (2.5 STD)	3.33	1.67	21.1	1.7040	8.20	76.68	0.107 ¹ ✓
T3	153.333 - 150	Pipe 2.875"x0.203" (2.5 STD)	3.33	1.67	21.1	1.7040	14.06	76.68	0.183 ¹ ✓
T4	150 - 146.667	Pipe 2.875"x0.203" (2.5 STD)	3.33	1.67	21.1	1.7040	19.95	76.68	0.260 ¹ ✓
T5	146.667 - 143.333	Pipe 2.875"x0.203" (2.5 STD)	3.33	1.67	21.1	1.7040	23.43	76.68	0.306 ¹ ✓
T6	143.333 - 140	Pipe 2.875"x0.203" (2.5 STD)	3.33	1.54	19.5	1.7040	26.74	76.68	0.349 ¹ ✓
T7	140 - 120	Pipe 2.875x0.276	20.00	1.63	21.1	2.2535	28.59	101.41	0.282 ¹ ✓
T8	120 - 106.667	Pipe 2.875"x0.203" (2.5 STD)	13.33	1.64	20.7	1.7040	19.09	76.68	0.249 ¹ ✓
T9	106.667 - 103.333	Pipe 2.875"x0.203" (2.5 STD)	3.33	1.67	21.1	1.7040	1.66	76.68	0.022 ¹ ✓

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¹ $P_u / \phi P_n$ controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	160 - 156.667	Pipe 1.05x0.113 (3/4 STD)	4.17	3.77	135.5	0.3326	1.89	14.97	0.126 ¹
T2	156.667 - 153.333	Pipe 1.05x0.113 (3/4 STD)	4.17	3.77	135.5	0.3326	4.68	14.97	0.313 ¹
T3	153.333 - 150	Pipe 1.05x0.113 (3/4 STD)	4.17	3.77	135.5	0.3326	4.75	14.97	0.317 ¹
T4	150 - 146.667	Pipe 1.05x0.113 (3/4 STD)	4.17	3.77	135.5	0.3326	4.28	14.97	0.286 ¹
T5	146.667 - 143.333	Pipe 1.05x0.113 (3/4 STD)	4.17	3.77	135.5	0.3326	2.31	14.97	0.155 ¹
T6	143.333 - 140	Pipe 1.05x0.113 (3/4 STD)	3.97	3.59	129.1	0.3326	2.12	14.97	0.142 ¹
T7	140 - 120	Pipe 1.05x0.113 (3/4 STD)	4.10	1.85	66.7	0.3326	4.24	14.97	0.283 ¹
T8	120 - 106.667	Pipe 1.05x0.113 (3/4 STD)	4.12	1.86	66.9	0.3326	4.66	14.97	0.311 ¹
T9	106.667 - 103.333	Pipe 1.05x0.113 (3/4 STD)	4.17	3.77	135.5	0.3326	3.91	14.97	0.261 ¹
T10	103.333 - 100	Pipe 1.05x0.113 (3/4 STD)	3.97	3.59	129.1	0.3326	3.56	14.97	0.238 ¹
T11	100 - 80	Pipe 1.05x0.113 (3/4 STD)	4.10	3.71	133.3	0.3326	3.25	14.97	0.217 ¹
T12	80 - 60	Pipe 1.05x0.113 (3/4 STD)	4.10	3.71	133.3	0.3326	2.12	14.97	0.141 ¹
T13	60 - 40	Pipe 1.05x0.113 (3/4 STD)	4.10	3.71	133.3	0.3326	2.80	14.97	0.187 ¹
T14	40 - 20	Pipe 1.05x0.113 (3/4 STD)	4.10	3.71	133.3	0.3326	1.68	14.97	0.112 ¹
T15	20 - 6.66667	Pipe 1.05x0.113 (3/4 STD)	4.12	3.72	133.9	0.3326	0.82	14.97	0.054 ¹

¹ $P_u / \phi P_n$ controls

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T2	156.667 - 153.333	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3	0.3326	0.36	14.97	0.024 ¹
T3	153.333 - 150	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3	0.3326	0.47	14.97	0.031 ¹
T4	150 - 146.667	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3	0.3326	0.55	14.97	0.037 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T5	146.667 - 143.333	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3	0.3326	0.73	14.97	0.049 ¹
T6	143.333 - 140	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3	0.3326	0.67	14.97	0.045 ¹
T7	140 - 120	Pipe 0.84x0.109 (0.5 STD)	2.50	2.26	103.8	0.2503	1.77	11.26	0.157 ¹
T8	120 - 106.667	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3	0.3326	2.39	14.97	0.159 ¹
T9	106.667 - 103.333	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3	0.3326	2.11	14.97	0.141 ¹
T10	103.333 - 100	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3	0.3326	0.51	14.97	0.034 ¹
T11	100 - 80	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3	0.3326	0.64	14.97	0.043 ¹
T12	80 - 60	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3	0.3326	0.62	14.97	0.042 ¹
T13	60 - 40	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3	0.3326	1.49	14.97	0.100 ¹
T14	40 - 20	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3	0.3326	0.71	14.97	0.048 ¹
T15	20 - 6.66667	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3	0.3326	0.69	14.97	0.046 ¹
T16	6.66667 - 0	Pipe 1.05x0.113 (3/4 STD)	2.50	2.26	81.3	0.3326	4.90	14.97	0.328 ¹

¹ P_u / φP_n controls

Secondary Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	160 - 156.667	3/4	2.50	2.26	144.7	0.4418	0.03	19.88	0.001 ¹
T2	156.667 - 153.333	3/4	2.50	2.26	144.7	0.4418	0.36	19.88	0.018 ¹
T3	153.333 - 150	3/4	2.50	2.26	144.7	0.4418	0.47	19.88	0.023 ¹
T4	150 - 146.667	3/4	2.50	2.26	144.7	0.4418	0.55	19.88	0.028 ¹
T5	146.667 - 143.333	3/4	2.50	2.26	144.7	0.4418	0.62	19.88	0.031 ¹
T6	143.333 - 140	3/4	2.50	2.26	144.7	0.4418	0.67	19.88	0.034 ¹
T7	140 - 120	3/4	2.50	2.26	144.7	0.4418	0.68	19.88	0.034 ¹
T8	120 - 106.667	3/4	2.50	2.26	144.7	0.4418	0.55	19.88	0.028 ¹
T9	106.667 - 103.333	3/4	2.50	2.26	144.7	0.4418	0.51	19.88	0.025 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T10	103.333 - 100	3/4	2.50	2.26	144.7	0.4418	0.44	19.88	0.022 ¹ ✓
T11	100 - 80	Pipe 1.05x0.113 (3/4 STD)	1.25	1.13	40.7	0.3326	0.00	14.97	0.000 ¹ ✓
T12	80 - 60	Pipe 1.05x0.113 (3/4 STD)	1.25	1.13	40.7	0.3326	0.00	14.97	0.000 ¹ ✓
T13	60 - 40	Pipe 1.05x0.113 (3/4 STD)	1.25	1.13	40.7	0.3326	0.00	14.97	0.000 ¹ ✓
T14	40 - 20	Pipe 1.05x0.113 (3/4 STD)	1.25	1.13	40.7	0.3326	0.00	14.97	0.000 ¹ ✓
T15	20 - 6.66667	Pipe 1.05x0.113 (3/4 STD)	1.25	1.13	40.7	0.3326	0.00	14.97	0.000 ¹ ✓

¹ P_u / φP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	160 - 156.667	Pipe 1.315x0.109	2.50	2.26	63.4	0.4130	0.22	18.58	0.012 ¹ ✓
T7	140 - 120	Pipe 1.315x0.109	2.50	2.26	63.4	0.4130	0.60	18.58	0.032 ¹ ✓
T8	120 - 106.667	Pipe 1.315x0.109	2.50	2.26	63.4	0.4130	1.12	18.58	0.060 ¹ ✓
T11	100 - 80	Pipe 1.315x0.109	2.50	2.26	63.4	0.4130	0.85	18.58	0.045 ¹ ✓
T12	80 - 60	Pipe 1.315x0.109	2.50	2.26	63.4	0.4130	0.33	18.58	0.018 ¹ ✓
T13	60 - 40	Pipe 1.315x0.109	2.50	2.26	63.4	0.4130	0.80	18.58	0.043 ¹ ✓
T14	40 - 20	Pipe 1.315x0.109	2.50	2.26	63.4	0.4130	0.66	18.58	0.036 ¹ ✓
T15	20 - 6.66667	Pipe 1.315x0.109	2.50	2.26	63.4	0.4130	0.36	18.58	0.020 ¹ ✓

¹ P_u / φP_n controls

Bottom Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T6	143.333 - 140	Pipe 1.315x0.109	2.50	2.26	63.4	0.4130	0.68	18.58	0.036 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T7	140 - 120	Pipe 1.315x0.109	2.50	2.26	63.4	0.4130	0.77	18.58	0.041 ¹ ✓
T10	103.333 - 100	Pipe 1.315x0.109	2.50	2.26	63.4	0.4130	0.84	18.58	0.045 ¹ ✓
T11	100 - 80	Pipe 1.315x0.109	2.50	2.26	63.4	0.4130	0.44	18.58	0.024 ¹ ✓
T12	80 - 60	Pipe 1.315x0.109	2.50	2.26	63.4	0.4130	0.69	18.58	0.037 ¹ ✓
T13	60 - 40	Pipe 1.315x0.109	2.50	2.26	63.4	0.4130	0.76	18.58	0.041 ¹ ✓
T14	40 - 20	Pipe 1.315x0.109	2.50	2.26	63.4	0.4130	0.33	18.58	0.018 ¹ ✓

¹ P_u / φP_n controls

Top Guy Pull-Off Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	160 - 156.667	L3x3x3/8	2.50	1.99	29.7	1.3364	1.14	58.13	0.020 ¹ ✓
T8	120 - 106.667	3x1/4	2.50	2.26	375.9	0.7500	5.38	24.30	0.221 ¹ ✓
T13	60 - 40	3x1/4	2.50	2.26	375.9	0.7500	3.36	24.30	0.138 ¹ ✓

¹ P_u / φP_n controls

Bottom Guy Pull-Off Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T2	156.667 - 153.333	L3x3x3/8	2.50	1.99	29.7	1.3364	1.50	58.13	0.026 ¹ ✓

¹ P_u / φP_n controls

Torque-Arm Top Design Data

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	160 - 156.667 (469)	L3x3x3/8	2.50	1.92	31.3	2.1100	5.18	68.36	0.076 ¹
T1	160 - 156.667 (470)	L3x3x3/8	2.50	1.92	31.3	2.1100	5.20	68.36	0.076 ¹
T1	160 - 156.667 (481)	L3x3x3/8	2.50	1.92	31.3	2.1100	5.18	68.36	0.076 ¹
T1	160 - 156.667 (482)	L3x3x3/8	2.50	1.92	31.3	2.1100	5.01	68.36	0.073 ¹
T1	160 - 156.667 (487)	L3x3x3/8	2.50	1.92	31.3	2.1100	5.02	68.36	0.073 ¹
T1	160 - 156.667 (488)	L3x3x3/8	2.50	1.92	31.3	2.1100	5.45	68.36	0.080 ¹

¹ P_u / φP_n controls

Torque-Arm Bottom Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	160 - 156.667 (474)	L3x3x3/8	4.17	3.51	52.1	2.1100	1.95	68.36	0.029 ¹
T1	160 - 156.667 (475)	L3x3x3/8	4.17	3.51	52.1	2.1100	1.96	68.36	0.029 ¹
T1	160 - 156.667 (483)	L3x3x3/8	4.17	3.51	52.1	2.1100	1.88	68.36	0.028 ¹
T1	160 - 156.667 (484)	L3x3x3/8	4.17	3.51	52.1	2.1100	1.82	68.36	0.027 ¹
T1	160 - 156.667 (489)	L3x3x3/8	4.17	3.51	52.1	2.1100	1.67	68.36	0.024 ¹
T1	160 - 156.667 (490)	L3x3x3/8	4.17	3.51	52.1	2.1100	1.65	68.36	0.024 ¹

¹ P_u / φP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	φP _{allow} K	% Capacity	Pass Fail
T1	160 - 156.667	Leg	Pipe 2.875"x0.203" (2.5 STD)	3	-1.56	73.80	2.1	Pass
T2	156.667 - 153.333	Leg	Pipe 2.875"x0.203" (2.5 STD)	13	-20.78	71.71	29.0	Pass
T3	153.333 - 150	Leg	Pipe 2.875"x0.203" (2.5 STD)	27	-26.97	72.17	37.4	Pass
T4	150 - 146.667	Leg	Pipe 2.875"x0.203" (2.5 STD)	37	-31.91	72.51	44.0	Pass
T5	146.667 - 143.333	Leg	Pipe 2.875"x0.203" (2.5 STD)	51	-35.96	72.60	49.5	Pass
T6	143.333 - 140	Leg	Pipe 2.875"x0.203" (2.5 STD)	61	-38.51	73.00	52.8	Pass
T7	140 - 120	Leg	Pipe 2.875x0.276	76	-38.98	96.23	40.5	Pass

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Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T8	120 - 106.667	Leg	Pipe 2.875"x0.203" (2.5 STD)	154	-31.87	70.60	45.1	Pass
T9	106.667 - 103.333	Leg	Pipe 2.875"x0.203" (2.5 STD)	205	-29.20	67.34	43.4	Pass
T10	103.333 - 100	Leg	Pipe 2.875"x0.203" (2.5 STD)	217	-25.21	60.39	41.7	Pass
T11	100 - 80	Leg	Pipe 2.875"x0.203" (2.5 STD)	232	-27.42	59.85	45.8	Pass
T12	80 - 60	Leg	Pipe 2.875"x0.203" (2.5 STD)	280	-27.58	59.41	46.4	Pass
T13	60 - 40	Leg	Pipe 2.875"x0.203" (2.5 STD)	330	-31.71	64.05	49.5	Pass
T14	40 - 20	Leg	Pipe 2.875"x0.203" (2.5 STD)	378	-35.74	64.27	55.6	Pass
T15	20 - 6.66667	Leg	Pipe 2.875"x0.203" (2.5 STD)	426	-35.75	64.26	55.6	Pass
T16	6.66667 - 0	Leg	Pipe 2.875"x0.203" (2.5 STD)	457	-36.60	64.04	57.2	Pass
T1	160 - 156.667	Diagonal	Pipe 1.05x0.113 (3/4 STD)	9	-1.85	7.75	23.8	Pass
T2	156.667 - 153.333	Diagonal	Pipe 1.05x0.113 (3/4 STD)	21	-5.03	7.75	64.8	Pass
T3	153.333 - 150	Diagonal	Pipe 1.05x0.113 (3/4 STD)	33	-5.21	7.75	67.2	Pass
T4	150 - 146.667	Diagonal	Pipe 1.05x0.113 (3/4 STD)	45	-4.74	7.75	61.1	Pass
T5	146.667 - 143.333	Diagonal	Pipe 1.05x0.113 (3/4 STD)	57	-2.76	7.75	35.6	Pass
T6	143.333 - 140	Diagonal	Pipe 1.05x0.113 (3/4 STD)	72	-2.42	8.24	29.4	Pass
T7	140 - 120	Diagonal	Pipe 1.05x0.113 (3/4 STD)	86	-5.18	10.82	47.8	Pass
T8	120 - 106.667	Diagonal	Pipe 1.05x0.113 (3/4 STD)	173	-5.50	10.79	51.0	Pass
T9	106.667 - 103.333	Diagonal	Pipe 1.05x0.113 (3/4 STD)	212	-4.59	7.75	59.2	Pass
T10	103.333 - 100	Diagonal	Pipe 1.05x0.113 (3/4 STD)	227	-4.67	8.24	56.7	Pass
T11	100 - 80	Diagonal	Pipe 1.05x0.113 (3/4 STD)	277	-4.19	4.23	99.1	Pass
T12	80 - 60	Diagonal	Pipe 1.05x0.113 (3/4 STD)	289	-3.20	4.23	75.6	Pass
T13	60 - 40	Diagonal	Pipe 1.05x0.113 (3/4 STD)	358	-4.13	4.23	97.8	Pass
T14	40 - 20	Diagonal	Pipe 1.05x0.113 (3/4 STD)	422	-2.94	4.23	69.6	Pass
T15	20 - 6.66667	Diagonal	Pipe 1.05x0.113 (3/4 STD)	430	-2.07	4.19	49.3	Pass
T16	6.66667 - 0	Diagonal	Pipe 1.05x0.113 (3/4 STD)	466	-1.68	5.15	32.6	Pass
T2	156.667 - 153.333	Horizontal	Pipe 1.05x0.113 (3/4 STD)	16	-0.36	9.23	3.9	Pass
T3	153.333 - 150	Horizontal	Pipe 1.05x0.113 (3/4 STD)	29	-0.47	9.23	5.1	Pass
T4	150 - 146.667	Horizontal	Pipe 1.05x0.113 (3/4 STD)	42	-0.55	9.23	6.0	Pass
T5	146.667 - 143.333	Horizontal	Pipe 1.05x0.113 (3/4 STD)	53	-0.62	9.23	6.7	Pass
T6	143.333 - 140	Horizontal	Pipe 1.05x0.113 (3/4 STD)	64	-0.67	9.23	7.2	Pass
T7	140 - 120	Horizontal	Pipe 0.84x0.109 (0.5 STD)	128	-0.83	5.12	16.2	Pass
T8	120 - 106.667	Horizontal	Pipe 1.05x0.113 (3/4 STD)	167	2.39	14.97	15.9	Pass
T9	106.667 - 103.333	Horizontal	Pipe 1.05x0.113 (3/4 STD)	209	2.11	14.97	14.1	Pass
T10	103.333 - 100	Horizontal	Pipe 1.05x0.113 (3/4 STD)	220	-0.51	9.23	5.5	Pass
T11	100 - 80	Horizontal	Pipe 1.05x0.113 (3/4 STD)	245	-0.47	9.23	5.1	Pass
T12	80 - 60	Horizontal	Pipe 1.05x0.113 (3/4 STD)	295	-0.48	9.23	5.2	Pass
T13	60 - 40	Horizontal	Pipe 1.05x0.113 (3/4 STD)	357	1.49	14.97	10.0	Pass
T14	40 - 20	Horizontal	Pipe 1.05x0.113 (3/4 STD)	391	-0.62	9.23	6.7	Pass
T15	20 - 6.66667	Horizontal	Pipe 1.05x0.113 (3/4 STD)	435	-0.62	9.23	6.7	Pass
T16	6.66667 - 0	Horizontal	Pipe 1.05x0.113 (3/4 STD)	459	4.90	14.97	32.8	Pass
T1	160 - 156.667	Secondary Horizontal	3/4	11	-0.03	9.39	0.3	Pass
T2	156.667 - 153.333	Secondary Horizontal	3/4	22	-0.36	9.39	3.8	Pass
T3	153.333 - 150	Secondary Horizontal	3/4	36	-0.47	9.39	5.0	Pass
T4	150 - 146.667	Secondary Horizontal	3/4	46	-0.55	9.39	5.9	Pass
T5	146.667 - 143.333	Secondary Horizontal	3/4	59	-0.62	9.39	6.6	Pass
T6	143.333 - 140	Secondary Horizontal	3/4	73	-0.67	9.39	7.1	Pass
T7	140 - 120	Secondary Horizontal	3/4	106	-0.68	9.39	7.2	Pass

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Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T8	120 - 106.667	Secondary Horizontal	3/4	169	-0.55	9.39	5.9	Pass
T9	106.667 - 103.333	Secondary Horizontal	3/4	214	-0.51	9.39	6.9 (b) 5.4	Pass
T10	103.333 - 100	Secondary Horizontal	3/4	229	-0.44	9.39	6.4 (b) 4.6	Pass
T11	100 - 80	Secondary Horizontal	Pipe 1.05x0.113 (3/4 STD)	244	0.00	14.97	5.5 (b) 0.1	Pass
T12	80 - 60	Secondary Horizontal	Pipe 1.05x0.113 (3/4 STD)	292	0.00	14.97	0.1	Pass
T13	60 - 40	Secondary Horizontal	Pipe 1.05x0.113 (3/4 STD)	340	0.00	14.97	0.1	Pass
T14	40 - 20	Secondary Horizontal	Pipe 1.05x0.113 (3/4 STD)	388	0.00	14.97	0.1	Pass
T15	20 - 6.66667	Secondary Horizontal	Pipe 1.05x0.113 (3/4 STD)	447	0.00	14.97	0.1	Pass
T1	160 - 156.667	Top Girt	Pipe 1.315x0.109	6	-0.22	13.86	1.6	Pass
T7	140 - 120	Top Girt	Pipe 1.315x0.109	80	0.60	18.58	3.2	Pass
T8	120 - 106.667	Top Girt	Pipe 1.315x0.109	158	1.12	18.58	6.0	Pass
T11	100 - 80	Top Girt	Pipe 1.315x0.109	236	0.85	18.58	4.5	Pass
T12	80 - 60	Top Girt	Pipe 1.315x0.109	285	0.33	18.58	1.8	Pass
T13	60 - 40	Top Girt	Pipe 1.315x0.109	333	0.80	18.58	4.3	Pass
T14	40 - 20	Top Girt	Pipe 1.315x0.109	380	0.66	18.58	3.6	Pass
T15	20 - 6.66667	Top Girt	Pipe 1.315x0.109	429	0.36	18.58	2.0	Pass
T6	143.333 - 140	Bottom Girt	Pipe 1.315x0.109	69	0.68	18.58	3.6	Pass
T7	140 - 120	Bottom Girt	Pipe 1.315x0.109	82	0.77	18.58	4.1	Pass
T10	103.333 - 100	Bottom Girt	Pipe 1.315x0.109	224	0.84	18.58	4.5	Pass
T11	100 - 80	Bottom Girt	Pipe 1.315x0.109	239	0.44	18.58	2.4	Pass
T12	80 - 60	Bottom Girt	Pipe 1.315x0.109	288	0.69	18.58	3.7	Pass
T13	60 - 40	Bottom Girt	Pipe 1.315x0.109	335	0.76	18.58	4.1	Pass
T14	40 - 20	Bottom Girt	Pipe 1.315x0.109	382	0.33	18.58	1.8	Pass
T1	160 - 156.667	Guy A@160	7/16	486	7.39	12.48	59.2	Pass
T8	120 - 106.667	Guy A@109.938	3/4	496	23.85	34.98	68.2	Pass
T13	60 - 40	Guy A@50	7/16	502	8.73	12.48	70.0	Pass
T1	160 - 156.667	Guy B@160	7/16	479	6.78	12.48	54.3	Pass
T8	120 - 106.667	Guy B@109.938	3/4	495	22.51	34.98	64.4	Pass
T13	60 - 40	Guy B@50	7/16	501	8.35	12.48	66.9	Pass
T1	160 - 156.667	Guy C@160	7/16	467	7.09	12.48	56.8	Pass
T8	120 - 106.667	Guy C@109.938	3/4	491	22.98	34.98	65.7	Pass
T13	60 - 40	Guy C@50	7/16	497	8.44	12.48	67.6	Pass
T1	160 - 156.667	Top Guy	L3x3x3/8	473	-1.12	51.61	2.2	Pass
		Pull-Off@160					6.4 (b)	
T8	120 - 106.667	Top Guy	3x1/4	493	5.38	24.30	22.1	Pass
		Pull-Off@109.938						
T13	60 - 40	Top Guy	3x1/4	500	3.36	24.30	13.8	Pass
		Pull-Off@50						
T2	156.667 - 153.333	Bottom Guy	L3x3x3/8	476	-1.47	51.61	2.8	Pass
		Pull-Off@160					8.4 (b)	
T1	160 - 156.667	Torque Arm	L3x3x3/8	488	5.45	68.36	8.0	Pass
		Top@160					15.2 (b)	
T1	160 - 156.667	Torque Arm	L3x3x3/8	475	-10.69	42.14	25.4	Pass
		Bottom@160					29.9 (b)	
							Summary	
						Leg (T16)	57.2	Pass
						Diagonal (T11)	99.1	Pass
						Horizontal (T16)	32.8	Pass
						Secondary Horizontal (T7)	8.5	Pass
						Top Girt (T8)	6.0	Pass
						Bottom Girt (T10)	4.5	Pass
						Guy A (T13)	70.0	Pass

<p>tnxTower</p> <p>Trylon 1825 W. Walnut Hill Lane Suite 302 Irving, TX 75038 Phone: (519)-572-9995 FAX:</p>	Job 119646	Page 66 of 66
	Project CT2218 - PROSPECT BRADSHAW TWR	Date 13:48:46 10/20/16
	Client EMPIRE TELECOM	Designed by AF

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
						Guy B (T13)	66.9	Pass
						Guy C (T13)	67.6	Pass
						Top Guy Pull-Off (T8)	22.1	Pass
						Bottom Guy Pull-Off (T2)	8.4	Pass
						Torque Arm Top (T1)	15.2	Pass
						Torque Arm Bottom (T1)	29.9	Pass
						Bolt Checks	32.3	Pass
						RATING =	99.1	Pass