ORIGINAL

DETAILED STRUCTURAL ANALYSIS AND EVALUATION WITH PROPOSED REINFORCEMENT OF 320' SELF SUPPORTING LATTICE TOWER FOR NEW ANTENNA ARRANGEMENT

Connecticut State Police
112 Munn Road
Colchester, Connecticut

EM-CING-028-060314

prepared for

cingular WIRELESS

Cingular Wireless
500 Enterprise Drive, Suite 3A
Rocky Hill, CT 06067

prepared by

URS

URS CORPORATION
500 ENTERPRISE DR, SUITE 3B
ROCKY HILL, CT 06067
TEL. 860-529-8882

36921843.00008
CW1-079

March 14, 2006

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY
2. INTRODUCTION
3. ANALYSIS METHODOLOGY AND LOADING CONDITIONS
4. FINDINGS AND EVALUATION
5. CONCLUSIONS
6. DRAWINGS AND DATA

- SK-1 EXISTING TOWER WITH PROPOSED REINFORCEMENT
- ERI TOWER FEEDLINE DISTRIBUTION CHART
- ERI TOWER FEEDLINE PLAN
- ERI TOWER DEFLECTION, TILT, AND TWIST

EXISTING TOWER

- ERI TOWER INPUT / OUTPUT SUMMARY
- ERI TOWER DETAILED OUTPUT

REINFORCED TOWER

- ERI TOWER INPUT / OUTPUT SUMMARY
- ERI TOWER DETAILED OUTPUT

1. EXECUTIVE SUMMARY

This report summarizes the structural analysis of the existing 320' self-supporting lattice tower structure located at 112 Munn Road in Colchester, Connecticut. The analysis was conducted in accordance with the TIA/EIA-222-F standard for wind velocity of 90 mph concurrent with ½" ice. The antenna loading considered in the analysis consists of all existing and proposed antennas, transmission lines, and ancillary items as outlined in the Introduction Section of this report. The proposed Cingular Wireless modification is as follows:

Proposed Antenna and Mount	Carrier	Antenna Center Elevation
Install (12) Powerwave 7770.00 antennas , (12) Powerwave LPG21401 TMA's and (12) Powerwave LPG13519 Diplexers on (3) new T-Arms with (24) 1 5/8" coax cables stacked (12) on (12).	**Cingular Wireless (Proposed)**	**@ 200'**

The results of the analysis indicate that the existing tower structure is not in compliance with the proposed loading conditions. **The tower is not considered structurally adequate under the TIA/EIA-222-F wind load specified above and the existing and proposed antenna loadings. Reinforcement of the tower is considered feasible to meet the TIA/EIA-222-F wind load specified above with all existing and proposed antenna loads.** Recommended modifications are outlined in greater detail in section 4 and 6 of this report. With reinforcement, the tower sway is 0.75 degrees, and the tower twist is 0.42 degrees. These are within the Connecticut State Police specification of 0.75 degrees for twist and sway.

This analysis is based on:

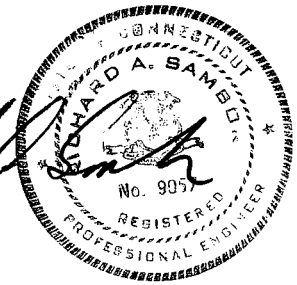
1) The tower structure's theoretical capacity, not including any assessment of the condition of the tower.
2) Tower geometry and structural member sizes taken from original construction drawings (Rohn File #: 43233AE) prepared by Rohn Industries, Inc., approved May 10, 2001.
3) Antenna and mount configuration as specified on the following page of this report.
4) Coax cable orientation as specified in section 6 of this report.

This report is only valid as per the assumptions and data utilized in this report for antenna inventory, mounts and associated cables. The user of this report shall field verify the assumption of the antenna and mount configuration. Notify the engineer in writing immediately if any of the information in this report is found to be other than specified.

If you should have any questions, please call.

Sincerely,

URS Corporation



Richard A. Sambor, P.E.
Manager Facilities Design

RAS/jek

cc: AA, DR, IA – URS
CF/Book

2. INTRODUCTION

The subject tower is located at 112 Munn Road in Colchester, Connecticut. The structure is a 320' self-supporting lattice tower structure designed by Rohn Industries, Inc.

The tower geometry and structure member sizes were taken from the original construction drawings (Rohn File #: 43233AE) prepared by Rohn Industries, Inc., approved May 10, 2001.

The inventory is summarized in the table below:

Antenna Type	Carrier	Mount	Antenna Centerline Elevation	Cable
(1) PD128 antenna	(existing)	Side Arm Mount	320'	(1) 7/8" coax cable
(1) PD128 antenna	(existing)	Side Arm Mount	318'	(1) 7/8" coax cable
(1) 8 FT dish	(existing)	Dish Mount	315'	(1) 7/8" coax cable
(3) 6 FT dishes	(existing)	(3) Dish Mount	308'	(3) EW63 coax cables
(1) DB224 antenna	(existing)	Side Arm Mount	294'	(1) 7/8" coax cable
(1) PD320 antenna	(existing)	Side Arm Mount	292'	(1) 7/8" coax cable
(1) DB809 antenna	(existing)	Side Arm Mount	285'	(1) 1 5/8" coax cable
(1) OGT9 antenna	(existing)	Side Arm Mount	275'	(1) 1 5/8" coax cable
(1) PD440 antenna	(existing)	Side Arm Mount	257'	(1) 7/8" coax cable
(1) PD128 antenna	(existing)	Side Arm Mount	250'	(1) 7/8" coax cable
(1) PD320 antenna	(existing)	Side Arm Mount	243'	(1) 7/8" coax cable
(6) DB844 antennas and (6) DB948F85T2E-M antennas	Verizon (existing)	(3) T-Arms	220'	(12) 1 5/8" coax cables
(12) Powerwave 7770.00 antennas , (12) LPG21401 TMA's and (12) LPG13519 Diplexers	**Cingular (proposed)**	**(3) T-Arms**	**200'**	**(24) 1 5/8" coax cables**
(1) BA1012 antenna	(existing)	Side Arm Mount	140'	(1) 7/8" coax cable
(1) PD688S antenna	(existing)	Side Arm Mount	140'	(1) 7/8" coax cable
(1) 6 FT dish	(reserved)	Dish Mount	115'	(1) EW63 coax cable
(1) PD156S antenna	(existing)	Flush Mount	138'	(1) 7/8" coax cable
(1) 6 FT dish	(reserved)	Dish Mount	115'	(1) EW63 coax cable
(1) 2 FT dish	(existing)	Dish Mount	112'	(1) EW108 coax cable
(1) 6 FT dish	(existing)	Dish Mount	105'	(1) EW65 coax cable
(1) PD458 antenna	(existing)	Side Arm Mount	105'	(1) 7/8" coax cable
(1) DB437 antenna	(existing)	Side Arm Mount	100'	(1) 7/8" coax cable
(1) 6 FT dish	(existing)	Dish Mount	97'	(1) 7/8" coax cable
(1) 4 FT dish	(existing)	Dish Mount	90'	(1) 7/8" coax cable

This structural analysis of the communications tower was performed by URS Corporation (URS) for Cingular Wireless. The purpose of this analysis was to investigate the structural integrity of the existing tower with its existing and proposed antenna loads. This analysis was conducted to evaluate stress on the tower and the effect of forces to the foundation of the tower resulting from existing and proposed antenna arrangements.

3. ANALYSIS METHODOLOGY AND LOADING CONDITIONS

The structural analysis was done in accordance with TIA/EIA-222-F, Structural Standard for Steel Antenna Towers and Antenna Supporting Structures; 2003 IBC with the 2005 Connecticut State Building Code Supplement; and the American Institute of Steel Construction (AISC) Manual of Steel Construction, Allowable Stress Design (ASD).

The analysis was conducted using ERI Tower 3.0. One load condition was evaluated as shown below which was compared to allowable stresses according to AISC and TIA/EIA.

Load Condition 1 = 90 mph (fastest mile) Wind Load (with ice) + Ice Load + Tower Dead Load

The TIA/EIA standard permits a one-third increase in allowable stresses for towers and monopoles less than 700 feet tall. For the purposes of this analysis, in computing the load capacity the allowable stresses of the tower members were increased by one-third.

4. FINDINGS AND EVALUATION

The calculated stresses on the tower structure were evaluated to compare with the allowable stress in accordance with AISC. The results of the analysis indicate that the existing tower structure is not in compliance with the proposed loading conditions. **The tower is not considered structurally adequate under the TIA/EIA-222-F wind load specified above and the existing and proposed antenna loadings. Reinforcement of the tower is considered feasible to meet the TIA/EIA-222-F wind load specified above with all existing and proposed antenna loads.** Several Redundant Diagonals and Redundant Horizontals are overstressed. We recommend replacing the overstressed members.

Section	Overstressed Members		
	Redundant Diagonal 1	Redundant Diagonal 2	Redundant Horizontal 2
0'—30'	---	---	Rohn 2 EH
30'—60'	Rohn 1.5 STD	Rohn 2 STD	---
100'—120'	Rohn 1.5 STD	---	---

For recommended member sizes see drawing SK-1 in section 6 of this report.

With reinforcement, the tower sway is 0.75 degrees, and the tower twist is 0.42 degrees. These are within the Connecticut State Police specification of 0.75 degrees for twist and sway. No further analysis was performed on the anchor bolts and foundation since the calculated reactions at the top of the foundation were below the original design.

5. CONCLUSIONS

The results of the analysis indicate that the existing tower structure is not in compliance with the proposed loading conditions. **The tower is not considered structurally adequate under the TIA/EIA-222-F wind load specified above and the existing and proposed antenna loadings. Reinforcement of the tower is considered feasible to meet the TIA/EIA-222-F wind load specified above with all existing and proposed antenna loads.** Recommended modifications are outlined in greater detail in section 4 and 6 of this report. With reinforcement, the tower sway is 0.75 degrees, and the tower twist is 0.42 degrees. These are within the Connecticut State Police specification of 0.75 degrees for twist and sway.

Limitations/Assumptions:

This report is based on the following:

1. Tower inventory as listed in this report.
2. Tower is properly installed and maintained.
3. All members are as specified in the original design documents and are in good condition.
4. All required members are in place.
5. All bolts are in place and are properly tightened.
6. Tower is in plumb condition.
7. All member protective coatings are in good condition.
8. All tower members were properly designed, detailed, fabricated, and installed and have been properly maintained since erection.
9. Foundations were properly constructed to support original design loads as specified in the original design documents.

URS is not responsible for any modifications completed prior to or hereafter in which URS is not or was not directly involved. Modifications include but are not limited to:

A. Adding antennas
B. Removing/replacing antennas
C. Adding coaxial cables

URS hereby states that this document represents the entire report and that it assumes no liability for any factual changes that may occur after the date of this report. All representations, recommendations, and conclusions are based upon information contained and set forth herein. If you are aware of any information which conflicts with that which is contained herein, or you are aware of any defects arising from original design, material, fabrication, or erection deficiencies, you should disregard this report and immediately contact URS. URS disclaims all liability for any representation, recommendation, or conclusion not expressly stated herein.

Ongoing and Periodic Inspection and Maintenance:

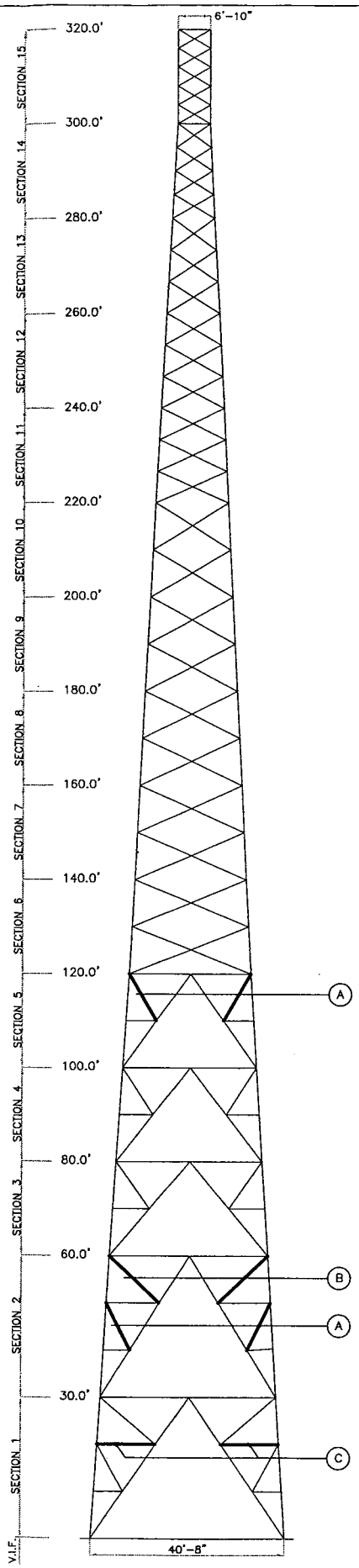
After the Contractor has successfully completed the installation and the work has been accepted, the owner will be responsible for the ongoing and periodic inspection and maintenance of the tower.

The owner shall refer to TIA/EIA-222-F for recommendations for maintenance and inspection. The frequency of the inspection and maintenance intervals is to be determined by the owner based upon actual site and environmental conditions. It is recommended that a complete and thorough inspection of the entire tower structural system be performed at least yearly and more frequently as conditions warrant. According to TIA/EIA-222-F section 14.1, Note 1: It is recommended that the structure be inspected after severe wind and/or ice storms or other extreme loading conditions.

6. DRAWINGS AND DATA

SK-1 EXISTING TOWER WITH REINFORCEMENT

REINFORCED TOWER



LEGEND

(A)	ROHN 2 STD GRADE 50 TYP. AT ALL THREE FACES
(B)	ROHN 2.5 STD GRADE 50 TYP. AT ALL THREE FACES
(C)	ROHN 2.5 EH GRADE 50 TYP. AT ALL THREE FACES

1 / SK-1 EXISTING TOWER & PROPOSED REINFORCEMENT

SCALE: N.T.S.

I.D. No.:

Designed by:

Drawn by: JEK

Checked by:

URS CORPORATION AES
500 ENTERPRISE DRIVE
ROCKY HILL, CT. 06067
(860)-529-8882

CINGULAR WIRELESS

SITE ADDRESS:
CSP
112 MUNN ROAD
COLCHESTER, CONNECTICUT

REV.	DATE:	DESCRIPTION

Scale: AS SHOWN | Date: 3/14/06

Job No. 36921843 | File No. SK-1

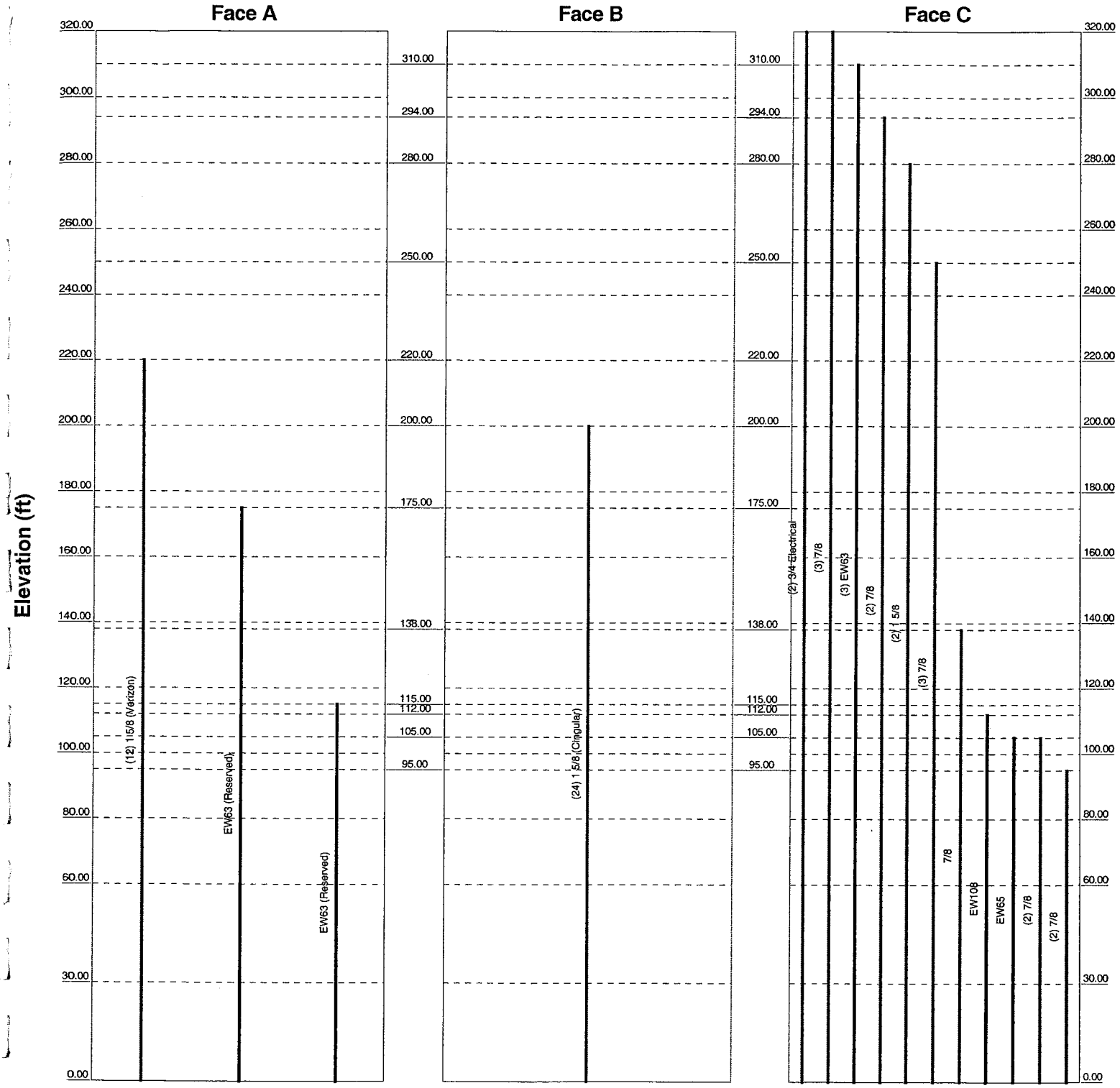
Dwg. No. SK-1

Dwg. 1 of 1

ERI TOWER FEEDLINE DISTRIBUTION CHART

Feedline Distribution Chart
0' - 320'

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



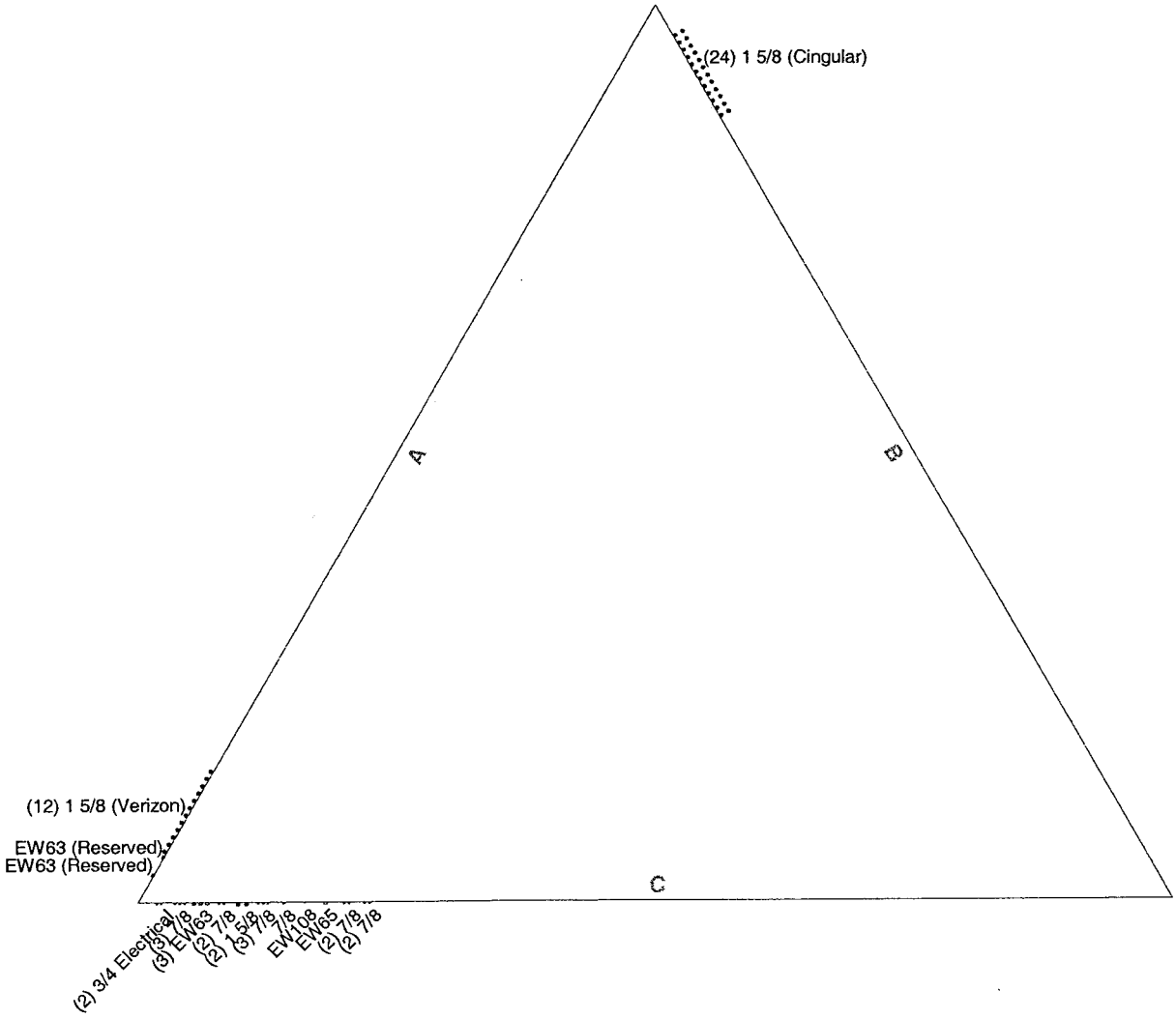
URS Corporation
500 Enterprise Drive, Suite 3B
Rocky Hill, CT 06067
Phone: (860) 529-8882
FAX: (860) 529-3991

Job: ***320' Rohn SSVMW***			
Project: ***CSP Tower - Colchester, CT***			
Client: Cingular Wireless	Drawn by: Jed Kiernan		App'd:
Code: TIA/EIA-222-F	Date: 03/14/06		Scale: NTS
Path: P:\08\ERI Files\Reinforced 320' Rohn SSVMW.eri			Dwg No. E-7

ERI TOWER FEEDLINE PLAN

Feedline Plan

_____ Round _____ Flat _____ App In Face _____ App Out Face

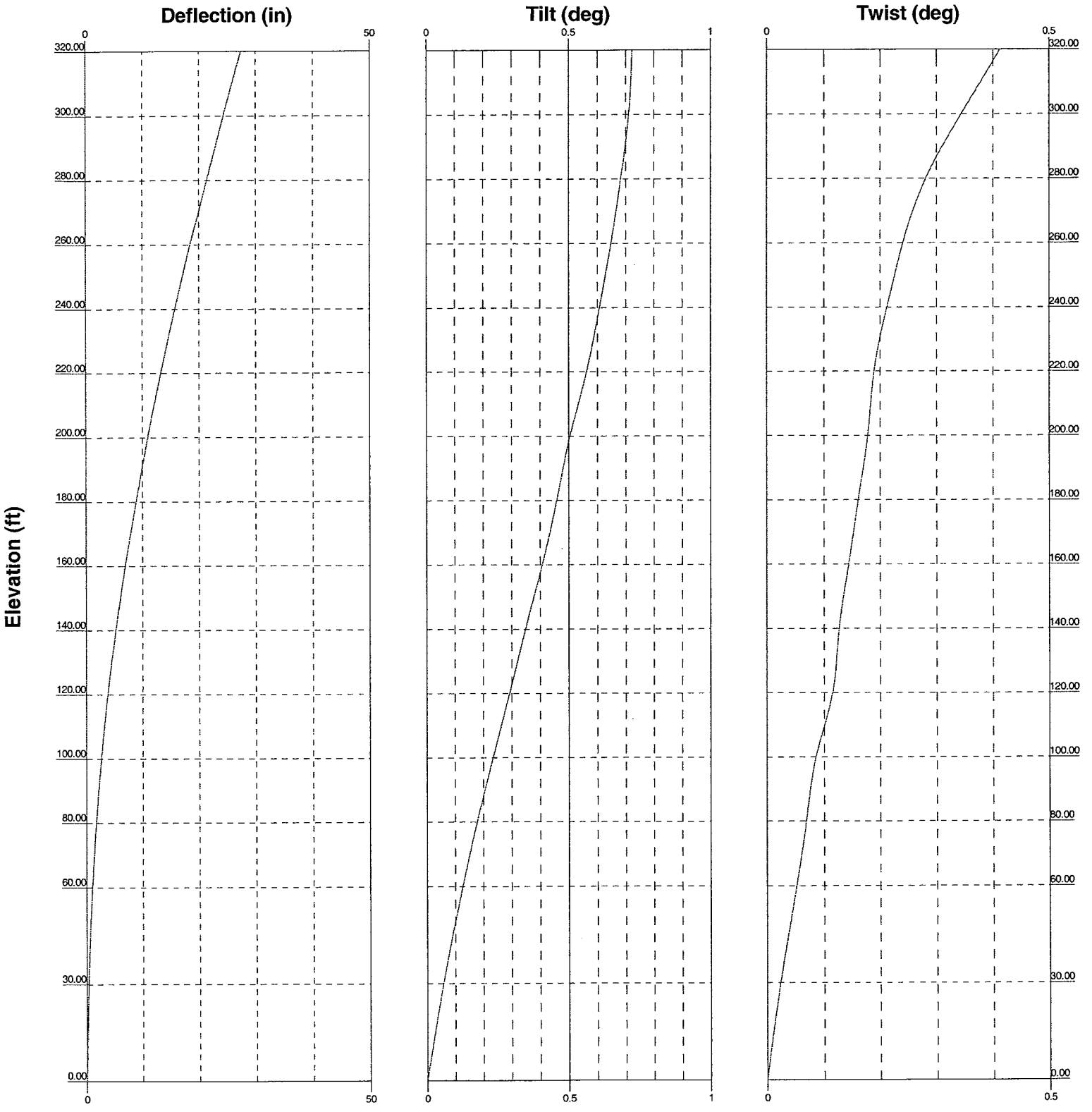


URS Corporation
500 Enterprise Drive, Suite 3B
Rocky Hill, CT 06067
Phone: (860) 529-8882
FAX: (860) 529-3991

Job: ***320' Rohn SSVMW***			
Project: ***CSP Tower - Colchester, CT***			
Client: Cingular Wireless	Drawn by: Jed Kiernan	App'd:	
Code: TIA/EIA-222-F	Date: 03/14/06	Scale: NTS	
Path: P:\08\ERI Files\Reinforced 320' Rohn SSVMW.eri		Dwg No. E-7	

ERI TOWER DEFLECTION, TILT, TWIST

TIA/EIA-222-F - 90 mph/90 mph 0.5000 in Ice Dead+Wind 330 deg+Ice+Temp



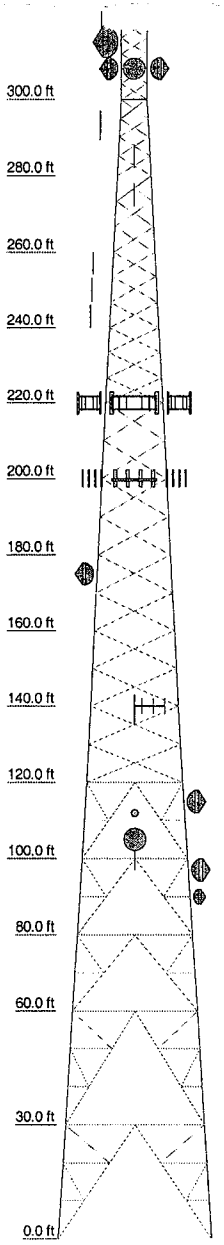
URS Corporation
500 Enterprise Drive, Suite 3B
Rocky Hill, CT 06067
Phone: (860) 529-8882
FAX: (860) 529-3991

Job: ***320' Rohn SSVMW***			
Project: ***CSP Tower - Colchester, CT***			
Client: Cingular Wireless	Drawn by: Jed Kiernan	App'd:	
Code: TIA/EIA-222-F	Date: 03/14/06	Scale: NTS	
Path: P:\08\ERI Files\Reinforced 320' Rohn SSVMW.eri		Dwg No. E-5	

EXISTING TOWER

ERI TOWER INPUT/OUTPUT SUMMARY

Section	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs	ROHN 12 EHS	ROHN 12 EH		ROHN 10 EH										B	A
Leg Grade	A572-50														
Diagonals	ROHN 3.5 EH			ROHN 3 EH			L5x5x3/8		L4x4x3/8			L4x4x5/16	L3x3x1/4	D	C
Diagonal Grade	A572-50													A36	
Top Girts	N.A.													L2x2x1/4	C
Horizontals	ROHN 4 STD	ROHN 3.5 EH	E	ROHN 3 STD			N.A.								
Red. Horizontals	ROHN 1.5 STD		F	ROHN 1.5 STD			N.A.								
Red. Diagonals	ROHN 2 STD	ROHN 1.5 STD	ROHN 2 STD	G			N.A.								
Inner Bracing	ROHN 3 STD						N.A.								
Face Width (ft)	40.69	36.8	33.14	30.47	27.97	25.39	23.21	21.3	19.22	17.09	15.09	13.08	11.04	8.85	6.81
# Panels @ (ft)		2 @ 30		3 @ 20			10 @ 10					9 @ 6.66667		4 @ 5	5 @ 4
Weight (K)	90.4	12.9	11.1	8.2	6.0	7.2	5.9	6.9	5.7	4.8	4.9	3.8	3.5	2.5	1.8



MAX PIER FORCES:
DOWN: 656 K
UPLIFT: -524 K
SHEAR: 79 K

AXIAL
150 K

SHEAR
129 K

MOMENT
21365 kip-ft

TORQUE 272 kip-ft
90 mph WIND - 0.5000 in ICE

AXIAL
108 K

SHEAR
106 K

MOMENT
17726 kip-ft

TORQUE 175 kip-ft
REACTIONS - 90 mph WIND

APPURTENANCES

TYPE	ELEVATION	TYPE	ELEVATION
Dual Lights	320	Mounting Frame (Verizon)	220
PD128	320	DB948F85T2E-M (Verizon)	220
6' Side Mount Standoff	320	DB948F85T2E-M (Verizon)	220
PD128	318	DB844 (Verizon)	220
6' Side Mount Standoff	318	DB844 (Verizon)	220
6'8"x4" Pipe Mount	315	PiROD 12' Lightweight T-Frame (Cingular)	200
8 FT DISH	315	PiROD 12' Lightweight T-Frame (Cingular)	200
5'3"x4" Pipe Mount	308	PiROD 12' Lightweight T-Frame (Cingular)	200
5'3"x4" Pipe Mount	308	(4) 7770.00 (Cingular)	200
5'3"x4" Pipe Mount	308	(4) 7770.00 (Cingular)	200
6 FT DISH	308	(4) 7770.00 (Cingular)	200
6 FT DISH	308	(4) LPG21401 TMA (Cingular)	200
6 FT DISH	308	(4) LPG21401 TMA (Cingular)	200
DB224	294	(4) LPG21401 TMA (Cingular)	200
6' Side Mount Standoff	294	(4) LPG13519 Diplexer (Cingular)	200
PD320	292	(4) LPG13519 Diplexer (Cingular)	200
6' Side Mount Standoff	292	(4) LPG13519 Diplexer (Cingular)	200
DB809	285	5'3"x4" Pipe Mount	175
6' Side Mount Standoff	285	6 FT DISH (Reserved)	175
OGT9	275	BA1012-0	140
6' Side Mount Standoff	275	PD688S-4	140
PD440	257	6' Side Mount Standoff	140
6' Side Mount Standoff	257	PD156S	138
PD128	250	3'4"x4" Pipe Mount	138
6' Side Mount Standoff	250	5'3"x4" Pipe Mount	115
PD320	243	6 FT DISH (Reserved)	115
6' Side Mount Standoff	243	3'4"x4" Pipe Mount	112
DB844 (Verizon)	220	2 FT DISH	112
DB844 (Verizon)	220	5'3"x4" Pipe Mount	105
DB948F85T2E-M (Verizon)	220	6 FT DISH	105
DB948F85T2E-M (Verizon)	220	6' Side Mount Standoff	100
DB844 (Verizon)	220	DB437	100
DB844 (Verizon)	220	PD458	100
DB948F85T2E-M (Verizon)	220	6 FT DISH	97
DB948F85T2E-M (Verizon)	220	5'3"x4" Pipe Mount	97
Mounting Frame (Verizon)	220	4 FT DISH	90
Mounting Frame (Verizon)	220	3'4"x4" Pipe Mount	90

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	ROHN 5 EH	E	ROHN 3 EH
B	ROHN 6 EH	F	ROHN 2 STD
C	L1 3/4x1 3/4x3/16	G	ROHN 1.5 STD
D	L2 1/2x2 1/2x1/4		

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower designed for a 90 mph basic wind in accordance with the TIA/EIA-222-F Standard.
2. Tower is also designed for a 90 mph basic wind with 0.50 in ice.
3. Deflections are based upon a 90 mph wind.
4. TOWER RATING: 188.8%

URS Corporation
500 Enterprise Drive, Suite 3B
Rocky Hill, CT 06067
Phone: (860) 529-8882
FAX: (860) 529-3991

Job: ***320' Rohn SSVMW***		
Project: ***CSP Tower - Colchester, CT***		
Client: Cingular Wireless	Drawn by: Jed Kiernan	App'd:
Code: TIA/EIA-222-F	Date: 03/14/06	Scale: NTS
Path: P:\08\ERI Files\320' Rohn SSVMW.eri		Dwg No. E-1

ERI TOWER DETAILED OUTPUT

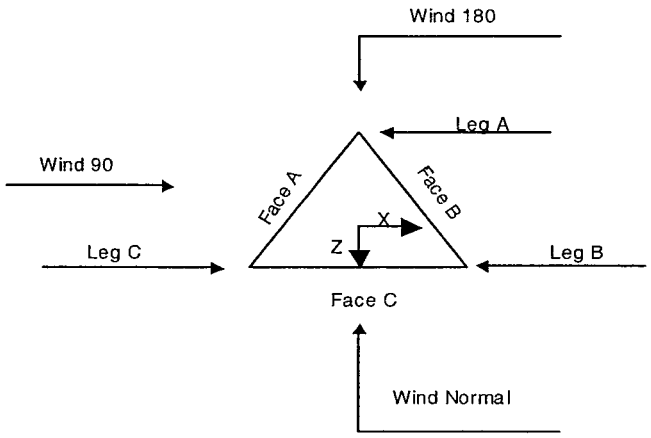
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 320.00 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 6.81 ft at the top and 40.69 ft at the base.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Basic wind speed of 90 mph.
Nominal ice thickness of 0.5000 in.
Ice density of 56 pcf.
A wind speed of 90 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 90 mph.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.333.
Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

Options

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



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	320.00-300.00			6.81	1	20.00
T2	300.00-280.00			6.81	1	20.00
T3	280.00-260.00			8.85	1	20.00
T4	260.00-240.00			11.04	1	20.00
T5	240.00-220.00			13.08	1	20.00
T6	220.00-200.00			15.09	1	20.00
T7	200.00-180.00			17.09	1	20.00
T8	180.00-160.00			19.22	1	20.00
T9	160.00-140.00			21.30	1	20.00
T10	140.00-120.00			23.21	1	20.00
T11	120.00-100.00			25.39	1	20.00
T12	100.00-80.00			27.97	1	20.00
T13	80.00-60.00			30.47	1	20.00
T14	60.00-30.00			33.14	1	30.00
T15	30.00-0.00			36.80	1	30.00

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

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T1	320.00-300.00	4.00	X Brace	No	No	0.0000	0.0000
T2	300.00-280.00	5.00	X Brace	No	No	0.0000	0.0000
T3	280.00-260.00	6.67	X Brace	No	No	0.0000	0.0000
T4	260.00-240.00	6.67	X Brace	No	No	0.0000	0.0000
T5	240.00-220.00	6.67	X Brace	No	No	0.0000	0.0000
T6	220.00-200.00	10.00	X Brace	No	No	0.0000	0.0000
T7	200.00-180.00	10.00	X Brace	No	No	0.0000	0.0000
T8	180.00-160.00	10.00	X Brace	No	No	0.0000	0.0000
T9	160.00-140.00	10.00	X Brace	No	No	0.0000	0.0000
T10	140.00-120.00	10.00	X Brace	No	No	0.0000	0.0000
T11	120.00-100.00	20.00	K1 Down	No	Yes	0.0000	0.0000
T12	100.00-80.00	20.00	K1 Down	No	Yes	0.0000	0.0000
T13	80.00-60.00	20.00	K1 Down	No	Yes	0.0000	0.0000
T14	60.00-30.00	30.00	K2 Down	No	Yes	0.0000	0.0000
T15	30.00-0.00	30.00	K2 Down	No	Yes	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 320.00-300.00	Pipe	ROHN 5 EH	A572-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T2 300.00-280.00	Pipe	ROHN 6 EH	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T3 280.00-260.00	Pipe	ROHN 8 EH	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)
T4 260.00-240.00	Pipe	ROHN 8 EH	A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A572-50 (50 ksi)
T5 240.00-220.00	Pipe	ROHN 8 EH	A572-50 (50 ksi)	Equal Angle	L4x4x5/16	A572-50 (50 ksi)
T6 220.00-200.00	Pipe	ROHN 8 EH	A572-50 (50 ksi)	Equal Angle	L4x4x3/8	A572-50 (50 ksi)
T7 200.00-180.00	Pipe	ROHN 10 EH	A572-50 (50 ksi)	Equal Angle	L4x4x3/8	A572-50 (50 ksi)
T8 180.00-160.00	Pipe	ROHN 10 EH	A572-50 (50 ksi)	Equal Angle	L4x4x3/8	A572-50 (50 ksi)
T9 160.00-140.00	Pipe	ROHN 10 EH	A572-50 (50 ksi)	Equal Angle	L5x5x3/8	A572-50 (50 ksi)
T10 140.00-120.00	Pipe	ROHN 10 EH	A572-50 (50 ksi)	Equal Angle	L5x5x3/8	A572-50 (50 ksi)
T11 120.00-100.00	Pipe	ROHN 10 EH	A572-50 (50 ksi)	Pipe	ROHN 3 EH	A572-50 (50 ksi)
T12 100.00-80.00	Pipe	ROHN 10 EH	A572-50 (50 ksi)	Pipe	ROHN 3 EH	A572-50 (50 ksi)
T13 80.00-60.00	Pipe	ROHN 12 EH	A572-50 (50 ksi)	Pipe	ROHN 3 EH	A572-50 (50 ksi)
T14 60.00-30.00	Pipe	ROHN 12 EH	A572-50 (50 ksi)	Pipe	ROHN 3.5 EH	A572-50 (50 ksi)
T15 30.00-0.00	Pipe	ROHN 12 EHS	A572-50 (50 ksi)	Pipe	ROHN 3.5 EH	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 320.00-300.00	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T2 300.00-280.00	Equal Angle	L2x2x1/4	A36 (36 ksi)	Solid Round		A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T11 120.00-100.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T12 100.00-80.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T13 80.00-60.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 3 EH	A572-50 (50 ksi)
T14 60.00-30.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 3.5 EH	A572-50 (50 ksi)
T15 30.00-0.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 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
T11 120.00-100.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T12 100.00-80.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T13 80.00-60.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T14 60.00-30.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T15 30.00-0.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Redundant Bracing Grade		Redundant Type	Redundant Size	K Factor
T11 120.00-100.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Diagonal (1)	Pipe	ROHN 1.5 STD	1
T12 100.00-80.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Diagonal (1)	Pipe	ROHN 2 STD	1
T13 80.00-60.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 2 STD	1
		Diagonal (1)	Pipe	ROHN 2 STD	1
T14 60.00-30.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Horizontal (2)		ROHN 2 EH	
		Diagonal (1)	Pipe	ROHN 1.5 STD	1
		Diagonal (2)		ROHN 2 STD	
T15 30.00-0.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Horizontal (2)		ROHN 2 EH	
		Diagonal (1)	Pipe	ROHN 2 STD	1
		Diagonal (2)		ROHN 2.5 STD	

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
T1 320.00-300.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T2 300.00-280.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T3 280.00-260.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T4 260.00-240.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T5 240.00-220.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T6 220.00-200.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T7 200.00-180.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T8 180.00-160.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T9 160.00-140.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T10 140.00-120.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T11 120.00-100.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T12 100.00-80.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T13 80.00-60.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T14 60.00-30.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T15 30.00-0.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T1 320.00-300.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T2 300.00-280.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T3 280.00-260.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T4 260.00-240.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T5 240.00-220.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T6 220.00-200.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T7 200.00-180.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T8 180.00-160.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T9 160.00-140.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T10 140.00-120.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T11 120.00-100.00	No	No	1	1 1	0.5 0.5	1 1	1 1	1 1	1 1	1 1
T12 100.00-80.00	No	No	1	1 1	0.5 0.5	1 1	1 1	1 1	1 1	1 1
T13 80.00-60.00	No	No	1	1 1	0.5 0.5	1 1	1 1	1 1	1 1	1 1
T14 60.00-30.00	No	No	1	1 1	0.33 0.33	1 1	1 1	1 1	1 1	1 1
T15 30.00-0.00	No	No	1	1 1	0.33 0.33	1 1	1 1	1 1	1 1	1 1

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

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Net Width Deduct in	U	Diagonal Net Width Deduct in	U	Top Girt Net Width Deduct in	U	Bottom Girt Net Width Deduct in	U	Mid Girt Net Width Deduct in	U	Long Horizontal Net Width Deduct in	U	Short Horizontal Net Width Deduct in	U
T1 320.00-300.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 300.00-280.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 280.00-260.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 260.00-240.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 240.00-220.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T6 220.00-200.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 200.00-180.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 180.00-160.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 160.00-140.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 140.00-120.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 120.00-100.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T12 100.00-80.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T13 80.00-60.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T14 60.00-30.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T15 30.00-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 320.00-300.00	Flange	1.0000 A325N	6	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T2 300.00-280.00	Flange	1.0000 A325N	8	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T3 280.00-260.00	Flange	1.0000 A325N	8	0.7500 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T4 260.00-240.00	Flange	1.0000 A325N	8	0.7500 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T5 240.00-220.00	Flange	1.0000 A325N	8	0.8750 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T6 220.00-200.00	Flange	1.0000 A325N	12	0.7500 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T7 200.00-180.00	Flange	1.0000 A325N	12	0.8750 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T8 180.00-160.00	Flange	1.0000 A325N	12	0.8750 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T9 160.00-140.00	Flange	1.0000 A325N	12	0.8750 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T10 140.00-120.00	Flange	1.0000 A325N	12	0.8750 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T11 120.00-100.00	Flange	1.0000 A325N	12	0.7500 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	2	0.6250 A325N	0
T12 100.00-80.00	Flange	1.0000 A325N	16	0.7500 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	2	0.6250 A325N	0

Tower Elevation ft	Leg Connection Type	Leg Bolt Size in	Leg No.	Diagonal Bolt Size in	Diagonal No.	Top Girt Bolt Size in	Top Girt No.	Bottom Girt Bolt Size in	Bottom Girt No.	Mid Girt Bolt Size in	Mid Girt No.	Long Horizontal Bolt Size in	Long Horizontal No.	Short Horizontal Bolt Size in	Short Horizontal No.
T13 80.00-60.00	Flange	1.0000 A325N	16	0.7500 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	2	0.6250 A325N	0
T14 60.00-30.00	Flange	1.0000 A325N	16	0.8750 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.8750 A325N	2	0.6250 A325N	0
T15 30.00-0.00	Flange	1.0000 A325N	24	0.8750 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.8750 A325N	2	0.6250 A325N	0

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
1 5/8 (Verizon)	A	Yes	Ar (CfAe)	220.00 - 0.00	0.0000	-0.4	12	12	1.9800	1.9800		1.04
3/4 Electrical	C	Yes	Ar (CfAe)	320.00 - 0.00	0.0000	0.48	2	2	1.1100	1.1100		0.54
7/8	C	Yes	Ar (CfAe)	320.00 - 0.00	0.0000	0.46	3	3	1.1100	1.1100		0.54
EW63	C	Yes	Af (CfAe)	310.00 - 0.00	0.0000	0.44	3	3	1.5742	1.5742	5.0668	0.51
7/8	C	Yes	Ar (CfAe)	294.00 - 0.00	0.0000	0.42	2	2	1.1100	1.1100		0.54
1 5/8	C	Yes	Ar (CfAe)	280.00 - 0.00	0.0000	0.4	2	2	1.9800	1.9800		1.04
7/8	C	Yes	Ar (CfAe)	250.00 - 0.00	0.0000	0.38	3	3	1.1100	1.1100		0.54
7/8	C	Yes	Ar (CfAe)	138.00 - 0.00	0.0000	0.36	1	1	1.1100	1.1100		0.54
EW108	C	Yes	Af (CfAe)	112.00 - 0.00	0.0000	0.34	1	1	0.5899	0.5899	2.0063	0.15
EW65	C	Yes	Af (CfAe)	105.00 - 0.00	0.0000	0.32	1	1	1.5742	1.5742	5.0668	0.51
7/8	C	Yes	Ar (CfAe)	105.00 - 0.00	0.0000	0.3	2	2	1.1100	1.1100		0.54
7/8	C	Yes	Ar (CfAe)	95.00 - 0.00	0.0000	0.28	2	2	1.1100	1.1100		0.54
EW63 (Reserved)	A	Yes	Af (CfAe)	175.00 - 0.00	0.0000	-0.45	1	1	1.5742	1.5742	5.0668	0.51
EW63 (Reserved)	A	Yes	Af (CfAe)	115.00 - 0.00	0.0000	-0.47	1	1	1.5742	1.5742	5.0668	0.51
1 5/8 (Cingular)	B	Yes	Ar (CfAe)	200.00 - 0.00	0.0000	-0.42	24	12	1.9800	1.9800		1.04

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	320.00-300.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	9.250	3.936	0.000	0.000	0.07
T2	300.00-280.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	11.840	7.871	0.000	0.000	0.10
T3	280.00-260.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	19.550	7.871	0.000	0.000	0.15
T4	260.00-240.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	22.325	7.871	0.000	0.000	0.16
T5	240.00-220.00	A	0.000	0.000	0.000	0.000	0.00

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B	0.000	0.000	0.000	0.000	0.00
		C	25.100	7.871	0.000	0.000	0.18
T6	220.00-200.00	A	39.600	0.000	0.000	0.000	0.25
		B	0.000	0.000	0.000	0.000	0.00
		C	25.100	7.871	0.000	0.000	0.18
T7	200.00-180.00	A	39.600	0.000	0.000	0.000	0.25
		B	39.600	0.000	0.000	0.000	0.50
		C	25.100	7.871	0.000	0.000	0.18
T8	180.00-160.00	A	39.600	1.968	0.000	0.000	0.26
		B	39.600	0.000	0.000	0.000	0.50
		C	25.100	7.871	0.000	0.000	0.18
T9	160.00-140.00	A	39.600	2.624	0.000	0.000	0.26
		B	39.600	0.000	0.000	0.000	0.50
		C	25.100	7.871	0.000	0.000	0.18
T10	140.00-120.00	A	39.600	2.624	0.000	0.000	0.26
		B	39.600	0.000	0.000	0.000	0.50
		C	26.765	7.871	0.000	0.000	0.19
T11	120.00-100.00	A	39.600	4.591	0.000	0.000	0.27
		B	39.600	0.000	0.000	0.000	0.50
		C	27.875	9.117	0.000	0.000	0.20
T12	100.00-80.00	A	39.600	5.247	0.000	0.000	0.27
		B	39.600	0.000	0.000	0.000	0.50
		C	33.425	11.478	0.000	0.000	0.24
T13	80.00-60.00	A	39.600	5.247	0.000	0.000	0.27
		B	39.600	0.000	0.000	0.000	0.50
		C	34.350	11.478	0.000	0.000	0.25
T14	60.00-30.00	A	59.400	7.871	0.000	0.000	0.41
		B	59.400	0.000	0.000	0.000	0.75
		C	51.525	17.217	0.000	0.000	0.37
T15	30.00-0.00	A	59.400	7.871	0.000	0.000	0.41
		B	59.400	0.000	0.000	0.000	0.75
		C	51.525	17.217	0.000	0.000	0.37

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	320.00-300.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		17.583	5.602	0.000	0.000	0.21
T2	300.00-280.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		22.507	11.204	0.000	0.000	0.31
T3	280.00-260.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		34.550	11.204	0.000	0.000	0.43
T4	260.00-240.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		39.825	11.204	0.000	0.000	0.47
T5	240.00-220.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		45.100	11.204	0.000	0.000	0.52
T6	220.00-200.00	A	0.500	59.600	0.000	0.000	0.000	0.61
		B		0.000	0.000	0.000	0.000	0.00
		C		45.100	11.204	0.000	0.000	0.52
T7	200.00-180.00	A	0.500	59.600	0.000	0.000	0.000	0.61
		B		59.600	0.000	0.000	0.000	1.23

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C		45.100	11.204	0.000	0.000	0.52
T8	180.00-160.00	A	0.500	59.600	2.801	0.000	0.000	0.64
		B		59.600	0.000	0.000	0.000	1.23
		C		45.100	11.204	0.000	0.000	0.52
T9	160.00-140.00	A	0.500	59.600	3.735	0.000	0.000	0.65
		B		59.600	0.000	0.000	0.000	1.23
		C		45.100	11.204	0.000	0.000	0.52
T10	140.00-120.00	A	0.500	59.600	3.735	0.000	0.000	0.65
		B		59.600	0.000	0.000	0.000	1.23
		C		48.265	11.204	0.000	0.000	0.55
T11	120.00-100.00	A	0.500	59.600	6.536	0.000	0.000	0.68
		B		59.600	0.000	0.000	0.000	1.23
		C		50.375	13.395	0.000	0.000	0.58
T12	100.00-80.00	A	0.500	59.600	7.470	0.000	0.000	0.69
		B		59.600	0.000	0.000	0.000	1.23
		C		60.925	17.033	0.000	0.000	0.71
T13	80.00-60.00	A	0.500	59.600	7.470	0.000	0.000	0.69
		B		59.600	0.000	0.000	0.000	1.23
		C		62.683	17.033	0.000	0.000	0.73
T14	60.00-30.00	A	0.500	89.400	11.204	0.000	0.000	1.03
		B		89.400	0.000	0.000	0.000	1.84
		C		94.025	25.550	0.000	0.000	1.09
T15	30.00-0.00	A	0.500	89.400	11.204	0.000	0.000	1.03
		B		89.400	0.000	0.000	0.000	1.84
		C		94.025	25.550	0.000	0.000	1.09

Feed Line Shielding

Section	Elevation ft	Face	A_R ft^2	A_R Ice ft^2	A_F ft^2	A_F Ice ft^2
T1	320.00-300.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	0.000	0.000	1.211	3.047
T2	300.00-280.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	0.000	0.000	1.727	4.132
T3	280.00-260.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	0.000	0.000	2.066	4.526
T4	260.00-240.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	0.000	0.000	2.589	5.523
T5	240.00-220.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	0.000	0.000	3.649	7.485
T6	220.00-200.00	A	0.000	0.000	3.109	5.460
		B	0.000	0.000	0.000	0.000
		C	0.000	0.000	2.589	5.310
T7	200.00-180.00	A	0.000	0.000	3.015	5.294
		B	0.000	0.000	3.015	5.294
		C	0.000	0.000	2.510	5.149
T8	180.00-160.00	A	0.000	0.000	3.091	5.449
		B	0.000	0.000	2.945	5.170
		C	0.000	0.000	2.452	5.029
T9	160.00-140.00	A	0.000	0.000	3.858	6.616
		B	0.000	0.000	3.618	6.172

Section	Elevation	Face	A_R	A_R Ice	A_F	A_F Ice
	ft		ft^2	ft^2	ft^2	ft^2
		C	0.000	0.000	3.013	6.003
T10	140.00-120.00	A	0.000	0.000	3.805	6.526
		B	0.000	0.000	3.569	6.087
		C	0.000	0.000	3.121	6.244
T11	120.00-100.00	A	2.823	5.897	0.000	0.000
		B	2.530	5.237	0.000	0.000
		C	2.363	5.792	0.000	0.000
T12	100.00-80.00	A	2.913	5.993	0.000	0.000
		B	2.572	5.239	0.000	0.000
		C	2.917	7.097	0.000	0.000
T13	80.00-60.00	A	2.899	5.918	0.000	0.000
		B	2.560	5.173	0.000	0.000
		C	2.963	7.160	0.000	0.000
T14	60.00-30.00	A	4.393	9.110	0.000	0.000
		B	3.879	7.963	0.000	0.000
		C	4.489	11.022	0.000	0.000
T15	30.00-0.00	A	4.601	9.317	0.000	0.000
		B	4.063	8.144	0.000	0.000
		C	4.701	11.273	0.000	0.000

Feed Line Center of Pressure

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
T1	320.00-300.00	-4.3846	2.8159	-5.6631	3.6242
T2	300.00-280.00	-6.2629	4.0917	-8.0736	5.2614
T3	280.00-260.00	-8.6123	5.7929	-11.3313	7.5878
T4	260.00-240.00	-10.0462	6.8193	-13.4219	9.0887
T5	240.00-220.00	-10.3624	7.0868	-14.1930	9.6963
T6	220.00-200.00	-25.3004	13.8166	-31.3392	17.3390
T7	200.00-180.00	-20.8086	-1.9859	-25.7687	-1.2958
T8	180.00-160.00	-23.2764	-1.7646	-28.7614	-0.9837
T9	160.00-140.00	-23.1016	-1.6036	-29.0278	-0.8473
T10	140.00-120.00	-24.9157	-1.3025	-31.4341	-0.3099
T11	120.00-100.00	-33.7534	-0.4304	-39.7629	1.1311
T12	100.00-80.00	-37.9500	2.1221	-44.7665	4.4919
T13	80.00-60.00	-38.3178	2.4115	-45.9571	4.9716
T14	60.00-30.00	-41.6737	2.6357	-49.9910	5.4185
T15	30.00-0.00	-44.3764	2.8203	-53.5102	5.8110

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement		C_AA_A Front	C_AA_A Side	Weight
			ft ft ft	°	ft		ft^2	ft^2	K
Dual Lights	C	None		0.0000	320.00	No Ice	4.00	4.00	0.25
						1/2" Ice	4.80	4.80	0.40

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
PD128	C	From Leg	6.00 0.00 0.00	0.0000	320.00	No Ice 1/2" Ice	1.00 1.80	1.00 1.80	0.01 0.02
6' Side Mount Standoff	C	None		0.0000	320.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
PD128	C	From Leg	6.00 0.00 0.00	0.0000	318.00	No Ice 1/2" Ice	1.00 1.80	1.00 1.80	0.01 0.02
6' Side Mount Standoff	C	None		0.0000	318.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
6'8"x4" Pipe Mount	C	From Leg	0.50 0.00 0.00	0.0000	315.00	No Ice 1/2" Ice	2.60 3.01	2.60 3.01	0.07 0.09
5'3"x4" Pipe Mount	A	From Leg	0.50 0.00 0.00	0.0000	308.00	No Ice 1/2" Ice	1.88 2.21	1.88 2.21	0.06 0.07
5'3"x4" Pipe Mount	B	From Leg	0.50 0.00 0.00	0.0000	308.00	No Ice 1/2" Ice	1.88 2.21	1.88 2.21	0.06 0.07
5'3"x4" Pipe Mount	C	From Leg	0.50 0.00 0.00	0.0000	308.00	No Ice 1/2" Ice	1.88 2.21	1.88 2.21	0.06 0.07
DB224	C	From Leg	6.00 0.00 0.00	0.0000	294.00	No Ice 1/2" Ice	3.15 5.67	3.15 5.67	0.03 0.04
6' Side Mount Standoff	C	None		0.0000	294.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
PD320	C	From Leg	6.00 0.00 0.00	0.0000	292.00	No Ice 1/2" Ice	2.25 4.05	2.25 4.05	0.03 0.04
6' Side Mount Standoff	C	None		0.0000	292.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
DB809	A	From Leg	6.00 0.00 0.00	0.0000	285.00	No Ice 1/2" Ice	3.39 4.55	3.39 4.55	0.03 0.06
6' Side Mount Standoff	A	None		0.0000	285.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
OGT9	A	From Leg	6.00 0.00 0.00	0.0000	275.00	No Ice 1/2" Ice	3.15 5.67	3.15 5.67	0.03 0.04
6' Side Mount Standoff	A	None		0.0000	275.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
PD440	C	From Leg	6.00 0.00 0.00	0.0000	257.00	No Ice 1/2" Ice	1.38 2.48	1.38 2.48	0.02 0.02
6' Side Mount Standoff	C	None		0.0000	257.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
PD128	C	From Leg	6.00 0.00 0.00	0.0000	250.00	No Ice 1/2" Ice	1.00 1.80	1.00 1.80	0.01 0.02
6' Side Mount Standoff	C	None		0.0000	250.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
PD320	C	From Leg	6.00 0.00 0.00	0.0000	243.00	No Ice 1/2" Ice	2.25 4.05	2.25 4.05	0.03 0.04
6' Side Mount Standoff	C	None		0.0000	243.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
DB844	A	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
(Verizon)			6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB844	A	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
(Verizon)			-6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB948F85T2E-M	A	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
(Verizon)			4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB948F85T2E-M	A	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
(Verizon)			-4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB844	B	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
(Verizon)			6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB844	B	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
(Verizon)			-6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB948F85T2E-M	B	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
(Verizon)			4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB948F85T2E-M	B	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
(Verizon)			-4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB844	C	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
(Verizon)			6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB844	C	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
(Verizon)			-6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB948F85T2E-M	C	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
(Verizon)			4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB948F85T2E-M	C	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
(Verizon)			-4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
Mounting Frame	A	From Leg	5.00	0.0000	220.00	No Ice	17.00	17.00	0.56
(Verizon)			0.00			1/2" Ice	20.00	20.00	0.70
			0.00						
Mounting Frame	B	From Leg	5.00	0.0000	220.00	No Ice	17.00	17.00	0.56
(Verizon)			0.00			1/2" Ice	20.00	20.00	0.70
			0.00						
Mounting Frame	C	From Leg	5.00	0.0000	220.00	No Ice	17.00	17.00	0.56
(Verizon)			0.00			1/2" Ice	20.00	20.00	0.70
			0.00						
PD156S	A	From Leg	1.00	0.0000	138.00	No Ice	0.44	0.44	0.01
			0.00			1/2" Ice	0.79	0.79	0.01
			0.00						
3'4"x4" Pipe Mount	A	From Leg	0.50	0.0000	138.00	No Ice	1.05	1.05	0.04
			0.00			1/2" Ice	1.27	1.27	0.05
			0.00						
3'4"x4" Pipe Mount	A	From Leg	0.50	0.0000	112.00	No Ice	1.05	1.05	0.04
			0.00			1/2" Ice	1.27	1.27	0.05
			0.00						
5'3"x4" Pipe Mount	A	From Leg	0.50	0.0000	105.00	No Ice	1.88	1.88	0.06
			0.00			1/2" Ice	2.21	2.21	0.07
			0.00						

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
PD458	A	From Leg	6.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	2.88 4.34	2.88 4.34	0.02 0.05
DB437	A	From Leg	6.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	0.45 0.81	0.45 0.81	0.01 0.01
6' Side Mount Standoff	A	None		0.0000	100.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
5'3"x4" Pipe Mount	B	From Leg	0.50 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice	1.88 2.21	1.88 2.21	0.06 0.07
3'4"x4" Pipe Mount	B	From Leg	0.50 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice	1.05 1.27	1.05 1.27	0.04 0.05
5'3"x4" Pipe Mount	C	From Leg	0.50 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice	1.88 2.21	1.88 2.21	0.06 0.07
5'3"x4" Pipe Mount	B	From Leg	0.50 0.00 0.00	0.0000	115.00	No Ice 1/2" Ice	1.88 2.21	1.88 2.21	0.06 0.07
BA1012-0	A	From Leg	6.00 0.00 0.00	0.0000	140.00	No Ice 1/2" Ice	0.47 0.96	0.47 0.96	0.00 0.01
PD688S-4	A	From Leg	6.00 0.00 0.00	0.0000	140.00	No Ice 1/2" Ice	0.35 0.63	0.35 0.63	0.00 0.00
6' Side Mount Standoff	A	None		0.0000	140.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
PiROD 12' Lightweight T-Frame (Cingular)	A	None		0.0000	200.00	No Ice 1/2" Ice	10.20 16.20	10.20 16.20	0.25 0.35
PiROD 12' Lightweight T-Frame (Cingular)	B	None		0.0000	200.00	No Ice 1/2" Ice	10.20 16.20	10.20 16.20	0.25 0.35
PiROD 12' Lightweight T-Frame (Cingular)	C	None		0.0000	200.00	No Ice 1/2" Ice	10.20 16.20	10.20 16.20	0.25 0.35
(4) 7770.00 (Cingular)	A	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	5.88 6.31	2.93 3.27	0.04 0.07
(4) 7770.00 (Cingular)	B	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	5.88 6.31	2.93 3.27	0.04 0.07
(4) 7770.00 (Cingular)	C	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	5.88 6.31	2.93 3.27	0.04 0.07
(4) LPG21401 TMA (Cingular)	A	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	0.95 1.09	0.37 0.48	0.02 0.02
(4) LPG21401 TMA (Cingular)	B	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	0.95 1.09	0.37 0.48	0.02 0.02
(4) LPG21401 TMA (Cingular)	C	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	0.95 1.09	0.37 0.48	0.02 0.02
(4) LPG13519 Diplexer (Cingular)	A	From Leg	3.00 0.00	0.0000	200.00	No Ice 1/2" Ice	0.27 0.34	0.18 0.25	0.01 0.01

Description	Face or Leg	Offset Type	Offsets: Horz Lateral / Vert (ft / ft / ft)	Azimuth Adjustment (°)	Placement (ft)		C_AA_A Front (ft^2)	C_AA_A Side (ft^2)	Weight (K)
			0.00						
(4) LPG13519 Diplexer (Cingular)	A	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	0.27 0.34	0.18 0.25	0.01 0.01
(4) LPG13519 Diplexer (Cingular)	A	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	0.27 0.34	0.18 0.25	0.01 0.01

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral / Vert (ft)	Azimuth Adjustment (°)	3 dB Beam Width (°)	Elevation (ft)	Outside Diameter (ft)		Aperture Area (ft^2)	Weight (K)
8 FT DISH	C	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		315.00	8.00	No Ice 1/2" Ice	50.30 51.29	0.25 0.51
6 FT DISH	A	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		308.00	6.00	No Ice 1/2" Ice	28.27 29.05	0.14 0.29
6 FT DISH	B	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		308.00	6.00	No Ice 1/2" Ice	28.27 29.05	0.14 0.29
6 FT DISH	C	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		308.00	6.00	No Ice 1/2" Ice	28.27 29.05	0.14 0.29
2 FT DISH	A	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		112.00	2.00	No Ice 1/2" Ice	3.14 3.41	0.03 0.04
6 FT DISH	A	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		105.00	6.00	No Ice 1/2" Ice	28.27 29.05	0.14 0.29
6 FT DISH	B	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		97.00	6.00	No Ice 1/2" Ice	28.27 29.05	0.14 0.29
4 FT DISH	B	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		90.00	4.00	No Ice 1/2" Ice	12.56 13.09	0.17 0.24
6 FT DISH (Reserved)	C	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		175.00	6.00	No Ice 1/2" Ice	28.27 29.05	0.14 0.29
6 FT DISH (Reserved)	B	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		115.00	6.00	No Ice 1/2" Ice	28.27 29.05	0.14 0.29

Tower Pressures - No Ice

$G_H = 1.084$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1 320.00-300.00	310.00	1.897	39	145.472	A	11.659	18.543	18.543	61.40	0.000	0.000
					B	11.659	18.543		61.40		
					C	14.384	27.793		43.97		
T2 300.00-280.00	290.00	1.861	39	167.656	A	12.596	22.122	22.122	63.72	0.000	0.000
					B	12.596	22.122		63.72		
					C	18.740	33.962		41.97		
T3 280.00-260.00	270.00	1.823	38	213.297	A	13.934	28.807	28.807	67.40	0.000	0.000
					B	13.934	28.807		67.40		
					C	19.739	48.357		42.30		
T4 260.00-240.00	250.00	1.783	37	255.594	A	19.443	28.800	28.800	59.70	0.000	0.000
					B	19.443	28.800		59.70		
					C	24.725	51.125		37.97		
T5 240.00-220.00	230.00	1.741	36	296.093	A	29.581	28.798	28.798	49.33	0.000	0.000
					B	29.581	28.798		49.33		
					C	33.803	53.898		32.84		
T6 220.00-200.00	210.00	1.697	35	336.193	A	21.026	68.398	28.798	32.20	0.000	0.000
					B	24.136	28.798		54.40		
					C	29.418	53.898		34.56		
T7 200.00-180.00	190.00	1.649	34	381.042	A	23.330	75.501	35.901	36.33	0.000	0.000
					B	23.330	75.501		36.33		
					C	31.706	61.001		38.73		
T8 180.00-160.00	170.00	1.597	33	423.141	A	27.674	75.498	35.898	34.79	0.000	0.000
					B	25.852	75.498		35.42		
					C	34.216	60.998		37.70		
T9 160.00-140.00	150.00	1.541	32	463.037	A	37.797	75.488	35.888	31.68	0.000	0.000
					B	35.413	75.488		32.36		
					C	43.890	60.988		34.22		
T10 140.00-120.00	130.00	1.48	31	503.943	A	41.004	75.504	35.904	30.82	0.000	0.000
					B	38.616	75.504		31.46		
					C	46.935	62.669		32.76		
T11 120.00-100.00	110.00	1.411	29	551.554	A	4.591	98.870	35.933	34.73	0.000	0.000
					B	0.000	99.164		36.24		
					C	9.117	87.605		37.15		
T12 100.00-80.00	90.00	1.332	28	602.352	A	5.247	101.189	35.927	33.75	0.000	0.000
					B	0.000	101.530		35.39		
					C	11.478	95.010		33.74		
T13 80.00-60.00	70.00	1.24	26	657.397	A	5.247	109.942	42.626	37.01	0.000	0.000
					B	0.000	110.281		38.65		
					C	11.478	104.629		36.71		
T14 60.00-30.00	45.00	1.093	23	1081.034	A	7.871	166.737	63.908	36.60	0.000	0.000
					B	0.000	167.251		38.21		
					C	17.217	158.766		36.31		
T15 30.00-0.00	15.00	1	21	1194.292	A	7.871	173.197	63.928	35.31	0.000	0.000
					B	0.000	173.735		36.80		
					C	17.217	165.221		35.04		

Tower Pressure - With Ice

$G_H = 1.084$

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1 320.00-300.00	310.00	1.897	39	0.5000	147.138	A	16.101	21.877	21.877	57.60	0.000	0.000
						B	16.101	21.877		57.60		
						C	18.656	39.460		37.64		
T2 300.00-280.00	290.00	1.861	39	0.5000	169.325	A	16.795	25.461	25.461	60.25	0.000	0.000
						B	16.795	25.461		60.25		
						C	23.867	47.967		35.44		
T3 280.00-260.00	270.00	1.823	38	0.5000	214.966	A	17.649	32.147	32.147	64.56	0.000	0.000
						B	17.649	32.147		64.56		
						C	24.328	66.697		35.32		
T4 260.00-240.00	250.00	1.783	37	0.5000	257.263	A	23.764	32.139	32.139	57.49	0.000	0.000
						B	23.764	32.139		57.49		
						C	29.445	71.964		31.69		
T5 240.00-220.00	230.00	1.741	36	0.5000	297.762	A	34.511	32.137	32.137	48.22	0.000	0.000
						B	34.511	32.137		48.22		
						C	38.230	77.237		27.83		
T6 220.00-200.00	210.00	1.697	35	0.5000	337.862	A	22.699	91.737	32.137	28.08	0.000	0.000
						B	28.158	32.137		53.30		
						C	34.052	77.237		28.88		
T7 200.00-180.00	190.00	1.649	34	0.5000	382.711	A	25.442	98.841	39.241	31.57	0.000	0.000
						B	25.442	98.841		31.57		
						C	36.791	84.341		32.39		
T8 180.00-160.00	170.00	1.597	33	0.5000	424.810	A	30.948	98.837	39.237	30.23	0.000	0.000
						B	28.426	98.837		30.83		
						C	39.772	84.337		31.62		
T9 160.00-140.00	150.00	1.541	32	0.5000	464.706	A	41.354	98.826	39.226	27.98	0.000	0.000
						B	38.064	98.826		28.66		
						C	49.437	84.326		29.33		
T10 140.00-120.00	130.00	1.48	31	0.5000	505.612	A	45.019	98.844	39.244	27.28	0.000	0.000
						B	41.722	98.844		27.92		
						C	52.770	87.509		27.98		
T11 120.00-100.00	110.00	1.411	29	0.5000	553.224	A	6.536	127.872	39.275	29.22	0.000	0.000
						B	0.000	128.531		30.56		
						C	13.395	118.752		29.72		
T12 100.00-80.00	90.00	1.332	28	0.5000	604.022	A	7.470	130.704	39.269	28.42	0.000	0.000
						B	0.000	131.458		29.87		
						C	17.033	130.925		26.54		
T13 80.00-60.00	70.00	1.24	26	0.5000	659.068	A	7.470	140.004	45.969	31.17	0.000	0.000
						B	0.000	140.749		32.66		
						C	17.033	141.845		28.93		
T14 60.00-30.00	45.00	1.093	23	0.5000	1083.539	A	11.204	211.934	68.920	30.89	0.000	0.000
						B	0.000	213.080		32.34		
						C	25.550	214.646		28.69		
T15 30.00-0.00	15.00	1	21	0.5000	1196.797	A	11.204	219.406	68.942	29.90	0.000	0.000
						B	0.000	220.579		31.26		
						C	25.550	222.075		27.84		

Tower Pressure - Service

$G_H = 1.084$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1 320.00-	310.00	1.897	39	145.472	A	11.659	18.543	18.543	61.40	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
300.00					B	11.659	18.543		61.40		
					C	14.384	27.793		43.97		
T2 300.00-280.00	290.00	1.861	39	167.656	A	12.596	22.122	22.122	63.72	0.000	0.000
					B	12.596	22.122		63.72		
					C	18.740	33.962		41.97		
T3 280.00-260.00	270.00	1.823	38	213.297	A	13.934	28.807	28.807	67.40	0.000	0.000
					B	13.934	28.807		67.40		
					C	19.739	48.357		42.30		
T4 260.00-240.00	250.00	1.783	37	255.594	A	19.443	28.800	28.800	59.70	0.000	0.000
					B	19.443	28.800		59.70		
					C	24.725	51.125		37.97		
T5 240.00-220.00	230.00	1.741	36	296.093	A	29.581	28.798	28.798	49.33	0.000	0.000
					B	29.581	28.798		49.33		
					C	33.803	53.898		32.84		
T6 220.00-200.00	210.00	1.697	35	336.193	A	21.026	68.398	28.798	32.20	0.000	0.000
					B	24.136	28.798		54.40		
					C	29.418	53.898		34.56		
T7 200.00-180.00	190.00	1.649	34	381.042	A	23.330	75.501	35.901	36.33	0.000	0.000
					B	23.330	75.501		36.33		
					C	31.706	61.001		38.73		
T8 180.00-160.00	170.00	1.597	33	423.141	A	27.674	75.498	35.898	34.79	0.000	0.000
					B	25.852	75.498		35.42		
					C	34.216	60.998		37.70		
T9 160.00-140.00	150.00	1.541	32	463.037	A	37.797	75.488	35.888	31.68	0.000	0.000
					B	35.413	75.488		32.36		
					C	43.890	60.988		34.22		
T10 140.00-120.00	130.00	1.48	31	503.943	A	41.004	75.504	35.904	30.82	0.000	0.000
					B	38.616	75.504		31.46		
					C	46.935	62.669		32.76		
T11 120.00-100.00	110.00	1.411	29	551.554	A	4.591	98.870	35.933	34.73	0.000	0.000
					B	0.000	99.164		36.24		
					C	9.117	87.605		37.15		
T12 100.00-80.00	90.00	1.332	28	602.352	A	5.247	101.189	35.927	33.75	0.000	0.000
					B	0.000	101.530		35.39		
					C	11.478	95.010		33.74		
T13 80.00-60.00	70.00	1.24	26	657.397	A	5.247	109.942	42.626	37.01	0.000	0.000
					B	0.000	110.281		38.65		
					C	11.478	104.629		36.71		
T14 60.00-30.00	45.00	1.093	23	1081.034	A	7.871	166.737	63.908	36.60	0.000	0.000
					B	0.000	167.251		38.21		
					C	17.217	158.766		36.31		
T15 30.00-0.00	15.00	1	21	1194.292	A	7.871	173.197	63.928	35.31	0.000	0.000
					B	0.000	173.735		36.80		
					C	17.217	165.221		35.04		

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.07	1.79	A	0.208	2.571	0.592	1	1	22.637	3.11	155.53	C
			B	0.208	2.571	0.592	1	1	22.637			
			C	0.29	2.323	0.613	1	1	31.417			
T2 300.00-280.00	0.10	2.50	A	0.207	2.573	0.592	1	1	25.689	3.76	187.98	C
			B	0.207	2.573	0.592	1	1	25.689			
			C	0.314	2.259	0.62	1	1	39.810			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T3 280.00-260.00	0.15	3.48	A	0.2	2.595	0.59	1	1	30.944	4.58	229.20	C
			B	0.2	2.595	0.59	1	1	30.944			
			C	0.319	2.246	0.622	1	1	49.816			
T4 260.00-240.00	0.16	3.83	A	0.189	2.634	0.588	1	1	36.382	5.19	259.37	C
			B	0.189	2.634	0.588	1	1	36.382			
			C	0.297	2.305	0.615	1	1	56.162			
T5 240.00-220.00	0.18	4.90	A	0.197	2.605	0.59	1	1	46.567	6.04	302.05	C
			B	0.197	2.605	0.59	1	1	46.567			
			C	0.296	2.306	0.615	1	1	66.937			
T6 220.00-200.00	0.43	4.82	A	0.266	2.39	0.606	1	1	62.481	5.76	288.09	C
			B	0.157	2.744	0.583	1	1	40.915			
			C	0.248	2.444	0.601	1	1	61.828			
T7 200.00-180.00	0.93	5.71	A	0.259	2.41	0.604	1	1	68.956	6.22	311.10	C
			B	0.259	2.41	0.604	1	1	68.956			
			C	0.243	2.458	0.6	1	1	68.318			
T8 180.00-160.00	0.94	5.93	A	0.244	2.456	0.6	1	1	72.996	6.44	321.79	A
			B	0.24	2.469	0.599	1	1	71.095			
			C	0.225	2.515	0.596	1	1	70.560			
T9 160.00-140.00	0.94	6.89	A	0.245	2.454	0.601	1	1	83.129	7.06	353.23	A
			B	0.24	2.469	0.599	1	1	80.649			
			C	0.226	2.51	0.596	1	1	80.248			
T10 140.00-120.00	0.95	7.17	A	0.231	2.495	0.597	1	1	86.099	7.14	357.13	A
			B	0.226	2.51	0.596	1	1	83.628			
			C	0.217	2.539	0.594	1	1	84.168			
T11 120.00-100.00	0.97	5.96	A	0.188	2.638	0.588	1	1	62.722	5.24	262.24	A
			B	0.18	2.665	0.586	1	1	58.158			
			C	0.175	2.68	0.586	1	1	60.426			
T12 100.00-80.00	1.01	6.17	A	0.177	2.676	0.586	1	1	64.536	5.38	268.86	C
			B	0.169	2.704	0.584	1	1	59.343			
			C	0.177	2.675	0.586	1	1	67.148			
T13 80.00-60.00	1.02	7.26	A	0.175	2.681	0.586	1	1	69.636	5.43	271.28	C
			B	0.168	2.707	0.584	1	1	64.443			
			C	0.177	2.676	0.586	1	1	72.781			
T14 60.00-30.00	1.52	11.10	A	0.162	2.73	0.583	1	1	105.129	7.35	245.02	C
			B	0.155	2.754	0.582	1	1	97.375			
			C	0.163	2.725	0.584	1	1	109.859			
T15 30.00-0.00	1.52	12.90	A	0.152	2.766	0.582	1	1	108.624	7.03	234.48	C
			B	0.145	2.788	0.581	1	1	100.904			
			C	0.153	2.761	0.582	1	1	113.359			
Sum Weight:	10.89	90.41						OTM	13329.95 kip-ft	85.74		

Tower Forces - No Ice - Wind 45 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.07	1.79	A	0.208	2.571	0.592	0.825	1	20.596	2.86	143.07	C
			B	0.208	2.571	0.592	0.825	1	20.596			
			C	0.29	2.323	0.613	0.825	1	28.900			
T2 300.00-280.00	0.10	2.50	A	0.207	2.573	0.592	0.825	1	23.485	3.45	172.49	C
			B	0.207	2.573	0.592	0.825	1	23.485			
			C	0.314	2.259	0.62	0.825	1	36.530			
T3 280.00-260.00	0.15	3.48	A	0.2	2.595	0.59	0.825	1	28.505	4.27	213.31	C
			B	0.2	2.595	0.59	0.825	1	28.505			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
			C	0.319	2.246	0.622	0.825	1	46.362			
T4 260.00-240.00	0.16	3.83	A	0.189	2.634	0.588	0.825	1	32.980	4.79	239.39	C
			B	0.189	2.634	0.588	0.825	1	32.980			
			C	0.297	2.305	0.615	0.825	1	51.835			
T5 240.00-220.00	0.18	4.90	A	0.197	2.605	0.59	0.825	1	41.390	5.51	275.36	C
			B	0.197	2.605	0.59	0.825	1	41.390			
			C	0.296	2.306	0.615	0.825	1	61.021			
T6 220.00-200.00	0.43	4.82	A	0.266	2.39	0.606	0.825	1	58.802	5.36	267.98	A
			B	0.157	2.744	0.583	0.825	1	36.691			
			C	0.248	2.444	0.601	0.825	1	56.680			
T7 200.00-180.00	0.93	5.71	A	0.259	2.41	0.604	0.825	1	64.873	5.79	289.63	B
			B	0.259	2.41	0.604	0.825	1	64.873			
			C	0.243	2.458	0.6	0.825	1	62.769			
T8 180.00-160.00	0.94	5.93	A	0.244	2.456	0.6	0.825	1	68.154	6.01	300.44	A
			B	0.24	2.469	0.599	0.825	1	66.571			
			C	0.225	2.515	0.596	0.825	1	64.572			
T9 160.00-140.00	0.94	6.89	A	0.245	2.454	0.601	0.825	1	76.515	6.50	325.12	A
			B	0.24	2.469	0.599	0.825	1	74.452			
			C	0.226	2.51	0.596	0.825	1	72.568			
T10 140.00-120.00	0.95	7.17	A	0.231	2.495	0.597	0.825	1	78.924	6.55	327.36	A
			B	0.226	2.51	0.596	0.825	1	76.871			
			C	0.217	2.539	0.594	0.825	1	75.954			
T11 120.00-100.00	0.97	5.96	A	0.188	2.638	0.588	0.825	1	61.918	5.18	258.88	A
			B	0.18	2.665	0.586	0.825	1	58.158			
			C	0.175	2.68	0.586	0.825	1	58.830			
T12 100.00-80.00	1.01	6.17	A	0.177	2.676	0.586	0.825	1	63.618	5.22	260.81	C
			B	0.169	2.704	0.584	0.825	1	59.343			
			C	0.177	2.675	0.586	0.825	1	65.140			
T13 80.00-60.00	1.02	7.26	A	0.175	2.681	0.586	0.825	1	68.717	5.28	263.79	C
			B	0.168	2.707	0.584	0.825	1	64.443			
			C	0.177	2.676	0.586	0.825	1	70.772			
T14 60.00-30.00	1.52	11.10	A	0.162	2.73	0.583	0.825	1	103.752	7.15	238.30	C
			B	0.155	2.754	0.582	0.825	1	97.375			
			C	0.163	2.725	0.584	0.825	1	106.846			
T15 30.00-0.00	1.52	12.90	A	0.152	2.766	0.582	0.825	1	107.246	6.85	228.25	C
			B	0.145	2.788	0.581	0.825	1	100.904			
			C	0.153	2.761	0.582	0.825	1	110.346			
Sum Weight:	10.89	90.41						OTM	12409.79 kip-ft	80.75		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.07	1.79	A	0.208	2.571	0.592	0.8	1	20.305	2.83	141.29	C
			B	0.208	2.571	0.592	0.8	1	20.305			
			C	0.29	2.323	0.613	0.8	1	28.541			
T2 300.00-280.00	0.10	2.50	A	0.207	2.573	0.592	0.8	1	23.170	3.41	170.28	C
			B	0.207	2.573	0.592	0.8	1	23.170			
			C	0.314	2.259	0.62	0.8	1	36.062			
T3 280.00-260.00	0.15	3.48	A	0.2	2.595	0.59	0.8	1	28.157	4.22	211.03	C
			B	0.2	2.595	0.59	0.8	1	28.157			
			C	0.319	2.246	0.622	0.8	1	45.868			
T4 260.00-	0.16	3.83	A	0.189	2.634	0.588	0.8	1	32.494	4.73	236.54	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
240.00			B	0.189	2.634	0.588	0.8	1	32.494			
			C	0.297	2.305	0.615	0.8	1	51.217			
T5 240.00-220.00	0.18	4.90	A	0.197	2.605	0.59	0.8	1	40.651	5.43	271.55	C
			B	0.197	2.605	0.59	0.8	1	40.651			
			C	0.296	2.306	0.615	0.8	1	60.176			
T6 220.00-200.00	0.43	4.82	A	0.266	2.39	0.606	0.8	1	58.276	5.31	265.58	A
			B	0.157	2.744	0.583	0.8	1	36.088			
			C	0.248	2.444	0.601	0.8	1	55.944			
T7 200.00-180.00	0.93	5.71	A	0.259	2.41	0.604	0.8	1	64.290	5.74	287.03	B
			B	0.259	2.41	0.604	0.8	1	64.290			
			C	0.243	2.458	0.6	0.8	1	61.977			
T8 180.00-160.00	0.94	5.93	A	0.244	2.456	0.6	0.8	1	67.462	5.95	297.40	A
			B	0.24	2.469	0.599	0.8	1	65.924			
			C	0.225	2.515	0.596	0.8	1	63.717			
T9 160.00-140.00	0.94	6.89	A	0.245	2.454	0.601	0.8	1	75.570	6.42	321.10	A
			B	0.24	2.469	0.599	0.8	1	73.567			
			C	0.226	2.51	0.596	0.8	1	71.470			
T10 140.00-120.00	0.95	7.17	A	0.231	2.495	0.597	0.8	1	77.898	6.46	323.11	A
			B	0.226	2.51	0.596	0.8	1	75.905			
			C	0.217	2.539	0.594	0.8	1	74.781			
T11 120.00-100.00	0.97	5.96	A	0.188	2.638	0.588	0.8	1	61.804	5.17	258.40	A
			B	0.18	2.665	0.586	0.8	1	58.158			
			C	0.175	2.68	0.586	0.8	1	58.602			
T12 100.00-80.00	1.01	6.17	A	0.177	2.676	0.586	0.8	1	63.487	5.19	259.66	C
			B	0.169	2.704	0.584	0.8	1	59.343			
			C	0.177	2.675	0.586	0.8	1	64.853			
T13 80.00-60.00	1.02	7.26	A	0.175	2.681	0.586	0.8	1	68.586	5.25	262.72	C
			B	0.168	2.707	0.584	0.8	1	64.443			
			C	0.177	2.676	0.586	0.8	1	70.485			
T14 60.00-30.00	1.52	11.10	A	0.162	2.73	0.583	0.8	1	103.555	7.12	237.34	C
			B	0.155	2.754	0.582	0.8	1	97.375			
			C	0.163	2.725	0.584	0.8	1	106.416			
T15 30.00-0.00	1.52	12.90	A	0.152	2.766	0.582	0.8	1	107.049	6.82	227.35	C
			B	0.145	2.788	0.581	0.8	1	100.904			
			C	0.153	2.761	0.582	0.8	1	109.916			
Sum Weight:	10.89	90.41						OTM	12282.10 kip-ft	80.05		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.07	1.79	A	0.208	2.571	0.592	0.85	1	20.888	2.90	144.85	C
			B	0.208	2.571	0.592	0.85	1	20.888			
			C	0.29	2.323	0.613	0.85	1	29.260			
T2 300.00-280.00	0.10	2.50	A	0.207	2.573	0.592	0.85	1	23.800	3.49	174.71	C
			B	0.207	2.573	0.592	0.85	1	23.800			
			C	0.314	2.259	0.62	0.85	1	36.999			
T3 280.00-260.00	0.15	3.48	A	0.2	2.595	0.59	0.85	1	28.854	4.31	215.58	C
			B	0.2	2.595	0.59	0.85	1	28.854			
			C	0.319	2.246	0.622	0.85	1	46.855			
T4 260.00-240.00	0.16	3.83	A	0.189	2.634	0.588	0.85	1	33.466	4.84	242.25	C
			B	0.189	2.634	0.588	0.85	1	33.466			
			C	0.297	2.305	0.615	0.85	1	52.454			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T5 240.00-220.00	0.18	4.90	A	0.197	2.605	0.59	0.85	1	42.130	5.58	279.17	C
			B	0.197	2.605	0.59	0.85	1	42.130			
			C	0.296	2.306	0.615	0.85	1	61.866			
T6 220.00-200.00	0.43	4.82	A	0.266	2.39	0.606	0.85	1	59.327	5.41	270.37	A
			B	0.157	2.744	0.583	0.85	1	37.294			
			C	0.248	2.444	0.601	0.85	1	57.415			
T7 200.00-180.00	0.93	5.71	A	0.259	2.41	0.604	0.85	1	65.457	5.84	292.24	B
			B	0.259	2.41	0.604	0.85	1	65.457			
			C	0.243	2.458	0.6	0.85	1	63.562			
T8 180.00-160.00	0.94	5.93	A	0.244	2.456	0.6	0.85	1	68.845	6.07	303.49	A
			B	0.24	2.469	0.599	0.85	1	67.217			
			C	0.225	2.515	0.596	0.85	1	65.428			
T9 160.00-140.00	0.94	6.89	A	0.245	2.454	0.601	0.85	1	77.460	6.58	329.13	A
			B	0.24	2.469	0.599	0.85	1	75.337			
			C	0.226	2.51	0.596	0.85	1	73.665			
T10 140.00-120.00	0.95	7.17	A	0.231	2.495	0.597	0.85	1	79.949	6.63	331.62	A
			B	0.226	2.51	0.596	0.85	1	77.836			
			C	0.217	2.539	0.594	0.85	1	77.128			
T11 120.00-100.00	0.97	5.96	A	0.188	2.638	0.588	0.85	1	62.033	5.19	259.36	A
			B	0.18	2.665	0.586	0.85	1	58.158			
			C	0.175	2.68	0.586	0.85	1	59.058			
T12 100.00-80.00	1.01	6.17	A	0.177	2.676	0.586	0.85	1	63.749	5.24	261.96	C
			B	0.169	2.704	0.584	0.85	1	59.343			
			C	0.177	2.675	0.586	0.85	1	65.426			
T13 80.00-60.00	1.02	7.26	A	0.175	2.681	0.586	0.85	1	68.849	5.30	264.86	C
			B	0.168	2.707	0.584	0.85	1	64.443			
			C	0.177	2.676	0.586	0.85	1	71.059			
T14 60.00-30.00	1.52	11.10	A	0.162	2.73	0.583	0.85	1	103.949	7.18	239.26	C
			B	0.155	2.754	0.582	0.85	1	97.375			
			C	0.163	2.725	0.584	0.85	1	107.276			
T15 30.00-0.00	1.52	12.90	A	0.152	2.766	0.582	0.85	1	107.443	6.87	229.14	C
			B	0.145	2.788	0.581	0.85	1	100.904			
			C	0.153	2.761	0.582	0.85	1	110.777			
Sum Weight:	10.89	90.41						OTM	12537.47 kip-ft	81.44		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.21	2.46	A	0.258	2.413	0.604	1	1	29.314	3.91	195.73	C
			B	0.258	2.413	0.604	1	1	29.314			
			C	0.395	2.074	0.65	1	1	44.288			
T2 300.00-280.00	0.31	3.23	A	0.25	2.439	0.602	1	1	32.116	4.69	234.63	C
			B	0.25	2.439	0.602	1	1	32.116			
			C	0.424	2.018	0.662	1	1	55.611			
T3 280.00-260.00	0.43	4.32	A	0.232	2.494	0.597	1	1	36.853	5.66	283.14	C
			B	0.232	2.494	0.597	1	1	36.853			
			C	0.423	2.019	0.661	1	1	68.444			
T4 260.00-240.00	0.47	4.83	A	0.217	2.539	0.594	1	1	42.857	6.34	316.81	C
			B	0.217	2.539	0.594	1	1	42.857			
			C	0.394	2.076	0.649	1	1	76.168			
T5 240.00-220.00	0.52	6.22	A	0.224	2.518	0.596	1	1	53.651	7.21	360.39	C
			B	0.224	2.518	0.596	1	1	53.651			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
			C	0.388	2.089	0.647	1	1	88.179			
T6 220.00-200.00	1.13	5.95	A	0.339	2.198	0.629	1	1	80.356	6.97	348.67	C
			B	0.178	2.67	0.586	1	1	46.998			
			C	0.329	2.221	0.625	1	1	82.351			
T7 200.00-180.00	2.36	7.00	A	0.325	2.232	0.624	1	1	87.097	7.44	372.24	C
			B	0.325	2.232	0.624	1	1	87.097			
			C	0.317	2.253	0.621	1	1	89.174			
T8 180.00-160.00	2.39	7.29	A	0.306	2.281	0.618	1	1	91.990	7.61	380.59	C
			B	0.3	2.297	0.616	1	1	89.287			
			C	0.292	2.317	0.614	1	1	91.515			
T9 160.00-140.00	2.40	8.55	A	0.302	2.292	0.616	1	1	102.271	8.15	407.60	C
			B	0.295	2.311	0.614	1	1	98.768			
			C	0.288	2.329	0.612	1	1	101.066			
T10 140.00-120.00	2.42	8.93	A	0.285	2.338	0.611	1	1	105.441	8.32	415.80	C
			B	0.278	2.356	0.609	1	1	101.960			
			C	0.277	2.358	0.609	1	1	106.085			
T11 120.00-100.00	2.49	7.17	A	0.243	2.459	0.6	1	1	83.272	6.62	331.12	C
			B	0.232	2.492	0.598	1	1	76.801			
			C	0.239	2.471	0.599	1	1	84.539			
T12 100.00-80.00	2.63	7.45	A	0.229	2.503	0.597	1	1	85.459	7.02	351.17	C
			B	0.218	2.538	0.594	1	1	78.107			
			C	0.245	2.453	0.601	1	1	95.668			
T13 80.00-60.00	2.64	8.67	A	0.224	2.519	0.596	1	1	90.847	7.01	350.46	C
			B	0.214	2.551	0.593	1	1	83.500			
			C	0.241	2.465	0.6	1	1	102.089			
T14 60.00-30.00	3.96	13.22	A	0.206	2.576	0.592	1	1	136.590	9.50	316.79	C
			B	0.197	2.607	0.59	1	1	125.658			
			C	0.222	2.525	0.595	1	1	153.278			
T15 30.00-0.00	3.96	15.19	A	0.193	2.621	0.589	1	1	140.421	9.08	302.57	C
			B	0.184	2.649	0.587	1	1	129.551			
			C	0.207	2.573	0.592	1	1	156.982			
Sum Weight:	28.31	110.48						OTM	16236.95 kip-ft	105.55		

Tower Forces - With Ice - Wind 45 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.21	2.46	A	0.258	2.413	0.604	0.825	1	26.496	3.63	181.31	C
			B	0.258	2.413	0.604	0.825	1	26.496			
			C	0.395	2.074	0.65	0.825	1	41.023			
T2 300.00-280.00	0.31	3.23	A	0.25	2.439	0.602	0.825	1	29.177	4.34	217.00	C
			B	0.25	2.439	0.602	0.825	1	29.177			
			C	0.424	2.018	0.662	0.825	1	51.435			
T3 280.00-260.00	0.43	4.32	A	0.232	2.494	0.597	0.825	1	33.765	5.31	265.52	C
			B	0.232	2.494	0.597	0.825	1	33.765			
			C	0.423	2.019	0.661	0.825	1	64.187			
T4 260.00-240.00	0.47	4.83	A	0.217	2.539	0.594	0.825	1	38.698	5.91	295.37	C
			B	0.217	2.539	0.594	0.825	1	38.698			
			C	0.394	2.076	0.649	0.825	1	71.015			
T5 240.00-220.00	0.52	6.22	A	0.224	2.518	0.596	0.825	1	47.611	6.66	333.04	C
			B	0.224	2.518	0.596	0.825	1	47.611			
			C	0.388	2.089	0.647	0.825	1	81.489			
T6 220.00-	1.13	5.95	A	0.339	2.198	0.629	0.825	1	76.384	6.47	323.44	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
200.00			B	0.178	2.67	0.586	0.825	1	42.071			
			C	0.329	2.221	0.625	0.825	1	76.392			
T7 200.00-180.00	2.36	7.00	A	0.325	2.232	0.624	0.825	1	82.645	6.91	345.37	C
			B	0.325	2.232	0.624	0.825	1	82.645			
			C	0.317	2.253	0.621	0.825	1	82.736			
T8 180.00-160.00	2.39	7.29	A	0.306	2.281	0.618	0.825	1	86.574	7.09	354.50	A
			B	0.3	2.297	0.616	0.825	1	84.312			
			C	0.292	2.317	0.614	0.825	1	84.555			
T9 160.00-140.00	2.40	8.55	A	0.302	2.292	0.616	0.825	1	95.034	7.54	377.15	A
			B	0.295	2.311	0.614	0.825	1	92.107			
			C	0.288	2.329	0.612	0.825	1	92.414			
T10 140.00-120.00	2.42	8.93	A	0.285	2.338	0.611	0.825	1	97.563	7.59	379.60	C
			B	0.278	2.356	0.609	0.825	1	94.658			
			C	0.277	2.358	0.609	0.825	1	96.851			
T11 120.00-100.00	2.49	7.17	A	0.243	2.459	0.6	0.825	1	82.128	6.44	321.94	C
			B	0.232	2.492	0.598	0.825	1	76.801			
			C	0.239	2.471	0.599	0.825	1	82.195			
T12 100.00-80.00	2.63	7.45	A	0.229	2.503	0.597	0.825	1	84.152	6.80	340.23	C
			B	0.218	2.538	0.594	0.825	1	78.107			
			C	0.245	2.453	0.601	0.825	1	92.687			
T13 80.00-60.00	2.64	8.67	A	0.224	2.519	0.596	0.825	1	89.540	6.80	340.23	C
			B	0.214	2.551	0.593	0.825	1	83.500			
			C	0.241	2.465	0.6	0.825	1	99.108			
T14 60.00-30.00	3.96	13.22	A	0.206	2.576	0.592	0.825	1	134.630	9.23	307.55	C
			B	0.197	2.607	0.59	0.825	1	125.658			
			C	0.222	2.525	0.595	0.825	1	148.807			
T15 30.00-0.00	3.96	15.19	A	0.193	2.621	0.589	0.825	1	138.460	8.82	293.95	C
			B	0.184	2.649	0.587	0.825	1	129.551			
			C	0.207	2.573	0.592	0.825	1	152.510			
Sum Weight:	28.31	110.48						OTM	15164.41 kip-ft	99.54		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.21	2.46	A	0.258	2.413	0.604	0.8	1	26.094	3.58	179.24	C
			B	0.258	2.413	0.604	0.8	1	26.094			
			C	0.395	2.074	0.65	0.8	1	40.557			
T2 300.00-280.00	0.31	3.23	A	0.25	2.439	0.602	0.8	1	28.757	4.29	214.49	C
			B	0.25	2.439	0.602	0.8	1	28.757			
			C	0.424	2.018	0.662	0.8	1	50.838			
T3 280.00-260.00	0.43	4.32	A	0.232	2.494	0.597	0.8	1	33.323	5.26	263.01	C
			B	0.232	2.494	0.597	0.8	1	33.323			
			C	0.423	2.019	0.661	0.8	1	63.579			
T4 260.00-240.00	0.47	4.83	A	0.217	2.539	0.594	0.8	1	38.104	5.85	292.31	C
			B	0.217	2.539	0.594	0.8	1	38.104			
			C	0.394	2.076	0.649	0.8	1	70.279			
T5 240.00-220.00	0.52	6.22	A	0.224	2.518	0.596	0.8	1	46.748	6.58	329.14	C
			B	0.224	2.518	0.596	0.8	1	46.748			
			C	0.388	2.089	0.647	0.8	1	80.533			
T6 220.00-200.00	1.13	5.95	A	0.339	2.198	0.629	0.8	1	75.816	6.40	319.83	C
			B	0.178	2.67	0.586	0.8	1	41.367			
			C	0.329	2.221	0.625	0.8	1	75.541			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T7 200.00-180.00	2.36	7.00	A	0.325	2.232	0.624	0.8	1	82.009	6.83	341.53	C
			B	0.325	2.232	0.624	0.8	1	82.009			
			C	0.317	2.253	0.621	0.8	1	81.816			
T8 180.00-160.00	2.39	7.29	A	0.306	2.281	0.618	0.8	1	85.800	7.03	351.33	A
			B	0.3	2.297	0.616	0.8	1	83.602			
			C	0.292	2.317	0.614	0.8	1	83.561			
T9 160.00-140.00	2.40	8.55	A	0.302	2.292	0.616	0.8	1	94.000	7.46	373.04	A
			B	0.295	2.311	0.614	0.8	1	91.155			
			C	0.288	2.329	0.612	0.8	1	91.178			
T10 140.00-120.00	2.42	8.93	A	0.285	2.338	0.611	0.8	1	96.437	7.50	374.81	A
			B	0.278	2.356	0.609	0.8	1	93.615			
			C	0.277	2.358	0.609	0.8	1	95.531			
T11 120.00-100.00	2.49	7.17	A	0.243	2.459	0.6	0.8	1	81.965	6.41	320.63	C
			B	0.232	2.492	0.598	0.8	1	76.801			
			C	0.239	2.471	0.599	0.8	1	81.860			
T12 100.00-80.00	2.63	7.45	A	0.229	2.503	0.597	0.8	1	83.965	6.77	338.66	C
			B	0.218	2.538	0.594	0.8	1	78.107			
			C	0.245	2.453	0.601	0.8	1	92.261			
T13 80.00-60.00	2.64	8.67	A	0.224	2.519	0.596	0.8	1	89.353	6.78	338.77	C
			B	0.214	2.551	0.593	0.8	1	83.500			
			C	0.241	2.465	0.6	0.8	1	98.682			
T14 60.00-30.00	3.96	13.22	A	0.206	2.576	0.592	0.8	1	134.350	9.19	306.23	C
			B	0.197	2.607	0.59	0.8	1	125.658			
			C	0.222	2.525	0.595	0.8	1	148.168			
T15 30.00-0.00	3.96	15.19	A	0.193	2.621	0.589	0.8	1	138.180	8.78	292.72	C
			B	0.184	2.649	0.587	0.8	1	129.551			
			C	0.207	2.573	0.592	0.8	1	151.872			
Sum Weight:	28.31	110.48						OTM	15014.82 kip-ft	98.70		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.21	2.46	A	0.258	2.413	0.604	0.85	1	26.899	3.67	183.37	C
			B	0.258	2.413	0.604	0.85	1	26.899			
			C	0.395	2.074	0.65	0.85	1	41.490			
T2 300.00-280.00	0.31	3.23	A	0.25	2.439	0.602	0.85	1	29.597	4.39	219.52	C
			B	0.25	2.439	0.602	0.85	1	29.597			
			C	0.424	2.018	0.662	0.85	1	52.031			
T3 280.00-260.00	0.43	4.32	A	0.232	2.494	0.597	0.85	1	34.206	5.36	268.04	C
			B	0.232	2.494	0.597	0.85	1	34.206			
			C	0.423	2.019	0.661	0.85	1	64.795			
T4 260.00-240.00	0.47	4.83	A	0.217	2.539	0.594	0.85	1	39.293	5.97	298.44	C
			B	0.217	2.539	0.594	0.85	1	39.293			
			C	0.394	2.076	0.649	0.85	1	71.751			
T5 240.00-220.00	0.52	6.22	A	0.224	2.518	0.596	0.85	1	48.474	6.74	336.95	C
			B	0.224	2.518	0.596	0.85	1	48.474			
			C	0.388	2.089	0.647	0.85	1	82.444			
T6 220.00-200.00	1.13	5.95	A	0.339	2.198	0.629	0.85	1	76.951	6.54	327.04	C
			B	0.178	2.67	0.586	0.85	1	42.775			
			C	0.329	2.221	0.625	0.85	1	77.243			
T7 200.00-180.00	2.36	7.00	A	0.325	2.232	0.624	0.85	1	83.281	6.98	349.20	C
			B	0.325	2.232	0.624	0.85	1	83.281			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	0.317	2.253	0.621	0.85	1	83.656			
T8 180.00-160.00	2.39	7.29	A	0.306	2.281	0.618	0.85	1	87.348	7.15	357.67	A
			B	0.3	2.297	0.616	0.85	1	85.023			
			C	0.292	2.317	0.614	0.85	1	85.549			
T9 160.00-140.00	2.40	8.55	A	0.302	2.292	0.616	0.85	1	96.068	7.62	381.25	A
			B	0.295	2.311	0.614	0.85	1	93.058			
			C	0.288	2.329	0.612	0.85	1	93.650			
T10 140.00-120.00	2.42	8.93	A	0.285	2.338	0.611	0.85	1	98.688	7.70	384.77	C
			B	0.278	2.356	0.609	0.85	1	95.701			
			C	0.277	2.358	0.609	0.85	1	98.170			
T11 120.00-100.00	2.49	7.17	A	0.243	2.459	0.6	0.85	1	82.292	6.47	323.25	C
			B	0.232	2.492	0.598	0.85	1	76.801			
			C	0.239	2.471	0.599	0.85	1	82.530			
T12 100.00-80.00	2.63	7.45	A	0.229	2.503	0.597	0.85	1	84.339	6.84	341.79	C
			B	0.218	2.538	0.594	0.85	1	78.107			
			C	0.245	2.453	0.601	0.85	1	93.112			
T13 80.00-60.00	2.64	8.67	A	0.224	2.519	0.596	0.85	1	89.726	6.83	341.69	C
			B	0.214	2.551	0.593	0.85	1	83.500			
			C	0.241	2.465	0.6	0.85	1	99.534			
T14 60.00-30.00	3.96	13.22	A	0.206	2.576	0.592	0.85	1	134.910	9.27	308.87	C
			B	0.197	2.607	0.59	0.85	1	125.658			
			C	0.222	2.525	0.595	0.85	1	149.445			
T15 30.00-0.00	3.96	15.19	A	0.193	2.621	0.589	0.85	1	138.740	8.86	295.18	C
			B	0.184	2.649	0.587	0.85	1	129.551			
			C	0.207	2.573	0.592	0.85	1	153.149			
Sum Weight:	28.31	110.48						OTM	15314.99 kip-ft	100.38		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.07	1.79	A	0.208	2.571	0.592	1	1	22.637	3.11	155.53	C
			B	0.208	2.571	0.592	1	1	22.637			
			C	0.29	2.323	0.613	1	1	31.417			
T2 300.00-280.00	0.10	2.50	A	0.207	2.573	0.592	1	1	25.689	3.76	187.98	C
			B	0.207	2.573	0.592	1	1	25.689			
			C	0.314	2.259	0.62	1	1	39.810			
T3 280.00-260.00	0.15	3.48	A	0.2	2.595	0.59	1	1	30.944	4.58	229.20	C
			B	0.2	2.595	0.59	1	1	30.944			
			C	0.319	2.246	0.622	1	1	49.816			
T4 260.00-240.00	0.16	3.83	A	0.189	2.634	0.588	1	1	36.382	5.19	259.37	C
			B	0.189	2.634	0.588	1	1	36.382			
			C	0.297	2.305	0.615	1	1	56.162			
T5 240.00-220.00	0.18	4.90	A	0.197	2.605	0.59	1	1	46.567	6.04	302.05	C
			B	0.197	2.605	0.59	1	1	46.567			
			C	0.296	2.306	0.615	1	1	66.937			
T6 220.00-200.00	0.43	4.82	A	0.266	2.39	0.606	1	1	62.481	5.76	288.09	C
			B	0.157	2.744	0.583	1	1	40.915			
			C	0.248	2.444	0.601	1	1	61.828			
T7 200.00-180.00	0.93	5.71	A	0.259	2.41	0.604	1	1	68.956	6.22	311.10	C
			B	0.259	2.41	0.604	1	1	68.956			
			C	0.243	2.458	0.6	1	1	68.318			
T8 180.00-	0.94	5.93	A	0.244	2.456	0.6	1	1	72.996	6.44	321.79	A

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
160.00			B	0.24	2.469	0.599	1	1	71.095			
			C	0.225	2.515	0.596	1	1	70.560			
T9 160.00-140.00	0.94	6.89	A	0.245	2.454	0.601	1	1	83.129	7.06	353.23	A
			B	0.24	2.469	0.599	1	1	80.649			
			C	0.226	2.51	0.596	1	1	80.248			
T10 140.00-120.00	0.95	7.17	A	0.231	2.495	0.597	1	1	86.099	7.14	357.13	A
			B	0.226	2.51	0.596	1	1	83.628			
			C	0.217	2.539	0.594	1	1	84.168			
T11 120.00-100.00	0.97	5.96	A	0.188	2.638	0.588	1	1	62.722	5.24	262.24	A
			B	0.18	2.665	0.586	1	1	58.158			
			C	0.175	2.68	0.586	1	1	60.426			
T12 100.00-80.00	1.01	6.17	A	0.177	2.676	0.586	1	1	64.536	5.38	268.86	C
			B	0.169	2.704	0.584	1	1	59.343			
			C	0.177	2.675	0.586	1	1	67.148			
T13 80.00-60.00	1.02	7.26	A	0.175	2.681	0.586	1	1	69.636	5.43	271.28	C
			B	0.168	2.707	0.584	1	1	64.443			
			C	0.177	2.676	0.586	1	1	72.781			
T14 60.00-30.00	1.52	11.10	A	0.162	2.73	0.583	1	1	105.129	7.35	245.02	C
			B	0.155	2.754	0.582	1	1	97.375			
			C	0.163	2.725	0.584	1	1	109.859			
T15 30.00-0.00	1.52	12.90	A	0.152	2.766	0.582	1	1	108.624	7.03	234.48	C
			B	0.145	2.788	0.581	1	1	100.904			
			C	0.153	2.761	0.582	1	1	113.359			
Sum Weight:	10.89	90.41						OTM	13329.95 kip-ft	85.74		

Tower Forces - Service - Wind 45 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.07	1.79	A	0.208	2.571	0.592	0.825	1	20.596	2.86	143.07	C
			B	0.208	2.571	0.592	0.825	1	20.596			
			C	0.29	2.323	0.613	0.825	1	28.900			
T2 300.00-280.00	0.10	2.50	A	0.207	2.573	0.592	0.825	1	23.485	3.45	172.49	C
			B	0.207	2.573	0.592	0.825	1	23.485			
			C	0.314	2.259	0.62	0.825	1	36.530			
T3 280.00-260.00	0.15	3.48	A	0.2	2.595	0.59	0.825	1	28.505	4.27	213.31	C
			B	0.2	2.595	0.59	0.825	1	28.505			
			C	0.319	2.246	0.622	0.825	1	46.362			
T4 260.00-240.00	0.16	3.83	A	0.189	2.634	0.588	0.825	1	32.980	4.79	239.39	C
			B	0.189	2.634	0.588	0.825	1	32.980			
			C	0.297	2.305	0.615	0.825	1	51.835			
T5 240.00-220.00	0.18	4.90	A	0.197	2.605	0.59	0.825	1	41.390	5.51	275.36	C
			B	0.197	2.605	0.59	0.825	1	41.390			
			C	0.296	2.306	0.615	0.825	1	61.021			
T6 220.00-200.00	0.43	4.82	A	0.266	2.39	0.606	0.825	1	58.802	5.36	267.98	A
			B	0.157	2.744	0.583	0.825	1	36.691			
			C	0.248	2.444	0.601	0.825	1	56.680			
T7 200.00-180.00	0.93	5.71	A	0.259	2.41	0.604	0.825	1	64.873	5.79	289.63	B
			B	0.259	2.41	0.604	0.825	1	64.873			
			C	0.243	2.458	0.6	0.825	1	62.769			
T8 180.00-160.00	0.94	5.93	A	0.244	2.456	0.6	0.825	1	68.154	6.01	300.44	A
			B	0.24	2.469	0.599	0.825	1	66.571			
			C	0.225	2.515	0.596	0.825	1	64.572			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T9 160.00-140.00	0.94	6.89	A	0.245	2.454	0.601	0.825	1	76.515	6.50	325.12	A
			B	0.24	2.469	0.599	0.825	1	74.452			
			C	0.226	2.51	0.596	0.825	1	72.568			
T10 140.00-120.00	0.95	7.17	A	0.231	2.495	0.597	0.825	1	78.924	6.55	327.36	A
			B	0.226	2.51	0.596	0.825	1	76.871			
			C	0.217	2.539	0.594	0.825	1	75.954			
T11 120.00-100.00	0.97	5.96	A	0.188	2.638	0.588	0.825	1	61.918	5.18	258.88	A
			B	0.18	2.665	0.586	0.825	1	58.158			
			C	0.175	2.68	0.586	0.825	1	58.830			
T12 100.00-80.00	1.01	6.17	A	0.177	2.676	0.586	0.825	1	63.618	5.22	260.81	C
			B	0.169	2.704	0.584	0.825	1	59.343			
			C	0.177	2.675	0.586	0.825	1	65.140			
T13 80.00-60.00	1.02	7.26	A	0.175	2.681	0.586	0.825	1	68.717	5.28	263.79	C
			B	0.168	2.707	0.584	0.825	1	64.443			
			C	0.177	2.676	0.586	0.825	1	70.772			
T14 60.00-30.00	1.52	11.10	A	0.162	2.73	0.583	0.825	1	103.752	7.15	238.30	C
			B	0.155	2.754	0.582	0.825	1	97.375			
			C	0.163	2.725	0.584	0.825	1	106.846			
T15 30.00-0.00	1.52	12.90	A	0.152	2.766	0.582	0.825	1	107.246	6.85	228.25	C
			B	0.145	2.788	0.581	0.825	1	100.904			
			C	0.153	2.761	0.582	0.825	1	110.346			
Sum Weight:	10.89	90.41						OTM	12409.79 kip-ft	80.75		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.07	1.79	A	0.208	2.571	0.592	0.8	1	20.305	2.83	141.29	C
			B	0.208	2.571	0.592	0.8	1	20.305			
			C	0.29	2.323	0.613	0.8	1	28.541			
T2 300.00-280.00	0.10	2.50	A	0.207	2.573	0.592	0.8	1	23.170	3.41	170.28	C
			B	0.207	2.573	0.592	0.8	1	23.170			
			C	0.314	2.259	0.62	0.8	1	36.062			
T3 280.00-260.00	0.15	3.48	A	0.2	2.595	0.59	0.8	1	28.157	4.22	211.03	C
			B	0.2	2.595	0.59	0.8	1	28.157			
			C	0.319	2.246	0.622	0.8	1	45.868			
T4 260.00-240.00	0.16	3.83	A	0.189	2.634	0.588	0.8	1	32.494	4.73	236.54	C
			B	0.189	2.634	0.588	0.8	1	32.494			
			C	0.297	2.305	0.615	0.8	1	51.217			
T5 240.00-220.00	0.18	4.90	A	0.197	2.605	0.59	0.8	1	40.651	5.43	271.55	C
			B	0.197	2.605	0.59	0.8	1	40.651			
			C	0.296	2.306	0.615	0.8	1	60.176			
T6 220.00-200.00	0.43	4.82	A	0.266	2.39	0.606	0.8	1	58.276	5.31	265.58	A
			B	0.157	2.744	0.583	0.8	1	36.088			
			C	0.248	2.444	0.601	0.8	1	55.944			
T7 200.00-180.00	0.93	5.71	A	0.259	2.41	0.604	0.8	1	64.290	5.74	287.03	B
			B	0.259	2.41	0.604	0.8	1	64.290			
			C	0.243	2.458	0.6	0.8	1	61.977			
T8 180.00-160.00	0.94	5.93	A	0.244	2.456	0.6	0.8	1	67.462	5.95	297.40	A
			B	0.24	2.469	0.599	0.8	1	65.924			
			C	0.225	2.515	0.596	0.8	1	63.717			
T9 160.00-140.00	0.94	6.89	A	0.245	2.454	0.601	0.8	1	75.570	6.42	321.10	A
			B	0.24	2.469	0.599	0.8	1	73.567			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	0.226	2.51	0.596	0.8	1	71.470			
T10 140.00-120.00	0.95	7.17	A	0.231	2.495	0.597	0.8	1	77.898	6.46	323.11	A
			B	0.226	2.51	0.596	0.8	1	75.905			
			C	0.217	2.539	0.594	0.8	1	74.781			
T11 120.00-100.00	0.97	5.96	A	0.188	2.638	0.588	0.8	1	61.804	5.17	258.40	A
			B	0.18	2.665	0.586	0.8	1	58.158			
			C	0.175	2.68	0.586	0.8	1	58.602			
T12 100.00-80.00	1.01	6.17	A	0.177	2.676	0.586	0.8	1	63.487	5.19	259.66	C
			B	0.169	2.704	0.584	0.8	1	59.343			
			C	0.177	2.675	0.586	0.8	1	64.853			
T13 80.00-60.00	1.02	7.26	A	0.175	2.681	0.586	0.8	1	68.586	5.25	262.72	C
			B	0.168	2.707	0.584	0.8	1	64.443			
			C	0.177	2.676	0.586	0.8	1	70.485			
T14 60.00-30.00	1.52	11.10	A	0.162	2.73	0.583	0.8	1	103.555	7.12	237.34	C
			B	0.155	2.754	0.582	0.8	1	97.375			
			C	0.163	2.725	0.584	0.8	1	106.416			
T15 30.00-0.00	1.52	12.90	A	0.152	2.766	0.582	0.8	1	107.049	6.82	227.35	C
			B	0.145	2.788	0.581	0.8	1	100.904			
			C	0.153	2.761	0.582	0.8	1	109.916			
Sum Weight:	10.89	90.41						OTM	12282.10 kip-ft	80.05		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.07	1.79	A	0.208	2.571	0.592	0.85	1	20.888	2.90	144.85	C
			B	0.208	2.571	0.592	0.85	1	20.888			
			C	0.29	2.323	0.613	0.85	1	29.260			
T2 300.00-280.00	0.10	2.50	A	0.207	2.573	0.592	0.85	1	23.800	3.49	174.71	C
			B	0.207	2.573	0.592	0.85	1	23.800			
			C	0.314	2.259	0.62	0.85	1	36.999			
T3 280.00-260.00	0.15	3.48	A	0.2	2.595	0.59	0.85	1	28.854	4.31	215.58	C
			B	0.2	2.595	0.59	0.85	1	28.854			
			C	0.319	2.246	0.622	0.85	1	46.855			
T4 260.00-240.00	0.16	3.83	A	0.189	2.634	0.588	0.85	1	33.466	4.84	242.25	C
			B	0.189	2.634	0.588	0.85	1	33.466			
			C	0.297	2.305	0.615	0.85	1	52.454			
T5 240.00-220.00	0.18	4.90	A	0.197	2.605	0.59	0.85	1	42.130	5.58	279.17	C
			B	0.197	2.605	0.59	0.85	1	42.130			
			C	0.296	2.306	0.615	0.85	1	61.866			
T6 220.00-200.00	0.43	4.82	A	0.266	2.39	0.606	0.85	1	59.327	5.41	270.37	A
			B	0.157	2.744	0.583	0.85	1	37.294			
			C	0.248	2.444	0.601	0.85	1	57.415			
T7 200.00-180.00	0.93	5.71	A	0.259	2.41	0.604	0.85	1	65.457	5.84	292.24	B
			B	0.259	2.41	0.604	0.85	1	65.457			
			C	0.243	2.458	0.6	0.85	1	63.562			
T8 180.00-160.00	0.94	5.93	A	0.244	2.456	0.6	0.85	1	68.845	6.07	303.49	A
			B	0.24	2.469	0.599	0.85	1	67.217			
			C	0.225	2.515	0.596	0.85	1	65.428			
T9 160.00-140.00	0.94	6.89	A	0.245	2.454	0.601	0.85	1	77.460	6.58	329.13	A
			B	0.24	2.469	0.599	0.85	1	75.337			
			C	0.226	2.51	0.596	0.85	1	73.665			
T10 140.00-	0.95	7.17	A	0.231	2.495	0.597	0.85	1	79.949	6.63	331.62	A

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
120.00			B	0.226	2.51	0.596	0.85	1	77.836			
			C	0.217	2.539	0.594	0.85	1	77.128			
T11 120.00-100.00	0.97	5.96	A	0.188	2.638	0.588	0.85	1	62.033	5.19	259.36	A
			B	0.18	2.665	0.586	0.85	1	58.158			
			C	0.175	2.68	0.586	0.85	1	59.058			
T12 100.00-80.00	1.01	6.17	A	0.177	2.676	0.586	0.85	1	63.749	5.24	261.96	C
			B	0.169	2.704	0.584	0.85	1	59.343			
			C	0.177	2.675	0.586	0.85	1	65.426			
T13 80.00-60.00	1.02	7.26	A	0.175	2.681	0.586	0.85	1	68.849	5.30	264.86	C
			B	0.168	2.707	0.584	0.85	1	64.443			
			C	0.177	2.676	0.586	0.85	1	71.059			
T14 60.00-30.00	1.52	11.10	A	0.162	2.73	0.583	0.85	1	103.949	7.18	239.26	C
			B	0.155	2.754	0.582	0.85	1	97.375			
			C	0.163	2.725	0.584	0.85	1	107.276			
T15 30.00-0.00	1.52	12.90	A	0.152	2.766	0.582	0.85	1	107.443	6.87	229.14	C
			B	0.145	2.788	0.581	0.85	1	100.904			
			C	0.153	2.761	0.582	0.85	1	110.777			
Sum Weight:	10.89	90.41						OTM	12537.47 kip-ft	81.44		

Force Totals

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Leg Weight	50.33					
Bracing Weight	40.08					
Total Member Self-Weight	90.41			-34.22	55.23	
Total Weight	108.28			-34.22	55.23	
Wind 0 deg - No Ice		0.00	-105.85	-17968.68	55.23	-174.58
Wind 30 deg - No Ice		50.75	-87.94	-14879.62	-8511.89	-132.36
Wind 45 deg - No Ice		71.29	-71.31	-12065.15	-11970.22	-99.91
Wind 60 deg - No Ice		86.71	-50.08	-8477.53	-14562.30	-61.15
Wind 90 deg - No Ice		101.51	0.00	-34.22	-17079.01	24.87
Wind 120 deg - No Ice		91.63	52.92	8933.01	-15469.77	109.72
Wind 135 deg - No Ice		71.29	71.31	11996.70	-11970.22	134.85
Wind 150 deg - No Ice		50.75	87.94	14811.17	-8511.89	157.23
Wind 180 deg - No Ice		0.00	100.16	16852.38	55.23	164.81
Wind 210 deg - No Ice		-50.75	87.94	14811.17	8622.35	132.36
Wind 225 deg - No Ice		-71.29	71.31	11996.70	12080.68	99.91
Wind 240 deg - No Ice		-91.63	52.92	8933.01	15580.23	64.86
Wind 270 deg - No Ice		-101.51	0.00	-34.22	17189.47	-24.87
Wind 300 deg - No Ice		-86.71	-50.08	-8477.53	14672.76	-103.66
Wind 315 deg - No Ice		-71.29	-71.31	-12065.15	12080.68	-134.85
Wind 330 deg - No Ice		-50.75	-87.94	-14879.62	8622.35	-157.23
Member Ice	20.07					
Total Weight Ice	149.73			-73.21	155.49	
Wind 0 deg - Ice		0.00	-129.01	-21693.63	155.49	-272.41
Wind 30 deg - Ice		61.90	-107.25	-17998.60	-10189.46	-204.02
Wind 45 deg - Ice		86.94	-86.97	-14602.75	-14368.00	-152.40
Wind 60 deg - Ice		105.76	-61.08	-10272.36	-17502.53	-91.21
Wind 90 deg - Ice		123.80	0.00	-73.21	-20534.40	43.76
Wind 120 deg - Ice		111.69	64.50	10736.99	-18560.92	175.76
Wind 135 deg - Ice		86.94	86.97	14456.33	-14368.00	213.84
Wind 150 deg - Ice		61.90	107.25	17852.17	-10189.46	247.79

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Wind 180 deg - Ice		0.00	122.16	20325.07	155.49	257.11
Wind 210 deg - Ice		-61.90	107.25	17852.17	10500.44	204.02
Wind 225 deg - Ice		-86.94	86.97	14456.33	14678.98	152.40
Wind 240 deg - Ice		-111.69	64.50	10736.99	18871.91	96.65
Wind 270 deg - Ice		-123.80	0.00	-73.21	20845.38	-43.76
Wind 300 deg - Ice		-105.76	-61.08	-10272.36	17813.51	-165.90
Wind 315 deg - Ice		-86.94	-86.97	-14602.75	14678.98	-213.84
Wind 330 deg - Ice		-61.90	-107.25	-17998.60	10500.44	-247.79
Total Weight	108.28			-34.22	55.23	
Wind 0 deg - Service		0.00	-105.85	-17933.71	-3.99	-174.58
Wind 30 deg - Service		50.75	-87.94	-14844.64	-8571.11	-132.36
Wind 45 deg - Service		71.29	-71.31	-12030.17	-12029.44	-99.91
Wind 60 deg - Service		86.71	-50.08	-8442.55	-14621.52	-61.15
Wind 90 deg - Service		101.51	0.00	0.75	-17138.23	24.87
Wind 120 deg - Service		91.63	52.92	8967.98	-15528.98	109.72
Wind 135 deg - Service		71.29	71.31	12031.67	-12029.44	134.85
Wind 150 deg - Service		50.75	87.94	14846.14	-8571.11	157.23
Wind 180 deg - Service		0.00	100.16	16887.36	-3.99	164.81
Wind 210 deg - Service		-50.75	87.94	14846.14	8563.13	132.36
Wind 225 deg - Service		-71.29	71.31	12031.67	12021.46	99.91
Wind 240 deg - Service		-91.63	52.92	8967.98	15521.01	64.86
Wind 270 deg - Service		-101.51	0.00	0.75	17130.26	-24.87
Wind 300 deg - Service		-86.71	-50.08	-8442.55	14613.54	-103.66
Wind 315 deg - Service		-71.29	-71.31	-12030.17	12021.46	-134.85
Wind 330 deg - Service		-50.75	-87.94	-14844.64	8563.13	-157.23

Load Combinations

Comb. No.	Description
1	Dead Only
2	Dead+Wind 0 deg - No Ice
3	Dead+Wind 30 deg - No Ice
4	Dead+Wind 45 deg - No Ice
5	Dead+Wind 60 deg - No Ice
6	Dead+Wind 90 deg - No Ice
7	Dead+Wind 120 deg - No Ice
8	Dead+Wind 135 deg - No Ice
9	Dead+Wind 150 deg - No Ice
10	Dead+Wind 180 deg - No Ice
11	Dead+Wind 210 deg - No Ice
12	Dead+Wind 225 deg - No Ice
13	Dead+Wind 240 deg - No Ice
14	Dead+Wind 270 deg - No Ice
15	Dead+Wind 300 deg - No Ice
16	Dead+Wind 315 deg - No Ice
17	Dead+Wind 330 deg - No Ice
18	Dead+Ice+Temp
19	Dead+Wind 0 deg+Ice+Temp
20	Dead+Wind 30 deg+Ice+Temp
21	Dead+Wind 45 deg+Ice+Temp
22	Dead+Wind 60 deg+Ice+Temp
23	Dead+Wind 90 deg+Ice+Temp
24	Dead+Wind 120 deg+Ice+Temp
25	Dead+Wind 135 deg+Ice+Temp
26	Dead+Wind 150 deg+Ice+Temp

Comb. No.	Description
27	Dead+Wind 180 deg+Ice+Temp
28	Dead+Wind 210 deg+Ice+Temp
29	Dead+Wind 225 deg+Ice+Temp
30	Dead+Wind 240 deg+Ice+Temp
31	Dead+Wind 270 deg+Ice+Temp
32	Dead+Wind 300 deg+Ice+Temp
33	Dead+Wind 315 deg+Ice+Temp
34	Dead+Wind 330 deg+Ice+Temp
35	Dead+Wind 0 deg - Service
36	Dead+Wind 30 deg - Service
37	Dead+Wind 45 deg - Service
38	Dead+Wind 60 deg - Service
39	Dead+Wind 90 deg - Service
40	Dead+Wind 120 deg - Service
41	Dead+Wind 135 deg - Service
42	Dead+Wind 150 deg - Service
43	Dead+Wind 180 deg - Service
44	Dead+Wind 210 deg - Service
45	Dead+Wind 225 deg - Service
46	Dead+Wind 240 deg - Service
47	Dead+Wind 270 deg - Service
48	Dead+Wind 300 deg - Service
49	Dead+Wind 315 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	320 - 300	Leg	Max Tension	27	14.72	-0.07	0.06
			Max. Compression	30	-18.74	0.55	-0.43
			Max. Mx	24	-17.72	-0.87	0.17
			Max. My	19	5.86	0.27	1.04
			Max. Vy	31	1.17	-0.19	-0.17
			Max. Vx	19	1.21	0.00	-0.10
		Diagonal	Max Tension	23	4.28	0.00	0.00
			Max. Compression	24	-4.35	0.00	0.00
			Max. Mx	30	3.16	0.01	0.00
			Max. My	34	-2.77	0.01	0.00
			Max. Vy	30	-0.01	0.01	0.00
			Max. Vx	34	0.00	0.00	0.00
		Top Girt	Max Tension	30	0.07	0.00	0.00
			Max. Compression	32	-0.10	0.00	0.00
			Max. Mx	18	-0.01	-0.02	0.00
			Max. Vy	18	-0.01	0.00	0.00
T2	300 - 280	Leg	Max Tension	27	42.97	-0.12	0.03
			Max. Compression	30	-50.84	0.80	-0.05
			Max. Mx	30	-50.84	0.80	-0.05
			Max. My	34	-2.43	0.04	1.10
			Max. Vy	24	-0.27	0.41	-0.04
			Max. Vx	26	-0.51	-0.03	-0.24
		Diagonal	Max Tension	20	5.25	0.00	0.00
			Max. Compression	19	-5.43	0.00	0.00
			Max. Mx	32	2.58	0.02	0.01
			Max. My	34	-3.73	0.01	0.01
			Max. Vy	32	0.01	0.02	0.01
			Max. Vx	34	-0.00	0.00	0.00
		Top Girt	Max Tension	30	0.09	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	32	-0.11	0.00	0.00
			Max. Mx	18	-0.01	-0.03	0.00
			Max. My	18	-0.01	0.00	0.00
			Max. Vy	18	0.02	0.00	0.00
			Max. Vx	18	-0.00	0.00	0.00
T3	280 - 260	Leg	Max Tension	32	70.68	-0.59	0.00
			Max. Compression	30	-83.19	1.00	0.00
			Max. Mx	30	-83.19	1.00	0.00
			Max. My	34	-5.50	-0.02	1.07
			Max. Vy	27	0.24	-0.64	0.01
			Max. Vx	31	0.34	-0.02	-0.64
		Diagonal	Max Tension	20	6.53	0.00	0.00
			Max. Compression	19	-6.60	0.00	0.00
			Max. Mx	27	3.37	0.04	-0.01
			Max. My	26	-3.85	0.01	-0.01
			Max. Vy	27	0.02	0.04	-0.01
			Max. Vx	26	0.00	0.00	0.00
T4	260 - 240	Leg	Max Tension	32	100.97	-0.71	0.00
			Max. Compression	30	-119.28	1.91	-0.02
			Max. Mx	19	-117.70	1.91	0.37
			Max. My	34	-7.66	0.03	1.91
			Max. Vy	19	-0.38	1.91	0.37
			Max. Vx	26	0.48	0.03	-1.91
		Diagonal	Max Tension	20	7.97	0.00	0.00
			Max. Compression	19	-8.13	0.00	0.00
			Max. Mx	27	4.43	0.06	-0.01
			Max. My	34	-5.27	0.03	0.01
			Max. Vy	27	0.03	0.06	-0.01
			Max. Vx	34	-0.00	0.00	0.00
T5	240 - 220	Leg	Max Tension	32	133.35	-0.84	0.00
			Max. Compression	30	-158.39	1.68	-0.01
			Max. Mx	19	-130.04	1.91	0.37
			Max. My	34	-7.95	0.03	1.91
			Max. Vy	19	0.29	1.91	0.37
			Max. Vx	34	0.32	0.03	1.91
		Diagonal	Max Tension	20	9.52	0.00	0.00
			Max. Compression	19	-9.68	0.00	0.00
			Max. Mx	30	7.35	0.13	-0.01
			Max. My	34	-5.99	0.07	0.03
			Max. Vy	27	0.06	0.13	-0.02
			Max. Vx	34	-0.00	0.00	0.00
T6	220 - 200	Leg	Max Tension	32	166.90	-0.85	0.20
			Max. Compression	30	-200.48	1.88	-0.03
			Max. Mx	24	-197.86	1.88	-0.21
			Max. My	34	-12.08	-0.11	2.63
			Max. Vy	22	-1.58	-1.58	0.01
			Max. Vx	26	-1.44	0.01	-0.78
		Diagonal	Max Tension	20	13.07	0.00	0.00
			Max. Compression	19	-13.32	0.00	0.00
			Max. Mx	30	10.15	0.22	-0.03
			Max. My	34	8.94	0.20	0.04
			Max. Vy	33	0.08	0.21	0.04
			Max. Vx	19	-0.01	0.00	0.00
T7	200 - 180	Leg	Max Tension	32	207.01	-1.90	-0.00
			Max. Compression	30	-250.20	2.40	-0.06
			Max. Mx	24	-247.03	2.41	-0.22
			Max. My	31	-13.42	-0.11	-2.77
			Max. Vy	27	-1.73	-1.68	-0.24
			Max. Vx	26	-1.53	0.06	-0.44
		Diagonal	Max Tension	20	15.38	0.00	0.00
			Max. Compression	20	-15.43	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	32	9.43	0.23	0.03
			Max. My	19	-14.74	0.11	0.04
			Max. Vy	32	0.08	0.23	0.03
			Max. Vx	19	-0.01	0.00	0.00
T8	180 - 160	Leg	Max Tension	32	248.31	-2.30	0.21
			Max. Compression	30	-300.55	3.01	-0.10
			Max. Mx	30	-300.55	3.01	-0.10
			Max. My	34	-20.85	0.10	2.71
			Max. Vy	22	0.38	-2.31	0.07
			Max. Vx	34	-0.63	-0.10	2.42
		Diagonal	Max Tension	20	17.16	0.00	0.00
			Max. Compression	20	-17.31	0.00	0.00
			Max. Mx	32	10.22	0.26	0.04
			Max. My	19	-16.78	0.16	0.04
			Max. Vy	32	0.09	0.26	0.04
			Max. Vx	19	-0.01	0.00	0.00
T9	160 - 140	Leg	Max Tension	32	290.55	-1.92	0.03
			Max. Compression	30	-352.34	3.67	-0.11
			Max. Mx	30	-352.34	3.67	-0.11
			Max. My	34	-23.64	-0.22	3.31
			Max. Vy	24	-0.40	3.65	-0.14
			Max. Vx	34	0.56	-0.22	3.31
		Diagonal	Max Tension	20	19.33	0.00	0.00
			Max. Compression	19	-19.90	0.00	0.00
			Max. Mx	30	13.85	0.43	-0.05
			Max. My	19	10.84	0.37	0.07
			Max. Vy	33	0.13	0.41	0.06
			Max. Vx	19	-0.01	0.00	0.00
T10	140 - 120	Leg	Max Tension	32	330.58	-2.49	0.05
			Max. Compression	30	-402.87	-3.29	0.05
			Max. Mx	30	-378.05	3.67	-0.11
			Max. My	34	-28.34	-0.85	5.62
			Max. Vy	24	0.74	2.39	-0.03
			Max. Vx	34	-0.70	-0.12	4.71
		Diagonal	Max Tension	20	19.72	0.00	0.00
			Max. Compression	19	-20.18	0.00	0.00
			Max. Mx	29	9.20	0.50	-0.07
			Max. My	34	13.69	0.44	0.09
			Max. Vy	29	-0.14	0.50	-0.07
			Max. Vx	34	-0.01	0.00	0.00
T11	120 - 100	Leg	Max Tension	32	336.67	1.50	0.03
			Max. Compression	30	-412.37	-13.83	-0.63
			Max. Mx	30	-411.56	17.30	0.55
			Max. My	34	-30.42	-2.09	11.00
			Max. Vy	30	3.38	17.30	0.55
			Max. Vx	26	1.94	-2.09	-10.97
		Diagonal	Max Tension	20	30.02	-0.20	0.06
			Max. Compression	19	-32.00	0.00	0.00
			Max. Mx	27	15.80	-0.26	0.06
			Max. My	27	15.80	-0.26	0.06
			Max. Vy	27	-0.07	-0.26	0.06
			Max. Vx	27	-0.00	0.00	0.00
		Horizontal	Max Tension	20	16.81	-0.21	0.00
			Max. Compression	19	-16.75	-0.26	-0.02
			Max. Mx	32	-2.78	-0.30	-0.03
			Max. My	24	-1.54	-0.13	0.04
			Max. Vy	32	0.09	-0.30	-0.03
			Max. Vx	24	-0.00	0.00	0.00
		Redund Horz 1 Bracing	Max Tension	30	6.20	0.00	0.00
			Max. Compression	30	-6.20	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	18	0.38	0.02	0.00
			Max. Vy	18	0.01	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	30	5.63	0.00	0.00
			Max. Compression	30	-5.63	0.00	0.00
			Max. Mx	18	0.41	0.03	0.00
			Max. Vy	18	-0.01	0.00	0.00
		Inner Bracing	Max Tension	19	0.28	0.00	0.00
			Max. Compression	19	-0.30	0.00	0.00
			Max. Mx	18	-0.01	0.20	0.00
			Max. Vy	18	-0.06	0.00	0.00
T12	100 - 80	Leg	Max Tension	32	368.00	9.36	1.02
			Max. Compression	30	-452.69	-15.15	-0.60
			Max. Mx	30	-451.86	19.37	0.45
			Max. My	34	-33.78	-2.31	11.63
			Max. Vy	30	3.69	19.37	0.45
			Max. Vx	26	-2.15	-2.09	-10.97
		Diagonal	Max Tension	20	31.34	-0.21	0.06
			Max. Compression	19	-33.45	0.00	0.00
			Max. Mx	28	13.25	-0.27	0.06
			Max. My	28	13.25	-0.27	0.06
			Max. Vy	28	0.07	-0.27	0.06
			Max. Vx	28	0.01	0.00	0.00
		Horizontal	Max Tension	20	18.64	-0.25	0.00
			Max. Compression	19	-18.88	-0.30	-0.02
			Max. Mx	32	0.35	-0.33	-0.04
			Max. My	24	3.79	-0.18	0.04
			Max. Vy	32	-0.09	-0.33	-0.04
			Max. Vx	24	-0.00	0.00	0.00
		Redund Horz 1 Bracing	Max Tension	30	6.81	0.00	0.00
			Max. Compression	30	-6.81	0.00	0.00
			Max. Mx	18	0.43	0.03	0.00
			Max. Vy	18	-0.01	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	30	5.78	0.00	0.00
			Max. Compression	30	-5.78	0.00	0.00
			Max. Mx	18	0.42	0.05	0.00
			Max. Vy	18	-0.02	0.00	0.00
		Inner Bracing	Max Tension	19	0.33	0.00	0.00
			Max. Compression	19	-0.34	0.00	0.00
			Max. Mx	18	0.00	0.25	0.00
			Max. Vy	18	-0.07	0.00	0.00
T13	80 - 60	Leg	Max Tension	32	401.20	10.19	1.34
			Max. Compression	30	-495.64	-15.03	-0.90
			Max. Mx	30	-494.68	23.14	0.73
			Max. My	34	-37.58	-3.08	18.43
			Max. Vy	30	-3.95	23.14	0.73
			Max. Vx	34	-2.76	-3.08	18.43
		Diagonal	Max Tension	20	29.24	-0.21	0.07
			Max. Compression	19	-32.00	0.00	0.00
			Max. Mx	27	19.64	-0.26	0.07
			Max. My	27	16.38	-0.26	0.07
			Max. Vy	27	-0.07	-0.26	0.07
			Max. Vx	27	0.01	0.00	0.00
		Horizontal	Max Tension	20	18.44	-0.38	0.00
			Max. Compression	19	-18.93	-0.42	-0.02
			Max. Mx	32	-3.97	-0.45	-0.03
			Max. My	24	3.99	-0.30	0.03
			Max. Vy	32	0.13	-0.45	-0.03
			Max. Vx	24	-0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Redund Horz 1 Bracing	Max Tension	30	7.47	0.00	0.00
			Max. Compression	30	-7.45	0.00	0.00
			Max. Mx	18	0.57	0.04	0.00
			Max. Vy	18	-0.02	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	30	5.96	0.00	0.00
			Max. Compression	30	-5.97	0.00	0.00
			Max. Mx	18	0.44	0.06	0.00
			Max. Vy	18	-0.02	0.00	0.00
		Inner Bracing	Max Tension	19	0.33	0.00	0.00
			Max. Compression	19	-0.34	0.00	0.00
			Max. Mx	18	0.00	0.29	0.00
			Max. Vy	18	0.08	0.00	0.00
T14	60 - 30	Leg	Max Tension	32	433.05	8.62	1.68
			Max. Compression	30	-537.57	4.60	0.55
			Max. Mx	30	-530.55	28.62	0.76
			Max. My	34	-42.76	-1.66	22.50
			Max. Vy	30	5.33	28.62	0.76
			Max. Vx	26	3.10	-1.67	-22.48
		Diagonal	Max Tension	20	42.80	-0.31	0.12
			Max. Compression	19	-46.21	0.00	0.00
			Max. Mx	32	31.64	-0.36	-0.12
			Max. My	32	31.64	-0.36	-0.12
			Max. Vy	19	-0.08	-0.15	-0.11
			Max. Vx	32	-0.01	0.00	0.00
		Horizontal	Max Tension	20	21.79	-0.55	0.00
			Max. Compression	20	-21.65	-0.55	0.00
			Max. Mx	32	-2.74	-0.71	-0.04
			Max. My	24	3.00	-0.38	0.04
			Max. Vy	32	0.17	-0.71	-0.04
			Max. Vx	24	-0.00	0.00	0.00
		Redund Horz 1 Bracing	Max Tension	30	8.10	0.00	0.00
			Max. Compression	30	-8.28	0.00	0.00
			Max. Mx	18	0.54	0.02	0.00
			Max. Vy	18	-0.01	0.00	0.00
		Redund Horz 2 Bracing	Max Tension	30	8.10	0.00	0.00
			Max. Compression	30	-8.17	0.00	0.00
			Max. Mx	18	0.54	0.10	0.00
			Max. Vy	18	0.04	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	30	8.35	0.00	0.00
			Max. Compression	30	-8.18	0.00	0.00
			Max. Mx	18	0.82	0.03	0.00
			Max. Vy	18	-0.01	0.00	0.00
		Redund Diag 2 Bracing	Max Tension	30	5.36	0.00	0.00
			Max. Compression	30	-5.30	0.00	0.00
			Max. Mx	18	0.47	0.10	0.00
			Max. Vy	18	-0.03	0.00	0.00
		Inner Bracing	Max Tension	28	0.36	0.00	0.00
			Max. Compression	28	-0.40	0.00	0.00
			Max. Mx	18	-0.02	0.34	0.00
			Max. Vy	18	-0.08	0.00	0.00
T15	30 - 0	Leg	Max Tension	32	481.28	19.72	2.64
			Max. Compression	30	-600.80	5.45	0.64
			Max. Mx	30	-597.32	25.52	1.05
			Max. My	34	-46.61	-1.66	22.50
			Max. Vy	30	-3.00	5.45	0.64

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	26	-3.03	-1.67	-22.48
		Diagonal	Max Tension	20	40.13	-0.29	0.13
			Max. Compression	20	-42.05	0.00	0.00
			Max. Mx	32	27.01	-0.36	-0.14
			Max. My	32	24.71	-0.36	-0.14
			Max. Vy	19	-0.08	-0.20	-0.13
			Max. Vx	32	-0.01	0.00	0.00
		Horizontal	Max Tension	20	21.71	-0.56	0.00
			Max. Compression	19	-23.05	-0.63	-0.03
			Max. Mx	32	-0.99	-0.69	-0.06
			Max. My	24	0.58	-0.41	0.06
			Max. Vy	32	-0.17	-0.69	-0.06
			Max. Vx	24	0.00	-0.41	0.06
		Redund Horz 1 Bracing	Max Tension	30	9.10	0.00	0.00
			Max. Compression	30	-9.07	0.00	0.00
			Max. Mx	18	0.66	0.02	0.00
			Max. Vy	18	-0.01	0.00	0.00
		Redund Horz 2 Bracing	Max Tension	30	9.07	0.00	0.00
			Max. Compression	30	-9.25	0.00	0.00
			Max. Mx	18	0.64	0.13	0.00
			Max. Vy	18	-0.04	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	30	8.43	0.00	0.00
			Max. Compression	30	-8.46	0.00	0.00
			Max. Mx	18	0.69	0.04	0.00
			Max. Vy	18	-0.01	0.00	0.00
		Redund Diag 2 Bracing	Max Tension	30	5.82	0.00	0.00
			Max. Compression	30	-5.67	0.00	0.00
			Max. Mx	18	0.62	0.18	0.00
			Max. Vy	18	0.05	0.00	0.00
		Inner Bracing	Max Tension	19	0.40	0.00	0.00
			Max. Compression	19	-0.42	0.00	0.00
			Max. Mx	18	0.01	0.42	0.00
			Max. Vy	18	0.09	0.00	0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg C	Max. Vert	30	656.18	68.02	-40.94
	Max. H_x	30	656.18	68.02	-40.94
	Max. H_z	21	-501.14	-53.84	36.60
	Min. Vert	22	-516.44	-57.30	34.49
	Min. H_x	22	-516.44	-57.30	34.49
	Min. H_z	29	606.53	61.08	-40.95
Leg B	Max. Vert	24	648.54	-69.87	-37.46
	Max. H_x	32	-524.09	59.20	31.47
	Max. H_z	33	-508.78	56.51	32.24
	Min. Vert	32	-524.09	59.20	31.47
	Min. H_x	24	648.54	-69.87	-37.46
	Min. H_z	24	648.54	-69.87	-37.46
Leg A	Max. Vert	19	655.66	-3.94	79.38
	Max. H_x	30	-249.85	10.68	-33.37

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Max. H_z	19	655.66	-3.94	79.38
	Min. Vert	27	-517.33	3.57	-66.90
	Min. H_x	22	336.65	-10.32	39.77
	Min. H_z	27	-517.33	3.57	-66.90

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	108.28	-0.00	-0.00	-34.22	55.23	0.00
Dead+Wind 0 deg - No Ice	108.28	-0.00	-105.85	-17725.73	55.23	-174.59
Dead+Wind 30 deg - No Ice	108.28	50.75	-87.94	-14673.82	-8393.07	-132.36
Dead+Wind 45 deg - No Ice	108.28	71.29	-71.31	-11897.74	-11802.81	-99.91
Dead+Wind 60 deg - No Ice	108.28	86.71	-50.08	-8359.59	-14358.03	-61.15
Dead+Wind 90 deg - No Ice	108.28	101.51	-0.00	-34.22	-16841.38	24.87
Dead+Wind 120 deg - No Ice	108.28	91.63	52.92	8811.53	-15259.36	109.72
Dead+Wind 135 deg - No Ice	108.28	71.29	71.31	11829.29	-11802.81	134.85
Dead+Wind 150 deg - No Ice	108.28	50.75	87.94	14605.37	-8393.07	157.23
Dead+Wind 180 deg - No Ice	108.28	-0.00	100.16	16616.52	55.23	164.81
Dead+Wind 210 deg - No Ice	108.28	-50.75	87.94	14605.37	8503.53	132.36
Dead+Wind 225 deg - No Ice	108.28	-71.29	71.31	11829.29	11913.27	99.91
Dead+Wind 240 deg - No Ice	108.28	-91.63	52.92	8811.53	15369.82	64.86
Dead+Wind 270 deg - No Ice	108.28	-101.51	-0.00	-34.22	16951.83	-24.87
Dead+Wind 300 deg - No Ice	108.28	-86.71	-50.08	-8359.59	14468.49	-103.66
Dead+Wind 315 deg - No Ice	108.28	-71.29	-71.31	-11897.74	11913.27	-134.85
Dead+Wind 330 deg - No Ice	108.28	-50.75	-87.94	-14673.82	8503.53	-157.23
Dead+Ice+Temp	149.73	-0.00	-0.00	-73.21	155.49	0.00
Dead+Wind 0 deg+Ice+Temp	149.73	-0.00	-129.01	-21345.79	155.49	-272.42
Dead+Wind 30 deg+Ice+Temp	149.73	61.90	-107.25	-17704.87	-10019.87	-204.03
Dead+Wind 45 deg+Ice+Temp	149.73	86.94	-86.97	-14363.95	-14129.19	-152.40
Dead+Wind 60 deg+Ice+Temp	149.73	105.76	-61.08	-10104.22	-17211.30	-91.21
Dead+Wind 90 deg+Ice+Temp	149.73	123.80	-0.00	-73.21	-20195.23	43.76
Dead+Wind 120 deg+Ice+Temp	149.73	111.69	64.50	10563.07	-18259.68	175.76
Dead+Wind 135 deg+Ice+Temp	149.73	86.94	86.97	14217.52	-14129.19	213.84
Dead+Wind 150 deg+Ice+Temp	149.73	61.90	107.25	17558.44	-10019.87	247.79
Dead+Wind 180 deg+Ice+Temp	149.73	-0.00	122.16	19988.79	155.49	257.11
Dead+Wind 210 deg+Ice+Temp	149.73	-61.90	107.25	17558.44	10330.85	204.03
Dead+Wind 225 deg+Ice+Temp	149.73	-86.94	86.97	14217.52	14440.17	152.40
Dead+Wind 240 deg+Ice+Temp	149.73	-111.69	64.50	10563.07	18570.67	96.65
Dead+Wind 270 deg+Ice+Temp	149.73	-123.80	-0.00	-73.21	20506.22	-43.76
Dead+Wind 300 deg+Ice+Temp	149.73	-105.76	-61.08	-10104.22	17522.29	-165.90
Dead+Wind 315 deg+Ice+Temp	149.73	-86.94	-86.97	-14363.95	14440.17	-213.84
Dead+Wind 330 deg+Ice+Temp	149.73	-61.90	-107.25	-17704.87	10330.85	-247.79
Dead+Wind 0 deg - Service	108.28	-0.00	-105.85	-17725.73	55.23	-174.59
Dead+Wind 30 deg - Service	108.28	50.75	-87.94	-14673.82	-8393.07	-132.36
Dead+Wind 45 deg - Service	108.28	71.29	-71.31	-11897.74	-11802.81	-99.91
Dead+Wind 60 deg - Service	108.28	86.71	-50.08	-8359.59	-14358.03	-61.15
Dead+Wind 90 deg - Service	108.28	101.51	-0.00	-34.22	-16841.38	24.87
Dead+Wind 120 deg - Service	108.28	91.63	52.92	8811.53	-15259.36	109.72
Dead+Wind 135 deg - Service	108.28	71.29	71.31	11829.29	-11802.81	134.85
Dead+Wind 150 deg - Service	108.28	50.75	87.94	14605.37	-8393.07	157.23
Dead+Wind 180 deg - Service	108.28	-0.00	100.16	16616.52	55.23	164.81
Dead+Wind 210 deg - Service	108.28	-50.75	87.94	14605.37	8503.53	132.36
Dead+Wind 225 deg - Service	108.28	-71.29	71.31	11829.29	11913.27	99.91
Dead+Wind 240 deg - Service	108.28	-91.63	52.92	8811.53	15369.82	64.86
Dead+Wind 270 deg - Service	108.28	-101.51	-0.00	-34.22	16951.83	-24.87

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead+Wind 300 deg - Service	108.28	-86.71	-50.08	-8359.59	14468.49	-103.66
Dead+Wind 315 deg - Service	108.28	-71.29	-71.31	-11897.74	11913.27	-134.85
Dead+Wind 330 deg - Service	108.28	-50.75	-87.94	-14673.82	8503.53	-157.23

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.00	-108.28	0.00	0.00	108.28	0.00	0.000%
2	-0.00	-108.28	-105.85	0.00	108.28	105.85	0.000%
3	50.75	-108.28	-87.94	-50.75	108.28	87.94	0.000%
4	71.29	-108.28	-71.31	-71.29	108.28	71.31	0.000%
5	86.71	-108.28	-50.08	-86.71	108.28	50.08	0.000%
6	101.51	-108.28	0.00	-101.51	108.28	0.00	0.000%
7	91.63	-108.28	52.92	-91.63	108.28	-52.92	0.000%
8	71.29	-108.28	71.31	-71.29	108.28	-71.31	0.000%
9	50.75	-108.28	87.94	-50.75	108.28	-87.94	0.000%
10	0.00	-108.28	100.16	0.00	108.28	-100.16	0.000%
11	-50.75	-108.28	87.94	50.75	108.28	-87.94	0.000%
12	-71.29	-108.28	71.31	71.29	108.28	-71.31	0.000%
13	-91.63	-108.28	52.92	91.63	108.28	-52.92	0.000%
14	-101.51	-108.28	0.00	101.51	108.28	0.00	0.000%
15	-86.71	-108.28	-50.08	86.71	108.28	50.08	0.000%
16	-71.29	-108.28	-71.31	71.29	108.28	71.31	0.000%
17	-50.75	-108.28	-87.94	50.75	108.28	87.94	0.000%
18	0.00	-149.73	0.00	0.00	149.73	0.00	0.000%
19	-0.00	-149.73	-129.01	0.00	149.73	129.01	0.000%
20	61.90	-149.73	-107.25	-61.90	149.73	107.25	0.000%
21	86.94	-149.73	-86.97	-86.94	149.73	86.97	0.000%
22	105.76	-149.73	-61.08	-105.76	149.73	61.08	0.000%
23	123.80	-149.73	0.00	-123.80	149.73	0.00	0.000%
24	111.69	-149.73	64.50	-111.69	149.73	-64.50	0.000%
25	86.94	-149.73	86.97	-86.94	149.73	-86.97	0.000%
26	61.90	-149.73	107.25	-61.90	149.73	-107.25	0.000%
27	0.00	-149.73	122.16	0.00	149.73	-122.16	0.000%
28	-61.90	-149.73	107.25	61.90	149.73	-107.25	0.000%
29	-86.94	-149.73	86.97	86.94	149.73	-86.97	0.000%
30	-111.69	-149.73	64.50	111.69	149.73	-64.50	0.000%
31	-123.80	-149.73	0.00	123.80	149.73	0.00	0.000%
32	-105.76	-149.73	-61.08	105.76	149.73	61.08	0.000%
33	-86.94	-149.73	-86.97	86.94	149.73	86.97	0.000%
34	-61.90	-149.73	-107.25	61.90	149.73	107.25	0.000%
35	-0.00	-108.28	-105.85	0.00	108.28	105.85	0.000%
36	50.75	-108.28	-87.94	-50.75	108.28	87.94	0.000%
37	71.29	-108.28	-71.31	-71.29	108.28	71.31	0.000%
38	86.71	-108.28	-50.08	-86.71	108.28	50.08	0.000%
39	101.51	-108.28	0.00	-101.51	108.28	0.00	0.000%
40	91.63	-108.28	52.92	-91.63	108.28	-52.92	0.000%
41	71.29	-108.28	71.31	-71.29	108.28	-71.31	0.000%
42	50.75	-108.28	87.94	-50.75	108.28	-87.94	0.000%
43	0.00	-108.28	100.16	0.00	108.28	-100.16	0.000%
44	-50.75	-108.28	87.94	50.75	108.28	-87.94	0.000%
45	-71.29	-108.28	71.31	71.29	108.28	-71.31	0.000%
46	-91.63	-108.28	52.92	91.63	108.28	-52.92	0.000%
47	-101.51	-108.28	0.00	101.51	108.28	0.00	0.000%
48	-86.71	-108.28	-50.08	86.71	108.28	50.08	0.000%
49	-71.29	-108.28	-71.31	71.29	108.28	71.31	0.000%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
50	-50.75	-108.28	-87.94	50.75	108.28	87.94	0.000%

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	320 - 300	23.783	46	0.6262	0.3052
T2	300 - 280	21.111	46	0.6163	0.2443
T3	280 - 260	18.511	46	0.5887	0.1952
T4	260 - 240	16.031	46	0.5613	0.1674
T5	240 - 220	13.675	46	0.5267	0.1468
T6	220 - 200	11.493	46	0.4852	0.1342
T7	200 - 180	9.496	46	0.4378	0.1244
T8	180 - 160	7.669	35	0.3966	0.1139
T9	160 - 140	6.009	35	0.3519	0.1015
T10	140 - 120	4.550	35	0.3034	0.0909
T11	120 - 100	3.296	35	0.2523	0.0800
T12	100 - 80	2.283	35	0.2028	0.0621
T13	80 - 60	1.464	35	0.1531	0.0479
T14	60 - 30	0.841	40	0.1114	0.0358
T15	30 - 0	0.257	40	0.0499	0.0176

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
320.00	Dual Lights	46	23.783	0.6262	0.3052	258302
318.00	PD128	46	23.515	0.6257	0.2990	258302
315.00	8 FT DISH	46	23.112	0.6249	0.2898	258302
308.00	6 FT DISH	46	22.175	0.6222	0.2683	107626
294.00	DB224	46	20.320	0.6093	0.2269	51672
292.00	PD320	46	20.058	0.6066	0.2214	48446
285.00	DB809	46	19.150	0.5962	0.2052	39756
275.00	OGT9	46	17.879	0.5818	0.1868	37488
257.00	PD440	46	15.669	0.5567	0.1640	41129
250.00	PD128	46	14.835	0.5450	0.1563	32802
243.00	PD320	46	14.018	0.5323	0.1494	27266
220.00	DB844	46	11.493	0.4852	0.1342	25732
200.00	PiROD 12' Lightweight T-Frame	46	9.496	0.4378	0.1244	28349
175.00	6 FT DISH	35	7.237	0.3860	0.1108	28314
140.00	BA1012-0	35	4.550	0.3034	0.0909	25282
138.00	PD156S	35	4.415	0.2983	0.0900	24650
115.00	6 FT DISH	35	3.021	0.2399	0.0759	19347
112.00	2 FT DISH	35	2.863	0.2325	0.0732	20595
105.00	6 FT DISH	35	2.516	0.2153	0.0666	24226
100.00	PD458	35	2.283	0.2028	0.0621	26872
97.00	6 FT DISH	35	2.148	0.1952	0.0596	26975
90.00	4 FT DISH	35	1.850	0.1774	0.0544	25575

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	320 - 300	28.639	30	0.7527	0.4156
T2	300 - 280	25.431	30	0.7408	0.3464
T3	280 - 260	22.307	30	0.7088	0.2866
T4	260 - 240	19.320	30	0.6766	0.2494
T5	240 - 220	16.479	30	0.6353	0.2204
T6	220 - 200	13.846	30	0.5855	0.2019
T7	200 - 180	11.437	30	0.5284	0.1873
T8	180 - 160	9.232	30	0.4786	0.1716
T9	160 - 140	7.229	30	0.4245	0.1538
T10	140 - 120	5.471	30	0.3658	0.1388
T11	120 - 100	3.961	30	0.3041	0.1232
T12	100 - 80	2.746	30	0.2441	0.0968
T13	80 - 60	1.765	19	0.1843	0.0748
T14	60 - 30	1.017	24	0.1340	0.0559
T15	30 - 0	0.316	24	0.0601	0.0275

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
320.00	Dual Lights	30	28.639	0.7527	0.4156	223133
318.00	PD128	30	28.317	0.7521	0.4087	223133
315.00	8 FT DISH	30	27.834	0.7510	0.3984	223133
308.00	6 FT DISH	30	26.709	0.7477	0.3743	92972
294.00	DB224	30	24.482	0.7327	0.3255	45005
292.00	PD320	30	24.167	0.7295	0.3194	42281
285.00	DB809	30	23.076	0.7175	0.2994	34892
275.00	OGT9	30	21.547	0.7007	0.2756	32751
257.00	PD440	30	18.884	0.6711	0.2447	34777
250.00	PD128	30	17.878	0.6572	0.2339	27563
243.00	PD320	30	16.893	0.6421	0.2241	22818
220.00	DB844	30	13.846	0.5855	0.2019	21205
200.00	PiROD 12' Lightweight T-Frame	30	11.437	0.5284	0.1873	23649
175.00	6 FT DISH	30	8.711	0.4657	0.1672	23278
140.00	BA1012-0	30	5.471	0.3658	0.1388	20952
138.00	PD156S	30	5.308	0.3597	0.1375	20399
115.00	6 FT DISH	30	3.630	0.2890	0.1172	15835
112.00	2 FT DISH	30	3.442	0.2801	0.1133	16903
105.00	6 FT DISH	30	3.025	0.2592	0.1036	20061
100.00	PD458	30	2.746	0.2441	0.0968	22407
97.00	6 FT DISH	30	2.584	0.2349	0.0930	22548
90.00	4 FT DISH	30	2.227	0.2135	0.0850	21462

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	320	Leg	A325N	1.0000	6	2.45	34.56	0.071 ✓	1.333	Bolt Tension
T2	300	Leg	A325N	1.0000	8	5.37	34.56	0.155 ✓	1.333	Bolt Tension
T3	280	Leg	A325N	1.0000	8	8.84	34.56	0.256 ✓	1.333	Bolt Tension
T4	260	Leg	A325N	1.0000	8	12.62	34.56	0.365 ✓	1.333	Bolt Tension
T5	240	Leg	A325N	1.0000	8	16.67	34.56	0.482 ✓	1.333	Bolt Tension
T6	220	Leg	A325N	1.0000	12	13.91	34.56	0.402 ✓	1.333	Bolt Tension
T7	200	Leg	A325N	1.0000	12	17.25	34.56	0.499 ✓	1.333	Bolt Tension
T8	180	Leg	A325N	1.0000	12	20.69	34.56	0.599 ✓	1.333	Bolt Tension
T9	160	Leg	A325N	1.0000	12	24.21	34.56	0.701 ✓	1.333	Bolt Tension
T10	140	Leg	A325N	1.0000	12	27.55	34.56	0.797 ✓	1.333	Bolt Tension
T11	120	Leg	A325N	1.0000	12	27.98	34.55	0.810 ✓	1.333	Bolt Tension
		Horizontal	A325N	0.7500	2	8.40	9.28	0.906 ✓	1.333	Bolt Shear
T12	100	Leg	A325N	1.0000	16	22.92	34.56	0.663 ✓	1.333	Bolt Tension
		Horizontal	A325N	0.7500	2	9.44	9.28	1.018 ✓	1.333	Bolt Shear
T13	80	Leg	A325N	1.0000	16	25.02	34.56	0.724 ✓	1.333	Bolt Tension
		Horizontal	A325N	0.7500	2	9.47	9.28	1.020 ✓	1.333	Bolt Shear
T14	60	Leg	A325N	1.0000	16	26.54	34.55	0.768 ✓	1.333	Bolt Tension
		Horizontal	A325N	0.8750	2	10.90	12.63	0.863 ✓	1.333	Bolt Shear
T15	30	Leg	A325N	1.0000	24	19.83	34.56	0.574 ✓	1.333	Bolt Tension
		Horizontal	A325N	0.8750	2	11.53	12.63	0.913 ✓	1.333	Bolt Shear

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio P / P_a
T1	320 - 300	ROHN 5 EH	20.00	4.00	26.1 K=1.00	27.622	6.1120	-18.74	168.82	0.111 ✓
T2	300 - 280	ROHN 6 EH	20.03	5.01	27.4 K=1.00	27.470	8.4049	-50.84	230.89	0.220 ✓
T3	280 - 260	ROHN 8 EH	20.04	6.68	27.9 K=1.00	27.414	12.7627	-83.19	349.88	0.238 ✓
T4	260 - 240	ROHN 8 EH	20.03	6.68	27.8 K=1.00	27.415	12.7627	-119.28	349.89	0.341 ✓
T5	240 - 220	ROHN 8 EH	20.03	6.68	27.8 K=1.00	27.415	12.7627	-158.39	349.89	0.453 ✓
T6	220 - 200	ROHN 8 EH	20.03	10.02	41.8 K=1.00	25.582	12.7627	-200.48	326.50	0.614 ✓

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T7	200 - 180	ROHN 10 EH	20.04	10.02	33.1 K=1.00	26.757	16.1007	-250.20	430.80	0.581 ✓
T8	180 - 160	ROHN 10 EH	20.04	10.02	33.1 K=1.00	26.757	16.1007	-300.55	430.81	0.698 ✓
T9	160 - 140	ROHN 10 EH	20.03	10.02	33.1 K=1.00	26.758	16.1007	-352.34	430.82	0.818 ✓
T10	140 - 120	ROHN 10 EH	20.04	10.02	33.1 K=1.00	26.756	16.1007	-402.87	430.79	0.935 ✓
T11	120 - 100	ROHN 10 EH	20.06	10.03	33.2 K=1.00	26.753	16.1007	-412.37	430.74	0.957 ✓
T12	100 - 80	ROHN 10 EH	20.05	10.03	33.2 K=1.00	26.753	16.1007	-452.69	430.75	1.051 ✓
T13	80 - 60	ROHN 12 EH	20.06	10.03	27.8 K=1.00	27.425	19.2423	-495.63	527.71	0.939 ✓
T14	60 - 30	ROHN 12 EH	30.07	10.02	27.8 K=1.00	27.426	19.2423	-537.57	527.74	1.019 ✓
T15	30 - 0	ROHN 12 EHS	30.08	10.03	28.0 K=1.00	27.392	23.8074	-600.80	652.14	0.921 ✓

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	320 - 300	L1 3/4x1 3/4x3/16	7.90	3.68	126.6 K=0.98	9.320	0.6211	-4.35	5.79	0.752 ✓
T2	300 - 280	L2x2x1/4	9.94	4.80	140.9 K=0.96	7.526	0.9380	-5.43	7.06	0.770 ✓
T3	280 - 260	L2 1/2x2 1/2x1/4	12.59	6.09	141.9 K=0.95	7.413	1.1900	-6.60	8.82	0.749 ✓
T4	260 - 240	L3x3x1/4	14.38	6.98	136.4 K=0.96	8.031	1.4400	-8.13	11.57	0.703 ✓
T5	240 - 220	L4x4x5/16	16.19	7.89	119.7 K=1.00	10.418	2.4000	-9.68	25.00	0.387 ✓
T6	220 - 200	L4x4x3/8	19.37	9.56	139.5 K=0.96	7.671	2.8600	-13.32	21.94	0.607 ✓
T7	200 - 180	L4x4x3/8	21.20	10.39	149.2 K=0.94	6.709	2.8600	-15.43	19.19	0.804 ✓
T8	180 - 160	L4x4x3/8	23.06	11.32	160.0 K=0.93	5.834	2.8600	-17.31	16.68	1.038 ✓
T9	160 - 140	L5x5x3/8	24.84	12.19	141.2 K=0.96	7.491	3.6100	-19.90	27.04	0.736 ✓
T10	140 - 120	L5x5x3/8	26.78	13.20	150.5 K=0.94	6.589	3.6100	-20.18	23.79	0.849 ✓
T11	120 - 100	ROHN 3 EH	24.42	23.63	124.8 K=0.50	9.588	3.0159	-32.00	28.92	1.107 ✓
T12	100 - 80	ROHN 3 EH	25.15	24.41	128.9 K=0.50	8.987	3.0159	-33.45	27.10	1.234 ✓
T13	80 - 60	ROHN 3 EH	25.98	25.15	132.8 K=0.50	8.467	3.0159	-32.00	25.54	1.253 ✓

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T14	60 - 30	ROHN 3.5 EH	35.21	34.19	103.6 K=0.33	13.854	3.6784	-46.21	50.96	0.907 ✔
T15	30 - 0	ROHN 3.5 EH	36.27	35.32	107.0 K=0.33	13.033	3.6784	-42.05	47.94	0.877 ✔

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T11	120 - 100	ROHN 3 STD	25.39	12.25	126.3 K=1.00	9.361	2.2285	-16.75	20.86	0.803 ✔
T12	100 - 80	ROHN 3 STD	27.97	13.54	139.6 K=1.00	7.662	2.2285	-18.88	17.07	1.106 ✔
T13	80 - 60	ROHN 3 EH	30.47	14.79	156.2 K=1.00	6.124	3.0159	-18.93	18.47	1.025 ✔
T14	60 - 30	ROHN 3.5 EH	33.14	16.04	147.3 K=1.00	6.883	3.6784	-21.65	25.32	0.855 ✔
T15	30 - 0	ROHN 4 STD	36.80	17.87	142.0 K=1.00	7.401	3.1741	-23.05	23.49	0.981 ✔

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	320 - 300	L1 3/4x1 3/4x3/16	6.81	6.35	182.6 K=0.82	4.480	0.6211	-0.10	2.78	0.034 ✔
T2	300 - 280	L2x2x1/4	6.81	6.35	166.0 K=0.85	5.420	0.9380	-0.11	5.08	0.021 ✔

Redundant Horizontal (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T11	120 - 100	ROHN 1.5 STD	6.35	5.90	113.7 K=1.00	11.550	0.7995	-6.20	9.23	0.672 ✔
T12	100 - 80	ROHN 1.5 STD	6.99	6.54	126.1 K=1.00	9.385	0.7995	-6.81	7.50	0.908 ✔
T13	80 - 60	ROHN 2 STD	7.62	7.09	108.0 K=1.00	12.795	1.0745	-7.45	13.75	0.542 ✔
T14	60 - 30	ROHN 1.5 STD	5.52	4.99	96.2 K=1.00	15.570	0.7995	-8.28	12.45	0.665 ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T15	30 - 0	ROHN 1.5 STD	6.13	5.60	108.0 K=1.00	12.809	0.7995	-9.07	10.24	0.886 ✓

Redundant Horizontal (2) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T14	60 - 30	ROHN 2 EH	11.05	10.52	164.2 K=1.00	5.535	1.4807	-8.17	8.20	0.997 ✓
T15	30 - 0	ROHN 2 EH H1-3 (1.41 CR) - 331	12.27	11.74	183.3 K=1.00	4.444	1.4807	-9.25	6.58	1.406 ✗

Redundant Diagonal (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T11	120 - 100	ROHN 1.5 STD	11.52	10.61	204.6 K=1.00	3.568	0.7995	-5.63	2.85	1.973 ✗
T12	100 - 80	H1-3 (1.97 CR) - 211 ROHN 2 STD	11.86	11.03	168.1 K=1.00	5.283	1.0745	-5.78	5.68	1.017 ✓
T13	80 - 60	ROHN 2 STD	12.18	11.40	173.8 K=1.00	4.944	1.0745	-5.97	5.31	1.124 ✓
T14	60 - 30	ROHN 1.5 STD	11.15	9.95	191.7 K=1.00	4.064	0.7995	-8.18	3.25	2.516 ✗
T15	30 - 0	H1-3 (2.52 CR) - 293 ROHN 2 STD	11.41	10.31	157.2 K=1.00	6.046	1.0745	-8.46	6.50	1.303 ✓

Redundant Diagonal (2) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T14	60 - 30	ROHN 2 STD	14.46	13.72	209.2 K=1.00	3.412	1.0745	-5.30	3.67	1.446 ✗
T15	30 - 0	H1-3 (1.45 CR) - 294 ROHN 2.5 STD	15.33	14.63	185.3 K=1.00	4.347	1.7040	-5.67	7.41	0.765 ✓

Inner Bracing Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T11	120 - 100	ROHN 3 STD	12.69	12.69	130.9 K=1.00	8.712	2.2285	-0.30	19.41	0.016 ✓
T12	100 - 80	ROHN 3 STD	13.99	13.99	144.2 K=1.00	7.179	2.2285	-0.34	16.00	0.021 ✓
T13	80 - 60	ROHN 3 STD	15.24	15.24	157.1 K=1.00	6.049	2.2285	-0.34	13.48	0.025 ✓
T14	60 - 30	ROHN 3 STD	16.57	16.57	170.9 K=1.00	5.114	2.2285	-0.40	11.40	0.035 ✓
T15	30 - 0	ROHN 3 STD	18.40	18.40	189.8 K=1.00	4.147	2.2285	-0.42	9.24	0.046 ✓

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	320 - 300	ROHN 5 EH	20.00	4.00	26.1	30.000	6.1120	14.72	183.36	0.080 ✓
T2	300 - 280	ROHN 6 EH	20.03	5.01	27.4	30.000	8.4049	42.92	252.15	0.170 ✓
T3	280 - 260	ROHN 8 EH	20.04	6.68	27.9	30.000	12.7627	70.68	382.88	0.185 ✓
T4	260 - 240	ROHN 8 EH	20.03	6.68	27.8	30.000	12.7627	100.97	382.88	0.264 ✓
T5	240 - 220	ROHN 8 EH	20.03	6.68	27.8	30.000	12.7627	133.35	382.88	0.348 ✓
T6	220 - 200	ROHN 8 EH	20.03	10.02	41.8	30.000	12.7627	166.90	382.88	0.436 ✓
T7	200 - 180	ROHN 10 EH	20.04	10.02	33.1	30.000	16.1007	207.01	483.02	0.429 ✓
T8	180 - 160	ROHN 10 EH	20.04	10.02	33.1	30.000	16.1007	248.31	483.02	0.514 ✓
T9	160 - 140	ROHN 10 EH	20.03	10.02	33.1	30.000	16.1007	290.55	483.02	0.602 ✓
T10	140 - 120	ROHN 10 EH	20.04	10.02	33.1	30.000	16.1007	330.58	483.02	0.684 ✓
T11	120 - 100	ROHN 10 EH	20.06	10.03	33.2	30.000	16.1007	336.67	483.02	0.697 ✓
T12	100 - 80	ROHN 10 EH	20.05	10.03	33.2	30.000	16.1007	368.00	483.02	0.762 ✓
T13	80 - 60	ROHN 12 EH	20.06	10.03	27.8	30.000	19.2423	401.20	577.27	0.695 ✓
T14	60 - 30	ROHN 12 EH	30.07	10.02	27.8	30.000	19.2423	433.05	577.27	0.750

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T15	30 - 0	ROHN 12 EHS	30.08	10.03	28.0	30.000	23.8074	481.28	714.22	0.674 ✓

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	320 - 300	L1 3/4x1 3/4x3/16	7.90	3.68	82.2	21.600	0.6211	4.28	13.42	0.319 ✓
T2	300 - 280	L2x2x1/4	9.94	4.80	94.6	21.600	0.9380	5.25	20.26	0.259 ✓
T3	280 - 260	L2 1/2x2 1/2x1/4	12.59	6.09	95.0	21.600	1.1900	6.53	25.70	0.254 ✓
T4	260 - 240	L3x3x1/4	14.38	6.98	90.0	32.500	1.0800	7.97	35.10	0.227 ✓
T5	240 - 220	L4x4x5/16	16.19	7.89	76.3	32.500	1.8000	9.52	58.50	0.163 ✓
T6	220 - 200	L4x4x3/8	19.37	9.56	93.3	32.500	2.1450	13.07	69.71	0.187 ✓
T7	200 - 180	L4x4x3/8	21.20	10.39	101.4	32.500	2.1450	15.38	69.71	0.221 ✓
T8	180 - 160	L4x4x3/8	23.06	11.32	110.5	32.500	2.1450	17.16	69.71	0.246 ✓
T9	160 - 140	L5x5x3/8	24.84	12.19	93.8	32.500	2.7075	19.33	87.99	0.220 ✓
T10	140 - 120	L5x5x3/8	26.78	13.20	101.6	32.500	2.7075	19.72	87.99	0.224 ✓
T11	120 - 100	ROHN 3 EH	24.42	23.63	249.6	30.000	3.0159	30.02	90.48	0.332 ✓
T12	100 - 80	ROHN 3 EH	25.15	24.41	257.8	30.000	3.0159	31.34	90.48	0.346 ✓
T13	80 - 60	ROHN 3 EH	25.98	25.15	265.6	30.000	3.0159	29.24	90.48	0.323 ✓
T14	60 - 30	ROHN 3.5 EH	35.21	34.19	314.0	30.000	3.6784	42.80	110.35	0.388 ✓
T15	30 - 0	ROHN 3.5 EH	36.27	35.32	324.4	30.000	3.6784	40.13	110.35	0.364 ✓

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T11	120 - 100	ROHN 3 STD	25.39	12.25	126.3	30.000	2.2285	16.81	66.85	0.251 ✓

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T12	100 - 80	ROHN 3 STD	27.97	13.54	139.6	30.000	2.2285	18.64	66.85	0.279 ✔
T13	80 - 60	ROHN 3 EH	30.47	14.79	156.2	30.000	3.0159	18.44	90.48	0.204 ✔
T14	60 - 30	ROHN 3.5 EH	33.14	16.04	147.3	30.000	3.6784	21.79	110.35	0.197 ✔
T15	30 - 0	ROHN 4 STD	36.80	17.87	142.0	30.000	3.1741	21.71	95.22	0.228 ✔

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	320 - 300	L1 3/4x1 3/4x3/16	6.81	6.35	141.8	21.600	0.6211	0.07	13.42	0.005 ✔
T2	300 - 280	L2x2x1/4	6.81	6.35	125.1	21.600	0.9380	0.09	20.26	0.004 ✔

Redundant Horizontal (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T11	120 - 100	ROHN 1.5 STD	6.35	5.90	113.7	30.000	0.7995	6.20	23.98	0.259 ✔
T12	100 - 80	ROHN 1.5 STD	6.99	6.54	126.1	30.000	0.7995	6.81	23.98	0.284 ✔
T13	80 - 60	ROHN 2 STD	7.62	7.09	108.0	30.000	1.0745	7.47	32.24	0.232 ✔
T14	60 - 30	ROHN 1.5 STD	5.52	4.99	96.2	30.000	0.7995	8.10	23.98	0.338 ✔
T15	30 - 0	ROHN 1.5 STD	6.13	5.60	108.0	30.000	0.7995	9.10	23.98	0.379 ✔

Redundant Horizontal (2) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T14	60 - 30	ROHN 2 EH	11.05	10.52	164.2	30.000	1.4807	8.10	44.42	0.182 ✔
T15	30 - 0	ROHN 2 EH	12.27	11.74	183.3	30.000	1.4807	9.07	44.42	0.204 ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
		H1-3 (1.41 CR) - 331								

Redundant Diagonal (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T11	120 - 100	ROHN 1.5 STD	11.52	10.61	204.6	30.000	0.7995	5.63	23.98	0.235 ✔
		H1-3 (1.97 CR) - 228								
T12	100 - 80	ROHN 2 STD	11.86	11.03	168.1	30.000	1.0745	5.78	32.24	0.179 ✔
T13	80 - 60	ROHN 2 STD	12.18	11.40	173.8	30.000	1.0745	5.96	32.24	0.185 ✔
T14	60 - 30	ROHN 1.5 STD	11.15	9.95	191.7	30.000	0.7995	8.35	23.98	0.348 ✔
		H1-3 (2.52 CR) - 293								
T15	30 - 0	ROHN 2 STD	11.41	10.31	157.2	30.000	1.0745	8.43	32.24	0.262 ✔

Redundant Diagonal (2) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T14	60 - 30	ROHN 2 STD	14.46	13.72	209.2	30.000	1.0745	5.36	32.24	0.166 ✔
		H1-3 (1.45 CR) - 294								
T15	30 - 0	ROHN 2.5 STD	15.33	14.63	185.3	30.000	1.7040	5.82	51.12	0.114 ✔

Inner Bracing Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T11	120 - 100	ROHN 3 STD	12.69	12.69	130.9	30.000	2.2285	0.28	66.85	0.004 ✔
T12	100 - 80	ROHN 3 STD	13.99	13.99	144.2	30.000	2.2285	0.33	66.85	0.005 ✔
T13	80 - 60	ROHN 3 STD	15.24	15.24	157.1	30.000	2.2285	0.33	66.85	0.005 ✔
T14	60 - 30	ROHN 3 STD	16.57	16.57	170.9	30.000	2.2285	0.36	66.85	0.005 ✔
T15	30 - 0	ROHN 3 STD	18.40	18.40	189.8	30.000	2.2285	0.40	66.85	0.006

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

Section Capacity Table

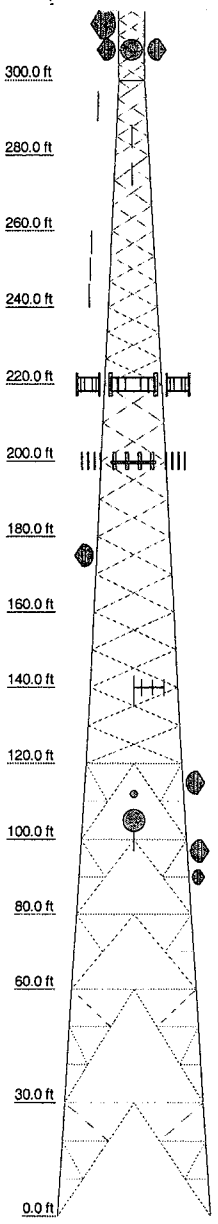
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
T1	320 - 300	Leg	ROHN 5 EH	1	-18.74	225.04	8.3	Pass
T2	300 - 280	Leg	ROHN 6 EH	37	-50.84	307.77	16.5	Pass
T3	280 - 260	Leg	ROHN 8 EH	67	-83.19	466.39	17.8	Pass
T4	260 - 240	Leg	ROHN 8 EH	88	-119.28	466.41	25.6	Pass
T5	240 - 220	Leg	ROHN 8 EH	109	-158.39	466.41	34.0	Pass
T6	220 - 200	Leg	ROHN 8 EH	130	-200.48	435.22	46.1	Pass
T7	200 - 180	Leg	ROHN 10 EH	145	-250.20	574.26	43.6	Pass
T8	180 - 160	Leg	ROHN 10 EH	160	-300.55	574.26	52.3	Pass
T9	160 - 140	Leg	ROHN 10 EH	175	-352.34	574.29	61.4	Pass
T10	140 - 120	Leg	ROHN 10 EH	190	-402.87	574.25	70.2	Pass
T11	120 - 100	Leg	ROHN 10 EH	205	-412.37	574.17	71.8	Pass
T12	100 - 80	Leg	ROHN 10 EH	232	-452.69	574.19	78.8	Pass
T13	80 - 60	Leg	ROHN 12 EH	259	-495.63	703.44	70.5	Pass
T14	60 - 30	Leg	ROHN 12 EH	286	-537.57	703.48	76.4	Pass
T15	30 - 0	Leg	ROHN 12 EHS	325	-600.80	869.31	69.1	Pass
T1	320 - 300	Diagonal	L1 3/4x1 3/4x3/16	8	-4.35	7.72	56.4	Pass
T2	300 - 280	Diagonal	L2x2x1/4	47	-5.43	9.41	57.8	Pass
T3	280 - 260	Diagonal	L2 1/2x2 1/2x1/4	74	-6.60	11.76	56.2	Pass
T4	260 - 240	Diagonal	L3x3x1/4	95	-8.13	15.42	52.7	Pass
T5	240 - 220	Diagonal	L4x4x5/16	116	-9.68	33.33	29.0	Pass
T6	220 - 200	Diagonal	L4x4x3/8	137	-13.32	29.25	45.5	Pass
T7	200 - 180	Diagonal	L4x4x3/8	152	-15.43	25.58	60.3	Pass
T8	180 - 160	Diagonal	L4x4x3/8	167	-17.31	22.24	77.8	Pass
T9	160 - 140	Diagonal	L5x5x3/8	182	-19.90	36.05	55.2	Pass
T10	140 - 120	Diagonal	L5x5x3/8	197	-20.18	31.71	63.7	Pass
T11	120 - 100	Diagonal	ROHN 3 EH	223	-32.00	38.55	83.0	Pass
T12	100 - 80	Diagonal	ROHN 3 EH	250	-33.45	36.13	92.6	Pass
T13	80 - 60	Diagonal	ROHN 3 EH	277	-32.00	34.04	94.0	Pass
T14	60 - 30	Diagonal	ROHN 3.5 EH	312	-46.21	67.93	68.0	Pass
T15	30 - 0	Diagonal	ROHN 3.5 EH	351	-42.05	63.90	65.8	Pass
T11	120 - 100	Horizontal	ROHN 3 STD	222	-16.75	27.81	60.2	Pass
T12	100 - 80	Horizontal	ROHN 3 STD	249	-18.88	22.76	83.0	Pass
T13	80 - 60	Horizontal	ROHN 3 EH	276	-18.93	24.62	76.9	Pass
T14	60 - 30	Horizontal	ROHN 3.5 EH	311	-21.65	33.75	64.2	Pass
T15	30 - 0	Horizontal	ROHN 4 STD	350	-23.05	31.31	73.6	Pass
T1	320 - 300	Top Girt	L1 3/4x1 3/4x3/16	6	-0.10	3.71	2.6	Pass
T2	300 - 280	Top Girt	L2x2x1/4	42	-0.11	6.78	1.6	Pass
T11	120 - 100	Redund Horz 1 Bracing	ROHN 1.5 STD	210	-6.20	12.31	50.4	Pass
T12	100 - 80	Redund Horz 1 Bracing	ROHN 1.5 STD	237	-6.81	10.00	68.1	Pass
T13	80 - 60	Redund Horz 1 Bracing	ROHN 2 STD	264	-7.45	18.33	40.7	Pass
T14	60 - 30	Redund Horz 1 Bracing	ROHN 1.5 STD	291	-8.28	16.59	49.9	Pass
T15	30 - 0	Redund Horz 1 Bracing	ROHN 1.5 STD	330	-9.07	13.65	66.4	Pass
T14	60 - 30	Redund Horz 2 Bracing	ROHN 2 EH	319	-8.17	10.93	74.8	Pass
T15	30 - 0	Redund Horz 2	ROHN 2 EH	331	-9.25	8.77	105.5	Fail ✘

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
T11	120 - 100	Bracing Redund Diag 1	ROHN 1.5 STD	211	-5.63	3.80	148.0	Fail X
T12	100 - 80	Bracing Redund Diag 1	ROHN 2 STD	238	-5.78	7.57	76.3	Pass
T13	80 - 60	Bracing Redund Diag 1	ROHN 2 STD	265	-5.97	7.08	84.3	Pass
T14	60 - 30	Bracing Redund Diag 1	ROHN 1.5 STD	320	-8.18	4.33	188.8	Fail X
T15	30 - 0	Bracing Redund Diag 1	ROHN 2 STD	332	-8.46	8.66	97.7	Pass
T14	60 - 30	Bracing Redund Diag 2	ROHN 2 STD	294	-5.30	4.89	108.5	Fail X
T15	30 - 0	Bracing Redund Diag 2	ROHN 2.5 STD	333	-5.67	9.87	57.4	Pass
T11	120 - 100	Bracing Inner Bracing	ROHN 3 STD	231	-0.30	25.88	1.2	Pass
T12	100 - 80	Inner Bracing	ROHN 3 STD	258	-0.34	21.33	1.6	Pass
T13	80 - 60	Inner Bracing	ROHN 3 STD	285	-0.34	17.97	1.9	Pass
T14	60 - 30	Inner Bracing	ROHN 3 STD	324	-0.40	15.19	2.6	Pass
T15	30 - 0	Inner Bracing	ROHN 3 STD	363	-0.42	12.32	3.4	Pass
							Summary	
						Leg (T12)	78.8	Pass
						Diagonal (T13)	94.0	Pass
						Horizontal (T12)	83.0	Pass
						Top Girt (T1)	2.6	Pass
						Redund Horz 1 Bracing (T12)	68.1	Pass
						Redund Horz 2 Bracing (T15)	105.5	Fail X
						Redund Diag 1 Bracing (T14)	188.8	Fail X
						Redund Diag 2 Bracing (T14)	108.5	Fail X
						Inner Bracing (T15)	3.4	Pass
						Bolt Checks	76.5	Pass
						RATING =	**188.8**	**Fail X**

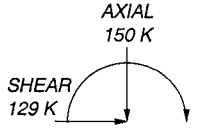
REINFORCED TOWER

ERI TOWER INPUT/OUTPUT SUMMARY

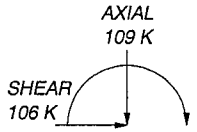
Section	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs	ROHN 12 EHS	ROHN 12 EH				ROHN 10 EH				ROHN 8 EH					A
Leg Grade	A572-50														
Diagonals	ROHN 3.5 EH			ROHN 3 EH		L5x5x3/8		L4x4x3/8			L4x4x5/16	L3x3x1/4	D	L2x2x1/4	C
Diagonal Grade	A572-50													A36	
Top Girts	N.A.													L2x2x1/4	C
Horizontals	ROHN 4 STD	ROHN 3.5 EH	E	ROHN 3 STD				N.A.							
Red. Horizontals	ROHN 1.5 STD		F	ROHN 1.5 STD				N.A.							
Red. Diagonals	ROHN 2 STD							N.A.							
Inner Bracing	ROHN 3 STD							N.A.							
Face Width (ft)	40.69	36.8	33.14	30.47	27.97	25.39	23.21	21.3	19.22	17.09	15.09	13.08	11.04	8.85	6.81
# Panels @ (ft)	2 @ 30			3 @ 20			10 @ 10				9 @ 6.66667			4 @ 5	5 @ 4
Weight (K)	90.9	13.1	11.3	7.3	6.2	6.0	7.2	6.9	5.7	4.8	4.0	3.8	3.5	2.5	1.8



MAX PIER FORCES:
DOWN: 656 K
UPLIFT: -524 K
SHEAR: 80 K



TORQUE 272 kip-ft
90 mph WIND - 0.5000 in ICE



TORQUE 174 kip-ft
REACTIONS - 90 mph WIND

APPURTENANCES

TYPE	ELEVATION	TYPE	ELEVATION
Dual Lights	320	Mounting Frame (Verizon)	220
PD128	320	DB948F85T2E-M (Verizon)	220
6' Side Mount Standoff	320	DB948F85T2E-M (Verizon)	220
PD128	318	DB844 (Verizon)	220
6' Side Mount Standoff	318	DB844 (Verizon)	220
6'8"x4" Pipe Mount	315	PiROD 12' Lightweight T-Frame (Cingular)	200
8 FT DISH	315	PiROD 12' Lightweight T-Frame (Cingular)	200
5'3"x4" Pipe Mount	308	PiROD 12' Lightweight T-Frame (Cingular)	200
5'3"x4" Pipe Mount	308	(4) 7770.00 (Cingular)	200
5'3"x4" Pipe Mount	308	(4) 7770.00 (Cingular)	200
6 FT DISH	308	(4) 7770.00 (Cingular)	200
6 FT DISH	308	(4) LPG21401 TMA (Cingular)	200
6 FT DISH	308	(4) LPG21401 TMA (Cingular)	200
DB224	294	(4) LPG21401 TMA (Cingular)	200
6' Side Mount Standoff	294	(4) LPG13519 Diplexer (Cingular)	200
PD320	292	(4) LPG13519 Diplexer (Cingular)	200
6' Side Mount Standoff	292	(4) LPG13519 Diplexer (Cingular)	200
DB809	285	5'3"x4" Pipe Mount	175
6' Side Mount Standoff	285	6 FT DISH (Reserved)	175
OGT9	275	BA1012-0	140
6' Side Mount Standoff	275	PD688S-4	140
PD440	257	6' Side Mount Standoff	140
6' Side Mount Standoff	257	PD156S	138
PD128	250	3'4"x4" Pipe Mount	138
6' Side Mount Standoff	250	5'3"x4" Pipe Mount	115
PD320	243	6 FT DISH (Reserved)	115
6' Side Mount Standoff	243	3'4"x4" Pipe Mount	112
DB844 (Verizon)	220	2 FT DISH	112
DB844 (Verizon)	220	5'3"x4" Pipe Mount	105
DB948F85T2E-M (Verizon)	220	6 FT DISH	105
DB948F85T2E-M (Verizon)	220	6' Side Mount Standoff	100
DB844 (Verizon)	220	DB437	100
DB844 (Verizon)	220	PD458	100
DB948F85T2E-M (Verizon)	220	6 FT DISH	97
DB948F85T2E-M (Verizon)	220	5'3"x4" Pipe Mount	97
Mounting Frame (Verizon)	220	4 FT DISH	90
Mounting Frame (Verizon)	220	3'4"x4" Pipe Mount	90

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	ROHN 5 EH	D	L2 1/2x2 1/2x1/4
B	ROHN 6 EH	E	ROHN 3 EH
C	L1 3/4x1 3/4x3/16	F	ROHN 2 STD

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower designed for a 90 mph basic wind in accordance with the TIA/EIA-222-F Standard.
2. Tower is also designed for a 90 mph basic wind with 0.50 in ice.
3. Deflections are based upon a 90 mph wind.
4. TOWER RATING: 97.8%

URS Corporation
500 Enterprise Drive, Suite 3B
Rocky Hill, CT 06067
Phone: (860) 529-8882
FAX: (860) 529-3991

Job: ***320' Rohn SSVMW***			
Project: ***CSP Tower - Colchester, CT***			
Client: Cingular Wireless	Drawn by: Jed Kiernan	App'd:	
Code: TIA/EIA-222-F	Date: 03/14/06	Scale: NTS	
Path: P:\08\ERI Files\Reinforced 320' Rohn SSVMW.eri		Dwg No. E-1	

ERI TOWER DETAILED OUTPUT

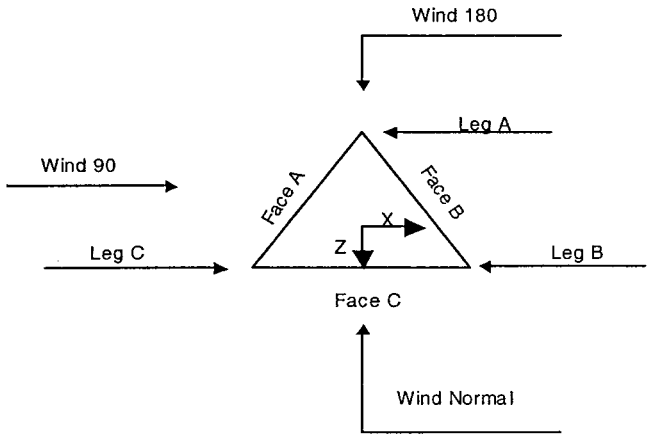
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 320.00 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 6.81 ft at the top and 40.69 ft at the base.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Basic wind speed of 90 mph.
Nominal ice thickness of 0.5000 in.
Ice density of 56 pcf.
A wind speed of 90 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 90 mph.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.333.
Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

Options

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



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T1	320.00-300.00			6.81	1	20.00
T2	300.00-280.00			6.81	1	20.00
T3	280.00-260.00			8.85	1	20.00
T4	260.00-240.00			11.04	1	20.00
T5	240.00-220.00			13.08	1	20.00
T6	220.00-200.00			15.09	1	20.00
T7	200.00-180.00			17.09	1	20.00
T8	180.00-160.00			19.22	1	20.00
T9	160.00-140.00			21.30	1	20.00
T10	140.00-120.00			23.21	1	20.00
T11	120.00-100.00			25.39	1	20.00
T12	100.00-80.00			27.97	1	20.00
T13	80.00-60.00			30.47	1	20.00
T14	60.00-30.00			33.14	1	30.00
T15	30.00-0.00			36.80	1	30.00

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T1	320.00-300.00	4.00	X Brace	No	No	0.0000	0.0000
T2	300.00-280.00	5.00	X Brace	No	No	0.0000	0.0000
T3	280.00-260.00	6.67	X Brace	No	No	0.0000	0.0000
T4	260.00-240.00	6.67	X Brace	No	No	0.0000	0.0000
T5	240.00-220.00	6.67	X Brace	No	No	0.0000	0.0000
T6	220.00-200.00	10.00	X Brace	No	No	0.0000	0.0000
T7	200.00-180.00	10.00	X Brace	No	No	0.0000	0.0000
T8	180.00-160.00	10.00	X Brace	No	No	0.0000	0.0000
T9	160.00-140.00	10.00	X Brace	No	No	0.0000	0.0000
T10	140.00-120.00	10.00	X Brace	No	No	0.0000	0.0000
T11	120.00-100.00	20.00	K1 Down	No	Yes	0.0000	0.0000
T12	100.00-80.00	20.00	K1 Down	No	Yes	0.0000	0.0000
T13	80.00-60.00	20.00	K1 Down	No	Yes	0.0000	0.0000
T14	60.00-30.00	30.00	K2 Down	No	Yes	0.0000	0.0000
T15	30.00-0.00	30.00	K2 Down	No	Yes	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 320.00-300.00	Pipe	ROHN 5 EH	A572-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T2 300.00-280.00	Pipe	ROHN 6 EH	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T3 280.00-260.00	Pipe	ROHN 8 EH	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)
T4 260.00-240.00	Pipe	ROHN 8 EH	A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A572-50 (50 ksi)
T5 240.00-220.00	Pipe	ROHN 8 EH	A572-50 (50 ksi)	Equal Angle	L4x4x5/16	A572-50 (50 ksi)
T6 220.00-200.00	Pipe	ROHN 8 EH	A572-50 (50 ksi)	Equal Angle	L4x4x3/8	A572-50 (50 ksi)
T7 200.00-180.00	Pipe	ROHN 10 EH	A572-50 (50 ksi)	Equal Angle	L4x4x3/8	A572-50 (50 ksi)
T8 180.00-160.00	Pipe	ROHN 10 EH	A572-50 (50 ksi)	Equal Angle	L4x4x3/8	A572-50 (50 ksi)
T9 160.00-140.00	Pipe	ROHN 10 EH	A572-50 (50 ksi)	Equal Angle	L5x5x3/8	A572-50 (50 ksi)
T10 140.00-120.00	Pipe	ROHN 10 EH	A572-50 (50 ksi)	Equal Angle	L5x5x3/8	A572-50 (50 ksi)
T11 120.00-100.00	Pipe	ROHN 10 EH	A572-50 (50 ksi)	Pipe	ROHN 3 EH	A572-50 (50 ksi)
T12 100.00-80.00	Pipe	ROHN 10 EH	A572-50 (50 ksi)	Pipe	ROHN 3 EH	A572-50 (50 ksi)
T13 80.00-60.00	Pipe	ROHN 12 EH	A572-50 (50 ksi)	Pipe	ROHN 3 EH	A572-50 (50 ksi)
T14 60.00-30.00	Pipe	ROHN 12 EH	A572-50 (50 ksi)	Pipe	ROHN 3.5 EH	A572-50 (50 ksi)
T15 30.00-0.00	Pipe	ROHN 12 EHS	A572-50 (50 ksi)	Pipe	ROHN 3.5 EH	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 320.00-300.00	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T2 300.00-280.00	Equal Angle	L2x2x1/4	A36 (36 ksi)	Solid Round		A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T11 120.00-100.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T12 100.00-80.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T13 80.00-60.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 3 EH	A572-50 (50 ksi)
T14 60.00-30.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 3.5 EH	A572-50 (50 ksi)
T15 30.00-0.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 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
T11 120.00-100.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T12 100.00-80.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T13 80.00-60.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T14 60.00-30.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T15 30.00-0.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Redundant Bracing Grade		Redundant Type	Redundant Size	K Factor
T11 120.00-100.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Diagonal (1)	Pipe	ROHN 2 STD	1
T12 100.00-80.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Diagonal (1)	Pipe	ROHN 2 STD	1
T13 80.00-60.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 2 STD	1
		Diagonal (1)	Pipe	ROHN 2 STD	1
T14 60.00-30.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Horizontal (2)		ROHN 2 EH	
		Diagonal (1)	Pipe	ROHN 2 STD	1
		Diagonal (2)		ROHN 2.5 STD	
T15 30.00-0.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Horizontal (2)		ROHN 2.5 EH	
		Diagonal (1)	Pipe	ROHN 2 STD	1
		Diagonal (2)		ROHN 2.5 STD	

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
T1 320.00-300.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T2 300.00-280.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T3 280.00-260.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T4 260.00-240.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T5 240.00-220.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T6 220.00-200.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T7 200.00-180.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T8 180.00-160.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T9 160.00-140.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T10 140.00-120.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T11 120.00-100.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T12 100.00-80.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T13 80.00-60.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T14 60.00-30.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T15 30.00-0.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X	X Brace Diags Y	K Single Diags X	K Single Diags Y	Girts X	Girts Y	Horiz. X	Horiz. Y	Sec. Horiz. X	Sec. Horiz. Y	Inner Brace X	Inner Brace Y
T1 320.00-300.00	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
T2 300.00-280.00	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
T3 280.00-260.00	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
T4 260.00-240.00	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
T5 240.00-220.00	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
T6 220.00-200.00	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
T7 200.00-180.00	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
T8 180.00-160.00	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
T9 160.00-140.00	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
T10 140.00-120.00	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
T11 120.00-100.00	No	No	1	1	0.5	1	1	1	1	1	1	1	1	1	1
T12 100.00-80.00	No	No	1	1	0.5	1	1	1	1	1	1	1	1	1	1
T13 80.00-60.00	No	No	1	1	0.5	1	1	1	1	1	1	1	1	1	1
T14 60.00-30.00	No	No	1	1	0.33	1	1	1	1	1	1	1	1	1	1
T15 30.00-0.00	No	No	1	1	0.33	1	1	1	1	1	1	1	1	1	1

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

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Net Width Deduct in	Leg U	Diagonal Net Width Deduct in	Diagonal U	Top Girt Net Width Deduct in	Top Girt U	Bottom Girt Net Width Deduct in	Bottom Girt U	Mid Girt Net Width Deduct in	Mid Girt U	Long Horizontal Net Width Deduct in	Long Horizontal U	Short Horizontal Net Width Deduct in	Short Horizontal U
T1 320.00-300.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 300.00-280.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 280.00-260.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 260.00-240.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 240.00-220.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T6 220.00-200.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 200.00-180.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 180.00-160.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 160.00-140.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 140.00-120.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 120.00-100.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T12 100.00-80.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T13 80.00-60.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T14 60.00-30.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T15 30.00-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 320.00-300.00	Flange	1.0000 A325N	6	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T2 300.00-280.00	Flange	1.0000 A325N	8	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T3 280.00-260.00	Flange	1.0000 A325N	8	0.7500 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T4 260.00-240.00	Flange	1.0000 A325N	8	0.7500 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T5 240.00-220.00	Flange	1.0000 A325N	8	0.8750 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T6 220.00-200.00	Flange	1.0000 A325N	12	0.7500 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T7 200.00-180.00	Flange	1.0000 A325N	12	0.8750 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T8 180.00-160.00	Flange	1.0000 A325N	12	0.8750 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T9 160.00-140.00	Flange	1.0000 A325N	12	0.8750 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T10 140.00-120.00	Flange	1.0000 A325N	12	0.8750 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T11 120.00-100.00	Flange	1.0000 A325N	12	0.7500 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	2	0.6250 A325N	0
T12 100.00-80.00	Flange	1.0000 A325N	16	0.7500 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	2	0.6250 A325N	0

Tower Elevation ft	Leg Connection Type	Leg Bolt Size in	Leg No.	Diagonal Bolt Size in	Diagonal No.	Top Girt Bolt Size in	Top Girt No.	Bottom Girt Bolt Size in	Bottom Girt No.	Mid Girt Bolt Size in	Mid Girt No.	Long Horizontal Bolt Size in	Long Horizontal No.	Short Horizontal Bolt Size in	Short Horizontal No.
T13 80.00-60.00	Flange	1.0000 A325N	16	0.7500 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	2	0.6250 A325N	0
T14 60.00-30.00	Flange	1.0000 A325N	16	0.8750 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.8750 A325N	2	0.6250 A325N	0
T15 30.00-0.00	Flange	1.0000 A325N	24	0.8750 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.8750 A325N	2	0.6250 A325N	0

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
1 5/8 (Verizon)	A	Yes	Ar (CfAe)	220.00 - 0.00	0.0000	-0.4	12	12	1.9800	1.9800		1.04
3/4 Electrical	C	Yes	Ar (CfAe)	320.00 - 0.00	0.0000	0.48	2	2	1.1100	1.1100		0.54
7/8	C	Yes	Ar (CfAe)	320.00 - 0.00	0.0000	0.46	3	3	1.1100	1.1100		0.54
EW63	C	Yes	Af (CfAe)	310.00 - 0.00	0.0000	0.44	3	3	1.5742	1.5742	5.0668	0.51
7/8	C	Yes	Ar (CfAe)	294.00 - 0.00	0.0000	0.42	2	2	1.1100	1.1100		0.54
1 5/8	C	Yes	Ar (CfAe)	280.00 - 0.00	0.0000	0.4	2	2	1.9800	1.9800		1.04
7/8	C	Yes	Ar (CfAe)	250.00 - 0.00	0.0000	0.38	3	3	1.1100	1.1100		0.54
7/8	C	Yes	Ar (CfAe)	138.00 - 0.00	0.0000	0.36	1	1	1.1100	1.1100		0.54
EW108	C	Yes	Af (CfAe)	112.00 - 0.00	0.0000	0.34	1	1	0.5899	0.5899	2.0063	0.15
EW65	C	Yes	Af (CfAe)	105.00 - 0.00	0.0000	0.32	1	1	1.5742	1.5742	5.0668	0.51
7/8	C	Yes	Ar (CfAe)	105.00 - 0.00	0.0000	0.3	2	2	1.1100	1.1100		0.54
7/8	C	Yes	Ar (CfAe)	95.00 - 0.00	0.0000	0.28	2	2	1.1100	1.1100		0.54
EW63 (Reserved)	A	Yes	Af (CfAe)	175.00 - 0.00	0.0000	-0.45	1	1	1.5742	1.5742	5.0668	0.51
EW63 (Reserved)	A	Yes	Af (CfAe)	115.00 - 0.00	0.0000	-0.47	1	1	1.5742	1.5742	5.0668	0.51
1 5/8 (Cingular)	B	Yes	Ar (CfAe)	200.00 - 0.00	0.0000	-0.42	24	12	1.9800	1.9800		1.04

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	320.00-300.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	9.250	3.936	0.000	0.000	0.07
T2	300.00-280.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	11.840	7.871	0.000	0.000	0.10
T3	280.00-260.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	19.550	7.871	0.000	0.000	0.15
T4	260.00-240.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	22.325	7.871	0.000	0.000	0.16
T5	240.00-220.00	A	0.000	0.000	0.000	0.000	0.00

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B	0.000	0.000	0.000	0.000	0.00
		C	25.100	7.871	0.000	0.000	0.18
T6	220.00-200.00	A	39.600	0.000	0.000	0.000	0.25
		B	0.000	0.000	0.000	0.000	0.00
		C	25.100	7.871	0.000	0.000	0.18
T7	200.00-180.00	A	39.600	0.000	0.000	0.000	0.25
		B	39.600	0.000	0.000	0.000	0.50
		C	25.100	7.871	0.000	0.000	0.18
T8	180.00-160.00	A	39.600	1.968	0.000	0.000	0.26
		B	39.600	0.000	0.000	0.000	0.50
		C	25.100	7.871	0.000	0.000	0.18
T9	160.00-140.00	A	39.600	2.624	0.000	0.000	0.26
		B	39.600	0.000	0.000	0.000	0.50
		C	25.100	7.871	0.000	0.000	0.18
T10	140.00-120.00	A	39.600	2.624	0.000	0.000	0.26
		B	39.600	0.000	0.000	0.000	0.50
		C	26.765	7.871	0.000	0.000	0.19
T11	120.00-100.00	A	39.600	4.591	0.000	0.000	0.27
		B	39.600	0.000	0.000	0.000	0.50
		C	27.875	9.117	0.000	0.000	0.20
T12	100.00-80.00	A	39.600	5.247	0.000	0.000	0.27
		B	39.600	0.000	0.000	0.000	0.50
		C	33.425	11.478	0.000	0.000	0.24
T13	80.00-60.00	A	39.600	5.247	0.000	0.000	0.27
		B	39.600	0.000	0.000	0.000	0.50
		C	34.350	11.478	0.000	0.000	0.25
T14	60.00-30.00	A	59.400	7.871	0.000	0.000	0.41
		B	59.400	0.000	0.000	0.000	0.75
		C	51.525	17.217	0.000	0.000	0.37
T15	30.00-0.00	A	59.400	7.871	0.000	0.000	0.41
		B	59.400	0.000	0.000	0.000	0.75
		C	51.525	17.217	0.000	0.000	0.37

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	320.00-300.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		17.583	5.602	0.000	0.000	0.21
T2	300.00-280.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		22.507	11.204	0.000	0.000	0.31
T3	280.00-260.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		34.550	11.204	0.000	0.000	0.43
T4	260.00-240.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		39.825	11.204	0.000	0.000	0.47
T5	240.00-220.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		45.100	11.204	0.000	0.000	0.52
T6	220.00-200.00	A	0.500	59.600	0.000	0.000	0.000	0.61
		B		0.000	0.000	0.000	0.000	0.00
		C		45.100	11.204	0.000	0.000	0.52
T7	200.00-180.00	A	0.500	59.600	0.000	0.000	0.000	0.61
		B		59.600	0.000	0.000	0.000	1.23

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C		45.100	11.204	0.000	0.000	0.52
T8	180.00-160.00	A	0.500	59.600	2.801	0.000	0.000	0.64
		B		59.600	0.000	0.000	0.000	1.23
		C		45.100	11.204	0.000	0.000	0.52
T9	160.00-140.00	A	0.500	59.600	3.735	0.000	0.000	0.65
		B		59.600	0.000	0.000	0.000	1.23
		C		45.100	11.204	0.000	0.000	0.52
T10	140.00-120.00	A	0.500	59.600	3.735	0.000	0.000	0.65
		B		59.600	0.000	0.000	0.000	1.23
		C		48.265	11.204	0.000	0.000	0.55
T11	120.00-100.00	A	0.500	59.600	6.536	0.000	0.000	0.68
		B		59.600	0.000	0.000	0.000	1.23
		C		50.375	13.395	0.000	0.000	0.58
T12	100.00-80.00	A	0.500	59.600	7.470	0.000	0.000	0.69
		B		59.600	0.000	0.000	0.000	1.23
		C		60.925	17.033	0.000	0.000	0.71
T13	80.00-60.00	A	0.500	59.600	7.470	0.000	0.000	0.69
		B		59.600	0.000	0.000	0.000	1.23
		C		62.683	17.033	0.000	0.000	0.73
T14	60.00-30.00	A	0.500	89.400	11.204	0.000	0.000	1.03
		B		89.400	0.000	0.000	0.000	1.84
		C		94.025	25.550	0.000	0.000	1.09
T15	30.00-0.00	A	0.500	89.400	11.204	0.000	0.000	1.03
		B		89.400	0.000	0.000	0.000	1.84
		C		94.025	25.550	0.000	0.000	1.09

Feed Line Shielding

Section	Elevation ft	Face	A_R ft^2	A_R Ice ft^2	A_F ft^2	A_F Ice ft^2
T1	320.00-300.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	0.000	0.000	1.211	3.047
T2	300.00-280.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	0.000	0.000	1.727	4.132
T3	280.00-260.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	0.000	0.000	2.066	4.526
T4	260.00-240.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	0.000	0.000	2.589	5.523
T5	240.00-220.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	0.000	0.000	3.649	7.485
T6	220.00-200.00	A	0.000	0.000	3.109	5.460
		B	0.000	0.000	0.000	0.000
		C	0.000	0.000	2.589	5.310
T7	200.00-180.00	A	0.000	0.000	3.015	5.294
		B	0.000	0.000	3.015	5.294
		C	0.000	0.000	2.510	5.149
T8	180.00-160.00	A	0.000	0.000	3.091	5.449
		B	0.000	0.000	2.945	5.170
		C	0.000	0.000	2.452	5.029
T9	160.00-140.00	A	0.000	0.000	3.858	6.616
		B	0.000	0.000	3.618	6.172

Section	Elevation	Face	A_R	A_R Ice	A_F	A_F Ice
	ft		ft^2	ft^2	ft^2	ft^2
		C	0.000	0.000	3.013	6.003
T10	140.00-120.00	A	0.000	0.000	3.805	6.526
		B	0.000	0.000	3.569	6.087
		C	0.000	0.000	3.121	6.244
T11	120.00-100.00	A	2.999	6.165	0.000	0.000
		B	2.688	5.475	0.000	0.000
		C	2.511	6.055	0.000	0.000
T12	100.00-80.00	A	2.913	5.993	0.000	0.000
		B	2.572	5.239	0.000	0.000
		C	2.917	7.097	0.000	0.000
T13	80.00-60.00	A	2.899	5.918	0.000	0.000
		B	2.560	5.173	0.000	0.000
		C	2.963	7.160	0.000	0.000
T14	60.00-30.00	A	4.723	9.612	0.000	0.000
		B	4.171	8.402	0.000	0.000
		C	4.827	11.630	0.000	0.000
T15	30.00-0.00	A	4.693	9.458	0.000	0.000
		B	4.144	8.267	0.000	0.000
		C	4.796	11.443	0.000	0.000

Feed Line Center of Pressure

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
T1	320.00-300.00	-4.3846	2.8159	-5.6631	3.6242
T2	300.00-280.00	-6.2629	4.0917	-8.0736	5.2614
T3	280.00-260.00	-8.6123	5.7929	-11.3313	7.5878
T4	260.00-240.00	-10.0462	6.8193	-13.4219	9.0887
T5	240.00-220.00	-10.3624	7.0868	-14.1930	9.6963
T6	220.00-200.00	-25.3004	13.8166	-31.3392	17.3390
T7	200.00-180.00	-20.8086	-1.9859	-25.7687	-1.2958
T8	180.00-160.00	-23.2764	-1.7646	-28.7614	-0.9837
T9	160.00-140.00	-23.1016	-1.6036	-29.0278	-0.8473
T10	140.00-120.00	-24.9157	-1.3025	-31.4341	-0.3099
T11	120.00-100.00	-33.3821	-0.4257	-39.4094	1.1181
T12	100.00-80.00	-37.9500	2.1221	-44.7665	4.4919
T13	80.00-60.00	-38.3178	2.4115	-45.9571	4.9716
T14	60.00-30.00	-41.0715	2.5977	-49.4034	5.3502
T15	30.00-0.00	-44.0946	2.8023	-53.2386	5.7802

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral / Vert	Azimuth Adjustment	Placement		C_AA_A Front	C_AA_A Side	Weight
			ft / ft / ft	°	ft		ft^2	ft^2	K
Dual Lights	C	None		0.0000	320.00	No Ice	4.00	4.00	0.25
						1/2" Ice	4.80	4.80	0.40

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
PD128	C	From Leg	6.00 0.00 0.00	0.0000	320.00	No Ice 1/2" Ice	1.00 1.80	1.00 1.80	0.01 0.02
6' Side Mount Standoff	C	None		0.0000	320.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
PD128	C	From Leg	6.00 0.00 0.00	0.0000	318.00	No Ice 1/2" Ice	1.00 1.80	1.00 1.80	0.01 0.02
6' Side Mount Standoff	C	None		0.0000	318.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
6'8"x4" Pipe Mount	C	From Leg	0.50 0.00 0.00	0.0000	315.00	No Ice 1/2" Ice	2.60 3.01	2.60 3.01	0.07 0.09
5'3"x4" Pipe Mount	A	From Leg	0.50 0.00 0.00	0.0000	308.00	No Ice 1/2" Ice	1.88 2.21	1.88 2.21	0.06 0.07
5'3"x4" Pipe Mount	B	From Leg	0.50 0.00 0.00	0.0000	308.00	No Ice 1/2" Ice	1.88 2.21	1.88 2.21	0.06 0.07
5'3"x4" Pipe Mount	C	From Leg	0.50 0.00 0.00	0.0000	308.00	No Ice 1/2" Ice	1.88 2.21	1.88 2.21	0.06 0.07
DB224	C	From Leg	6.00 0.00 0.00	0.0000	294.00	No Ice 1/2" Ice	3.15 5.67	3.15 5.67	0.03 0.04
6' Side Mount Standoff	C	None		0.0000	294.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
PD320	C	From Leg	6.00 0.00 0.00	0.0000	292.00	No Ice 1/2" Ice	2.25 4.05	2.25 4.05	0.03 0.04
6' Side Mount Standoff	C	None		0.0000	292.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
DB809	A	From Leg	6.00 0.00 0.00	0.0000	285.00	No Ice 1/2" Ice	3.39 4.55	3.39 4.55	0.03 0.06
6' Side Mount Standoff	A	None		0.0000	285.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
OGT9	A	From Leg	6.00 0.00 0.00	0.0000	275.00	No Ice 1/2" Ice	3.15 5.67	3.15 5.67	0.03 0.04
6' Side Mount Standoff	A	None		0.0000	275.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
PD440	C	From Leg	6.00 0.00 0.00	0.0000	257.00	No Ice 1/2" Ice	1.38 2.48	1.38 2.48	0.02 0.02
6' Side Mount Standoff	C	None		0.0000	257.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
PD128	C	From Leg	6.00 0.00 0.00	0.0000	250.00	No Ice 1/2" Ice	1.00 1.80	1.00 1.80	0.01 0.02
6' Side Mount Standoff	C	None		0.0000	250.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
PD320	C	From Leg	6.00 0.00 0.00	0.0000	243.00	No Ice 1/2" Ice	2.25 4.05	2.25 4.05	0.03 0.04
6' Side Mount Standoff	C	None		0.0000	243.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
DB844	A	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
(Verizon)			6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB844	A	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
(Verizon)			-6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB948F85T2E-M	A	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
(Verizon)			4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB948F85T2E-M	A	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
(Verizon)			-4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB844	B	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
(Verizon)			6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB844	B	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
(Verizon)			-6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB948F85T2E-M	B	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
(Verizon)			4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB948F85T2E-M	B	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
(Verizon)			-4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB844	C	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
(Verizon)			6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB844	C	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
(Verizon)			-6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB948F85T2E-M	C	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
(Verizon)			4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB948F85T2E-M	C	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
(Verizon)			-4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
Mounting Frame	A	From Leg	5.00	0.0000	220.00	No Ice	17.00	17.00	0.56
(Verizon)			0.00			1/2" Ice	20.00	20.00	0.70
			0.00						
Mounting Frame	B	From Leg	5.00	0.0000	220.00	No Ice	17.00	17.00	0.56
(Verizon)			0.00			1/2" Ice	20.00	20.00	0.70
			0.00						
Mounting Frame	C	From Leg	5.00	0.0000	220.00	No Ice	17.00	17.00	0.56
(Verizon)			0.00			1/2" Ice	20.00	20.00	0.70
			0.00						
PD156S	A	From Leg	1.00	0.0000	138.00	No Ice	0.44	0.44	0.01
			0.00			1/2" Ice	0.79	0.79	0.01
			0.00						
3'4"x4" Pipe Mount	A	From Leg	0.50	0.0000	138.00	No Ice	1.05	1.05	0.04
			0.00			1/2" Ice	1.27	1.27	0.05
			0.00						
3'4"x4" Pipe Mount	A	From Leg	0.50	0.0000	112.00	No Ice	1.05	1.05	0.04
			0.00			1/2" Ice	1.27	1.27	0.05
			0.00						
5'3"x4" Pipe Mount	A	From Leg	0.50	0.0000	105.00	No Ice	1.88	1.88	0.06
			0.00			1/2" Ice	2.21	2.21	0.07
			0.00						

Description	Face or Leg	Offset Type	Offsets: Horz Lateral / Vert (ft / ft / ft)	Azimuth Adjustment (°)	Placement (ft)		C_AA_A Front (ft^2)	C_AA_A Side (ft^2)	Weight (K)
PD458	A	From Leg	6.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	2.88 4.34	2.88 4.34	0.02 0.05
DB437	A	From Leg	6.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	0.45 0.81	0.45 0.81	0.01 0.01
6' Side Mount Standoff	A	None		0.0000	100.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
5'3"x4" Pipe Mount	B	From Leg	0.50 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice	1.88 2.21	1.88 2.21	0.06 0.07
3'4"x4" Pipe Mount	B	From Leg	0.50 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice	1.05 1.27	1.05 1.27	0.04 0.05
5'3"x4" Pipe Mount	C	From Leg	0.50 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice	1.88 2.21	1.88 2.21	0.06 0.07
5'3"x4" Pipe Mount	B	From Leg	0.50 0.00 0.00	0.0000	115.00	No Ice 1/2" Ice	1.88 2.21	1.88 2.21	0.06 0.07
BA1012-0	A	From Leg	6.00 0.00 0.00	0.0000	140.00	No Ice 1/2" Ice	0.47 0.96	0.47 0.96	0.00 0.01
PD688S-4	A	From Leg	6.00 0.00 0.00	0.0000	140.00	No Ice 1/2" Ice	0.35 0.63	0.35 0.63	0.00 0.00
6' Side Mount Standoff	A	None		0.0000	140.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
PiROD 12' Lightweight T-Frame (Cingular)	A	None		0.0000	200.00	No Ice 1/2" Ice	10.20 16.20	10.20 16.20	0.25 0.35
PiROD 12' Lightweight T-Frame (Cingular)	B	None		0.0000	200.00	No Ice 1/2" Ice	10.20 16.20	10.20 16.20	0.25 0.35
PiROD 12' Lightweight T-Frame (Cingular)	C	None		0.0000	200.00	No Ice 1/2" Ice	10.20 16.20	10.20 16.20	0.25 0.35
(4) 7770.00 (Cingular)	A	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	5.88 6.31	2.93 3.27	0.04 0.07
(4) 7770.00 (Cingular)	B	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	5.88 6.31	2.93 3.27	0.04 0.07
(4) 7770.00 (Cingular)	C	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	5.88 6.31	2.93 3.27	0.04 0.07
(4) LPG21401 TMA (Cingular)	A	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	0.95 1.09	0.37 0.48	0.02 0.02
(4) LPG21401 TMA (Cingular)	B	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	0.95 1.09	0.37 0.48	0.02 0.02
(4) LPG21401 TMA (Cingular)	C	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	0.95 1.09	0.37 0.48	0.02 0.02
(4) LPG13519 Diplexer (Cingular)	A	From Leg	3.00 0.00	0.0000	200.00	No Ice 1/2" Ice	0.27 0.34	0.18 0.25	0.01 0.01

Description	Face or Leg	Offset Type	Offsets: Horz Lateral / Vert (ft / ft / ft)	Azimuth Adjustment (°)	Placement (ft)		C_AA_A Front (ft^2)	C_AA_A Side (ft^2)	Weight (K)
			0.00						
(4) LPG13519 Diplexer (Cingular)	A	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	0.27 0.34	0.18 0.25	0.01 0.01
(4) LPG13519 Diplexer (Cingular)	A	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	0.27 0.34	0.18 0.25	0.01 0.01

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral / Vert (ft)	Azimuth Adjustment (°)	3 dB Beam Width (°)	Elevation (ft)	Outside Diameter (ft)		Aperture Area (ft^2)	Weight (K)
8 FT DISH	C	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		315.00	8.00	No Ice 1/2" Ice	50.30 51.29	0.25 0.51
6 FT DISH	A	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		308.00	6.00	No Ice 1/2" Ice	28.27 29.05	0.14 0.29
6 FT DISH	B	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		308.00	6.00	No Ice 1/2" Ice	28.27 29.05	0.14 0.29
6 FT DISH	C	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		308.00	6.00	No Ice 1/2" Ice	28.27 29.05	0.14 0.29
2 FT DISH	A	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		112.00	2.00	No Ice 1/2" Ice	3.14 3.41	0.03 0.04
6 FT DISH	A	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		105.00	6.00	No Ice 1/2" Ice	28.27 29.05	0.14 0.29
6 FT DISH	B	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		97.00	6.00	No Ice 1/2" Ice	28.27 29.05	0.14 0.29
4 FT DISH	B	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		90.00	4.00	No Ice 1/2" Ice	12.56 13.09	0.17 0.24
6 FT DISH (Reserved)	C	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		175.00	6.00	No Ice 1/2" Ice	28.27 29.05	0.14 0.29
6 FT DISH (Reserved)	B	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		115.00	6.00	No Ice 1/2" Ice	28.27 29.05	0.14 0.29

Tower Pressures - No Ice

$G_H = 1.084$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1 320.00-300.00	310.00	1.897	39	145.472	A	11.659	18.543	18.543	61.40	0.000	0.000
					B	11.659	18.543		61.40		
					C	14.384	27.793		43.97		
T2 300.00-280.00	290.00	1.861	39	167.656	A	12.596	22.122	22.122	63.72	0.000	0.000
					B	12.596	22.122		63.72		
					C	18.740	33.962		41.97		
T3 280.00-260.00	270.00	1.823	38	213.297	A	13.934	28.807	28.807	67.40	0.000	0.000
					B	13.934	28.807		67.40		
					C	19.739	48.357		42.30		
T4 260.00-240.00	250.00	1.783	37	255.594	A	19.443	28.800	28.800	59.70	0.000	0.000
					B	19.443	28.800		59.70		
					C	24.725	51.125		37.97		
T5 240.00-220.00	230.00	1.741	36	296.093	A	29.581	28.798	28.798	49.33	0.000	0.000
					B	29.581	28.798		49.33		
					C	33.803	53.898		32.84		
T6 220.00-200.00	210.00	1.697	35	336.193	A	21.026	68.398	28.798	32.20	0.000	0.000
					B	24.136	28.798		54.40		
					C	29.418	53.898		34.56		
T7 200.00-180.00	190.00	1.649	34	381.042	A	23.330	75.501	35.901	36.33	0.000	0.000
					B	23.330	75.501		36.33		
					C	31.706	61.001		38.73		
T8 180.00-160.00	170.00	1.597	33	423.141	A	27.674	75.498	35.898	34.79	0.000	0.000
					B	25.852	75.498		35.42		
					C	34.216	60.998		37.70		
T9 160.00-140.00	150.00	1.541	32	463.037	A	37.797	75.488	35.888	31.68	0.000	0.000
					B	35.413	75.488		32.36		
					C	43.890	60.988		34.22		
T10 140.00-120.00	130.00	1.48	31	503.943	A	41.004	75.504	35.904	30.82	0.000	0.000
					B	38.616	75.504		31.46		
					C	46.935	62.669		32.76		
T11 120.00-100.00	110.00	1.411	29	551.554	A	4.591	99.534	35.933	34.51	0.000	0.000
					B	0.000	99.846		35.99		
					C	9.117	88.298		36.89		
T12 100.00-80.00	90.00	1.332	28	602.352	A	5.247	101.189	35.927	33.75	0.000	0.000
					B	0.000	101.530		35.39		
					C	11.478	95.010		33.74		
T13 80.00-60.00	70.00	1.24	26	657.397	A	5.247	109.942	42.626	37.01	0.000	0.000
					B	0.000	110.281		38.65		
					C	11.478	104.629		36.71		
T14 60.00-30.00	45.00	1.093	23	1081.034	A	7.871	168.337	63.908	36.27	0.000	0.000
					B	0.000	168.890		37.84		
					C	17.217	160.359		35.99		
T15 30.00-0.00	15.00	1	21	1194.292	A	7.871	174.073	63.928	35.14	0.000	0.000
					B	0.000	174.622		36.61		
					C	17.217	166.095		34.87		

Tower Pressure - With Ice

$G_H = 1.084$

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²

Section Elevation	z	K_Z	q_z	t_Z	A_G	Face	A_F	A_R	A_{leg}	Leg %	C_AA_A In Face	C_AA_A Out Face
ft	ft		psf	in	ft^2		ft^2	ft^2	ft^2		ft^2	ft^2
T1 320.00-300.00	310.00	1.897	39	0.5000	147.138	A	16.101	21.877	21.877	57.60	0.000	0.000
						B	16.101	21.877		57.60		
						C	18.656	39.460		37.64		
T2 300.00-280.00	290.00	1.861	39	0.5000	169.325	A	16.795	25.461	25.461	60.25	0.000	0.000
						B	16.795	25.461		60.25		
						C	23.867	47.967		35.44		
T3 280.00-260.00	270.00	1.823	38	0.5000	214.966	A	17.649	32.147	32.147	64.56	0.000	0.000
						B	17.649	32.147		64.56		
						C	24.328	66.697		35.32		
T4 260.00-240.00	250.00	1.783	37	0.5000	257.263	A	23.764	32.139	32.139	57.49	0.000	0.000
						B	23.764	32.139		57.49		
						C	29.445	71.964		31.69		
T5 240.00-220.00	230.00	1.741	36	0.5000	297.762	A	34.511	32.137	32.137	48.22	0.000	0.000
						B	34.511	32.137		48.22		
						C	38.230	77.237		27.83		
T6 220.00-200.00	210.00	1.697	35	0.5000	337.862	A	22.699	91.737	32.137	28.08	0.000	0.000
						B	28.158	32.137		53.30		
						C	34.052	77.237		28.88		
T7 200.00-180.00	190.00	1.649	34	0.5000	382.711	A	25.442	98.841	39.241	31.57	0.000	0.000
						B	25.442	98.841		31.57		
						C	36.791	84.341		32.39		
T8 180.00-160.00	170.00	1.597	33	0.5000	424.810	A	30.948	98.837	39.237	30.23	0.000	0.000
						B	28.426	98.837		30.83		
						C	39.772	84.337		31.62		
T9 160.00-140.00	150.00	1.541	32	0.5000	464.706	A	41.354	98.826	39.226	27.98	0.000	0.000
						B	38.064	98.826		28.66		
						C	49.437	84.326		29.33		
T10 140.00-120.00	130.00	1.48	31	0.5000	505.612	A	45.019	98.844	39.244	27.28	0.000	0.000
						B	41.722	98.844		27.92		
						C	52.770	87.509		27.98		
T11 120.00-100.00	110.00	1.411	29	0.5000	553.224	A	6.536	128.444	39.275	29.10	0.000	0.000
						B	0.000	129.134		30.41		
						C	13.395	119.329		29.59		
T12 100.00-80.00	90.00	1.332	28	0.5000	604.022	A	7.470	130.704	39.269	28.42	0.000	0.000
						B	0.000	131.458		29.87		
						C	17.033	130.925		26.54		
T13 80.00-60.00	70.00	1.24	26	0.5000	659.068	A	7.470	140.004	45.969	31.17	0.000	0.000
						B	0.000	140.749		32.66		
						C	17.033	141.845		28.93		
T14 60.00-30.00	45.00	1.093	23	0.5000	1083.539	A	11.204	213.363	68.920	30.69	0.000	0.000
						B	0.000	214.572		32.12		
						C	25.550	215.970		28.54		
T15 30.00-0.00	15.00	1	21	0.5000	1196.797	A	11.204	220.234	68.942	29.79	0.000	0.000
						B	0.000	221.424		31.14		
						C	25.550	222.873		27.75		

Tower Pressure - Service

$G_H = 1.084$

Section Elevation	z	K_Z	q_z	A_G	Face	A_F	A_R	A_{leg}	Leg %	C_AA_A In Face	C_AA_A Out Face
ft	ft		psf	ft^2		ft^2	ft^2	ft^2		ft^2	ft^2
T1 320.00-	310.00	1.897	39	145.472	A	11.659	18.543	18.543	61.40	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
300.00					B	11.659	18.543		61.40		
					C	14.384	27.793		43.97		
T2 300.00-280.00	290.00	1.861	39	167.656	A	12.596	22.122	22.122	63.72	0.000	0.000
					B	12.596	22.122		63.72		
					C	18.740	33.962		41.97		
T3 280.00-260.00	270.00	1.823	38	213.297	A	13.934	28.807	28.807	67.40	0.000	0.000
					B	13.934	28.807		67.40		
					C	19.739	48.357		42.30		
T4 260.00-240.00	250.00	1.783	37	255.594	A	19.443	28.800	28.800	59.70	0.000	0.000
					B	19.443	28.800		59.70		
					C	24.725	51.125		37.97		
T5 240.00-220.00	230.00	1.741	36	296.093	A	29.581	28.798	28.798	49.33	0.000	0.000
					B	29.581	28.798		49.33		
					C	33.803	53.898		32.84		
T6 220.00-200.00	210.00	1.697	35	336.193	A	21.026	68.398	28.798	32.20	0.000	0.000
					B	24.136	28.798		54.40		
					C	29.418	53.898		34.56		
T7 200.00-180.00	190.00	1.649	34	381.042	A	23.330	75.501	35.901	36.33	0.000	0.000
					B	23.330	75.501		36.33		
					C	31.706	61.001		38.73		
T8 180.00-160.00	170.00	1.597	33	423.141	A	27.674	75.498	35.898	34.79	0.000	0.000
					B	25.852	75.498		35.42		
					C	34.216	60.998		37.70		
T9 160.00-140.00	150.00	1.541	32	463.037	A	37.797	75.488	35.888	31.68	0.000	0.000
					B	35.413	75.488		32.36		
					C	43.890	60.988		34.22		
T10 140.00-120.00	130.00	1.48	31	503.943	A	41.004	75.504	35.904	30.82	0.000	0.000
					B	38.616	75.504		31.46		
					C	46.935	62.669		32.76		
T11 120.00-100.00	110.00	1.411	29	551.554	A	4.591	99.534	35.933	34.51	0.000	0.000
					B	0.000	99.846		35.99		
					C	9.117	88.298		36.89		
T12 100.00-80.00	90.00	1.332	28	602.352	A	5.247	101.189	35.927	33.75	0.000	0.000
					B	0.000	101.530		35.39		
					C	11.478	95.010		33.74		
T13 80.00-60.00	70.00	1.24	26	657.397	A	5.247	109.942	42.626	37.01	0.000	0.000
					B	0.000	110.281		38.65		
					C	11.478	104.629		36.71		
T14 60.00-30.00	45.00	1.093	23	1081.034	A	7.871	168.337	63.908	36.27	0.000	0.000
					B	0.000	168.890		37.84		
					C	17.217	160.359		35.99		
T15 30.00-0.00	15.00	1	21	1194.292	A	7.871	174.073	63.928	35.14	0.000	0.000
					B	0.000	174.622		36.61		
					C	17.217	166.095		34.87		

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.07	1.79	A	0.208	2.571	0.592	1	1	22.637	3.11	155.53	C
			B	0.208	2.571	0.592	1	1	22.637			
			C	0.29	2.323	0.613	1	1	31.417			
T2 300.00-280.00	0.10	2.50	A	0.207	2.573	0.592	1	1	25.689	3.76	187.98	C
			B	0.207	2.573	0.592	1	1	25.689			
			C	0.314	2.259	0.62	1	1	39.810			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T3 280.00-260.00	0.15	3.48	A	0.2	2.595	0.59	1	1	30.944	4.58	229.20	C
			B	0.2	2.595	0.59	1	1	30.944			
			C	0.319	2.246	0.622	1	1	49.816			
T4 260.00-240.00	0.16	3.83	A	0.189	2.634	0.588	1	1	36.382	5.19	259.37	C
			B	0.189	2.634	0.588	1	1	36.382			
			C	0.297	2.305	0.615	1	1	56.162			
T5 240.00-220.00	0.18	4.90	A	0.197	2.605	0.59	1	1	46.567	6.04	302.05	C
			B	0.197	2.605	0.59	1	1	46.567			
			C	0.296	2.306	0.615	1	1	66.937			
T6 220.00-200.00	0.43	4.82	A	0.266	2.39	0.606	1	1	62.481	5.76	288.09	C
			B	0.157	2.744	0.583	1	1	40.915			
			C	0.248	2.444	0.601	1	1	61.828			
T7 200.00-180.00	0.93	5.71	A	0.259	2.41	0.604	1	1	68.956	6.22	311.10	C
			B	0.259	2.41	0.604	1	1	68.956			
			C	0.243	2.458	0.6	1	1	68.318			
T8 180.00-160.00	0.94	5.93	A	0.244	2.456	0.6	1	1	72.996	6.44	321.79	A
			B	0.24	2.469	0.599	1	1	71.095			
			C	0.225	2.515	0.596	1	1	70.560			
T9 160.00-140.00	0.94	6.89	A	0.245	2.454	0.601	1	1	83.129	7.06	353.23	A
			B	0.24	2.469	0.599	1	1	80.649			
			C	0.226	2.51	0.596	1	1	80.248			
T10 140.00-120.00	0.95	7.17	A	0.231	2.495	0.597	1	1	86.099	7.14	357.13	A
			B	0.226	2.51	0.596	1	1	83.628			
			C	0.217	2.539	0.594	1	1	84.168			
T11 120.00-100.00	0.97	6.02	A	0.189	2.634	0.588	1	1	63.135	5.27	263.56	A
			B	0.181	2.661	0.587	1	1	58.581			
			C	0.177	2.676	0.586	1	1	60.852			
T12 100.00-80.00	1.01	6.17	A	0.177	2.676	0.586	1	1	64.536	5.38	268.86	C
			B	0.169	2.704	0.584	1	1	59.343			
			C	0.177	2.675	0.586	1	1	67.148			
T13 80.00-60.00	1.02	7.26	A	0.175	2.681	0.586	1	1	69.636	5.43	271.28	C
			B	0.168	2.707	0.584	1	1	64.443			
			C	0.177	2.676	0.586	1	1	72.781			
T14 60.00-30.00	1.52	11.34	A	0.163	2.724	0.584	1	1	106.104	7.40	246.70	C
			B	0.156	2.749	0.582	1	1	98.370			
			C	0.164	2.72	0.584	1	1	110.828			
T15 30.00-0.00	1.52	13.09	A	0.152	2.763	0.582	1	1	109.153	7.06	235.34	C
			B	0.146	2.785	0.581	1	1	101.438			
			C	0.153	2.759	0.582	1	1	113.887			
Sum Weight:	10.89	90.92						OTM	13335.51 kip-ft	85.84		

Tower Forces - No Ice - Wind 45 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.07	1.79	A	0.208	2.571	0.592	0.825	1	20.596	2.86	143.07	C
			B	0.208	2.571	0.592	0.825	1	20.596			
			C	0.29	2.323	0.613	0.825	1	28.900			
T2 300.00-280.00	0.10	2.50	A	0.207	2.573	0.592	0.825	1	23.485	3.45	172.49	C
			B	0.207	2.573	0.592	0.825	1	23.485			
			C	0.314	2.259	0.62	0.825	1	36.530			
T3 280.00-260.00	0.15	3.48	A	0.2	2.595	0.59	0.825	1	28.505	4.27	213.31	C
			B	0.2	2.595	0.59	0.825	1	28.505			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	0.319	2.246	0.622	0.825	1	46.362			
T4 260.00-240.00	0.16	3.83	A	0.189	2.634	0.588	0.825	1	32.980	4.79	239.39	C
			B	0.189	2.634	0.588	0.825	1	32.980			
			C	0.297	2.305	0.615	0.825	1	51.835			
T5 240.00-220.00	0.18	4.90	A	0.197	2.605	0.59	0.825	1	41.390	5.51	275.36	C
			B	0.197	2.605	0.59	0.825	1	41.390			
			C	0.296	2.306	0.615	0.825	1	61.021			
T6 220.00-200.00	0.43	4.82	A	0.266	2.39	0.606	0.825	1	58.802	5.36	267.98	A
			B	0.157	2.744	0.583	0.825	1	36.691			
			C	0.248	2.444	0.601	0.825	1	56.680			
T7 200.00-180.00	0.93	5.71	A	0.259	2.41	0.604	0.825	1	64.873	5.79	289.63	B
			B	0.259	2.41	0.604	0.825	1	64.873			
			C	0.243	2.458	0.6	0.825	1	62.769			
T8 180.00-160.00	0.94	5.93	A	0.244	2.456	0.6	0.825	1	68.154	6.01	300.44	A
			B	0.24	2.469	0.599	0.825	1	66.571			
			C	0.225	2.515	0.596	0.825	1	64.572			
T9 160.00-140.00	0.94	6.89	A	0.245	2.454	0.601	0.825	1	76.515	6.50	325.12	A
			B	0.24	2.469	0.599	0.825	1	74.452			
			C	0.226	2.51	0.596	0.825	1	72.568			
T10 140.00-120.00	0.95	7.17	A	0.231	2.495	0.597	0.825	1	78.924	6.55	327.36	A
			B	0.226	2.51	0.596	0.825	1	76.871			
			C	0.217	2.539	0.594	0.825	1	75.954			
T11 120.00-100.00	0.97	6.02	A	0.189	2.634	0.588	0.825	1	62.332	5.20	260.20	A
			B	0.181	2.661	0.587	0.825	1	58.581			
			C	0.177	2.676	0.586	0.825	1	59.256			
T12 100.00-80.00	1.01	6.17	A	0.177	2.676	0.586	0.825	1	63.618	5.22	260.81	C
			B	0.169	2.704	0.584	0.825	1	59.343			
			C	0.177	2.675	0.586	0.825	1	65.140			
T13 80.00-60.00	1.02	7.26	A	0.175	2.681	0.586	0.825	1	68.717	5.28	263.79	C
			B	0.168	2.707	0.584	0.825	1	64.443			
			C	0.177	2.676	0.586	0.825	1	70.772			
T14 60.00-30.00	1.52	11.34	A	0.163	2.724	0.584	0.825	1	104.727	7.20	240.00	C
			B	0.156	2.749	0.582	0.825	1	98.370			
			C	0.164	2.72	0.584	0.825	1	107.815			
T15 30.00-0.00	1.52	13.09	A	0.152	2.763	0.582	0.825	1	107.775	6.87	229.11	C
			B	0.146	2.785	0.581	0.825	1	101.438			
			C	0.153	2.759	0.582	0.825	1	110.874			
Sum Weight:	10.89	90.92						OTM	12415.37 kip-ft	80.85		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.07	1.79	A	0.208	2.571	0.592	0.8	1	20.305	2.83	141.29	C
			B	0.208	2.571	0.592	0.8	1	20.305			
			C	0.29	2.323	0.613	0.8	1	28.541			
T2 300.00-280.00	0.10	2.50	A	0.207	2.573	0.592	0.8	1	23.170	3.41	170.28	C
			B	0.207	2.573	0.592	0.8	1	23.170			
			C	0.314	2.259	0.62	0.8	1	36.062			
T3 280.00-260.00	0.15	3.48	A	0.2	2.595	0.59	0.8	1	28.157	4.22	211.03	C
			B	0.2	2.595	0.59	0.8	1	28.157			
			C	0.319	2.246	0.622	0.8	1	45.868			
T4 260.00-	0.16	3.83	A	0.189	2.634	0.588	0.8	1	32.494	4.73	236.54	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
240.00			B	0.189	2.634	0.588	0.8	1	32.494			
			C	0.297	2.305	0.615	0.8	1	51.217			
T5 240.00-220.00	0.18	4.90	A	0.197	2.605	0.59	0.8	1	40.651	5.43	271.55	C
			B	0.197	2.605	0.59	0.8	1	40.651			
			C	0.296	2.306	0.615	0.8	1	60.176			
T6 220.00-200.00	0.43	4.82	A	0.266	2.39	0.606	0.8	1	58.276	5.31	265.58	A
			B	0.157	2.744	0.583	0.8	1	36.088			
			C	0.248	2.444	0.601	0.8	1	55.944			
T7 200.00-180.00	0.93	5.71	A	0.259	2.41	0.604	0.8	1	64.290	5.74	287.03	B
			B	0.259	2.41	0.604	0.8	1	64.290			
			C	0.243	2.458	0.6	0.8	1	61.977			
T8 180.00-160.00	0.94	5.93	A	0.244	2.456	0.6	0.8	1	67.462	5.95	297.40	A
			B	0.24	2.469	0.599	0.8	1	65.924			
			C	0.225	2.515	0.596	0.8	1	63.717			
T9 160.00-140.00	0.94	6.89	A	0.245	2.454	0.601	0.8	1	75.570	6.42	321.10	A
			B	0.24	2.469	0.599	0.8	1	73.567			
			C	0.226	2.51	0.596	0.8	1	71.470			
T10 140.00-120.00	0.95	7.17	A	0.231	2.495	0.597	0.8	1	77.898	6.46	323.11	A
			B	0.226	2.51	0.596	0.8	1	75.905			
			C	0.217	2.539	0.594	0.8	1	74.781			
T11 120.00-100.00	0.97	6.02	A	0.189	2.634	0.588	0.8	1	62.217	5.19	259.72	A
			B	0.181	2.661	0.587	0.8	1	58.581			
			C	0.177	2.676	0.586	0.8	1	59.028			
T12 100.00-80.00	1.01	6.17	A	0.177	2.676	0.586	0.8	1	63.487	5.19	259.66	C
			B	0.169	2.704	0.584	0.8	1	59.343			
			C	0.177	2.675	0.586	0.8	1	64.853			
T13 80.00-60.00	1.02	7.26	A	0.175	2.681	0.586	0.8	1	68.586	5.25	262.72	C
			B	0.168	2.707	0.584	0.8	1	64.443			
			C	0.177	2.676	0.586	0.8	1	70.485			
T14 60.00-30.00	1.52	11.34	A	0.163	2.724	0.584	0.8	1	104.530	7.17	239.04	C
			B	0.156	2.749	0.582	0.8	1	98.370			
			C	0.164	2.72	0.584	0.8	1	107.385			
T15 30.00-0.00	1.52	13.09	A	0.152	2.763	0.582	0.8	1	107.579	6.85	228.22	C
			B	0.146	2.785	0.581	0.8	1	101.438			
			C	0.153	2.759	0.582	0.8	1	110.443			
Sum Weight:	10.89	90.92						OTM	12287.69 kip-ft	80.16		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.07	1.79	A	0.208	2.571	0.592	0.85	1	20.888	2.90	144.85	C
			B	0.208	2.571	0.592	0.85	1	20.888			
			C	0.29	2.323	0.613	0.85	1	29.260			
T2 300.00-280.00	0.10	2.50	A	0.207	2.573	0.592	0.85	1	23.800	3.49	174.71	C
			B	0.207	2.573	0.592	0.85	1	23.800			
			C	0.314	2.259	0.62	0.85	1	36.999			
T3 280.00-260.00	0.15	3.48	A	0.2	2.595	0.59	0.85	1	28.854	4.31	215.58	C
			B	0.2	2.595	0.59	0.85	1	28.854			
			C	0.319	2.246	0.622	0.85	1	46.855			
T4 260.00-240.00	0.16	3.83	A	0.189	2.634	0.588	0.85	1	33.466	4.84	242.25	C
			B	0.189	2.634	0.588	0.85	1	33.466			
			C	0.297	2.305	0.615	0.85	1	52.454			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T5 240.00-220.00	0.18	4.90	A	0.197	2.605	0.59	0.85	1	42.130	5.58	279.17	C
			B	0.197	2.605	0.59	0.85	1	42.130			
			C	0.296	2.306	0.615	0.85	1	61.866			
T6 220.00-200.00	0.43	4.82	A	0.266	2.39	0.606	0.85	1	59.327	5.41	270.37	A
			B	0.157	2.744	0.583	0.85	1	37.294			
			C	0.248	2.444	0.601	0.85	1	57.415			
T7 200.00-180.00	0.93	5.71	A	0.259	2.41	0.604	0.85	1	65.457	5.84	292.24	B
			B	0.259	2.41	0.604	0.85	1	65.457			
			C	0.243	2.458	0.6	0.85	1	63.562			
T8 180.00-160.00	0.94	5.93	A	0.244	2.456	0.6	0.85	1	68.845	6.07	303.49	A
			B	0.24	2.469	0.599	0.85	1	67.217			
			C	0.225	2.515	0.596	0.85	1	65.428			
T9 160.00-140.00	0.94	6.89	A	0.245	2.454	0.601	0.85	1	77.460	6.58	329.13	A
			B	0.24	2.469	0.599	0.85	1	75.337			
			C	0.226	2.51	0.596	0.85	1	73.665			
T10 140.00-120.00	0.95	7.17	A	0.231	2.495	0.597	0.85	1	79.949	6.63	331.62	A
			B	0.226	2.51	0.596	0.85	1	77.836			
			C	0.217	2.539	0.594	0.85	1	77.128			
T11 120.00-100.00	0.97	6.02	A	0.189	2.634	0.588	0.85	1	62.447	5.21	260.68	A
			B	0.181	2.661	0.587	0.85	1	58.581			
			C	0.177	2.676	0.586	0.85	1	59.484			
T12 100.00-80.00	1.01	6.17	A	0.177	2.676	0.586	0.85	1	63.749	5.24	261.96	C
			B	0.169	2.704	0.584	0.85	1	59.343			
			C	0.177	2.675	0.586	0.85	1	65.426			
T13 80.00-60.00	1.02	7.26	A	0.175	2.681	0.586	0.85	1	68.849	5.30	264.86	C
			B	0.168	2.707	0.584	0.85	1	64.443			
			C	0.177	2.676	0.586	0.85	1	71.059			
T14 60.00-30.00	1.52	11.34	A	0.163	2.724	0.584	0.85	1	104.924	7.23	240.95	C
			B	0.156	2.749	0.582	0.85	1	98.370			
			C	0.164	2.72	0.584	0.85	1	108.246			
T15 30.00-0.00	1.52	13.09	A	0.152	2.763	0.582	0.85	1	107.972	6.90	230.00	C
			B	0.146	2.785	0.581	0.85	1	101.438			
			C	0.153	2.759	0.582	0.85	1	111.304			
Sum Weight:	10.89	90.92						OTM	12543.06 kip-ft	81.55		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.21	2.46	A	0.258	2.413	0.604	1	1	29.314	3.91	195.73	C
			B	0.258	2.413	0.604	1	1	29.314			
			C	0.395	2.074	0.65	1	1	44.288			
T2 300.00-280.00	0.31	3.23	A	0.25	2.439	0.602	1	1	32.116	4.69	234.63	C
			B	0.25	2.439	0.602	1	1	32.116			
			C	0.424	2.018	0.662	1	1	55.611			
T3 280.00-260.00	0.43	4.32	A	0.232	2.494	0.597	1	1	36.853	5.66	283.14	C
			B	0.232	2.494	0.597	1	1	36.853			
			C	0.423	2.019	0.661	1	1	68.444			
T4 260.00-240.00	0.47	4.83	A	0.217	2.539	0.594	1	1	42.857	6.34	316.81	C
			B	0.217	2.539	0.594	1	1	42.857			
			C	0.394	2.076	0.649	1	1	76.168			
T5 240.00-220.00	0.52	6.22	A	0.224	2.518	0.596	1	1	53.651	7.21	360.39	C
			B	0.224	2.518	0.596	1	1	53.651			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	0.388	2.089	0.647	1	1	88.179			
T6 220.00-200.00	1.13	5.95	A	0.339	2.198	0.629	1	1	80.356	6.97	348.67	C
			B	0.178	2.67	0.586	1	1	46.998			
			C	0.329	2.221	0.625	1	1	82.351			
T7 200.00-180.00	2.36	7.00	A	0.325	2.232	0.624	1	1	87.097	7.44	372.24	C
			B	0.325	2.232	0.624	1	1	87.097			
			C	0.317	2.253	0.621	1	1	89.174			
T8 180.00-160.00	2.39	7.29	A	0.306	2.281	0.618	1	1	91.990	7.61	380.59	C
			B	0.3	2.297	0.616	1	1	89.287			
			C	0.292	2.317	0.614	1	1	91.515			
T9 160.00-140.00	2.40	8.55	A	0.302	2.292	0.616	1	1	102.271	8.15	407.60	C
			B	0.295	2.311	0.614	1	1	98.768			
			C	0.288	2.329	0.612	1	1	101.066			
T10 140.00-120.00	2.42	8.93	A	0.285	2.338	0.611	1	1	105.441	8.32	415.80	C
			B	0.278	2.356	0.609	1	1	101.960			
			C	0.277	2.358	0.609	1	1	106.085			
T11 120.00-100.00	2.49	7.25	A	0.244	2.456	0.6	1	1	83.649	6.64	332.17	C
			B	0.233	2.488	0.598	1	1	77.195			
			C	0.24	2.468	0.599	1	1	84.915			
T12 100.00-80.00	2.63	7.45	A	0.229	2.503	0.597	1	1	85.459	7.02	351.17	C
			B	0.218	2.538	0.594	1	1	78.107			
			C	0.245	2.453	0.601	1	1	95.668			
T13 80.00-60.00	2.64	8.67	A	0.224	2.519	0.596	1	1	90.847	7.01	350.46	C
			B	0.214	2.551	0.593	1	1	83.500			
			C	0.241	2.465	0.6	1	1	102.089			
T14 60.00-30.00	3.96	13.51	A	0.207	2.572	0.592	1	1	137.495	9.54	318.05	C
			B	0.198	2.603	0.59	1	1	126.598			
			C	0.223	2.521	0.595	1	1	154.125			
T15 30.00-0.00	3.96	15.41	A	0.193	2.618	0.589	1	1	140.938	9.10	303.28	C
			B	0.185	2.647	0.587	1	1	130.077			
			C	0.208	2.571	0.592	1	1	157.485			
Sum Weight:	28.31	111.08						OTM	16241.27 kip-ft	105.63		

Tower Forces - With Ice - Wind 45 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.21	2.46	A	0.258	2.413	0.604	0.825	1	26.496	3.63	181.31	C
			B	0.258	2.413	0.604	0.825	1	26.496			
			C	0.395	2.074	0.65	0.825	1	41.023			
T2 300.00-280.00	0.31	3.23	A	0.25	2.439	0.602	0.825	1	29.177	4.34	217.00	C
			B	0.25	2.439	0.602	0.825	1	29.177			
			C	0.424	2.018	0.662	0.825	1	51.435			
T3 280.00-260.00	0.43	4.32	A	0.232	2.494	0.597	0.825	1	33.765	5.31	265.52	C
			B	0.232	2.494	0.597	0.825	1	33.765			
			C	0.423	2.019	0.661	0.825	1	64.187			
T4 260.00-240.00	0.47	4.83	A	0.217	2.539	0.594	0.825	1	38.698	5.91	295.37	C
			B	0.217	2.539	0.594	0.825	1	38.698			
			C	0.394	2.076	0.649	0.825	1	71.015			
T5 240.00-220.00	0.52	6.22	A	0.224	2.518	0.596	0.825	1	47.611	6.66	333.04	C
			B	0.224	2.518	0.596	0.825	1	47.611			
			C	0.388	2.089	0.647	0.825	1	81.489			
T6 220.00-	1.13	5.95	A	0.339	2.198	0.629	0.825	1	76.384	6.47	323.44	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
200.00			B	0.178	2.67	0.586	0.825	1	42.071			
			C	0.329	2.221	0.625	0.825	1	76.392			
T7 200.00-180.00	2.36	7.00	A	0.325	2.232	0.624	0.825	1	82.645	6.91	345.37	C
			B	0.325	2.232	0.624	0.825	1	82.645			
			C	0.317	2.253	0.621	0.825	1	82.736			
T8 180.00-160.00	2.39	7.29	A	0.306	2.281	0.618	0.825	1	86.574	7.09	354.50	A
			B	0.3	2.297	0.616	0.825	1	84.312			
			C	0.292	2.317	0.614	0.825	1	84.555			
T9 160.00-140.00	2.40	8.55	A	0.302	2.292	0.616	0.825	1	95.034	7.54	377.15	A
			B	0.295	2.311	0.614	0.825	1	92.107			
			C	0.288	2.329	0.612	0.825	1	92.414			
T10 140.00-120.00	2.42	8.93	A	0.285	2.338	0.611	0.825	1	97.563	7.59	379.60	C
			B	0.278	2.356	0.609	0.825	1	94.658			
			C	0.277	2.358	0.609	0.825	1	96.851			
T11 120.00-100.00	2.49	7.25	A	0.244	2.456	0.6	0.825	1	82.505	6.46	323.00	C
			B	0.233	2.488	0.598	0.825	1	77.195			
			C	0.24	2.468	0.599	0.825	1	82.571			
T12 100.00-80.00	2.63	7.45	A	0.229	2.503	0.597	0.825	1	84.152	6.80	340.23	C
			B	0.218	2.538	0.594	0.825	1	78.107			
			C	0.245	2.453	0.601	0.825	1	92.687			
T13 80.00-60.00	2.64	8.67	A	0.224	2.519	0.596	0.825	1	89.540	6.80	340.23	C
			B	0.214	2.551	0.593	0.825	1	83.500			
			C	0.241	2.465	0.6	0.825	1	99.108			
T14 60.00-30.00	3.96	13.51	A	0.207	2.572	0.592	0.825	1	135.534	9.26	308.83	C
			B	0.198	2.603	0.59	0.825	1	126.598			
			C	0.223	2.521	0.595	0.825	1	149.654			
T15 30.00-0.00	3.96	15.41	A	0.193	2.618	0.589	0.825	1	138.977	8.84	294.67	C
			B	0.185	2.647	0.587	0.825	1	130.077			
			C	0.208	2.571	0.592	0.825	1	153.014			
Sum Weight:	28.31	111.08						OTM	15168.77 kip-ft	99.62		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.21	2.46	A	0.258	2.413	0.604	0.8	1	26.094	3.58	179.24	C
			B	0.258	2.413	0.604	0.8	1	26.094			
			C	0.395	2.074	0.65	0.8	1	40.557			
T2 300.00-280.00	0.31	3.23	A	0.25	2.439	0.602	0.8	1	28.757	4.29	214.49	C
			B	0.25	2.439	0.602	0.8	1	28.757			
			C	0.424	2.018	0.662	0.8	1	50.838			
T3 280.00-260.00	0.43	4.32	A	0.232	2.494	0.597	0.8	1	33.323	5.26	263.01	C
			B	0.232	2.494	0.597	0.8	1	33.323			
			C	0.423	2.019	0.661	0.8	1	63.579			
T4 260.00-240.00	0.47	4.83	A	0.217	2.539	0.594	0.8	1	38.104	5.85	292.31	C
			B	0.217	2.539	0.594	0.8	1	38.104			
			C	0.394	2.076	0.649	0.8	1	70.279			
T5 240.00-220.00	0.52	6.22	A	0.224	2.518	0.596	0.8	1	46.748	6.58	329.14	C
			B	0.224	2.518	0.596	0.8	1	46.748			
			C	0.388	2.089	0.647	0.8	1	80.533			
T6 220.00-200.00	1.13	5.95	A	0.339	2.198	0.629	0.8	1	75.816	6.40	319.83	C
			B	0.178	2.67	0.586	0.8	1	41.367			
			C	0.329	2.221	0.625	0.8	1	75.541			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T7 200.00-180.00	2.36	7.00	A	0.325	2.232	0.624	0.8	1	82.009	6.83	341.53	C
			B	0.325	2.232	0.624	0.8	1	82.009			
			C	0.317	2.253	0.621	0.8	1	81.816			
T8 180.00-160.00	2.39	7.29	A	0.306	2.281	0.618	0.8	1	85.800	7.03	351.33	A
			B	0.3	2.297	0.616	0.8	1	83.602			
			C	0.292	2.317	0.614	0.8	1	83.561			
T9 160.00-140.00	2.40	8.55	A	0.302	2.292	0.616	0.8	1	94.000	7.46	373.04	A
			B	0.295	2.311	0.614	0.8	1	91.155			
			C	0.288	2.329	0.612	0.8	1	91.178			
T10 140.00-120.00	2.42	8.93	A	0.285	2.338	0.611	0.8	1	96.437	7.50	374.81	A
			B	0.278	2.356	0.609	0.8	1	93.615			
			C	0.277	2.358	0.609	0.8	1	95.531			
T11 120.00-100.00	2.49	7.25	A	0.244	2.456	0.6	0.8	1	82.342	6.43	321.69	C
			B	0.233	2.488	0.598	0.8	1	77.195			
			C	0.24	2.468	0.599	0.8	1	82.236			
T12 100.00-80.00	2.63	7.45	A	0.229	2.503	0.597	0.8	1	83.965	6.77	338.66	C
			B	0.218	2.538	0.594	0.8	1	78.107			
			C	0.245	2.453	0.601	0.8	1	92.261			
T13 80.00-60.00	2.64	8.67	A	0.224	2.519	0.596	0.8	1	89.353	6.78	338.77	C
			B	0.214	2.551	0.593	0.8	1	83.500			
			C	0.241	2.465	0.6	0.8	1	98.682			
T14 60.00-30.00	3.96	13.51	A	0.207	2.572	0.592	0.8	1	135.254	9.23	307.51	C
			B	0.198	2.603	0.59	0.8	1	126.598			
			C	0.223	2.521	0.595	0.8	1	149.015			
T15 30.00-0.00	3.96	15.41	A	0.193	2.618	0.589	0.8	1	138.697	8.80	293.44	C
			B	0.185	2.647	0.587	0.8	1	130.077			
			C	0.208	2.571	0.592	0.8	1	152.375			
Sum Weight:	28.31	111.08						OTM	15019.19 kip-ft	98.79		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.21	2.46	A	0.258	2.413	0.604	0.85	1	26.899	3.67	183.37	C
			B	0.258	2.413	0.604	0.85	1	26.899			
			C	0.395	2.074	0.65	0.85	1	41.490			
T2 300.00-280.00	0.31	3.23	A	0.25	2.439	0.602	0.85	1	29.597	4.39	219.52	C
			B	0.25	2.439	0.602	0.85	1	29.597			
			C	0.424	2.018	0.662	0.85	1	52.031			
T3 280.00-260.00	0.43	4.32	A	0.232	2.494	0.597	0.85	1	34.206	5.36	268.04	C
			B	0.232	2.494	0.597	0.85	1	34.206			
			C	0.423	2.019	0.661	0.85	1	64.795			
T4 260.00-240.00	0.47	4.83	A	0.217	2.539	0.594	0.85	1	39.293	5.97	298.44	C
			B	0.217	2.539	0.594	0.85	1	39.293			
			C	0.394	2.076	0.649	0.85	1	71.751			
T5 240.00-220.00	0.52	6.22	A	0.224	2.518	0.596	0.85	1	48.474	6.74	336.95	C
			B	0.224	2.518	0.596	0.85	1	48.474			
			C	0.388	2.089	0.647	0.85	1	82.444			
T6 220.00-200.00	1.13	5.95	A	0.339	2.198	0.629	0.85	1	76.951	6.54	327.04	C
			B	0.178	2.67	0.586	0.85	1	42.775			
			C	0.329	2.221	0.625	0.85	1	77.243			
T7 200.00-180.00	2.36	7.00	A	0.325	2.232	0.624	0.85	1	83.281	6.98	349.20	C
			B	0.325	2.232	0.624	0.85	1	83.281			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	0.317	2.253	0.621	0.85	1	83.656			
T8 180.00-160.00	2.39	7.29	A	0.306	2.281	0.618	0.85	1	87.348	7.15	357.67	A
			B	0.3	2.297	0.616	0.85	1	85.023			
			C	0.292	2.317	0.614	0.85	1	85.549			
T9 160.00-140.00	2.40	8.55	A	0.302	2.292	0.616	0.85	1	96.068	7.62	381.25	A
			B	0.295	2.311	0.614	0.85	1	93.058			
			C	0.288	2.329	0.612	0.85	1	93.650			
T10 140.00-120.00	2.42	8.93	A	0.285	2.338	0.611	0.85	1	98.688	7.70	384.77	C
			B	0.278	2.356	0.609	0.85	1	95.701			
			C	0.277	2.358	0.609	0.85	1	98.170			
T11 120.00-100.00	2.49	7.25	A	0.244	2.456	0.6	0.85	1	82.668	6.49	324.31	C
			B	0.233	2.488	0.598	0.85	1	77.195			
			C	0.24	2.468	0.599	0.85	1	82.906			
T12 100.00-80.00	2.63	7.45	A	0.229	2.503	0.597	0.85	1	84.339	6.84	341.79	C
			B	0.218	2.538	0.594	0.85	1	78.107			
			C	0.245	2.453	0.601	0.85	1	93.112			
T13 80.00-60.00	2.64	8.67	A	0.224	2.519	0.596	0.85	1	89.726	6.83	341.69	C
			B	0.214	2.551	0.593	0.85	1	83.500			
			C	0.241	2.465	0.6	0.85	1	99.534			
T14 60.00-30.00	3.96	13.51	A	0.207	2.572	0.592	0.85	1	135.814	9.30	310.15	C
			B	0.198	2.603	0.59	0.85	1	126.598			
			C	0.223	2.521	0.595	0.85	1	150.293			
T15 30.00-0.00	3.96	15.41	A	0.193	2.618	0.589	0.85	1	139.257	8.88	295.90	C
			B	0.185	2.647	0.587	0.85	1	130.077			
			C	0.208	2.571	0.592	0.85	1	153.653			
Sum Weight:	28.31	111.08						OTM	15319.35 kip-ft	100.46		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.07	1.79	A	0.208	2.571	0.592	1	1	22.637	3.11	155.53	C
			B	0.208	2.571	0.592	1	1	22.637			
			C	0.29	2.323	0.613	1	1	31.417			
T2 300.00-280.00	0.10	2.50	A	0.207	2.573	0.592	1	1	25.689	3.76	187.98	C
			B	0.207	2.573	0.592	1	1	25.689			
			C	0.314	2.259	0.62	1	1	39.810			
T3 280.00-260.00	0.15	3.48	A	0.2	2.595	0.59	1	1	30.944	4.58	229.20	C
			B	0.2	2.595	0.59	1	1	30.944			
			C	0.319	2.246	0.622	1	1	49.816			
T4 260.00-240.00	0.16	3.83	A	0.189	2.634	0.588	1	1	36.382	5.19	259.37	C
			B	0.189	2.634	0.588	1	1	36.382			
			C	0.297	2.305	0.615	1	1	56.162			
T5 240.00-220.00	0.18	4.90	A	0.197	2.605	0.59	1	1	46.567	6.04	302.05	C
			B	0.197	2.605	0.59	1	1	46.567			
			C	0.296	2.306	0.615	1	1	66.937			
T6 220.00-200.00	0.43	4.82	A	0.266	2.39	0.606	1	1	62.481	5.76	288.09	C
			B	0.157	2.744	0.583	1	1	40.915			
			C	0.248	2.444	0.601	1	1	61.828			
T7 200.00-180.00	0.93	5.71	A	0.259	2.41	0.604	1	1	68.956	6.22	311.10	C
			B	0.259	2.41	0.604	1	1	68.956			
			C	0.243	2.458	0.6	1	1	68.318			
T8 180.00-	0.94	5.93	A	0.244	2.456	0.6	1	1	72.996	6.44	321.79	A

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
160.00			B	0.24	2.469	0.599	1	1	71.095			
			C	0.225	2.515	0.596	1	1	70.560			
T9 160.00-140.00	0.94	6.89	A	0.245	2.454	0.601	1	1	83.129	7.06	353.23	A
			B	0.24	2.469	0.599	1	1	80.649			
			C	0.226	2.51	0.596	1	1	80.248			
T10 140.00-120.00	0.95	7.17	A	0.231	2.495	0.597	1	1	86.099	7.14	357.13	A
			B	0.226	2.51	0.596	1	1	83.628			
			C	0.217	2.539	0.594	1	1	84.168			
T11 120.00-100.00	0.97	6.02	A	0.189	2.634	0.588	1	1	63.135	5.27	263.56	A
			B	0.181	2.661	0.587	1	1	58.581			
			C	0.177	2.676	0.586	1	1	60.852			
T12 100.00-80.00	1.01	6.17	A	0.177	2.676	0.586	1	1	64.536	5.38	268.86	C
			B	0.169	2.704	0.584	1	1	59.343			
			C	0.177	2.675	0.586	1	1	67.148			
T13 80.00-60.00	1.02	7.26	A	0.175	2.681	0.586	1	1	69.636	5.43	271.28	C
			B	0.168	2.707	0.584	1	1	64.443			
			C	0.177	2.676	0.586	1	1	72.781			
T14 60.00-30.00	1.52	11.34	A	0.163	2.724	0.584	1	1	106.104	7.40	246.70	C
			B	0.156	2.749	0.582	1	1	98.370			
			C	0.164	2.72	0.584	1	1	110.828			
T15 30.00-0.00	1.52	13.09	A	0.152	2.763	0.582	1	1	109.153	7.06	235.34	C
			B	0.146	2.785	0.581	1	1	101.438			
			C	0.153	2.759	0.582	1	1	113.887			
Sum Weight:	10.89	90.92						OTM	13335.51 kip-ft	85.84		

Tower Forces - Service - Wind 45 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.07	1.79	A	0.208	2.571	0.592	0.825	1	20.596	2.86	143.07	C
			B	0.208	2.571	0.592	0.825	1	20.596			
			C	0.29	2.323	0.613	0.825	1	28.900			
T2 300.00-280.00	0.10	2.50	A	0.207	2.573	0.592	0.825	1	23.485	3.45	172.49	C
			B	0.207	2.573	0.592	0.825	1	23.485			
			C	0.314	2.259	0.62	0.825	1	36.530			
T3 280.00-260.00	0.15	3.48	A	0.2	2.595	0.59	0.825	1	28.505	4.27	213.31	C
			B	0.2	2.595	0.59	0.825	1	28.505			
			C	0.319	2.246	0.622	0.825	1	46.362			
T4 260.00-240.00	0.16	3.83	A	0.189	2.634	0.588	0.825	1	32.980	4.79	239.39	C
			B	0.189	2.634	0.588	0.825	1	32.980			
			C	0.297	2.305	0.615	0.825	1	51.835			
T5 240.00-220.00	0.18	4.90	A	0.197	2.605	0.59	0.825	1	41.390	5.51	275.36	C
			B	0.197	2.605	0.59	0.825	1	41.390			
			C	0.296	2.306	0.615	0.825	1	61.021			
T6 220.00-200.00	0.43	4.82	A	0.266	2.39	0.606	0.825	1	58.802	5.36	267.98	A
			B	0.157	2.744	0.583	0.825	1	36.691			
			C	0.248	2.444	0.601	0.825	1	56.680			
T7 200.00-180.00	0.93	5.71	A	0.259	2.41	0.604	0.825	1	64.873	5.79	289.63	B
			B	0.259	2.41	0.604	0.825	1	64.873			
			C	0.243	2.458	0.6	0.825	1	62.769			
T8 180.00-160.00	0.94	5.93	A	0.244	2.456	0.6	0.825	1	68.154	6.01	300.44	A
			B	0.24	2.469	0.599	0.825	1	66.571			
			C	0.225	2.515	0.596	0.825	1	64.572			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T9 160.00-140.00	0.94	6.89	A	0.245	2.454	0.601	0.825	1	76.515	6.50	325.12	A
			B	0.24	2.469	0.599	0.825	1	74.452			
			C	0.226	2.51	0.596	0.825	1	72.568			
T10 140.00-120.00	0.95	7.17	A	0.231	2.495	0.597	0.825	1	78.924	6.55	327.36	A
			B	0.226	2.51	0.596	0.825	1	76.871			
			C	0.217	2.539	0.594	0.825	1	75.954			
T11 120.00-100.00	0.97	6.02	A	0.189	2.634	0.588	0.825	1	62.332	5.20	260.20	A
			B	0.181	2.661	0.587	0.825	1	58.581			
			C	0.177	2.676	0.586	0.825	1	59.256			
T12 100.00-80.00	1.01	6.17	A	0.177	2.676	0.586	0.825	1	63.618	5.22	260.81	C
			B	0.169	2.704	0.584	0.825	1	59.343			
			C	0.177	2.675	0.586	0.825	1	65.140			
T13 80.00-60.00	1.02	7.26	A	0.175	2.681	0.586	0.825	1	68.717	5.28	263.79	C
			B	0.168	2.707	0.584	0.825	1	64.443			
			C	0.177	2.676	0.586	0.825	1	70.772			
T14 60.00-30.00	1.52	11.34	A	0.163	2.724	0.584	0.825	1	104.727	7.20	240.00	C
			B	0.156	2.749	0.582	0.825	1	98.370			
			C	0.164	2.72	0.584	0.825	1	107.815			
T15 30.00-0.00	1.52	13.09	A	0.152	2.763	0.582	0.825	1	107.775	6.87	229.11	C
			B	0.146	2.785	0.581	0.825	1	101.438			
			C	0.153	2.759	0.582	0.825	1	110.874			
Sum Weight:	10.89	90.92						OTM	12415.37 kip-ft	80.85		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.07	1.79	A	0.208	2.571	0.592	0.8	1	20.305	2.83	141.29	C
			B	0.208	2.571	0.592	0.8	1	20.305			
			C	0.29	2.323	0.613	0.8	1	28.541			
T2 300.00-280.00	0.10	2.50	A	0.207	2.573	0.592	0.8	1	23.170	3.41	170.28	C
			B	0.207	2.573	0.592	0.8	1	23.170			
			C	0.314	2.259	0.62	0.8	1	36.062			
T3 280.00-260.00	0.15	3.48	A	0.2	2.595	0.59	0.8	1	28.157	4.22	211.03	C
			B	0.2	2.595	0.59	0.8	1	28.157			
			C	0.319	2.246	0.622	0.8	1	45.868			
T4 260.00-240.00	0.16	3.83	A	0.189	2.634	0.588	0.8	1	32.494	4.73	236.54	C
			B	0.189	2.634	0.588	0.8	1	32.494			
			C	0.297	2.305	0.615	0.8	1	51.217			
T5 240.00-220.00	0.18	4.90	A	0.197	2.605	0.59	0.8	1	40.651	5.43	271.55	C
			B	0.197	2.605	0.59	0.8	1	40.651			
			C	0.296	2.306	0.615	0.8	1	60.176			
T6 220.00-200.00	0.43	4.82	A	0.266	2.39	0.606	0.8	1	58.276	5.31	265.58	A
			B	0.157	2.744	0.583	0.8	1	36.088			
			C	0.248	2.444	0.601	0.8	1	55.944			
T7 200.00-180.00	0.93	5.71	A	0.259	2.41	0.604	0.8	1	64.290	5.74	287.03	B
			B	0.259	2.41	0.604	0.8	1	64.290			
			C	0.243	2.458	0.6	0.8	1	61.977			
T8 180.00-160.00	0.94	5.93	A	0.244	2.456	0.6	0.8	1	67.462	5.95	297.40	A
			B	0.24	2.469	0.599	0.8	1	65.924			
			C	0.225	2.515	0.596	0.8	1	63.717			
T9 160.00-140.00	0.94	6.89	A	0.245	2.454	0.601	0.8	1	75.570	6.42	321.10	A
			B	0.24	2.469	0.599	0.8	1	73.567			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	0.226	2.51	0.596	0.8	1	71.470			
T10 140.00-120.00	0.95	7.17	A	0.231	2.495	0.597	0.8	1	77.898	6.46	323.11	A
			B	0.226	2.51	0.596	0.8	1	75.905			
			C	0.217	2.539	0.594	0.8	1	74.781			
T11 120.00-100.00	0.97	6.02	A	0.189	2.634	0.588	0.8	1	62.217	5.19	259.72	A
			B	0.181	2.661	0.587	0.8	1	58.581			
			C	0.177	2.676	0.586	0.8	1	59.028			
T12 100.00-80.00	1.01	6.17	A	0.177	2.676	0.586	0.8	1	63.487	5.19	259.66	C
			B	0.169	2.704	0.584	0.8	1	59.343			
			C	0.177	2.675	0.586	0.8	1	64.853			
T13 80.00-60.00	1.02	7.26	A	0.175	2.681	0.586	0.8	1	68.586	5.25	262.72	C
			B	0.168	2.707	0.584	0.8	1	64.443			
			C	0.177	2.676	0.586	0.8	1	70.485			
T14 60.00-30.00	1.52	11.34	A	0.163	2.724	0.584	0.8	1	104.530	7.17	239.04	C
			B	0.156	2.749	0.582	0.8	1	98.370			
			C	0.164	2.72	0.584	0.8	1	107.385			
T15 30.00-0.00	1.52	13.09	A	0.152	2.763	0.582	0.8	1	107.579	6.85	228.22	C
			B	0.146	2.785	0.581	0.8	1	101.438			
			C	0.153	2.759	0.582	0.8	1	110.443			
Sum Weight:	10.89	90.92						OTM	12287.69 kip-ft	80.16		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 320.00-300.00	0.07	1.79	A	0.208	2.571	0.592	0.85	1	20.888	2.90	144.85	C
			B	0.208	2.571	0.592	0.85	1	20.888			
			C	0.29	2.323	0.613	0.85	1	29.260			
T2 300.00-280.00	0.10	2.50	A	0.207	2.573	0.592	0.85	1	23.800	3.49	174.71	C
			B	0.207	2.573	0.592	0.85	1	23.800			
			C	0.314	2.259	0.62	0.85	1	36.999			
T3 280.00-260.00	0.15	3.48	A	0.2	2.595	0.59	0.85	1	28.854	4.31	215.58	C
			B	0.2	2.595	0.59	0.85	1	28.854			
			C	0.319	2.246	0.622	0.85	1	46.855			
T4 260.00-240.00	0.16	3.83	A	0.189	2.634	0.588	0.85	1	33.466	4.84	242.25	C
			B	0.189	2.634	0.588	0.85	1	33.466			
			C	0.297	2.305	0.615	0.85	1	52.454			
T5 240.00-220.00	0.18	4.90	A	0.197	2.605	0.59	0.85	1	42.130	5.58	279.17	C
			B	0.197	2.605	0.59	0.85	1	42.130			
			C	0.296	2.306	0.615	0.85	1	61.866			
T6 220.00-200.00	0.43	4.82	A	0.266	2.39	0.606	0.85	1	59.327	5.41	270.37	A
			B	0.157	2.744	0.583	0.85	1	37.294			
			C	0.248	2.444	0.601	0.85	1	57.415			
T7 200.00-180.00	0.93	5.71	A	0.259	2.41	0.604	0.85	1	65.457	5.84	292.24	B
			B	0.259	2.41	0.604	0.85	1	65.457			
			C	0.243	2.458	0.6	0.85	1	63.562			
T8 180.00-160.00	0.94	5.93	A	0.244	2.456	0.6	0.85	1	68.845	6.07	303.49	A
			B	0.24	2.469	0.599	0.85	1	67.217			
			C	0.225	2.515	0.596	0.85	1	65.428			
T9 160.00-140.00	0.94	6.89	A	0.245	2.454	0.601	0.85	1	77.460	6.58	329.13	A
			B	0.24	2.469	0.599	0.85	1	75.337			
			C	0.226	2.51	0.596	0.85	1	73.665			
T10 140.00-	0.95	7.17	A	0.231	2.495	0.597	0.85	1	79.949	6.63	331.62	A

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
120.00			B	0.226	2.51	0.596	0.85	1	77.836			
			C	0.217	2.539	0.594	0.85	1	77.128			
T11 120.00-100.00	0.97	6.02	A	0.189	2.634	0.588	0.85	1	62.447	5.21	260.68	A
			B	0.181	2.661	0.587	0.85	1	58.581			
			C	0.177	2.676	0.586	0.85	1	59.484			
T12 100.00-80.00	1.01	6.17	A	0.177	2.676	0.586	0.85	1	63.749	5.24	261.96	C
			B	0.169	2.704	0.584	0.85	1	59.343			
			C	0.177	2.675	0.586	0.85	1	65.426			
T13 80.00-60.00	1.02	7.26	A	0.175	2.681	0.586	0.85	1	68.849	5.30	264.86	C
			B	0.168	2.707	0.584	0.85	1	64.443			
			C	0.177	2.676	0.586	0.85	1	71.059			
T14 60.00-30.00	1.52	11.34	A	0.163	2.724	0.584	0.85	1	104.924	7.23	240.95	C
			B	0.156	2.749	0.582	0.85	1	98.370			
			C	0.164	2.72	0.584	0.85	1	108.246			
T15 30.00-0.00	1.52	13.09	A	0.152	2.763	0.582	0.85	1	107.972	6.90	230.00	C
			B	0.146	2.785	0.581	0.85	1	101.438			
			C	0.153	2.759	0.582	0.85	1	111.304			
Sum Weight:	10.89	90.92						OTM	12543.06 kip-ft	81.55		

Force Totals

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Leg Weight	50.33					
Bracing Weight	40.59					
Total Member Self-Weight	90.92			-34.22	55.23	
Total Weight	108.78			-34.22	55.23	
Wind 0 deg - No Ice		0.00	-105.95	-17974.24	55.23	-174.23
Wind 30 deg - No Ice		50.81	-88.03	-14884.45	-8514.68	-132.07
Wind 45 deg - No Ice		71.36	-71.39	-12069.10	-11974.17	-99.68
Wind 60 deg - No Ice		86.80	-50.13	-8480.32	-14567.14	-60.99
Wind 90 deg - No Ice		101.61	0.00	-34.22	-17084.60	24.85
Wind 120 deg - No Ice		91.72	52.97	8935.78	-15474.58	109.53
Wind 135 deg - No Ice		71.36	71.39	12000.65	-11974.17	134.60
Wind 150 deg - No Ice		50.81	88.03	14816.00	-8514.68	156.92
Wind 180 deg - No Ice		0.00	100.26	16857.97	55.23	164.48
Wind 210 deg - No Ice		-50.81	88.03	14816.00	8625.14	132.07
Wind 225 deg - No Ice		-71.36	71.39	12000.65	12084.63	99.68
Wind 240 deg - No Ice		-91.72	52.97	8935.78	15585.04	64.70
Wind 270 deg - No Ice		-101.61	0.00	-34.22	17195.05	-24.85
Wind 300 deg - No Ice		-86.80	-50.13	-8480.32	14677.60	-103.48
Wind 315 deg - No Ice		-71.36	-71.39	-12069.10	12084.63	-134.60
Wind 330 deg - No Ice		-50.81	-88.03	-14884.45	8625.14	-156.92
Member Ice	20.16					
Total Weight Ice	150.33			-73.21	155.49	
Wind 0 deg - Ice		0.00	-129.09	-21697.94	155.49	-271.87
Wind 30 deg - Ice		61.94	-107.32	-18002.37	-10191.63	-203.60
Wind 45 deg - Ice		87.00	-87.03	-14605.84	-14371.08	-152.07
Wind 60 deg - Ice		105.83	-61.12	-10274.54	-17506.31	-91.00
Wind 90 deg - Ice		123.88	0.00	-73.21	-20538.76	43.71
Wind 120 deg - Ice		111.76	64.54	10739.15	-18564.66	175.44
Wind 135 deg - Ice		87.00	87.03	14459.41	-14371.08	213.44
Wind 150 deg - Ice		61.94	107.32	17855.94	-10191.63	247.31

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Wind 180 deg - Ice		0.00	122.25	20329.44	155.49	256.60
Wind 210 deg - Ice		-61.94	107.32	17855.94	10502.62	203.60
Wind 225 deg - Ice		-87.00	87.03	14459.41	14682.06	152.07
Wind 240 deg - Ice		-111.76	64.54	10739.15	18875.64	96.42
Wind 270 deg - Ice		-123.88	0.00	-73.21	20849.74	-43.71
Wind 300 deg - Ice		-105.83	-61.12	-10274.54	17817.30	-165.60
Wind 315 deg - Ice		-87.00	-87.03	-14605.84	14682.06	-213.44
Wind 330 deg - Ice		-61.94	-107.32	-18002.37	10502.62	-247.31
Total Weight	108.78			-34.22	55.23	
Wind 0 deg - Service		0.00	-105.95	-17939.26	-3.99	-174.23
Wind 30 deg - Service		50.81	-88.03	-14849.48	-8573.90	-132.07
Wind 45 deg - Service		71.36	-71.39	-12034.12	-12033.39	-99.68
Wind 60 deg - Service		86.80	-50.13	-8445.35	-14626.36	-60.99
Wind 90 deg - Service		101.61	0.00	0.75	-17143.81	24.85
Wind 120 deg - Service		91.72	52.97	8970.76	-15533.80	109.53
Wind 135 deg - Service		71.36	71.39	12035.63	-12033.39	134.60
Wind 150 deg - Service		50.81	88.03	14850.98	-8573.90	156.92
Wind 180 deg - Service		0.00	100.26	16892.95	-3.99	164.48
Wind 210 deg - Service		-50.81	88.03	14850.98	8565.93	132.07
Wind 225 deg - Service		-71.36	71.39	12035.63	12025.41	99.68
Wind 240 deg - Service		-91.72	52.97	8970.76	15525.82	64.70
Wind 270 deg - Service		-101.61	0.00	0.75	17135.84	-24.85
Wind 300 deg - Service		-86.80	-50.13	-8445.35	14618.38	-103.48
Wind 315 deg - Service		-71.36	-71.39	-12034.12	12025.41	-134.60
Wind 330 deg - Service		-50.81	-88.03	-14849.48	8565.93	-156.92

Load Combinations

Comb. No.	Description
1	Dead Only
2	Dead+Wind 0 deg - No Ice
3	Dead+Wind 30 deg - No Ice
4	Dead+Wind 45 deg - No Ice
5	Dead+Wind 60 deg - No Ice
6	Dead+Wind 90 deg - No Ice
7	Dead+Wind 120 deg - No Ice
8	Dead+Wind 135 deg - No Ice
9	Dead+Wind 150 deg - No Ice
10	Dead+Wind 180 deg - No Ice
11	Dead+Wind 210 deg - No Ice
12	Dead+Wind 225 deg - No Ice
13	Dead+Wind 240 deg - No Ice
14	Dead+Wind 270 deg - No Ice
15	Dead+Wind 300 deg - No Ice
16	Dead+Wind 315 deg - No Ice
17	Dead+Wind 330 deg - No Ice
18	Dead+Ice+Temp
19	Dead+Wind 0 deg+Ice+Temp
20	Dead+Wind 30 deg+Ice+Temp
21	Dead+Wind 45 deg+Ice+Temp
22	Dead+Wind 60 deg+Ice+Temp
23	Dead+Wind 90 deg+Ice+Temp
24	Dead+Wind 120 deg+Ice+Temp
25	Dead+Wind 135 deg+Ice+Temp
26	Dead+Wind 150 deg+Ice+Temp

Comb. No.	Description
27	Dead+Wind 180 deg+Ice+Temp
28	Dead+Wind 210 deg+Ice+Temp
29	Dead+Wind 225 deg+Ice+Temp
30	Dead+Wind 240 deg+Ice+Temp
31	Dead+Wind 270 deg+Ice+Temp
32	Dead+Wind 300 deg+Ice+Temp
33	Dead+Wind 315 deg+Ice+Temp
34	Dead+Wind 330 deg+Ice+Temp
35	Dead+Wind 0 deg - Service
36	Dead+Wind 30 deg - Service
37	Dead+Wind 45 deg - Service
38	Dead+Wind 60 deg - Service
39	Dead+Wind 90 deg - Service
40	Dead+Wind 120 deg - Service
41	Dead+Wind 135 deg - Service
42	Dead+Wind 150 deg - Service
43	Dead+Wind 180 deg - Service
44	Dead+Wind 210 deg - Service
45	Dead+Wind 225 deg - Service
46	Dead+Wind 240 deg - Service
47	Dead+Wind 270 deg - Service
48	Dead+Wind 300 deg - Service
49	Dead+Wind 315 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	320 - 300	Leg	Max Tension	27	14.72	-0.07	0.06
			Max. Compression	30	-18.74	0.55	-0.43
			Max. Mx	24	-17.72	-0.87	0.17
			Max. My	19	5.86	0.27	1.04
			Max. Vy	31	1.17	-0.19	-0.17
			Max. Vx	19	1.21	0.00	-0.10
		Diagonal	Max Tension	23	4.28	0.00	0.00
			Max. Compression	24	-4.35	0.00	0.00
			Max. Mx	30	3.16	0.01	0.00
			Max. My	34	-2.80	0.01	0.00
			Max. Vy	30	-0.01	0.01	0.00
			Max. Vx	34	0.00	0.00	0.00
		Top Girt	Max Tension	30	0.07	0.00	0.00
			Max. Compression	32	-0.10	0.00	0.00
			Max. Mx	18	-0.01	-0.02	0.00
			Max. Vy	18	-0.01	0.00	0.00
T2	300 - 280	Leg	Max Tension	27	42.97	-0.12	0.03
			Max. Compression	30	-50.84	0.80	-0.05
			Max. Mx	30	-50.84	0.80	-0.05
			Max. My	34	-2.43	0.04	1.10
			Max. Vy	24	-0.27	0.41	-0.04
			Max. Vx	26	-0.51	-0.03	-0.24
		Diagonal	Max Tension	20	5.25	0.00	0.00
			Max. Compression	19	-5.43	0.00	0.00
			Max. Mx	32	2.58	0.02	0.01
			Max. My	34	-3.73	0.01	0.01
			Max. Vy	32	0.01	0.02	0.01
			Max. Vx	34	-0.00	0.00	0.00
		Top Girt	Max Tension	30	0.09	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	32	-0.11	0.00	0.00
			Max. Mx	18	-0.01	-0.03	0.00
			Max. My	18	-0.01	0.00	0.00
			Max. Vy	18	0.02	0.00	0.00
			Max. Vx	18	0.00	0.00	0.00
T3	280 - 260	Leg	Max Tension	32	70.68	-0.59	0.00
			Max. Compression	30	-83.19	1.00	0.00
			Max. Mx	30	-83.19	1.00	0.00
			Max. My	34	-5.50	-0.02	1.07
			Max. Vy	27	0.24	-0.64	0.01
			Max. Vx	31	0.34	-0.02	-0.64
		Diagonal	Max Tension	20	6.53	0.00	0.00
			Max. Compression	19	-6.60	0.00	0.00
			Max. Mx	27	3.37	0.04	-0.01
			Max. My	26	-3.90	0.02	-0.01
			Max. Vy	27	0.02	0.04	-0.01
			Max. Vx	26	0.00	0.00	0.00
T4	260 - 240	Leg	Max Tension	32	100.97	-0.71	0.00
			Max. Compression	30	-119.28	1.91	-0.02
			Max. Mx	19	-117.70	1.91	0.37
			Max. My	34	-7.66	0.03	1.91
			Max. Vy	19	-0.38	1.91	0.37
			Max. Vx	26	0.48	0.03	-1.91
		Diagonal	Max Tension	20	7.97	0.00	0.00
			Max. Compression	19	-8.13	0.00	0.00
			Max. Mx	27	4.43	0.06	-0.01
			Max. My	34	-5.17	0.04	0.01
			Max. Vy	27	0.03	0.06	-0.01
			Max. Vx	34	-0.00	0.00	0.00
T5	240 - 220	Leg	Max Tension	32	133.35	-0.84	0.00
			Max. Compression	30	-158.39	1.68	-0.01
			Max. Mx	19	-130.04	1.91	0.37
			Max. My	34	-7.95	0.03	1.91
			Max. Vy	19	0.29	1.91	0.37
			Max. Vx	34	0.32	0.03	1.91
		Diagonal	Max Tension	20	9.52	0.00	0.00
			Max. Compression	19	-9.68	0.00	0.00
			Max. Mx	30	7.35	0.13	-0.01
			Max. My	34	-5.99	0.07	0.03
			Max. Vy	27	0.06	0.13	-0.02
			Max. Vx	34	-0.00	0.00	0.00
T6	220 - 200	Leg	Max Tension	32	166.90	-0.85	0.20
			Max. Compression	30	-200.48	1.88	-0.03
			Max. Mx	24	-197.86	1.88	-0.21
			Max. My	34	-12.08	-0.11	2.63
			Max. Vy	22	-1.58	-1.58	0.01
			Max. Vx	26	-1.44	0.01	-0.78
		Diagonal	Max Tension	20	13.07	0.00	0.00
			Max. Compression	19	-13.32	0.00	0.00
			Max. Mx	30	10.15	0.22	-0.03
			Max. My	34	8.94	0.20	0.04
			Max. Vy	33	0.08	0.21	0.04
			Max. Vx	19	-0.01	0.00	0.00
T7	200 - 180	Leg	Max Tension	32	207.01	-1.90	-0.00
			Max. Compression	30	-250.20	2.40	-0.06
			Max. Mx	24	-247.03	2.41	-0.22
			Max. My	31	-13.42	-0.11	-2.77
			Max. Vy	27	-1.73	-1.68	-0.24
			Max. Vx	26	-1.53	0.06	-0.44
		Diagonal	Max Tension	20	15.38	0.00	0.00
			Max. Compression	20	-15.43	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	32	9.43	0.23	0.03
			Max. My	19	-15.01	0.09	0.04
			Max. Vy	32	0.08	0.23	0.03
			Max. Vx	19	-0.01	0.00	0.00
T8	180 - 160	Leg	Max Tension	32	248.31	-2.30	0.21
			Max. Compression	30	-300.55	3.02	-0.10
			Max. Mx	30	-300.55	3.02	-0.10
			Max. My	34	-20.85	0.10	2.70
			Max. Vy	22	0.38	-2.31	0.07
			Max. Vx	34	-0.63	-0.10	2.42
		Diagonal	Max Tension	20	17.16	0.00	0.00
			Max. Compression	20	-17.31	0.00	0.00
			Max. Mx	32	10.23	0.26	0.04
			Max. My	19	-16.78	0.16	0.04
			Max. Vy	32	0.09	0.26	0.04
			Max. Vx	19	-0.01	0.00	0.00
T9	160 - 140	Leg	Max Tension	32	290.55	-1.92	0.02
			Max. Compression	30	-352.33	3.66	-0.11
			Max. Mx	30	-352.33	3.66	-0.11
			Max. My	34	-22.67	-0.23	3.33
			Max. Vy	24	-0.40	3.64	-0.14
			Max. Vx	34	0.56	-0.23	3.33
		Diagonal	Max Tension	20	19.33	0.00	0.00
			Max. Compression	19	-19.91	0.00	0.00
			Max. Mx	30	13.84	0.43	-0.05
			Max. My	19	11.37	0.43	0.07
			Max. Vy	33	0.13	0.41	0.06
			Max. Vx	19	-0.01	0.00	0.00
T10	140 - 120	Leg	Max Tension	32	330.59	-2.55	0.04
			Max. Compression	30	-402.87	-3.63	0.05
			Max. Mx	30	-378.06	3.66	-0.11
			Max. My	34	-28.34	-0.87	5.86
			Max. Vy	24	0.78	2.46	-0.02
			Max. Vx	34	-0.70	-0.12	4.70
		Diagonal	Max Tension	20	19.72	0.00	0.00
			Max. Compression	19	-20.18	0.00	0.00
			Max. Mx	29	9.22	0.50	-0.07
			Max. My	34	13.08	0.46	0.09
			Max. Vy	29	-0.14	0.50	-0.07
			Max. Vx	34	-0.01	0.00	0.00
T11	120 - 100	Leg	Max Tension	32	336.53	1.79	0.07
			Max. Compression	30	-412.23	-14.16	-0.63
			Max. Mx	30	-411.84	17.85	0.55
			Max. My	34	-30.43	-2.11	11.23
			Max. Vy	30	3.47	17.85	0.55
			Max. Vx	26	2.00	-2.12	-11.20
		Diagonal	Max Tension	20	30.02	-0.20	0.06
			Max. Compression	19	-32.07	0.00	0.00
			Max. Mx	27	18.72	-0.27	0.06
			Max. My	27	15.80	-0.27	0.06
			Max. Vy	27	-0.07	-0.27	0.06
			Max. Vx	27	-0.01	0.00	0.00
		Horizontal	Max Tension	20	16.80	-0.21	0.00
			Max. Compression	19	-16.77	-0.26	-0.02
			Max. Mx	32	-2.82	-0.30	-0.03
			Max. My	24	-1.51	-0.13	0.04
			Max. Vy	32	0.09	-0.30	-0.03
			Max. Vx	24	-0.00	0.00	0.00
		Redund Horz 1 Bracing	Max Tension	30	6.20	0.00	0.00
			Max. Compression	30	-6.20	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	18	0.45	0.02	0.00
			Max. Vy	18	-0.01	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	30	5.63	0.00	0.00
			Max. Compression	30	-5.63	0.00	0.00
			Max. Mx	18	0.41	0.04	0.00
			Max. Vy	18	-0.02	0.00	0.00
		Inner Bracing	Max Tension	19	0.28	0.00	0.00
			Max. Compression	19	-0.30	0.00	0.00
			Max. Mx	18	-0.01	0.20	0.00
			Max. Vy	18	-0.06	0.00	0.00
T12	100 - 80	Leg	Max Tension	32	367.95	9.64	1.06
			Max. Compression	30	-452.69	-15.14	-0.60
			Max. Mx	30	-451.86	19.42	0.45
			Max. My	34	-33.80	-2.32	11.58
			Max. Vy	30	3.70	19.42	0.45
			Max. Vx	26	-2.18	-2.11	-11.20
		Diagonal	Max Tension	20	31.36	-0.21	0.06
			Max. Compression	19	-33.48	0.00	0.00
			Max. Mx	28	9.37	-0.27	0.06
			Max. My	28	13.28	-0.27	0.06
			Max. Vy	28	0.07	-0.27	0.06
			Max. Vx	28	0.01	0.00	0.00
		Horizontal	Max Tension	20	18.65	-0.25	0.00
			Max. Compression	19	-18.90	-0.30	-0.02
			Max. Mx	32	0.34	-0.33	-0.04
			Max. My	24	-0.44	-0.18	0.04
			Max. Vy	32	-0.09	-0.33	-0.04
			Max. Vx	24	-0.00	0.00	0.00
		Redund Horz 1 Bracing	Max Tension	30	6.81	0.00	0.00
			Max. Compression	30	-6.81	0.00	0.00
			Max. Mx	18	0.43	0.03	0.00
			Max. Vy	18	-0.01	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	30	5.78	0.00	0.00
			Max. Compression	30	-5.78	0.00	0.00
			Max. Mx	18	0.42	0.05	0.00
			Max. Vy	18	0.02	0.00	0.00
		Inner Bracing	Max Tension	19	0.33	0.00	0.00
			Max. Compression	19	-0.34	0.00	0.00
			Max. Mx	18	0.00	0.25	0.00
			Max. Vy	18	-0.07	0.00	0.00
T13	80 - 60	Leg	Max Tension	32	401.17	10.18	1.33
			Max. Compression	30	-495.66	-15.22	-0.93
			Max. Mx	30	-494.71	23.17	0.73
			Max. My	34	-37.61	-3.08	19.05
			Max. Vy	30	3.96	23.17	0.73
			Max. Vx	34	-2.82	-3.08	19.05
		Diagonal	Max Tension	20	29.21	-0.21	0.07
			Max. Compression	19	-31.99	0.00	0.00
			Max. Mx	27	16.39	-0.26	0.07
			Max. My	27	19.66	-0.26	0.07
			Max. Vy	27	-0.07	-0.26	0.07
			Max. Vx	27	0.01	0.00	0.00
		Horizontal	Max Tension	20	18.43	-0.38	0.00
			Max. Compression	19	-18.90	-0.42	-0.02
			Max. Mx	32	-3.92	-0.45	-0.03
			Max. My	24	-0.54	-0.30	0.03
			Max. Vy	32	0.13	-0.45	-0.03
			Max. Vx	24	-0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Redund Horz 1 Bracing	Max Tension	30	7.47	0.00	0.00
			Max. Compression	30	-7.45	0.00	0.00
			Max. Mx	18	0.57	0.04	0.00
			Max. Vy	18	-0.02	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	30	5.96	0.00	0.00
			Max. Compression	30	-5.97	0.00	0.00
			Max. Mx	18	0.44	0.06	0.00
			Max. Vy	18	-0.02	0.00	0.00
		Inner Bracing	Max Tension	19	0.33	0.00	0.00
			Max. Compression	19	-0.34	0.00	0.00
			Max. Mx	18	0.00	0.29	0.00
			Max. Vy	18	0.08	0.00	0.00
T14	60 - 30	Leg	Max Tension	32	432.96	8.81	1.73
			Max. Compression	30	-537.63	4.25	0.56
			Max. Mx	30	-530.19	29.94	0.80
			Max. My	34	-42.84	-1.71	23.74
			Max. Vy	30	5.59	29.94	0.80
			Max. Vx	26	3.29	-1.72	-23.72
		Diagonal	Max Tension	20	42.81	-0.32	0.12
			Max. Compression	19	-46.45	0.00	0.00
			Max. Mx	32	27.36	-0.38	-0.12
			Max. My	32	31.95	-0.38	-0.12
			Max. Vy	19	-0.08	-0.16	-0.12
			Max. Vx	32	-0.01	0.00	0.00
		Horizontal	Max Tension	20	21.79	-0.55	0.00
			Max. Compression	20	-21.67	-0.55	0.00
			Max. Mx	32	-2.75	-0.71	-0.04
			Max. My	24	-1.77	-0.38	0.04
			Max. Vy	32	0.17	-0.71	-0.04
			Max. Vx	24	-0.00	0.00	0.00
		Redund Horz 1 Bracing	Max Tension	30	8.10	0.00	0.00
			Max. Compression	30	-8.29	0.00	0.00
			Max. Mx	18	0.54	0.02	0.00
			Max. Vy	18	-0.01	0.00	0.00
		Redund Horz 2 Bracing	Max Tension	30	8.10	0.00	0.00
			Max. Compression	30	-8.17	0.00	0.00
			Max. Mx	18	0.54	0.10	0.00
			Max. Vy	18	-0.04	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	30	8.37	0.00	0.00
			Max. Compression	30	-8.18	0.00	0.00
			Max. Mx	18	0.83	0.04	0.00
			Max. Vy	18	-0.01	0.00	0.00
		Redund Diag 2 Bracing	Max Tension	30	5.36	0.00	0.00
			Max. Compression	30	-5.30	0.00	0.00
			Max. Mx	18	0.48	0.15	0.00
			Max. Vy	18	-0.04	0.00	0.00
		Inner Bracing	Max Tension	28	0.36	0.00	0.00
			Max. Compression	28	-0.40	0.00	0.00
			Max. Mx	18	-0.02	0.34	0.00
			Max. Vy	18	-0.08	0.00	0.00
T15	30 - 0	Leg	Max Tension	32	481.08	20.88	2.76
			Max. Compression	30	-600.87	6.07	0.67
			Max. Mx	30	-597.80	25.43	1.05
			Max. My	34	-46.75	-1.71	23.74
			Max. Vy	30	-3.19	6.07	0.67

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	26	-3.23	-1.72	-23.71
		Diagonal	Max Tension	20	40.13	-0.29	0.13
			Max. Compression	19	-42.08	0.00	0.00
			Max. Mx	32	27.07	-0.36	-0.14
			Max. My	27	-36.11	-0.21	0.14
			Max. Vy	19	-0.08	-0.20	-0.14
			Max. Vx	27	-0.01	-0.21	0.14
		Horizontal	Max Tension	20	21.72	-0.56	0.00
			Max. Compression	19	-23.11	-0.63	-0.03
			Max. Mx	32	-1.07	-0.69	-0.06
			Max. My	24	0.66	-0.41	0.06
			Max. Vy	32	-0.17	-0.69	-0.06
			Max. Vx	24	0.00	-0.41	0.06
		Redund Horz 1 Bracing	Max Tension	30	9.10	0.00	0.00
			Max. Compression	30	-9.07	0.00	0.00
			Max. Mx	18	0.67	0.02	0.00
			Max. Vy	18	-0.01	0.00	0.00
		Redund Horz 2 Bracing	Max Tension	30	9.07	0.00	0.00
			Max. Compression	30	-9.26	0.00	0.00
			Max. Mx	18	0.64	0.18	0.00
			Max. Vy	18	-0.06	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	30	8.43	0.00	0.00
			Max. Compression	30	-8.47	0.00	0.00
			Max. Mx	18	0.69	0.04	0.00
			Max. Vy	18	-0.01	0.00	0.00
		Redund Diag 2 Bracing	Max Tension	30	5.83	0.00	0.00
			Max. Compression	30	-5.67	0.00	0.00
			Max. Mx	18	0.63	0.18	0.00
			Max. Vy	18	-0.05	0.00	0.00
		Inner Bracing	Max Tension	19	0.40	0.00	0.00
			Max. Compression	19	-0.42	0.00	0.00
			Max. Mx	18	0.01	0.42	0.00
			Max. Vy	18	-0.09	0.00	0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg C	Max. Vert	30	656.47	68.11	-40.99
	Max. H_x	30	656.47	68.11	-40.99
	Max. H_z	21	-501.03	-53.88	36.62
	Min. Vert	22	-516.34	-57.34	34.51
	Min. H_x	22	-516.34	-57.34	34.51
	Min. H_z	29	606.81	61.17	-40.99
Leg B	Max. Vert	24	648.83	-69.96	-37.51
	Max. H_x	32	-523.98	59.23	31.50
	Max. H_z	33	-508.67	56.55	32.26
	Min. Vert	32	-523.98	59.23	31.50
	Min. H_x	24	648.83	-69.96	-37.51
	Min. H_z	24	648.83	-69.96	-37.51
Leg A	Max. Vert	19	655.95	-3.93	79.48
	Max. H_x	30	-249.69	10.65	-33.38

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Max. H_z	19	655.95	-3.93	79.48
	Min. Vert	27	-517.22	3.56	-66.95
	Min. H_x	22	336.89	-10.30	39.83
	Min. H_z	27	-517.22	3.56	-66.95

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	108.78	-0.00	-0.00	-34.22	55.23	0.00
Dead+Wind 0 deg - No Ice	108.78	-0.00	-105.95	-17729.73	55.23	-174.23
Dead+Wind 30 deg - No Ice	108.78	50.81	-88.03	-14677.30	-8395.09	-132.07
Dead+Wind 45 deg - No Ice	108.78	71.36	-71.39	-11900.59	-11805.67	-99.68
Dead+Wind 60 deg - No Ice	108.78	86.80	-50.13	-8361.62	-14361.53	-61.00
Dead+Wind 90 deg - No Ice	108.78	101.61	-0.00	-34.22	-16845.40	24.85
Dead+Wind 120 deg - No Ice	108.78	91.72	52.97	8813.53	-15262.82	109.53
Dead+Wind 135 deg - No Ice	108.78	71.36	71.39	11832.14	-11805.67	134.60
Dead+Wind 150 deg - No Ice	108.78	50.81	88.03	14608.86	-8395.09	156.93
Dead+Wind 180 deg - No Ice	108.78	-0.00	100.26	16620.56	55.23	164.48
Dead+Wind 210 deg - No Ice	108.78	-50.81	88.03	14608.86	8505.55	132.07
Dead+Wind 225 deg - No Ice	108.78	-71.36	71.39	11832.14	11916.12	99.68
Dead+Wind 240 deg - No Ice	108.78	-91.72	52.97	8813.53	15373.28	64.70
Dead+Wind 270 deg - No Ice	108.78	-101.61	-0.00	-34.22	16955.86	-24.85
Dead+Wind 300 deg - No Ice	108.78	-86.80	-50.13	-8361.62	14471.99	-103.48
Dead+Wind 315 deg - No Ice	108.78	-71.36	-71.39	-11900.59	11916.12	-134.60
Dead+Wind 330 deg - No Ice	108.78	-50.81	-88.03	-14677.30	8505.55	-156.93
Dead+Ice+Temp	150.33	-0.00	-0.00	-73.21	155.49	0.00
Dead+Wind 0 deg+Ice+Temp	150.33	-0.00	-129.09	-21348.89	155.49	-271.87
Dead+Wind 30 deg+Ice+Temp	150.33	61.94	-107.32	-17707.59	-10021.44	-203.60
Dead+Wind 45 deg+Ice+Temp	150.33	87.00	-87.03	-14366.18	-14131.42	-152.07
Dead+Wind 60 deg+Ice+Temp	150.33	105.83	-61.12	-10105.80	-17214.04	-91.00
Dead+Wind 90 deg+Ice+Temp	150.33	123.88	-0.00	-73.21	-20198.38	43.71
Dead+Wind 120 deg+Ice+Temp	150.33	111.76	64.54	10564.62	-18262.37	175.44
Dead+Wind 135 deg+Ice+Temp	150.33	87.00	87.03	14219.75	-14131.42	213.44
Dead+Wind 150 deg+Ice+Temp	150.33	61.94	107.32	17561.16	-10021.44	247.31
Dead+Wind 180 deg+Ice+Temp	150.33	-0.00	122.25	19991.95	155.49	256.60
Dead+Wind 210 deg+Ice+Temp	150.33	-61.94	107.32	17561.16	10332.43	203.60
Dead+Wind 225 deg+Ice+Temp	150.33	-87.00	87.03	14219.75	14442.40	152.07
Dead+Wind 240 deg+Ice+Temp	150.33	-111.76	64.54	10564.62	18573.35	96.43
Dead+Wind 270 deg+Ice+Temp	150.33	-123.88	-0.00	-73.21	20509.36	-43.71
Dead+Wind 300 deg+Ice+Temp	150.33	-105.83	-61.12	-10105.80	17525.02	-165.60
Dead+Wind 315 deg+Ice+Temp	150.33	-87.00	-87.03	-14366.18	14442.40	-213.44
Dead+Wind 330 deg+Ice+Temp	150.33	-61.94	-107.32	-17707.59	10332.43	-247.31
Dead+Wind 0 deg - Service	108.78	-0.00	-105.95	-17729.73	55.23	-174.23
Dead+Wind 30 deg - Service	108.78	50.81	-88.03	-14677.30	-8395.09	-132.07
Dead+Wind 45 deg - Service	108.78	71.36	-71.39	-11900.59	-11805.67	-99.68
Dead+Wind 60 deg - Service	108.78	86.80	-50.13	-8361.62	-14361.53	-61.00
Dead+Wind 90 deg - Service	108.78	101.61	-0.00	-34.22	-16845.40	24.85
Dead+Wind 120 deg - Service	108.78	91.72	52.97	8813.53	-15262.82	109.53
Dead+Wind 135 deg - Service	108.78	71.36	71.39	11832.14	-11805.67	134.60
Dead+Wind 150 deg - Service	108.78	50.81	88.03	14608.86	-8395.09	156.93
Dead+Wind 180 deg - Service	108.78	-0.00	100.26	16620.56	55.23	164.48
Dead+Wind 210 deg - Service	108.78	-50.81	88.03	14608.86	8505.55	132.07
Dead+Wind 225 deg - Service	108.78	-71.36	71.39	11832.14	11916.12	99.68
Dead+Wind 240 deg - Service	108.78	-91.72	52.97	8813.53	15373.28	64.70
Dead+Wind 270 deg - Service	108.78	-101.61	-0.00	-34.22	16955.86	-24.85

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead+Wind 300 deg - Service	108.78	-86.80	-50.13	-8361.62	14471.99	-103.48
Dead+Wind 315 deg - Service	108.78	-71.36	-71.39	-11900.59	11916.12	-134.60
Dead+Wind 330 deg - Service	108.78	-50.81	-88.03	-14677.30	8505.55	-156.93

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.00	-108.78	0.00	0.00	108.78	0.00	0.000%
2	-0.00	-108.78	-105.95	0.00	108.78	105.95	0.000%
3	50.81	-108.78	-88.03	-50.81	108.78	88.03	0.000%
4	71.36	-108.78	-71.39	-71.36	108.78	71.39	0.000%
5	86.80	-108.78	-50.13	-86.80	108.78	50.13	0.000%
6	101.61	-108.78	0.00	-101.61	108.78	0.00	0.000%
7	91.72	-108.78	52.97	-91.72	108.78	-52.97	0.000%
8	71.36	-108.78	71.39	-71.36	108.78	-71.39	0.000%
9	50.81	-108.78	88.03	-50.81	108.78	-88.03	0.000%
10	0.00	-108.78	100.26	0.00	108.78	-100.26	0.000%
11	-50.81	-108.78	88.03	50.81	108.78	-88.03	0.000%
12	-71.36	-108.78	71.39	71.36	108.78	-71.39	0.000%
13	-91.72	-108.78	52.97	91.72	108.78	-52.97	0.000%
14	-101.61	-108.78	0.00	101.61	108.78	0.00	0.000%
15	-86.80	-108.78	-50.13	86.80	108.78	50.13	0.000%
16	-71.36	-108.78	-71.39	71.36	108.78	71.39	0.000%
17	-50.81	-108.78	-88.03	50.81	108.78	88.03	0.000%
18	0.00	-150.33	0.00	0.00	150.33	0.00	0.000%
19	-0.00	-150.33	-129.09	0.00	150.33	129.09	0.000%
20	61.94	-150.33	-107.32	-61.94	150.33	107.32	0.000%
21	87.00	-150.33	-87.03	-87.00	150.33	87.03	0.000%
22	105.83	-150.33	-61.12	-105.83	150.33	61.12	0.000%
23	123.88	-150.33	0.00	-123.88	150.33	0.00	0.000%
24	111.76	-150.33	64.54	-111.76	150.33	-64.54	0.000%
25	87.00	-150.33	87.03	-87.00	150.33	-87.03	0.000%
26	61.94	-150.33	107.32	-61.94	150.33	-107.32	0.000%
27	0.00	-150.33	122.25	0.00	150.33	-122.25	0.000%
28	-61.94	-150.33	107.32	61.94	150.33	-107.32	0.000%
29	-87.00	-150.33	87.03	87.00	150.33	-87.03	0.000%
30	-111.76	-150.33	64.54	111.76	150.33	-64.54	0.000%
31	-123.88	-150.33	0.00	123.88	150.33	0.00	0.000%
32	-105.83	-150.33	-61.12	105.83	150.33	61.12	0.000%
33	-87.00	-150.33	-87.03	87.00	150.33	87.03	0.000%
34	-61.94	-150.33	-107.32	61.94	150.33	107.32	0.000%
35	-0.00	-108.78	-105.95	0.00	108.78	105.95	0.000%
36	50.81	-108.78	-88.03	-50.81	108.78	88.03	0.000%
37	71.36	-108.78	-71.39	-71.36	108.78	71.39	0.000%
38	86.80	-108.78	-50.13	-86.80	108.78	50.13	0.000%
39	101.61	-108.78	0.00	-101.61	108.78	0.00	0.000%
40	91.72	-108.78	52.97	-91.72	108.78	-52.97	0.000%
41	71.36	-108.78	71.39	-71.36	108.78	-71.39	0.000%
42	50.81	-108.78	88.03	-50.81	108.78	-88.03	0.000%
43	0.00	-108.78	100.26	0.00	108.78	-100.26	0.000%
44	-50.81	-108.78	88.03	50.81	108.78	-88.03	0.000%
45	-71.36	-108.78	71.39	71.36	108.78	-71.39	0.000%
46	-91.72	-108.78	52.97	91.72	108.78	-52.97	0.000%
47	-101.61	-108.78	0.00	101.61	108.78	0.00	0.000%
48	-86.80	-108.78	-50.13	86.80	108.78	50.13	0.000%
49	-71.36	-108.78	-71.39	71.36	108.78	71.39	0.000%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
50	-50.81	-108.78	-88.03	50.81	108.78	88.03	0.000%

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	320 - 300	23.780	46	0.6261	0.3050
T2	300 - 280	21.108	46	0.6163	0.2441
T3	280 - 260	18.508	46	0.5887	0.1950
T4	260 - 240	16.029	46	0.5612	0.1672
T5	240 - 220	13.673	46	0.5266	0.1466
T6	220 - 200	11.492	46	0.4851	0.1340
T7	200 - 180	9.495	46	0.4378	0.1242
T8	180 - 160	7.668	35	0.3966	0.1137
T9	160 - 140	6.009	35	0.3518	0.1012
T10	140 - 120	4.550	35	0.3033	0.0907
T11	120 - 100	3.296	35	0.2522	0.0797
T12	100 - 80	2.283	35	0.2027	0.0619
T13	80 - 60	1.465	35	0.1531	0.0477
T14	60 - 30	0.842	40	0.1113	0.0356
T15	30 - 0	0.258	40	0.0499	0.0176

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
320.00	Dual Lights	46	23.780	0.6261	0.3050	258298
318.00	PD128	46	23.512	0.6256	0.2988	258298
315.00	8 FT DISH	46	23.109	0.6248	0.2896	258298
308.00	6 FT DISH	46	22.172	0.6221	0.2681	107624
294.00	DB224	46	20.317	0.6092	0.2267	51672
292.00	PD320	46	20.056	0.6065	0.2212	48445
285.00	DB809	46	19.148	0.5961	0.2049	39757
275.00	OGT9	46	17.877	0.5817	0.1866	37488
257.00	PD440	46	15.667	0.5566	0.1637	41129
250.00	PD128	46	14.833	0.5450	0.1561	32802
243.00	PD320	46	14.016	0.5323	0.1492	27266
220.00	DB844	46	11.492	0.4851	0.1340	25732
200.00	PiROD 12' Lightweight T-Frame	46	9.495	0.4378	0.1242	28349
175.00	6 FT DISH	35	7.237	0.3859	0.1106	28313
140.00	BA1012-0	35	4.550	0.3033	0.0907	25284
138.00	PD156S	35	4.415	0.2982	0.0897	24653
115.00	6 FT DISH	35	3.021	0.2398	0.0757	19362
112.00	2 FT DISH	35	2.863	0.2324	0.0730	20614
105.00	6 FT DISH	35	2.516	0.2152	0.0664	24259
100.00	PD458	35	2.283	0.2027	0.0619	26912
97.00	6 FT DISH	35	2.148	0.1951	0.0594	27000
90.00	4 FT DISH	35	1.850	0.1773	0.0542	25554

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	320 - 300	28.635	30	0.7526	0.4153
T2	300 - 280	25.428	30	0.7408	0.3461
T3	280 - 260	22.304	30	0.7087	0.2863
T4	260 - 240	19.317	30	0.6765	0.2491
T5	240 - 220	16.476	30	0.6352	0.2200
T6	220 - 200	13.844	30	0.5854	0.2015
T7	200 - 180	11.435	30	0.5283	0.1870
T8	180 - 160	9.230	30	0.4785	0.1713
T9	160 - 140	7.228	30	0.4244	0.1535
T10	140 - 120	5.470	30	0.3657	0.1385
T11	120 - 100	3.960	30	0.3040	0.1228
T12	100 - 80	2.746	30	0.2441	0.0965
T13	80 - 60	1.765	19	0.1842	0.0745
T14	60 - 30	1.018	24	0.1340	0.0557
T15	30 - 0	0.316	24	0.0601	0.0275

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
320.00	Dual Lights	30	28.635	0.7526	0.4153	223130
318.00	PD128	30	28.313	0.7520	0.4084	223130
315.00	8 FT DISH	30	27.830	0.7509	0.3981	223130
308.00	6 FT DISH	30	26.705	0.7476	0.3740	92971
294.00	DB224	30	24.478	0.7326	0.3251	45004
292.00	PD320	30	24.164	0.7294	0.3191	42281
285.00	DB809	30	23.073	0.7174	0.2990	34892
275.00	OGT9	30	21.544	0.7006	0.2753	32751
257.00	PD440	30	18.881	0.6710	0.2443	34777
250.00	PD128	30	17.875	0.6571	0.2336	27563
243.00	PD320	30	16.891	0.6420	0.2238	22818
220.00	DB844	30	13.844	0.5854	0.2015	21205
200.00	PiROD 12' Lightweight T-Frame	30	11.435	0.5283	0.1870	23648
175.00	6 FT DISH	30	8.709	0.4656	0.1669	23277
140.00	BA1012-0	30	5.470	0.3657	0.1385	20953
138.00	PD156S	30	5.307	0.3596	0.1371	20401
115.00	6 FT DISH	30	3.630	0.2889	0.1169	15847
112.00	2 FT DISH	30	3.441	0.2800	0.1130	16918
105.00	6 FT DISH	30	3.025	0.2591	0.1033	20084
100.00	PD458	30	2.746	0.2441	0.0965	22432
97.00	6 FT DISH	30	2.584	0.2349	0.0928	22563
90.00	4 FT DISH	30	2.227	0.2134	0.0847	21441

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	320	Leg	A325N	1.0000	6	2.45	34.56	0.071 ✓	1.333	Bolt Tension
T2	300	Leg	A325N	1.0000	8	5.37	34.56	0.155 ✓	1.333	Bolt Tension
T3	280	Leg	A325N	1.0000	8	8.84	34.56	0.256 ✓	1.333	Bolt Tension
T4	260	Leg	A325N	1.0000	8	12.62	34.56	0.365 ✓	1.333	Bolt Tension
T5	240	Leg	A325N	1.0000	8	16.67	34.56	0.482 ✓	1.333	Bolt Tension
T6	220	Leg	A325N	1.0000	12	13.91	34.56	0.402 ✓	1.333	Bolt Tension
T7	200	Leg	A325N	1.0000	12	17.25	34.56	0.499 ✓	1.333	Bolt Tension
T8	180	Leg	A325N	1.0000	12	20.69	34.56	0.599 ✓	1.333	Bolt Tension
T9	160	Leg	A325N	1.0000	12	24.21	34.56	0.701 ✓	1.333	Bolt Tension
T10	140	Leg	A325N	1.0000	12	27.55	34.56	0.797 ✓	1.333	Bolt Tension
T11	120	Leg	A325N	1.0000	12	27.96	34.55	0.809 ✓	1.333	Bolt Tension
		Horizontal	A325N	0.7500	2	8.40	9.28	0.906 ✓	1.333	Bolt Shear
T12	100	Leg	A325N	1.0000	16	22.91	34.56	0.663 ✓	1.333	Bolt Tension
		Horizontal	A325N	0.7500	2	9.45	9.28	1.018 ✓	1.333	Bolt Shear
T13	80	Leg	A325N	1.0000	16	25.02	34.56	0.724 ✓	1.333	Bolt Tension
		Horizontal	A325N	0.7500	2	9.45	9.28	1.019 ✓	1.333	Bolt Shear
T14	60	Leg	A325N	1.0000	16	26.51	34.55	0.767 ✓	1.333	Bolt Tension
		Horizontal	A325N	0.8750	2	10.89	12.63	0.863 ✓	1.333	Bolt Shear
T15	30	Leg	A325N	1.0000	24	19.82	34.56	0.573 ✓	1.333	Bolt Tension
		Horizontal	A325N	0.8750	2	11.55	12.63	0.915 ✓	1.333	Bolt Shear

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio P / P_a
T1	320 - 300	ROHN 5 EH	20.00	4.00	26.1 K=1.00	27.622	6.1120	-18.74	168.82	0.111 ✓
T2	300 - 280	ROHN 6 EH	20.03	5.01	27.4 K=1.00	27.470	8.4049	-50.84	230.89	0.220 ✓
T3	280 - 260	ROHN 8 EH	20.04	6.68	27.9 K=1.00	27.414	12.7627	-83.19	349.88	0.238 ✓
T4	260 - 240	ROHN 8 EH	20.03	6.68	27.8 K=1.00	27.415	12.7627	-119.28	349.89	0.341 ✓
T5	240 - 220	ROHN 8 EH	20.03	6.68	27.8 K=1.00	27.415	12.7627	-158.39	349.89	0.453 ✓
T6	220 - 200	ROHN 8 EH	20.03	10.02	41.8 K=1.00	25.582	12.7627	-200.48	326.50	0.614 ✓

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T7	200 - 180	ROHN 10 EH	20.04	10.02	33.1 K=1.00	26.757	16.1007	-250.20	430.80	0.581 ✓
T8	180 - 160	ROHN 10 EH	20.04	10.02	33.1 K=1.00	26.757	16.1007	-300.55	430.81	0.698 ✓
T9	160 - 140	ROHN 10 EH	20.03	10.02	33.1 K=1.00	26.758	16.1007	-352.33	430.82	0.818 ✓
T10	140 - 120	ROHN 10 EH	20.04	10.02	33.1 K=1.00	26.756	16.1007	-402.87	430.79	0.935 ✓
T11	120 - 100	ROHN 10 EH	20.06	10.03	33.2 K=1.00	26.753	16.1007	-412.23	430.74	0.957 ✓
T12	100 - 80	ROHN 10 EH	20.05	10.03	33.2 K=1.00	26.753	16.1007	-452.69	430.75	1.051 ✓
T13	80 - 60	ROHN 12 EH	20.06	10.03	27.8 K=1.00	27.425	19.2423	-495.66	527.71	0.939 ✓
T14	60 - 30	ROHN 12 EH	30.07	10.02	27.8 K=1.00	27.426	19.2423	-537.63	527.74	1.019 ✓
T15	30 - 0	ROHN 12 EHS	30.08	10.03	28.0 K=1.00	27.392	23.8074	-600.87	652.14	0.921 ✓

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	320 - 300	L1 3/4x1 3/4x3/16	7.90	3.68	126.6 K=0.98	9.320	0.6211	-4.35	5.79	0.752 ✓
T2	300 - 280	L2x2x1/4	9.94	4.80	140.9 K=0.96	7.526	0.9380	-5.43	7.06	0.770 ✓
T3	280 - 260	L2 1/2x2 1/2x1/4	12.59	6.09	141.9 K=0.95	7.413	1.1900	-6.60	8.82	0.749 ✓
T4	260 - 240	L3x3x1/4	14.38	6.98	136.4 K=0.96	8.031	1.4400	-8.13	11.57	0.703 ✓
T5	240 - 220	L4x4x5/16	16.19	7.89	119.7 K=1.00	10.418	2.4000	-9.68	25.00	0.387 ✓
T6	220 - 200	L4x4x3/8	19.37	9.56	139.5 K=0.96	7.671	2.8600	-13.32	21.94	0.607 ✓
T7	200 - 180	L4x4x3/8	21.20	10.39	149.2 K=0.94	6.709	2.8600	-15.43	19.19	0.804 ✓
T8	180 - 160	L4x4x3/8	23.06	11.32	160.0 K=0.93	5.834	2.8600	-17.31	16.68	1.038 ✓
T9	160 - 140	L5x5x3/8	24.84	12.19	141.2 K=0.96	7.491	3.6100	-19.91	27.04	0.736 ✓
T10	140 - 120	L5x5x3/8	26.78	13.20	150.5 K=0.94	6.589	3.6100	-20.18	23.79	0.848 ✓
T11	120 - 100	ROHN 3 EH	24.42	23.63	124.8 K=0.50	9.588	3.0159	-32.07	28.92	1.109 ✓
T12	100 - 80	ROHN 3 EH	25.15	24.41	128.9 K=0.50	8.987	3.0159	-33.48	27.10	1.235 ✓
T13	80 - 60	ROHN 3 EH	25.98	25.15	132.8 K=0.50	8.467	3.0159	-31.99	25.54	1.253 ✓

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T14	60 - 30	ROHN 3.5 EH	35.21	34.19	103.6 K=0.33	13.854	3.6784	-46.45	50.96	0.911 ✔
T15	30 - 0	ROHN 3.5 EH	36.27	35.32	107.0 K=0.33	13.033	3.6784	-42.08	47.94	0.878 ✔

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T11	120 - 100	ROHN 3 STD	25.39	12.25	126.3 K=1.00	9.361	2.2285	-16.77	20.86	0.804 ✔
T12	100 - 80	ROHN 3 STD	27.97	13.54	139.6 K=1.00	7.662	2.2285	-18.90	17.07	1.107 ✔
T13	80 - 60	ROHN 3 EH	30.47	14.79	156.2 K=1.00	6.124	3.0159	-18.90	18.47	1.023 ✔
T14	60 - 30	ROHN 3.5 EH	33.14	16.04	147.3 K=1.00	6.883	3.6784	-21.67	25.32	0.856 ✔
T15	30 - 0	ROHN 4 STD	36.80	17.87	142.0 K=1.00	7.401	3.1741	-23.11	23.49	0.984 ✔

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	320 - 300	L1 3/4x1 3/4x3/16	6.81	6.35	182.6 K=0.82	4.480	0.6211	-0.10	2.78	0.034 ✔
T2	300 - 280	L2x2x1/4	6.81	6.35	166.0 K=0.85	5.420	0.9380	-0.11	5.08	0.021 ✔

Redundant Horizontal (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T11	120 - 100	ROHN 1.5 STD	6.35	5.90	113.7 K=1.00	11.550	0.7995	-6.20	9.23	0.672 ✔
T12	100 - 80	ROHN 1.5 STD	6.99	6.54	126.1 K=1.00	9.385	0.7995	-6.81	7.50	0.908 ✔
T13	80 - 60	ROHN 2 STD	7.62	7.09	108.0 K=1.00	12.795	1.0745	-7.45	13.75	0.542 ✔
T14	60 - 30	ROHN 1.5 STD	5.52	4.99	96.2 K=1.00	15.570	0.7995	-8.29	12.45	0.666 ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T15	30 - 0	ROHN 1.5 STD	6.13	5.60	108.0 K=1.00	12.809	0.7995	-9.07	10.24	0.886 ✔

Redundant Horizontal (2) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T14	60 - 30	ROHN 2 EH	11.05	10.52	164.2 K=1.00	5.535	1.4807	-8.17	8.20	0.997 ✔
T15	30 - 0	ROHN 2.5 EH	12.27	11.74	152.4 K=1.00	6.430	2.2535	-9.26	14.49	0.639 ✔

Redundant Diagonal (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T11	120 - 100	ROHN 2 STD	11.52	10.61	161.8 K=1.00	5.702	1.0745	-5.63	6.13	0.918 ✔
T12	100 - 80	ROHN 2 STD	11.86	11.03	168.1 K=1.00	5.283	1.0745	-5.78	5.68	1.017 ✔
T13	80 - 60	ROHN 2 STD	12.18	11.40	173.8 K=1.00	4.944	1.0745	-5.97	5.31	1.124 ✔
T14	60 - 30	ROHN 2 STD	11.15	9.95	151.6 K=1.00	6.496	1.0745	-8.18	6.98	1.171 ✔
T15	30 - 0	ROHN 2 STD	11.41	10.31	157.2 K=1.00	6.046	1.0745	-8.47	6.50	1.303 ✔

Redundant Diagonal (2) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T14	60 - 30	ROHN 2.5 STD	14.46	13.72	173.8 K=1.00	4.943	1.7040	-5.30	8.42	0.630 ✔
T15	30 - 0	ROHN 2.5 STD	15.33	14.63	185.3 K=1.00	4.347	1.7040	-5.67	7.41	0.765 ✔

Inner Bracing Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T11	120 - 100	ROHN 3 STD	12.69	12.69	130.9 K=1.00	8.712	2.2285	-0.30	19.41	0.016 ✓
T12	100 - 80	ROHN 3 STD	13.99	13.99	144.2 K=1.00	7.179	2.2285	-0.34	16.00	0.021 ✓
T13	80 - 60	ROHN 3 STD	15.24	15.24	157.1 K=1.00	6.049	2.2285	-0.34	13.48	0.025 ✓
T14	60 - 30	ROHN 3 STD	16.57	16.57	170.9 K=1.00	5.114	2.2285	-0.40	11.40	0.035 ✓
T15	30 - 0	ROHN 3 STD	18.40	18.40	189.8 K=1.00	4.147	2.2285	-0.42	9.24	0.046 ✓

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	320 - 300	ROHN 5 EH	20.00	4.00	26.1	30.000	6.1120	14.72	183.36	0.080 ✓
T2	300 - 280	ROHN 6 EH	20.03	5.01	27.4	30.000	8.4049	42.92	252.15	0.170 ✓
T3	280 - 260	ROHN 8 EH	20.04	6.68	27.9	30.000	12.7627	70.68	382.88	0.185 ✓
T4	260 - 240	ROHN 8 EH	20.03	6.68	27.8	30.000	12.7627	100.97	382.88	0.264 ✓
T5	240 - 220	ROHN 8 EH	20.03	6.68	27.8	30.000	12.7627	133.35	382.88	0.348 ✓
T6	220 - 200	ROHN 8 EH	20.03	10.02	41.8	30.000	12.7627	166.90	382.88	0.436 ✓
T7	200 - 180	ROHN 10 EH	20.04	10.02	33.1	30.000	16.1007	207.01	483.02	0.429 ✓
T8	180 - 160	ROHN 10 EH	20.04	10.02	33.1	30.000	16.1007	248.31	483.02	0.514 ✓
T9	160 - 140	ROHN 10 EH	20.03	10.02	33.1	30.000	16.1007	290.55	483.02	0.602 ✓
T10	140 - 120	ROHN 10 EH	20.04	10.02	33.1	30.000	16.1007	330.58	483.02	0.684 ✓
T11	120 - 100	ROHN 10 EH	20.06	10.03	33.2	30.000	16.1007	336.53	483.02	0.697 ✓
T12	100 - 80	ROHN 10 EH	20.05	10.03	33.2	30.000	16.1007	367.95	483.02	0.762 ✓
T13	80 - 60	ROHN 12 EH	20.06	10.03	27.8	30.000	19.2423	401.17	577.27	0.695 ✓
T14	60 - 30	ROHN 12 EH	30.07	10.02	27.8	30.000	19.2423	432.96	577.27	0.750 ✓
T15	30 - 0	ROHN 12 EHS	30.08	10.03	28.0	30.000	23.8074	481.08	714.22	0.674 ✓

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

Diagonal Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	F_a	A	Actual P	Allow. P_a	Ratio $\frac{P}{P_a}$
	ft		ft	ft		ksi	in^2	K	K	
T1	320 - 300	L1 3/4x1 3/4x3/16	7.90	3.68	82.2	21.600	0.6211	4.28	13.42	0.319 ✓
T2	300 - 280	L2x2x1/4	9.94	4.80	94.6	21.600	0.9380	5.25	20.26	0.259 ✓
T3	280 - 260	L2 1/2x2 1/2x1/4	12.59	6.09	95.0	21.600	1.1900	6.53	25.70	0.254 ✓
T4	260 - 240	L3x3x1/4	14.38	6.98	90.0	32.500	1.0800	7.97	35.10	0.227 ✓
T5	240 - 220	L4x4x5/16	16.19	7.89	76.3	32.500	1.8000	9.52	58.50	0.163 ✓
T6	220 - 200	L4x4x3/8	19.37	9.56	93.3	32.500	2.1450	13.07	69.71	0.187 ✓
T7	200 - 180	L4x4x3/8	21.20	10.39	101.4	32.500	2.1450	15.38	69.71	0.221 ✓
T8	180 - 160	L4x4x3/8	23.06	11.32	110.5	32.500	2.1450	17.16	69.71	0.246 ✓
T9	160 - 140	L5x5x3/8	24.84	12.19	93.8	32.500	2.7075	19.33	87.99	0.220 ✓
T10	140 - 120	L5x5x3/8	26.78	13.20	101.6	32.500	2.7075	19.72	87.99	0.224 ✓
T11	120 - 100	ROHN 3 EH	24.42	23.63	249.6	30.000	3.0159	30.02	90.48	0.332 ✓
T12	100 - 80	ROHN 3 EH	25.15	24.41	257.8	30.000	3.0159	31.36	90.48	0.347 ✓
T13	80 - 60	ROHN 3 EH	25.98	25.15	265.6	30.000	3.0159	29.21	90.48	0.323 ✓
T14	60 - 30	ROHN 3.5 EH	35.21	34.19	314.0	30.000	3.6784	42.81	110.35	0.388 ✓
T15	30 - 0	ROHN 3.5 EH	36.27	35.32	324.4	30.000	3.6784	40.13	110.35	0.364 ✓

Horizontal Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	F_a	A	Actual P	Allow. P_a	Ratio $\frac{P}{P_a}$
	ft		ft	ft		ksi	in^2	K	K	
T11	120 - 100	ROHN 3 STD	25.39	12.25	126.3	30.000	2.2285	16.80	66.85	0.251 ✓
T12	100 - 80	ROHN 3 STD	27.97	13.54	139.6	30.000	2.2285	18.65	66.85	0.279 ✓
T13	80 - 60	ROHN 3 EH	30.47	14.79	156.2	30.000	3.0159	18.43	90.48	0.204

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T14	60 - 30	ROHN 3.5 EH	33.14	16.04	147.3	30.000	3.6784	21.79	110.35	0.197 ✔
T15	30 - 0	ROHN 4 STD	36.80	17.87	142.0	30.000	3.1741	21.72	95.22	0.228 ✔

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	320 - 300	L1 3/4x1 3/4x3/16	6.81	6.35	141.8	21.600	0.6211	0.07	13.42	0.005 ✔
T2	300 - 280	L2x2x1/4	6.81	6.35	125.1	21.600	0.9380	0.09	20.26	0.004 ✔

Redundant Horizontal (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T11	120 - 100	ROHN 1.5 STD	6.35	5.90	113.7	30.000	0.7995	6.20	23.98	0.259 ✔
T12	100 - 80	ROHN 1.5 STD	6.99	6.54	126.1	30.000	0.7995	6.81	23.98	0.284 ✔
T13	80 - 60	ROHN 2 STD	7.62	7.09	108.0	30.000	1.0745	7.47	32.24	0.232 ✔
T14	60 - 30	ROHN 1.5 STD	5.52	4.99	96.2	30.000	0.7995	8.10	23.98	0.338 ✔
T15	30 - 0	ROHN 1.5 STD	6.13	5.60	108.0	30.000	0.7995	9.10	23.98	0.379 ✔

Redundant Horizontal (2) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T14	60 - 30	ROHN 2 EH	11.05	10.52	164.2	30.000	1.4807	8.10	44.42	0.182 ✔
T15	30 - 0	ROHN 2.5 EH	12.27	11.74	152.4	30.000	2.2535	9.07	67.61	0.134 ✔

Redundant Diagonal (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T11	120 - 100	ROHN 2 STD	11.52	10.61	161.8	30.000	1.0745	5.63	32.24	0.175 ✓
T12	100 - 80	ROHN 2 STD	11.86	11.03	168.1	30.000	1.0745	5.78	32.24	0.179 ✓
T13	80 - 60	ROHN 2 STD	12.18	11.40	173.8	30.000	1.0745	5.96	32.24	0.185 ✓
T14	60 - 30	ROHN 2 STD	11.15	9.95	151.6	30.000	1.0745	8.37	32.24	0.260 ✓
T15	30 - 0	ROHN 2 STD	11.41	10.31	157.2	30.000	1.0745	8.43	32.24	0.262 ✓

Redundant Diagonal (2) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T14	60 - 30	ROHN 2.5 STD	14.46	13.72	173.8	30.000	1.7040	5.36	51.12	0.105 ✓
T15	30 - 0	ROHN 2.5 STD	15.33	14.63	185.3	30.000	1.7040	5.83	51.12	0.114 ✓

Inner Bracing Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T11	120 - 100	ROHN 3 STD	12.69	12.69	130.9	30.000	2.2285	0.28	66.85	0.004 ✓
T12	100 - 80	ROHN 3 STD	13.99	13.99	144.2	30.000	2.2285	0.33	66.85	0.005 ✓
T13	80 - 60	ROHN 3 STD	15.24	15.24	157.1	30.000	2.2285	0.33	66.85	0.005 ✓
T14	60 - 30	ROHN 3 STD	16.57	16.57	170.9	30.000	2.2285	0.36	66.85	0.005 ✓
T15	30 - 0	ROHN 3 STD	18.40	18.40	189.8	30.000	2.2285	0.40	66.85	0.006 ✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
T1	320 - 300	Leg	ROHN 5 EH	1	-18.74	225.04	8.3	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
T2	300 - 280	Leg	ROHN 6 EH	37	-50.84	307.77	16.5	Pass
T3	280 - 260	Leg	ROHN 8 EH	67	-83.19	466.39	17.8	Pass
T4	260 - 240	Leg	ROHN 8 EH	88	-119.28	466.41	25.6	Pass
T5	240 - 220	Leg	ROHN 8 EH	109	-158.39	466.41	34.0	Pass
T6	220 - 200	Leg	ROHN 8 EH	130	-200.48	435.22	46.1	Pass
T7	200 - 180	Leg	ROHN 10 EH	145	-250.20	574.26	43.6	Pass
T8	180 - 160	Leg	ROHN 10 EH	160	-300.55	574.26	52.3	Pass
T9	160 - 140	Leg	ROHN 10 EH	175	-352.33	574.29	61.4	Pass
T10	140 - 120	Leg	ROHN 10 EH	190	-402.87	574.25	70.2	Pass
T11	120 - 100	Leg	ROHN 10 EH	205	-412.23	574.17	71.8	Pass
T12	100 - 80	Leg	ROHN 10 EH	232	-452.69	574.19	78.8	Pass
T13	80 - 60	Leg	ROHN 12 EH	259	-495.66	703.44	70.5	Pass
T14	60 - 30	Leg	ROHN 12 EH	286	-537.63	703.48	76.4	Pass
T15	30 - 0	Leg	ROHN 12 EHS	325	-600.87	869.31	69.1	Pass
T1	320 - 300	Diagonal	L1 3/4x1 3/4x3/16	8	-4.35	7.72	56.4	Pass
T2	300 - 280	Diagonal	L2x2x1/4	47	-5.43	9.41	57.8	Pass
T3	280 - 260	Diagonal	L2 1/2x2 1/2x1/4	74	-6.60	11.76	56.2	Pass
T4	260 - 240	Diagonal	L3x3x1/4	95	-8.13	15.42	52.7	Pass
T5	240 - 220	Diagonal	L4x4x5/16	116	-9.68	33.33	29.0	Pass
T6	220 - 200	Diagonal	L4x4x3/8	137	-13.32	29.25	45.5	Pass
T7	200 - 180	Diagonal	L4x4x3/8	152	-15.43	25.58	60.3	Pass
T8	180 - 160	Diagonal	L4x4x3/8	167	-17.31	22.24	77.8	Pass
T9	160 - 140	Diagonal	L5x5x3/8	182	-19.91	36.05	55.2	Pass
T10	140 - 120	Diagonal	L5x5x3/8	197	-20.18	31.71	63.6	Pass
T11	120 - 100	Diagonal	ROHN 3 EH	223	-32.07	38.55	83.2	Pass
T12	100 - 80	Diagonal	ROHN 3 EH	250	-33.48	36.13	92.7	Pass
T13	80 - 60	Diagonal	ROHN 3 EH	277	-31.99	34.04	94.0	Pass
T14	60 - 30	Diagonal	ROHN 3.5 EH	312	-46.45	67.93	68.4	Pass
T15	30 - 0	Diagonal	ROHN 3.5 EH	351	-42.08	63.90	65.9	Pass
T11	120 - 100	Horizontal	ROHN 3 STD	222	-16.77	27.81	60.3	Pass
T12	100 - 80	Horizontal	ROHN 3 STD	249	-18.90	22.76	83.0	Pass
T13	80 - 60	Horizontal	ROHN 3 EH	276	-18.90	24.62	76.8	Pass
T14	60 - 30	Horizontal	ROHN 3.5 EH	311	-21.67	33.75	64.2	Pass
T15	30 - 0	Horizontal	ROHN 4 STD	350	-23.11	31.31	73.8	Pass
T1	320 - 300	Top Girt	L1 3/4x1 3/4x3/16	6	-0.10	3.71	2.6	Pass
T2	300 - 280	Top Girt	L2x2x1/4	42	-0.11	6.78	1.6	Pass
T11	120 - 100	Redund Horz 1 Bracing	ROHN 1.5 STD	210	-6.20	12.31	50.4	Pass
T12	100 - 80	Redund Horz 1 Bracing	ROHN 1.5 STD	237	-6.81	10.00	68.1	Pass
T13	80 - 60	Redund Horz 1 Bracing	ROHN 2 STD	281	-7.45	18.33	40.7	Pass
T14	60 - 30	Redund Horz 1 Bracing	ROHN 1.5 STD	318	-8.29	16.59	50.0	Pass
T15	30 - 0	Redund Horz 1 Bracing	ROHN 1.5 STD	330	-9.07	13.65	66.4	Pass
T14	60 - 30	Redund Horz 2 Bracing	ROHN 2 EH	292	-8.17	10.93	74.8	Pass
T15	30 - 0	Redund Horz 2 Bracing	ROHN 2.5 EH	331	-9.26	19.31	48.0	Pass
T11	120 - 100	Redund Diag 1 Bracing	ROHN 2 STD	211	-5.63	8.17	68.9	Pass
T12	100 - 80	Redund Diag 1 Bracing	ROHN 2 STD	238	-5.78	7.57	76.3	Pass
T13	80 - 60	Redund Diag 1 Bracing	ROHN 2 STD	282	-5.97	7.08	84.3	Pass
T14	60 - 30	Redund Diag 1 Bracing	ROHN 2 STD	293	-8.18	9.30	87.9	Pass
T15	30 - 0	Redund Diag 1 Bracing	ROHN 2 STD	332	-8.47	8.66	97.8	Pass
T14	60 - 30	Redund Diag 2	ROHN 2.5 STD	294	-5.30	11.23	47.2	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
T15	30 - 0	Bracing Redund Diag 2 Bracing	ROHN 2.5 STD	333	-5.67	9.87	57.4	Pass
T11	120 - 100	Inner Bracing	ROHN 3 STD	231	-0.30	25.88	1.2	Pass
T12	100 - 80	Inner Bracing	ROHN 3 STD	258	-0.34	21.33	1.6	Pass
T13	80 - 60	Inner Bracing	ROHN 3 STD	285	-0.34	17.97	1.9	Pass
T14	60 - 30	Inner Bracing	ROHN 3 STD	324	-0.40	15.19	2.6	Pass
T15	30 - 0	Inner Bracing	ROHN 3 STD	363	-0.42	12.32	3.4	Pass
							Summary	
						Leg (T12)	78.8	Pass
						Diagonal (T13)	94.0	Pass
						Horizontal (T12)	83.0	Pass
						Top Girt (T1)	2.6	Pass
						Redund Horz 1 Bracing (T12)	68.1	Pass
						Redund Horz 2 Bracing (T14)	74.8	Pass
						Redund Diag 1 Bracing (T15)	97.8	Pass
						Redund Diag 2 Bracing (T15)	57.4	Pass
						Inner Bracing (T15)	3.4	Pass
						Bolt Checks	76.4	Pass
						RATING =	**97.8**	**Pass**