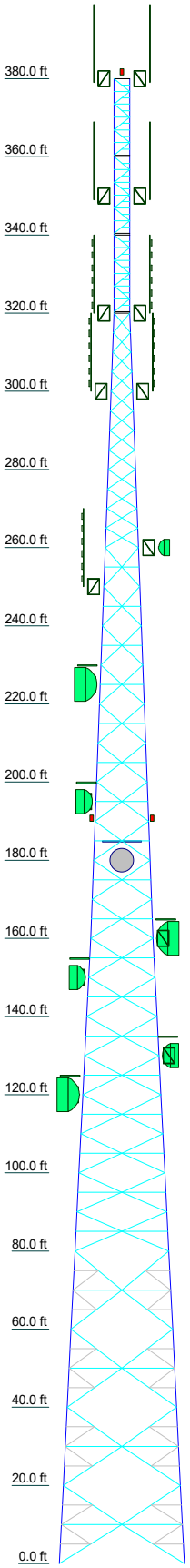
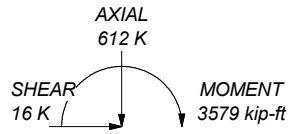
Section	T19	T18	T17	T16	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs	SR 5	SR 4 3/4		SR 4 1/2		SR 4 1/4		SR 4	SR 3 3/4	SR 3 1/2	SR 3 1/4		SR 3	SR 2 3/4		SR 2 1/2	SR 2	SR 1 1/2	
Leg Grade	A572-50																		
Diagonals	L5x5x5/16	L4x4x3/8		L4x4x5/16	L4x4x3/8	L4x4x5/16	L4x4x1/4	L3x3x1/4	L3 1/2x3 1/2x1/4		L3x3x1/4	L3x3x3/16	A	L2x2x3/16			SR 1 1/8		SR 1
Diagonal Grade	A36																		
Top Girts								N.A.								L2x2x1/8	SR 1 1/8		
Bottom Girts								N.A.							N.A.		SR 1		
Horizontals	L4x4x3/8	L4x4x5/16		L4x4x1/4	L3 1/2x3 1/2x1/4		L3x3x1/4	L3x3x3/16	L2 1/2x2 1/2x3/16		L3x3x1/4	L2x2x3/16					SR 1		
Sec. Horizontals						N.A.											SR 1		
Red. Horizontals	L3x3x1/4		L3x3x3/16									N.A.							
Red. Diagonals	L3x3x1/4		L3x3x3/16									N.A.							
Inner Bracing		L4x4x1/4		L3 1/2x3 1/2x1/4								N.A.							
Face Width (ft)	32	30	28	26	24	22	20	18	16	14.5	13	11.5	10	8.5	7	5.5	4		
# Panels @ (ft)			8 @ 10							48 @ 5								18 @ 3.27083	
Weight (K)	79.4	9.2	8.0	7.6	6.7	7.5	6.4	5.2	4.7	4.1	3.7	3.1	2.7	2.2	1.9	1.8	1.5	1.3	1.0	0.9



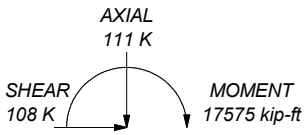
ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 671 K
SHEAR: 66 K

UPLIFT: -565 K
SHEAR: 56 K



TORQUE 16 kip-ft
30.00 mph WIND - 1.50 in ICE



TORQUE 108 kip-ft
REACTIONS - 129.00 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Beacon Lighting	380	Ice Shield for 8' Dish*	230
Lightning Rod 5/8x5'	380	Dish Mount	225
6' Pipe Side Arm*	380	PAD8-65AC	225
6' Pipe Side Arm*	380	Ice Shield for 6' Dish*	200
RFI CC807-11 (209" x 3" Dia.)	380	Dish Mount	195
RFI CC807-11 (209" x 3" Dia.)	380	SB6-W60AC	195
6' Pipe Side Arm*	350	Beacon Lighting	190
6' Pipe Side Arm*	350	Beacon Lighting	190
RFI CC807-11 (209" x 3" Dia.)	350	Ice Shield for 6' Dish*	185
RFI CC807-11 (209" x 3" Dia.)	350	Dish Mount	180
TMA 12" x 12" x 8"	350	SB6-W60AC	180
6' Pipe Side Arm*	320	Ice Shield for 8' Dish*	165
6' Pipe Side Arm*	320	Dish Mount	160
Decibel DB224 (21.25' - 4 elements)*	320	PAD8-65AC	160
Decibel DB224 (21.25' - 4 elements)*	320	Ice Shield for 6' Dish*	155
6' Pipe Side Arm*	300	Dish Mount	150
6' Pipe Side Arm*	300	SB6-W60AC	150
Decibel DB224 (21.25' - 4 elements)*	300	Ice Shield for 6' Dish*	135
Decibel DB224 (21.25' - 4 elements)*	300	Dish Mount	130
6' Pipe Side Arm*	260	SB6-W60AC	130
HPD4-4.7	260	Ice Shield for 8' Dish*	125
6' Pipe Side Arm*	250	Dish Mount	120
Decibel DB224 (21.25' - 4 elements)*	250	PAD8-65AC	120

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	L2 1/2x2 1/2x3/16		

MATERIAL STRENGTH

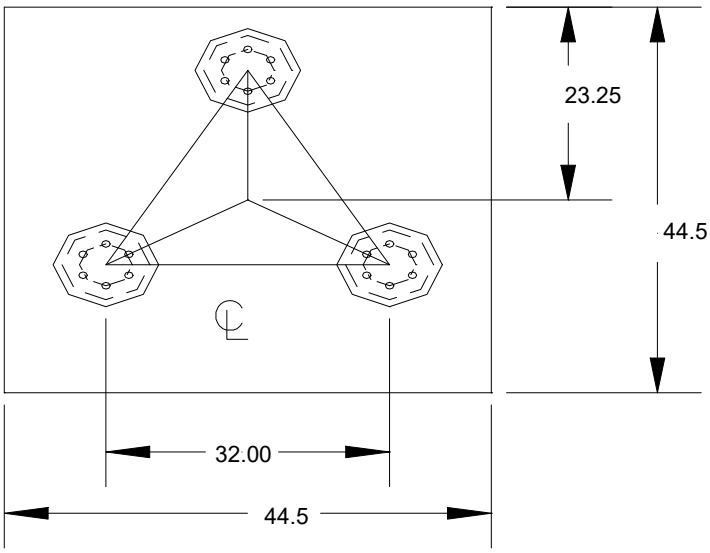
GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower is located in Harnett County, North Carolina.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 129.00 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 30.00 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60.00 mph wind.
6. Tower Risk Category III and IV.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. 140' Fall Radius
9. TOWER RATING: 94%

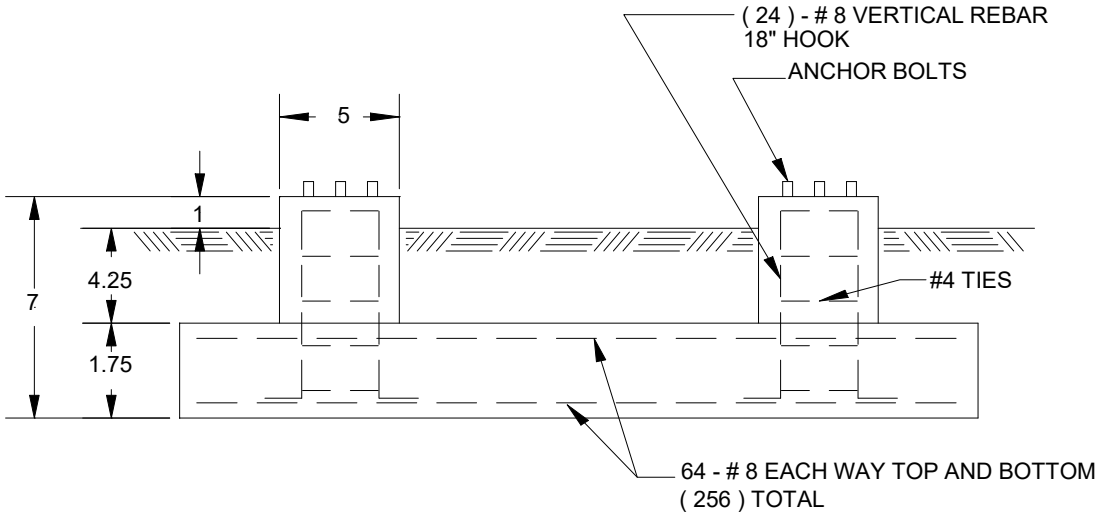
World Tower Company, Inc.
1213 Compressor Drive
Mayfield, KY 42066
Phone: (270) 247-3642
FAX:

Job: ***380' WSST Tower / Run C2007-048***
Project: ***Oakridge River Road***
Client: K-Co Enterprises | Drawn by: Cort Walker | App'd:
Code: TIA-222-G | Date: 07/23/20 | Scale: NTS
Path: \\WorldTower\World tower\Engineering17-\Bid Runs\2020\07 - July\C2007-048 kco 380 sst\Run Data\C2007-048.eri | Dwg No. E-1



139.80 CU. YDS.
CONCRETE REQUIRED

PRELIMINARY - NOT FOR CONSTRUCTION



GENERAL NOTES

1. CONCRETE TO HAVE 4500 PSI MIN. COMPRESSIVE STRENGTH AFTER 28 DAYS.
2. REINFORCEMENT STEEL IS DEFORMED AND MEETS THE REQUIREMENTS OF ASTM A615 GRADE 60.
3. EMBEDDED STEEL TO HAVE 3" MIN. CONCRETE COVER.
4. DESIGN BASED ON SOIL REPORT BY TEP PROJECT NO. 153676.258205 DATED APRIL 2, 2020

OAKRIDGE
TITLE: C2007-048 REVISED

WORLD TOWER COMPANY, INC.

SST Unit Base Foundation

Project #:	
Site Name:	
App. Number:	
TIA-222 Revision:	G

Top & Bot. Pad Rein. Different?:	☐
Tower Centroid Offset?:	☑
Block Foundation?:	☐

Superstructure Analysis Reactions		
Global Moment, **M**:	17575	ft-kips
Global Axial, **P**:	111	kips
Global Shear, **V**:	108	kips
Leg Compression, P_{comp}:	671	kips
Leg Comp. Shear, V_{u_comp}:	66	kips
Leg Uplift, P_{uplift}:	565	kips
Leg Uplift. Shear, V_{u_uplift}:	56	kips
Tower Height, **H**:	380	ft
Base Face Width, **BW**:	32	ft
BP Dist. Above Fdn, bp_{dist}:	6	in

Foundation Analysis Checks				
	Capacity	**Demand**	**Rating**	**Check**
Lateral (Sliding) (kips)	328.26	108.00	**32.9%**	**Pass**
Bearing Pressure (ksf)	6.38	2.10	**32.9%**	**Pass**
*Overturning (kip*ft)*	27052.87	18510.00	**68.4%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	3118.53	346.50	**11.1%**	**Pass**
*Pier Flexure (Tension) (kip*ft)*	1128.14	294.00	**26.1%**	**Pass**
Pier Compression (kip)	11934.36	689.56	**5.8%**	**Pass**
*Pad Flexure (kip*ft)*	3564.00	2877.98	**80.8%**	**Pass**
Pad Shear - 1-way (kips)	835.88	488.26	**58.4%**	**Pass**
Pad Shear - Comp 2-way (ksi)	0.190	0.180	**94.8%**	**Pass**

Pier Properties		
Pier Shape:	Circular	
Pier Diameter, **dpier**:	5.0	ft
Ext. Above Grade, **E**:	1.00	ft
Pier Rebar Size, **Sc**:	8	
Pier Rebar Quantity, **mc**:	24	
Pier Tie/Spiral Size, **St**:	4	
Pier Tie/Spiral Quantity, **mt**:	12	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Soil Rating:	**68.4%**
Structural Rating:	**94.8%**

Pad Properties		
Depth, **D**:	6.00	ft
Pad Width, **W**:	44.50	ft
Pad Thickness, **T**:	1.75	ft
Pad Rebar Size (Bottom), **Sp**:	8	
Pad Rebar Quantity (Bottom), **mp**:	64	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties		
Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	4	ksi
Dry Concrete Density, **δc**:	150	pcf

Soil Properties		
Total Soil Unit Weight, **γ**:	105	pcf
Ultimate Gross Bearing, Qult:	8.500	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, **ϕ**:	0	degrees
SPT Blow Count, N_{blows}:	0	
Base Friction, **μ**:	0.28	
Neglected Depth, **N**:	0.8	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

<-- Toggle between Gross and Net

World Tower Company
1212 Compressor Drive
Mayfield, KY 42066
Phone: (270) 247-3642
FAX: (270) 247-0909

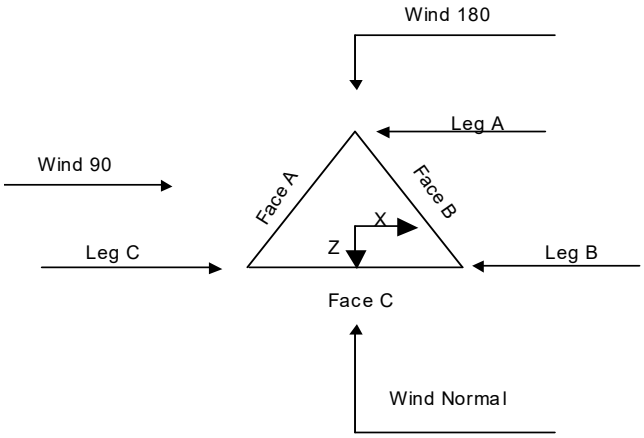
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 380.00 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 4.00 ft at the top and 32.00 ft at the base.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in Harnett County, North Carolina.
ASCE 7-10 Wind Data is used.
Basic wind speed of 129.00 mph.
Risk Category III and IV.
Exposure Category C.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 1.50 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 30.00 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60.00 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned	√	Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area	√	SR Leg Bolts Resist Compression
√	Use Code Stress Ratios	√	Use Clear Spans For KL/r		All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys		Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients	√	Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-G Bracing Resist. Exemption
√	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-G Tension Splice Exemption
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
√	Secondary Horizontal Braces Leg	√	Sort Capacity Reports By Component		Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
√	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole Without Linear Attachments
					Pole With Shroud Or No Appurtenances
					Outside and Inside Corner Radii Are Known



Triangular Tower

Tower Section Geometry

Tower Section	*Tower Elevation*	*Assembly Database*	*Description*	*Section Width*	*Number of Sections*	*Section Length*
	ft			*ft*		*ft*
T1	380.00-360.00			4.00	1	20.00
T2	360.00-340.00			4.00	1	20.00
T3	340.00-320.00			4.00	1	20.00
T4	320.00-300.00			4.00	1	20.00
T5	300.00-280.00			5.50	1	20.00
T6	280.00-260.00			7.00	1	20.00
T7	260.00-240.00			8.50	1	20.00
T8	240.00-220.00			10.00	1	20.00
T9	220.00-200.00			11.50	1	20.00
T10	200.00-180.00			13.00	1	20.00
T11	180.00-160.00			14.50	1	20.00
T12	160.00-140.00			16.00	1	20.00
T13	140.00-120.00			18.00	1	20.00
T14	120.00-100.00			20.00	1	20.00
T15	100.00-80.00			22.00	1	20.00
T16	80.00-60.00			24.00	1	20.00
T17	60.00-40.00			26.00	1	20.00
T18	40.00-20.00			28.00	1	20.00
T19	20.00-0.00			30.00	1	20.00

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T1	380.00-360.00	3.27	K Brace Left	No	Yes+Steps	0.00	4.50
T2	360.00-340.00	3.27	K Brace Left	No	Yes+Steps	0.00	4.50
T3	340.00-320.00	3.27	K Brace Left	No	Yes+Steps	0.00	4.50
T4	320.00-300.00	5.00	X Brace	No	No	0.00	0.00
T5	300.00-280.00	5.00	X Brace	No	No	0.00	0.00
T6	280.00-260.00	5.00	X Brace	No	No	0.00	0.00
T7	260.00-240.00	5.00	Double K	No	Yes	0.00	0.00
T8	240.00-220.00	5.00	Double K	No	Yes	0.00	0.00
T9	220.00-200.00	5.00	Double K	No	Yes	0.00	0.00
T10	200.00-180.00	5.00	Double K	No	Yes	0.00	0.00
T11	180.00-160.00	5.00	Double K	No	Yes	0.00	0.00
T12	160.00-140.00	5.00	Double K	No	Yes	0.00	0.00
T13	140.00-120.00	5.00	Double K	No	Yes	0.00	0.00
T14	120.00-100.00	5.00	Double K	No	Yes	0.00	0.00
T15	100.00-80.00	5.00	Double K	No	Yes	0.00	0.00
T16	80.00-60.00	10.00	Double K1	No	Yes	0.00	0.00
T17	60.00-40.00	10.00	Double K1	No	Yes	0.00	0.00
T18	40.00-20.00	10.00	Double K1	No	Yes	0.00	0.00
T19	20.00-0.00	10.00	Double K1	No	Yes	0.00	0.00

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 380.00-360.00	Solid Round	1 1/2	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T2 360.00-340.00	Solid Round	1 1/2	A572-50 (50 ksi)	Solid Round	1 1/8	A36 (36 ksi)
T3 340.00-320.00	Solid Round	2	A572-50 (50 ksi)	Solid Round	1 1/8	A36 (36 ksi)
T4 320.00-300.00	Solid Round	2 1/2	A572-50 (50 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T5 300.00-280.00	Solid Round	2 3/4	A572-50 (50 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T6 280.00-260.00	Solid Round	2 3/4	A572-50 (50 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T7 260.00-240.00	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T8 240.00-220.00	Solid Round	3 1/4	A572-50 (50 ksi)	Equal Angle	L3x3x3/16	A36 (36 ksi)
T9 220.00-200.00	Solid Round	3 1/4	A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T10 200.00-180.00	Solid Round	3 1/2	A572-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A36 (36 ksi)
T11 180.00-160.00	Solid Round	3 3/4	A572-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A36 (36 ksi)
T12 160.00-140.00	Solid Round	4	A572-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A36 (36 ksi)
T13 140.00-120.00	Solid Round	4	A572-50 (50 ksi)	Equal Angle	L4x4x1/4	A36 (36 ksi)
T14 120.00-100.00	Solid Round	4 1/4	A572-50 (50 ksi)	Equal Angle	L4x4x5/16	A36 (36 ksi)
T15 100.00-80.00	Solid Round	4 1/2	A572-50 (50 ksi)	Equal Angle	L4x4x3/8	A36 (36 ksi)
T16 80.00-60.00	Solid Round	4 1/2	A572-50 (50 ksi)	Equal Angle	L4x4x5/16	A36 (36 ksi)

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T17 60.00-40.00	Solid Round	4 3/4	A572-50 (50 ksi)	Equal Angle	L4x4x3/8	A36 (36 ksi)
T18 40.00-20.00	Solid Round	4 3/4	A572-50 (50 ksi)	Equal Angle	L4x4x3/8	A36 (36 ksi)
T19 20.00-0.00	Solid Round	5	A572-50 (50 ksi)	Equal Angle	L5x5x5/16	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 380.00-360.00	Solid Round	1 1/8	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T2 360.00-340.00	Solid Round	1 1/8	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T3 340.00-320.00	Solid Round	1 1/8	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T4 320.00-300.00	Equal Angle	L2x2x1/8	A36 (36 ksi)	Equal Angle		A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T1 380.00-360.00	None	Single Angle		A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T2 360.00-340.00	None	Single Angle		A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T3 340.00-320.00	None	Single Angle		A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T7 260.00-240.00	None	Single Angle		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T8 240.00-220.00	None	Single Angle		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T9 220.00-200.00	None	Single Angle		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T10 200.00-180.00	None	Single Angle		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T11 180.00-160.00	None	Single Angle		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T12 160.00-140.00	None	Double Angle		A36 (36 ksi)	Equal Angle	L3x3x3/16	A36 (36 ksi)
T13 140.00-120.00	None	Double Angle		A36 (36 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T14 120.00-100.00	None	Double Angle		A36 (36 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A36 (36 ksi)
T15 100.00-80.00	None	Double Angle		A36 (36 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A36 (36 ksi)

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T16 80.00-60.00	None	Double Angle		A36 (36 ksi)	Equal Angle	L4x4x1/4	A36 (36 ksi)
T17 60.00-40.00	None	Double Angle		A36 (36 ksi)	Equal Angle	L4x4x1/4	A36 (36 ksi)
T18 40.00-20.00	None	Double Angle		A36 (36 ksi)	Equal Angle	L4x4x5/16	A36 (36 ksi)
T19 20.00-0.00	None	Double Angle		A36 (36 ksi)	Equal Angle	L4x4x3/8	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T1 380.00-360.00	Solid Round	1	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T2 360.00-340.00	Solid Round	1	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T3 340.00-320.00	Solid Round	1	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T16 80.00-60.00	Equal Angle		A36 (36 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A36 (36 ksi)
T17 60.00-40.00	Equal Angle		A36 (36 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A36 (36 ksi)
T18 40.00-20.00	Equal Angle		A36 (36 ksi)	Equal Angle	L4x4x1/4	A36 (36 ksi)
T19 20.00-0.00	Equal Angle		A36 (36 ksi)	Equal Angle	L4x4x1/4	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Redundant Bracing Grade		Redundant Type	Redundant Size	K Factor
T16 80.00-60.00	A36 (36 ksi)	Horizontal (1)	Equal Angle	L3x3x3/16	1
		Diagonal (1)	Equal Angle	L3x3x3/16	1
T17 60.00-40.00	A36 (36 ksi)	Horizontal (1)	Equal Angle	L3x3x3/16	1
		Diagonal (1)	Equal Angle	L3x3x3/16	1
T18 40.00-20.00	A36 (36 ksi)	Horizontal (1)	Equal Angle	L3x3x3/16	1
		Diagonal (1)	Equal Angle	L3x3x3/16	1
T19 20.00-0.00	A36 (36 ksi)	Horizontal (1)	Equal Angle	L3x3x1/4	1
		Diagonal (1)	Equal Angle	L3x3x1/4	1

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 380.00-360.00	0.00	0.00	A36 (36 ksi)	1	1	1.06	0.00	0.00	36.00
T2 360.00-340.00	0.00	0.00	A36 (36 ksi)	1	1	1.06	0.00	0.00	36.00
T3 340.00-320.00	0.00	0.00	A36 (36 ksi)	1	1	1.06	0.00	0.00	36.00
T4 320.00-300.00	0.00	0.38	A36 (36 ksi)	1	1	1.07	0.00	0.00	36.00
T5 300.00-280.00	0.00	0.38	A36 (36 ksi)	1	1	1.07	0.00	0.00	36.00
T6 280.00-260.00	0.00	0.38	A36 (36 ksi)	1	1	1.07	0.00	0.00	36.00
T7 260.00-240.00	0.00	0.38	A36 (36 ksi)	1	1	1.08	0.00	0.00	36.00
T8 240.00-220.00	0.00	0.38	A36 (36 ksi)	1	1	1.08	0.00	0.00	36.00
T9 220.00-200.00	0.00	0.38	A36 (36 ksi)	1	1	1.08	0.00	0.00	36.00
T10 200.00-180.00	0.00	0.38	A36 (36 ksi)	1	1	1.08	0.00	0.00	36.00
T11 180.00-160.00	0.00	0.38	A36 (36 ksi)	1	1	1.08	0.00	0.00	36.00
T12 160.00-140.00	0.00	0.38	A36 (36 ksi)	1	1	1.08	0.00	0.00	36.00
T13 140.00-120.00	0.00	0.38	A36 (36 ksi)	1	1	1.08	0.00	0.00	36.00
T14 120.00-100.00	0.00	0.38	A36 (36 ksi)	1	1	1.08	0.00	0.00	36.00
T15 100.00-80.00	0.00	0.38	A36 (36 ksi)	1	1	1.08	0.00	0.00	36.00
T16 80.00-60.00	0.00	0.38	A36 (36 ksi)	1	1	1.08	0.00	0.00	36.00
T17 60.00-40.00	0.00	0.38	A36 (36 ksi)	1	1	1.08	0.00	0.00	36.00
T18 40.00-20.00	0.00	0.38	A36 (36 ksi)	1	1	1.08	0.00	0.00	36.00
T19 20.00-0.00	0.00	0.38	A36 (36 ksi)	1	1	1.08	0.00	0.00	36.00

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 380.00-360.00	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T2 360.00-340.00	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T3 340.00-320.00	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T4 320.00-300.00	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T5	Yes	Yes	1	1	1	1	1	1	1	1
300.00-280.00				1	1	1	1	1	1	1
T6	Yes	Yes	1	1	1	1	1	1	1	1
280.00-260.00				1	1	1	1	1	1	1
T7	Yes	Yes	1	1	1	1	1	1	1	1
260.00-240.00				1	1	1	1	1	1	1
T8	Yes	Yes	1	1	1	1	1	1	1	1
240.00-220.00				1	1	1	1	1	1	1
T9	Yes	Yes	1	1	1	1	1	1	1	1
220.00-200.00				1	1	1	1	1	1	1
T10	Yes	Yes	1	1	1	1	1	1	1	1
200.00-180.00				1	1	1	1	1	1	1
T11	Yes	Yes	1	1	1	1	1	1	1	1
180.00-160.00				1	1	1	1	1	1	1
T12	Yes	Yes	1	1	1	1	1	1	1	1
160.00-140.00				1	1	1	1	1	1	1
T13	Yes	Yes	1	1	1	1	1	1	1	1
140.00-120.00				1	1	1	1	1	1	1
T14	Yes	Yes	1	1	1	1	1	1	1	1
120.00-100.00				1	1	1	1	1	1	1
T15	Yes	Yes	1	1	1	1	1	1	1	1
100.00-80.00				1	1	1	1	1	1	1
T16	Yes	Yes	1	1	1	1	1	1	1	1
80.00-60.00				1	1	1	1	1	1	1
T17	Yes	Yes	1	1	1	1	1	1	1	1
60.00-40.00				1	1	1	1	1	1	1
T18	Yes	Yes	1	1	1	1	1	1	1	1
40.00-20.00				1	1	1	1	1	1	1
T19	Yes	Yes	1	1	1	1	1	1	1	1
20.00-0.00				1	1	1	1	1	1	1

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

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Net Width Deduct in	Leg U	Diagonal Net Width Deduct in	Diagonal U	Top Girt Net Width Deduct in	Top Girt U	Bottom Girt Net Width Deduct in	Bottom Girt U	Mid Girt Net Width Deduct in	Mid Girt U	Long Horizontal Net Width Deduct in	Long Horizontal U	Short Horizontal Net Width Deduct in	Short Horizontal U
T1	0.00	1	0.00	1	0.00	1	0.00	1	0.00	0.75	0.00	1	0.00	1
380.00-360.00														
T2	0.00	1	0.00	1	0.00	1	0.00	1	0.00	0.75	0.00	1	0.00	1
360.00-340.00														
T3	0.00	1	0.00	1	0.00	1	0.00	1	0.00	0.75	0.00	1	0.00	1
340.00-320.00														
T4	0.00	1	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75
320.00-300.00														
T5	0.00	1	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75
300.00-280.00														
T6	0.00	1	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75
280.00-260.00														

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T7 260.00-240.00	0.00	1	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75
T8 240.00-220.00	0.00	1	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75
T9 220.00-200.00	0.00	1	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75
T10 200.00-180.00	0.00	1	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75
T11 180.00-160.00	0.00	1	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75
T12 160.00-140.00	0.00	1	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75
T13 140.00-120.00	0.00	1	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75
T14 120.00-100.00	0.00	1	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75
T15 100.00-80.00	0.00	1	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75
T16 80.00-60.00	0.00	1	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75
T17 60.00-40.00	0.00	1	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75
T18 40.00-20.00	0.00	1	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75
T19 20.00-0.00	0.00	1	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	0.75	0.00	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 380.00-360.00	Flange	0.75 A325X	4	0.00 A325X	0	0.00 A325X	0	0.00 A325X	0	0.63 A325X	0	0.00 A325X	0	0.00 A325X	0
T2 360.00-340.00	Flange	0.75 A325X	4	0.00 A325X	0	0.00 A325X	0	0.00 A325X	0	0.63 A325X	0	0.00 A325X	0	0.00 A325X	0
T3 340.00-320.00	Flange	0.75 A325X	4	0.00 A325X	0	0.00 A325X	0	0.00 A325X	0	0.63 A325X	0	0.00 A325X	0	0.00 A325X	0
T4 320.00-300.00	Flange	0.75 A325X	4	0.63 A325X	1	0.63 A325X	1	0.00 A325X	0	0.63 A325X	0	0.00 A325X	0	0.63 A325X	0
T5 300.00-280.00	Flange	1.00 A325X	4	0.63 A325X	1	0.00 A325X	0	0.00 A325X	0	0.63 A325X	0	0.00 A325X	0	0.63 A325X	0
T6 280.00-260.00	Flange	1.00 A325X	4	0.63 A325X	1	0.00 A325X	0	0.00 A325X	0	0.63 A325X	0	0.00 A325X	0	0.63 A325X	0
T7 260.00-240.00	Flange	1.00 A325X	4	0.63 A325X	1	0.00 A325X	0	0.00 A325X	0	0.63 A325X	0	0.63 A325X	1	0.63 A325X	0
T8 240.00-220.00	Flange	1.00 A325X	6	0.63 A325X	1	0.00 A325X	0	0.00 A325X	0	0.63 A325X	0	0.63 A325X	1	0.75 A325X	0
T9 220.00-200.00	Flange	1.00 A325X	6	0.63 A325X	1	0.00 A325X	0	0.00 A325X	0	0.63 A325X	0	0.63 A325X	1	0.75 A325X	0

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T10 200.00-180.00	Flange	1.25 A325X > 1	6	0.63 A325X	1	0.00 A325X	0	0.00 A325X	0	0.63 A325X	0	0.63 A325X	1	0.88 A325X	0
T11 180.00-160.00	Flange	1.25 A325X > 1	6	0.75 A325X	1	0.00 A325X	0	0.00 A325X	0	0.63 A325X	0	0.75 A325X	1	0.88 A325X	0
T12 160.00-140.00	Flange	1.25 A325X > 1	6	0.75 A325X	1	0.00 A325X	0	0.00 A325X	0	0.63 A325X	0	0.75 A325X	1	0.75 A325X	0
T13 140.00-120.00	Flange	1.25 A325X > 1	6	0.75 A325X	1	0.00 A325X	0	0.00 A325X	0	0.63 A325X	0	0.75 A325X	1	0.75 A325X	0
T14 120.00-100.00	Flange	1.25 A325X > 1	6	0.75 A325X	1	0.00 A325X	0	0.00 A325X	0	0.63 A325X	0	0.75 A325X	1	0.75 A325X	0
T15 100.00-80.00	Flange	1.25 A325X > 1	6	0.75 A325X	1	0.00 A325X	0	0.00 A325X	0	0.63 A325X	0	0.75 A325X	1	0.75 A325X	0
T16 80.00-60.00	Flange	1.25 A325X > 1	6	0.75 A325X	1	0.00 A325X	0	0.00 A325X	0	0.63 A325X	0	0.75 A325X	1	0.75 A325X	0
T17 60.00-40.00	Flange	1.50 A325X > 1	6	0.88 A325X	1	0.00 A325X	0	0.00 A325X	0	0.63 A325X	0	0.88 A325X	1	0.75 A325X	0
T18 40.00-20.00	Flange	1.50 A325X > 1	6	0.88 A325X	1	0.00 A325X	0	0.00 A325X	0	0.63 A325X	0	0.88 A325X	1	0.75 A325X	0
T19 20.00-0.00	Flange	1.50 A325X > 1	6	0.88 A325X	1	0.00 A325X	0	0.00 A325X	0	0.63 A325X	0	0.88 A325X	1	0.75 A325X	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
Safety Line 3/8	B	No	No	Ar (CaAa)	5.00 - 380.00	0.00	0.5	1	1	0.50	0.38		0.22
CL	B	No	No	Af (CaAa)	5.00 - 380.00	0.00	0	1	1	0.50	1.00		2.50
W/G LADDER RAIL* ***	A	No	No	Af (CaAa)	5.00 - 380.00	0.00	0	2	2	36.00	2.00		2.50
1 5/8	A	No	No	Ar (CaAa)	350.00 - 380.00	0.00	0	1	1	0.50	1.98		1.04
1 5/8	A	No	No	Ar (CaAa)	5.00 - 350.00	0.00	0	2	1	0.50	1.98		1.04
7/8	A	No	No	Ar (CaAa)	350.00 - 380.00	0.00	0	1	1	0.50	1.11		0.54
7/8	A	No	No	Ar (CaAa)	320.00 - 350.00	0.00	0	2	1	0.50	1.11		0.54
7/8	A	No	No	Ar (CaAa)	300.00 -	0.00	0	4	2	0.50	1.11		0.54

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
7/8	A	No	No	Ar (CaAa)	320.00 250.00 - 300.00	0.00	0	6	3	0.50	1.11		0.54
7/8	A	No	No	Ar (CaAa)	5.00 - 250.00	0.00	0	7	4	0.50	1.11		0.54
1/2	A	No	No	Ar (CaAa)	5.00 - 350.00	0.00	0	1	1	0.50	0.58		0.25
3/8	A	No	No	Ar (CaAa)	5.00 - 260.00	0.00	0	1	1	0.50	0.45		0.09
EW63	A	No	No	Ar (CaAa)	195.00 - 225.00	0.00	0	1	1	0.50	1.57		0.51
EW63	A	No	No	Ar (CaAa)	180.00 - 195.00	0.00	0	2	1	0.50	1.57		0.51
EW63	A	No	No	Ar (CaAa)	160.00 - 180.00	0.00	0	3	2	0.50	1.57		0.51
EW63	A	No	No	Ar (CaAa)	150.00 - 160.00	0.00	0	4	2	0.50	1.57		0.51
EW63	A	No	No	Ar (CaAa)	130.00 - 150.00	0.00	0	5	3	0.50	1.57		0.51
EW63	A	No	No	Ar (CaAa)	120.00 - 130.00	0.00	0	6	3	0.50	1.57		0.51
EW63	A	No	No	Ar (CaAa)	5.00 - 120.00	0.00	0	7	4	0.50	1.57		0.51

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	380.00-360.00	A	0.000	0.000	19.513	0.000	0.13
		B	0.000	0.000	4.083	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
T2	360.00-340.00	A	0.000	0.000	23.183	0.000	0.15
		B	0.000	0.000	4.083	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
T3	340.00-320.00	A	0.000	0.000	26.853	0.000	0.17
		B	0.000	0.000	4.083	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
T4	320.00-300.00	A	0.000	0.000	31.293	0.000	0.19
		B	0.000	0.000	4.083	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
T5	300.00-280.00	A	0.000	0.000	35.733	0.000	0.21
		B	0.000	0.000	4.083	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
T6	280.00-260.00	A	0.000	0.000	35.733	0.000	0.21
		B	0.000	0.000	4.083	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
T7	260.00-240.00	A	0.000	0.000	37.743	0.000	0.22
		B	0.000	0.000	4.083	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
T8	240.00-220.00	A	0.000	0.000	39.640	0.000	0.23
		B	0.000	0.000	4.083	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
T9	220.00-200.00	A	0.000	0.000	42.002	0.000	0.23
		B	0.000	0.000	4.083	0.000	0.05
		C	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
T10	200.00-180.00	A	0.000	0.000	44.363	0.000	0.24
		B	0.000	0.000	4.083	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
T11	180.00-160.00	A	0.000	0.000	48.299	0.000	0.25
		B	0.000	0.000	4.083	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
T12	160.00-140.00	A	0.000	0.000	53.021	0.000	0.27
		B	0.000	0.000	4.083	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
T13	140.00-120.00	A	0.000	0.000	56.170	0.000	0.28
		B	0.000	0.000	4.083	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
T14	120.00-100.00	A	0.000	0.000	60.892	0.000	0.30
		B	0.000	0.000	4.083	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
T15	100.00-80.00	A	0.000	0.000	60.892	0.000	0.30
		B	0.000	0.000	4.083	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
T16	80.00-60.00	A	0.000	0.000	60.892	0.000	0.30
		B	0.000	0.000	4.083	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
T17	60.00-40.00	A	0.000	0.000	60.892	0.000	0.30
		B	0.000	0.000	4.083	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
T18	40.00-20.00	A	0.000	0.000	60.892	0.000	0.30
		B	0.000	0.000	4.083	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
T19	20.00-0.00	A	0.000	0.000	45.669	0.000	0.22
		B	0.000	0.000	3.063	0.000	0.04
		C	0.000	0.000	0.000	0.000	0.00

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	380.00-360.00	A	4.775	0.000	0.000	95.918	0.000	3.54
		B		0.000	0.000	42.286	0.000	1.55
		C		0.000	0.000	0.000	0.000	0.00
T2	360.00-340.00	A	4.749	0.000	0.000	126.300	0.000	4.57
		B		0.000	0.000	42.074	0.000	1.53
		C		0.000	0.000	0.000	0.000	0.00
T3	340.00-320.00	A	4.721	0.000	0.000	156.379	0.000	5.57
		B		0.000	0.000	41.851	0.000	1.52
		C		0.000	0.000	0.000	0.000	0.00
T4	320.00-300.00	A	4.692	0.000	0.000	158.357	0.000	5.13
		B		0.000	0.000	41.616	0.000	1.50
		C		0.000	0.000	0.000	0.000	0.00
T5	300.00-280.00	A	4.660	0.000	0.000	160.478	0.000	5.23
		B		0.000	0.000	41.366	0.000	1.48
		C		0.000	0.000	0.000	0.000	0.00
T6	280.00-260.00	A	4.627	0.000	0.000	159.612	0.000	5.17
		B		0.000	0.000	41.101	0.000	1.47
		C		0.000	0.000	0.000	0.000	0.00
T7	260.00-240.00	A	4.592	0.000	0.000	179.500	0.000	5.73
		B		0.000	0.000	40.817	0.000	1.45
		C		0.000	0.000	0.000	0.000	0.00
T8	240.00-220.00	A	4.554	0.000	0.000	185.242	0.000	5.87

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B		0.000	0.000	40.512	0.000	1.43
		C		0.000	0.000	0.000	0.000	0.00
T9	220.00-200.00	A	4.512	0.000	0.000	199.859	0.000	6.30
		B		0.000	0.000	40.182	0.000	1.40
		C		0.000	0.000	0.000	0.000	0.00
T10	200.00-180.00	A	4.467	0.000	0.000	213.305	0.000	6.70
		B		0.000	0.000	39.823	0.000	1.38
		C		0.000	0.000	0.000	0.000	0.00
T11	180.00-160.00	A	4.418	0.000	0.000	219.965	0.000	6.38
		B		0.000	0.000	39.427	0.000	1.35
		C		0.000	0.000	0.000	0.000	0.00
T12	160.00-140.00	A	4.363	0.000	0.000	219.829	0.000	6.38
		B		0.000	0.000	38.988	0.000	1.32
		C		0.000	0.000	0.000	0.000	0.00
T13	140.00-120.00	A	4.301	0.000	0.000	219.433	0.000	6.33
		B		0.000	0.000	38.492	0.000	1.29
		C		0.000	0.000	0.000	0.000	0.00
T14	120.00-100.00	A	4.230	0.000	0.000	220.846	0.000	6.33
		B		0.000	0.000	37.922	0.000	1.25
		C		0.000	0.000	0.000	0.000	0.00
T15	100.00-80.00	A	4.146	0.000	0.000	217.733	0.000	6.14
		B		0.000	0.000	37.249	0.000	1.21
		C		0.000	0.000	0.000	0.000	0.00
T16	80.00-60.00	A	4.043	0.000	0.000	213.922	0.000	5.91
		B		0.000	0.000	36.426	0.000	1.16
		C		0.000	0.000	0.000	0.000	0.00
T17	60.00-40.00	A	3.909	0.000	0.000	208.969	0.000	5.62
		B		0.000	0.000	35.356	0.000	1.10
		C		0.000	0.000	0.000	0.000	0.00
T18	40.00-20.00	A	3.714	0.000	0.000	201.762	0.000	5.22
		B		0.000	0.000	33.799	0.000	1.01
		C		0.000	0.000	0.000	0.000	0.00
T19	20.00-0.00	A	3.328	0.000	0.000	140.597	0.000	3.34
		B		0.000	0.000	23.030	0.000	0.63
		C		0.000	0.000	0.000	0.000	0.00

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	380.00-360.00	-3.60	-3.03	-0.24	-0.32
T2	360.00-340.00	-4.24	-3.24	-0.38	-0.39
T3	340.00-320.00	-4.58	-3.27	-0.51	-0.45
T4	320.00-300.00	-3.95	-2.99	-1.17	-1.05
T5	300.00-280.00	-4.86	-3.82	-2.43	-2.22
T6	280.00-260.00	-5.46	-4.33	-3.26	-2.99
T7	260.00-240.00	-6.09	-4.91	-5.26	-4.51
T8	240.00-220.00	-6.37	-5.23	-6.24	-5.29
T9	220.00-200.00	-7.06	-5.73	-7.85	-6.39
T10	200.00-180.00	-7.43	-5.88	-8.85	-7.03
T11	180.00-160.00	-8.44	-6.65	-9.81	-7.82
T12	160.00-140.00	-8.70	-7.02	-10.53	-8.45
T13	140.00-120.00	-8.65	-7.16	-11.13	-9.00
T14	120.00-100.00	-8.95	-7.69	-11.80	-9.65
T15	100.00-80.00	-9.18	-7.92	-12.32	-10.09
T16	80.00-60.00	-10.27	-8.83	-13.36	-10.94

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
T17	60.00-40.00	-10.54	-9.09	-13.79	-11.31
T18	40.00-20.00	-10.77	-9.32	-14.16	-11.64
T19	20.00-0.00	-7.83	-6.89	-11.08	-9.21

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	1	Safety Line 3/8	360.00 - 380.00	0.6000	0.1147
T1	2	CL	360.00 - 380.00	0.6000	0.1147
T1	3	W/G LADDER RAIL*	360.00 - 380.00	0.6000	0.1147
T1	6	1 5/8	360.00 - 380.00	0.6000	0.1147
T1	8	7/8	360.00 - 380.00	0.6000	0.1147
T2	1	Safety Line 3/8	340.00 - 360.00	0.6000	0.1151
T2	2	CL	340.00 - 360.00	0.6000	0.1151
T2	3	W/G LADDER RAIL*	340.00 - 360.00	0.6000	0.1151
T2	6	1 5/8	350.00 - 360.00	0.6000	0.1151
T2	7	1 5/8	340.00 - 350.00	0.6000	0.1151
T2	8	7/8	350.00 - 360.00	0.6000	0.1151
T2	9	7/8	340.00 - 350.00	0.6000	0.1151
T2	13	1/2	340.00 - 350.00	0.6000	0.1151
T3	1	Safety Line 3/8	320.00 - 340.00	0.6000	0.1149
T3	2	CL	320.00 - 340.00	0.6000	0.1149
T3	3	W/G LADDER RAIL*	320.00 - 340.00	0.6000	0.1149
T3	7	1 5/8	320.00 - 340.00	0.6000	0.1149
T3	9	7/8	320.00 - 340.00	0.6000	0.1149
T3	13	1/2	320.00 - 340.00	0.6000	0.1149
T4	1	Safety Line 3/8	300.00 - 320.00	0.6000	0.1871
T4	2	CL	300.00 - 320.00	0.6000	0.1871
T4	3	W/G LADDER RAIL*	300.00 - 320.00	0.6000	0.1871
T4	7	1 5/8	300.00 - 320.00	0.6000	0.1871
T4	10	7/8	300.00 -	0.6000	0.1871

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T4	13	1/2	300.00 - 320.00	0.6000	0.1871
T5	1	Safety Line 3/8	280.00 - 300.00	0.6000	0.3213
T5	2	CL	280.00 - 300.00	0.6000	0.3213
T5	3	W/G LADDER RAIL*	280.00 - 300.00	0.6000	0.3213
T5	7	1 5/8	280.00 - 300.00	0.6000	0.3213
T5	11	7/8	280.00 - 300.00	0.6000	0.3213
T5	13	1/2	280.00 - 300.00	0.6000	0.3213
T6	1	Safety Line 3/8	260.00 - 280.00	0.6000	0.3873
T6	2	CL	260.00 - 280.00	0.6000	0.3873
T6	3	W/G LADDER RAIL*	260.00 - 280.00	0.6000	0.3873
T6	7	1 5/8	260.00 - 280.00	0.6000	0.3873
T6	11	7/8	260.00 - 280.00	0.6000	0.3873
T6	13	1/2	260.00 - 280.00	0.6000	0.3873
T7	1	Safety Line 3/8	240.00 - 260.00	0.6000	0.4688
T7	2	CL	240.00 - 260.00	0.6000	0.4688
T7	3	W/G LADDER RAIL*	240.00 - 260.00	0.6000	0.4688
T7	7	1 5/8	240.00 - 260.00	0.6000	0.4688
T7	11	7/8	250.00 - 260.00	0.6000	0.4688
T7	12	7/8	240.00 - 250.00	0.6000	0.4688
T7	13	1/2	240.00 - 260.00	0.6000	0.4688
T7	14	3/8	240.00 - 260.00	0.6000	0.4688
T8	1	Safety Line 3/8	220.00 - 240.00	0.6000	0.4974
T8	2	CL	220.00 - 240.00	0.6000	0.4974
T8	3	W/G LADDER RAIL*	220.00 - 240.00	0.6000	0.4974
T8	7	1 5/8	220.00 - 240.00	0.6000	0.4974
T8	12	7/8	220.00 - 240.00	0.6000	0.4974
T8	13	1/2	220.00 - 240.00	0.6000	0.4974
T8	14	3/8	220.00 - 240.00	0.6000	0.4974
T8	15	EW63	220.00 - 225.00	0.6000	0.4974
T9	1	Safety Line 3/8	200.00 - 220.00	0.6000	0.5255
T9	2	CL	200.00 -	0.6000	0.5255

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T9	3	W/G LADDER RAIL*	200.00 - 220.00	0.6000	0.5255
T9	7	1 5/8	200.00 - 220.00	0.6000	0.5255
T9	12	7/8	200.00 - 220.00	0.6000	0.5255
T9	13	1/2	200.00 - 220.00	0.6000	0.5255
T9	14	3/8	200.00 - 220.00	0.6000	0.5255
T9	15	EW63	200.00 - 220.00	0.6000	0.5255
T10	1	Safety Line 3/8	180.00 - 200.00	0.6000	0.5397
T10	2	CL	180.00 - 200.00	0.6000	0.5397
T10	3	W/G LADDER RAIL*	180.00 - 200.00	0.6000	0.5397
T10	7	1 5/8	180.00 - 200.00	0.6000	0.5397
T10	12	7/8	180.00 - 200.00	0.6000	0.5397
T10	13	1/2	180.00 - 200.00	0.6000	0.5397
T10	14	3/8	180.00 - 200.00	0.6000	0.5397
T10	15	EW63	195.00 - 200.00	0.6000	0.5397
T10	16	EW63	180.00 - 195.00	0.6000	0.5397
T11	1	Safety Line 3/8	160.00 - 180.00	0.6000	0.5593
T11	2	CL	160.00 - 180.00	0.6000	0.5593
T11	3	W/G LADDER RAIL*	160.00 - 180.00	0.6000	0.5593
T11	7	1 5/8	160.00 - 180.00	0.6000	0.5593
T11	12	7/8	160.00 - 180.00	0.6000	0.5593
T11	13	1/2	160.00 - 180.00	0.6000	0.5593
T11	14	3/8	160.00 - 180.00	0.6000	0.5593
T11	17	EW63	160.00 - 180.00	0.6000	0.5593
T12	1	Safety Line 3/8	140.00 - 160.00	0.6000	0.5740
T12	2	CL	140.00 - 160.00	0.6000	0.5740
T12	3	W/G LADDER RAIL*	140.00 - 160.00	0.6000	0.5740
T12	7	1 5/8	140.00 - 160.00	0.6000	0.5740
T12	12	7/8	140.00 - 160.00	0.6000	0.5740
T12	13	1/2	140.00 - 160.00	0.6000	0.5740
T12	14	3/8	140.00 - 160.00	0.6000	0.5740
T12	18	EW63	150.00 -	0.6000	0.5740

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T12	19	EW63	140.00 - 160.00	0.6000	0.5740
T13	1	Safety Line 3/8	120.00 - 150.00	0.6000	0.5841
T13	2	CL	120.00 - 140.00	0.6000	0.5841
T13	3	W/G LADDER RAIL*	120.00 - 140.00	0.6000	0.5841
T13	7	1 5/8	120.00 - 140.00	0.6000	0.5841
T13	12	7/8	120.00 - 140.00	0.6000	0.5841
T13	13	1/2	120.00 - 140.00	0.6000	0.5841
T13	14	3/8	120.00 - 140.00	0.6000	0.5841
T13	19	EW63	130.00 - 140.00	0.6000	0.5841
T13	20	EW63	120.00 - 130.00	0.6000	0.5841
T14	1	Safety Line 3/8	100.00 - 120.00	0.6000	0.5953
T14	2	CL	100.00 - 120.00	0.6000	0.5953
T14	3	W/G LADDER RAIL*	100.00 - 120.00	0.6000	0.5953
T14	7	1 5/8	100.00 - 120.00	0.6000	0.5953
T14	12	7/8	100.00 - 120.00	0.6000	0.5953
T14	13	1/2	100.00 - 120.00	0.6000	0.5953
T14	14	3/8	100.00 - 120.00	0.6000	0.5953
T14	21	EW63	100.00 - 120.00	0.6000	0.5953
T15	1	Safety Line 3/8	80.00 - 100.00	0.6000	0.6000
T15	2	CL	80.00 - 100.00	0.6000	0.6000
T15	3	W/G LADDER RAIL*	80.00 - 100.00	0.6000	0.6000
T15	7	1 5/8	80.00 - 100.00	0.6000	0.6000
T15	12	7/8	80.00 - 100.00	0.6000	0.6000
T15	13	1/2	80.00 - 100.00	0.6000	0.6000
T15	14	3/8	80.00 - 100.00	0.6000	0.6000
T15	21	EW63	80.00 - 100.00	0.6000	0.6000
T16	1	Safety Line 3/8	60.00 - 80.00	0.6000	0.6000
T16	2	CL	60.00 - 80.00	0.6000	0.6000
T16	3	W/G LADDER RAIL*	60.00 - 80.00	0.6000	0.6000
T16	7	1 5/8	60.00 - 80.00	0.6000	0.6000
T16	12	7/8	60.00 - 80.00	0.6000	0.6000
T16	13	1/2	60.00 - 80.00	0.6000	0.6000
T16	14	3/8	60.00 - 80.00	0.6000	0.6000
T16	21	EW63	60.00 - 80.00	0.6000	0.6000
T17	1	Safety Line 3/8	40.00 - 60.00	0.6000	0.6000
T17	2	CL	40.00 - 60.00	0.6000	0.6000
T17	3	W/G LADDER RAIL*	40.00 - 60.00	0.6000	0.6000
T17	7	1 5/8	40.00 - 60.00	0.6000	0.6000
T17	12	7/8	40.00 - 60.00	0.6000	0.6000
T17	13	1/2	40.00 - 60.00	0.6000	0.6000
T17	14	3/8	40.00 - 60.00	0.6000	0.6000
T17	21	EW63	40.00 - 60.00	0.6000	0.6000
T18	1	Safety Line 3/8	20.00 - 40.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T18	2	CL	20.00 - 40.00	0.6000	0.6000
T18	3	W/G LADDER RAIL*	20.00 - 40.00	0.6000	0.6000
T18	7	1 5/8	20.00 - 40.00	0.6000	0.6000
T18	12	7/8	20.00 - 40.00	0.6000	0.6000
T18	13	1/2	20.00 - 40.00	0.6000	0.6000
T18	14	3/8	20.00 - 40.00	0.6000	0.6000
T18	21	EW63	20.00 - 40.00	0.6000	0.6000
T19	1	Safety Line 3/8	5.00 - 20.00	0.6000	0.6000
T19	2	CL	5.00 - 20.00	0.6000	0.6000
T19	3	W/G LADDER RAIL*	5.00 - 20.00	0.6000	0.6000
T19	7	1 5/8	5.00 - 20.00	0.6000	0.6000
T19	12	7/8	5.00 - 20.00	0.6000	0.6000
T19	13	1/2	5.00 - 20.00	0.6000	0.6000
T19	14	3/8	5.00 - 20.00	0.6000	0.6000
T19	21	EW63	5.00 - 20.00	0.6000	0.6000

Discrete Tower Loads

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
Beacon Lighting	C	From Leg	1.00 0 0	0.000	190.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.70 3.10 3.50 4.30	2.70 3.10 3.50 4.30	0.05 0.07 0.09 0.13
Beacon Lighting	B	From Leg	1.00 0 0	0.000	190.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.70 3.10 3.50 4.30	2.70 3.10 3.50 4.30	0.05 0.07 0.09 0.13
Beacon Lighting	A	From Leg	0.00 0 1	0.000	380.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.70 3.10 3.50 4.30	2.70 3.10 3.50 4.30	0.05 0.07 0.09 0.13
Lightning Rod 5/8x5'	B	From Leg	0.00 0 3	0.000	380.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.31 0.83 1.32 1.96	0.31 0.83 1.32 1.96	0.04 0.04 0.05 0.07
***									
6' Pipe Side Arm*	B	From Leg	3.00 0 0	0.000	380.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.72 5.24 6.54 9.80	3.72 5.24 6.54 9.80	0.08 0.11 0.15 0.20
6' Pipe Side Arm*	C	From Leg	3.00 0 0	0.000	380.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.72 5.24 6.54 9.80	3.72 5.24 6.54 9.80	0.08 0.11 0.15 0.20
6' Pipe Side Arm*	B	From Leg	3.00 0 0	0.000	350.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.72 5.24 6.54 9.80	3.72 5.24 6.54 9.80	0.08 0.11 0.15 0.20
6' Pipe Side Arm*	C	From Leg	3.00	0.000	350.00	No Ice	3.72	3.72	0.08

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
			0			1/2" Ice	5.24	5.24	0.11
			0			1" Ice	6.54	6.54	0.15
						2" Ice	9.80	9.80	0.20
6' Pipe Side Arm*	B	From Leg	3.00	0.000	320.00	No Ice	3.72	3.72	0.08
			0			1/2" Ice	5.24	5.24	0.11
			0			1" Ice	6.54	6.54	0.15
						2" Ice	9.80	9.80	0.20
6' Pipe Side Arm*	C	From Leg	3.00	0.000	320.00	No Ice	3.72	3.72	0.08
			0			1/2" Ice	5.24	5.24	0.11
			0			1" Ice	6.54	6.54	0.15
						2" Ice	9.80	9.80	0.20
6' Pipe Side Arm*	B	From Leg	3.00	0.000	300.00	No Ice	3.72	3.72	0.08
			0			1/2" Ice	5.24	5.24	0.11
			0			1" Ice	6.54	6.54	0.15
						2" Ice	9.80	9.80	0.20
6' Pipe Side Arm*	C	From Leg	3.00	0.000	300.00	No Ice	3.72	3.72	0.08
			0			1/2" Ice	5.24	5.24	0.11
			0			1" Ice	6.54	6.54	0.15
						2" Ice	9.80	9.80	0.20
6' Pipe Side Arm*	B	From Leg	3.00	0.000	260.00	No Ice	3.72	3.72	0.08
			0			1/2" Ice	5.24	5.24	0.11
			0			1" Ice	6.54	6.54	0.15
						2" Ice	9.80	9.80	0.20
6' Pipe Side Arm*	C	From Leg	3.00	0.000	250.00	No Ice	3.72	3.72	0.08
			0			1/2" Ice	5.24	5.24	0.11
			0			1" Ice	6.54	6.54	0.15
						2" Ice	9.80	9.80	0.20
***									
Dish Mount	C	From Leg	3.00	10.000	225.00	No Ice	1.62	1.62	0.02
			0			1/2" Ice	2.34	2.34	0.04
			0			1" Ice	2.69	2.69	0.06
						2" Ice	3.42	3.42	0.11
Dish Mount	C	From Leg	3.00	10.000	195.00	No Ice	1.62	1.62	0.02
			0			1/2" Ice	2.34	2.34	0.04
			0			1" Ice	2.69	2.69	0.06
						2" Ice	3.42	3.42	0.11
Dish Mount	A	From Leg	3.00	41.690	180.00	No Ice	1.62	1.62	0.02
			0			1/2" Ice	2.34	2.34	0.04
			0			1" Ice	2.69	2.69	0.06
						2" Ice	3.42	3.42	0.11
Dish Mount	B	From Leg	3.00	0.000	160.00	No Ice	1.62	1.62	0.02
			0			1/2" Ice	2.34	2.34	0.04
			0			1" Ice	2.69	2.69	0.06
						2" Ice	3.42	3.42	0.11
Dish Mount	C	From Leg	3.00	0.000	150.00	No Ice	1.62	1.62	0.02
			0			1/2" Ice	2.34	2.34	0.04
			0			1" Ice	2.69	2.69	0.06
						2" Ice	3.42	3.42	0.11
Dish Mount	B	From Leg	3.00	0.000	130.00	No Ice	1.62	1.62	0.02
			0			1/2" Ice	2.34	2.34	0.04
			0			1" Ice	2.69	2.69	0.06
						2" Ice	3.42	3.42	0.11
Dish Mount	C	From Leg	3.00	0.000	120.00	No Ice	1.62	1.62	0.02
			0			1/2" Ice	2.34	2.34	0.04
			0			1" Ice	2.69	2.69	0.06
						2" Ice	3.42	3.42	0.11
***									

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
RFI CC807-11 (209" x 3" Dia.)	B	From Leg	6.00 0 9	0.000	380.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.00 7.00 8.79 12.43	4.00 7.00 8.79 12.43	0.05 0.09 0.14 0.27
RFI CC807-11 (209" x 3" Dia.)	C	From Leg	6.00 0 9	0.000	380.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.00 7.00 8.79 12.43	4.00 7.00 8.79 12.43	0.05 0.09 0.14 0.27
RFI CC807-11 (209" x 3" Dia.)	B	From Leg	6.00 0 9	0.000	350.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.04 7.00 8.79 12.43	4.04 7.00 8.79 12.43	0.05 0.09 0.14 0.27
RFI CC807-11 (209" x 3" Dia.)	C	From Leg	6.00 0 9	0.000	350.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.04 7.00 8.79 12.43	4.04 7.00 8.79 12.43	0.05 0.09 0.14 0.27
TMA 12" x 12" x 8"	C	From Leg	6.00 0 0	0.000	350.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.20 1.34 1.48 1.79	0.80 0.91 1.04 1.30	0.03 0.04 0.06 0.09
Decibel DB224 (21.25' - 4 elements)*	B	From Leg	6.00 0 10	0.000	320.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.67 10.71 15.83 23.70	5.67 10.71 15.83 23.70	0.05 0.10 0.18 0.21
Decibel DB224 (21.25' - 4 elements)*	C	From Leg	6.00 0 10	0.000	320.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.67 10.71 15.83 23.70	5.67 10.71 15.83 23.70	0.05 0.10 0.18 0.21
Decibel DB224 (21.25' - 4 elements)*	B	From Leg	6.00 0 10	0.000	300.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.67 10.71 15.83 23.70	5.67 10.71 15.83 23.70	0.05 0.10 0.18 0.21
Decibel DB224 (21.25' - 4 elements)*	C	From Leg	6.00 0 10	0.000	300.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.67 10.71 15.83 23.70	5.67 10.71 15.83 23.70	0.05 0.10 0.18 0.21
Decibel DB224 (21.25' - 4 elements)*	C	From Leg	6.00 0 10	0.000	250.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.67 10.71 15.83 23.70	5.67 10.71 15.83 23.70	0.05 0.10 0.18 0.21
***									
Ice Shield for 8' Dish*	C	From Leg	4.00 0 0	0.000	230.00	No Ice 1/2" Ice 1" Ice 2" Ice	15.00 18.75 22.50 30.00	15.00 18.75 22.50 30.00	0.75 1.50 2.25 3.75
Ice Shield for 6' Dish*	C	From Leg	3.00 0 0	0.000	200.00	No Ice 1/2" Ice 1" Ice 2" Ice	9.75 13.10 15.60 23.15	9.75 13.10 15.60 23.15	0.50 1.00 1.50 2.50
Ice Shield for 6' Dish*	A	From Leg	3.00 0 0	0.000	185.00	No Ice 1/2" Ice 1" Ice 2" Ice	9.75 13.10 15.60 23.15	9.75 13.10 15.60 23.15	0.50 1.00 1.50 2.50
Ice Shield for 8' Dish*	B	From Leg	4.00 0 0	0.000	165.00	No Ice 1/2" Ice 1" Ice 2" Ice	15.00 18.75 22.50 30.00	15.00 18.75 22.50 30.00	0.75 1.50 2.25 3.75

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
Ice Shield for 6' Dish*	C	From Leg	3.00 0 0	0.000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	9.75 13.10 15.60 23.15	9.75 13.10 15.60 23.15	0.50 1.00 1.50 2.50
Ice Shield for 6' Dish*	B	From Leg	3.00 0 0	0.000	135.00	No Ice 1/2" Ice 1" Ice 2" Ice	9.75 13.10 15.60 23.15	9.75 13.10 15.60 23.15	0.50 1.00 1.50 2.50
Ice Shield for 8' Dish*	C	From Leg	4.00 0 0	0.000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	15.00 18.75 22.50 30.00	15.00 18.75 22.50 30.00	0.75 1.50 2.25 3.75

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
HPD4-4.7	B	Paraboloid w/Shroud (HP)	From Leg	6.00 0 0	0.000		260.00	4.23	No Ice 1/2" Ice 1" Ice 2" Ice	14.07 14.63 15.19 16.31	0.08 0.15 0.23 0.38
PAD8-65AC	C	Paraboloid w/Shroud (HP)	From Leg	1.00 0 0	10.000		225.00	8.62	No Ice 1/2" Ice 1" Ice 2" Ice	58.32 59.45 60.58 62.85	0.29 0.59 0.90 1.51
SB6-W60AC	C	Paraboloid w/Shroud (HP)	From Leg	1.00 0 0	10.000		195.00	6.23	No Ice 1/2" Ice 1" Ice 2" Ice	30.52 31.34 32.16 33.80	0.20 0.36 0.52 0.84
SB6-W60AC	A	Paraboloid w/Shroud (HP)	From Leg	1.00 0 0	41.690		180.00	6.23	No Ice 1/2" Ice 1" Ice 2" Ice	30.52 31.34 32.16 33.80	0.20 0.36 0.52 0.84
PAD8-65AC	B	Paraboloid w/Shroud (HP)	From Leg	1.00 0 0	0.000		160.00	8.62	No Ice 1/2" Ice 1" Ice 2" Ice	58.32 59.45 60.58 62.85	0.29 0.59 0.90 1.51
SB6-W60AC	C	Paraboloid w/Shroud (HP)	From Leg	1.00 0 0	0.000		150.00	6.23	No Ice 1/2" Ice 1" Ice 2" Ice	30.52 31.34 32.16 33.80	0.20 0.36 0.52 0.84
SB6-W60AC	B	Paraboloid w/Shroud (HP)	From Leg	1.00 0 0	0.000		130.00	6.23	No Ice 1/2" Ice 1" Ice 2" Ice	30.52 31.34 32.16 33.80	0.20 0.36 0.52 0.84
PAD8-65AC	C	Paraboloid w/Shroud (HP)	From Leg	1.00 0 0	0.000		120.00	8.62	No Ice 1/2" Ice 1" Ice	58.32 59.45 60.58	0.29 0.59 0.90

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
									2" Ice	62.85	1.51

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	380	Leg	A325X	0.75	4	2.71	29.82	0.091 ✔	1	Bolt Tension
T2	360	Leg	A325X	0.75	4	8.35	29.82	0.280 ✔	1	Bolt Tension
T3	340	Leg	A325X	0.75	4	17.07	29.82	0.573 ✔	1	Bolt Tension
T4	320	Leg	A325X	0.75	4	21.78	29.82	0.730 ✔	1	Bolt Tension
		Diagonal	A325X	0.63	1	3.60	8.89	0.405 ✔	1	Member Block Shear
		Top Girt	A325X	0.63	1	0.95	5.93	0.160 ✔	1	Member Block Shear
T5	300	Leg	A325X	1.00	4	27.55	53.01	0.520 ✔	1	Bolt Tension
		Diagonal	A325X	0.63	1	3.89	8.89	0.437 ✔	1	Member Block Shear
T6	280	Leg	A325X	1.00	4	33.08	53.01	0.624 ✔	1	Bolt Tension
		Diagonal	A325X	0.63	1	3.96	8.89	0.446 ✔	1	Member Block Shear
T7	260	Leg	A325X	1.00	4	38.32	53.01	0.723 ✔	1	Bolt Tension
		Diagonal	A325X	0.63	1	6.40	10.93	0.586 ✔	1	Member Block Shear
		Horizontal	A325X	0.63	1	3.54	8.89	0.398 ✔	1	Member Block Shear
T8	240	Leg	A325X	1.00	6	29.54	53.01	0.557 ✔	1	Bolt Tension
		Diagonal	A325X	0.63	1	9.01	11.09	0.812 ✔	1	Member Bearing
		Horizontal	A325X	0.63	1	3.93	8.89	0.442 ✔	1	Member Block Shear
T9	220	Leg	A325X	1.00	6	35.07	53.01	0.662 ✔	1	Bolt Tension
		Diagonal	A325X	0.63	1	9.74	15.19	0.641 ✔	1	Bolt Shear
		Horizontal	A325X	0.63	1	4.66	10.93	0.426 ✔	1	Member Block Shear
T10	200	Leg	A325X > 1	1.25	6	40.70	82.83	0.491 ✔	1	Bolt Tension
		Diagonal	A325X	0.63	1	11.65	15.19	0.767 ✔	1	Bolt Shear
		Horizontal	A325X	0.63	1	5.18	10.93	0.473 ✔	1	Member Block Shear
T11	180	Leg	A325X > 1	1.25	6	47.08	82.83	0.568 ✔	1	Bolt Tension
		Diagonal	A325X	0.75	1	11.74	17.84	0.658 ✔	1	Member Bearing
		Horizontal	A325X	0.75	1	5.72	10.16	0.563 ✔	1	Member Block Shear
T12	160	Leg	A325X > 1	1.25	6	52.80	82.83	0.637 ✔	1	Bolt Tension
		Diagonal	A325X	0.75	1	11.68	17.84	0.655 ✔	1	Member Bearing

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
		Horizontal	A325X	0.75	1	6.22	13.38	0.465 ✔	1	Member Bearing
T13	140	Leg	A325X > 1	1.25	6	58.28	82.83	0.704 ✔	1	Bolt Tension
		Diagonal	A325X	0.75	1	13.01	17.84	0.730 ✔	1	Member Bearing
		Horizontal	A325X	0.75	1	6.93	17.84	0.389 ✔	1	Member Bearing
T14	120	Leg	A325X > 1	1.25	6	64.42	82.83	0.778 ✔	1	Bolt Tension
		Diagonal	A325X	0.75	1	15.37	21.87	0.703 ✔	1	Bolt Shear
		Horizontal	A325X	0.75	1	7.70	17.84	0.432 ✔	1	Member Bearing
T15	100	Leg	A325X > 1	1.25	6	70.48	82.83	0.851 ✔	1	Bolt Tension
		Diagonal	A325X	0.75	1	16.21	21.87	0.741 ✔	1	Bolt Shear
		Horizontal	A325X	0.75	1	8.48	17.84	0.475 ✔	1	Member Bearing
T16	80	Leg	A325X > 1	1.25	6	74.66	82.83	0.901 ✔	1	Bolt Tension
		Diagonal	A325X	0.75	1	20.45	21.87	0.935 ✔	1	Bolt Shear
		Horizontal	A325X	0.75	1	9.04	17.84	0.507 ✔	1	Member Bearing
T17	60	Leg	A325X > 1	1.50	6	80.51	119.28	0.675 ✔	1	Bolt Tension
		Diagonal	A325X	0.88	1	20.75	29.77	0.697 ✔	1	Bolt Shear
		Horizontal	A325X	0.88	1	9.81	20.88	0.470 ✔	1	Member Bearing
T18	40	Leg	A325X > 1	1.50	6	86.07	119.28	0.722 ✔	1	Bolt Tension
		Diagonal	A325X	0.88	1	20.85	29.77	0.701 ✔	1	Bolt Shear
		Horizontal	A325X	0.88	1	10.55	26.10	0.404 ✔	1	Member Bearing
T19	20	Leg	A325X > 1	1.50	6	91.53	119.28	0.767 ✔	1	Bolt Tension
		Diagonal	A325X	0.88	1	19.31	26.10	0.740 ✔	1	Member Bearing
		Horizontal	A325X	0.88	1	11.30	29.77	0.380 ✔	1	Bolt Shear

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	380 - 360	1 1/2	20.00	3.27	104.7 K=1.00	1.77	-11.04	35.70	0.309 [1] ✔
T2	360 - 340	1 1/2	20.00	3.27	104.7 K=1.00	1.77	-33.54	35.70	0.940 [1] ✔
T3	340 - 320	2	20.00	3.27	78.5 K=1.00	3.14	-67.01	90.09	0.744 [1] ✔
T4	320 - 300	2 1/2	20.02	5.00	96.1	4.91	-91.33	112.46	0.812 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T5	300 - 280	2 3/4	20.02	5.00	87.4 K=1.00	5.94	-117.08	152.99	0.765 [1]
T6	280 - 260	2 3/4	20.02	5.00	87.4 K=1.00	5.94	-142.38	152.99	0.931 [1]
T7	260 - 240	3	20.02	5.00	80.1 K=1.00	7.07	-166.84	199.04	0.838 [1]
T8	240 - 220	3 1/4	20.02	5.00	73.9 K=1.00	8.30	-196.39	250.37	0.784 [1]
T9	220 - 200	3 1/4	20.02	5.00	73.9 K=1.00	8.30	-232.92	250.37	0.930 [1]
T10	200 - 180	3 1/2	20.02	5.00	68.6 K=1.00	9.62	-272.50	306.80	0.888 [1]
T11	180 - 160	3 3/4	20.02	5.00	64.1 K=1.00	11.04	-315.71	368.18	0.857 [1]
T12	160 - 140	4	20.03	5.01	60.1 K=1.00	12.57	-358.11	434.24	0.825 [1]
T13	140 - 120	4	20.03	5.01	60.1 K=1.00	12.57	-399.34	434.24	0.920 [1]
T14	120 - 100	4 1/4	20.03	5.01	56.6 K=1.00	14.19	-444.14	505.22	0.879 [1]
T15	100 - 80	4 1/2	20.03	5.01	53.4 K=1.00	15.90	-488.91	580.90	0.842 [1]
T16	80 - 60	4 1/2	20.03	5.01	53.4 K=1.00	15.90	-521.17	580.90	0.897 [1]
T17	60 - 40	4 3/4	20.03	5.01	50.6 K=1.00	17.72	-565.52	661.23	0.855 [1]
T18	40 - 20	4 3/4	20.03	5.01	50.6 K=1.00	17.72	-608.54	661.23	0.920 [1]
T19	20 - 0	5	20.03	5.01	48.1 K=1.00	19.64	-651.55	746.17	0.873 [1]

[1] $P_u / \phi P_n$ controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	380 - 360	1	5.17	5.01	168.2 K=0.70	0.79	-3.05	6.27	0.486 [1]
T2	360 - 340	1 1/8	5.17	5.01	149.5 K=0.70	0.99	-6.15	10.05	0.612 [1]
T3	340 - 320	1 1/8	5.17	4.95	147.9 K=0.70	0.99	-7.63	10.27	0.743 [1]
T4	320 - 300	L2x2x3/16	6.52	3.12	101.2 K=1.07	0.71	-3.80	13.51	0.281 [1]
T5	300 - 280	L2x2x3/16	8.45	4.05	123.5 K=1.00	0.71	-3.90	10.38	0.375 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T6	280 - 260	L2x2x3/16	9.70	4.68	142.5 K=1.00	0.71	-4.01	7.95	0.504 [1] ✔
T7	260 - 240	L2 1/2x2 1/2x3/16	7.07	6.60	160.1 K=1.00	0.90	-6.45	7.95	0.811 [1] ✔
T8	240 - 220	L3x3x3/16	7.62	7.15	143.9 K=1.00	1.09	-9.55	11.88	0.803 [1] ✔
T9	220 - 200	L3x3x1/4	8.20	7.74	156.9 K=1.00	1.44	-9.74	13.22	0.737 [1] ✔
T10	200 - 180	L3 1/2x3 1/2x1/4	8.81	8.34	144.2 K=1.00	1.69	-11.65	18.36	0.634 [1] ✔
T11	180 - 160	L3 1/2x3 1/2x1/4	9.43	8.92	154.2 K=1.00	1.69	-12.75	16.06	0.794 [1] ✔
T12	160 - 140	L3 1/2x3 1/2x1/4	10.30	9.77	169.0 K=1.00	1.69	-11.71	13.37	0.876 [1] ✔
T13	140 - 120	L4x4x1/4	11.18	10.66	160.9 K=1.00	1.94	-13.44	16.92	0.794 [1] ✔
T14	120 - 100	L4x4x5/16	12.08	11.56	175.3 K=1.00	2.40	-15.24	17.64	0.864 [1] ✔
T15	100 - 80	L4x4x3/8	13.00	12.46	189.8 K=1.00	2.86	-16.17	17.93	0.901 [1] ✔
T16	80 - 60	L4x4x5/16	16.40	15.83	153.2 K=1.00	2.40	-20.45	23.09	0.886 [1] ✔
T17	60 - 40	L4x4x3/8	17.21	16.59	161.8 K=1.00	2.86	-20.75	24.67	0.841 [1] ✔
T18	40 - 20	L4x4x3/8	18.03	17.42	169.9 K=1.00	2.86	-20.85	22.38	0.932 [1] ✔
T19	20 - 0	L5x5x5/16	18.87	18.25	139.5 K=1.00	3.03	-21.24	35.18	0.604 [1] ✔

[1] P_u / ϕP_n controls

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	380 - 360	1	4.00	3.88	130.2 K=0.70	0.79	-0.22	10.42	0.021 [1] ✔
T2	360 - 340	1	4.00	3.88	130.2 K=0.70	0.79	-0.78	10.42	0.075 [1] ✔
T3	340 - 320	1	4.00	3.83	128.8 K=0.70	0.79	-1.16	10.63	0.109 [1] ✔
T7	260 - 240	L2x2x3/16	9.63	4.54	138.3 K=1.00	0.71	-3.54	8.44	0.419 [1] ✔
T8	240 - 220	L2x2x3/16	11.13	5.28	160.9 K=1.00	0.71	-3.93	6.24	0.630 [1] ✔
T9	220 - 200	L2 1/2x2 1/2x3/16	12.63	6.03	146.2 K=1.00	0.90	-4.66	9.53	0.489 [1] ✔
T10	200 - 180	L2 1/2x2 1/2x3/16	14.13	6.77	164.1 K=1.00	0.90	-5.18	7.56	0.684 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T11	180 - 160	L2 1/2x2 1/2x3/16	15.63	7.49	181.6 K=1.00	0.90	-5.72	6.18	0.925 [1]
T12	160 - 140	L3x3x3/16	17.50	8.42	169.5 K=1.00	1.09	-6.22	8.57	0.725 [1]
T13	140 - 120	L3x3x1/4	19.50	9.42	190.9 K=1.00	1.44	-6.93	8.93	0.776 [1]
T14	120 - 100	L3 1/2x3 1/2x1/4	21.50	10.41	179.9 K=1.00	1.69	-7.70	11.79	0.653 [1]
T15	100 - 80	L3 1/2x3 1/2x1/4	23.50	11.40	197.0 K=1.00	1.69	-8.48	9.83	0.862 [1]
T16	80 - 60	L4x4x1/4	25.00	12.15	183.3 K=1.00	1.94	-9.04	13.04	0.693 [1]
T17	60 - 40	L4x4x1/4	27.00	13.11	198.0 K=1.00	1.94	-9.81	11.18	0.877 [1]
T18	40 - 20	L4x4x5/16	29.00	14.11	214.1 K=1.00	2.40	-10.55	11.83	0.892 [1]
T19	20 - 0	L4x4x3/8	31.00	15.10	230.0 K=1.00	2.86	-11.30	12.21	0.925 [1]

[1] P_u / ϕP_n controls

Secondary Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	380 - 360	1	2.00	1.94	83.9 K=0.90	0.79	-0.00	17.56	0.000 [1]
T2	360 - 340	1	2.00	1.94	83.9 K=0.90	0.79	-0.00	17.56	0.000 [1]
T3	340 - 320	1	2.00	1.92	83.7 K=0.91	0.79	-0.00	17.59	0.000 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	380 - 360	1 1/8	4.00	3.88	115.7 K=0.70	0.99	-0.70	15.91	0.044 [1]
T2	360 - 340	1 1/8	4.00	3.88	115.7 K=0.70	0.99	-1.19	15.91	0.075 [1]
T3	340 - 320	1 1/8	4.00	3.83	114.5 K=0.70	0.99	-2.25	16.15	0.139 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T4	320 - 300	L2x2x1/8	4.00	3.50	112.8 K=1.07	0.48	-1.13	7.94	0.142 [1]

[1] P_u / ϕP_n controls

Bottom Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	380 - 360	1	4.00	3.88	130.2 K=0.70	0.79	-1.04	10.42	0.100 [1]
T2	360 - 340	1	4.00	3.88	130.2 K=0.70	0.79	-1.84	10.42	0.177 [1]
T3	340 - 320	1	4.00	3.83	128.8 K=0.70	0.79	-2.38	10.63	0.224 [1]

[1] P_u / ϕP_n controls

Redundant Horizontal (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T16	80 - 60	L3x3x3/16	6.25	6.06	122.1 K=1.00	1.09	-9.04	15.99	0.565 [1]
T17	60 - 40	L3x3x3/16	6.75	6.55	131.9 K=1.00	1.09	-9.81	14.08	0.697 [1]
T18	40 - 20	L3x3x3/16	7.25	7.05	142.0 K=1.00	1.09	-10.55	12.21	0.864 [1]
T19	20 - 0	L3x3x1/4	7.75	7.54	152.9 K=1.00	1.44	-11.30	13.92	0.812 [1]

[1] P_u / ϕP_n controls

Redundant Diagonal (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T16	80 - 60	L3x3x3/16	8.20	7.96	160.2 K=1.00	1.09	-5.93	9.59	0.618 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T17	60 - 40	L3x3x3/16	8.60	8.35	168.2 K=1.00	1.09	-6.25	8.70	0.718 [1] ✔
T18	40 - 20	L3x3x3/16	9.02	8.77	176.6 K=1.00	1.09	-6.56	7.89	0.831 [1] ✔
T19	20 - 0	L3x3x1/4	9.44	9.18	186.2 K=1.00	1.44	-6.88	9.39	0.733 [1] ✔

[1] P_u / ϕP_n controls

Inner Bracing Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T16	80 - 60	L3 1/2x3 1/2x1/4	12.50	12.50	216.1 K=1.00	1.69	-0.07	8.17	0.009 [1] ✔
T17	60 - 40	L3 1/2x3 1/2x1/4	13.50	13.50	233.4 K=1.00	1.69	-0.07	7.01	0.010 [1] ✔
T18	40 - 20	L4x4x1/4	14.50	14.50	218.9 K=1.00	1.94	-0.07	9.15	0.008 [1] ✔
T19	20 - 0	L4x4x1/4	15.50	15.50	234.0 K=1.00	1.94	-0.07	8.01	0.009 [1] ✔

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	380 - 360	1 1/2	20.00	0.38	12.0	1.77	10.86	79.52	0.137 [1] ✔
T2	360 - 340	1 1/2	20.00	0.38	12.0	1.77	33.41	79.52	0.420 [1] ✔
T3	340 - 320	2	20.00	0.38	9.0	3.14	68.30	141.37	0.483 [1] ✔
T4	320 - 300	2 1/2	20.02	5.00	96.1	4.91	87.11	220.89	0.394 [1] ✔
T5	300 - 280	2 3/4	20.02	5.00	87.4	5.94	110.18	267.28	0.412 [1] ✔
T6	280 - 260	2 3/4	20.02	5.00	87.4	5.94	132.32	267.28	0.495 [1] ✔
T7	260 - 240	3	20.02	5.00	80.1	7.07	153.44	318.09	0.482 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T8	240 - 220	3 1/4	20.02	5.00	73.9	8.30	177.70	373.31	0.476 [1]
T9	220 - 200	3 1/4	20.02	5.00	73.9	8.30	210.61	373.31	0.564 [1]
T10	200 - 180	3 1/2	20.02	5.00	68.6	9.62	244.35	432.95	0.564 [1]
T11	180 - 160	3 3/4	20.02	5.00	64.1	11.04	282.62	497.01	0.569 [1]
T12	160 - 140	4	20.03	5.01	60.1	12.57	317.10	565.49	0.561 [1]
T13	140 - 120	4	20.03	5.01	60.1	12.57	350.81	565.49	0.620 [1]
T14	120 - 100	4 1/4	20.03	5.01	56.6	14.19	386.90	638.38	0.606 [1]
T15	100 - 80	4 1/2	20.03	5.01	53.4	15.90	423.27	715.69	0.591 [1]
T16	80 - 60	4 1/2	20.03	5.01	53.4	15.90	449.16	715.69	0.628 [1]
T17	60 - 40	4 3/4	20.03	5.01	50.6	17.72	484.22	797.42	0.607 [1]
T18	40 - 20	4 3/4	20.03	5.01	50.6	17.72	517.79	797.42	0.649 [1]
T19	20 - 0	5	20.03	5.01	48.1	19.64	550.12	883.57	0.623 [1]

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	380 - 360	1	5.17	5.01	240.3	0.79	3.11	25.45	0.122 [1]
T2	360 - 340	1 1/8	5.17	5.01	213.6	0.99	6.27	32.21	0.195 [1]
T3	340 - 320	1 1/8	5.17	4.95	211.3	0.99	7.84	32.21	0.243 [1]
T4	320 - 300	L2x2x3/16	6.52	3.12	63.5	0.43	3.60	18.74	0.192 [1]
T5	300 - 280	L2x2x3/16	7.57	3.62	73.3	0.43	3.89	18.74	0.208 [1]
T6	280 - 260	L2x2x3/16	9.70	4.68	93.9	0.43	3.96	18.74	0.212 [1]
T7	260 - 240	L2 1/2x2 1/2x3/16	6.81	6.34	102.3	0.57	6.40	24.84	0.258 [1]
T8	240 - 220	L3x3x3/16	7.62	7.15	95.1	0.71	9.01	30.97	0.291 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T9	220 - 200	L3x3x1/4	7.91	7.44	99.8	0.94	9.22	40.86	0.226 [1] ✔
T10	200 - 180	L3 1/2x3 1/2x1/4	8.50	8.03	91.6	1.13	10.90	49.02	0.222 [1] ✔
T11	180 - 160	L3 1/2x3 1/2x1/4	9.12	8.60	98.4	1.10	11.74	48.00	0.245 [1] ✔
T12	160 - 140	L3 1/2x3 1/2x1/4	9.86	9.34	106.5	1.10	11.68	48.00	0.243 [1] ✔
T13	140 - 120	L4x4x1/4	11.18	10.66	105.6	1.29	13.01	56.16	0.232 [1] ✔
T14	120 - 100	L4x4x5/16	11.63	11.10	110.7	1.59	14.91	69.38	0.215 [1] ✔
T15	100 - 80	L4x4x3/8	13.00	12.46	124.9	1.90	15.73	82.60	0.190 [1] ✔
T16	80 - 60	L4x4x5/16	15.62	15.05	148.9	1.59	18.78	69.38	0.271 [1] ✔
T17	60 - 40	L4x4x3/8	17.21	16.59	165.5	1.86	19.24	81.07	0.237 [1] ✔
T18	40 - 20	L4x4x3/8	17.21	16.59	165.6	1.86	19.58	81.07	0.241 [1] ✔
T19	20 - 0	L5x5x5/16	18.03	17.41	135.9	2.04	19.31	88.66	0.218 [1] ✔

[1] P_u / ϕP_n controls

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	380 - 360	1	4.00	3.88	186.0	0.79	0.22	25.45	0.009 [1] ✔
T2	360 - 340	1	4.00	3.88	186.0	0.79	0.83	25.45	0.033 [1] ✔
T3	340 - 320	1	4.00	3.83	184.0	0.79	1.16	25.45	0.046 [1] ✔
T7	260 - 240	L2x2x3/16	9.63	4.54	136.8	0.43	3.54	18.74	0.189 [1] ✔
T8	240 - 220	L2x2x3/16	11.13	5.28	158.3	0.43	3.93	18.74	0.210 [1] ✔
T9	220 - 200	L2 1/2x2 1/2x3/16	12.63	6.03	142.9	0.57	4.66	24.84	0.188 [1] ✔
T10	200 - 180	L2 1/2x2 1/2x3/16	14.13	6.77	160.0	0.57	5.18	24.84	0.208 [1] ✔
T11	180 - 160	L2 1/2x2 1/2x3/16	15.63	7.49	177.1	0.55	5.72	24.08	0.238 [1] ✔
T12	160 - 140	L3x3x3/16	17.50	8.42	164.5	0.69	6.22	30.21	0.206 [1] ✔
T13	140 - 120	L3x3x1/4	19.50	9.42	185.5	0.92	6.93	39.84	0.174 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T14	120 - 100	L3 1/2x3 1/2x1/4	21.50	10.41	174.6	1.10	7.70	48.00	0.160 [1]
T15	100 - 80	L3 1/2x3 1/2x1/4	23.50	11.40	190.9	1.10	8.48	48.00	0.177 [1]
T16	80 - 60	L4x4x1/4	25.00	12.15	118.2	1.29	9.04	56.16	0.161 [1]
T17	60 - 40	L4x4x1/4	27.00	13.11	127.7	1.27	9.81	55.14	0.178 [1]
T18	40 - 20	L4x4x5/16	29.00	14.11	138.4	1.57	10.55	68.10	0.155 [1]
T19	20 - 0	L4x4x3/8	31.00	15.10	149.2	1.86	11.30	81.07	0.139 [1]

[1] $P_u / \phi P_n$ controls

Secondary Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	380 - 360	1	2.00	1.94	93.0	0.79	0.00	25.45	0.000 [1]
T2	360 - 340	1	2.00	1.94	93.0	0.79	0.00	25.45	0.000 [1]
T3	340 - 320	1	2.00	1.92	92.0	0.79	0.00	25.45	0.000 [1]

[1] $P_u / \phi P_n$ controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	380 - 360	1 1/8	4.00	3.88	165.3	0.99	0.76	32.21	0.024 [1]
T2	360 - 340	1 1/8	4.00	3.88	165.3	0.99	1.13	32.21	0.035 [1]
T3	340 - 320	1 1/8	4.00	3.83	163.6	0.99	2.04	32.21	0.063 [1]
T4	320 - 300	L2x2x1/8	4.00	3.50	72.7	0.29	0.95	12.74	0.075 [1]

[1] $P_u / \phi P_n$ controls

Bottom Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	380 - 360	1	4.00	3.88	186.0	0.79	1.10	25.45	0.043 [1] ✔
T2	360 - 340	1	4.00	3.88	186.0	0.79	2.03	25.45	0.080 [1] ✔
T3	340 - 320	1	4.00	3.83	184.0	0.79	2.52	25.45	0.099 [1] ✔

[1] P_u / ϕP_n controls

Redundant Horizontal (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T16	80 - 60	L3x3x3/16	6.25	6.06	77.5	1.09	9.04	35.32	0.256 [1] ✔
T17	60 - 40	L3x3x3/16	6.75	6.55	83.7	1.09	9.81	35.32	0.278 [1] ✔
T18	40 - 20	L3x3x3/16	7.25	7.05	90.1	1.09	10.55	35.32	0.299 [1] ✔
T19	20 - 0	L3x3x1/4	7.75	7.54	97.3	1.44	11.30	46.66	0.242 [1] ✔

[1] P_u / ϕP_n controls

Redundant Diagonal (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T16	80 - 60	L3x3x3/16	8.20	7.96	101.7	1.09	5.93	35.32	0.168 [1] ✔
T17	60 - 40	L3x3x3/16	8.60	8.35	106.8	1.09	6.25	35.32	0.177 [1] ✔
T18	40 - 20	L3x3x3/16	9.02	8.77	112.1	1.09	6.56	35.32	0.186 [1] ✔
T19	20 - 0	L3x3x1/4	9.44	9.18	118.5	1.44	6.88	46.66	0.147 [1] ✔

[1] P_u / ϕP_n controls

Inner Bracing Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T17	60 - 40	L3 1/2x3 1/2x1/4	13.50	13.50	148.6	1.69	0.00	54.76	0.000 [1] ✔

[1] P_u / ϕP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T1	380 - 360	Leg	1 1/2	2	-11.04	35.70	30.9	Pass
T2	360 - 340	Leg	1 1/2	50	-33.54	35.70	94.0	Pass
T3	340 - 320	Leg	2	99	-67.01	90.09	74.4	Pass
T4	320 - 300	Leg	2 1/2	147	-91.33	112.46	81.2	Pass
T5	300 - 280	Leg	2 3/4	177	-117.08	152.99	76.5	Pass
T6	280 - 260	Leg	2 3/4	204	-142.38	152.99	93.1	Pass
T7	260 - 240	Leg	3	231	-166.84	199.04	83.8	Pass
T8	240 - 220	Leg	3 1/4	262	-196.39	250.37	78.4	Pass
T9	220 - 200	Leg	3 1/4	295	-232.92	250.37	93.0	Pass
T10	200 - 180	Leg	3 1/2	328	-272.50	306.80	88.8	Pass
T11	180 - 160	Leg	3 3/4	361	-315.71	368.18	85.7	Pass
T12	160 - 140	Leg	4	394	-358.11	434.24	82.5	Pass
T13	140 - 120	Leg	4	427	-399.34	434.24	92.0	Pass
T14	120 - 100	Leg	4 1/4	460	-444.14	505.22	87.9	Pass
T15	100 - 80	Leg	4 1/2	493	-488.91	580.90	84.2 85.1 (b)	Pass
T16	80 - 60	Leg	4 1/2	526	-521.17	580.90	89.7 90.1 (b)	Pass
T17	60 - 40	Leg	4 3/4	571	-565.52	661.23	85.5	Pass
T18	40 - 20	Leg	4 3/4	616	-608.54	661.23	92.0	Pass
T19	20 - 0	Leg	5	661	-651.55	746.17	87.3	Pass
T1	380 - 360	Diagonal	1	10	-3.05	6.27	48.6	Pass
T2	360 - 340	Diagonal	1 1/8	58	-6.15	10.05	61.2	Pass
T3	340 - 320	Diagonal	1 1/8	106	-7.63	10.27	74.3	Pass
T4	320 - 300	Diagonal	L2x2x3/16	170	-3.80	13.51	28.1 40.5 (b)	Pass
T5	300 - 280	Diagonal	L2x2x3/16	179	-3.90	10.38	37.5 43.7 (b)	Pass
T6	280 - 260	Diagonal	L2x2x3/16	206	-4.01	7.95	50.4	Pass
T7	260 - 240	Diagonal	L2 1/2x2 1/2x3/16	233	-6.45	7.95	81.1	Pass
T8	240 - 220	Diagonal	L3x3x3/16	267	-9.55	11.88	80.3 81.2 (b)	Pass
T9	220 - 200	Diagonal	L3x3x1/4	300	-9.74	13.22	73.7	Pass
T10	200 - 180	Diagonal	L3 1/2x3 1/2x1/4	333	-11.65	18.36	63.4 76.7 (b)	Pass
T11	180 - 160	Diagonal	L3 1/2x3 1/2x1/4	371	-12.75	16.06	79.4	Pass
T12	160 - 140	Diagonal	L3 1/2x3 1/2x1/4	398	-11.71	13.37	87.6	Pass
T13	140 - 120	Diagonal	L4x4x1/4	431	-13.44	16.92	79.4	Pass
T14	120 - 100	Diagonal	L4x4x5/16	465	-15.24	17.64	86.4	Pass
T15	100 - 80	Diagonal	L4x4x3/8	498	-16.17	17.93	90.1	Pass
T16	80 - 60	Diagonal	L4x4x5/16	533	-20.45	23.09	88.6	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
							93.5 (b)	
T17	60 - 40	Diagonal	L4x4x3/8	578	-20.75	24.67	84.1	Pass
T18	40 - 20	Diagonal	L4x4x3/8	623	-20.85	22.38	93.2	Pass
T19	20 - 0	Diagonal	L5x5x5/16	668	-21.24	35.18	60.4	Pass
							74.0 (b)	
T1	380 - 360	Horizontal	1	14	-0.22	10.42	2.1	Pass
T2	360 - 340	Horizontal	1	76	-0.78	10.42	7.5	Pass
T3	340 - 320	Horizontal	1	111	-1.16	10.63	10.9	Pass
T7	260 - 240	Horizontal	L2x2x3/16	235	-3.54	8.44	41.9	Pass
T8	240 - 220	Horizontal	L2x2x3/16	265	-3.93	6.24	63.0	Pass
T9	220 - 200	Horizontal	L2 1/2x2 1/2x3/16	298	-4.66	9.53	48.9	Pass
T10	200 - 180	Horizontal	L2 1/2x2 1/2x3/16	331	-5.18	7.56	68.4	Pass
T11	180 - 160	Horizontal	L2 1/2x2 1/2x3/16	370	-5.72	6.18	92.5	Pass
T12	160 - 140	Horizontal	L3x3x3/16	397	-6.22	8.57	72.5	Pass
T13	140 - 120	Horizontal	L3x3x1/4	436	-6.93	8.93	77.6	Pass
T14	120 - 100	Horizontal	L3 1/2x3 1/2x1/4	463	-7.70	11.79	65.3	Pass
T15	100 - 80	Horizontal	L3 1/2x3 1/2x1/4	496	-8.48	9.83	86.2	Pass
T16	80 - 60	Horizontal	L4x4x1/4	529	-9.04	13.04	69.3	Pass
T17	60 - 40	Horizontal	L4x4x1/4	574	-9.81	11.18	87.7	Pass
T18	40 - 20	Horizontal	L4x4x5/16	619	-10.55	11.83	89.2	Pass
T19	20 - 0	Horizontal	L4x4x3/8	664	-11.30	12.21	92.5	Pass
T1	380 - 360	Secondary Horizontal	1	48	-0.00	17.56	0.3	Pass
T2	360 - 340	Secondary Horizontal	1	96	-0.00	17.56	0.3	Pass
T3	340 - 320	Secondary Horizontal	1	144	-0.00	17.59	0.3	Pass
T1	380 - 360	Top Girt	1 1/8	4	-0.70	15.91	4.4	Pass
T2	360 - 340	Top Girt	1 1/8	52	-1.19	15.91	7.5	Pass
T3	340 - 320	Top Girt	1 1/8	100	-2.25	16.15	13.9	Pass
T4	320 - 300	Top Girt	L2x2x1/8	148	-1.13	7.94	14.2	Pass
							16.0 (b)	
T1	380 - 360	Bottom Girt	1	7	-1.04	10.42	10.0	Pass
T2	360 - 340	Bottom Girt	1	55	-1.84	10.42	17.7	Pass
T3	340 - 320	Bottom Girt	1	103	-2.38	10.63	22.4	Pass
T16	80 - 60	Redund Horz 1 Bracing	L3x3x3/16	554	-9.04	15.99	56.5	Pass
T17	60 - 40	Redund Horz 1 Bracing	L3x3x3/16	576	-9.81	14.08	69.7	Pass
T18	40 - 20	Redund Horz 1 Bracing	L3x3x3/16	644	-10.55	12.21	86.4	Pass
T19	20 - 0	Redund Horz 1 Bracing	L3x3x1/4	689	-11.30	13.92	81.2	Pass
T16	80 - 60	Redund Diag 1 Bracing	L3x3x3/16	555	-5.93	9.59	61.8	Pass
T17	60 - 40	Redund Diag 1 Bracing	L3x3x3/16	600	-6.25	8.70	71.8	Pass
T18	40 - 20	Redund Diag 1 Bracing	L3x3x3/16	645	-6.56	7.89	83.1	Pass
T19	20 - 0	Redund Diag 1 Bracing	L3x3x1/4	690	-6.88	9.39	73.3	Pass
T16	80 - 60	Inner Bracing	L3 1/2x3 1/2x1/4	550	-0.07	8.17	1.9	Pass
T17	60 - 40	Inner Bracing	L3 1/2x3 1/2x1/4	595	-0.07	7.01	2.0	Pass
T18	40 - 20	Inner Bracing	L4x4x1/4	640	-0.07	9.15	1.9	Pass
T19	20 - 0	Inner Bracing	L4x4x1/4	685	-0.07	8.01	1.8	Pass
							Summary	
						Leg (T2)	94.0	Pass
						Diagonal (T16)	93.5	Pass
						Horizontal (T19)	92.5	Pass
						Secondary Horizontal (T1)	0.3	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
						Top Girt (T4)	16.0	Pass
						Bottom Girt (T3)	22.4	Pass
						Redund Horz 1 Bracing (T18)	86.4	Pass
						Redund Diag 1 Bracing (T18)	83.1	Pass
						Inner Bracing (T17)	2.0	Pass
						Bolt Checks	93.5	Pass
						RATING =	**94.0**	**Pass**