

August 27, 2015

Melanie A. Bachman
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

**RE: T-Mobile - Exempt Modification - Crown Site BU: 806376
T-Mobile Site ID: CT11186A
Located at: 1455 Forbes Street, East Hartford, CT 06118**

Dear Ms. Bachman:

This letter and exhibits are submitted on behalf of T-Mobile. T-Mobile is making modifications to certain existing sites in its Connecticut system in order to implement their 700MHz technology. Please accept this letter and exhibits as notification, pursuant to § 16-50j-73 of the Regulations of Connecticut State Agencies (“R.C.S.A.”), of construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In compliance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to The Honorable Marcia A. Leclerc, Mayor for the Town of East Hartford, and Mr. and Mrs. Robert Handel, Property Owners.

T-Mobile plans to modify the existing wireless communications facility owned by Crown Castle and located at **1455 Forbes Street, East Hartford, CT**. Attached are a compound plan and elevation depicting the planned changes (Exhibit-1), and documentation of the structural sufficiency of the structure to accommodate the revised antenna configuration (Exhibit-2). Also included is a power density table report reflecting the modification to T-Mobile’s operations at the site (Exhibit-3).

The changes to the facility do not constitute a modification as defined in Connecticut General Statutes (“C.G.S.”) § 16-50i(d) because the general physical characteristics of the facility will not be significantly changed. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in the R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing tower. T-Mobile’s additional antennas will be located at the same elevation on the existing tower.
2. There will be no proposed modifications to the ground and no extension of boundaries.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more.

Melanie A. Bachman

August 27, 2015

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4. A Structural Modification Report confirming that the tower and foundation can support T-Mobile's proposed modifications is included as Exhibit-2.
5. The operation of the additional antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) adopted safety standard. A cumulative General Power Density table report for T-Mobile's modified facility is included as Exhibit-3.

For the foregoing reasons, T-Mobile respectfully submits the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Kimberly Myl.

Sincerely,



Kimberly Myl
Real Estate Specialist

Enclosures

Tab 1: Exhibit-1: Compound plan and elevation depicting the planned changes

Tab 2: Exhibit-2: Structural Modification Report

Tab 3: Exhibit-3: General Power Density Table Report (RF Emissions Analysis Report)

cc: The Honorable Marcia A. Leclerc, Mayor
Town of East Hartford
740 Main Street
East Hartford, CT 06108

Mr. and Mrs. Robert Handel
1473 Forbes Street
East Hartford, CT 06118

5679

CROWN CASTLE - ETA PROPERTY

3530 TORINGDON WAY, SUITE 300
CHARLOTTE, NC 28277

DATE 8/27/15


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Date: July 28, 2015

Sean Dempsey
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277

Paul J Ford and Company
250 E. Broad Street, Suite 600
Columbus, OH 43215
614.221.6679
jwoolley@pjfweb.com

Subject: Structural Analysis Report

Carrier Designation: *T-Mobile Co-locate*
Carrier Site Number: CT11186A
Carrier Site Name: East Hartford/ Hills_1

Crown Castle Designation:
Crown Castle BU Number: 806376
Crown Castle Site Name: HRT 100 943239
Crown Castle JDE Job Number: 340884
Crown Castle Work Order Number: 1093686
Crown Castle Application Number: 303548 Rev. 1

Engineering Firm Designation: Paul J Ford and Company Project Number: 37515-1502.005.7805

Site Data: 1455 FORBES STREET, EAST HARTFORD, Hartford County, CT
Latitude 41° 43' 53.3", Longitude -72° 36' 28"
131 Foot - Monopole Tower

Dear Sean Dempsey,

Paul J Ford and Company is pleased to submit this "Structural Analysis Report" to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 810352, in accordance with application 303548, revision 1.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:



LC4.7: Existing + Reserved + Proposed Equipment w/ Proposed Modifications **Sufficient Capacity**
Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

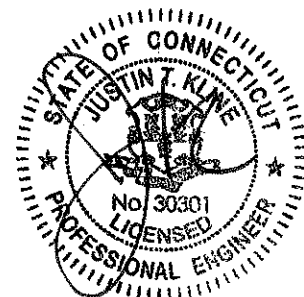
The structural analysis was performed for this tower in accordance with the requirements of the 2005 Connecticut Building Code and the TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 80 mph with no ice, 37.6 mph with 1.25 inch ice thickness and 50 mph under service loads.

All modifications and equipment proposed in this report shall be installed in accordance with the referenced drawings for the determined available structural capacity to be effective.

We at Paul J Ford and Company appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by:


John J. Woolley, E.I.
Structural Designer 



7-28-15

Date: **July 28, 2015**

Sean Dempsey
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277

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250 E. Broad Street, Suite 600
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Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

The structural analysis was performed for this tower in accordance with the requirements of the 2005 Connecticut Building Code and the TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 80 mph with no ice, 37.6 mph with 1.25 inch ice thickness and 50 mph under service loads.

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1) INTRODUCTION

This tower is a 131 ft Monopole tower designed by VALMONT in January of 1999. The tower was originally designed for a wind speed of 90 mph per TIA/EIA-222-F.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of the 2005 Connecticut Building Code and the TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 80 mph with no ice, 37.6 mph with 1.25 inch ice thickness and 50 mph under service loads.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
87.0	87.0	3	commscope	LNx-6515DS-VTM w/ Mount Pipe	-	-	-
		3	ericsson	RRUS 11 B12			
		1	tower mounts	Site Pro1 RMV12-396 [TA 602-3]			

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note	
128.0	128.0	3	rfs	APX18-206517S-C w/ Mount Pipe	6	1-5/8	3	
		1	tower mounts	Pipe Mount [PM 601-3]				
121.0	121.0	3	ericsson	RRUS 11 B2	1 2 6	3/8 3/4 1-1/4	1	
		3	ericsson	RRUS-11				
		3	kathrein	800 10121 w/ Mount Pipe				
		3	kmw communications	AM-X-CD-16-65-00T-RET w/ Mount Pipe				
		6	powerwave technologies	LGP21401				
		1	raycap	DC6-48-60-18-8F				
		1	tower mounts	T-Arm Mount [TA 601-3]				
107.0	111.0	3	antel	BXA-70063/6CFx4	12	1-5/8	1	
		3	antel	BXA-80063/4CF				
		1	rfs celwave	DB-T1-6Z-8AB-0Z				
		3	alcatel lucent	RRH2X60-AWS				
		3	alcatel lucent	RRH2X60-PCS				
		6	andrew	SBNHH-1D65B				
	107.0	107.0	1	rfs celwave	DB-T1-6Z-8AB-0Z	2	1-5/8	2
			3	alcatel lucent	RRH2x60-700			
			6	rfs celwave	FD9R6004/2C-3L			
		1	tower mounts	Platform Mount (LP 101-1)	-	-	1	

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
99.0	100.0	3	alcatel lucent	800MHz 2X50W RRH W/FILTER	-	-	1
	99.0	3	alcatel lucent	PCS 1900MHz 4x45W-65MHz			
		1	tower mounts	Side Arm Mount [SO 101-3]			
	98.0	3	alcatel lucent	PCS 1900MHz 4x45W-65MHz			
97.0	101.0	2	andrew	VHLP2.5-11	3 3 3	1-1/4 1/2 5/16	1
		2	dragonwave	HORIZON COMPACT			
	97.0	3	kathrein	840 10054			
		1	motorola	TIMING 2000			
		3	rfs celwave	APXVSP18-C-A20			
		3	rfs celwave	IBC1900BB-1			
		3	rfs celwave	IBC1900HG-2A			
		3	samsung telecommunications	WIMAX DAP HEAD			
		1	tower mounts	Platform Mount (LP 101-1)			
87.0	87.0	3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	12 1	1-1/4 1-5/8	1
		3	ericsson	ERICSSON AIR 21 B4A B2P w/ Mount Pipe			
		3	ericsson	KRY 112 144/1			
		1	tower mounts	T-Arm Mount [TA 702-3]			

Notes:

- 1) Existing Equipment
- 2) Reserved Equipment
- 3) Equipment to be Removed.

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	Dr. Welti, 11/11/91	262381	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Valmont, 10613-91 & 10614-91, 11/30/91	262389	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Valmont, 1/22/91	262386	CCISITES
4-POST-MODIFICATION INSPECTION	TEP, 127151, 2/26/2013	3675451	CCISITES
4-POST-MODIFICATION INSPECTION	TEP, 25676, 6/4/2014	5099148	CCISITES
PROPOSED MODIFICATION DRAWINGS	PJF, 37515-1502.004.7700, 5/12/15	5681337	CCISITES

3.1) Analysis Method

tnxTower (version 6.1.4.1), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

- 1) Tower and structures were built in accordance with the manufacturer's specifications.
- 2) The tower and structures have been maintained in accordance with the manufacturer's specification.
- 3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
- 4) Monopole was reinforced in conformance with the referenced modification drawings.
- 5) Monopole will be reinforced in conformance with the referenced proposed modification drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Paul J Ford and Company should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	131 - 110	Pole	TP15.525x10.525x0.1875	1	-1.75	481.40	29.3	Pass
L2	110 - 90	Pole	TP20.528x15.525x0.25	2	-7.68	848.63	82.7	Pass
L3	90 - 84.5833	Pole	TP21.883x20.528x0.4767	3	-10.09	1248.87	71.7	Pass
L4	84.5833 - 83	Pole	TP22.2791x21.883x0.6243	4	-10.39	1655.17	58.2	Pass
L5	83 - 81	Pole	TP22.7794x22.2791x0.3895	5	-10.68	1401.50	72.1	Pass
L6	81 - 70	Pole	TP25.531x22.7794x0.5101	6	-11.94	1423.83	87.3	Pass
L7	70 - 67.0833	Pole	TP25.7604x23.5102x0.4353	7	-13.61	1778.28	82.3	Pass
L8	67.0833 - 64.0833	Pole	TP26.5107x25.7604x0.4313	8	-14.15	1816.65	85.0	Pass
L9	64.0833 - 61.0833	Pole	TP27.2611x26.5107x0.4752	9	-14.73	1940.17	83.9	Pass
L10	61.0833 - 59.5	Pole	TP27.6571x27.2611x0.6039	10	-15.09	2019.29	83.4	Pass
L11	59.5 - 53.5	Pole	TP29.1578x27.6571x0.699	11	-16.66	2320.75	79.5	Pass
L12	53.5 - 44.5833	Pole	TP31.388x29.1578x0.6831	12	-19.07	2431.66	84.2	Pass
L13	44.5833 - 40.5	Pole	TP32.4093x31.388x0.6692	13	-20.22	2465.96	86.6	Pass
L14	40.5 - 39	Pole	TP32.7844x32.4093x0.6987	14	-20.65	2623.92	82.7	Pass
L15	39 - 31.5	Pole	TP34.0326x32.7844x0.7154	15	-22.96	2791.17	84.9	Pass
L16	31.5 - 25.5	Pole	TP35.5312x34.0326x0.6073	16	-24.65	2889.82	85.6	Pass
L17	25.5 - 23.5	Pole	TP36.0307x35.5312x0.6534	17	-25.26	3054.93	82.4	Pass
L18	23.5 - 18.75	Pole	TP37.217x36.0307x0.5424	18	-26.54	2946.96	87.9	Pass
L19	18.75 - 17.0833	Pole	TP37.6333x37.217x0.6846	19	-27.09	3536.45	74.7	Pass
L20	17.0833 - 13	Pole	TP38.6531x37.6333x0.5929	20	-28.02	3145.49	85.3	Pass
L21	13 - 10.5	Pole	TP39.2775x38.6531x0.7508	21	-28.33	3857.89	70.6	Pass
L22	10.5 - 0	Pole	TP41.9x39.2775x0.5542	22	-29.25	2934.09	93.4	Pass
							Summary	
						Pole (L22)	93.4	Pass
						RATING =	93.4	Pass

Table 5 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	98.1	Pass
1	Base Plate	0	70.5	Pass
1	Base Foundation Structural Steel	0	57.7	Pass
1, 2	Base Foundation Soil Interaction	0	68.0	Pass
1	Flange Connection	110	22.8	Pass

Structure Rating (max from all components) =	98.1%
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Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

Reinforce the structure as shown in PJF job 37515-1502.004.7700, dated 5/12/15 and remove all equipment, feed lines, and mounts at 128'.

APPENDIX A
TNXTOWER OUTPUT

Tower Input Data

There is a pole section.

This tower is designed using the TIA/EIA-222-F standard.

The following design criteria apply:

- 1) Tower is located in Hartford County, Connecticut.
- 2) Basic wind speed of 80 mph.
- 3) Nominal ice thickness of 1.2500 in.
- 4) Ice thickness is considered to increase with height.
- 5) Ice density of 56.00 pcf.
- 6) A wind speed of 38 mph is used in combination with ice.
- 7) Temperature drop of 50 °F.
- 8) Deflections calculated using a wind speed of 50 mph.
- 9) A non-linear (P-delta) analysis was used.
- 10) Pressures are calculated at each section.
- 11) Stress ratio used in pole design is 1.333.
- 12) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification ✓ Use Code Stress Ratios ✓ Use Code Safety Factors - Guys ✓ Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) Add IBC .6D+W Combination	Distribute Leg Loads As Uniform Assume Legs Pinned ✓ Assume Rigid Index Plate ✓ Use Clear Spans For Wind Area ✓ Use Clear Spans For KL/r Retension Guys To Initial Tension ✓ Bypass Mast Stability Checks ✓ Use Azimuth Dish Coefficients ✓ Project Wind Area of Appurt. Autocalc Torque Arm Areas SR Members Have Cut Ends Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Use TIA-222-G Tension Splice Capacity Exemption	Treat Feedline Bundles As Cylinder Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation ✓ Consider Feedline Torque Include Angle Block Shear Check <div style="text-align: center; background-color: #e0e0e0; padding: 2px;">Poles</div> ✓ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets
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Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	131.0000- 110.0000	21.0000	0.00	12	10.5250	15.5250	0.1875	0.7500	A572-65 (65 ksi)
L2	110.0000- 90.0000	20.0000	0.00	12	15.5250	20.5280	0.2500	1.0000	A572-65 (65 ksi)
L3	90.0000- 84.5833	5.4167	0.00	12	20.5280	21.8830	0.4767	1.9069	Reinf 47.52 ksi (48 ksi)
L4	84.5833- 83.0000	1.5833	0.00	12	21.8830	22.2791	0.6243	2.4972	Reinf 47.54 ksi (48 ksi)
L5	83.0000- 81.0000	2.0000	0.00	12	22.2791	22.7794	0.3895	1.5578	Reinf 62.41 ksi (62 ksi)
L6	81.0000- 70.0000	11.0000	4.00	12	22.7794	25.5310	0.5101	2.0405	Reinf 45.12 ksi (45 ksi)
L7	70.0000- 67.0833	6.9167	0.00	12	23.5101	25.7604	0.4353	1.7411	Reinf 62.64 ksi (63 ksi)
L8	67.0833- 64.0833	3.0000	0.00	12	25.7604	26.5107	0.4313	1.7250	Reinf 62.72 ksi (63 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L9	64.0833- 61.0833	3.0000	0.00	12	26.5107	27.2611	0.4752	1.9007	Reinf 59.19 ksi (59 ksi)
L10	61.0833- 59.5000	1.5833	0.00	12	27.2611	27.6571	0.6039	2.4158	Reinf 47.99 ksi (48 ksi)
L11	59.5000- 53.5000	6.0000	0.00	12	27.6571	29.1578	0.6990	2.7960	Reinf 45.30 ksi (45 ksi)
L12	53.5000- 44.5833	8.9167	0.00	12	29.1578	31.3880	0.6831	2.7322	Reinf 45.02 ksi (45 ksi)
L13	44.5833- 40.5000	4.0833	0.00	12	31.3880	32.4093	0.6692	2.6768	Reinf 45.08 ksi (45 ksi)
L14	40.5000- 39.0000	1.5000	0.00	12	32.4093	32.7844	0.6987	2.7946	Reinf 45.45 ksi (45 ksi)
L15	39.0000- 31.5000	7.5000	0.00	12	32.7844	34.0326	0.7154	2.8616	Reinf 45.47 ksi (45 ksi)
L16	31.5000- 25.5000	6.0000	0.00	12	34.0326	35.5311	0.6073	2.4290	Reinf 52.91 ksi (53 ksi)
L17	25.5000- 23.5000	2.0000	0.00	12	35.5311	36.0307	0.6534	2.6134	Reinf 51.32 ksi (51 ksi)
L18	23.5000- 18.7500	4.7500	0.00	12	36.0307	37.2170	0.5424	2.1698	Reinf 57.52 ksi (58 ksi)
L19	18.7500- 17.0833	1.6667	0.00	12	37.2170	37.6333	0.6846	2.7382	Reinf 54.29 ksi (54 ksi)
L20	17.0833- 13.0000	4.0833	0.00	12	37.6333	38.6531	0.5929	2.3716	Reinf 54.49 ksi (54 ksi)
L21	13.0000- 10.5000	2.5000	0.00	12	38.6531	39.2775	0.7508	3.0032	Reinf 52.64 ksi (53 ksi)
L22	10.5000- 0.0000	10.5000		12	39.2775	41.9000	0.5542	2.2167	Reinf 53.09 ksi (53 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
L1	10.8963	6.2413	85.1314	3.7008	5.4520	15.6148	172.4993	3.0718	2.3182	12.364
	16.0727	9.2600	278.0397	5.4908	8.0419	34.5737	563.3838	4.5575	3.6582	19.51
L2	16.0727	12.2964	366.2060	5.4684	8.0419	45.5370	742.0327	6.0519	3.4907	13.963
	21.2521	16.3238	856.7561	7.2595	10.6335	80.5714	1736.0201	8.0341	4.8315	19.326
L3	21.2521	30.7795	1579.5432	7.1784	10.6335	148.5440	3200.5827	15.1487	4.2239	8.86
	22.6549	32.8594	1921.8885	7.6634	11.3354	169.5476	3894.2672	16.1724	4.5870	9.622
L4	22.6549	42.7352	2465.1574	7.6106	11.3354	217.4744	4995.0772	21.0330	4.1915	6.714
	23.0650	43.5314	2605.5216	7.7524	11.5405	225.7710	5279.4932	21.4248	4.2977	6.884
L5	23.0650	27.4502	1678.8311	7.8365	11.5405	145.4724	3401.7670	13.5102	4.9271	12.651
	23.5829	28.0776	1796.5942	8.0156	11.7997	152.2576	3640.3869	13.8189	5.0611	12.996
L6	23.5829	36.5791	2315.4200	7.9724	11.7997	196.2270	4691.6686	18.0031	4.7377	9.288
	26.4316	41.0990	3284.1419	8.9575	13.2251	248.3272	6654.5619	20.2277	5.4752	10.733
L7	25.6867	32.3410	2197.9556	8.2608	12.1783	180.4819	4453.6539	15.9173	5.1342	11.795
	26.6691	35.4949	2905.7220	9.0664	13.3439	217.7570	5887.7806	17.4695	5.7373	13.181
L8	26.6691	35.1726	2880.2570	9.0678	13.3439	215.8487	5836.1815	17.3109	5.7480	13.329
	27.4459	36.2146	3143.8891	9.3365	13.7326	228.9370	6370.3716	17.8237	5.9491	13.795
L9	27.4459	39.8356	3446.6018	9.3207	13.7326	250.9804	6983.7496	19.6059	5.8314	12.272
	28.2227	40.9837	3753.2637	9.5893	14.1212	265.7887	7605.1298	20.1709	6.0325	12.695
L10	28.2227	51.8397	4701.9207	9.5432	14.1212	332.9682	9527.3660	25.5139	5.6874	9.417
	28.6327	52.6099	4914.6000	9.6850	14.3264	343.0459	9958.3120	25.8930	5.7935	9.593
L11	28.6327	60.6767	5628.4056	9.6510	14.3264	392.8705	11404.675	29.8632	5.5388	7.924
	30.1863	64.0544	6621.6606	10.1882	15.1037	438.4126	13417.279	31.5256	5.9410	8.499
L12	30.1863	62.6279	6481.4511	10.1939	15.1037	429.1295	13133.177	30.8235	5.9837	8.76
	32.4952	67.5330	8126.7669	10.9924	16.2590	499.8330	16467.033	33.2377	6.5814	9.635
L13	32.4952	66.1935	7972.7619	10.9973	16.2590	490.3610	16154.977	32.5784	6.6185	9.89
	33.5525	68.3942	8794.6991	11.3629	16.7880	523.8683	17820.444	33.6616	6.8922	10.299

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
L14	33.5525	71.3389	9156.3225	11.3524	16.7880	545.4089	18553.1917	35.1108	6.8133	9.752
	33.9409	72.1829	9485.1696	11.4867	16.9823	558.5315	19219.5251	35.5262	6.9138	9.896
L15	33.9409	73.8748	9697.3684	11.4807	16.9823	571.0268	19649.4974	36.3590	6.8689	9.601
	35.2331	76.7501	10874.3056	11.9276	17.6289	616.8460	22034.2913	37.7741	7.2034	10.069
L16	35.2331	65.3591	9320.5944	11.9663	17.6289	528.7116	18886.0511	32.1678	7.4933	12.339
	36.7846	68.2894	10631.2500	12.5028	18.4051	577.6241	21541.7948	33.6100	7.8949	13.001
L17	36.7846	73.3766	11393.0824	12.4862	18.4051	619.0165	23085.4738	36.1137	7.7713	11.894
	37.3017	74.4274	11889.6321	12.6651	18.6639	637.0396	24091.6181	36.6309	7.9052	12.099
L18	37.3017	61.9857	9964.2859	12.7048	18.6639	533.8807	20190.3447	30.5075	8.2025	15.121
	38.5299	64.0579	10997.3735	13.1295	19.2784	570.4500	22283.6603	31.5274	8.5204	15.708
L19	38.5299	80.5279	13717.9777	13.0786	19.2784	711.5718	27796.3420	39.6334	8.1395	11.89
	38.9608	81.4455	14192.2707	13.2276	19.4940	728.0311	28757.3882	40.0850	8.2511	12.053
L20	38.9608	70.7152	12383.6858	13.2605	19.4940	635.2548	25092.7048	34.8039	8.4967	14.331
	40.0167	72.6622	13434.9946	13.6256	20.0223	671.0009	27222.9415	35.7621	8.7701	14.792
L21	40.0167	91.6330	16802.3200	13.5690	20.0223	839.1794	34046.0557	45.0990	8.3469	11.117
	40.6631	93.1425	17646.4756	13.7926	20.3458	867.3294	35756.5438	45.8419	8.5142	11.34
L22	40.6631	69.1003	13225.4797	13.8630	20.3458	650.0361	26798.4076	34.0090	9.0412	16.315
	43.3781	73.7799	16098.5774	14.8018	21.7042	741.7264	32620.0823	36.3122	9.7440	17.583

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals
ft	ft ²	in					in	in
L1 131.0000-110.0000				1	1	1		
L2 110.0000-90.0000				1	1	1		
L3 90.0000-84.5833				1	1	1		
L4 84.5833-83.0000				1	1	1		
L5 83.0000-81.0000				1	1	1		
L6 81.0000-70.0000				1	1	1		
L7 70.0000-67.0833				1	1	1		
L8 67.0833-64.0833				1	1	1		
L9 64.0833-61.0833				1	1	1		
L10 61.0833-59.5000				1	1	1		
L11 59.5000-53.5000				1	1	1		
L12 53.5000-44.5833				1	1	1		
L13 44.5833-40.5000				1	1	1		
L14 40.5000-				1	1	1		

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_r	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
ft	ft ²	in						
39.0000								
L15 39.0000-31.5000				1	1	1		
L16 31.5000-25.5000				1	1	1		
L17 25.5000-23.5000				1	1	1		
L18 23.5000-18.7500				1	1	1		
L19 18.7500-17.0833				1	1	1		
L20 17.0833-13.0000				1	1	1		
L21 13.0000-10.5000				1	1	1		
L22 10.5000-0.0000				1	1	1		

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement	Total Number		$C_A A_A$	Weight
				ft			ft ² /ft	plf

LDF6-50A(1-1/4")	C	No	CaAa (Out Of Face)	121.0000 - 0.0000	6	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.0000 0.0000 0.0000 0.0000 0.0000	0.66 1.91 3.78 9.33 27.78
FB-L98B-002-75000(3/8")	C	No	CaAa (Out Of Face)	121.0000 - 0.0000	1	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.0000 0.0000 0.0000 0.0000 0.0000	0.06 0.60 1.76 5.91 21.53
WR-VG86ST-BRD(3/4)	C	No	CaAa (Out Of Face)	121.0000 - 0.0000	2	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.0000 0.0000 0.0000 0.0000 0.0000	0.59 1.37 2.76 7.37 23.92
2" (Nominal) Conduit	C	No	CaAa (Out Of Face)	121.0000 - 0.0000	1	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.2375 0.3375 0.4375 0.6375 1.0375	0.72 2.48 4.84 11.41 31.87

HJ7-50A(1-5/8")	C	No	Inside Pole	107.0000 - 0.0000	12	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.0000 0.0000 0.0000 0.0000 0.0000	1.04 1.04 1.04 1.04 1.04
HB158-1-08U8-S8J18(1-5/8)	C	No	Inside Pole	107.0000 - 0.0000	2	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.0000 0.0000 0.0000 0.0000 0.0000	1.30 1.30 1.30 1.30 1.30

ATCB-B01-005(5/16)	C	No	CaAa (Out Of Face)	97.0000 - 0.0000	3	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.0000 0.0000 0.0000 0.0000 0.0000	0.07 0.57 1.68 5.73 21.16
FSJ4-50B(1/2")	C	No	CaAa (Out Of Face)	97.0000 - 0.0000	2	No Ice	0.0000	0.14

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		CAAA ft ² /ft	Weight plf
			Face)			1/2" Ice	0.0000	0.76
						1" Ice	0.0000	2.00
						2" Ice	0.0000	6.30
						4" Ice	0.0000	22.23
FSJ4-50B(1/2")	C	No	CaAa (Out Of Face)	97.0000 - 0.0000	1	No Ice	0.0000	0.14
						1/2" Ice	0.0000	0.76
						1" Ice	0.0000	2.00
						2" Ice	0.0000	6.30
						4" Ice	0.0000	22.23
HB114-1-08U4-M5J(1 1/4")	C	No	CaAa (Out Of Face)	97.0000 - 0.0000	3	No Ice	0.0000	1.08
						1/2" Ice	0.0000	2.33
						1" Ice	0.0000	4.18
						2" Ice	0.0000	9.73
						4" Ice	0.0000	28.15
2" (Nominal) Conduit	C	No	CaAa (Out Of Face)	97.0000 - 0.0000	2	No Ice	0.0000	0.72
						1/2" Ice	0.0000	2.48
						1" Ice	0.0000	4.84
						2" Ice	0.0000	11.41
						4" Ice	0.0000	31.87

LCF114-50J(1-1/4")	C	No	CaAa (Out Of Face)	87.0000 - 0.0000	9	No Ice	0.0000	0.70
						1/2" Ice	0.0000	1.97
						1" Ice	0.0000	3.85
						2" Ice	0.0000	9.45
						4" Ice	0.0000	27.97
LCF114-50J(1-1/4")	C	No	CaAa (Out Of Face)	87.0000 - 0.0000	3	No Ice	0.1580	0.70
						1/2" Ice	0.2580	1.97
						1" Ice	0.3580	3.85
						2" Ice	0.5580	9.45
						4" Ice	0.9580	27.97
MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	C	No	CaAa (Out Of Face)	87.0000 - 0.0000	1	No Ice	0.0000	1.07
						1/2" Ice	0.0000	2.37
						1" Ice	0.0000	4.28
						2" Ice	0.0000	9.93
						4" Ice	0.0000	28.56

1" Flat Reinforcement	C	No	CaAa (Out Of Face)	20.5000 - 0.0000	1	No Ice	0.1667	0.00
						1/2" Ice	0.2778	0.00
						1" Ice	0.3889	0.00
						2" Ice	0.6111	0.00
						4" Ice	1.0556	0.00
3/4" Flat Reinforcement	C	No	CaAa (Out Of Face)	45.8333 - 15.8333	1	No Ice	0.1250	0.00
						1/2" Ice	0.2361	0.00
						1" Ice	0.3472	0.00
						2" Ice	0.5694	0.00
						4" Ice	1.0139	0.00
3/4" Flat Reinforcement	C	No	CaAa (Out Of Face)	68.3333 - 43.3333	1	No Ice	0.1250	0.00
						1/2" Ice	0.2361	0.00
						1" Ice	0.3472	0.00
						2" Ice	0.5694	0.00
						4" Ice	1.0139	0.00
3/4" Flat Reinforcement	C	No	CaAa (Out Of Face)	85.8333 - 65.8333	1	No Ice	0.1250	0.00
						1/2" Ice	0.2361	0.00
						1" Ice	0.3472	0.00
						2" Ice	0.5694	0.00
						4" Ice	1.0139	0.00

1" Flat Reinforcement	C	No	CaAa (Out Of Face)	66.0000 - 0.0000	1	No Ice	0.1667	0.00
						1/2" Ice	0.2778	0.00
						1" Ice	0.3889	0.00
						2" Ice	0.6111	0.00
						4" Ice	1.0556	0.00
1" Flat Reinforcement	C	No	CaAa (Out Of Face)	91.5000 - 81.5000	1	No Ice	0.1667	0.00
						1/2" Ice	0.2778	0.00
						1" Ice	0.3889	0.00
						2" Ice	0.6111	0.00
						4" Ice	1.0556	0.00

Feed Line/Linear Appurtenances Section Areas

Tower Sectio n	Tower Elevation ft	Face	A_R	A_F	C_{AA}	C_{AA}	Weight K
			ft^2	ft^2	In Face ft^2	Out Face ft^2	
L1	131.0000- 110.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	2.613	0.07
L2	110.0000- 90.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	5.000	0.41
L3	90.0000-84.5833	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	3.491	0.17
L4	84.5833-83.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	1.588	0.06
L5	83.0000-81.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	1.923	0.07
L6	81.0000-70.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	9.202	0.39
L7	70.0000-67.0833	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	2.596	0.10
L8	67.0833-64.0833	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	2.985	0.11
L9	64.0833-61.0833	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	3.010	0.11
L10	61.0833-59.5000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	1.588	0.06
L11	59.5000-53.5000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	6.019	0.21
L12	53.5000-44.5833	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	9.101	0.32
L13	44.5833-40.5000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	4.253	0.15
L14	40.5000-39.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	1.505	0.05
L15	39.0000-31.5000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	7.524	0.27
L16	31.5000-25.5000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	6.019	0.21
L17	25.5000-23.5000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	2.006	0.07
L18	23.5000-18.7500	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	5.057	0.17
L19	18.7500-17.0833	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	1.950	0.06
L20	17.0833-13.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	4.423	0.15
L21	13.0000-10.5000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	2.612	0.09
L22	10.5000-0.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00

Tower Section	Tower Elevation	Face	A _R	A _F	C _A A _A In Face	C _A A _A Out Face	Weight
n	ft		ft ²	ft ²	ft ²	ft ²	K
		C	0.000	0.000	0.000	10.971	0.38

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation	Face or Leg	Ice Thickness	A _R	A _F	C _A A _A In Face	C _A A _A Out Face	Weight
n	ft		in	ft ²	ft ²	ft ²	ft ²	K
L1	131.0000-110.0000	A	1.459	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	5.823	0.65
L2	110.0000-90.0000	A	1.427	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	11.184	1.80
L3	90.0000-84.5833	A	1.405	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	9.131	0.88
L4	84.5833-83.0000	A	1.398	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	4.343	0.33
L5	83.0000-81.0000	A	1.394	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	5.238	0.41
L6	81.0000-70.0000	A	1.380	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	24.722	2.23
L7	70.0000-67.0833	A	1.365	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	7.095	0.59
L8	67.0833-64.0833	A	1.357	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	8.103	0.59
L9	64.0833-61.0833	A	1.350	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	8.049	0.59
L10	61.0833-59.5000	A	1.344	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	4.236	0.31
L11	59.5000-53.5000	A	1.333	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	15.974	1.16
L12	53.5000-44.5833	A	1.311	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	24.009	1.69
L13	44.5833-40.5000	A	1.289	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	11.159	0.76
L14	40.5000-39.0000	A	1.278	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	3.891	0.28
L15	39.0000-31.5000	A	1.260	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	19.282	1.35
L16	31.5000-25.5000	A	1.250	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	15.352	1.07
L17	25.5000-23.5000	A	1.250	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	5.117	0.36
L18	23.5000-18.7500	A	1.250	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	12.932	0.85
L19	18.7500-17.0833	A	1.250	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	5.005	0.30
L20	17.0833-13.0000	A	1.250	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L21	13.0000-10.5000	C		0.000	0.000	0.000	11.122	0.73
		A	1.250	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
L22	10.5000-0.0000	C		0.000	0.000	0.000	6.501	0.45
		A	1.250	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	27.304	1.88

Feed Line Center of Pressure

Section	Elevation ft	CP _X in	CP _Z in	CP _X Ice in	CP _Z Ice in
L1	131.0000-110.0000	-0.1582	0.0914	-0.2657	0.1534
L2	110.0000-90.0000	-0.2802	0.1618	-0.4786	0.2763
L3	90.0000-84.5833	-0.6177	0.3566	-1.0576	0.6106
L4	84.5833-83.0000	-0.8434	0.4869	-1.3614	0.7860
L5	83.0000-81.0000	-0.8257	0.4767	-1.3502	0.7796
L6	81.0000-70.0000	-0.7677	0.4432	-1.3087	0.7556
L7	70.0000-67.0833	-0.8134	0.4696	-1.3971	0.8066
L8	67.0833-64.0833	-0.8874	0.5123	-1.4969	0.8642
L9	64.0833-61.0833	-0.9001	0.5197	-1.5167	0.8757
L10	61.0833-59.5000	-0.9060	0.5231	-1.5330	0.8851
L11	59.5000-53.5000	-0.9153	0.5284	-1.5589	0.9000
L12	53.5000-44.5833	-0.9445	0.5453	-1.6250	0.9382
L13	44.5833-40.5000	-0.9717	0.5610	-1.6825	0.9714
L14	40.5000-39.0000	-0.9517	0.5495	-1.6571	0.9568
L15	39.0000-31.5000	-0.9580	0.5531	-1.6708	0.9646
L16	31.5000-25.5000	-0.9681	0.5589	-1.7005	0.9818
L17	25.5000-23.5000	-0.9751	0.5630	-1.7240	0.9954
L18	23.5000-18.7500	-1.0259	0.5923	-1.8052	1.0422
L19	18.7500-17.0833	-1.1051	0.6381	-1.9220	1.1097
L20	17.0833-13.0000	-1.0491	0.6057	-1.8397	1.0621
L21	13.0000-10.5000	-1.0269	0.5929	-1.8113	1.0457
L22	10.5000-0.0000	-1.0370	0.5987	-1.8455	1.0655

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft	Azimuth Adjustmen t °	Placement ft	C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K	

AM-X-CD-16-65-00T-RET w/ Mount Pipe	A	From Leg	4.0000 0.00 0.00	0.00	121.0000	No Ice	8.4975	6.3042	0.07
						1/2" Ice	9.1490	7.4790	0.14
						1" Ice	9.7672	8.3676	0.21
						2" Ice	11.0311	10.1785	0.38
						4" Ice	13.6786	14.0237	0.87
AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Leg	4.0000 0.00 0.00	0.00	121.0000	No Ice	8.4975	6.3042	0.07
						1/2" Ice	9.1490	7.4790	0.14
						1" Ice	9.7672	8.3676	0.21
						2" Ice	11.0311	10.1785	0.38
						4" Ice	13.6786	14.0237	0.87
AM-X-CD-16-65-00T-RET w/ Mount Pipe	C	From Leg	4.0000 0.00	0.00	121.0000	No Ice	8.4975	6.3042	0.07
						1/2" Ice	9.1490	7.4790	0.14

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
			0.00			Ice 9.7672	8.3676	0.21
						1" Ice 11.0311	10.1785	0.38
						2" Ice 13.6786	14.0237	0.87
						4" Ice		
800 10121 w/ Mount Pipe	A	From Leg	4.0000	0.00	121.0000	No Ice 6.0334	4.9479	0.07
			0.00			1/2" 6.7136	6.0222	0.12
			0.00			Ice 7.2991	6.8104	0.18
						1" Ice 8.4999	8.4586	0.32
						2" Ice 11.0444	12.1015	0.73
						4" Ice		
800 10121 w/ Mount Pipe	B	From Leg	4.0000	0.00	121.0000	No Ice 6.0334	4.9479	0.07
			0.00			1/2" 6.7136	6.0222	0.12
			0.00			Ice 7.2991	6.8104	0.18
						1" Ice 8.4999	8.4586	0.32
						2" Ice 11.0444	12.1015	0.73
						4" Ice		
800 10121 w/ Mount Pipe	C	From Leg	4.0000	0.00	121.0000	No Ice 6.0334	4.9479	0.07
			0.00			1/2" 6.7136	6.0222	0.12
			0.00			Ice 7.2991	6.8104	0.18
						1" Ice 8.4999	8.4586	0.32
						2" Ice 11.0444	12.1015	0.73
						4" Ice		
RRUS-11	A	From Leg	4.0000	0.00	121.0000	No Ice 3.2486	1.3726	0.05
			0.00			1/2" 3.4905	1.5510	0.07
			0.00			Ice 3.7411	1.7380	0.09
						1" Ice 4.2682	2.1381	0.15
						2" Ice 5.4260	3.0418	0.31
						4" Ice		
RRUS-11	B	From Leg	4.0000	0.00	121.0000	No Ice 3.2486	1.3726	0.05
			0.00			1/2" 3.4905	1.5510	0.07
			0.00			Ice 3.7411	1.7380	0.09
						1" Ice 4.2682	2.1381	0.15
						2" Ice 5.4260	3.0418	0.31
						4" Ice		
RRUS-11	C	From Leg	4.0000	0.00	121.0000	No Ice 3.2486	1.3726	0.05
			0.00			1/2" 3.4905	1.5510	0.07
			0.00			Ice 3.7411	1.7380	0.09
						1" Ice 4.2682	2.1381	0.15
						2" Ice 5.4260	3.0418	0.31
						4" Ice		
(2) LGP21401	A	From Leg	4.0000	0.00	121.0000	No Ice 1.2880	0.3640	0.01
			0.00			1/2" 1.4453	0.4785	0.02
			0.00			Ice 1.6112	0.6017	0.03
						1" Ice 1.9690	0.8739	0.05
						2" Ice 2.7882	1.5220	0.14
						4" Ice		
(2) LGP21401	B	From Leg	4.0000	0.00	121.0000	No Ice 1.2880	0.3640	0.01
			0.00			1/2" 1.4453	0.4785	0.02
			0.00			Ice 1.6112	0.6017	0.03
						1" Ice 1.9690	0.8739	0.05
						2" Ice 2.7882	1.5220	0.14
						4" Ice		
(2) LGP21401	C	From Leg	4.0000	0.00	121.0000	No Ice 1.2880	0.3640	0.01
			0.00			1/2" 1.4453	0.4785	0.02
			0.00			Ice 1.6112	0.6017	0.03
						1" Ice 1.9690	0.8739	0.05
						2" Ice 2.7882	1.5220	0.14
						4" Ice		
DC6-48-60-18-8F	A	From Leg	4.0000	0.00	121.0000	No Ice 1.4667	1.4667	0.02
			0.00			1/2" 1.6667	1.6667	0.04
			0.00			Ice 1.8778	1.8778	0.06
						1" Ice 2.3333	2.3333	0.11
						2" Ice 3.3778	3.3778	0.24
						4" Ice		
RRUS 11 B2	A	From Leg	4.0000	0.00	121.0000	No Ice 3.3056	1.3611	0.05

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
			0.00			1/2"	3.5497	1.5404	0.07
			0.00			Ice	3.8025	1.7284	0.10
						1" Ice	4.3340	2.1302	0.15
						2" Ice	5.5006	3.0377	0.31
						4" Ice			
RRUS 11 B2	B	From Leg	4.0000	0.00	121.0000	No Ice	3.3056	1.3611	0.05
			0.00			1/2"	3.5497	1.5404	0.07
			0.00			Ice	3.8025	1.7284	0.10
						1" Ice	4.3340	2.1302	0.15
						2" Ice	5.5006	3.0377	0.31
						4" Ice			
RRUS 11 B2	C	From Leg	4.0000	0.00	121.0000	No Ice	3.3056	1.3611	0.05
			0.00			1/2"	3.5497	1.5404	0.07
			0.00			Ice	3.8025	1.7284	0.10
						1" Ice	4.3340	2.1302	0.15
						2" Ice	5.5006	3.0377	0.31
						4" Ice			
T-Arm Mount [TA 601-3]	C	None		0.00	121.0000	No Ice	10.9000	10.9000	0.73
						1/2"	14.6500	14.6500	0.93
						Ice	18.4000	18.4000	1.13
						1" Ice	25.9000	25.9000	1.52
						2" Ice	40.9000	40.9000	2.32
						4" Ice			

BXA-80063/4CF	A	From Leg	4.0000	0.00	107.0000	No Ice	5.1613	2.2482	0.01
			0.00			1/2"	5.5455	2.5469	0.04
			4.00			Ice	5.9382	2.8529	0.07
						1" Ice	6.7497	3.4884	0.15
						2" Ice	8.4764	5.0414	0.36
						4" Ice			
BXA-80063/4CF	B	From Leg	4.0000	0.00	107.0000	No Ice	5.1613	2.2482	0.01
			0.00			1/2"	5.5455	2.5469	0.04
			4.00			Ice	5.9382	2.8529	0.07
						1" Ice	6.7497	3.4884	0.15
						2" Ice	8.4764	5.0414	0.36
						4" Ice			
BXA-80063/4CF	C	From Leg	4.0000	0.00	107.0000	No Ice	5.1613	2.2482	0.01
			0.00			1/2"	5.5455	2.5469	0.04
			4.00			Ice	5.9382	2.8529	0.07
						1" Ice	6.7497	3.4884	0.15
						2" Ice	8.4764	5.0414	0.36
						4" Ice			
BXA-70063/6CFx4	A	From Leg	4.0000	0.00	107.0000	No Ice	7.7311	3.7554	0.02
			0.00			1/2"	8.2682	4.1889	0.06
			4.00			Ice	8.8140	4.6297	0.10
						1" Ice	9.9314	5.5335	0.22
						2" Ice	12.2699	7.4301	0.52
						4" Ice			
BXA-70063/6CFx4	B	From Leg	4.0000	0.00	107.0000	No Ice	7.7311	3.7554	0.02
			0.00			1/2"	8.2682	4.1889	0.06
			4.00			Ice	8.8140	4.6297	0.10
						1" Ice	9.9314	5.5335	0.22
						2" Ice	12.2699	7.4301	0.52
						4" Ice			
BXA-70063/6CFx4	C	From Leg	4.0000	0.00	107.0000	No Ice	7.7311	3.7554	0.02
			0.00			1/2"	8.2682	4.1889	0.06
			4.00			Ice	8.8140	4.6297	0.10
						1" Ice	9.9314	5.5335	0.22
						2" Ice	12.2699	7.4301	0.52
						4" Ice			
DB-T1-6Z-8AB-OZ	C	From Leg	4.0000	0.00	107.0000	No Ice	5.6000	2.3333	0.04
			0.00			1/2"	5.9154	2.5580	0.08
			4.00			Ice	6.2395	2.7914	0.12
						1" Ice	6.9136	3.2840	0.21
						2" Ice	8.3654	4.3728	0.45

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Lateral						Vert
			ft	ft	°	ft	ft ²	ft ²	K	
(2) FD9R6004/2C-3L	A	From Leg	4.0000	0.00	0.00	107.0000	4" Ice			
							No Ice	0.3665	0.0846	0.00
							1/2"	0.4506	0.1362	0.01
							Ice	0.5433	0.1965	0.01
							1" Ice	0.7546	0.3430	0.02
(2) FD9R6004/2C-3L	B	From Leg	4.0000	0.00	0.00	107.0000	2" Ice	1.2808	0.7396	0.06
							4" Ice			
							No Ice	0.3665	0.0846	0.00
							1/2"	0.4506	0.1362	0.01
							Ice	0.5433	0.1965	0.01
(2) FD9R6004/2C-3L	C	From Leg	4.0000	0.00	0.00	107.0000	1" Ice	0.7546	0.3430	0.02
							2" Ice	1.2808	0.7396	0.06
							4" Ice			
							No Ice	0.3665	0.0846	0.00
							1/2"	0.4506	0.1362	0.01
(2) SBNHH-1D65B	A	From Leg	4.0000	0.00	4.00	107.0000	Ice	0.5433	0.1965	0.01
							1" Ice	0.7546	0.3430	0.02
							2" Ice	1.2808	0.7396	0.06
							4" Ice			
							No Ice	8.3994	5.3963	0.04
(2) SBNHH-1D65B	B	From Leg	4.0000	0.00	4.00	107.0000	1/2"	8.9514	5.8529	0.09
							Ice	9.5121	6.3169	0.15
							1" Ice	10.6593	7.2671	0.28
							2" Ice	13.0574	9.4206	0.63
							4" Ice			
(2) SBNHH-1D65B	C	From Leg	4.0000	0.00	4.00	107.0000	No Ice	8.3994	5.3963	0.04
							1/2"	8.9514	5.8529	0.09
							Ice	9.5121	6.3169	0.15
							1" Ice	10.6593	7.2671	0.28
							2" Ice	13.0574	9.4206	0.63
RRH2X60-AWS	A	From Leg	4.0000	0.00	4.00	107.0000	4" Ice			
							No Ice	2.1904	1.4290	0.04
							1/2"	2.3976	1.6109	0.06
							Ice	2.6134	1.8015	0.08
							1" Ice	3.0710	2.2085	0.13
RRH2X60-AWS	B	From Leg	4.0000	0.00	4.00	107.0000	2" Ice	4.0899	3.1263	0.26
							4" Ice			
							No Ice	2.1904	1.4290	0.04
							1/2"	2.3976	1.6109	0.06
							Ice	2.6134	1.8015	0.08
RRH2X60-AWS	C	From Leg	4.0000	0.00	4.00	107.0000	1" Ice	3.0710	2.2085	0.13
							2" Ice	4.0899	3.1263	0.26
							4" Ice			
							No Ice	2.1904	1.4290	0.04
							1/2"	2.3976	1.6109	0.06
RRH2x60-700	A	From Leg	4.0000	0.00	0.00	107.0000	Ice	2.6134	1.8015	0.08
							1" Ice	3.0710	2.2085	0.13
							2" Ice	4.0899	3.1263	0.26
							4" Ice			
							No Ice	3.9569	1.8157	0.06
RRH2x60-700	B	From Leg	4.0000	0.00	0.00	107.0000	1/2"	4.2724	2.0752	0.08
							Ice	4.5965	2.3603	0.11
							1" Ice	5.2705	2.9566	0.17
							2" Ice	6.7224	4.2529	0.35
							4" Ice			
RRH2x60-700	B	From Leg	4.0000	0.00	0.00	107.0000	No Ice	3.9569	1.8157	0.06
							1/2"	4.2724	2.0752	0.08
							Ice	4.5965	2.3603	0.11
							1" Ice	5.2705	2.9566	0.17
							2" Ice	6.7224	4.2529	0.35

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
RRH2x60-700	C	From Leg	4.0000 0.00 0.00	0.00	107.0000	2" Ice	6.7224	4.2529	0.35
						4" Ice			
						No Ice	3.9569	1.8157	0.06
						1/2" Ice	4.2724	2.0752	0.08
						1" Ice	4.5965	2.3603	0.11
RRH2X60-PCS	A	From Leg	4.0000 0.00 4.00	0.00	107.0000	1" Ice	5.2705	2.9566	0.17
						2" Ice	6.7224	4.2529	0.35
						4" Ice			
						No Ice	2.5667	2.0106	0.06
						1/2" Ice	2.7914	2.2184	0.08
RRH2X60-PCS	A	From Leg	4.0000 0.00 4.00	0.00	107.0000	Ice	3.0247	2.4349	0.10
						1" Ice	3.5173	2.8938	0.16
						2" Ice	4.6062	3.9152	0.31
						4" Ice			
						No Ice	2.5667	2.0106	0.06
RRH2X60-PCS	B	From Leg	4.0000 0.00 4.00	0.00	107.0000	1/2" Ice	2.7914	2.2184	0.08
						Ice	3.0247	2.4349	0.10
						1" Ice	3.5173	2.8938	0.16
						2" Ice	4.6062	3.9152	0.31
						4" Ice			
RRH2X60-PCS	C	From Leg	4.0000 0.00 4.00	0.00	107.0000	No Ice	2.5667	2.0106	0.06
						1/2" Ice	2.7914	2.2184	0.08
						Ice	3.0247	2.4349	0.10
						1" Ice	3.5173	2.8938	0.16
						2" Ice	4.6062	3.9152	0.31
DB-T1-6Z-8AB-0Z	B	From Leg	4.0000 0.00 4.00	0.00	107.0000	4" Ice			
						No Ice	5.6000	2.3333	0.04
						1/2" Ice	5.9154	2.5580	0.08
						Ice	6.2395	2.7914	0.12
						1" Ice	6.9136	3.2840	0.21
Platform Mount (LP 101-1)	C	None	0.00	0.00	107.0000	2" Ice	8.3654	4.3728	0.45
						4" Ice			
						No Ice	36.2100	36.2100	1.50
						1/2" Ice	42.8200	42.8200	2.30
						Ice	49.4300	49.4300	3.10
800MHz 2X50W RRH W/FILTER	A	From Leg	4.0000 0.00 1.00	0.00	99.0000	1" Ice	62.6500	62.6500	4.70
						2" Ice	89.0900	89.0900	7.89
						4" Ice			
						No Ice	2.4014	2.2536	0.06
						1/2" Ice	2.6131	2.4602	0.09
800MHz 2X50W RRH W/FILTER	B	From Leg	4.0000 0.00 1.00	0.00	99.0000	Ice	2.8335	2.6753	0.11
						1" Ice	3.3002	3.1316	0.17
						2" Ice	4.3372	4.1479	0.34
						4" Ice			
						No Ice	2.4014	2.2536	0.06
800MHz 2X50W RRH W/FILTER	C	From Leg	4.0000 0.00 1.00	0.00	99.0000	1/2" Ice	2.6131	2.4602	0.09
						Ice	2.8335	2.6753	0.11
						1" Ice	3.3002	3.1316	0.17
						2" Ice	4.3372	4.1479	0.34
						4" Ice			
PCS 1900MHz 4x45W-65MHz	A	From Leg	4.0000 0.00 0.00	0.00	99.0000	No Ice	2.7087	2.6111	0.06
						1/2" Ice	2.9477	2.8475	0.08
						Ice	3.1953	3.0925	0.11
						1" Ice	3.7164	3.6084	0.17
						2" Ice	4.8623	4.7439	0.35
PCS 1900MHz 4x45W-65MHz	B	From Leg	4.0000 0.00	0.00	99.0000	4" Ice			
						No Ice	2.7087	2.6111	0.06
						1/2" Ice	2.9477	2.8475	0.08

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
			Horz ft	Lateral Vert ft						
				0.00						
							Ice	3.1953	3.0925	0.11
							1" Ice	3.7164	3.6084	0.17
							2" Ice	4.8623	4.7439	0.35
							4" Ice			
PCS 1900MHz 4x45W-65MHz	C	From Leg	4.0000	0.00	0.00	99.0000	No Ice	2.7087	2.6111	0.06
			0.00				1/2"	2.9477	2.8475	0.08
			0.00				Ice	3.1953	3.0925	0.11
							1" Ice	3.7164	3.6084	0.17
							2" Ice	4.8623	4.7439	0.35
							4" Ice			
PCS 1900MHz 4x45W-65MHz	A	From Leg	4.0000	0.00	0.00	99.0000	No Ice	2.7087	2.6111	0.06
			0.00				1/2"	2.9477	2.8475	0.08
			-1.00				Ice	3.1953	3.0925	0.11
							1" Ice	3.7164	3.6084	0.17
							2" Ice	4.8623	4.7439	0.35
							4" Ice			
PCS 1900MHz 4x45W-65MHz	B	From Leg	4.0000	0.00	0.00	99.0000	No Ice	2.7087	2.6111	0.06
			0.00				1/2"	2.9477	2.8475	0.08
			-1.00				Ice	3.1953	3.0925	0.11
							1" Ice	3.7164	3.6084	0.17
							2" Ice	4.8623	4.7439	0.35
							4" Ice			
PCS 1900MHz 4x45W-65MHz	C	From Leg	4.0000	0.00	0.00	99.0000	No Ice	2.7087	2.6111	0.06
			0.00				1/2"	2.9477	2.8475	0.08
			-1.00				Ice	3.1953	3.0925	0.11
							1" Ice	3.7164	3.6084	0.17
							2" Ice	4.8623	4.7439	0.35
							4" Ice			
Side Arm Mount [SO 101-3]	C	None			0.00	99.0000	No Ice	7.5000	7.5000	0.25
							1/2"	8.9000	8.9000	0.33
							Ice	10.3000	10.3000	0.41
							1" Ice	13.1000	13.1000	0.58
							2" Ice	18.7000	18.7000	0.90
							4" Ice			
Clearwire TIMING 2000	A	From Face	4.0000	0.00	0.00	97.0000	No Ice	0.1258	0.1258	0.00
			0.00				1/2"	0.1771	0.1771	0.00
			0.00				Ice	0.2370	0.2370	0.01
							1" Ice	0.3827	0.3827	0.01
							2" Ice	0.7778	0.7778	0.05
							4" Ice			
840 10054	A	From Face	4.0000	0.00	0.00	97.0000	No Ice	5.1858	1.3611	0.04
			0.00				1/2"	5.5447	1.6198	0.06
			0.00				Ice	5.9122	1.8858	0.09
							1" Ice	6.6731	2.4401	0.16
							2" Ice	8.2987	3.7428	0.35
							4" Ice			
840 10054	B	From Face	4.0000	0.00	0.00	97.0000	No Ice	5.1858	1.3611	0.04
			0.00				1/2"	5.5447	1.6198	0.06
			0.00				Ice	5.9122	1.8858	0.09
							1" Ice	6.6731	2.4401	0.16
							2" Ice	8.2987	3.7428	0.35
							4" Ice			
840 10054	C	From Face	4.0000	0.00	0.00	97.0000	No Ice	5.1858	1.3611	0.04
			0.00				1/2"	5.5447	1.6198	0.06
			0.00				Ice	5.9122	1.8858	0.09
							1" Ice	6.6731	2.4401	0.16
							2" Ice	8.2987	3.7428	0.35
							4" Ice			
WIMAX DAP HEAD	A	From Face	4.0000	0.00	0.00	97.0000	No Ice	1.8044	0.7778	0.03
			0.00				1/2"	1.9877	0.9182	0.04
			0.00				Ice	2.1795	1.0673	0.06
							1" Ice	2.5891	1.3914	0.09
							2" Ice	3.5121	2.1432	0.20
							4" Ice			

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight	
			Horz	Lateral						Vert
			ft	ft	°	ft	ft ²	ft ²	K	
WIMAX DAP HEAD	B	From Face	4.0000	0.00	0.00	97.0000	No Ice	1.8044	0.7778	0.03
			0.00				1/2"	1.9877	0.9182	0.04
			0.00				Ice	2.1795	1.0673	0.06
							1" Ice	2.5891	1.3914	0.09
							2" Ice	3.5121	2.1432	0.20
WIMAX DAP HEAD	C	From Face	4.0000	0.00	0.00	97.0000	No Ice	1.8044	0.7778	0.03
			0.00				1/2"	1.9877	0.9182	0.04
			0.00				Ice	2.1795	1.0673	0.06
							1" Ice	2.5891	1.3914	0.09
							2" Ice	3.5121	2.1432	0.20
HORIZON COMPACT	B	From Face	4.0000	0.00	0.00	97.0000	No Ice	0.8409	0.4295	0.01
			0.00				1/2"	0.9658	0.5249	0.02
			4.00				Ice	1.0993	0.6289	0.03
							1" Ice	1.3922	0.8629	0.05
							2" Ice	2.0819	1.4345	0.12
HORIZON COMPACT	C	From Face	4.0000	0.00	0.00	97.0000	No Ice	0.8409	0.4295	0.01
			0.00				1/2"	0.9658	0.5249	0.02
			4.00				Ice	1.0993	0.6289	0.03
							1" Ice	1.3922	0.8629	0.05
							2" Ice	2.0819	1.4345	0.12
Sprint APXVSP18-C-A20	A	From Face	4.0000	0.00	0.00	97.0000	No Ice	8.2600	5.2833	0.06
			0.00				1/2"	8.8075	5.7360	0.11
			0.00				Ice	9.3636	6.1960	0.16
							1" Ice	10.5017	7.1383	0.29
							2" Ice	12.8817	9.2728	0.63
APXVSP18-C-A20	B	From Face	4.0000	0.00	0.00	97.0000	No Ice	8.2600	5.2833	0.06
			0.00				1/2"	8.8075	5.7360	0.11
			0.00				Ice	9.3636	6.1960	0.16
							1" Ice	10.5017	7.1383	0.29
							2" Ice	12.8817	9.2728	0.63
APXVSP18-C-A20	C	From Face	4.0000	0.00	0.00	97.0000	No Ice	8.2600	5.2833	0.06
			0.00				1/2"	8.8075	5.7360	0.11
			0.00				Ice	9.3636	6.1960	0.16
							1" Ice	10.5017	7.1383	0.29
							2" Ice	12.8817	9.2728	0.63
IBC1900HG-2A	A	From Face	4.0000	0.00	0.00	97.0000	No Ice	1.1270	0.5329	0.02
			0.00				1/2"	1.2726	0.6471	0.03
			0.00				Ice	1.4269	0.7699	0.04
							1" Ice	1.7613	1.0415	0.06
							2" Ice	2.5339	1.6883	0.15
IBC1900HG-2A	B	From Face	4.0000	0.00	0.00	97.0000	No Ice	1.1270	0.5329	0.02
			0.00				1/2"	1.2726	0.6471	0.03
			0.00				Ice	1.4269	0.7699	0.04
							1" Ice	1.7613	1.0415	0.06
							2" Ice	2.5339	1.6883	0.15
IBC1900HG-2A	C	From Face	4.0000	0.00	0.00	97.0000	No Ice	1.1270	0.5329	0.02
			0.00				1/2"	1.2726	0.6471	0.03
			0.00				Ice	1.4269	0.7699	0.04
							1" Ice	1.7613	1.0415	0.06
							2" Ice	2.5339	1.6883	0.15
IBC1900BB-1	A	From Face	4.0000	0.00	0.00	97.0000	No Ice	1.1270	0.5329	0.02
			0.00				1/2"	1.2726	0.6471	0.03
			0.00				Ice	1.4269	0.7699	0.04
							1" Ice	1.7613	1.0415	0.06

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight	
			Horz	Lateral						Vert
IBC1900BB-1	B	From Face	4.0000	0.00	0.00	97.0000	2" Ice	2.5339	1.6883	0.15
							4" Ice			
							No Ice	1.1270	0.5329	0.02
							1/2" Ice	1.2726	0.6471	0.03
							Ice	1.4269	0.7699	0.04
IBC1900BB-1	C	From Face	4.0000	0.00	0.00	97.0000	1" Ice	1.7613	1.0415	0.06
							2" Ice	2.5339	1.6883	0.15
							4" Ice			
							No Ice	1.1270	0.5329	0.02
							1/2" Ice	1.2726	0.6471	0.03
Platform Mount (LP 101-1)	C	None			0.00	97.0000	Ice	1.4269	0.7699	0.04
							1" Ice	1.7613	1.0415	0.06
							2" Ice	2.5339	1.6883	0.15
							4" Ice			
							No Ice	36.2100	36.2100	1.50
*** ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Face	4.0000	0.00	0.00	87.0000	1/2" Ice	42.8200	42.8200	2.30
							Ice	49.4300	49.4300	3.10
							1" Ice	62.6500	62.6500	4.70
							2" Ice	89.0900	89.0900	7.89
							4" Ice			
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Face	4.0000	0.00	0.00	87.0000	No Ice	6.8253	5.6424	0.11
							1/2" Ice	7.3471	6.4800	0.17
							Ice	7.8631	7.2567	0.23
							1" Ice	8.9261	8.8640	0.38
							2" Ice	11.1755	12.2932	0.81
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Face	4.0000	0.00	0.00	87.0000	4" Ice			
							No Ice	6.8253	5.6424	0.11
							1/2" Ice	7.3471	6.4800	0.17
							Ice	7.8631	7.2567	0.23
							1" Ice	8.9261	8.8640	0.38
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	A	From Face	4.0000	0.00	0.00	87.0000	2" Ice	11.1755	12.2932	0.81
							4" Ice			
							No Ice	6.8155	5.6334	0.11
							1/2" Ice	7.3373	6.4717	0.17
							Ice	7.8532	7.2478	0.23
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	B	From Face	4.0000	0.00	0.00	87.0000	1" Ice	8.9160	8.8537	0.38
							2" Ice	11.1650	12.2804	0.81
							4" Ice			
							No Ice	6.8155	5.6334	0.11
							1/2" Ice	7.3373	6.4717	0.17
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	C	From Face	4.0000	0.00	0.00	87.0000	Ice	7.8532	7.2478	0.23
							1" Ice	8.9160	8.8537	0.38
							2" Ice	11.1650	12.2804	0.81
							4" Ice			
							No Ice	6.8155	5.6334	0.11
KRY 112 144/1	A	From Face	4.0000	0.00	0.00	87.0000	1/2" Ice	7.3373	6.4717	0.17
							Ice	7.8532	7.2478	0.23
							1" Ice	8.9160	8.8537	0.38
							2" Ice	11.1650	12.2804	0.81
							4" Ice			
KRY 112 144/1	B	From Face	4.0000	0.00	0.00	87.0000	No Ice	0.4083	0.2042	0.01
							1/2" Ice	0.4969	0.2733	0.01
							Ice	0.5941	0.3511	0.02
							1" Ice	0.8145	0.5326	0.03
							2" Ice	1.3590	0.9992	0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
			0.00			Ice	0.5941	0.3511	0.02
						1" Ice	0.8145	0.5326	0.03
						2" Ice	1.3590	0.9992	0.08
						4" Ice			
KRY 112 144/1	C	From Face	4.0000	0.00	87.0000	No Ice	0.4083	0.2042	0.01
			0.00			1/2"	0.4969	0.2733	0.01
			0.00			Ice	0.5941	0.3511	0.02
						1" Ice	0.8145	0.5326	0.03
						2" Ice	1.3590	0.9992	0.08
						4" Ice			
LNx-6515DS-VTM w/ Mount Pipe	A	From Leg	4.0000	0.00	87.0000	No Ice	11.6828	9.8418	0.08
			0.00			1/2"	12.4043	11.3657	0.17
			0.00			Ice	13.1351	12.9138	0.27
						1" Ice	14.6007	15.2672	0.51
						2" Ice	17.8748	20.1392	1.15
						4" Ice			
RRUS 11 B12	A	From Leg	4.0000	0.00	87.0000	No Ice	3.3056	1.3611	0.05
			0.00			1/2"	3.5497	1.5404	0.07
			0.00			Ice	3.8025	1.7284	0.10
						1" Ice	4.3340	2.1302	0.15
						2" Ice	5.5006	3.0377	0.31
						4" Ice			
LNx-6515DS-VTM w/ Mount Pipe	B	From Leg	4.0000	0.00	87.0000	No Ice	11.6828	9.8418	0.08
			0.00			1/2"	12.4043	11.3657	0.17
			0.00			Ice	13.1351	12.9138	0.27
						1" Ice	14.6007	15.2672	0.51
						2" Ice	17.8748	20.1392	1.15
						4" Ice			
RRUS 11 B12	B	From Leg	4.0000	0.00	87.0000	No Ice	3.3056	1.3611	0.05
			0.00			1/2"	3.5497	1.5404	0.07
			0.00			Ice	3.8025	1.7284	0.10
						1" Ice	4.3340	2.1302	0.15
						2" Ice	5.5006	3.0377	0.31
						4" Ice			
LNx-6515DS-VTM w/ Mount Pipe	C	From Leg	4.0000	0.00	87.0000	No Ice	11.6828	9.8418	0.08
			0.00			1/2"	12.4043	11.3657	0.17
			0.00			Ice	13.1351	12.9138	0.27
						1" Ice	14.6007	15.2672	0.51
						2" Ice	17.8748	20.1392	1.15
						4" Ice			
RRUS 11 B12	C	From Leg	4.0000	0.00	87.0000	No Ice	3.3056	1.3611	0.05
			0.00			1/2"	3.5497	1.5404	0.07
			0.00			Ice	3.8025	1.7284	0.10
						1" Ice	4.3340	2.1302	0.15
						2" Ice	5.5006	3.0377	0.31
						4" Ice			
Site Pro1 RMV12-396 [TA 602-3]	C	None		0.00	87.0000	No Ice	11.5900	11.5900	0.77
						1/2"	15.4400	15.4400	0.99
						Ice	19.2900	19.2900	1.21
						1" Ice	26.9900	26.9900	1.64
						2" Ice	42.3900	42.3900	2.50
						4" Ice			

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	
VHLP2.5-11	B	Paraboloid w/Shroud (HP)	From Leg	1.0000	0.00		97.0000	2.9167	No Ice	6.6800	0.05
				0.00					1/2" Ice	7.0700	0.08
				4.00					1" Ice	7.4600	0.12
									2" Ice	8.2300	0.19
									4" Ice	9.7800	0.34
VHLP2.5-11	C	Paraboloid w/Shroud (HP)	From Leg	1.0000	0.00		97.0000	2.9167	No Ice	6.6800	0.05
				0.00					1/2" Ice	7.0700	0.08
				4.00					1" Ice	7.4600	0.12
									2" Ice	8.2300	0.19
									4" Ice	9.7800	0.34

Tower Pressures - No Ice

$G_H = 1.690$

Section Elevation ft	z ft	K _Z	q _z psf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L1 131.0000-110.0000	119.8282	1.445	23.683	22.794	A	0.000	22.794	22.794	100.00	0.000	0.000
					B	0.000	22.794	100.00	0.000	0.000	
					C	0.000	22.794	100.00	0.000	2.613	
L2 110.0000-90.0000	99.5374	1.371	22.460	30.044	A	0.000	30.044	30.044	100.00	0.000	0.000
					B	0.000	30.044	100.00	0.000	0.000	
					C	0.000	30.044	100.00	0.000	5.000	
L3 90.0000-84.5833	87.2628	1.32	21.631	9.572	A	0.000	9.572	9.572	100.00	0.000	0.000
					B	0.000	9.572	100.00	0.000	0.000	
					C	0.000	9.572	100.00	0.000	3.491	
L4 84.5833-83.0000	83.7893	1.305	21.382	2.913	A	0.000	2.913	2.913	100.00	0.000	0.000
					B	0.000	2.913	100.00	0.000	0.000	
					C	0.000	2.913	100.00	0.000	1.588	
L5 83.0000-81.0000	81.9963	1.297	21.250	3.755	A	0.000	3.755	3.755	100.00	0.000	0.000
					B	0.000	3.755	100.00	0.000	0.000	
					C	0.000	3.755	100.00	0.000	1.923	
L6 81.0000-70.0000	75.3956	1.266	20.746	22.142	A	0.000	22.142	22.142	100.00	0.000	0.000
					B	0.000	22.142	100.00	0.000	0.000	
					C	0.000	22.142	100.00	0.000	9.202	
L7 70.0000-67.0833	68.5325	1.232	20.188	6.146	A	0.000	6.146	6.146	100.00	0.000	0.000
					B	0.000	6.146	100.00	0.000	0.000	
					C	0.000	6.146	100.00	0.000	2.596	
L8 67.0833-64.0833	65.5761	1.217	19.936	6.534	A	0.000	6.534	6.534	100.00	0.000	0.000
					B	0.000	6.534	100.00	0.000	0.000	
					C	0.000	6.534	100.00	0.000	2.985	
L9 64.0833-61.0833	62.5763	1.201	19.671	6.721	A	0.000	6.721	6.721	100.00	0.000	0.000
					B	0.000	6.721	100.00	0.000	0.000	
					C	0.000	6.721	100.00	0.000	3.010	
L10 61.0833-59.5000	60.2897	1.188	19.463	3.623	A	0.000	3.623	3.623	100.00	0.000	0.000
					B	0.000	3.623	100.00	0.000	0.000	
					C	0.000	3.623	100.00	0.000	1.588	
L11 59.5000-53.5000	56.4736	1.166	19.102	14.204	A	0.000	14.204	14.204	100.00	0.000	0.000
					B	0.000	14.204	100.00	0.000	0.000	
					C	0.000	14.204	100.00	0.000	6.019	
L12 53.5000-44.5833	48.9869	1.119	18.342	22.495	A	0.000	22.495	22.495	100.00	0.000	0.000
					B	0.000	22.495	100.00	0.000	0.000	
					C	0.000	22.495	100.00	0.000	9.101	
L13 44.5833-40.5000	42.5308	1.075	17.616	10.854	A	0.000	10.854	10.854	100.00	0.000	0.000
					B	0.000	10.854	100.00	0.000	0.000	
					C	0.000	10.854	100.00	0.000	4.253	
L14 40.5000-39.0000	39.7486	1.055	17.279	4.075	A	0.000	4.075	4.075	100.00	0.000	0.000
					B	0.000	4.075	100.00	0.000	0.000	
					C	0.000	4.075	100.00	0.000	1.505	
L15 39.0000-31.5000	35.2266	1.019	16.693	20.880	A	0.000	20.880	20.880	100.00	0.000	0.000
					B	0.000	20.880	100.00	0.000	0.000	

Section Elevation ft	z ft	K _Z	q _z psf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L16 31.5000-25.5000	28.4785	1	16.38 4	17.391	C	0.000	20.880	17.391	100.00	0.000	7.524
					A	0.000	17.391	17.391	100.00	0.000	0.000
					B	0.000	17.391	17.391	100.00	0.000	0.000
					C	0.000	17.391	17.391	100.00	0.000	6.019
L17 25.5000-23.5000	24.4977	1	16.38 4	5.963	A	0.000	5.963	5.963	100.00	0.000	0.000
					B	0.000	5.963	5.963	100.00	0.000	0.000
					C	0.000	5.963	5.963	100.00	0.000	2.006
L18 23.5000-18.7500	21.1122	1	16.38 4	14.497	A	0.000	14.497	14.497	100.00	0.000	0.000
					B	0.000	14.497	14.497	100.00	0.000	0.000
					C	0.000	14.497	14.497	100.00	0.000	5.057
L19 18.7500-17.0833	17.9151	1	16.38 4	5.198	A	0.000	5.198	5.198	100.00	0.000	0.000
					B	0.000	5.198	5.198	100.00	0.000	0.000
					C	0.000	5.198	5.198	100.00	0.000	1.950
L20 17.0833-13.0000	15.0326	1	16.38 4	12.979	A	0.000	12.979	12.979	100.00	0.000	0.000
					B	0.000	12.979	12.979	100.00	0.000	0.000
					C	0.000	12.979	12.979	100.00	0.000	4.423
L21 13.0000-10.5000	11.7467	1	16.38 4	8.118	A	0.000	8.118	8.118	100.00	0.000	0.000
					B	0.000	8.118	8.118	100.00	0.000	0.000
					C	0.000	8.118	8.118	100.00	0.000	2.612
L22 10.5000-0.0000	5.1935	1	16.38 4	35.515	A	0.000	35.515	35.515	100.00	0.000	0.000
					B	0.000	35.515	35.515	100.00	0.000	0.000
					C	0.000	35.515	35.515	100.00	0.000	10.971

Tower Pressure - With Ice

$G_H = 1.690$

Section Elevation ft	z ft	K _Z	q _z psf	t _z in	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L1 131.0000-110.0000	119.8282	1.445	5.232	1.4592	27.901	A	0.000	27.901	27.901	100.00	0.000	0.000
						B	0.000	27.901	27.901	100.00	0.000	0.000
						C	0.000	27.901	27.901	100.00	0.000	5.823
L2 110.0000-90.0000	99.5374	1.371	4.961	1.4271	34.801	A	0.000	34.801	34.801	100.00	0.000	0.000
						B	0.000	34.801	34.801	100.00	0.000	0.000
						C	0.000	34.801	34.801	100.00	0.000	11.184
L3 90.0000-84.5833	87.2628	1.32	4.778	1.4047	10.840	A	0.000	10.840	10.840	100.00	0.000	0.000
						B	0.000	10.840	10.840	100.00	0.000	0.000
						C	0.000	10.840	10.840	100.00	0.000	9.131
L4 84.5833-83.0000	83.7893	1.305	4.723	1.3979	3.282	A	0.000	3.282	3.282	100.00	0.000	0.000
						B	0.000	3.282	3.282	100.00	0.000	0.000
						C	0.000	3.282	3.282	100.00	0.000	4.343
L5 83.0000-81.0000	81.9963	1.297	4.694	1.3943	4.220	A	0.000	4.220	4.220	100.00	0.000	0.000
						B	0.000	4.220	4.220	100.00	0.000	0.000
						C	0.000	4.220	4.220	100.00	0.000	5.238
L6 81.0000-70.0000	75.3956	1.266	4.583	1.3803	24.673	A	0.000	24.673	24.673	100.00	0.000	0.000
						B	0.000	24.673	24.673	100.00	0.000	0.000
						C	0.000	24.673	24.673	100.00	0.000	24.722
L7 70.0000-67.0833	68.5325	1.232	4.460	1.3646	6.817	A	0.000	6.817	6.817	100.00	0.000	0.000
						B	0.000	6.817	6.817	100.00	0.000	0.000
						C	0.000	6.817	6.817	100.00	0.000	7.095
L8 67.0833-64.0833	65.5761	1.217	4.404	1.3574	7.213	A	0.000	7.213	7.213	100.00	0.000	0.000
						B	0.000	7.213	7.213	100.00	0.000	0.000
						C	0.000	7.213	7.213	100.00	0.000	8.103
L9 64.0833-61.0833	62.5763	1.201	4.345	1.3498	7.396	A	0.000	7.396	7.396	100.00	0.000	0.000
						B	0.000	7.396	7.396	100.00	0.000	0.000
						C	0.000	7.396	7.396	100.00	0.000	8.049
L10 61.0833-59.5000	60.2897	1.188	4.299	1.3437	3.978	A	0.000	3.978	3.978	100.00	0.000	0.000
						B	0.000	3.978	3.978	100.00	0.000	0.000
						C	0.000	3.978	3.978	100.00	0.000	4.236
L11 59.5000-53.5000	56.4736	1.166	4.220	1.3332	15.537	A	0.000	15.537	15.537	100.00	0.000	0.000
						B	0.000	15.537	15.537	100.00	0.000	0.000
						C	0.000	15.537	15.537	100.00	0.000	15.974
L12 53.5000-	48.9869	1.119	4.052	1.3107	24.442	A	0.000	24.442	24.442	100.00	0.000	0.000

Section Elevation	z	K _z	q _z	t _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face	C _A A _A Out Face
ft	ft		psf	in	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
44.5833						B	0.000	24.442		100.00	0.000	0.000
						C	0.000	24.442		100.00	0.000	24.009
L13 44.5833-40.5000	42.5308	1.075	3.891	1.2886	11.731	A	0.000	11.731	11.731	100.00	0.000	0.000
						B	0.000	11.731		100.00	0.000	0.000
						C	0.000	11.731		100.00	0.000	11.159
L14 40.5000-39.0000	39.7486	1.055	3.817	1.2782	4.394	A	0.000	4.394	4.394	100.00	0.000	0.000
						B	0.000	4.394		100.00	0.000	0.000
						C	0.000	4.394		100.00	0.000	3.891
L15 39.0000-31.5000	35.2266	1.019	3.687	1.2598	22.455	A	0.000	22.455	22.455	100.00	0.000	0.000
						B	0.000	22.455		100.00	0.000	0.000
						C	0.000	22.455		100.00	0.000	19.282
L16 31.5000-25.5000	28.4785	1	3.619	1.2500	18.641	A	0.000	18.641	18.641	100.00	0.000	0.000
						B	0.000	18.641		100.00	0.000	0.000
						C	0.000	18.641		100.00	0.000	15.352
L17 25.5000-23.5000	24.4977	1	3.619	1.2500	6.380	A	0.000	6.380	6.380	100.00	0.000	0.000
						B	0.000	6.380		100.00	0.000	0.000
						C	0.000	6.380		100.00	0.000	5.117
L18 23.5000-18.7500	21.1122	1	3.619	1.2500	15.487	A	0.000	15.487	15.487	100.00	0.000	0.000
						B	0.000	15.487		100.00	0.000	0.000
						C	0.000	15.487		100.00	0.000	12.932
L19 18.7500-17.0833	17.9151	1	3.619	1.2500	5.545	A	0.000	5.545	5.545	100.00	0.000	0.000
						B	0.000	5.545		100.00	0.000	0.000
						C	0.000	5.545		100.00	0.000	5.005
L20 17.0833-13.0000	15.0326	1	3.619	1.2500	13.830	A	0.000	13.830	13.830	100.00	0.000	0.000
						B	0.000	13.830		100.00	0.000	0.000
						C	0.000	13.830		100.00	0.000	11.122
L21 13.0000-10.5000	11.7467	1	3.619	1.2500	8.639	A	0.000	8.639	8.639	100.00	0.000	0.000
						B	0.000	8.639		100.00	0.000	0.000
						C	0.000	8.639		100.00	0.000	6.501
L22 10.5000-0.0000	5.1935	1	3.619	1.2500	37.703	A	0.000	37.703	37.703	100.00	0.000	0.000
						B	0.000	37.703		100.00	0.000	0.000
						C	0.000	37.703		100.00	0.000	27.304

Tower Pressure - Service

G_H = 1.690

Section Elevation	z	K _z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face	C _A A _A Out Face
ft	ft		psf	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
L1 131.0000-110.0000	119.8282	1.445	9.251	22.794	A	0.000	22.794	22.794	100.00	0.000	0.000
					B	0.000	22.794		100.00	0.000	0.000
					C	0.000	22.794		100.00	0.000	2.613
L2 110.0000-90.0000	99.5374	1.371	8.773	30.044	A	0.000	30.044	30.044	100.00	0.000	0.000
					B	0.000	30.044		100.00	0.000	0.000
					C	0.000	30.044		100.00	0.000	5.000
L3 90.0000-84.5833	87.2628	1.32	8.450	9.572	A	0.000	9.572	9.572	100.00	0.000	0.000
					B	0.000	9.572		100.00	0.000	0.000
					C	0.000	9.572		100.00	0.000	3.491
L4 84.5833-83.0000	83.7893	1.305	8.352	2.913	A	0.000	2.913	2.913	100.00	0.000	0.000
					B	0.000	2.913		100.00	0.000	0.000
					C	0.000	2.913		100.00	0.000	1.588
L5 83.0000-81.0000	81.9963	1.297	8.301	3.755	A	0.000	3.755	3.755	100.00	0.000	0.000
					B	0.000	3.755		100.00	0.000	0.000
					C	0.000	3.755		100.00	0.000	1.923
L6 81.0000-70.0000	75.3956	1.266	8.104	22.142	A	0.000	22.142	22.142	100.00	0.000	0.000
					B	0.000	22.142		100.00	0.000	0.000
					C	0.000	22.142		100.00	0.000	9.202
L7 70.0000-67.0833	68.5325	1.232	7.886	6.146	A	0.000	6.146	6.146	100.00	0.000	0.000
					B	0.000	6.146		100.00	0.000	0.000
					C	0.000	6.146		100.00	0.000	2.596
L8 67.0833-	65.5761	1.217	7.787	6.534	A	0.000	6.534	6.534	100.00	0.000	0.000

Section Elevation	z	K _Z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
ft	ft		psf	ft ²		ft ²	ft ²	ft ²			
64.0833					B	0.000	6.534		100.00	0.000	0.000
					C	0.000	6.534		100.00	0.000	2.985
L9 64.0833- 61.0833	62.5763	1.201	7.684	6.721	A	0.000	6.721	6.721	100.00	0.000	0.000
					B	0.000	6.721		100.00	0.000	0.000
					C	0.000	6.721		100.00	0.000	3.010
L10 61.0833- 59.5000	60.2897	1.188	7.603	3.623	A	0.000	3.623	3.623	100.00	0.000	0.000
					B	0.000	3.623		100.00	0.000	0.000
					C	0.000	3.623		100.00	0.000	1.588
L11 59.5000- 53.5000	56.4736	1.166	7.462	14.204	A	0.000	14.204	14.204	100.00	0.000	0.000
					B	0.000	14.204		100.00	0.000	0.000
					C	0.000	14.204		100.00	0.000	6.019
L12 53.5000- 44.5833	48.9869	1.119	7.165	22.495	A	0.000	22.495	22.495	100.00	0.000	0.000
					B	0.000	22.495		100.00	0.000	0.000
					C	0.000	22.495		100.00	0.000	9.101
L13 44.5833- 40.5000	42.5308	1.075	6.881	10.854	A	0.000	10.854	10.854	100.00	0.000	0.000
					B	0.000	10.854		100.00	0.000	0.000
					C	0.000	10.854		100.00	0.000	4.253
L14 40.5000- 39.0000	39.7486	1.055	6.749	4.075	A	0.000	4.075	4.075	100.00	0.000	0.000
					B	0.000	4.075		100.00	0.000	0.000
					C	0.000	4.075		100.00	0.000	1.505
L15 39.0000- 31.5000	35.2266	1.019	6.521	20.880	A	0.000	20.880	20.880	100.00	0.000	0.000
					B	0.000	20.880		100.00	0.000	0.000
					C	0.000	20.880		100.00	0.000	7.524
L16 31.5000- 25.5000	28.4785	1	6.400	17.391	A	0.000	17.391	17.391	100.00	0.000	0.000
					B	0.000	17.391		100.00	0.000	0.000
					C	0.000	17.391		100.00	0.000	6.019
L17 25.5000- 23.5000	24.4977	1	6.400	5.963	A	0.000	5.963	5.963	100.00	0.000	0.000
					B	0.000	5.963		100.00	0.000	0.000
					C	0.000	5.963		100.00	0.000	2.006
L18 23.5000- 18.7500	21.1122	1	6.400	14.497	A	0.000	14.497	14.497	100.00	0.000	0.000
					B	0.000	14.497		100.00	0.000	0.000
					C	0.000	14.497		100.00	0.000	5.057
L19 18.7500- 17.0833	17.9151	1	6.400	5.198	A	0.000	5.198	5.198	100.00	0.000	0.000
					B	0.000	5.198		100.00	0.000	0.000
					C	0.000	5.198		100.00	0.000	1.950
L20 17.0833- 13.0000	15.0326	1	6.400	12.979	A	0.000	12.979	12.979	100.00	0.000	0.000
					B	0.000	12.979		100.00	0.000	0.000
					C	0.000	12.979		100.00	0.000	4.423
L21 13.0000- 10.5000	11.7467	1	6.400	8.118	A	0.000	8.118	8.118	100.00	0.000	0.000
					B	0.000	8.118		100.00	0.000	0.000
					C	0.000	8.118		100.00	0.000	2.612
L22 10.5000- 0.0000	5.1935	1	6.400	35.515	A	0.000	35.515	35.515	100.00	0.000	0.000
					B	0.000	35.515		100.00	0.000	0.000
					C	0.000	35.515		100.00	0.000	10.971

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 60 deg - No Ice
5	Dead+Wind 90 deg - No Ice
6	Dead+Wind 120 deg - No Ice
7	Dead+Wind 150 deg - No Ice
8	Dead+Wind 180 deg - No Ice
9	Dead+Wind 210 deg - No Ice
10	Dead+Wind 240 deg - No Ice
11	Dead+Wind 270 deg - No Ice
12	Dead+Wind 300 deg - No Ice
13	Dead+Wind 330 deg - No Ice
14	Dead+Ice+Temp
15	Dead+Wind 0 deg+Ice+Temp
16	Dead+Wind 30 deg+Ice+Temp

Comb. No.	Description
17	Dead+Wind 60 deg+Ice+Temp
18	Dead+Wind 90 deg+Ice+Temp
19	Dead+Wind 120 deg+Ice+Temp
20	Dead+Wind 150 deg+Ice+Temp
21	Dead+Wind 180 deg+Ice+Temp
22	Dead+Wind 210 deg+Ice+Temp
23	Dead+Wind 240 deg+Ice+Temp
24	Dead+Wind 270 deg+Ice+Temp
25	Dead+Wind 300 deg+Ice+Temp
26	Dead+Wind 330 deg+Ice+Temp
27	Dead+Wind 0 deg - Service
28	Dead+Wind 30 deg - Service
29	Dead+Wind 60 deg - Service
30	Dead+Wind 90 deg - Service
31	Dead+Wind 120 deg - Service
32	Dead+Wind 150 deg - Service
33	Dead+Wind 180 deg - Service
34	Dead+Wind 210 deg - Service
35	Dead+Wind 240 deg - Service
36	Dead+Wind 270 deg - Service
37	Dead+Wind 300 deg - Service
38	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
L1	131 - 110	Pole	Max Tension	11	0.00	-0.00	0.00
			Max. Compression	14	-5.73	0.38	0.14
			Max. Mx	11	-1.75	43.28	0.04
			Max. My	2	-1.75	0.03	43.30
			Max. Vy	11	-4.04	43.28	0.04
			Max. Vx	8	4.04	0.04	-43.15
			Max. Torque	5			0.26
L2	110 - 90	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-23.88	1.49	-1.69
			Max. Mx	11	-7.68	285.23	-0.13
			Max. My	8	-7.71	0.19	-280.97
			Max. Vy	11	-15.79	285.23	-0.13
			Max. Vx	2	-15.54	0.03	280.71
			Max. Torque	4			-0.49
L3	90 - 84.5833	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-30.23	2.19	-2.10
			Max. Mx	11	-10.09	380.33	-0.11
			Max. My	8	-10.13	0.30	-374.49
			Max. Vy	11	-19.67	380.33	-0.11
			Max. Vx	2	-19.42	0.06	374.32
			Max. Torque	12			0.51
L4	84.5833 - 83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-30.86	2.45	-2.25
			Max. Mx	11	-10.39	411.63	-0.10
			Max. My	8	-10.43	0.33	-405.33
			Max. Vy	11	-19.85	411.63	-0.10
			Max. Vx	2	-19.59	0.08	405.17
			Max. Torque	12			0.53
L5	83 - 81	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-31.54	2.79	-2.45
			Max. Mx	11	-10.68	451.55	-0.10
			Max. My	8	-10.72	0.38	-444.66
			Max. Vy	11	-20.05	451.55	-0.10
			Max. Vx	2	-19.79	0.10	444.52
			Max. Torque	12			0.54
L6	81 - 70	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-34.17	4.04	-3.19
			Max. Mx	11	-11.94	594.36	-0.09
			Max. My	8	-11.97	0.56	-585.43

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L7	70 - 67.0833	Pole	Max. Vy	11	-20.74	594.36	-0.09
			Max. Vx	2	-20.48	0.18	585.34
			Max. Torque	12			0.58
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-37.41	5.30	-3.92
			Max. Mx	11	-13.61	740.57	-0.08
			Max. My	8	-13.64	0.74	-729.60
			Max. Vy	11	-21.49	740.57	-0.08
L8	67.0833 - 64.0833	Pole	Max. Vx	2	-21.23	0.26	729.56
			Max. Torque	12			0.63
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-38.51	5.86	-4.25
			Max. Mx	11	-14.15	805.50	-0.07
			Max. My	8	-14.18	0.82	-793.64
			Max. Vy	11	-21.78	805.50	-0.07
			Max. Vx	2	-21.53	0.30	793.62
L9	64.0833 - 61.0833	Pole	Max. Torque	12			0.66
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-39.65	6.44	-4.58
			Max. Mx	11	-14.73	871.33	-0.07
			Max. My	8	-14.76	0.91	-858.59
			Max. Vy	11	-22.09	871.33	-0.07
			Max. Vx	2	-21.83	0.34	858.59
			Max. Torque	12			0.68
L10	61.0833 - 59.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-40.32	6.74	-4.76
			Max. Mx	11	-15.09	906.45	-0.07
			Max. My	2	-15.11	0.37	893.25
			Max. Vy	11	-22.26	906.45	-0.07
			Max. Vx	2	-22.00	0.37	893.25
			Max. Torque	12			0.69
			Max Tension	1	0.00	0.00	0.00
L11	59.5 - 53.5	Pole	Max. Compression	14	-43.06	7.92	-5.45
			Max. Mx	11	-16.66	1042.01	-0.07
			Max. My	2	-16.68	0.46	1027.07
			Max. Vy	11	-22.91	1042.01	-0.07
			Max. Vx	2	-22.65	0.46	1027.07
			Max. Torque	12			0.74
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-47.19	9.74	-6.51
L12	53.5 - 44.5833	Pole	Max. Mx	11	-19.07	1250.66	-0.08
			Max. My	2	-19.09	0.60	1233.12
			Max. Vy	11	-23.87	1250.66	-0.08
			Max. Vx	2	-23.62	0.60	1233.12
			Max. Torque	12			0.82
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-49.10	10.59	-7.00
			Max. Mx	11	-20.22	1349.08	-0.08
L13	44.5833 - 40.5	Pole	Max. My	2	-20.23	0.67	1330.33
			Max. Vy	11	-24.30	1349.08	-0.08
			Max. Vx	2	-24.05	0.67	1330.33
			Max. Torque	12			0.86
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-49.82	10.90	-7.18
			Max. Mx	11	-20.65	1385.68	-0.08
			Max. My	2	-20.67	0.70	1366.49
L14	40.5 - 39	Pole	Max. Vy	11	-24.46	1385.68	-0.08
			Max. Vx	2	-24.21	0.70	1366.49
			Max. Torque	12			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-53.51	12.48	-8.10
			Max. Mx	11	-22.96	1572.10	-0.10
			Max. My	2	-22.97	0.84	1550.71
			Max. Vy	11	-25.22	1572.10	-0.10
L15	39 - 31.5	Pole	Max. Vy	11	-25.22	1572.10	-0.10

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L16	31.5 - 25.5	Pole	Max. Vx	2	-24.97	0.84	1550.71
			Max. Torque	12			0.94
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-56.28	13.76	-8.84
			Max. Mx	11	-24.65	1725.27	-0.11
			Max. My	2	-24.66	0.95	1702.10
			Max. Vy	11	-25.80	1725.27	-0.11
L17	25.5 - 23.5	Pole	Max. Vx	2	-25.55	0.95	1702.10
			Max. Torque	12			0.99
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-57.26	14.20	-9.09
			Max. Mx	11	-25.26	1777.11	-0.12
			Max. My	2	-25.27	0.99	1753.35
			Max. Vy	11	-26.00	1777.11	-0.12
L18	23.5 - 18.75	Pole	Max. Vx	2	-25.75	0.99	1753.35
			Max. Torque	12			1.01
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-59.41	15.26	-9.71
			Max. Mx	11	-26.54	1901.80	-0.13
			Max. My	2	-26.55	1.09	1876.63
			Max. Vy	11	-26.47	1901.80	-0.13
L19	18.75 - 17.0833	Pole	Max. Vx	2	-26.22	1.09	1876.63
			Max. Torque	13			1.06
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-60.27	15.64	-9.93
			Max. Mx	11	-27.09	1946.09	-0.14
			Max. My	2	-27.09	1.13	1920.43
			Max. Vy	11	-26.65	1946.09	-0.14
L20	17.0833 - 13	Pole	Max. Vx	2	-26.40	1.13	1920.43
			Max. Torque	13			1.08
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-62.25	16.58	-10.47
			Max. Mx	11	-28.31	2055.82	-0.15
			Max. My	2	-28.32	1.21	2028.95
			Max. Vy	11	-27.07	2055.82	-0.15
L21	13 - 10.5	Pole	Max. Vx	2	-26.81	1.21	2028.95
			Max. Torque	13			1.13
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-63.64	17.15	-10.80
			Max. Mx	11	-29.23	2123.87	-0.16
			Max. My	8	-29.23	2.54	-2096.26
			Max. Vy	11	-27.33	2123.87	-0.16
L22	10.5 - 0	Pole	Max. Vx	2	-27.08	1.27	2096.25
			Max. Torque	13			1.16
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-68.76	19.66	-12.24
			Max. Mx	11	-32.37	2416.69	-0.21
			Max. My	8	-32.37	2.93	-2386.03
			Max. Vy	11	-28.41	2416.69	-0.21
			Max. Vx	2	-28.17	1.52	2385.96
			Max. Torque	13			1.29

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	14	68.76	-0.00	0.00
	Max. H _x	11	32.38	28.40	0.01
	Max. H _z	2	32.38	-0.01	28.15
	Max. M _x	2	2385.96	-0.01	28.15
	Max. M _z	5	2412.26	-28.40	0.03
	Max. Torsion	13	1.29	14.27	24.36
	Min. Vert	11	32.38	28.40	0.01

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Min. H _x	5	32.38	-28.40	0.03
	Min. H _z	8	32.38	0.01	-28.13
	Min. M _x	8	-2386.03	0.01	-28.13
	Min. M _z	11	-2416.69	28.40	0.01
	Min. Torsion	7	-1.22	-14.18	-24.35

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overtuning Moment, M _x kip-ft	Overtuning Moment, M _z kip-ft	Torque kip-ft
Dead Only	32.38	0.00	-0.00	1.48	2.17	-0.00
Dead+Wind 0 deg - No Ice	32.38	0.01	-28.15	-2385.96	1.52	-0.76
Dead+Wind 30 deg - No Ice	32.38	14.28	-24.37	-2064.88	-1213.76	-0.03
Dead+Wind 60 deg - No Ice	32.38	24.64	-14.05	-1189.44	-2092.83	0.49
Dead+Wind 90 deg - No Ice	32.38	28.40	-0.03	-1.20	-2412.26	0.87
Dead+Wind 120 deg - No Ice	32.38	24.62	13.96	1183.31	-2090.94	1.12
Dead+Wind 150 deg - No Ice	32.38	14.18	24.35	2065.43	-1202.50	1.22
Dead+Wind 180 deg - No Ice	32.38	-0.01	28.13	2386.03	2.93	0.76
Dead+Wind 210 deg - No Ice	32.38	-14.19	24.35	2066.13	1208.16	0.11
Dead+Wind 240 deg - No Ice	32.38	-24.62	13.97	1184.53	2096.08	-0.36
Dead+Wind 270 deg - No Ice	32.38	-28.40	-0.01	0.21	2416.69	-0.88
Dead+Wind 300 deg - No Ice	32.38	-24.63	-14.04	-1188.22	2096.57	-1.26
Dead+Wind 330 deg - No Ice	32.38	-14.27	-24.36	-2064.18	1216.98	-1.29
Dead+Ice+Temp	68.76	0.00	-0.00	12.24	19.66	-0.00
Dead+Wind 0 deg+Ice+Temp	68.76	0.00	-8.81	-762.73	19.58	-0.44
Dead+Wind 30 deg+Ice+Temp	68.76	4.46	-7.63	-658.46	-373.56	-0.13
Dead+Wind 60 deg+Ice+Temp	68.76	7.70	-4.40	-374.40	-658.51	0.15
Dead+Wind 90 deg+Ice+Temp	68.76	8.88	-0.01	11.59	-762.31	0.40
Dead+Wind 120 deg+Ice+Temp	68.76	7.69	4.38	396.56	-657.99	0.56
Dead+Wind 150 deg+Ice+Temp	68.76	4.43	7.62	682.43	-370.50	0.62
Dead+Wind 180 deg+Ice+Temp	68.76	-0.00	8.81	786.58	19.98	0.44
Dead+Wind 210 deg+Ice+Temp	68.76	-4.43	7.62	682.62	410.40	0.15
Dead+Wind 240 deg+Ice+Temp	68.76	-7.69	4.38	396.90	697.74	-0.12
Dead+Wind 270 deg+Ice+Temp	68.76	-8.88	-0.00	11.98	801.86	-0.40
Dead+Wind 300 deg+Ice+Temp	68.76	-7.69	-4.40	-374.06	697.86	-0.60
Dead+Wind 330 deg+Ice+Temp	68.76	-4.46	-7.63	-658.26	412.77	-0.63
Dead+Wind 0 deg - Service	32.38	0.00	-11.00	-931.98	1.95	-0.30
Dead+Wind 30 deg - Service	32.38	5.58	-9.52	-806.37	-473.18	-0.01
Dead+Wind 60 deg - Service	32.38	9.62	-5.49	-464.10	-816.88	0.19
Dead+Wind 90 deg - Service	32.38	11.09	-0.01	0.46	-941.86	0.34
Dead+Wind 120 deg - Service	32.38	9.62	5.45	463.57	-816.13	0.44
Dead+Wind 150 deg - Service	32.38	5.54	9.51	808.43	-468.78	0.48
Dead+Wind 180 deg - Service	32.38	-0.00	10.99	933.86	2.50	0.30
Dead+Wind 210 deg - Service	32.38	-5.54	9.51	808.71	473.70	0.04
Dead+Wind 240 deg - Service	32.38	-9.62	5.46	464.04	820.86	-0.14
Dead+Wind 270 deg - Service	32.38	-11.09	-0.00	1.01	946.30	-0.34

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	32.38	-9.62	-5.48	-463.63	821.05	-0.49
Dead+Wind 330 deg - Service	32.38	-5.57	-9.52	-806.09	477.15	-0.51

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-32.38	0.00	-0.00	32.38	0.00	0.000%
2	0.01	-32.38	-28.16	-0.01	32.38	28.15	0.011%
3	14.28	-32.38	-24.37	-14.28	32.38	24.37	0.000%
4	24.64	-32.38	-14.05	-24.64	32.38	14.05	0.000%
5	28.41	-32.38	-0.03	-28.40	32.38	0.03	0.011%
6	24.62	-32.38	13.96	-24.62	32.38	-13.96	0.000%
7	14.18	-32.38	24.35	-14.18	32.38	-24.35	0.000%
8	-0.01	-32.38	28.13	0.01	32.38	-28.13	0.011%
9	-14.19	-32.38	24.35	14.19	32.38	-24.35	0.000%
10	-24.62	-32.38	13.97	24.62	32.38	-13.97	0.000%
11	-28.41	-32.38	-0.01	28.40	32.38	0.01	0.011%
12	-24.63	-32.38	-14.04	24.63	32.38	14.04	0.000%
13	-14.27	-32.38	-24.36	14.27	32.38	24.36	0.000%
14	0.00	-68.76	0.00	-0.00	68.76	0.00	0.001%
15	0.00	-68.76	-8.81	-0.00	68.76	8.81	0.001%
16	4.46	-68.76	-7.63	-4.46	68.76	7.63	0.001%
17	7.70	-68.76	-4.40	-7.70	68.76	4.40	0.001%
18	8.88	-68.76	-0.01	-8.88	68.76	0.01	0.001%
19	7.69	-68.76	4.38	-7.69	68.76	-4.38	0.001%
20	4.43	-68.76	7.62	-4.43	68.76	-7.62	0.001%
21	-0.00	-68.76	8.81	0.00	68.76	-8.81	0.001%
22	-4.43	-68.76	7.63	4.43	68.76	-7.62	0.001%
23	-7.69	-68.76	4.38	7.69	68.76	-4.38	0.001%
24	-8.88	-68.76	-0.00	8.88	68.76	0.00	0.001%
25	-7.69	-68.76	-4.40	7.69	68.76	4.40	0.001%
26	-4.46	-68.76	-7.63	4.46	68.76	7.63	0.001%
27	0.00	-32.38	-11.00	-0.00	32.38	11.00	0.005%
28	5.58	-32.38	-9.52	-5.58	32.38	9.52	0.003%
29	9.62	-32.38	-5.49	-9.62	32.38	5.49	0.003%
30	11.10	-32.38	-0.01	-11.09	32.38	0.01	0.006%
31	9.62	-32.38	5.45	-9.62	32.38	-5.45	0.003%
32	5.54	-32.38	9.51	-5.54	32.38	-9.51	0.003%
33	-0.00	-32.38	10.99	0.00	32.38	-10.99	0.005%
34	-5.54	-32.38	9.51	5.54	32.38	-9.51	0.003%
35	-9.62	-32.38	5.46	9.62	32.38	-5.46	0.003%
36	-11.10	-32.38	-0.00	11.09	32.38	0.00	0.006%
37	-9.62	-32.38	-5.48	9.62	32.38	5.48	0.003%
38	-5.58	-32.38	-9.52	5.57	32.38	9.52	0.003%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	15	0.00011932	0.00012610
3	Yes	20	0.00000001	0.00009710
4	Yes	20	0.00000001	0.00009493
5	Yes	15	0.00011920	0.00013872
6	Yes	20	0.00000001	0.00009714
7	Yes	20	0.00000001	0.00009410
8	Yes	15	0.00011934	0.00012736
9	Yes	20	0.00000001	0.00009566

10	Yes	20	0.00000001	0.00009690
11	Yes	15	0.00011919	0.00014097
12	Yes	20	0.00000001	0.00009443
13	Yes	20	0.00000001	0.00009841
14	Yes	12	0.00000001	0.00004627
15	Yes	18	0.00000001	0.00008589
16	Yes	18	0.00000001	0.00010663
17	Yes	18	0.00000001	0.00010644
18	Yes	18	0.00000001	0.00008611
19	Yes	18	0.00000001	0.00011079
20	Yes	18	0.00000001	0.00010912
21	Yes	18	0.00000001	0.00008864
22	Yes	18	0.00000001	0.00011561
23	Yes	18	0.00000001	0.00011605
24	Yes	18	0.00000001	0.00009017
25	Yes	18	0.00000001	0.00011135
26	Yes	18	0.00000001	0.00011288
27	Yes	15	0.00012421	0.00006614
28	Yes	16	0.00006343	0.00010434
29	Yes	16	0.00006344	0.00009833
30	Yes	15	0.00012421	0.00006813
31	Yes	16	0.00006344	0.00010775
32	Yes	16	0.00006344	0.00009651
33	Yes	15	0.00012422	0.00006635
34	Yes	16	0.00006343	0.00010122
35	Yes	16	0.00006343	0.00010649
36	Yes	15	0.00012420	0.00006848
37	Yes	16	0.00006343	0.00009698
38	Yes	16	0.00006343	0.00010909

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	131 - 110	33.90	36	2.37	0.00
L2	110 - 90	23.62	36	2.24	0.00
L3	90 - 84.5833	15.17	36	1.71	0.00
L4	84.5833 - 83	13.30	36	1.60	0.00
L5	83 - 81	12.77	36	1.57	0.00
L6	81 - 70	12.13	36	1.51	0.00
L7	74 - 67.0833	10.02	36	1.36	0.00
L8	67.0833 - 64.0833	8.13	36	1.22	0.00
L9	64.0833 - 61.0833	7.39	36	1.14	0.00
L10	61.0833 - 59.5	6.70	36	1.06	0.00
L11	59.5 - 53.5	6.36	36	1.03	0.00
L12	53.5 - 44.5833	5.13	36	0.92	0.00
L13	44.5833 - 40.5	3.56	36	0.76	0.00
L14	40.5 - 39	2.94	36	0.69	0.00
L15	39 - 31.5	2.73	36	0.67	0.00
L16	31.5 - 25.5	1.77	36	0.55	0.00
L17	25.5 - 23.5	1.15	36	0.44	0.00
L18	23.5 - 18.75	0.98	36	0.40	0.00
L19	18.75 - 17.0833	0.62	36	0.31	0.00
L20	17.0833 - 13	0.52	36	0.29	0.00
L21	13 - 10.5	0.30	36	0.22	0.00
L22	10.5 - 0	0.20	36	0.18	0.00

Critical Deflections and Radius of Curvature - Service Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
121.0000	AM-X-CD-16-65-00T-RET w/ Mount Pipe	36	28.92	2.35	0.00	8071
107.0000	BXA-80063/4CF	36	22.23	2.18	0.00	3188
101.0000	VHLP2.5-11	36	19.56	2.02	0.00	2381
99.0000	800MHz 2X50W RRH W/FILTER	36	18.71	1.96	0.00	2195
97.0000	TIMING 2000	36	17.88	1.91	0.00	2036
87.0000	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	36	14.12	1.64	0.00	2346

Maximum Tower Deflections - Design Wind

Section No.	Elevation	Horz. Deflection	Gov. Load Comb.	Tilt	Twist
	ft	in		°	°
L1	131 - 110	86.44	11	6.04	0.00
L2	110 - 90	60.25	11	5.72	0.01
L3	90 - 84.5833	38.72	11	4.37	0.00
L4	84.5833 - 83	33.94	11	4.08	0.00
L5	83 - 81	32.60	11	4.01	0.00
L6	81 - 70	30.95	11	3.87	0.00
L7	74 - 67.0833	25.58	11	3.47	0.00
L8	67.0833 - 64.0833	20.76	11	3.12	0.00
L9	64.0833 - 61.0833	18.87	11	2.90	0.00
L10	61.0833 - 59.5	17.11	11	2.70	0.00
L11	59.5 - 53.5	16.23	11	2.62	0.00
L12	53.5 - 44.5833	13.11	11	2.35	0.00
L13	44.5833 - 40.5	9.10	11	1.95	0.00
L14	40.5 - 39	7.51	11	1.77	0.00
L15	39 - 31.5	6.96	11	1.71	0.00
L16	31.5 - 25.5	4.52	11	1.40	0.00
L17	25.5 - 23.5	2.94	11	1.12	0.00
L18	23.5 - 18.75	2.49	11	1.03	0.00
L19	18.75 - 17.0833	1.58	11	0.79	0.00
L20	17.0833 - 13	1.32	11	0.73	0.00
L21	13 - 10.5	0.77	11	0.55	0.00
L22	10.5 - 0	0.50	11	0.46	0.00

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
121.0000	AM-X-CD-16-65-00T-RET w/ Mount Pipe	11	73.75	6.01	0.01	3232
107.0000	BXA-80063/4CF	11	56.71	5.56	0.01	1272
101.0000	VHLP2.5-11	11	49.91	5.16	0.01	947
99.0000	800MHz 2X50W RRH W/FILTER	11	47.74	5.01	0.01	873
97.0000	TIMING 2000	11	45.62	4.86	0.01	809
87.0000	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	11	36.02	4.19	0.00	928

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in ²	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
L1	131 - 110 (1)	TP15.525x10.525x0.1875	21.0000	0.0000	0.0	39.00	9.2600	-1.75	361.14	0.005
L2	110 - 90 (2)	TP20.528x15.525x0.25	20.0000	0.0000	0.0	39.00	16.3238	-7.68	636.63	0.012
L3	90 - 84.5833 (3)	TP21.883x20.528x0.4767	5.4167	0.0000	0.0	28.51	32.8594	-10.09	936.89	0.011
L4	84.5833 - 83 (4)	TP22.2791x21.883x0.6243	1.5833	0.0000	0.0	28.52	43.5314	-10.39	1241.69	0.008
L5	83 - 81 (5)	TP22.7794x22.2791x0.3895	2.0000	0.0000	0.0	37.45	28.0776	-10.68	1051.39	0.010
L6	81 - 70 (6)	TP25.531x22.7794x0.5101	11.0000	0.0000	0.0	27.07	39.4554	-11.94	1068.14	0.011
L7	70 - 67.0833 (7)	TP25.7604x23.5102x0.4353	6.9167	0.0000	0.0	37.58	35.4949	-13.61	1334.04	0.010
L8	67.0833 - 64.0833 (8)	TP26.5107x25.7604x0.4313	3.0000	0.0000	0.0	37.63	36.2146	-14.15	1362.83	0.010
L9	64.0833 - 61.0833 (9)	TP27.2611x26.5107x0.4752	3.0000	0.0000	0.0	35.51	40.9837	-14.73	1455.49	0.010
L10	61.0833 - 59.5 (10)	TP27.6571x27.2611x0.6039	1.5833	0.0000	0.0	28.79	52.6099	-15.09	1514.85	0.010
L11	59.5 - 53.5 (11)	TP29.1578x27.6571x0.699	6.0000	0.0000	0.0	27.18	64.0544	-16.66	1741.00	0.010
L12	53.5 - 44.5833 (12)	TP31.388x29.1578x0.6831	8.9167	0.0000	0.0	27.01	67.5330	-19.07	1824.20	0.010
L13	44.5833 - 40.5 (13)	TP32.4093x31.388x0.6692	4.0833	0.0000	0.0	27.05	68.3942	-20.22	1849.93	0.011
L14	40.5 - 39 (14)	TP32.7844x32.4093x0.6987	1.5000	0.0000	0.0	27.27	72.1829	-20.65	1968.43	0.010
L15	39 - 31.5 (15)	TP34.0326x32.7844x0.7154	7.5000	0.0000	0.0	27.28	76.7501	-22.96	2093.90	0.011
L16	31.5 - 25.5 (16)	TP35.5312x34.0326x0.6073	6.0000	0.0000	0.0	31.75	68.2894	-24.65	2167.91	0.011
L17	25.5 - 23.5 (17)	TP36.0307x35.5312x0.6534	2.0000	0.0000	0.0	30.79	74.4274	-25.26	2291.77	0.011
L18	23.5 - 18.75 (18)	TP37.217x36.0307x0.5424	4.7500	0.0000	0.0	34.51	64.0579	-26.54	2210.77	0.012
L19	18.75 - 17.0833 (19)	TP37.6333x37.217x0.6846	1.6667	0.0000	0.0	32.57	81.4455	-27.09	2653.00	0.010
L20	17.0833 - 13 (20)	TP38.6531x37.6333x0.5929	4.0833	0.0000	0.0	32.69	72.1755	-28.02	2359.71	0.012
L21	13 - 10.5 (21)	TP39.2775x38.6531x0.7508	2.5000	0.0000	0.0	31.58	91.6330	-28.33	2894.14	0.010
L22	10.5 - 0 (22)	TP41.9x39.2775x0.5542	10.5000	0.0000	0.0	31.85	69.1003	-29.25	2201.12	0.013

Pole Bending Design Data

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
L1	131 - 110 (1)	TP15.525x10.525x0.1875	43.34	15.04	39.00	0.386	0.00	0.00	39.00	0.000
L2	110 - 90 (2)	TP20.528x15.525x0.25	285.23	42.48	39.00	1.089	0.00	0.00	39.00	0.000
L3	90 - 84.5833 (3)	TP21.883x20.528x0.4767	380.33	26.92	28.51	0.944	0.00	0.00	28.51	0.000
L4	84.5833 - 83 (4)	TP22.2791x21.883x0.6243	411.63	21.88	28.52	0.767	0.00	0.00	28.52	0.000
L5	83 - 81 (5)	TP22.7794x22.2791x0.3895	451.55	35.59	37.45	0.950	0.00	0.00	37.45	0.000
L6	81 - 70 (6)	TP25.531x22.7794x0.5101	594.37	31.19	27.07	1.152	0.00	0.00	27.07	0.000
L7	70 - 67.0833 (7)	TP25.7604x23.5102x0.4353	740.57	40.81	37.58	1.086	0.00	0.00	37.58	0.000
L8	67.0833 - 64.0833 (8)	TP26.5107x25.7604x0.4313	805.50	42.22	37.63	1.122	0.00	0.00	37.63	0.000
L9	64.0833 - 61.0833 (9)	TP27.2611x26.5107x0.4752	871.33	39.34	35.51	1.108	0.00	0.00	35.51	0.000

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
L10	61.0833 - 59.5 (10)	TP27.6571x27.2611x0.60 39	906.45	31.71	28.79	1.101	0.00	0.00	28.79	0.000
L11	59.5 - 53.5 (11)	TP29.1578x27.6571x0.69 9	1042.0	28.52	27.18	1.049	0.00	0.00	27.18	0.000
L12	53.5 - 44.5833 (12)	TP31.388x29.1578x0.683 1	1250.6	30.03	27.01	1.112	0.00	0.00	27.01	0.000
L13	44.5833 - 40.5 (13)	TP32.4093x31.388x0.669 2	1349.0	30.90	27.05	1.143	0.00	0.00	27.05	0.000
L14	40.5 - 39 (14)	TP32.7844x32.4093x0.69 87	1385.6	29.77	27.27	1.092	0.00	0.00	27.27	0.000
L15	39 - 31.5 (15)	TP34.0326x32.7844x0.71 54	1572.1	30.58	27.28	1.121	0.00	0.00	27.28	0.000
L16	31.5 - 25.5 (16)	TP35.5312x34.0326x0.60 73	1725.2	35.84	31.75	1.129	0.00	0.00	31.75	0.000
L17	25.5 - 23.5 (17)	TP36.0307x35.5312x0.65 34	1777.1	33.48	30.79	1.087	0.00	0.00	30.79	0.000
L18	23.5 - 18.75 (18)	TP37.217x36.0307x0.542 4	1901.8	40.01	34.51	1.159	0.00	0.00	34.51	0.000
L19	18.75 - 17.0833 (19)	TP37.6333x37.217x0.684 6	1946.0	32.08	32.57	0.985	0.00	0.00	32.57	0.000
L20	17.0833 - 13 (20)	TP38.6531x37.6333x0.59 29	2028.2	36.77	32.69	1.125	0.00	0.00	32.69	0.000
L21	13 - 10.5 (21)	TP39.2775x38.6531x0.75 08	2055.8	29.40	31.58	0.931	0.00	0.00	31.58	0.000
L22	10.5 - 0 (22)	TP41.9x39.2775x0.5542 7	2123.8	39.21	31.85	1.231	0.00	0.00	31.85	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V K	Actual f_v ksi	Allow. F_v ksi	Ratio $\frac{f_v}{F_v}$	Actual T kip-ft	Actual f_{vt} ksi	Allow. F_{vt} ksi	Ratio $\frac{f_{vt}}{F_{vt}}$
L1	131 - 110 (1)	TP15.525x10.525x0.1875	4.05	0.44	26.00	0.034	0.12	0.02	26.00	0.001
L2	110 - 90 (2)	TP20.528x15.525x0.25	15.79	0.97	26.00	0.076	0.44	0.03	26.00	0.001
L3	90 - 84.5833 (3)	TP21.883x20.528x0.4767	19.67	0.60	19.01	0.064	0.45	0.01	19.01	0.001
L4	84.5833 - 83 (4)	TP22.2791x21.883x0.624 3	19.85	0.46	19.02	0.049	0.46	0.01	19.02	0.001
L5	83 - 81 (5)	TP22.7794x22.2791x0.38 95	20.05	0.71	24.96	0.058	0.47	0.02	24.96	0.001
L6	81 - 70 (6)	TP25.531x22.7794x0.510 1	20.74	0.53	18.05	0.059	0.49	0.01	18.05	0.001
L7	70 - 67.0833 (7)	TP25.7604x23.5102x0.43 53	21.49	0.61	25.06	0.049	0.52	0.01	25.06	0.001
L8	67.0833 - 64.0833 (8)	TP26.5107x25.7604x0.43 13	21.78	0.60	25.09	0.049	0.53	0.01	25.09	0.001
L9	64.0833 - 61.0833 (9)	TP27.2611x26.5107x0.47 52	22.09	0.54	23.68	0.046	0.55	0.01	23.68	0.000
L10	61.0833 - 59.5 (10)	TP27.6571x27.2611x0.60 39	22.26	0.42	19.20	0.045	0.55	0.01	19.20	0.000
L11	59.5 - 53.5 (11)	TP29.1578x27.6571x0.69 9	22.91	0.36	18.12	0.040	0.58	0.01	18.12	0.000
L12	53.5 - 44.5833 (12)	TP31.388x29.1578x0.683 1	23.87	0.35	18.01	0.040	0.63	0.01	18.01	0.000
L13	44.5833 - 40.5 (13)	TP32.4093x31.388x0.669 2	24.30	0.36	18.03	0.040	0.65	0.01	18.03	0.000
L14	40.5 - 39 (14)	TP32.7844x32.4093x0.69 87	24.46	0.34	18.18	0.038	0.66	0.01	18.18	0.000
L15	39 - 31.5 (15)	TP34.0326x32.7844x0.71 54	25.22	0.33	18.19	0.037	0.69	0.01	18.19	0.000
L16	31.5 - 25.5 (16)	TP35.5312x34.0326x0.60 73	25.80	0.38	21.16	0.036	0.72	0.01	21.16	0.000
L17	25.5 - 23.5 (17)	TP36.0307x35.5312x0.65 34	26.00	0.35	20.53	0.035	0.73	0.01	20.53	0.000
L18	23.5 - 18.75	TP37.217x36.0307x0.542	26.47	0.41	23.01	0.036	0.76	0.01	23.01	0.000

Section No.	Elevation ft	Size	Actual V K	Actual f_v ksi	Allow. F_v ksi	Ratio $\frac{f_v}{F_v}$	Actual T kip-ft	Actual f_{vt} ksi	Allow. F_{vt} ksi	Ratio $\frac{f_{vt}}{F_{vt}}$
L19	18.75 - 17.0833 (18)	TP37.6333x37.217x0.684	26.65	0.33	21.72	0.031	0.77	0.01	21.72	0.000
L20	17.0833 - 13 (19)	TP38.6531x37.6333x0.59	27.07	0.38	21.80	0.035	0.80	0.01	21.80	0.000
L21	13 - 10.5 (20)	TP39.2775x38.6531x0.75	27.20	0.30	21.06	0.028	0.81	0.01	21.06	0.000
L22	10.5 - 0 (22)	TP41.9x39.2775x0.5542	27.44	0.40	21.24	0.038	0.82	0.01	21.24	0.000

Pole Interaction Design Data

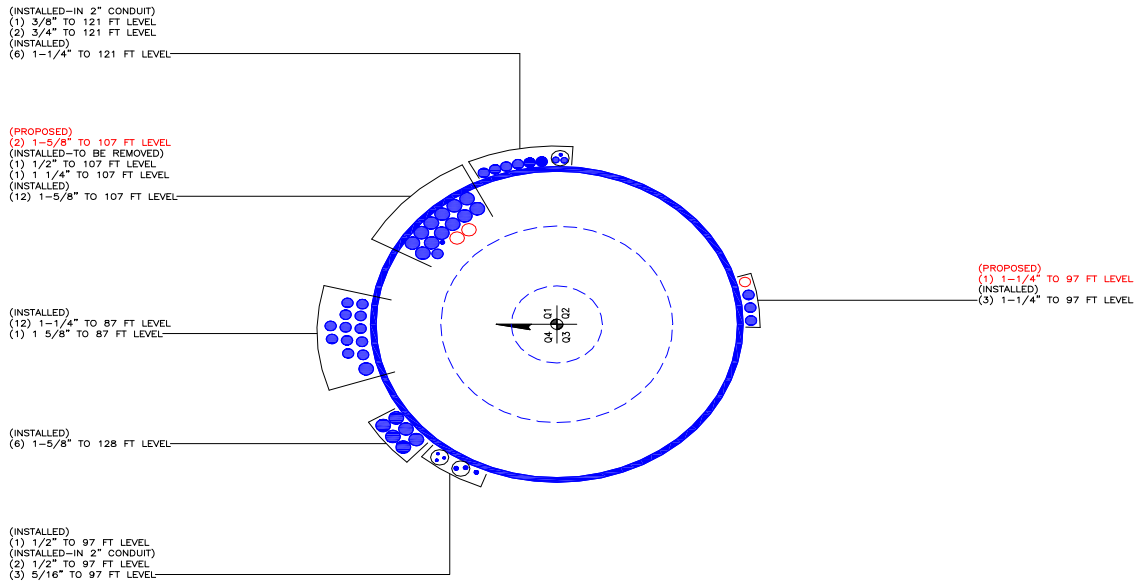
Section No.	Elevation ft	Ratio P P_a	Ratio f_{bx} F_{bx}	Ratio f_{by} F_{by}	Ratio f_v F_v	Ratio f_{vt} F_{vt}	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	131 - 110 (1)	0.005	0.386	0.000	0.034	0.001	0.391	1.333	H1-3+VT ✓
L2	110 - 90 (2)	0.012	1.089	0.000	0.076	0.001	1.103	1.333	H1-3+VT ✓
L3	90 - 84.5833 (3)	0.011	0.944	0.000	0.064	0.001	0.956	1.333	H1-3+VT ✓
L4	84.5833 - 83 (4)	0.008	0.767	0.000	0.049	0.001	0.776	1.333	H1-3+VT ✓
L5	83 - 81 (5)	0.010	0.950	0.000	0.058	0.001	0.961	1.333	H1-3+VT ✓
L6	81 - 70 (6)	0.011	1.152	0.000	0.059	0.001	1.164	1.333	H1-3+VT ✓
L7	70 - 67.0833 (7)	0.010	1.086	0.000	0.049	0.001	1.097	1.333	H1-3+VT ✓
L8	67.0833 - 64.0833 (8)	0.010	1.122	0.000	0.049	0.001	1.133	1.333	H1-3+VT ✓
L9	64.0833 - 61.0833 (9)	0.010	1.108	0.000	0.046	0.000	1.118	1.333	H1-3+VT ✓
L10	61.0833 - 59.5 (10)	0.010	1.101	0.000	0.045	0.000	1.112	1.333	H1-3+VT ✓
L11	59.5 - 53.5 (11)	0.010	1.049	0.000	0.040	0.000	1.059	1.333	H1-3+VT ✓
L12	53.5 - 44.5833 (12)	0.010	1.112	0.000	0.040	0.000	1.122	1.333	H1-3+VT ✓
L13	44.5833 - 40.5 (13)	0.011	1.143	0.000	0.040	0.000	1.154	1.333	H1-3+VT ✓
L14	40.5 - 39 (14)	0.010	1.092	0.000	0.038	0.000	1.103	1.333	H1-3+VT ✓
L15	39 - 31.5 (15)	0.011	1.121	0.000	0.037	0.000	1.132	1.333	H1-3+VT ✓
L16	31.5 - 25.5 (16)	0.011	1.129	0.000	0.036	0.000	1.141	1.333	H1-3+VT ✓
L17	25.5 - 23.5 (17)	0.011	1.087	0.000	0.035	0.000	1.098	1.333	H1-3+VT ✓
L18	23.5 - 18.75 (18)	0.012	1.159	0.000	0.036	0.000	1.172	1.333	H1-3+VT ✓
L19	18.75 - 17.0833 (19)	0.010	0.985	0.000	0.031	0.000	0.995	1.333	H1-3+VT ✓
L20	17.0833 - 13 (20)	0.012	1.125	0.000	0.035	0.000	1.137	1.333	H1-3+VT ✓
L21	13 - 10.5 (21)	0.010	0.931	0.000	0.028	0.000	0.941	1.333	H1-3+VT ✓

Section No.	Elevation ft	Ratio P P_a	Ratio f_{bx} F_{bx}	Ratio f_{by} F_{by}	Ratio f_v F_v	Ratio f_{vt} F_{vt}	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L22	10.5 - 0 (22)	0.013	1.231	0.000	0.038	0.000	1.245 ✓	1.333	H1-3+VT ✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF* P_{allow} K	% Capacity	Pass Fail	
L1	131 - 110	Pole	TP15.525x10.525x0.1875	1	-1.75	481.40	29.3	Pass	
L2	110 - 90	Pole	TP20.528x15.525x0.25	2	-7.68	848.63	82.7	Pass	
L3	90 - 84.5833	Pole	TP21.883x20.528x0.4767	3	-10.09	1248.87	71.7	Pass	
L4	84.5833 - 83	Pole	TP22.2791x21.883x0.6243	4	-10.39	1655.17	58.2	Pass	
L5	83 - 81	Pole	TP22.7794x22.2791x0.3895	5	-10.68	1401.50	72.1	Pass	
L6	81 - 70	Pole	TP25.531x22.7794x0.5101	6	-11.94	1423.83	87.3	Pass	
L7	70 - 67.0833	Pole	TP25.7604x23.5102x0.4353	7	-13.61	1778.28	82.3	Pass	
L8	67.0833 - 64.0833	Pole	TP26.5107x25.7604x0.4313	8	-14.15	1816.65	85.0	Pass	
L9	64.0833 - 61.0833	Pole	TP27.2611x26.5107x0.4752	9	-14.73	1940.17	83.9	Pass	
L10	61.0833 - 59.5	Pole	TP27.6571x27.2611x0.6039	10	-15.09	2019.29	83.4	Pass	
L11	59.5 - 53.5	Pole	TP29.1578x27.6571x0.699	11	-16.66	2320.75	79.5	Pass	
L12	53.5 - 44.5833	Pole	TP31.388x29.1578x0.6831	12	-19.07	2431.66	84.2	Pass	
L13	44.5833 - 40.5	Pole	TP32.4093x31.388x0.6692	13	-20.22	2465.96	86.6	Pass	
L14	40.5 - 39	Pole	TP32.7844x32.4093x0.6987	14	-20.65	2623.92	82.7	Pass	
L15	39 - 31.5	Pole	TP34.0326x32.7844x0.7154	15	-22.96	2791.17	84.9	Pass	
L16	31.5 - 25.5	Pole	TP35.5312x34.0326x0.6073	16	-24.65	2889.82	85.6	Pass	
L17	25.5 - 23.5	Pole	TP36.0307x35.5312x0.6534	17	-25.26	3054.93	82.4	Pass	
L18	23.5 - 18.75	Pole	TP37.217x36.0307x0.5424	18	-26.54	2946.96	87.9	Pass	
L19	18.75 - 17.0833	Pole	TP37.6333x37.217x0.6846	19	-27.09	3536.45	74.7	Pass	
L20	17.0833 - 13	Pole	TP38.6531x37.6333x0.5929	20	-28.02	3145.49	85.3	Pass	
L21	13 - 10.5	Pole	TP39.2775x38.6531x0.7508	21	-28.33	3857.89	70.6	Pass	
L22	10.5 - 0	Pole	TP41.9x39.2775x0.5542	22	-29.25	2934.09	93.4	Pass	
							Summary		
							Pole (L22)	93.4	Pass
							RATING =	93.4	Pass

APPENDIX B
BASE LEVEL DRAWING

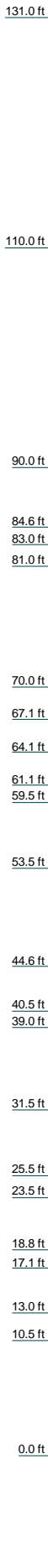


APPENDIX C

ADDITIONAL CALCULATIONS

Program Version 6.1.4.1 - 12/17/2013 File:G:/TOWER/375_Crown_Castle/2015/37515-1502_806376_HRT 100 943239/37515-1502.005.7805_SA_1093686/37515-1502.005.7805 (mod incl).eri

Section	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Length (ft)	21.0000	20.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000
Number of Sides	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Thickness (in)	0.1875	0.2500	0.3062	0.3062	0.3062	0.3062	0.3062	0.3062	0.3062	0.3062	0.3062	0.3062	0.3062	0.3062	0.3062	0.3062	0.3062	0.3062	0.3062	0.3062	0.3062	0.3062
Socket Length (ft)																						
Top Dia (in)	10.5250	15.5250	22.2794	22.2794	22.2794	22.2794	22.2794	22.2794	22.2794	22.2794	22.2794	22.2794	22.2794	22.2794	22.2794	22.2794	22.2794	22.2794	22.2794	22.2794	22.2794	22.2794
Bot Dia (in)	15.5250	20.5280	22.7207	22.7207	22.7207	22.7207	22.7207	22.7207	22.7207	22.7207	22.7207	22.7207	22.7207	22.7207	22.7207	22.7207	22.7207	22.7207	22.7207	22.7207	22.7207	22.7207
Grade	A572-65	A572-65	Reinf 45.12 ksi	Reinf 45.12 ksi	Reinf 45.12 ksi	Reinf 45.12 ksi	Reinf 45.12 ksi	Reinf 45.12 ksi	Reinf 45.12 ksi	Reinf 45.12 ksi	Reinf 45.12 ksi	Reinf 45.12 ksi	Reinf 45.12 ksi	Reinf 45.12 ksi	Reinf 45.12 ksi	Reinf 45.12 ksi	Reinf 45.12 ksi	Reinf 45.12 ksi	Reinf 45.12 ksi	Reinf 45.12 ksi	Reinf 45.12 ksi	Reinf 45.12 ksi
Weight (K)	0.6	1.0	0.6	0.2	0.2	1.5	0.8	0.4	0.4	0.3	1.3	2.0	0.9	0.4	1.9	1.4	0.5	1.0	0.5	1.0	0.8	2.6

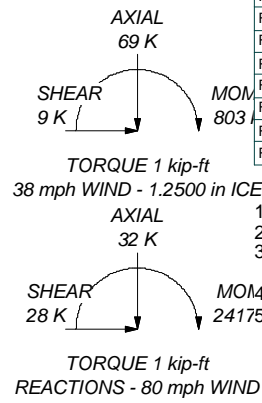


DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
AM-X-CD-16-65-00T-RET w/ Mount Pipe	121	PCS 1900MHz 4x45W-65MHz	99
AM-X-CD-16-65-00T-RET w/ Mount Pipe	121	PCS 1900MHz 4x45W-65MHz	99
AM-X-CD-16-65-00T-RET w/ Mount Pipe	121	PCS 1900MHz 4x45W-65MHz	99
800 10121 w/ Mount Pipe	121	Side Arm Mount [SO 101-3]	99
800 10121 w/ Mount Pipe	121	TIMING 2000	97
800 10121 w/ Mount Pipe	121	840 10054	97
RRUS-11	121	840 10054	97
RRUS-11	121	840 10054	97
RRUS-11	121	WIMAX DAP HEAD	97
(2) LGP21401	121	WIMAX DAP HEAD	97
(2) LGP21401	121	WIMAX DAP HEAD	97
(2) LGP21401	121	HORIZON COMPACT	97
DC6-48-60-18-8F	121	HORIZON COMPACT	97
RRUS 11 B2	121	APXVSP18-C-A20	97
RRUS 11 B2	121	APXVSP18-C-A20	97
RRUS 11 B2	121	APXVSP18-C-A20	97
T-Arm Mount [TA 601-3]	121	IBC1900HG-2A	97
BXA-80063/4CF	107	IBC1900HG-2A	97
BXA-80063/4CF	107	IBC1900HG-2A	97
BXA-80063/4CF	107	IBC1900BB-1	97
BXA-70063/6CFx4	107	IBC1900BB-1	97
BXA-70063/6CFx4	107	IBC1900BB-1	97
BXA-70063/6CFx4	107	Platform Mount (LP 101-1)	97
DB-T1-6Z-8AB-0Z	107	VHLP2.5-11	97
(2) FD9R6004/2C-3L	107	VHLP2.5-11	97
(2) FD9R6004/2C-3L	107	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	87
(2) FD9R6004/2C-3L	107	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	87
(2) SBNHH-1D65B	107	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	87
(2) SBNHH-1D65B	107	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	87
(2) SBNHH-1D65B	107	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	87
RRH2X60-AWS	107	RRH2X60-AWS	87
RRH2X60-AWS	107	RRH2X60-AWS	87
RRH2X60-AWS	107	RRH2X60-AWS	87
RRH2x60-700	107	RRH2x60-700	87
RRH2x60-700	107	RRH2x60-700	87
RRH2x60-700	107	RRH2x60-700	87
RRH2X60-PCS	107	RRH2X60-PCS	87
RRH2X60-PCS	107	RRH2X60-PCS	87
RRH2X60-PCS	107	RRH2X60-PCS	87
DB-T1-6Z-8AB-0Z	107	DB-T1-6Z-8AB-0Z	87
Platform Mount (LP 101-1)	107	Platform Mount (LP 101-1)	87
800MHz 2X50W RRR W/FILTER	99	800MHz 2X50W RRR W/FILTER	87
800MHz 2X50W RRR W/FILTER	99	800MHz 2X50W RRR W/FILTER	87
800MHz 2X50W RRR W/FILTER	99	800MHz 2X50W RRR W/FILTER	87
PCS 1900MHz 4x45W-65MHz	99	PCS 1900MHz 4x45W-65MHz	87
PCS 1900MHz 4x45W-65MHz	99	PCS 1900MHz 4x45W-65MHz	87


MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi	Reinf 45.08 ksi	45 ksi	57 ksi
Reinf 47.52 ksi	48 ksi	60 ksi	Reinf 45.45 ksi	45 ksi	57 ksi
Reinf 47.54 ksi	48 ksi	60 ksi	Reinf 45.47 ksi	45 ksi	57 ksi
Reinf 62.41 ksi	62 ksi	79 ksi	Reinf 52.91 ksi	53 ksi	67 ksi
Reinf 45.12 ksi	45 ksi	57 ksi	Reinf 51.32 ksi	51 ksi	65 ksi
Reinf 62.64 ksi	63 ksi	79 ksi	Reinf 57.52 ksi	58 ksi	72 ksi
Reinf 62.72 ksi	63 ksi	79 ksi	Reinf 54.29 ksi	54 ksi	68 ksi
Reinf 59.19 ksi	59 ksi	74 ksi	Reinf 54.49 ksi	54 ksi	69 ksi
Reinf 47.99 ksi	48 ksi	60 ksi	Reinf 52.64 ksi	53 ksi	66 ksi
Reinf 45.30 ksi	45 ksi	57 ksi	Reinf 53.09 ksi	53 ksi	67 ksi
Reinf 45.02 ksi	45 ksi	57 ksi			



TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
 2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
 3. Tower is also designed for a 38 mph basic wind with 1.25 in ice. Ice is considered to increase in thickness with height.
 4. Deflections are based upon a 50 mph wind.
- TOWER RATING: 93.4%



Paul J Ford and Company
250 E. Broad Street, Suite 600
Columbus, OH 43215
Phone: 614.221.6679
FAX: 614.448.4105

Job: **131' Monopole / HRT 100 943239**

Project: **PJF# 37515-1502.004.7700 / BU# 806376**

Client: **Crown Castle International** | Drawn by: **John J Woolley** | App'd:

Code: **TIA/EIA-222-F** | Date: **07/29/15** | Scale: **NTS**

Path: | Dwg No. **E-1**

Stiffened or Unstiffened, UngROUTed, Circular Base Plate - Any Rod Material

TIA Rev F

Site Data	
BU#:	806376
Site Name:	HRT 100 943239
App #:	
Pole Manufacturer:	Other

Reactions		
Moment:	2417	ft-kips
Axial:	32	kips
Shear:	28	kips

Anchor Rod Data		
Qty:	12	
Diam:	2.25	in
Rod Material:	A615-J	
Strength (Fu):	100	ksi
Yield (Fy):	75	ksi
Bolt Circle:	49.88	in

If No stiffeners, Criteria: **AISC ASD** <-Only Applicable to Unstiffened Cases

Anchor Rod Results						
Maximum Rod Tension:	191.2 Kips		<table border="1"> <tr><td>Rigid</td></tr> <tr><td>Service, ASD</td></tr> <tr><td>Fty*ASIF</td></tr> </table>	Rigid	Service, ASD	Fty*ASIF
Rigid						
Service, ASD						
Fty*ASIF						
Allowable Tension:	195.0 Kips					
Anchor Rod Stress Ratio:	98.1% Pass					

Plate Data		
Diam:	55.88	in
Thick:	2.5	in
Grade:	60	ksi
Single-Rod B-eff:	11.23	in

Base Plate Results		Flexural Check					
Base Plate Stress:	42.3 ksi		<table border="1"> <tr><td>Rigid</td></tr> <tr><td>Service ASD</td></tr> <tr><td>0.75*Fy*ASIF</td></tr> <tr><td>Y.L. Length: 27.06</td></tr> </table>	Rigid	Service ASD	0.75*Fy*ASIF	Y.L. Length: 27.06
Rigid							
Service ASD							
0.75*Fy*ASIF							
Y.L. Length: 27.06							
Allowable Plate Stress:	60.0 ksi						
Base Plate Stress Ratio:	70.5% Pass						
n/a							

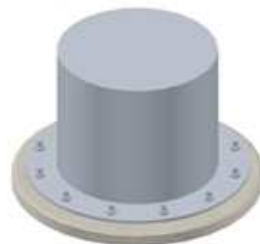
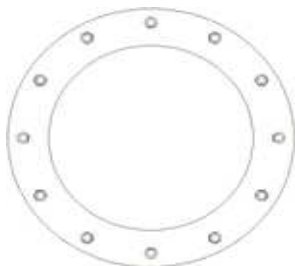
Stiffener Data (Welding at both sides)		
Config:	0	*
Weld Type:		
Groove Depth:		in **
Groove Angle:		degrees
Fillet H. Weld:		<-- Disregard
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

Stiffener Results	
Horizontal Weld :	n/a
Vertical Weld:	n/a
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	n/a
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	n/a
Plate Comp. (AISC Bracket):	n/a

Pole Results	
Pole Punching Shear Check:	n/a

Pole Data		
Diam:	41.9	in
Thick:	0.344	in
Grade:	65	ksi
# of Sides:	12	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None

Stress Increase Factor	
ASIF:	1.333



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Foundation Loads:

Pole weight or tower leg compression = 32 (kips)
 Horizontal load at top of pier = 28 (kips)
 Overturning moment at top of pier = 2417 (ft-kips)

Design criteria:

Safety factor against overturning = 1.5

Soil Properties:

Soil density = 115 (pcf)
 Allowable soil bearing = 5 (ksf)
 Depth to water table = 12 (ft)

Dimensions:

Pier shape (round or square) R ("R" or "S")
 Pier width = 6 (ft)
 Pier height above grade = 0.5 (ft)
 depth to bottom of footing = 8 (ft)
 Footing thickness = 3 (ft)
 Footing width = 22 (ft)
 Footing length = 22 (ft)

Concrete:

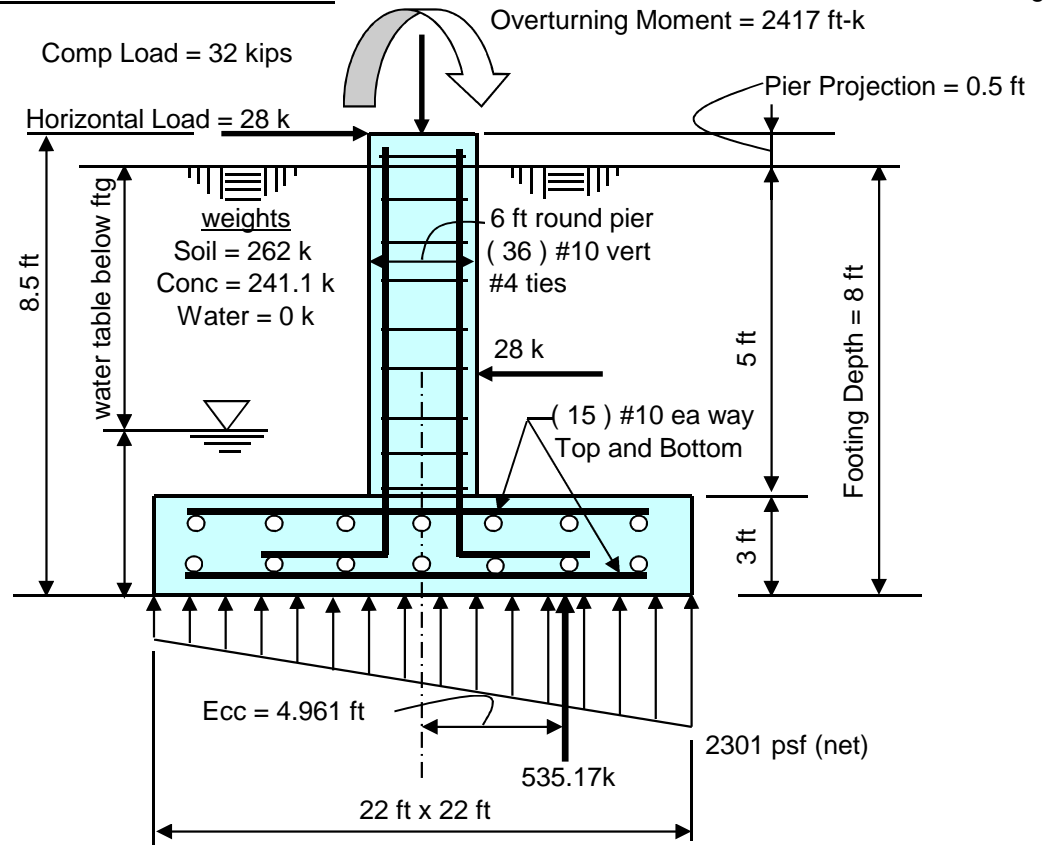
Concrete strength = 3 (ksi)
 Rebar strength = 60 (ksi)
 ultimate load factor = 1.3

Reinforcing Steel:

Pad
 minimum cover over rebar = 3 inches
 size of pad rebar = #10 bar
 quantity of pad rebar = 15 (ea direction)

Reinforcing Steel:

Pier
 size of vert rebar in pier = #10 bar
 vertical rebar quantity = 36
 size of pier ties = #4 bar
 minimum cover over rebar = 3 inches
 Total volume of concrete = 59.5 cu yd



Summary of analysis results	
Maximum Net Soil Bearing = 2.301 ksf Allowable Net Soil Bearing = 5 ksf Soil Bearing Stress Ratio = 0.46 Okay	Ult Bending Shear Capacity = 110 psi Ult Bending Shear Stress = 32 psi Bending Shear Stress Ratio = 0.29 Okay
Ftg Overturning Resistance = 5887 ft-kips Overturning Moment = 2655 ft-kips Required Overturning Safety Factor = 1.5 Overturning Safety Factor = 2.217 Ratio = 0.68 Okay	Pad Bending Moment Capacity = 2595 ft-k Pad Bending Moment = 1158 ft-k Bending Moment Stress Ratio = 0.45 OK

```

                oooooo          o
                oo   oo          oo
    oooooo  oooooo  oo          oooooo  oo   oo   o oooooo          o oooooo
oo   o  oo   oo  oo          oo   oo  oo          oo   oo   oo   oo   oo   oo
oo          oo   oo  oo          oo   oo  oo          oo   oo   oo   oo   oo   oo
    oooooo  oo   oo  oo          oo   oo  oo          oo   oo   oo   oo   oo   oo
    oo   oo  oooooo  oo          oo   oo  oo          oo   oo   oo   oo   oo   oo
o   oo  oo          oo   oo  oo   oo  oo   o  oo   oo   oo   oo   oo   oo
ooooo  oo          oooooo  oooooo  ooo  oooooo o  oo   oo   oo   oo   oo (TM)

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=====
                        spColumn v4.80 (TM)
    Computer program for the Strength Design of Reinforced Concrete Sections
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General Information:

=====
 File Name: g:\tower\375_crown_castle\2015\3751...\37515-1502.003.7805 - foundation reinforcement.col
 Project: 37512-1659
 Column: Engineer: DSK
 Code: ACI 318-08 Units: English
 Run Option: Investigation Slenderness: Not considered
 Run Axis: X-axis Column Type: Structural

Material Properties:

=====
 f'c = 3 ksi fy = 60 ksi
 Ec = 3122.02 ksi Es = 29000 ksi
 Ultimate strain = 0.003 in/in
 Beta1 = 0.85

Section:

=====
 Circular: Diameter = 72 in
 Gross section area, Ag = 4071.5 in^2
 Ix = 1.31917e+006 in^4 Iy = 1.31917e+006 in^4
 rx = 18 in ry = 18 in
 Xo = 0 in Yo = 0 in

Reinforcement:

=====
 Bar Set: ASTM A615

Size	Diam (in)	Area (in^2)	Size	Diam (in)	Area (in^2)	Size	Diam (in)	Area (in^2)
# 3	0.38	0.11	# 4	0.50	0.20	# 5	0.63	0.31
# 6	0.75	0.44	# 7	0.88	0.60	# 8	1.00	0.79
# 9	1.13	1.00	# 10	1.27	1.27	# 11	1.41	1.56
# 14	1.69	2.25	# 18	2.26	4.00			

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Layout: Circular
 Pattern: All Sides Equal (Cover to longitudinal reinforcement)
 Total steel area: As = 45.72 in^2 at rho = 1.12%
 Minimum clear spacing = 4.37 in

36 #10 Cover = 3 in

Factored Loads and Moments with Corresponding Capacities:

=====

No.	Pu kip	Mux k-ft	PhiMnx k-ft	PhiMn/Mu NA	depth in	Dt in	depth in	eps_t	Phi
1	32.00	3342.30	5795.45	1.734	15.59	68.37	0.01016	0.900	

*** End of output ***

Stiffened or Unstiffened, Exterior Flange Plate - Any Bolt Material TIA Rev F

Site Data

BU#: 806376
 Site Name: HRT 100 943239
 App #:

Reactions		
Moment:	43.34	ft-kips
Axial:	1.75	kips
Shear:	4.05	kips
Elevation:	110	feet

Pole Manufacturer:	Other
--------------------	-------

If No stiffeners, Criteria: **AISC ASD** <-Only Applicable to Unstiffened Cases

Bolt Data		
Qty:	10	
Diameter (in.):	1	Bolt Fu: 120
Bolt Material:	A325	Bolt Fy: 92
N/A:	75	<-- Disregard Bolt Fty: 44.00
N/A:	55	<-- Disregard
Circle (in.):	19.45	

Flange Bolt Results

Bolt Tension Capacity, **B**: 46.07 kips
 Max Bolt directly applied T: 10.52 Kips
 Min. PL "tc" for **B** cap. **w/o** Pry: 1.286 in
 Min PL "treq" for actual **T w/o** Pry: 0.460 in
 Min PL "t1" for actual **T w/o** Pry: 0.615 in
 T allowable w/o Prying: 46.07 kips
 Prying Force, Q: 0.00 kips
 Total Bolt Tension=T+Q: 10.52 kips
 Non-Prying Bolt Stress Ratio, T/B: 22.8% **Pass**

Rigid
Service, ASD
Fty*ASIF

Plate Data		
Diam:	21.95	in
Thick, t:	1.375	in
Grade (Fy):	50	ksi
Strength, Fu:	65	ksi
Single-Rod B-eff:	4.99	in

Exterior Flange Plate Results

Flexural Check
 Compression Side Plate Stress: 8.3 ksi
 Allowable Plate Stress: 50.0 ksi
 Compression Plate Stress Ratio: 16.7% **Pass**
No Prying
 Tension Side Stress Ratio, (treq/t)^2: 11.2% **Pass**

Rigid
Service ASD
0.75*Fy*ASIF
Comp. Y.L. Length: 11.71

Stiffener Data (Welding at Both Sides)		
Config:	0	*
Weld Type:		
Groove Depth:		in **
Groove Angle:		degrees
Fillet H. Weld:		<-- Disregard
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

n/a Stiffener Results

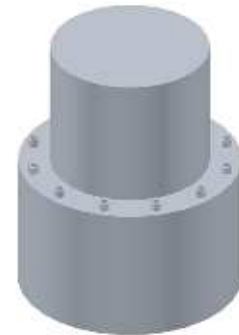
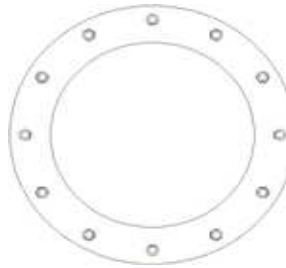
Horizontal Weld : n/a
 Vertical Weld: n/a
 Plate Flex+Shear, fb/Fb+(fv/Fv)^2: n/a
 Plate Tension+Shear, ft/Ft+(fv/Fv)^2: n/a
 Plate Comp. (AISC Bracket): n/a

Pole Results

Pole Punching Shear Check: n/a

Pole Data		
Diam:	15.53	in
Thick:	0.1875	in
Grade:	65	ksi
# of Sides:	12	"0" IF Round
Fu:	80	ksi
Reinf. Fillet Weld:	0	"0" if None

Stress Increase Factor		
ASIF:	1.333	



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

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

T-Mobile Existing Facility

Site ID: CT11186A

**East Hartford/ Hills_1
1455 Forbes Street
East Hartford, CT 06118**

August 17, 2015

EBI Project Number: 6215004394

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	88.65 %

August 17, 2015

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

Emissions Analysis for Site: **CT11186A – East Hartford/ Hills_1**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **1455 Forbes Street, East Hartford, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at **1455 Forbes Street, East Hartford, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

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

- 1) 2 UMTS channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel
- 2) 2 UMTS channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 4) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.
- 5) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

- 6) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 7) The antennas used in this modeling are the **Ericsson AIR21 B4A/B2P & B2A/B4P** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **Commscope LNX-6515DS-VTM** for 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **Ericsson AIR21 B4A/B2P & B2A/B4P** have a maximum gain of **15.9 dBd** at their main lobe. The **Commscope LNX-6515DS-VTM** has a maximum gain of **14.6 dBd** at its main lobe. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 8) The antenna mounting height centerline of the proposed antennas is **87 feet** above ground level (AGL).
- 9) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	87	Height (AGL):	87	Height (AGL):	87
Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)
Channel Count	2	Channel Count	2	# PCS Channels:	2
Total TX Power:	120	Total TX Power:	120	# AWS Channels:	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A1 MPE%	2.56	Antenna B1 MPE%	2.56	Antenna C1 MPE%	2.56
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR21 B2A/B4P□	Make / Model:	Ericsson AIR21 B2A/B4P□	Make / Model:	Ericsson AIR21 B2A/B4P□
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	87	Height (AGL):	87	Height (AGL):	87
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power:	120	Total TX Power:	120	Total TX Power:	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A2 MPE%	2.56	Antenna B2 MPE%	2.56	Antenna C2 MPE%	2.56
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	87	Height (AGL):	87	Height (AGL):	87
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power:	30	Total TX Power:	30	Total TX Power:	30
ERP (W):	865.21	ERP (W):	865.21	ERP (W):	865.21
Antenna A3 MPE%	1.02	Antenna B3 MPE%	1.02	Antenna C3 MPE%	1.02

Site Composite MPE%	
Carrier	MPE%
T-Mobile (Per Sector)	6.13
Sprint	2.38 %
Clearwire	1.91 %
MetroPCS	7.42 %
AT&T	24.54 %
Verizon Wireless	46.27 %
Site Total MPE %:	88.65 %

T-Mobile Sector 1 Total:	6.13 %
T-Mobile Sector 2 Total:	6.13 %
T-Mobile Sector 3 Total:	6.13 %
Site Total:	88.65 %

T-Mobile _per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 2100 MHz (AWS) LTE	2	2334.27	87	25.58	2100	1000	2.56 %
T-Mobile 700 MHz LTE	1	865.21	87	4.74	700	467	1.02 %
T-Mobile 1900 MHz (PCS) UMTS	2	1167.14	87	12.79	1900	1000	1.28 %
T-Mobile 2100 MHz (AWS) UMTS	2	1167.14	87	12.79	2100	1000	1.28 %
Total:						6.13%	

Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector 1:	6.13 %
Sector 2:	6.13 %
Sector 3 :	6.13 %
T-Mobile Max (per sector):	6.13 %
Site Total:	88.65 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **88.65%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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



Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803