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November 15, 2006

Via Hand Delivery

S. Derek Phelps
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: Notice of Exempt Modification
48 Birch Mountain Road, Glastonbury, CT
112 Munn Road, Colchester, CT

Dear Mr. Phelps:

Celco Partnership d/b/a Verizon Wireless ("Celco") intends to install microwave dish antennas on each of the existing telecommunications towers described below. Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction at each facility tower that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-73, a § 16-50j-73, a copy of this letter and attachments are being sent to Richard J. Johnson, Town Manager for the Town of Glastonbury and Jenny Contois, First Selectman for the Town of Colchester.

Birch Mountain Road, Glastonbury, CT

The Birch Mountain Road facility consists of a 225-foot self-supporting lattice tower capable of supporting multiple carriers within a fenced compound at 48 Birch Mountain Road in Glastonbury. The tower currently supports antennas of Sprint Nextel at the 177-foot level; Celco at the 164-foot level and several emergency service providers at various locations on the tower. Celco proposes to install one (1) microwave dish antenna at the 125-foot level on the existing tower. Attached behind Tab 1 is a tower elevation plan; a structural report; and an updated power density table for Celco's existing and proposed antennas.

Munn Road, Colchester, CT

The Munn Road facility consists of a 320-foot self-supporting lattice tower capable of supporting multiple carriers within a fenced compound at 112 Munn Road



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in Colchester. The tower currently supports antennas of the Connecticut State Police and other emergency service providers at various locations on the tower; Cellico at the 220-foot level; and Cingular at the 200-foot level. Cellico proposes to install two (2) microwave dish antennas, one at the 175-foot level and one at the 115-foot level on the existing tower. Attached behind Tab 2 is a tower elevation plan; a structural report; and an updated power density table for Cellico's existing and proposed antennas.

The planned modifications to each of these facilities fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

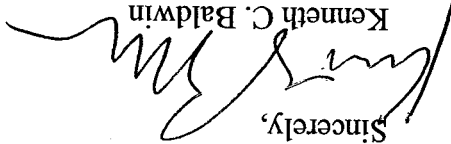
1. Cellico's proposed modifications will not result in any increase in the overall height of either of the existing structures.
2. Cellico's proposed modifications will not require the extension of the existing site boundaries at either of the sites identified.

3. Cellico's proposed modifications will not increase noise levels at the facility by six decibels or more at either of the facilities.

4. Cellico's proposed modifications will not result in radio frequency (RF) power density levels at either of the facilities that would exceed the Federal Communications Commission (FCC) adopted safety standard.

For the foregoing reasons, Cellico respectfully submits that the proposed modifications to the above-referenced telecommunications facilities constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,


Kenneth C. Baldwin

Enclosures

Copy to:

Richard J. Johnson, Glastonbury Town Manager
Jenny Contois, Colchester First Selectman
Sandy M. Carter



DETAILED STRUCTURAL ANALYSIS AND EVALUATION OF EXISTING 225' GUYED LATTICE TOWER FOR PROPOSED ANTENNA ARRANGEMENT

48 Birch Mountain Road
Glastonbury, Connecticut

prepared for



Verizon Wireless
99 East River Drive
East Hartford, Connecticut 06108

prepared by



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

36930993.00008
VZ1-168

Revision 2 October 20, 2006

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1. EXECUTIVE SUMMARY

This report summarizes the structural analysis of the existing 225' guyed lattice tower located at 48 Birch Mountain Road in Glastonbury, Connecticut. The analysis was conducted in accordance with the 2005 Connecticut State Building Code and the TIA/EIA-222-F standard for wind velocity of 80 mph (fastest mile) and 69 mph (fastest mile) concurrent with 1/2" ice. The antenna loading considered in the analysis consists of all existing and proposed antennas, transmission lines, and ancillary items as outlined in Section 6 of this report. The proposed Verizon Wireless modification is as follows:

Proposed Structural Modification		Elevation
Remove:		
(1) Torque Arm	(Proposed)	@ 87'
(6) 3/8" EHS guy wires		
Install:		
(3) new outer guy anchors	(Proposed)	@ Grade
Install:		
(3) new 3/8" EHS guy wires to the outer anchors	(Proposed)	@ 44'-10"
Install:		
(3) new 1/2" EHS guy wires to the outer anchors	(Proposed)	@ 84'-10"
Install:		
(3) new 1/2" EHS guy wires to the outer anchors	(Proposed)	@ 116'-10"
Remove:		
All guy wires attached to inner anchors	(Proposed)	Varies

Proposed Antenna and Mount	Carrier	Antenna Center Elevation
Install:		
(1) PL6-59D dish on (1) new dish mount with (1) EW63 coax cable.	Verizon (Proposed)	@ 125'
Remove:		
(1) 6 FT dish, (1) dish mount, and (1) EW63 coax cable.	(Proposed)	@ 89'-6"
Remove:		
(1) 7.3 FT dish, (1) dish mount, and (1) EW63 coax cable.	(Proposed)	@ 88'-6"
Remove:		
(1) 7.3 FT dish, (1) dish mount, and (1) EW63 coax cable.	(Proposed)	@ 87'
Remove:		
(1) 4 FT dish, (1) dish mount, and (1) EW63 coax cable.	(Proposed)	@ 79'
Remove:		
(1) 6.5 FT dish, (1) dish mount, and (1) EW63 coax cable.	(Proposed)	@ 73'-3"

The results of the analysis, with the modifications outlined in this report, indicate that the tower structure will be in compliance with the proposed loading conditions. **With the proposed modifications, the tower and foundations will be structurally adequate for the wind load classification specified above and all the existing and proposed antenna loading.**

This analysis is based on:

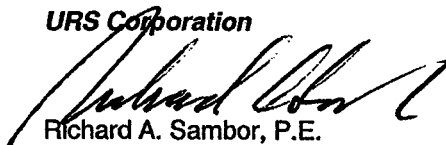
- 1) The tower structure's theoretical capacity, not including any assessment of the condition of the tower.
- 2) Tower geometry and structural member sizes taken from Guyed Tower Inventory and Mapping Report prepared by CSB Communications, dated January 19, 2006.
- 3) New guy anchors are installed per Section 6 of this report.
- 4) Antenna and mount configuration as specified in Section 6 of this report.

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

If you should have any questions, please call.

Sincerely,

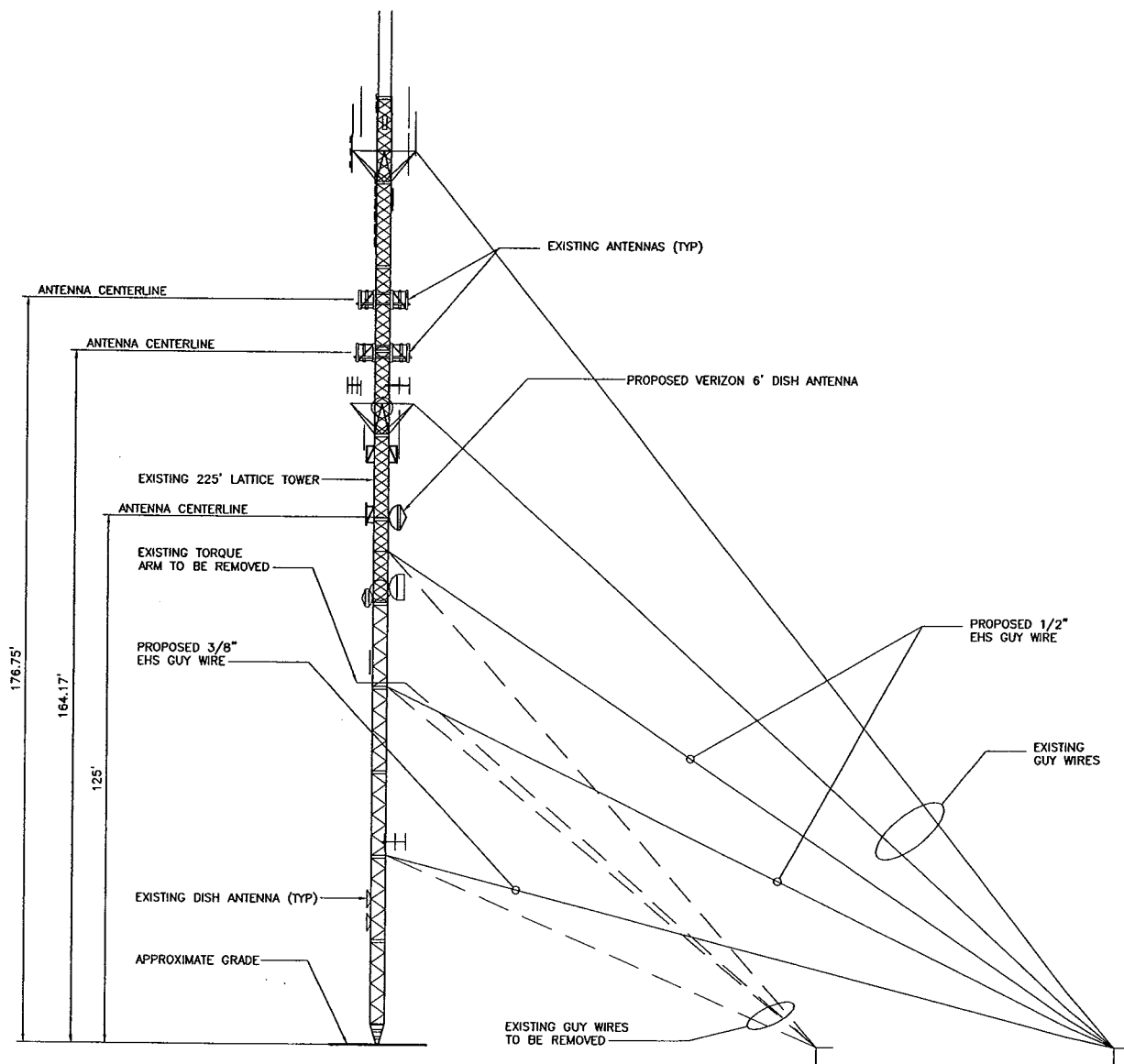
URS Corporation


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

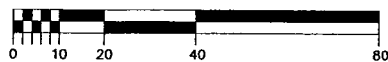


RAS/jek

cc: AA, DR, IA, CF/Book – URS



1 TOWER ELEVATION
L-1 SCALE: 1" = 40'-0"



SITE ID NO:
36930993
Designed by:
DBP
Drawn by:
Checked by:
Approved by:

URS CORPORATION AES
500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT
1-(860)-529-8882

CELLCO PARTNERSHIP DBA
VERIZON WIRELESS
WIRELESS COMMUNICATIONS FACILITY

SITE
ADDRESS:

BIRCH MOUNTAIN
48 BIRCH MOUNTAIN ROAD
GLASTONBURY, CONNECTICUT

REV.	DATE:	DESCRIPTION

Scale: AS NOTED Date: 10-31-06
Job No. VZ1-168 File No. L-1

Dwg. No.

L-1

Dwg. 1 of 1

2. INTRODUCTION

The subject tower is located at 48 Birch Mountain Road in Glastonbury, Connecticut. The structure is a 225' guyed lattice tower.

The tower geometry and structure member sizes were taken from Guyed Tower Inventory and Mapping Report prepared by CSB Communications, dated January 19, 2006.

The inventory is summarized in Section 6 of this report.

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

3. ANALYSIS METHODOLOGY AND LOADING CONDITIONS

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

The analysis was conducted using RISA Tower 4.6. Two load conditions were evaluated as shown below which were compared to allowable stresses according to AISC and TIA/EIA.

Load Condition 1 = 80 mph (fastest mile) Wind Load (without ice) + Tower Dead Load
Load Condition 2 = 69 mph (fastest mile) Wind Load (with ice) + Ice Load + Tower Dead Load

Please note that wind pressure is a function of velocity squared. Under Load Condition 2, a 25 percent reduction in wind pressure is allowed by code to account for the unlikelihood of the full wind pressure and ice load occurring at the same time. The same results may be achieved by utilizing a lower wind pressure without taking the 25 percent reduction, as shown above.

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

4. FINDINGS AND EVALUATION

Stresses on the structure were evaluated to compare with allowable stresses in accordance with AISC. The calculated stresses under the proposed loading were within the allowable stresses. Detailed analysis and calculations for the proposed load condition are provided in section 6 of this report.

5. CONCLUSIONS

The results of the analysis, with the modifications outlined in this report, indicate that the tower structure will be in compliance with the proposed loading conditions. **With the proposed modifications, the tower and foundations will be structurally adequate for the wind load classification specified above and all the existing and proposed antenna loading.**

Limitations/Assumptions:

This report is based on the following:

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

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

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

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

Ongoing and Periodic Inspection and Maintenance:

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

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

6. DRAWINGS AND DATA

SK-1 — TOWER ELEVATION AND GUY ANCHOR DETAILS

1	TOWER ELEVATION
SK-1	N.T.S.

RISA TOWER INPUT/OUTPUT SUMMARY

Section	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	1222	1223	1224	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RISA TOWER FEEDLINE DISTRIBUTION CHART

Feedline Distribution Chart

4'9" - 224'9"

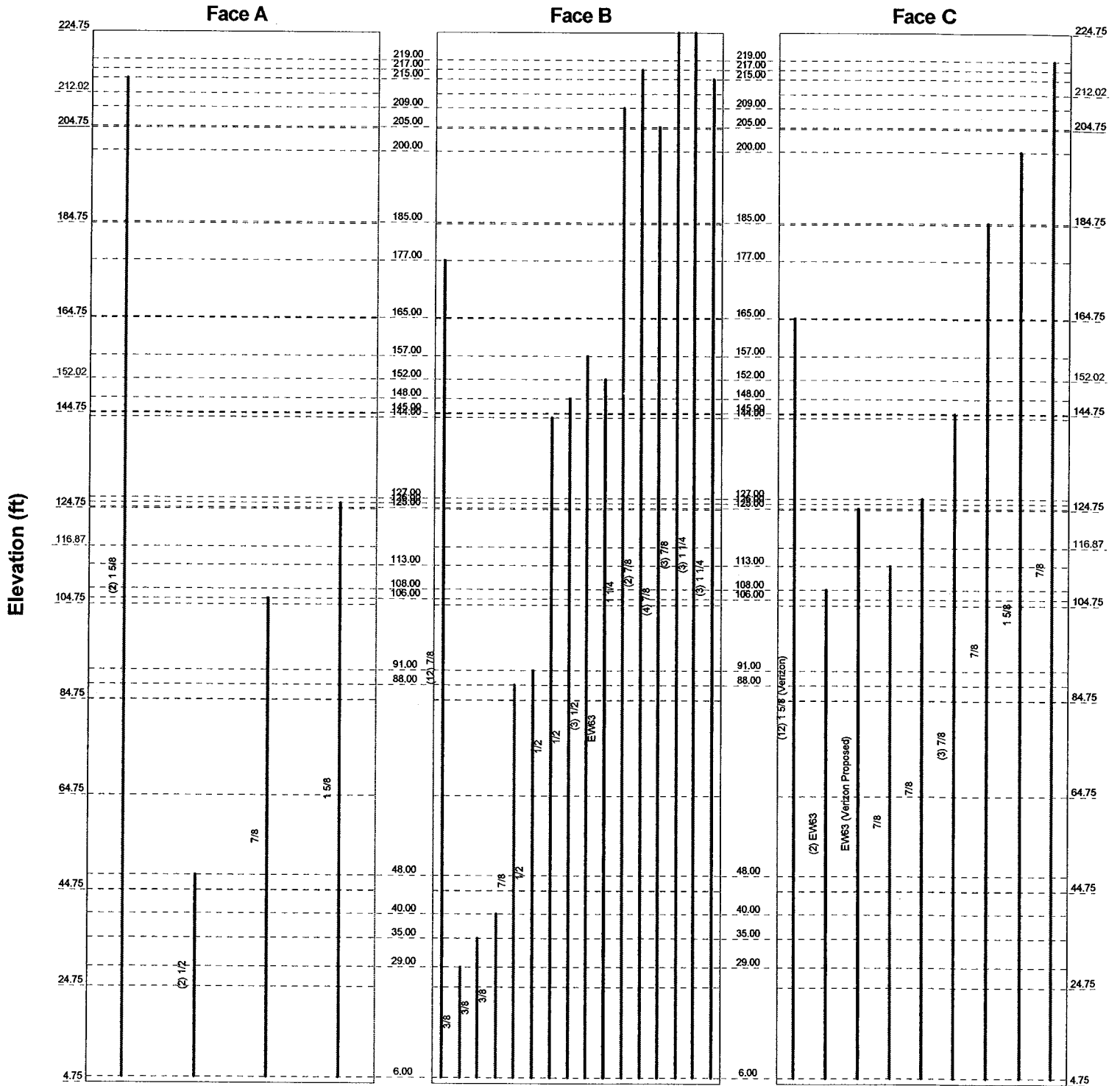
Round

Flat

App In Face

App Out Face

Truss Leg



URS Corporation			
500 Enterprise Drive, Suite 3B			
Rocky Hill, CT 06067			
Phone: (860) 529-8882			
FAX: (860) 529-3991			
Job: 225' Guyed Lattice Tower			
Project: Glastonbury, CT			
Client: Verizon Wireless	Drawn by: Staff	App'd:	
Code: TIA/EIA-222-F	Date: 10/20/06	Scale: NTS	
Path: P:\106\10.6.2006 Rev\2\ERI Files\Copy of GlastonburyREV2.dwg	Dwg No. E-7		

RISA TOWER DETAILED OUTPUT

<i>RISATower</i> <i>URS Corporation</i> 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	225' Guyed Lattice Tower	Page	1 of 56
	Project	Glastonbury, CT	Date	10:25:36 10/20/06
	Client	Verizon Wireless	Designed by	Staff

Tower Input Data

The main tower is a 3x guyed tower with an overall height of 224.75 ft above the ground line.

The base of the tower is set at an elevation of 0.00 ft above the ground line.

The face width of the tower is 3.42 ft at the top and tapered at the base.

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

The following design criteria apply:

Basic wind speed of 80 mph.

Nominal ice thickness of 0.5000 in.

Ice density of 56 pcf.

A wind speed of 69 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 50 mph.

Pressures are calculated at each section.

Safety factor used in guy design is 2.

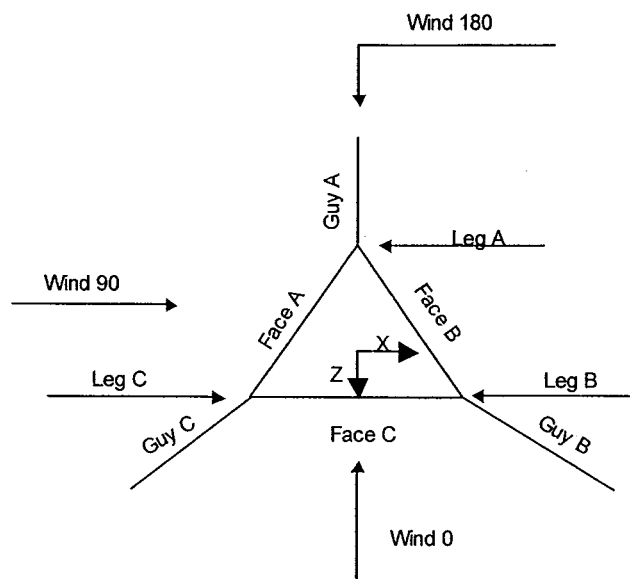
Stress ratio used in tower member design is 1.333.

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

Options

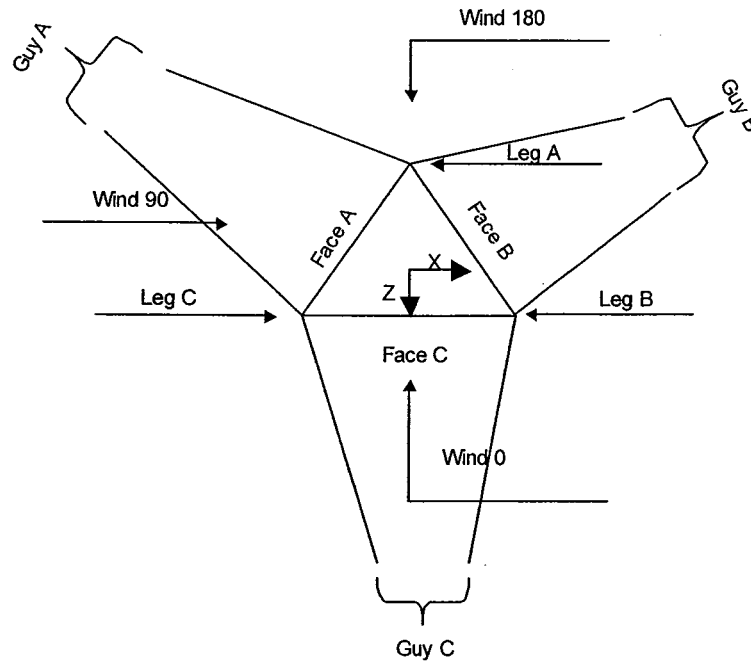
Consider Moments - Legs	Distribute Leg Loads As Uniform	Treat Feedline Bundles As Cylinder
Consider Moments - Horizontals	Assume Legs Pinned	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Diagonals	√ Assume Rigid Index Plate	√ Calculate Redundant Bracing Forces
Use Moment Magnification	√ Use Clear Spans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

<i>RISATower</i> <i>URS Corporation</i> 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job 225' Guyed Lattice Tower	Page 2 of 56
	Project Glastonbury, CT	Date 10:25:36 10/20/06
	Client Verizon Wireless	Designed by Staff



Corner & Starmount Guyed Tower

RISA Tower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	225' Guyed Lattice Tower	Page	3 of 56
	Project	Glastonbury, CT	Date	10:25:36 10/20/06
	Client	Verizon Wireless	Designed by	Staff



Face Guyed

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	224.75-204.75			3.42	1	20.00
T2-T3	204.75-164.75			3.42	2	20.00
T4	164.75-144.75			3.42	1	20.00
T5-T6	144.75-104.75			3.42	2	20.00
T7-T11	104.75-4.75			3.42	5	20.00
T12	4.75-0.00			3.42	1	4.75

Tower Section Geometry (cont'd)

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Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	224.75-204.75	2.42	X Brace	No	No	7.3750	0.0000
T2-T3	204.75-164.75	2.42	CX Brace	No	No	7.3750	0.0000
T4	164.75-144.75	2.42	X Brace	No	No	7.3750	0.0000
T5-T6	144.75-104.75	2.42	CX Brace	No	No	7.3750	0.0000
T7-T11	104.75-4.75	2.41	K Brace Left	No	No	7.3750	1.0000
T12	4.75-0.00	0.94	X Brace	No	Yes	1.0000	11.0000

Tower Section Geometry (cont'd)

Tower Elevation	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
ft						
T1 224.75-204.75	Pipe	ROHN 2.5 EH	A572-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T2-T3 204.75-164.75	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)	Pipe	ROHN TS1.5x16 ga	A53-B-42 (42 ksi)
T4 164.75-144.75	Pipe	ROHN 2.5 EH	A572-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T5-T6 144.75-104.75	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)	Pipe	ROHN TS1.5x16 ga	A53-B-42 (42 ksi)
T7-T11 104.75-4.75	Pipe	ROHN 2.5 EH	A572-50 (50 ksi)	Pipe	ROHN TS1.5x16 ga	A53-B-42 (42 ksi)
T12 4.75-0.00	Pipe	ROHN 2.5 EH	A572-50 (50 ksi)	Pipe		A36 (36 ksi)

Tower Section Geometry (cont'd)

Tower Elevation	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
ft						
T1 224.75-204.75	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T2-T3 204.75-164.75	Pipe	ROHN TS1.5x16 ga	A53-B-42 (42 ksi)	Pipe	ROHN TS1.5x16 ga	A53-B-42 (42 ksi)
T4 164.75-144.75	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T5-T6 144.75-104.75	Pipe	ROHN TS1.5x16 ga	A53-B-42 (42 ksi)	Pipe	ROHN TS1.5x16 ga	A53-B-42 (42 ksi)
T7-T11 104.75-4.75	Pipe	ROHN TS1.5x16 ga	A53-B-42 (42 ksi)	Pipe	ROHN TS1.5x16 ga	A53-B-42 (42 ksi)
T12 4.75-0.00	Channel	C14x2x3/16	A36 (36 ksi)	Channel	C14x2x3/16	A36 (36 ksi)

Tower Section Geometry (cont'd)

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Tower Elevation	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
ft							
T12 4.75-0.00	1	Channel	C14x2x3/16	A36 (36 ksi)	Channel		A36 (36 ksi)

Tower Section Geometry (cont'd)

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals
ft	ft ²	in					in	in
T1 224.75-204.75	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T2-T3 204.75-164.75	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T4 164.75-144.75	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T5-T6 144.75-104.75	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T7-T11 104.75-4.75	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T12 4.75-0.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000

Tower Section Geometry (cont'd)

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	K Factors ¹							
			Legs	X Brace Diags	K Brace Diags	Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace
				X Y	X Y	X Y	X Y	X Y	X Y	X Y
T1 224.75-204.75	Yes	No	1	1	1	1	1	1	1	1
T2-T3 204.75-164.75	Yes	No	1	1	1	1	1	1	1	1
T4 164.75-144.75	Yes	No	1	1	1	1	1	1	1	1
T5-T6 144.75-104.75	Yes	No	1	1	1	1	1	1	1	1
T7-T11 104.75-4.75	Yes	No	1	1	1	1	1	1	1	1
T12 4.75-0.00	Yes	No	1	1	1	1	1	1	1	1

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

Tower Section Geometry (cont'd)

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Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 224.75-204.75	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2-T3	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
204.75-164.75	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 164.75-144.75	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5-T6	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
144.75-104.75	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7-T11	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
104.75-4.75	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T12 4.75-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 224.75-204.75	Flange	0.7500	4	0.6250	1	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	0
T2-T3	Flange	0.7500	4	0.5000	1	0.5000	1	0.5000	1	0.6250	0	0.6250	0	0.6250	0
204.75-164.75	Flange	0.7500	4	0.6250	1	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	0
T4 164.75-144.75	Flange	0.7500	4	0.5000	1	0.5000	1	0.5000	1	0.6250	0	0.6250	0	0.6250	0
T5-T6	Flange	0.7500	4	0.6250	1	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	0
144.75-104.75	Flange	0.7500	4	0.5000	1	0.5000	1	0.5000	1	0.6250	0	0.6250	0	0.6250	0
T7-T11	Flange	0.7500	4	0.6250	1	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	0
104.75-4.75	Flange	0.7500	4	0.5000	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
T12 4.75-0.00	Flange	0.7500	4	A325N		A325N		A325N		A325N		A325N		A325N	

Guy Data

Guy Elevation ft	Guy Grade	Guy Size	Initial Tension K	%	Guy Modulus ksi	Guy Weight plf	L _u ft	Anchor Radius ft	Anchor Azimuth Adj. °	Anchor Elevation ft	End Fitting Efficiency %
84.8333	EHS	A 1/2	2.69	10%	21000	0.517	193.45	176.00	0.0000	0.00	100%
		B 1/2	2.69	10%	21000	0.517	198.40	181.50	0.0000	0.00	100%
		C 1/2	2.69	10%	21000	0.517	206.01	184.00	0.0000	-12.00	100%
116.866	EHS	A 1/2	2.69	10%	21000	0.517	209.45	176.00	0.0000	0.00	100%
		B 1/2	2.69	10%	21000	0.517	214.04	181.50	0.0000	0.00	100%
		C 1/2	2.69	10%	21000	0.517	222.84	184.00	0.0000	-12.00	100%
152.02	EHS	A 1/2	2.69	10%	21000	0.517	229.24	176.00	0.0000	0.00	100%
		B 1/2	2.69	10%	21000	0.517	233.38	181.50	0.0000	0.00	100%
		C 1/2	2.69	10%	21000	0.517	243.19	184.00	0.0000	-12.00	100%

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212.02	EHS	A	1/2	2.69	10%	21000	0.517	272.68	176.00	0.0000	0.00	100%
		B	1/2	2.69	10%	21000	0.517	276.17	181.50	0.0000	0.00	100%
		C	1/2	2.69	10%	21000	0.517	287.03	184.00	0.0000	-12.00	100%
212.02	EHS	A	1/2	2.69	10%	21000	0.517	274.07	176.00	0.0000	0.00	100%
		B	1/2	2.69	10%	21000	0.517	277.59	181.50	0.0000	0.00	100%
		C	1/2	2.69	10%	21000	0.517	288.41	184.00	0.0000	-12.00	100%
44.8333	EHS	A	3/8	1.54	10%	21000	0.273	179.55	176.00	0.0000	0.00	100%
		B	3/8	1.54	10%	21000	0.273	184.88	181.50	0.0000	0.00	100%
		C	3/8	1.54	10%	21000	0.273	190.52	184.00	0.0000	-12.00	100%

Guy Data (cont'd)

Guy Elevation ft	Mount Type	Torque-Arm Spread ft	Torque-Arm Leg Angle °	Torque-Arm Style	Torque-Arm Grade	Torque-Arm Type	Torque-Arm Size
84.8333	Corner						
116.866	Corner						
152.02	Torque Arm	15.00	45.0000	Bat Ear	A53-B-35 (35 ksi)	Pipe	XP34.5x.03325 P2.5x.203
212.02	Torque Arm	15.00	45.0000	Bat Ear	A53-B-35 (35 ksi)	Pipe	XP34.5x.03325 P2.5x.203
212.02	Corner						
44.8333	Corner						

Guy Data (cont'd)

Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap	Pull-Off Grade	Pull-Off Type	Pull-Off Size
84.83	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Flat Bar	4 1/2x3/8
116.87	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Flat Bar	4 1/2x3/8
152.02	A572-50 (50 ksi)	Solid Round				A36 (36 ksi)	Solid Round	
212.02	A572-50 (50 ksi)	Solid Round				A36 (36 ksi)	Solid Round	
212.02	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Equal Angle	L1 1/8x1 1/8x1/8
44.83	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Flat Bar	4 1/2x3/8

Guy Data (cont'd)

Guy Elevation ft	Cable Weight A K	Cable Weight B K	Cable Weight C K	Cable Weight D K	Tower Intercept A ft	Tower Intercept B ft	Tower Intercept C ft	Tower Intercept D ft
84.8333	0.10	0.10	0.11		3.57	3.76	4.04	

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Guy Elevation	Cable Weight A	Cable Weight B	Cable Weight C	Cable Weight D	Tower Intercept A	Tower Intercept B	Tower Intercept C	Tower Intercept D
ft	K	K	K	K	ft	ft	ft	ft
116.866	0.11	0.11	0.12		3.3 sec/pulse 4.17	3.3 sec/pulse 4.36	3.5 sec/pulse 4.72	
152.02	0.12	0.12	0.13		3.5 sec/pulse 4.98	3.6 sec/pulse 5.16	3.8 sec/pulse 5.60	
212.02	0.14	0.14	0.15		3.9 sec/pulse 7.01	3.9 sec/pulse 7.19	4.1 sec/pulse 7.76	
212.02	0.14	0.14	0.15		4.6 sec/pulse 7.08	4.6 sec/pulse 7.26	4.8 sec/pulse 7.83	
44.8333	0.05	0.05	0.05		4.6 sec/pulse 2.85	4.7 sec/pulse 3.02	4.8 sec/pulse 3.20	
					2.9 sec/pulse	3.0 sec/pulse	3.1 sec/pulse	

Guy Data (cont'd)

Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Torque Arm		Pull Off		Diagonal	
			K _x	K _y	K _x	K _y	K _x	K _y
84.8333	No	No			1	1	1	1
116.866	No	No			1	1	1	1
152.02	No	No	0.65	0.65	1	1	1	1
212.02	No	No	0.65	0.65	1	1	1	1
212.02	No	No			1	1	1	1
44.8333	No	No			1	1	1	1

Guy Data (cont'd)

Guy Elevation ft	Torque-Arm				Pull Off				Diagonal			
	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U
84.8333	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
116.866	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
152.02	0.0000 A325N	0	0.0000	1	0.0000 A325N	0	0.0000	1	0.0000 A325N	0	0.0000	1
212.02	0.0000 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
212.02	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
44.8333	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75

Guy Pressures

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Guy Elevation ft	Guy Location	z ft	q _z psf	q _z Ice psf	Ice Thickness in
84.8333	A	42.42	18	13	0.5000
	B	42.42	18	13	0.5000
	C	36.42	17	13	0.5000
116.866	A	58.43	19	14	0.5000
	B	58.43	19	14	0.5000
	C	52.43	19	14	0.5000
152.02	A	76.01	21	16	0.5000
	B	76.01	21	16	0.5000
	C	70.01	20	15	0.5000
212.02	A	106.01	23	17	0.5000
	B	106.01	23	17	0.5000
	C	100.01	22	17	0.5000
212.02	A	106.01	23	17	0.5000
	B	106.01	23	17	0.5000
	C	100.01	22	17	0.5000
44.8333	A	22.42	16	12	0.5000
	B	22.42	16	12	0.5000
	C	16.42	16	12	0.5000

Guy-Mast Forces (Excluding Wind) - No Ice

Guy Elevation ft	Guy Location	Chord Angle °	Guy Tension Top Bottom K	F _x K	F _y K	F _z K	M _x kip-ft	M _y kip-ft	M _z kip-ft
84.8333	A	25.9879	2.73 2.69	0.00	1.24	-2.44	-2.44	0.00	0.00
	B	25.2925	2.73 2.69	2.12	1.21	1.23	1.19	0.00	-2.07
	C	28.0117	2.74 2.69	-2.08	1.33	1.20	1.31	0.00	2.27
116.866	A	33.8828	Sum: 2.75 2.69	0.05 0.00	3.78 1.57	-0.01 -2.26	0.06 -3.10	0.00 0.00	0.20 0.00
	B	33.0627	2.75 2.69	1.97	1.54	1.14	1.52	0.00	-2.63
	C	35.2965	2.76 2.69	-1.92	1.63	1.11	1.61	0.00	2.79
152.02	A	41.4989	Sum: 2.77 2.69	0.05 -0.09	4.74 1.87	-0.01 -2.04	0.03 -8.09	0.00 15.70	0.16 -14.01
	A	41.4989	2.77 2.69	0.09	1.87	-2.04	-8.09	-15.70	14.01
	B	40.6057	2.77 2.69	1.84	1.84	0.96	15.91	15.90	0.00
212.02	B	40.6057	2.77 2.69	1.75	1.84	1.11	-7.95	-15.90	-13.77
	C	42.3679	2.77 2.69	-1.70	1.90	1.08	-8.24	15.49	14.28
	C	42.3679	2.77 2.69	-1.79	1.90	0.94	16.49	-15.49	0.00
212.02	A	50.9766	Sum: 2.80 2.69	0.09 -0.08	11.22 2.20	0.00 -1.73	0.02 -9.54	0.00 13.27	0.51 -16.52
	A	50.9766	2.80 2.69	0.08	2.20	-1.73	-9.54	-13.27	16.52
	B	50.0916	2.80	1.56	2.18	0.81	18.85	13.51	0.00

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Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F _x	F _y	F _z	M _x	M _y	M _z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
			2.69						
	B	50.0916	2.80	1.49	2.18	0.94	-9.43	-13.51	-16.33
			2.69						
	C	51.2451	2.81	-1.45	2.22	0.92	-9.60	13.20	16.63
			2.69						
	C	51.2451	2.81	-1.52	2.22	0.80	19.20	-13.20	0.00
			2.69						
212.02	A	50.6206	Sum:	0.07	13.19	0.02	-0.05	0.00	0.30
			2.80	0.00	2.19	-1.74	-4.32	0.00	0.00
			2.69						
	B	49.7438	2.80	1.54	2.17	0.89	2.14	0.00	-3.70
			2.69						
	C	50.9044	2.81	-1.50	2.21	0.87	2.18	0.00	3.77
			2.69						
44.8333	A	14.4465	Sum:	0.04	6.57	0.01	-0.01	0.00	0.07
			1.55	0.00	0.41	-1.50	-0.81	0.00	0.00
			1.54						
	B	14.0217	1.55	1.30	0.40	0.75	0.39	0.00	-0.68
			1.54						
	C	17.3396	1.56	-1.28	0.49	0.74	0.48	0.00	0.83
			1.54						
			Sum:	0.02	1.30	-0.01	0.07	0.00	0.15

Guy-Mast Forces (Excluding Wind) - Ice

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F _x	F _y	F _z	M _x	M _y	M _z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
84.8333	A	25.9879	3.96	0.00	1.82	-3.52	-3.60	0.00	0.00
			3.87						
	B	25.2925	3.97	3.07	1.79	1.77	1.76	0.00	-3.06
			3.88						
	C	28.0117	3.99	-3.01	1.96	1.74	1.94	-0.00	3.35
			3.88						
116.866	A	33.8828	Sum:	0.07	5.58	-0.01	0.10	0.00	0.30
			3.99	0.00	2.31	-3.26	-4.55	0.00	0.00
			3.86						
	B	33.0627	4.00	2.86	2.27	1.65	2.24	0.00	-3.87
			3.87						
	C	35.2965	4.02	-2.79	2.40	1.61	2.37	-0.00	4.11
			3.87						
152.02	A	41.4989	Sum:	0.07	6.98	-0.00	0.06	0.00	0.23
			4.02	-0.13	2.73	-2.94	-11.84	22.61	-20.51
			3.85						
	A	41.4989	4.02	0.13	2.73	-2.94	-11.84	-22.61	20.51
			3.85						
	B	40.6057	4.03	2.65	2.70	1.38	23.36	22.96	0.00
			3.86						
	B	40.6057	4.03	2.52	2.70	1.60	-11.68	-22.96	-20.23
			3.86						
	C	42.3679	4.04	-2.46	2.80	1.56	-12.12	22.38	20.99
			3.86						

RISATower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	225' Guyed Lattice Tower	Page	11 of 56
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	Client	Verizon Wireless	Designed by	Staff

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F _x	F _y	F _z	M _x	M _y	M _z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
212.02	C	42.3679	4.04 3.86	-2.58	2.80	1.35	24.23	-22.38	0.00
			Sum:	0.13	16.46	0.02	0.12	0.00	0.76
	A	50.9766	4.07 3.83	-0.11	3.22	-2.48	-13.94	19.08	-24.15
	A	50.9766	4.07 3.83	0.11	3.22	-2.48	-13.94	-19.08	24.15
	B	50.0916	4.08 3.84	2.25	3.19	1.17	27.64	19.48	0.00
	B	50.0916	4.08 3.84	2.14	3.19	1.36	-13.82	-19.48	-23.93
212.02	C	51.2451	4.09 3.84	-2.09	3.25	1.33	-14.09	19.03	24.40
	C	51.2451	4.09 3.84	-2.20	3.25	1.15	28.18	-19.03	0.00
			Sum:	0.10	19.33	0.05	0.02	0.00	0.47
	A	50.6206	4.07 3.83	0.00	3.21	-2.51	-6.33	0.00	0.00
	B	49.7438	4.08 3.84	2.22	3.18	1.28	3.14	0.00	-5.43
	C	50.9044	4.10 3.84	-2.17	3.24	1.25	3.20	-0.00	5.54
44.8333			Sum:	0.05	9.63	0.02	0.00	0.00	0.11
	A	14.4465	2.30 2.26	0.00	0.64	-2.21	-1.27	0.00	0.00
	B	14.0217	2.31 2.27	1.93	0.63	1.11	0.62	0.00	-1.08
	C	17.3396	2.32 2.28	-1.90	0.76	1.10	0.75	0.00	1.30
			Sum:	0.03	2.03	-0.00	0.11	0.00	0.23

Guy-Mast Forces (Excluding Wind) - Service

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F _x	F _y	F _z	M _x	M _y	M _z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
84.8333	A	25.9879	2.73 2.69	0.00	1.24	-2.44	-2.44	0.00	0.00
	B	25.2925	2.73 2.69	2.12	1.21	1.23	1.19	0.00	-2.07
	C	28.0117	2.74 2.69	-2.08	1.33	1.20	1.31	0.00	2.27
116.866			Sum:	0.05	3.78	-0.01	0.06	0.00	0.20
	A	33.8828	2.75 2.69	0.00	1.57	-2.26	-3.10	0.00	0.00
	B	33.0627	2.75 2.69	1.97	1.54	1.14	1.52	0.00	-2.63
152.02	C	35.2965	2.76 2.69	-1.92	1.63	1.11	1.61	0.00	2.79
			Sum:	0.05	4.74	-0.01	0.03	0.00	0.16
	A	41.4989	2.77 2.69	-0.09	1.87	-2.04	-8.09	15.70	-14.01

RISATower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	225' Guyed Lattice Tower	Page	12 of 56
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Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F _x	F _y	F _z	M _x	M _y	M _z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
212.02	A	41.4989	2.77	0.09	1.87	-2.04	-8.09	-15.70	14.01
			2.69						
	B	40.6057	2.77	1.84	1.84	0.96	15.91	15.90	0.00
			2.69						
	B	40.6057	2.77	1.75	1.84	1.11	-7.95	-15.90	-13.77
			2.69						
	C	42.3679	2.77	-1.70	1.90	1.08	-8.24	15.49	14.28
			2.69						
	C	42.3679	2.77	-1.79	1.90	0.94	16.49	-15.49	0.00
			2.69						
	Sum:			0.09	11.22	0.00	0.02	0.00	0.51
				2.80	-0.08	2.20	-9.54	13.27	-16.52
212.02	A	50.9766	2.80	0.08	2.20	-1.73	-9.54	-13.27	16.52
			2.69						
	B	50.0916	2.80	1.56	2.18	0.81	18.85	13.51	0.00
			2.69						
	B	50.0916	2.80	1.49	2.18	0.94	-9.43	-13.51	-16.33
			2.69						
	C	51.2451	2.81	-1.45	2.22	0.92	-9.60	13.20	16.63
			2.69						
	C	51.2451	2.81	-1.52	2.22	0.80	19.20	-13.20	0.00
			2.69						
	Sum:			0.07	13.19	0.02	-0.05	0.00	0.30
				2.80	0.00	2.19	-4.32	0.00	0.00
44.8333	B	49.7438	2.80	1.54	2.17	0.89	2.14	0.00	-3.70
			2.69						
	C	50.9044	2.81	-1.50	2.21	0.87	2.18	0.00	3.77
			2.69						
	Sum:			0.04	6.57	0.01	-0.01	0.00	0.07
				1.55	0.00	0.41	-0.81	0.00	0.00
	A	14.4465	1.54						
	B	14.0217	1.55	1.30	0.40	0.75	0.39	0.00	-0.68
			1.54						
	C	17.3396	1.56	-1.28	0.49	0.74	0.48	0.00	0.83
			1.54						
	Sum:			0.02	1.30	-0.01	0.07	0.00	0.15

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
1 5/8 (Verizon)	C	Yes	Ar (CfAe)	165.00 - 6.00	0.0000	0	12	4	0.7500	1.9800		1.04
EW63	C	Yes	Af (CfAe)	108.00 - 6.00	0.0000	-0.3	2	2	1.5742	1.5742	5.0668	0.51
EW63 (Verizon Proposed)	C	Yes	Af (CfAe)	125.00 - 6.00	0.0000	-0.4	1	1	1.5742	1.5742	5.0668	0.51
7/8	B	Yes	Ar (CfAe)	177.00 - 6.00	0.0000	0	12	4	0.7500	1.1100		0.54
1 5/8	A	Yes	Ar (CfAe)	215.00 - 6.00	0.0000	0.45	2	2	0.5000	1.9800		1.04
3/8	B	Yes	Ar (CfAe)	29.00 - 6.00	-1.0000	-0.24	1	1	0.4500	0.4500		0.09
3/8	B	Yes	Ar (CfAe)	35.00 - 6.00	-1.0000	-0.25	1	1	0.4500	0.4500		0.09

RISATower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	225' Guyed Lattice Tower	Page	13 of 56
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Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
3/8	B	Yes	Ar (CfAe)	40.00 - 6.00	-1.0000	-0.26	1	1	0.4500	0.4500		0.09
1/2	A	Yes	Ar (CfAe)	48.00 - 6.00	2.2000	0.45	2	2	0.5000	0.5800		0.25
7/8	B	Yes	Ar (CfAe)	88.00 - 6.00	1.5000	0.4	1	1	1.1100	1.1100		0.54
1/2	B	Yes	Ar (CfAe)	91.00 - 6.00	-1.5000	-0.26	1	1	0.5800	0.5800		0.25
7/8	A	Yes	Ar (CfAe)	106.00 - 6.00	0.0000	-0.47	1	1	1.1100	1.1100		0.54
7/8	C	No	Ar (Leg)	113.00 - 6.00	0.0000	0	1	1	1.1100	1.1100		0.54
1 5/8	A	Yes	Ar (CfAe)	126.00 - 6.00	0.0000	-0.41	1	1	1.9800	1.9800		1.04
7/8	C	No	Ar (Leg)	127.00 - 6.00	0.0000	0	1	1	1.1100	1.1100		0.54
7/8	C	No	Ar (Leg)	145.00 - 6.00	0.0000	0	3	2	1.1100	1.1100		0.54
1/2	B	Yes	Ar (CfAe)	144.00 - 6.00	-1.5000	-0.28	1	1	0.5800	0.5800		0.25
1/2	B	Yes	Ar (CfAe)	148.00 - 6.00	-1.0000	-0.28	1	1	0.5800	0.5800		0.25
1/2	B	Yes	Ar (CfAe)	157.00 - 6.00	-1.0000	-0.3	3	2	0.5800	0.5800		0.25
EW63	B	Yes	Af (CfAe)	152.00 - 6.00	0.0000	-0.4	1	1	0.2500	1.5742	5.0668	0.51
7/8	C	No	Ar (Leg)	185.00 - 6.00	0.0000	0	1	1	1.1100	1.1100		0.54
1 5/8	C	No	Ar (Leg)	200.00 - 6.00	0.0000	0	1	1	1.9800	1.9800		1.04
1 1/4	B	Yes	Ar (CfAe)	209.00 - 6.00	0.0000	0.35	1	1	1.5500	1.5500		0.66
7/8	B	Yes	Ar (CfAe)	217.00 - 6.00	1.5000	0.15	2	2	0.7500	1.1100		0.54
7/8	B	Yes	Ar (CfAe)	205.00 - 6.00	0.0000	0.2	4	4	0.7500	1.1100		0.54
7/8	B	Yes	Ar (CfAe)	224.75 - 6.00	-2.0000	-0.25	3	3	0.2500	1.1100		0.54
1 1/4	B	Yes	Ar (CfAe)	224.75 - 6.00	-2.0000	-0.2	3	2	0.2500	1.5500		0.66
1 1/4	B	Yes	Ar (CfAe)	215.00 - 6.00	0.0000	-0.45	3	2	0.2500	1.5500		0.66
7/8	C	Yes	Ar (CfAe)	219.00 - 6.00	-1.5000	-0.35	1	1	1.1100	1.1100		0.54

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
T1	224.75-204.75	A	3.382	0.000	0.000	0.000	0.02
		B	16.272	0.000	0.000	0.000	0.11
		C	1.318	0.000	0.000	0.000	0.01
T2	204.75-184.75	A	9.139	0.000	0.000	0.000	0.04
		B	29.567	0.000	0.000	0.000	0.19
		C	4.389	0.000	0.000	0.000	0.03
T3	184.75-164.75	A	11.750	0.000	0.000	0.000	0.04
		B	34.099	0.000	0.000	0.000	0.27
		C	7.165	0.000	0.000	0.000	0.05
T4	164.75-144.75	A	11.796	0.000	0.000	0.000	0.04
		B	38.308	0.951	0.000	0.000	0.33
		C	20.246	0.000	0.000	0.000	0.29
T5	144.75-124.75	A	15.864	0.000	0.000	0.000	0.04
		B	40.797	2.624	0.000	0.000	0.35
		C	24.108	0.033	0.000	0.000	0.33
T6	124.75-104.75	A	21.479	0.000	0.000	0.000	0.06
		B	40.833	2.624	0.000	0.000	0.35
		C	26.513	3.476	0.000	0.000	0.35
T7	104.75-84.75	A	24.300	0.000	0.000	0.000	0.07
		B	41.436	2.624	0.000	0.000	0.36
		C	27.600	7.871	0.000	0.000	0.38
T8	84.75-64.75	A	24.300	0.000	0.000	0.000	0.07
		B	43.650	2.624	0.000	0.000	0.37
		C	27.600	7.871	0.000	0.000	0.38
T9	64.75-44.75	A	24.614	0.000	0.000	0.000	0.07
		B	43.650	2.624	0.000	0.000	0.37
		C	27.600	7.871	0.000	0.000	0.38
T10	44.75-24.75	A	26.233	0.000	0.000	0.000	0.08
		B	44.766	2.624	0.000	0.000	0.37

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Tower Section	Tower Elevation ft	Face	A_R ft ²	A_F ft ²	C_{AA} In Face ft ²	C_{AA} Out Face ft ²	Weight K
T11	24.75-4.75	C	27.600	7.871	0.000	0.000	0.38
		A	24.594	0.000	0.000	0.000	0.08
		B	43.031	2.460	0.000	0.000	0.35
T12	4.75-0.00	C	25.875	7.379	0.000	0.000	0.35
		A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	C_{AA} In Face ft ²	C_{AA} Out Face ft ²	Weight K
T1	224.75-204.75	A	0.500	2.545	2.118	0.000	0.000	0.05
		B		13.046	11.086	0.000	0.000	0.29
		C		2.506	0.000	0.000	0.000	0.02
T2	204.75-184.75	A	0.500	8.798	4.133	0.000	0.000	0.11
		B		23.300	22.933	0.000	0.000	0.52
		C		7.348	0.000	0.000	0.000	0.07
T3	184.75-164.75	A	0.500	13.450	4.133	0.000	0.000	0.11
		B		25.454	28.630	0.000	0.000	0.76
		C		12.062	0.171	0.000	0.000	0.12
T4	164.75-144.75	A	0.500	13.538	4.133	0.000	0.000	0.11
		B		28.858	34.771	0.000	0.000	0.95
		C		17.055	13.650	0.000	0.000	0.79
T5	144.75-124.75	A	0.500	21.189	4.133	0.000	0.000	0.11
		B		34.618	37.901	0.000	0.000	1.03
		C		24.396	13.697	0.000	0.000	0.89
T6	124.75-104.75	A	0.500	30.637	4.133	0.000	0.000	0.16
		B		34.717	37.901	0.000	0.000	1.03
		C		28.967	18.599	0.000	0.000	0.98
T7	104.75-84.75	A	0.500	36.000	4.133	0.000	0.000	0.19
		B		36.111	37.901	0.000	0.000	1.04
		C		31.033	24.854	0.000	0.000	1.06
T8	84.75-64.75	A	0.500	36.000	4.133	0.000	0.000	0.19
		B		40.867	37.901	0.000	0.000	1.08
		C		31.033	24.854	0.000	0.000	1.06
T9	64.75-44.75	A	0.500	36.428	4.426	0.000	0.000	0.19
		B		40.867	37.901	0.000	0.000	1.08
		C		31.033	24.854	0.000	0.000	1.06
T10	44.75-24.75	A	0.500	38.633	5.933	0.000	0.000	0.22
		B		44.461	37.901	0.000	0.000	1.10
		C		31.033	24.854	0.000	0.000	1.06
T11	24.75-4.75	A	0.500	36.219	5.563	0.000	0.000	0.21
		B		45.109	35.533	0.000	0.000	1.05
		C		29.094	23.301	0.000	0.000	0.99
T12	4.75-0.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00

Feed Line Shielding

RISATower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	225' Guyed Lattice Tower	Page	15 of 56
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Section	Elevation	Face	A_R	$A_{R_{Ice}}$	A_F	$A_{F_{Ice}}$
	ft		ft ²	ft ²	ft ²	ft ²
T1	224.75-204.75	A	0.000	0.000	0.549	1.050
		B	0.000	0.000	2.641	5.433
		C	0.000	0.000	0.214	0.564
T2	204.75-184.75	A	0.892	2.049	0.000	0.000
		B	3.994	10.410	0.000	0.000
		C	0.250	0.792	0.000	0.000
T3	184.75-164.75	A	0.892	2.049	0.000	0.000
		B	4.607	12.177	0.000	0.000
		C	0.272	0.844	0.000	0.000
T4	164.75-144.75	A	0.000	0.000	1.040	1.981
		B	0.000	0.000	6.188	13.893
		C	0.000	0.000	2.372	4.817
T5	144.75-124.75	A	0.919	2.119	0.000	0.000
		B	5.866	16.454	0.000	0.000
		C	2.038	4.996	0.000	0.000
T6	124.75-104.75	A	1.353	3.217	0.188	0.308
		B	5.871	16.476	0.815	1.575
		C	2.503	6.264	0.347	0.599
T7	104.75-84.75	A	0.793	1.977	0.220	0.379
		B	2.972	8.384	0.826	1.605
		C	1.546	3.936	0.430	0.754
T8	84.75-64.75	A	0.866	2.160	0.000	0.000
		B	3.411	9.745	0.000	0.000
		C	1.690	4.300	0.000	0.000
T9	64.75-44.75	A	0.814	2.058	0.226	0.394
		B	3.122	8.919	0.868	1.708
		C	1.546	3.936	0.430	0.754
T10	44.75-24.75	A	1.009	2.705	0.000	0.000
		B	3.493	10.187	0.000	0.000
		C	1.690	4.300	0.000	0.000
T11	24.75-4.75	A	0.946	2.536	0.000	0.000
		B	3.353	9.971	0.000	0.000
		C	1.584	4.032	0.000	0.000
T12	4.75-0.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000

Feed Line Center of Pressure

Section	Elevation	CP_x	CP_z	$CP_{x_{Ice}}$	$CP_{z_{Ice}}$
	ft	in	in	in	in
T1	224.75-204.75	1.1297	-2.8269	0.6652	-0.6743
T2	204.75-184.75	2.0454	-3.1178	1.1352	-0.2646
T3	184.75-164.75	1.8082	-2.7823	0.7063	-0.0451
T4	164.75-144.75	1.7528	-1.2821	0.8485	0.4922
T5	144.75-124.75	1.1471	-1.3587	0.0168	0.4103
T6	124.75-104.75	0.5877	-0.5851	-0.5767	1.0261
T7	104.75-84.75	0.7747	-0.1654	-0.3258	1.2979
T8	84.75-64.75	1.0241	-0.1696	-0.0246	1.2439
T9	64.75-44.75	0.9683	-0.1975	-0.0655	1.2324
T10	44.75-24.75	0.9934	-0.5523	0.0138	0.8797
T11	24.75-4.75	0.9965	-0.6366	0.0698	0.6606
T12	4.75-0.00	0.0000	0.0000	0.0000	0.0000

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Discrete Tower Loads

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
10' 4 Bay Di-Pole	A	From Leg	0.75 0.00 0.00	0.0000	244.00	No Ice 1/2" Ice	2.00 3.00	2.00 3.00	0.03 0.05
21'x4.5" Pipe Mount	A	From Leg	0.50 0.00 0.00	0.0000	232.50	No Ice 1/2" Ice	9.45 11.55	9.45 11.55	0.23 0.29
Beacon	C	From Leg	0.50 0.00 0.00	0.0000	225.00	No Ice 1/2" Ice	1.20 1.36	1.20 1.36	0.05 0.21
3"x20' Omni	B	From Leg	0.50 0.00 0.00	0.0000	235.00	No Ice 1/2" Ice	6.00 8.00	6.00 8.00	0.03 0.07
3"x20' Omni	C	From Leg	0.50 0.00 0.00	0.0000	235.00	No Ice 1/2" Ice	6.00 8.00	6.00 8.00	0.03 0.07
48"x11"x6" Panel	C	From Leg	0.50 0.00 0.00	0.0000	222.50	No Ice 1/2" Ice	5.13 5.52	2.87 3.18	0.03 0.06
44"x12"x6" Panel	A	From Leg	0.50 0.00 0.00	0.0000	218.33	No Ice 1/2" Ice	5.13 5.50	2.59 2.90	0.03 0.06
10' x 3" Dia Omni	B	From Face	8.00 0.00 0.00	0.0000	222.00	No Ice 1/2" Ice	3.00 4.03	3.00 4.03	0.03 0.05
12' x 3" Dia Omni	A	From Face	8.00 0.00 0.00	0.0000	221.00	No Ice 1/2" Ice	3.60 4.83	3.60 4.83	0.04 0.06
11' x 3" Dia Omni	B	From Face	8.00 0.00 0.00	0.0000	210.00	No Ice 1/2" Ice	3.30 4.43	3.30 4.43	0.04 0.06
(2) 10' Side Arm	A	From Face	0.50 0.00 0.00	0.0000	214.00	No Ice 1/2" Ice	6.60 8.80	6.60 8.80	0.30 0.55
(2) 10' Side Arm	B	From Face	0.50 0.00 0.00	0.0000	214.00	No Ice 1/2" Ice	6.60 8.80	6.60 8.80	0.30 0.55
(2) 10' Side Arm	C	From Face	0.50 0.00 0.00	0.0000	214.00	No Ice 1/2" Ice	6.60 8.80	6.60 8.80	0.30 0.55
10' Dipole	C	From Face	8.00 0.00 0.00	0.0000	209.00	No Ice 1/2" Ice	4.00 6.00	4.00 6.00	0.05 0.07
10' x 3" Dia Omni	B	From Leg	10.00 0.00 0.00	0.0000	215.00	No Ice 1/2" Ice	3.00 4.03	3.00 4.03	0.03 0.05
8'-6" x 3" Dia Omni	B	From Leg	10.00 0.00 0.00	0.0000	216.25	No Ice 1/2" Ice	2.55 3.43	2.55 3.43	0.03 0.04
20' 4-Bay Dipole	C	From Leg	10.00 0.00 0.00	0.0000	211.00	No Ice 1/2" Ice	4.00 6.00	4.00 6.00	0.06 0.10
8'-6" Dipole	A	From Leg	10.00	0.0000	205.75	No Ice	4.00	4.00	0.05

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		CAA Front ft ²	CAA Side ft ²	Weight K
			0.00			1/2" Ice	6.00	6.00	0.07
			0.00						
8' Dipole	A	From Leg	10.00	0.0000	205.25	No Ice	4.00	4.00	0.05
			0.00			1/2" Ice	6.00	6.00	0.07
			0.00						
16' Dipole	A	From Leg	10.00	0.0000	217.67	No Ice	4.00	4.00	0.06
			0.00			1/2" Ice	6.00	6.00	0.10
			0.00						
14' x 3" Dia Omni	C	From Leg	10.00	0.0000	215.17	No Ice	4.20	4.20	0.04
			0.00			1/2" Ice	5.63	5.63	0.07
			0.00						
5' x 8" Dia Omni	B	From Leg	1.00	0.0000	199.67	No Ice	2.70	2.70	0.05
			0.00			1/2" Ice	3.05	3.05	0.08
			0.00						
18'-6" Di-Pole	C	From Leg	0.50	0.0000	196.83	No Ice	4.00	4.00	0.06
			0.00			1/2" Ice	6.00	6.00	0.10
			0.00						
16" Corner Reflector	C	From Leg	0.50	0.0000	184.33	No Ice	2.88	2.88	0.03
			0.00			1/2" Ice	3.31	3.31	0.04
			0.00						
13'-6" T-Frame Sector Mount (Nextel)	A	From Leg	3.25	0.0000	176.75	No Ice	13.60	13.60	0.47
			0.00			1/2" Ice	18.40	18.40	0.60
			0.00						
13'-6" T-Frame Sector Mount (Nextel)	B	From Leg	3.25	0.0000	176.75	No Ice	13.60	13.60	0.47
			0.00			1/2" Ice	18.40	18.40	0.60
			0.00						
13'-6" T-Frame Sector Mount (Nextel)	C	From Leg	3.25	0.0000	176.75	No Ice	13.60	13.60	0.47
			0.00			1/2" Ice	18.40	18.40	0.60
			0.00						
(4) DB844H90E-XY (Nextel)	A	From Leg	4.50	0.0000	177.50	No Ice	2.87	3.73	0.01
			0.00			1/2" Ice	3.18	4.10	0.04
			0.00						
(4) DB844H90E-XY (Nextel)	B	From Leg	4.50	0.0000	177.50	No Ice	2.87	3.73	0.01
			0.00			1/2" Ice	3.18	4.10	0.04
			0.00						
(4) DB844H90E-XY (Nextel)	C	From Leg	4.50	0.0000	177.50	No Ice	2.87	3.73	0.01
			0.00			1/2" Ice	3.18	4.10	0.04
			0.00						
13'-6" T-Frame Sector Mount (Verizon)	A	From Leg	3.25	0.0000	164.17	No Ice	13.60	13.60	0.47
			0.00			1/2" Ice	18.40	18.40	0.60
			0.00						
13'-6" T-Frame Sector Mount (Verizon)	B	From Leg	3.25	0.0000	164.17	No Ice	13.60	13.60	0.47
			0.00			1/2" Ice	18.40	18.40	0.60
			0.00						
13'-6" T-Frame Sector Mount (Verizon)	C	From Leg	3.25	0.0000	164.17	No Ice	13.60	13.60	0.47
			0.00			1/2" Ice	18.40	18.40	0.60
			0.00						
DB950G85E-M (Verizon)	A	From Leg	4.50	0.0000	164.17	No Ice	2.29	4.24	0.01
			-6.00			1/2" Ice	2.65	4.62	0.03
			0.00						
DB950G85E-M (Verizon)	A	From Leg	4.50	0.0000	164.17	No Ice	2.29	4.24	0.01
			6.00			1/2" Ice	2.65	4.62	0.03
			0.00						
DB844G65ZAXY (Verizon)	A	From Leg	4.50	0.0000	164.17	No Ice	4.67	3.73	0.02
			-4.00			1/2" Ice	5.05	4.10	0.05
			0.00						
DB844G65ZAXY	A	From Leg	4.50	0.0000	164.17	No Ice	4.67	3.73	0.02

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
(Verizon)			4.00		1/2" Ice	5.05	4.10	0.05
DB950G85E-M	B	From Leg	0.00	0.0000	164.17	No Ice	2.29	0.01
(Verizon)			4.50		1/2" Ice	2.65	4.62	0.03
DB950G85E-M	B	From Leg	0.00	0.0000	164.17	No Ice	2.29	0.01
(Verizon)			4.50		1/2" Ice	2.65	4.62	0.03
DB844G65ZAXY	B	From Leg	0.00	0.0000	164.17	No Ice	4.67	0.02
(Verizon)			4.50		1/2" Ice	5.05	4.10	0.05
DB844G65ZAXY	B	From Leg	0.00	0.0000	164.17	No Ice	4.67	0.02
(Verizon)			4.50		1/2" Ice	5.05	4.10	0.05
DB950G85E-M	C	From Leg	0.00	0.0000	164.17	No Ice	2.29	0.01
(Verizon)			4.50		1/2" Ice	2.65	4.62	0.03
DB950G85E-M	C	From Leg	0.00	0.0000	164.17	No Ice	2.29	0.01
(Verizon)			4.50		1/2" Ice	2.65	4.62	0.03
DB844G65ZAXY	C	From Leg	0.00	0.0000	164.17	No Ice	4.67	0.02
(Verizon)			4.50		1/2" Ice	5.05	4.10	0.05
DB844G65ZAXY	C	From Leg	0.00	0.0000	164.17	No Ice	4.67	0.02
(Verizon)			4.50		1/2" Ice	5.05	4.10	0.05
Yagi	C	From Face	0.00	0.0000	156.25	No Ice	2.23	0.01
			8.00		1/2" Ice	3.15	3.15	0.02
Yagi	A	From Face	0.00	0.0000	156.25	No Ice	2.23	0.01
			8.00		1/2" Ice	3.15	3.15	0.02
3'-6" x 3" Dia Omni	A	From Face	0.00	0.0000	155.58	No Ice	0.84	0.02
			8.00		1/2" Ice	1.06	1.06	0.03
14" Corner Reflector	A	From Leg	0.00	0.0000	153.00	No Ice	2.88	0.03
			0.50		1/2" Ice	3.31	3.31	0.04
3' Side Mount Standoff	A	From Leg	0.00	0.0000	149.50	No Ice	2.72	0.05
			2.00		1/2" Ice	4.91	4.91	0.09
3' Yagi	C	From Leg	0.00	0.0000	147.58	No Ice	2.08	0.03
			1.50		1/2" Ice	3.79	3.79	0.05
44"x8"x3" Panel	C	From Leg	0.00	0.0000	143.58	No Ice	5.13	0.03
			0.50		1/2" Ice	5.50	2.90	0.06
4' Side Mount Standoff	C	From Leg	0.00	0.0000	139.67	No Ice	2.72	0.05
			2.00		1/2" Ice	4.91	4.91	0.09
6' x 3" Dia Omni	C	From Leg	0.00	0.0000	143.67	No Ice	1.77	0.02
			4.00		1/2" Ice	2.13	2.13	0.03
4' Side Mount Standoff	B	From Leg	0.00	0.0000	139.50	No Ice	2.72	0.05
			2.00		1/2" Ice	4.91	4.91	0.09
12' x 3" Dia Omni	B	From Leg	0.00	0.0000	144.67	No Ice	3.60	0.04

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	CAA Front ft²	CAA Side ft²	Weight K
			0.00		1/2" Ice	4.83	4.83	0.06
1' Side Mount Standoff	B	From Leg	0.00					
			1.00	0.0000	135.00	No Ice	0.75	0.03
			0.00			1/2" Ice	0.95	0.04
10' Dipole	B	From Leg	0.00					
			1.00	0.0000	144.83	No Ice	4.00	0.05
			0.00			1/2" Ice	6.00	0.07
2' Side Mount Standoff	A	From Face	0.00					
			1.00	0.0000	124.50	No Ice	0.75	0.03
			0.00			1/2" Ice	0.95	0.04
24"x16"x12" Horn	A	From Face	0.00					
			2.00	0.0000	127.00	No Ice	1.87	0.10
			0.00			1/2" Ice	2.05	0.13
3' Side Mount Standoff	C	From Leg	0.00					
			2.00	0.0000	126.00	No Ice	2.72	0.05
			0.00			1/2" Ice	4.91	0.09
60"x4"x4" Panel	C	From Leg	0.00					
			3.00	0.0000	126.00	No Ice	2.78	0.10
			0.00			1/2" Ice	3.15	0.12
44"x3"x8" Panel	C	From Leg	0.00					
			0.50	0.0000	113.00	No Ice	1.52	0.50
			0.00			1/2" Ice	1.79	0.52
4'x4" Pipe Mount	C	From Leg	0.00					
			0.50	0.0000	105.83	No Ice	1.32	0.04
			0.00			1/2" Ice	1.58	0.06
15'-2" Dish Mount	A	From Leg	0.00					
			1.00	0.0000	107.00	No Ice	6.00	0.15
			0.00			1/2" Ice	6.25	0.19
15'-2" Dish Mount	B	From Leg	0.00					
			1.00	0.0000	107.00	No Ice	6.00	0.15
			0.00			1/2" Ice	6.25	0.19
4' Omni	C	From Leg	0.00					
			1.00	0.0000	90.75	No Ice	1.74	0.04
			0.00			1/2" Ice	2.60	0.05
10'6"x4" Pipe Mount	A	From Leg	0.00					
			0.50	0.0000	93.17	No Ice	4.72	0.11
			0.00			1/2" Ice	5.62	0.15
20' Pipe Mount	B	From Leg	0.00					
			1.00	0.0000	81.00	No Ice	9.00	0.22
			0.00			1/2" Ice	11.00	0.29
20' Pipe Mount	C	From Leg	0.00					
			1.00	0.0000	81.00	No Ice	9.00	0.22
			0.00			1/2" Ice	11.00	0.29
(2) Yagi	A	From Leg	0.00					
			1.50	0.0000	48.17	No Ice	1.00	0.01
			0.00			1/2" Ice	1.50	0.02
1' Side Mount Standoff	A	From Leg	0.00					
			0.50	0.0000	48.17	No Ice	0.75	0.03
			0.00			1/2" Ice	0.95	0.04
2' Side Mount Standoff	C	From Leg	0.00					
			1.00	0.0000	38.17	No Ice	1.30	0.03
			0.00			1/2" Ice	1.57	0.05
2'6"x4" Pipe Mount	C	From Leg	0.00					
			0.50	0.0000	33.00	No Ice	0.75	0.03
			0.00			1/2" Ice	0.95	0.04
2' Side Mount Standoff	C	From Leg	0.00					
			1.00	0.0000	27.00	No Ice	1.30	0.03

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
5'3"x4" Pipe Mount (Verizon Proposed)	C	From Leg	0.00	0.0000	125.00	1/2" Ice 1.57	1.57	0.05
			0.00					
			0.50			No Ice 1.88	1.88	0.06
			0.00			1/2" Ice 2.21	2.21	0.07
			0.00					

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
6 FT DISH	A	Paraboloid w/Shroud (HP)	From Leg	1.00	0.0000		107.67	6.00	No Ice 28.30	0.11
				0.00					1/2" Ice 29.05	0.26
				0.00						
6 FT DISH	B	Paraboloid w/Shroud (HP)	From Leg	1.00	0.0000		108.42	6.00	No Ice 28.30	0.11
				0.00					1/2" Ice 29.05	0.26
				0.00						
4 FT DISH	C	Paraboloid w/Radome	From Leg	1.00	0.0000		105.83	4.00	No Ice 12.56	0.17
				0.00					1/2" Ice 13.09	0.24
				0.00						
6 FT DISH	A	Paraboloid w/Radome	From Leg	3.00	0.0000		151.00	6.00	No Ice 28.27	0.14
				0.00					1/2" Ice 29.05	0.29
				0.00						
4'-4" DISH	C	Paraboloid w/o Radome	From Leg	1.00	0.0000		29.00	4.00	No Ice 14.79	0.17
				0.00					1/2" Ice 15.00	0.24
				0.00						
1.2M	C	Paraboloid w/o Radome	From Leg	1.00	0.0000		34.42	4.00	No Ice 12.17	0.17
				0.00					1/2" Ice 13.09	0.23
				0.00						
1.2M	C	Paraboloid w/o Radome	From Leg	1.00	0.0000		29.00	4.00	No Ice 12.17	0.17
				0.00					1/2" Ice 13.09	0.23
				0.00						
6 FT DISH (Verizon Proposed)	B	Paraboloid w/Radome	From Leg	1.00	0.0000		125.00	6.00	No Ice 28.27	0.14
				0.00					1/2" Ice 29.05	0.29
				0.00						

Tower Pressures - No Ice

$$G_H = 1.106$$

Section Elevation	z	K _Z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _{AA} In Face ft ²	C _{AA} Out Face ft ²
ft	ft		psf	ft ²		ft ²	ft ²	ft ²			
T1 224.75-	214.75	1.708	28	73.126	A	9.764	12.966	9.583	42.16	0.000	0.000

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Section Elevation	z	K _Z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _{AA} In Face	C _{AA} Out Face
ft	ft		psf	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
204.75					B	7.672	25.856		28.58		
					C	10.099	10.901		45.63		
T2 204.75- 184.75	194.75	1.661	27	73.126	A	0.000	26.415	9.583	36.28	0.000	0.000
					B	0.000	43.740		21.91		
					C	0.000	22.307		42.96		
T3 184.75- 164.75	174.75	1.61	26	73.126	A	0.000	29.026	9.583	33.02	0.000	0.000
					B	0.000	47.660		20.11		
					C	0.000	25.060		38.24		
T4 164.75- 144.75	154.75	1.555	25	73.126	A	8.975	21.380	9.583	31.57	0.000	0.000
					B	4.778	47.891		18.20		
					C	7.643	29.830		25.57		
T5 144.75- 124.75	134.75	1.495	24	73.126	A	0.000	33.113	9.583	28.94	0.000	0.000
					B	2.624	53.099		17.20		
					C	0.033	40.238		23.80		
T6 124.75- 104.75	114.75	1.428	23	73.126	A	1.004	38.293	9.583	24.39	0.000	0.000
					B	3.000	53.130		17.07		
					C	4.320	42.178		20.61		
T7 104.75- 84.75	94.75	1.352	22	73.126	A	0.971	37.377	9.583	24.99	0.000	0.000
					B	2.989	52.334		17.32		
					C	8.633	39.924		19.74		
T8 84.75-64.75	74.75	1.263	21	73.126	A	0.000	37.701	9.583	25.42	0.000	0.000
					B	2.624	54.506		16.77		
					C	7.871	40.178		19.95		
T9 64.75-44.75	54.75	1.156	19	73.126	A	0.965	37.670	9.583	24.80	0.000	0.000
					B	2.947	54.398		16.71		
					C	8.633	39.924		19.74		
T10 44.75- 24.75	34.75	1.015	17	73.126	A	0.000	39.492	9.583	24.27	0.000	0.000
					B	2.624	55.540		16.48		
					C	7.871	40.178		19.95		
T11 24.75-4.75	14.75	1	16	73.126	A	0.000	37.915	9.583	25.28	0.000	0.000
					B	2.460	53.945		16.99		
					C	7.379	38.558		20.86		
T12 4.75-0.00	2.38	1	16	9.324	A	6.190	2.465	2.465	28.48	0.000	0.000
					B	6.190	2.465		28.48		
					C	6.190	2.465		28.48		

Tower Pressure - With Ice

$$G_H = 1.106$$

Section Elevation	z	K _Z	q _z	t _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _{AA} In Face	C _{AA} Out Face
ft	ft		psf	in	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
T1 224.75- 204.75	214.75	1.708	21	0.5000	74.792	A	15.373	15.462	12.917	41.89	0.000	0.000
						B	19.958	25.962		28.13		
						C	13.741	15.422		44.29		
T2 204.75- 184.75	194.75	1.661	20	0.5000	74.792	A	4.133	33.973	12.917	33.90	0.000	0.000
						B	22.933	40.114		20.49		
						C	0.000	33.780		38.24		
T3 184.75- 164.75	174.75	1.61	20	0.5000	74.792	A	4.133	38.625	12.917	30.21	0.000	0.000
						B	28.630	40.500		18.68		
						C	0.171	38.442		33.45		
T4 164.75- 144.75	154.75	1.555	19	0.5000	74.792	A	15.983	26.455	12.917	30.44	0.000	0.000
						B	34.709	41.774		16.89		
						C	22.663	29.971		24.54		

RISATower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	225' Guyed Lattice Tower	Page 22 of 56
	Project	Glastonbury, CT	Date 10:25:36 10/20/06
	Client	Verizon Wireless	Designed by Staff

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 ft ²	C _A A _A Out Face ft ²
ft	ft		psf	in	ft ²		ft ²	ft ²	ft ²			
T5 144.75- 124.75	134.75	1.495	18	0.5000	74.792	A	4.133	46.294	12.917	25.61	0.000	0.000
						B	37.901	45.388		15.51		
						C	13.697	46.624		21.41		
T6 124.75- 104.75	114.75	1.428	18	0.5000	74.792	A	5.194	54.644	12.917	21.59	0.000	0.000
						B	37.694	45.465		15.53		
						C	19.368	49.928		18.64		
T7 104.75-84.75	94.75	1.352	17	0.5000	74.792	A	5.123	54.084	12.917	21.82	0.000	0.000
						B	37.664	47.788		15.12		
						C	25.469	47.159		17.78		
T8 84.75-64.75	74.75	1.263	16	0.5000	74.792	A	4.133	54.563	12.917	22.01	0.000	0.000
						B	37.901	51.845		14.39		
						C	24.854	47.456		17.86		
T9 64.75-44.75	54.75	1.156	14	0.5000	74.792	A	5.400	54.431	12.917	21.59	0.000	0.000
						B	37.562	52.009		14.42		
						C	25.469	47.159		17.78		
T10 44.75-24.75	34.75	1.015	12	0.5000	74.792	A	5.933	56.651	12.917	20.64	0.000	0.000
						B	37.901	54.998		13.90		
						C	24.854	47.456		17.86		
T11 24.75-4.75	14.75	1	12	0.5000	74.792	A	5.563	54.406	12.917	21.54	0.000	0.000
						B	35.533	55.861		14.13		
						C	23.301	45.785		18.70		
T12 4.75-0.00	2.38	1	12	0.5000	9.745	A	6.484	3.322	3.322	33.87	0.000	0.000
						B	6.484	3.322		33.87		
						C	6.484	3.322		33.87		

Tower Pressure - Service

$$G_H = 1.106$$

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			
T1 224.75- 204.75	214.75	1.708	11	73.126	A	9.764	12.966	9.583	42.16	0.000	0.000
					B	7.672	25.856		28.58		
					C	10.099	10.901		45.63		
T2 204.75- 184.75	194.75	1.661	11	73.126	A	0.000	26.415	9.583	36.28	0.000	0.000
					B	0.000	43.740		21.91		
					C	0.000	22.307		42.96		
T3 184.75- 164.75	174.75	1.61	10	73.126	A	0.000	29.026	9.583	33.02	0.000	0.000
					B	0.000	47.660		20.11		
					C	0.000	25.060		38.24		
T4 164.75- 144.75	154.75	1.555	10	73.126	A	8.975	21.380	9.583	31.57	0.000	0.000
					B	4.778	47.891		18.20		
					C	7.643	29.830		25.57		
T5 144.75- 124.75	134.75	1.495	10	73.126	A	0.000	33.113	9.583	28.94	0.000	0.000
					B	2.624	53.099		17.20		
					C	0.033	40.238		23.80		
T6 124.75- 104.75	114.75	1.428	9	73.126	A	1.004	38.293	9.583	24.39	0.000	0.000
					B	3.000	53.130		17.07		
					C	4.320	42.178		20.61		
T7 104.75- 84.75	94.75	1.352	9	73.126	A	0.971	37.377	9.583	24.99	0.000	0.000
					B	2.989	52.334		17.32		
					C	8.633	39.924		19.74		
T8 84.75-64.75	74.75	1.263	8	73.126	A	0.000	37.701	9.583	25.42	0.000	0.000

RISATower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	225' Guyed Lattice Tower	Page	23 of 56
	Project	Glastonbury, CT	Date	10:25:36 10/20/06
	Client	Verizon Wireless	Designed by	Staff

Section Elevation	z	K _Z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _{AA} In Face ft ²	C _{AA} Out Face ft ²
ft	ft		psf	ft ²		ft ²	ft ²	ft ²			
T9 64.75-44.75	54.75	1.156	7	73.126	B	2.624	54.506		16.77		
					C	7.871	40.178		19.95		
					A	0.965	37.670	9.583	24.80	0.000	0.000
					B	2.947	54.398		16.71		
					C	8.633	39.924		19.74		
T10 44.75-24.75	34.75	1.015	6	73.126	A	0.000	39.492	9.583	24.27	0.000	0.000
					B	2.624	55.540		16.48		
					C	7.871	40.178		19.95		
T11 24.75-4.75	14.75	1	6	73.126	A	0.000	37.915	9.583	25.28	0.000	0.000
					B	2.460	53.945		16.99		
					C	7.379	38.558		20.86		
T12 4.75-0.00	2.38	1	6	9.324	A	6.190	2.465	2.465	28.48	0.000	0.000
					B	6.190	2.465		28.48		
					C	6.190	2.465		28.48		

Tower Forces - No Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 224.75-204.75	0.14	0.94	A	0.311	2.268	0.619	1	1	17.793	1.53	76.37	B
		TA 0.95	B	0.458	1.96	0.677	1	1	25.182			
			C	0.287	2.331	0.612	1	1	16.771			
T2 204.75-184.75	0.26	0.55	A	0.361	2.146	0.637	1	1	16.815	1.79	89.41	B
			B	0.598	1.805	0.752	1	1	32.913			
			C	0.305	2.283	0.617	1	1	13.774			
T3 184.75-164.75	0.36	0.55	A	0.397	2.07	0.65	1	1	18.877	1.95	97.42	B
			B	0.652	1.781	0.787	1	1	37.491			
			C	0.343	2.189	0.63	1	1	15.786			
T4 164.75-144.75	0.67	0.93	A	0.415	2.035	0.658	1	1	23.040	2.24	112.15	B
		TA 0.95	B	0.72	1.779	0.835	1	1	44.747			
			C	0.512	1.884	0.704	1	1	28.641			
T5 144.75-124.75	0.72	0.55	A	0.453	1.969	0.675	1	1	22.337	2.36	118.05	B
			B	0.762	1.793	0.866	1	1	48.614			
			C	0.551	1.843	0.725	1	1	29.192			
T6 124.75-104.75	0.77	0.60	A	0.537	1.856	0.717	1	1	28.471	2.29	114.41	B
			B	0.768	1.796	0.87	1	1	49.249			
			C	0.636	1.786	0.776	1	1	37.059			
T7 104.75-84.75	0.81	0.62	A	0.524	1.87	0.71	1	1	27.519	2.11	105.46	B
			B	0.757	1.79	0.862	1	1	48.095			
			C	0.664	1.778	0.795	1	1	40.367			
T8 84.75-64.75	0.82	0.57	A	0.516	1.881	0.706	1	1	26.600	2.09	104.57	B
			B	0.781	1.803	0.881	1	1	50.659			
			C	0.657	1.78	0.79	1	1	39.619			
T9 64.75-44.75	0.82	0.62	A	0.528	1.866	0.712	1	1	27.800	1.93	96.44	B
			B	0.784	1.805	0.884	1	1	51.016			
			C	0.664	1.778	0.795	1	1	40.367			
T10 44.75-24.75	0.83	0.57	A	0.54	1.853	0.719	1	1	28.385	1.74	87.02	B
			B	0.795	1.813	0.893	1	1	52.201			
			C	0.657	1.78	0.79	1	1	39.619			
T11 24.75-4.75	0.78	0.57	A	0.518	1.877	0.707	1	1	26.810	1.62	80.76	B
			B	0.771	1.798	0.873	1	1	49.577			
			C	0.628	1.789	0.771	1	1	37.118			
T12 4.75-0.00	0.00	0.32	A	0.928	1.967	1	1	1	8.654	0.31	64.94	C
			B	0.928	1.967	1	1	1	8.654			
			C	0.928	1.967	1	1	1	8.654			

RISATower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	225' Guyed Lattice Tower	Page	24 of 56
	Project	Glastonbury, CT	Date	10:25:36 10/20/06
	Client	Verizon Wireless	Designed by	Staff

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
Sum Weight:	6.98	9.27								21.95		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 224.75- 204.75	0.14	0.94 TA 0.95	A	0.311	2.268	0.619	0.8	1	15.841	1.43	71.72	B
			B	0.458	1.96	0.677	0.8	1	23.647			
			C	0.287	2.331	0.612	0.8	1	14.752			
T2 204.75- 184.75	0.26	0.55	A	0.361	2.146	0.637	0.8	1	16.815	1.79	89.41	B
			B	0.598	1.805	0.752	0.8	1	32.913			
			C	0.305	2.283	0.617	0.8	1	13.774			
T3 184.75- 164.75	0.36	0.55	A	0.397	2.07	0.65	0.8	1	18.877	1.95	97.42	B
			B	0.652	1.781	0.787	0.8	1	37.491			
			C	0.343	2.189	0.63	0.8	1	15.786			
T4 164.75- 144.75	0.67	0.93 TA 0.95	A	0.415	2.035	0.658	0.8	1	21.245	2.20	109.76	B
			B	0.72	1.779	0.835	0.8	1	43.792			
			C	0.512	1.884	0.704	0.8	1	27.112			
T5 144.75- 124.75	0.72	0.55	A	0.453	1.969	0.675	0.8	1	22.337	2.34	116.78	B
			B	0.762	1.793	0.866	0.8	1	48.090			
			C	0.551	1.843	0.725	0.8	1	29.186			
T6 124.75- 104.75	0.77	0.60	A	0.537	1.856	0.717	0.8	1	28.270	2.26	113.01	B
			B	0.768	1.796	0.87	0.8	1	48.649			
			C	0.636	1.786	0.776	0.8	1	36.195			
T7 104.75- 84.75	0.81	0.62	A	0.524	1.87	0.71	0.8	1	27.324	2.08	104.15	B
			B	0.757	1.79	0.862	0.8	1	47.498			
			C	0.664	1.778	0.795	0.8	1	38.640			
T8 84.75- 64.75	0.82	0.57	A	0.516	1.881	0.706	0.8	1	26.600	2.07	103.48	B
			B	0.781	1.803	0.881	0.8	1	50.134			
			C	0.657	1.78	0.79	0.8	1	38.045			
T9 64.75- 44.75	0.82	0.62	A	0.528	1.866	0.712	0.8	1	27.607	1.91	95.32	B
			B	0.784	1.805	0.884	0.8	1	50.427			
			C	0.664	1.778	0.795	0.8	1	38.640			
T10 44.75- 24.75	0.83	0.57	A	0.54	1.853	0.719	0.8	1	28.385	1.72	86.14	B
			B	0.795	1.813	0.893	0.8	1	51.676			
			C	0.657	1.78	0.79	0.8	1	38.045			
T11 24.75- 4.75	0.78	0.57	A	0.518	1.877	0.707	0.8	1	26.810	1.60	79.96	B
			B	0.771	1.798	0.873	0.8	1	49.085			
			C	0.628	1.789	0.771	0.8	1	35.642			
T12 4.75-0.00	0.00	0.32	A	0.928	1.967	1	0.8	1	7.416	0.26	55.65	C
			B	0.928	1.967	1	0.8	1	7.416			
			C	0.928	1.967	1	0.8	1	7.416			
Sum Weight:	6.98	9.27								21.61		

Tower Forces - No Ice - Wind 90 To Face

RISATower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	225' Guyed Lattice Tower	Page	25 of 56
	Project	Glastonbury, CT	Date	10:25:36 10/20/06
	Client	Verizon Wireless	Designed by	Staff

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 224.75- 204.75	0.14	0.94 TA 0.95	A	0.311	2.268	0.619	0.85	1	16.329	1.46	72.88	B
			B	0.458	1.96	0.677	0.85	1	24.031			
			C	0.287	2.331	0.612	0.85	1	15.257			
T2 204.75- 184.75	0.26	0.55	A	0.361	2.146	0.637	0.85	1	16.815	1.79	89.41	B
			B	0.598	1.805	0.752	0.85	1	32.913			
			C	0.305	2.283	0.617	0.85	1	13.774			
T3 184.75- 164.75	0.36	0.55	A	0.397	2.07	0.65	0.85	1	18.877	1.95	97.42	B
			B	0.652	1.781	0.787	0.85	1	37.491			
			C	0.343	2.189	0.63	0.85	1	15.786			
T4 164.75- 144.75	0.67	0.93 TA 0.95	A	0.415	2.035	0.658	0.85	1	21.694	2.21	110.36	B
			B	0.72	1.779	0.835	0.85	1	44.031			
			C	0.512	1.884	0.704	0.85	1	27.494			
T5 144.75- 124.75	0.72	0.55	A	0.453	1.969	0.675	0.85	1	22.337	2.34	117.10	B
			B	0.762	1.793	0.866	0.85	1	48.221			
			C	0.551	1.843	0.725	0.85	1	29.187			
T6 124.75- 104.75	0.77	0.60	A	0.537	1.856	0.717	0.85	1	28.320	2.27	113.36	B
			B	0.768	1.796	0.87	0.85	1	48.799			
			C	0.636	1.786	0.776	0.85	1	36.411			
T7 104.75- 84.75	0.81	0.62	A	0.524	1.87	0.71	0.85	1	27.373	2.09	104.48	B
			B	0.757	1.79	0.862	0.85	1	47.647			
			C	0.664	1.778	0.795	0.85	1	39.072			
T8 84.75- 64.75	0.82	0.57	A	0.516	1.881	0.706	0.85	1	26.600	2.08	103.76	B
			B	0.781	1.803	0.881	0.85	1	50.266			
			C	0.657	1.78	0.79	0.85	1	38.438			
T9 64.75- 44.75	0.82	0.62	A	0.528	1.866	0.712	0.85	1	27.655	1.91	95.60	B
			B	0.784	1.805	0.884	0.85	1	50.574			
			C	0.664	1.778	0.795	0.85	1	39.072			
T10 44.75- 24.75	0.83	0.57	A	0.54	1.853	0.719	0.85	1	28.385	1.73	86.36	B
			B	0.795	1.813	0.893	0.85	1	51.807			
			C	0.657	1.78	0.79	0.85	1	38.438			
T11 24.75- 4.75	0.78	0.57	A	0.518	1.877	0.707	0.85	1	26.810	1.60	80.16	B
			B	0.771	1.798	0.873	0.85	1	49.208			
			C	0.628	1.789	0.771	0.85	1	36.011			
T12 4.75-0.00	0.00	0.32	A	0.928	1.967	1	0.85	1	7.726	0.28	57.97	C
			B	0.928	1.967	1	0.85	1	7.726			
			C	0.928	1.967	1	0.85	1	7.726			
Sum Weight:	6.98	9.27								21.69		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 224.75- 204.75	0.36	1.46 TA 2.09	A	0.412	2.04	0.657	1	1	25.527	1.66	82.89	B
			B	0.614	1.796	0.762	1	1	39.748			
			C	0.39	2.084	0.648	1	1	23.727			
T2 204.75- 184.75	0.70	0.94	A	0.509	1.888	0.702	1	1	27.995	2.53	126.32	B
			B	0.843	1.854	0.932	1	1	60.336			
			C	0.452	1.971	0.674	1	1	22.769			
T3 184.75- 164.75	0.98	0.94	A	0.572	1.824	0.737	1	1	32.588	2.97	148.37	B
			B	0.924	1.961	1	1	1	69.130			
			C	0.516	1.88	0.706	1	1	27.308			
T4 164.75- 144.75	1.85	1.44 TA 2.09	A	0.567	1.828	0.734	1	1	35.406	3.16*	158.17	B
			B	1	2.1	1	1	1	76.483			
			C	0.704	1.776	0.823	1	1	47.316			

RISATower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	225' Guyed Lattice Tower	Page	26 of 56
	Project	Glastonbury, CT	Date	10:25:36 10/20/06
	Client	Verizon Wireless	Designed by	Staff

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T5 144.75- 124.75	2.03	0.94	A	0.674	1.777	0.802	1	1	41.254	3.04*	152.04	B
			B	1	2.1	1	1	1	83.290			
			C	0.807	1.821	0.902	1	1	55.739			
T6 124.75- 104.75	2.16	1.02	A	0.8	1.816	0.896	1	1	54.179	2.90*	145.22	B
			B	1	2.1	1	1	1	83.159			
			C	0.927	1.964	1	1	1	69.295			
T7 104.75- 84.75	2.28	0.90	A	0.792	1.81	0.89	1	1	53.236	2.75*	137.49	B
			B	1	2.1	1	1	1	85.452			
			C	0.971	2.042	1	1	1	72.627			
T8 84.75- 64.75	2.32	0.84	A	0.785	1.806	0.884	1	1	52.372	2.57*	128.48	B
			B	1	2.1	1	1	1	89.746			
			C	0.967	2.034	1	1	1	72.310			
T9 64.75- 44.75	2.33	0.90	A	0.8	1.816	0.896	1	1	54.190	2.35*	117.55	B
			B	1	2.1	1	1	1	89.571			
			C	0.971	2.042	1	1	1	72.627			
T10 44.75- 24.75	2.38	0.84	A	0.837	1.848	0.927	1	1	58.455	2.06*	103.23	B
			B	1	2.1	1	1	1	92.899			
			C	0.967	2.034	1	1	1	72.310			
T11 24.75- 4.75	2.25	0.84	A	0.802	1.817	0.898	1	1	54.412	2.03*	101.71	B
			B	1	2.1	1	1	1	91.394			
			C	0.924	1.96	1	1	1	69.086			
T12 4.75-0.00	0.00	0.49	A	1	2.1	1	1	1	9.806	0.27*	55.80	C
			B	1	2.1	1	1	1	9.806			
			C	1	2.1	1	1	1	9.806			
Sum Weight:	19.65	15.73			*2A _B limit					28.29		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 224.75- 204.75	0.36	1.46	A	0.412	2.04	0.657	0.8	1	22.452	1.49	74.57	B
		TA 2.09	B	0.614	1.796	0.762	0.8	1	35.756			
			C	0.39	2.084	0.648	0.8	1	20.979			
T2 204.75- 184.75	0.70	0.94	A	0.509	1.888	0.702	0.8	1	27.169	2.33	116.72	B
			B	0.843	1.854	0.932	0.8	1	55.749			
			C	0.452	1.971	0.674	0.8	1	22.769			
T3 184.75- 164.75	0.98	0.94	A	0.572	1.824	0.737	0.8	1	31.761	2.72	136.09	B
			B	0.924	1.961	1	0.8	1	63.404			
			C	0.516	1.88	0.706	0.8	1	27.274			
T4 164.75- 144.75	1.85	1.44	A	0.567	1.828	0.734	0.8	1	32.209	3.09	154.42	B
		TA 2.09	B	1	2.1	1	0.8	1	69.541			
			C	0.704	1.776	0.823	0.8	1	42.784			
T5 144.75- 124.75	2.03	0.94	A	0.674	1.777	0.802	0.8	1	40.428	3.04*	152.04	B
			B	1	2.1	1	0.8	1	75.709			
			C	0.807	1.821	0.902	0.8	1	53.000			
T6 124.75- 104.75	2.16	1.02	A	0.8	1.816	0.896	0.8	1	53.140	2.90*	145.22	B
			B	1	2.1	1	0.8	1	75.620			
			C	0.927	1.964	1	0.8	1	65.422			
T7 104.75- 84.75	2.28	0.90	A	0.792	1.81	0.89	0.8	1	52.211	2.75*	137.49	B
			B	1	2.1	1	0.8	1	77.919			
			C	0.971	2.042	1	0.8	1	67.534			
T8 84.75- 64.75	2.32	0.84	A	0.785	1.806	0.884	0.8	1	51.546	2.57*	128.48	B
			B	1	2.1	1	0.8	1	82.166			

RISATower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	225' Guyed Lattice Tower	Page	27 of 56
	Project	Glastonbury, CT	Date	10:25:36 10/20/06
	Client	Verizon Wireless	Designed by	Staff

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T9 64.75- 44.75	2.33	0.90	C	0.967	2.034	1	0.8	1	67.339	2.35*	117.55	B
			A	0.8	1.816	0.896	0.8	1	53.110			
			B	1	2.1	1	0.8	1	82.058			
T10 44.75- 24.75	2.38	0.84	C	0.971	2.042	1	0.8	1	67.534	2.06*	103.23	B
			A	0.837	1.848	0.927	0.8	1	57.268			
			B	1	2.1	1	0.8	1	85.319			
T11 24.75- 4.75	2.25	0.84	C	0.967	2.034	1	0.8	1	67.339	2.03*	101.71	B
			A	0.802	1.817	0.898	0.8	1	53.299			
			B	1	2.1	1	0.8	1	84.287			
T12 4.75-0.00	0.00	0.49	C	0.924	1.96	1	0.8	1	64.426	0.24	51.16	C
			A	1	2.1	1	0.8	1	8.509			
			B	1	2.1	1	0.8	1	8.509			
Sum Weight:	19.65	15.73	C	1	2.1	1	0.8	1	8.509	27.59		
					*2A _g limit							

Tower Forces - With Ice - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 224.75- 204.75	0.36	1.46 TA 2.09	A	0.412	2.04	0.657	0.85	1	23.221	1.53	76.65	B
			B	0.614	1.796	0.762	0.85	1	36.754			
			C	0.39	2.084	0.648	0.85	1	21.666			
T2 204.75- 184.75	0.70	0.94	A	0.509	1.888	0.702	0.85	1	27.375	2.38	119.12	B
			B	0.843	1.854	0.932	0.85	1	56.896			
			C	0.452	1.971	0.674	0.85	1	22.769			
T3 184.75- 164.75	0.98	0.94	A	0.572	1.824	0.737	0.85	1	31.968	2.78	139.16	B
			B	0.924	1.961	1	0.85	1	64.836			
			C	0.516	1.88	0.706	0.85	1	27.282			
T4 164.75- 144.75	1.85	1.44 TA 2.09	A	0.567	1.828	0.734	0.85	1	33.008	3.16*	158.17	B
			B	1	2.1	1	0.85	1	71.277			
			C	0.704	1.776	0.823	0.85	1	43.917			
T5 144.75- 124.75	2.03	0.94	A	0.674	1.777	0.802	0.85	1	40.634	3.04*	152.04	B
			B	1	2.1	1	0.85	1	77.604			
			C	0.807	1.821	0.902	0.85	1	53.684			
T6 124.75- 104.75	2.16	1.02	A	0.8	1.816	0.896	0.85	1	53.400	2.90*	145.22	B
			B	1	2.1	1	0.85	1	77.505			
			C	0.927	1.964	1	0.85	1	66.390			
T7 104.75- 84.75	2.28	0.90	A	0.792	1.81	0.89	0.85	1	52.467	2.75*	137.49	B
			B	1	2.1	1	0.85	1	79.803			
			C	0.971	2.042	1	0.85	1	68.807			
T8 84.75- 64.75	2.32	0.84	A	0.785	1.806	0.884	0.85	1	51.752	2.57*	128.48	B
			B	1	2.1	1	0.85	1	84.061			
			C	0.967	2.034	1	0.85	1	68.582			
T9 64.75- 44.75	2.33	0.90	A	0.8	1.816	0.896	0.85	1	53.380	2.35*	117.55	B
			B	1	2.1	1	0.85	1	83.936			
			C	0.971	2.042	1	0.85	1	68.807			
T10 44.75- 24.75	2.38	0.84	A	0.837	1.848	0.927	0.85	1	57.565	2.06*	103.23	B
			B	1	2.1	1	0.85	1	87.214			
			C	0.967	2.034	1	0.85	1	68.582			
T11 24.75- 4.75	2.25	0.84	A	0.802	1.817	0.898	0.85	1	53.578	2.03*	101.71	B
			B	1	2.1	1	0.85	1	86.064			
			C	0.924	1.96	1	0.85	1	65.591			
T12 4.75-0.00	0.00	0.49	A	1	2.1	1	0.85	1	8.833	0.25	53.11	C

RISATower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	225' Guyed Lattice Tower	Page	28 of 56
	Project	Glastonbury, CT	Date	10:25:36 10/20/06
	Client	Verizon Wireless	Designed by	Staff

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
Sum Weight:	19.65	15.73	B C	1 1	2.1 2.1 2A ₈ limit	1 1	0.85 0.85	1 1	8.833 8.833	27.83		

Tower Forces - Service - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 224.75-204.75	0.14	0.94 TA 0.95	A B C	0.311 0.458 0.287	2.268 1.96 2.331	0.619 0.677 0.612	1 1 1	1 1 1	17.793 25.182 16.771	0.60	29.83	B
T2 204.75-184.75	0.26	0.55	A B C	0.361 0.598 0.305	2.146 1.805 2.283	0.637 0.752 0.617	1 1 1	1 1 1	16.815 32.913 13.774	0.70	34.92	B
T3 184.75-164.75	0.36	0.55	A B C	0.397 0.652 0.343	2.07 1.781 2.189	0.65 0.787 0.63	1 1 1	1 1 1	18.877 37.491 15.786	0.76	38.05	B
T4 164.75-144.75	0.67	0.93 TA 0.95	A B C	0.415 0.72 0.512	2.035 1.779 1.884	0.658 0.835 0.704	1 1 1	1 1 1	23.040 44.747 28.641	0.88	43.81	B
T5 144.75-124.75	0.72	0.55	A B C	0.453 0.762 0.551	1.969 1.793 1.843	0.675 0.866 0.725	1 1 1	1 1 1	22.337 48.614 29.192	0.92	46.12	B
T6 124.75-104.75	0.77	0.60	A B C	0.537 0.768 0.636	1.856 1.796 1.786	0.717 0.87 0.776	1 1 1	1 1 1	28.471 49.249 37.059	0.89	44.69	B
T7 104.75-84.75	0.81	0.62	A B C	0.524 0.757 0.664	1.87 1.79 1.778	0.71 0.862 0.795	1 1 1	1 1 1	27.519 48.095 40.367	0.82	41.20	B
T8 84.75-64.75	0.82	0.57	A B C	0.516 0.781 0.657	1.881 1.803 1.78	0.706 0.881 0.79	1 1 1	1 1 1	26.600 50.659 39.619	0.82	40.85	B
T9 64.75-44.75	0.82	0.62	A B C	0.528 0.784 0.664	1.866 1.805 1.778	0.712 0.884 0.795	1 1 1	1 1 1	27.800 51.016 40.367	0.75	37.67	B
T10 44.75-24.75	0.83	0.57	A B C	0.54 0.795 0.657	1.853 1.813 1.78	0.719 0.893 0.79	1 1 1	1 1 1	28.385 52.201 39.619	0.68	33.99	B
T11 24.75-4.75	0.78	0.57	A B C	0.518 0.771 0.628	1.877 1.798 1.789	0.707 0.873 0.771	1 1 1	1 1 1	26.810 49.577 37.118	0.63	31.55	B
T12 4.75-0.00	0.00	0.32	A B C	0.928 0.928 0.928	1.967 1.967 1.967	1 1 1	1 1 1	1 1 1	8.654 8.654 8.654	0.12	25.37	C
Sum Weight:	6.98	9.27								8.57		

Tower Forces - Service - Wind 60 To Face

RISATower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	225' Guyed Lattice Tower	Page	29 of 56
	Project	Glastonbury, CT	Date	10:25:36 10/20/06
	Client	Verizon Wireless	Designed by	Staff

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 224.75- 204.75	0.14	0.94 TA 0.95	A	0.311	2.268	0.619	0.8	1	15.841	0.56	28.01	B
			B	0.458	1.96	0.677	0.8	1	23.647			
			C	0.287	2.331	0.612	0.8	1	14.752			
T2 204.75- 184.75	0.26	0.55	A	0.361	2.146	0.637	0.8	1	16.815	0.70	34.92	B
			B	0.598	1.805	0.752	0.8	1	32.913			
			C	0.305	2.283	0.617	0.8	1	13.774			
T3 184.75- 164.75	0.36	0.55	A	0.397	2.07	0.65	0.8	1	18.877	0.76	38.05	B
			B	0.652	1.781	0.787	0.8	1	37.491			
			C	0.343	2.189	0.63	0.8	1	15.786			
T4 164.75- 144.75	0.67	0.93 TA 0.95	A	0.415	2.035	0.658	0.8	1	21.245	0.86	42.87	B
			B	0.72	1.779	0.835	0.8	1	43.792			
			C	0.512	1.884	0.704	0.8	1	27.112			
T5 144.75- 124.75	0.72	0.55	A	0.453	1.969	0.675	0.8	1	22.337	0.91	45.62	B
			B	0.762	1.793	0.866	0.8	1	48.090			
			C	0.551	1.843	0.725	0.8	1	29.186			
T6 124.75- 104.75	0.77	0.60	A	0.537	1.856	0.717	0.8	1	28.270	0.88	44.15	B
			B	0.768	1.796	0.87	0.8	1	48.649			
			C	0.636	1.786	0.776	0.8	1	36.195			
T7 104.75- 84.75	0.81	0.62	A	0.524	1.87	0.71	0.8	1	27.324	0.81	40.69	B
			B	0.757	1.79	0.862	0.8	1	47.498			
			C	0.664	1.778	0.795	0.8	1	38.640			
T8 84.75- 64.75	0.82	0.57	A	0.516	1.881	0.706	0.8	1	26.600	0.81	40.42	B
			B	0.781	1.803	0.881	0.8	1	50.134			
			C	0.657	1.78	0.79	0.8	1	38.045			
T9 64.75- 44.75	0.82	0.62	A	0.528	1.866	0.712	0.8	1	27.607	0.74	37.24	B
			B	0.784	1.805	0.884	0.8	1	50.427			
			C	0.664	1.778	0.795	0.8	1	38.640			
T10 44.75- 24.75	0.83	0.57	A	0.54	1.853	0.719	0.8	1	28.385	0.67	33.65	B
			B	0.795	1.813	0.893	0.8	1	51.676			
			C	0.657	1.78	0.79	0.8	1	38.045			
T11 24.75- 4.75	0.78	0.57	A	0.518	1.877	0.707	0.8	1	26.810	0.62	31.23	B
			B	0.771	1.798	0.873	0.8	1	49.085			
			C	0.628	1.789	0.771	0.8	1	35.642			
T12 4.75-0.00	0.00	0.32	A	0.928	1.967	1	0.8	1	7.416	0.10	21.74	C
			B	0.928	1.967	1	0.8	1	7.416			
			C	0.928	1.967	1	0.8	1	7.416			
Sum Weight:	6.98	9.27								8.44		

Tower Forces - Service - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 224.75- 204.75	0.14	0.94 TA 0.95	A	0.311	2.268	0.619	0.85	1	16.329	0.57	28.47	B
			B	0.458	1.96	0.677	0.85	1	24.031			
			C	0.287	2.331	0.612	0.85	1	15.257			
T2 204.75- 184.75	0.26	0.55	A	0.361	2.146	0.637	0.85	1	16.815	0.70	34.92	B
			B	0.598	1.805	0.752	0.85	1	32.913			
			C	0.305	2.283	0.617	0.85	1	13.774			
T3 184.75- 164.75	0.36	0.55	A	0.397	2.07	0.65	0.85	1	18.877	0.76	38.05	B
			B	0.652	1.781	0.787	0.85	1	37.491			
			C	0.343	2.189	0.63	0.85	1	15.786			
T4 164.75- 144.75	0.67	0.93 TA 0.95	A	0.415	2.035	0.658	0.85	1	21.694	0.86	43.11	B
			B	0.72	1.779	0.835	0.85	1	44.031			
			C	0.512	1.884	0.704	0.85	1	27.494			

RISATower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	225' Guyed Lattice Tower	Page	30 of 56
	Project	Glastonbury, CT	Date	10:25:36 10/20/06
	Client	Verizon Wireless	Designed by	Staff

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T5 144.75- 124.75	0.72	0.55	A	0.453	1.969	0.675	0.85	1	22.337	0.91	45.74	B
			B	0.762	1.793	0.866	0.85	1	48.221			
			C	0.551	1.843	0.725	0.85	1	29.187			
T6 124.75- 104.75	0.77	0.60	A	0.537	1.856	0.717	0.85	1	28.320	0.89	44.28	B
			B	0.768	1.796	0.87	0.85	1	48.799			
			C	0.636	1.786	0.776	0.85	1	36.411			
T7 104.75- 84.75	0.81	0.62	A	0.524	1.87	0.71	0.85	1	27.373	0.82	40.81	B
			B	0.757	1.79	0.862	0.85	1	47.647			
			C	0.664	1.778	0.795	0.85	1	39.072			
T8 84.75- 64.75	0.82	0.57	A	0.516	1.881	0.706	0.85	1	26.600	0.81	40.53	B
			B	0.781	1.803	0.881	0.85	1	50.266			
			C	0.657	1.78	0.79	0.85	1	38.438			
T9 64.75- 44.75	0.82	0.62	A	0.528	1.866	0.712	0.85	1	27.655	0.75	37.35	B
			B	0.784	1.805	0.884	0.85	1	50.574			
			C	0.664	1.778	0.795	0.85	1	39.072			
T10 44.75- 24.75	0.83	0.57	A	0.54	1.853	0.719	0.85	1	28.385	0.67	33.74	B
			B	0.795	1.813	0.893	0.85	1	51.807			
			C	0.657	1.78	0.79	0.85	1	38.438			
T11 24.75- 4.75	0.78	0.57	A	0.518	1.877	0.707	0.85	1	26.810	0.63	31.31	B
			B	0.771	1.798	0.873	0.85	1	49.208			
			C	0.628	1.789	0.771	0.85	1	36.011			
T12 4.75-0.00	0.00	0.32	A	0.928	1.967	1	0.85	1	7.726	0.11	22.65	C
			B	0.928	1.967	1	0.85	1	7.726			
			C	0.928	1.967	1	0.85	1	7.726			
Sum Weight:	6.98	9.27								8.47		

Force Totals (Does not include forces on guys)

Load Case	Vertical Forces	Sum of Forces X K	Sum of Forces Z K	Sum of Torques kip-ft
Leg Weight	4.73			
Bracing Weight	4.54			
Total Member Self-Weight	9.27			
Guy Weight	2.82			
Total Weight	28.49			
Wind 0 deg - No Ice		0.47	-40.81	0.96
Wind 90 deg - No Ice		40.33	-0.35	-4.79
Wind 180 deg - No Ice		0.10	40.17	-0.46
Member Ice	6.46			
Guy Ice	3.45			
Total Weight Ice	56.38			
Wind 0 deg - Ice		0.38	-45.12	-1.09
Wind 90 deg - Ice		44.49	-0.28	-1.05
Wind 180 deg - Ice		0.08	44.19	1.51
Total Weight	28.49			
Wind 0 deg - Service		0.19	-15.94	0.37
Wind 90 deg - Service		15.76	-0.14	-1.87
Wind 180 deg - Service		0.04	15.69	-0.18

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Load Combinations

Comb. No.	Description
1	Dead Only
2	Dead+Wind 0 deg - No Ice+Guy
3	Dead+Wind 90 deg - No Ice+Guy
4	Dead+Wind 180 deg - No Ice+Guy
5	Dead+Ice+Temp+Guy
6	Dead+Wind 0 deg+Ice+Temp+Guy
7	Dead+Wind 90 deg+Ice+Temp+Guy
8	Dead+Wind 180 deg+Ice+Temp+Guy
9	Dead+Wind 0 deg - Service+Guy
10	Dead+Wind 90 deg - Service+Guy
11	Dead+Wind 180 deg - Service+Guy

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	224.75 - 204.75	Leg	Max Tension	4	8.12	-0.01	0.05
			Max. Compression	8	-14.52	-0.01	-0.15
			Max. Mx	3	-2.24	-0.86	-0.27
			Max. My	6	2.18	0.03	0.90
			Max. Vy	3	-1.13	-0.86	-0.27
			Max. Vx	2	1.24	0.08	0.85
		Diagonal	Max Tension	6	3.87	0.00	0.00
			Max. Compression	6	-3.08	-0.01	0.00
			Max. Mx	8	2.10	0.05	-0.00
			Max. My	7	-2.03	0.03	0.01
			Max. Vy	8	-0.03	0.05	-0.00
			Max. Vx	7	-0.01	0.03	0.01
		Top Girt	Max Tension	2	0.11	0.00	0.00
			Max. Compression	8	-0.21	0.00	0.00
			Max. Mx	5	-0.04	-0.01	0.00
			Max. My	7	-0.08	0.00	-0.00
			Max. Vy	5	0.01	0.00	0.00
			Max. Vx	7	0.00	0.00	0.00
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	6	-2.44	0.00	0.00
			Max. Mx	5	-0.82	-0.01	0.00
			Max. My	7	-1.30	0.00	-0.00
			Max. Vy	5	0.01	0.00	0.00
			Max. Vx	7	0.00	0.00	0.00
		Guy A	Bottom Tension	8	10.09		
			Top Tension	8	10.32		
			Top Cable Vert	8	8.20		
			Top Cable Norm	8	6.27		
			Top Cable Tan	8	0.01		
			Bot Cable Vert	8	-7.60		
			Bot Cable Norm	8	6.63		
			Bot Cable Tan	8	0.01		
		Guy A	Bottom Tension	8	10.24		
			Top Tension	8	10.47		
			Top Cable Vert	8	8.28		
			Top Cable Norm	8	6.41		
			Top Cable Tan	8	0.00		
			Bot Cable Vert	8	-7.68		

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T2	204.75 - 184.75	Guy B	Bot Cable Norm	8	6.77		
			Bot Cable Tan	8	0.00		
			Bottom Tension	6	8.48		
			Top Tension	6	8.71		
			Top Cable Vert	6	6.83		
			Top Cable Norm	6	5.41		
			Top Cable Tan	6	0.28		
			Bot Cable Vert	6	-6.32		
		Guy B	Bot Cable Norm	6	5.64		
			Bot Cable Tan	6	0.34		
			Bottom Tension	6	8.01		
			Top Tension	6	8.25		
			Top Cable Vert	6	6.43		
			Top Cable Norm	6	5.15		
			Top Cable Tan	6	0.29		
			Bot Cable Vert	6	-5.94		
		Guy C	Bot Cable Norm	6	5.37		
			Bot Cable Tan	6	0.35		
			Bottom Tension	7	9.83		
			Top Tension	7	10.08		
			Top Cable Vert	7	8.05		
			Top Cable Norm	7	6.07		
			Top Cable Tan	7	0.13		
			Bot Cable Vert	7	-7.43		
		Guy C	Bot Cable Norm	7	6.43		
			Bot Cable Tan	7	0.18		
			Bottom Tension	7	9.69		
			Top Tension	7	9.94		
			Top Cable Vert	7	7.90		
			Top Cable Norm	7	6.03		
			Top Cable Tan	7	0.15		
			Bot Cable Vert	7	-7.29		
		Top Guy Pull-Off	Bot Cable Norm	7	6.38		
			Bot Cable Tan	7	0.19		
			Max Tension	8	6.05	0.00	0.00
			Max. Compression	2	-1.08	0.00	0.00
			Max. Mx	5	1.71	-0.00	0.00
			Max. My	7	2.90	0.00	-0.00
			Max. Vy	5	0.00	0.00	0.00
			Max. Vx	7	0.00	0.00	0.00
		Torque Arm Top	Max Tension	8	12.41	0.00	0.00
			Max. Compression	2	-0.45	0.00	0.00
			Max. Mx	5	4.04	0.26	0.00
			Max. My	7	11.08	0.00	-0.00
			Max. Vy	5	-0.13	0.00	0.00
			Max. Vx	7	0.00	0.00	0.00
		Torque Arm Bottom	Max Tension	2	0.02	0.00	0.00
			Max. Compression	8	-13.18	0.00	0.00
			Max. Mx	6	-8.99	0.08	0.00
			Max. My	7	-1.32	0.00	0.00
			Max. Vy	6	0.03	0.00	0.00
			Max. Vx	7	0.00	0.00	0.00
		Leg	Max Tension	6	18.13	0.00	-0.20
			Max. Compression	8	-48.73	-0.00	0.14
			Max. Mx	7	0.06	-0.69	-0.17
			Max. My	6	1.00	0.02	0.78
			Max. Vy	7	-1.87	-0.69	-0.17
			Max. Vx	6	2.06	0.02	0.78
		Diagonal	Max Tension	7	1.81	0.00	0.00
			Max. Compression	7	-2.19	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft	
T3	184.75 - 164.75	Top Girt	Max. Mx	7	1.81	0.00	0.00	
			Max. My	7	0.09	0.00	0.00	
			Max. Vy	7	-0.00	0.00	0.00	
			Max. Vx	7	-0.00	0.00	0.00	
			Max Tension	7	0.23	0.00	0.00	
			Max. Compression	6	-0.48	0.00	0.00	
			Max. Mx	5	-0.01	0.00	0.00	
			Max. My	7	-0.03	0.00	0.00	
			Max. Vy	5	-0.00	0.00	0.00	
			Max. Vx	7	-0.00	0.00	0.00	
			Max Tension	6	0.57	0.00	0.00	
			Max. Compression	4	-0.15	0.00	0.00	
		Bottom Girt	Max. Mx	5	0.13	0.00	0.00	
			Max. Vy	5	-0.00	0.00	0.00	
			Max Tension	6	19.82	0.00	-0.08	
			Diagonal	Max. Compression	8	-50.07	-0.00	0.16
				Max. Mx	7	-35.79	0.58	-0.23
				Max. My	8	-36.50	-0.00	0.72
				Max. Vy	7	-0.49	-0.10	0.01
				Max. Vx	2	0.57	0.01	0.11
				Max Tension	8	1.64	0.00	0.00
				Max. Compression	8	-2.09	0.00	0.00
				Max. Mx	8	1.55	0.00	0.00
		Max. My		8	-0.11	0.00	-0.00	
		Max. Vy		8	0.00	0.00	0.00	
		Max. Vx		8	0.00	0.00	0.00	
		Top Girt		Max Tension	6	0.41	0.00	0.00
			Max. Compression	4	-0.05	0.00	0.00	
			Max. Mx	5	0.13	0.00	0.00	
			Max. Vy	5	-0.00	0.00	0.00	
			Max Tension	8	0.34	0.00	0.00	
		Bottom Girt	Max. Compression	1	0.00	0.00	0.00	
			Max. Mx	5	0.11	0.00	0.00	
			Max. Vy	5	-0.00	0.00	0.00	
			Max. Vx	7	0.00	0.00	0.00	
			Max Tension	2	6.09	0.00	-0.42	
T4	164.75 - 144.75	Diagonal	Max. Compression	8	-35.51	-0.00	-0.57	
			Max. Mx	7	-27.96	-2.45	-0.58	
			Max. My	6	-17.03	0.71	1.98	
			Max. Vy	7	2.46	-0.64	-0.20	
			Max. Vx	8	2.81	-0.00	-0.57	
			Max Tension	7	7.77	-0.13	0.02	
			Max. Compression	6	-5.41	0.00	0.00	
			Max. Mx	8	7.08	0.15	0.00	
			Max. My	7	-1.68	-0.04	-0.05	
			Max. Vy	8	-0.07	0.15	0.00	
			Max. Vx	7	-0.02	0.00	0.00	
			Max Tension	6	1.22	0.00	0.00	
		Top Girt	Max. Compression	4	-0.63	0.00	0.00	
			Max. Mx	5	0.21	-0.01	0.00	
			Max. My	7	0.25	0.00	0.00	
			Max. Vy	5	0.01	0.00	0.00	
			Max. Vx	7	-0.00	0.00	0.00	
			Max Tension	8	1.83	0.00	0.00	
			Max. Compression	6	-4.27	0.00	0.00	
			Max. Mx	5	-0.64	-0.01	0.00	
			Max. My	7	-1.11	0.00	0.00	
			Max. Vy	5	0.01	0.00	0.00	
			Bottom Girt	Max. Vx	7	-0.00	0.00	0.00
		Max Tension		8	1.83	0.00	0.00	
		Max. Compression		6	-4.27	0.00	0.00	
		Max. Mx		5	-0.64	-0.01	0.00	
		Max. My		7	-1.11	0.00	0.00	
		Max. Vy		5	0.01	0.00	0.00	
		Max. Vx		7	-0.00	0.00	0.00	

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T5	144.75 - 124.75	Guy A	Bottom Tension	8	12.45		
			Top Tension	8	12.62		
			Top Cable Vert	8	8.50		
			Top Cable Norm	8	9.33		
			Top Cable Tan	8	0.01		
			Bot Cable Vert	8	-8.05		
			Bot Cable Norm	8	9.50		
			Bot Cable Tan	8	0.01		
		Guy B	Bottom Tension	6	9.78		
			Top Tension	6	9.95		
			Top Cable Vert	6	6.60		
			Top Cable Norm	6	7.44		
			Top Cable Tan	6	0.19		
			Bot Cable Vert	6	-6.19		
			Bot Cable Norm	6	7.56		
			Bot Cable Tan	6	0.28		
		Guy C	Bottom Tension	7	11.97		
			Top Tension	7	12.15		
			Top Cable Vert	7	8.34		
			Top Cable Norm	7	8.84		
			Top Cable Tan	7	0.07		
			Bot Cable Vert	7	-7.86		
			Bot Cable Norm	7	9.03		
			Bot Cable Tan	7	0.14		
		Torque Arm Top	Max Tension	8	16.35	0.00	0.00
			Max. Compression	2	-2.00	0.00	0.00
			Max. Mx	5	4.07	0.26	0.00
			Max. My	8	16.15	0.00	-0.00
			Max. Vy	5	0.13	0.00	0.00
		Torque Arm Bottom	Max. Vx	8	-0.00	0.00	0.00
			Max Tension	7	3.87	0.00	0.00
			Max. Compression	7	-17.52	0.00	0.00
			Max. Mx	8	-2.88	0.08	0.00
			Max. My	8	-16.83	0.00	-0.00
		Leg	Max. Vy	8	0.03	0.00	0.00
			Max. Vx	8	0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	7	-38.17	0.12	-0.06
			Max. Mx	7	-31.66	0.56	-0.17
T6	124.75 - 104.75	Diagonal	Max. My	8	-28.61	0.00	0.60
			Max. Vy	6	0.70	-0.03	-0.17
			Max. Vx	7	-0.69	0.21	-0.32
			Max Tension	8	1.07	0.00	0.00
			Max. Compression	6	-1.74	0.00	0.00
		Top Girt	Max. Mx	7	1.01	0.00	0.00
			Max. My	6	-0.36	0.00	0.00
			Max. Vy	7	-0.00	0.00	0.00
			Max. Vx	6	-0.00	0.00	0.00
			Max Tension	8	0.30	0.00	0.00
		Bottom Girt	Max. Compression	2	-0.20	0.00	0.00
			Max. Mx	5	0.06	0.00	0.00
			Max. Vy	5	-0.00	0.00	0.00
			Max Tension	8	0.60	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
		Leg	Max. Mx	5	0.26	0.00	0.00
			Max. Vy	5	-0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	7	-40.29	-0.04	-0.17
			Max. Mx	7	-30.83	0.56	-0.17

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T7	104.75 - 84.75	Diagonal	Max. My	6	-28.68	-0.01	0.62
			Max. Vy	7	1.49	-0.35	0.03
			Max. Vx	6	-1.63	-0.01	0.62
			Max Tension	7	2.03	0.00	0.00
			Max. Compression	7	-2.20	0.00	0.00
		Top Girt	Max. Mx	7	2.03	0.00	0.00
			Max. My	6	-0.47	0.00	0.00
			Max. Vy	7	-0.00	0.00	0.00
			Max. Vx	6	-0.00	0.00	0.00
			Max Tension	6	0.70	0.00	0.00
		Bottom Girt	Max. Compression	1	0.00	0.00	0.00
			Max. Mx	5	0.25	0.00	0.00
			Max. Vy	5	-0.00	0.00	0.00
			Max Tension	6	0.49	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
		Guy A	Max. Mx	5	0.27	0.00	0.00
			Max. Vy	5	-0.00	0.00	0.00
			Max. Vx	7	-0.00	0.00	0.00
			Bottom Tension	8	11.92		
			Top Tension	8	12.05		
		Guy B	Top Cable Vert	8	6.84		
			Top Cable Norm	8	9.92		
			Top Cable Tan	8	0.00		
			Bot Cable Vert	8	-6.47		
			Bot Cable Norm	8	10.01		
		Guy C	Bot Cable Tan	8	0.00		
			Bottom Tension	6	9.77		
			Top Tension	6	9.90		
			Top Cable Vert	6	5.52		
			Top Cable Norm	6	8.21		
		Top Guy Pull-Off	Top Cable Tan	6	0.16		
			Bot Cable Vert	6	-5.17		
			Bot Cable Norm	6	8.28		
			Bot Cable Tan	6	0.25		
			Bottom Tension	7	11.76		
		Leg	Top Tension	7	11.91		
			Top Cable Vert	7	7.02		
			Top Cable Norm	7	9.62		
			Top Cable Tan	7	-0.06		
			Bot Cable Vert	7	-6.61		
		Diagonal	Bot Cable Norm	7	9.73		
			Bot Cable Tan	7	0.13		
			Max Tension	6	5.58	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	5	2.27	0.01	0.00
		Top Girt	Max. My	3	2.84	0.00	-0.00
			Max. Vy	5	-0.01	0.00	0.00
			Max. Vx	3	0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	6	-48.94	0.13	0.92
		Diagonal	Max. Mx	7	-46.62	-1.08	0.05
			Max. My	6	-47.65	0.12	1.07
			Max. Vy	7	-1.98	-0.99	0.05
			Max. Vx	8	-2.24	0.08	-1.03
			Max Tension	6	2.13	0.00	0.00
		Top Girt	Max. Compression	6	-2.12	0.00	0.00
			Max. Mx	7	1.21	0.00	0.00
			Max. My	7	-1.08	0.00	-0.00
			Max. Vy	7	-0.00	0.00	0.00
			Max. Vx	7	0.00	0.00	0.00
		Top Girt	Max Tension	2	0.26	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T8	84.75 - 64.75	Guy A	Max. Compression	7	-0.20	0.00	0.00
			Max. Mx	5	0.06	0.00	0.00
			Max. My	7	0.11	0.00	0.00
			Max. Vy	5	-0.00	0.00	0.00
			Max. Vx	7	-0.00	0.00	0.00
			Bottom Tension	8	11.20		
			Top Tension	8	11.30		
			Top Cable Vert	8	5.06		
			Top Cable Norm	8	10.10		
			Top Cable Tan	8	0.00		
		Guy B	Bot Cable Vert	8	-4.77		
			Bot Cable Norm	8	10.14		
			Bot Cable Tan	8	0.00		
			Bottom Tension	6	9.25		
			Top Tension	6	9.34		
			Top Cable Vert	6	4.11		
			Top Cable Norm	6	8.39		
			Top Cable Tan	6	0.13		
			Bot Cable Vert	6	-3.81		
			Bot Cable Norm	6	8.42		
		Guy C	Bot Cable Tan	6	0.20		
			Bottom Tension	7	11.25		
			Top Tension	7	11.36		
			Top Cable Vert	7	5.46		
			Top Cable Norm	7	9.96		
			Top Cable Tan	7	0.04		
			Bot Cable Vert	7	-5.13		
			Bot Cable Norm	7	10.01		
			Bot Cable Tan	7	0.10		
		Top Guy Pull-Off	Max Tension	6	5.41	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	5	1.92	0.01	0.00
			Max. My	7	2.50	0.00	0.00
			Max. Vy	5	-0.01	0.00	0.00
			Max. Vx	7	-0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
		Leg	Max. Compression	7	-51.92	-0.15	-0.18
			Max. Mx	7	-48.00	-0.94	0.07
			Max. My	6	-48.94	0.13	0.92
			Max. Vy	7	-1.99	-0.83	0.02
			Max. Vx	8	-2.25	0.07	-0.84
		Diagonal	Max Tension	7	3.87	0.00	0.00
			Max. Compression	6	-3.48	0.00	0.00
			Max. Mx	6	-1.19	0.00	0.00
			Max. My	7	1.74	0.00	-0.00
			Max. Vy	6	-0.00	0.00	0.00
			Max. Vx	7	0.00	0.00	0.00
		Top Girt	Max Tension	6	1.73	0.00	0.00
			Max. Compression	7	-1.57	0.00	0.00
			Max. Mx	5	0.11	0.00	0.00
			Max. My	7	-1.57	0.00	0.00
			Max. Vy	5	-0.00	0.00	0.00
			Max. Vx	7	-0.00	0.00	0.00
		Bottom Girt	Max Tension	8	0.65	0.00	0.00
			Max. Compression	6	-0.34	0.00	0.00
			Max. Mx	5	0.07	0.00	0.00
			Max. My	7	0.53	0.00	0.00
			Max. Vy	5	-0.00	0.00	0.00
			Max. Vx	7	-0.00	0.00	0.00
T9	64.75 - 44.75	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	7	-56.55	-0.33	-0.13

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T10	44.75 - 24.75	Diagonal	Max. Mx	7	-35.00	-0.61	-0.01
			Max. My	6	-31.93	0.06	0.56
			Max. Vy	7	-1.05	-0.42	-0.11
			Max. Vx	8	-1.05	0.16	-0.33
			Max Tension	8	1.19	0.00	0.00
			Max. Compression	6	-1.20	0.00	0.00
			Max. Mx	7	0.44	0.00	0.00
			Max. My	6	0.13	0.00	0.00
			Max. Vy	7	-0.00	0.00	0.00
			Max. Vx	6	-0.00	0.00	0.00
		Top Girt	Max Tension	6	0.43	0.00	0.00
			Max. Compression	8	-0.35	0.00	0.00
			Max. Mx	5	0.08	0.00	0.00
			Max. My	7	-0.25	0.00	0.00
			Max. Vy	5	-0.00	0.00	0.00
		Guy A	Max. Vx	7	-0.00	0.00	0.00
			Bottom Tension	8	5.48		
			Top Tension	8	5.52		
			Top Cable Vert	8	1.45		
			Top Cable Norm	8	5.33		
			Top Cable Tan	8	0.00		
			Bot Cable Vert	8	-1.29		
			Bot Cable Norm	8	5.33		
			Bot Cable Tan	8	0.00		
		Guy B	Bottom Tension	6	4.49		
			Top Tension	6	4.52		
			Top Cable Vert	6	1.18		
			Top Cable Norm	6	4.37		
			Top Cable Tan	6	0.12		
			Bot Cable Vert	6	-1.00		
			Bot Cable Norm	6	4.38		
			Bot Cable Tan	6	0.14		
		Guy C	Bottom Tension	7	5.52		
			Top Tension	7	5.56		
			Top Cable Vert	7	1.75		
			Top Cable Norm	7	5.28		
			Top Cable Tan	7	0.04		
			Bot Cable Vert	7	-1.55		
			Bot Cable Norm	7	5.30		
			Bot Cable Tan	7	0.06		
		Top Guy Pull-Off	Max Tension	6	3.10	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	5	1.29	0.01	0.00
			Max. My	6	1.57	0.00	0.00
			Max. Vy	5	-0.01	0.00	0.00
			Max. Vx	6	-0.00	0.00	0.00
		Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	7	-64.77	0.16	0.20
			Max. Mx	7	-35.59	-0.54	0.00
			Max. My	6	-32.51	0.07	0.48
			Max. Vy	7	-1.06	-0.33	-0.13
			Max. Vx	8	-1.06	0.15	-0.24
		Diagonal	Max Tension	7	1.87	0.00	0.00
			Max. Compression	6	-2.07	0.00	0.00
			Max. Mx	7	0.57	0.00	0.00
			Max. My	8	-0.25	0.00	-0.00
			Max. Vy	7	-0.00	0.00	0.00
		Top Girt	Max. Vx	8	0.00	0.00	0.00
			Max Tension	6	0.94	0.00	0.00
			Max. Compression	7	-0.71	0.00	0.00
			Max. Mx	5	0.11	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T11	24.75 - 4.75	Bottom Girt	Max. My	8	0.60	0.00	-0.00
			Max. Vy	5	-0.00	0.00	0.00
			Max. Vx	8	0.00	0.00	0.00
			Max Tension	6	0.45	0.00	0.00
			Max. Compression	7	-0.23	0.00	0.00
			Max. Mx	5	0.08	0.00	0.00
		Leg	Max. My	8	0.10	0.00	-0.00
			Max. Vy	5	-0.00	0.00	0.00
			Max. Vx	8	0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	7	-64.15	-0.10	-0.21
			Max. Mx	7	-51.85	-0.48	0.07
		Diagonal	Max. My	8	-50.23	0.11	-0.42
			Max. Vy	7	3.34	-0.48	0.07
			Max. Vx	8	3.06	0.11	-0.42
			Max Tension	7	2.39	0.00	0.00
			Max. Compression	7	-2.45	0.00	0.00
			Max. Mx	7	2.39	0.00	0.00
		Top Girt	Max. My	6	-0.19	0.00	0.00
			Max. Vy	7	-0.00	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
			Max Tension	8	0.50	0.00	0.00
			Max. Compression	6	-0.31	0.00	0.00
			Max. Mx	5	0.09	0.00	0.00
		Bottom Girt	Max. My	8	0.08	0.00	-0.00
			Max. Vy	5	-0.00	0.00	0.00
			Max. Vx	8	0.00	0.00	0.00
			Max Tension	7	0.99	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	5	0.64	0.00	0.00
T12	4.75 - 0	Leg	Max. My	8	0.94	0.00	-0.00
			Max. Vy	5	-0.00	0.00	0.00
			Max. Vx	8	0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	7	-55.98	-0.19	0.14
			Max. Mx	6	-38.39	-1.75	-0.05
		Top Girt	Max. My	8	-46.01	0.75	-0.32
			Max. Vy	6	17.83	-1.34	-0.08
			Max. Vx	7	-0.95	-1.07	0.25
			Max Tension	7	11.29	-1.11	-0.04
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	8	9.46	-1.38	-0.10
		Bottom Girt	Max. My	8	9.46	-1.38	-0.10
			Max. Vy	8	-0.33	-1.38	-0.10
			Max. Vx	8	-0.06	-1.38	-0.10
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	7	-1.00	-0.97	-0.02
			Max. Mx	8	-0.95	-1.09	-0.05
		Mid Girt	Max. My	8	-0.95	-1.09	-0.05
			Max. Vy	8	-1.62	-1.09	-0.05
			Max. Vx	8	-0.15	-1.09	-0.05
			Max Tension	7	0.05	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	5	0.04	0.01	0.00
			Max. My	5	0.04	0.00	0.00
			Max. Vy	8	-0.02	0.00	0.00
			Max. Vx	5	-0.00	0.00	0.00

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Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Mast	Max. Vert	6	142.67	-0.31	1.39
	Max. H _x	4	86.54	0.06	-1.77
	Max. H _z	2	99.92	-0.44	1.61
	Max. M _x	1	0.00	-0.02	0.02
	Max. M _z	1	0.00	-0.02	0.02
	Max. Torsion	6	0.35	-0.31	1.39
	Min. Vert	1	66.43	-0.02	0.02
	Min. H _x	3	95.35	-1.77	0.47
	Min. H _z	8	135.46	0.06	-1.80
	Min. M _x	1	0.00	-0.02	0.02
	Min. M _z	1	0.00	-0.02	0.02
	Min. Torsion	8	-0.61	0.06	-1.80
	Max. Vert	4	-8.72	-8.71	3.98
Guy C @ 184 ft Elev -12 ft Azimuth 240 deg	Max. H _x	4	-8.72	-8.71	3.98
	Max. H _z	7	-50.62	-54.15	29.89
	Min. Vert	7	-50.62	-54.15	29.89
	Min. H _x	7	-50.62	-54.15	29.89
	Min. H _z	4	-8.72	-8.71	3.98
Guy B @ 181.5 ft Elev 0 ft Azimuth 120 deg	Max. Vert	3	-2.79	2.23	1.76
	Max. H _x	6	-39.96	43.81	27.91
	Max. H _z	6	-39.96	43.81	27.91
	Min. Vert	6	-39.96	43.81	27.91
Guy A @ 176 ft Elev 0 ft Azimuth 0 deg	Min. H _x	3	-2.79	2.23	1.76
	Min. H _z	3	-2.79	2.23	1.76
	Max. Vert	2	-1.46	-0.00	-1.28
	Max. H _x	8	-51.45	0.00	-64.42
	Max. H _z	2	-1.46	-0.00	-1.28
	Min. Vert	8	-51.45	0.00	-64.42
	Min. H _x	7	-27.47	-2.62	-33.84
	Min. H _z	8	-51.45	0.00	-64.42

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead Only	66.43	0.02	-0.02	0.00	0.00	0.01
Dead+Wind 0 deg - No Ice+Guy	99.92	0.44	-1.61	0.00	0.00	-0.01
Dead+Wind 90 deg - No Ice+Guy	95.35	1.77	-0.47	0.00	0.00	-0.20
Dead+Wind 180 deg - No Ice+Guy	86.54	-0.06	1.77	0.00	0.00	0.32
Dead+Ice+Temp+Guy	102.36	0.01	-0.04	0.00	0.00	0.01
Dead+Wind 0 deg+Ice+Temp+Guy	142.67	0.31	-1.39	0.00	0.00	-0.35
Dead+Wind 90 deg+Ice+Temp+Guy	140.21	1.59	-0.56	0.00	0.00	0.35

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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 180 deg+Ice+Temp+Guy	135.46	-0.06	1.80	0.00	0.00	0.61
Dead+Wind 0 deg - Service+Guy	67.97	0.19	-0.84	0.00	0.00	0.01
Dead+Wind 90 deg - Service+Guy	68.33	0.87	-0.14	0.00	0.00	-0.08
Dead+Wind 180 deg - Service+Guy	68.87	-0.01	0.74	0.00	0.00	0.13

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	-28.49	0.00	0.00	28.49	-0.00	0.009%
2	0.49	-28.77	-44.97	-0.49	28.77	44.97	0.005%
3	44.44	-28.52	-0.36	-44.44	28.52	0.36	0.004%
4	0.09	-28.22	44.33	-0.09	28.22	-44.33	0.003%
5	0.00	-56.38	0.00	0.00	56.38	0.00	0.006%
6	0.41	-57.00	-54.57	-0.41	57.00	54.57	0.003%
7	53.82	-56.44	-0.29	-53.82	56.44	0.30	0.005%
8	0.05	-55.75	53.64	-0.04	55.75	-53.64	0.005%
9	0.19	-28.60	-17.57	-0.19	28.60	17.57	0.004%
10	17.36	-28.51	-0.14	-17.36	28.51	0.14	0.008%
11	0.03	-28.39	17.32	-0.03	28.39	-17.31	0.009%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	9	0.00000001	0.00008836
2	Yes	19	0.00006610	0.00006902
3	Yes	19	0.00005567	0.00005114
4	Yes	15	0.00000001	0.00003174
5	Yes	8	0.00000001	0.00006750
6	Yes	20	0.00005025	0.00003958
7	Yes	19	0.00008667	0.00005636
8	Yes	14	0.00009818	0.00005279
9	Yes	13	0.00000001	0.00004762
10	Yes	12	0.00000001	0.00008315
11	Yes	10	0.00000001	0.00009536

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	224.75 - 204.75	2.670	11	0.1321	0.0706
T2	204.75 - 184.75	3.125	11	0.1474	0.0609

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Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T3	184.75 - 164.75	3.427	11	0.0558	0.0508
T4	164.75 - 144.75	3.252	10	0.0946	0.0352
T5	144.75 - 124.75	2.905	10	0.0814	0.0282
T6	124.75 - 104.75	2.579	9	0.0984	0.0302
T7	104.75 - 84.75	2.280	9	0.0802	0.0406
T8	84.75 - 64.75	1.951	9	0.0638	0.0396
T9	64.75 - 44.75	1.742	9	0.0701	0.0301
T10	44.75 - 24.75	1.391	9	0.0997	0.0313
T11	24.75 - 4.75	0.912	9	0.1440	0.0432
T12	4.75 - 0	0.184	9	0.1806	0.0227

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
244.00	10' 4 Bay Di-Pole	11	2.670	0.1321	0.0706	403439
235.00	3"x20' Omni	11	2.670	0.1321	0.0706	403439
232.50	21"x4.5" Pipe Mount	11	2.670	0.1321	0.0706	403439
225.00	Beacon	11	2.670	0.1321	0.0706	403439
222.50	48"x11"x6" Panel	11	2.722	0.1378	0.0694	403439
222.00	10' x 3" Dia Omni	11	2.734	0.1390	0.0692	403439
221.00	12' x 3" Dia Omni	11	2.757	0.1414	0.0687	403439
218.33	44"x12"x6" Panel	11	2.818	0.1472	0.0673	314207
217.67	16' Dipole	11	2.834	0.1485	0.0670	284916
216.25	8'-6" x 3" Dia Omni	11	2.866	0.1509	0.0663	237318
215.17	14' x 3" Dia Omni	11	2.891	0.1525	0.0658	210564
215.00	10' x 3" Dia Omni	11	2.895	0.1527	0.0657	206892
214.00	(2) 10' Side Arm	11	2.918	0.1539	0.0652	187647
212.02	Guy	11	2.963	0.1553	0.0642	158454
212.02	Guy	11	2.963	0.1553	0.0642	158454
211.00	20' 4-Bay Dipole	11	2.986	0.1555	0.0637	146705
210.00	11' x 3" Dia Omni	11	3.008	0.1553	0.0633	136759
209.00	10' Dipole	11	3.031	0.1548	0.0628	127777
205.75	8'-6" Dipole	11	3.103	0.1499	0.0613	82002
205.25	8' Dipole	11	3.114	0.1487	0.0611	73425
199.67	5' x 8" Dia Omni	11	3.233	0.1276	0.0587	21986
196.83	18'-6" Di-Pole	11	3.288	0.1131	0.0575	15298
184.33	16" Corner Reflector	11	3.428	0.0547	0.0505	7185
177.50	(4) DB844H90E-XY	11	3.405	0.0464	0.0450	9285
176.75	13'-6" T-Frame Sector Mount	11	3.398	0.0464	0.0444	9652
164.17	13'-6" T-Frame Sector Mount	10	3.243	0.0961	0.0349	26011
156.25	Yagi	10	3.112	0.0988	0.0317	55425
155.58	3'-6" x 3" Dia Omni	10	3.100	0.0979	0.0315	60723
153.00	14" Corner Reflector	10	3.054	0.0938	0.0308	96096
152.02	Guy	10	3.036	0.0921	0.0305	123418
151.00	6 FT DISH	10	3.018	0.0902	0.0302	175222
149.50	3' Side Mount Standoff	10	2.990	0.0876	0.0298	387601
147.58	3' Yagi	10	2.956	0.0845	0.0292	149663
144.83	10' Dipole	10	2.906	0.0815	0.0282	91130
144.67	12' x 3" Dia Omni	10	2.904	0.0813	0.0282	89864
143.67	6' x 3" Dia Omni	10	2.886	0.0809	0.0278	84583
143.58	44"x8"x3" Panel	10	2.884	0.0808	0.0277	84286
139.67	4' Side Mount Standoff	10	2.817	0.0818	0.0259	85765
139.50	4' Side Mount Standoff	10	2.814	0.0819	0.0259	86134
135.00	1' Side Mount Standoff	10	2.738	0.0868	0.0240	97198
127.00	24"x16"x12" Horn	9	2.609	0.0969	0.0278	127168

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Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
126.00	3' Side Mount Standoff	9	2.596	0.0977	0.0289	134152
125.00	6 FT DISH	9	2.582	0.0983	0.0300	143609
124.50	2' Side Mount Standoff	9	2.575	0.0985	0.0305	149686
116.87	Guy	9	2.469	0.0959	0.0365	79930
113.00	44"x3"x8" Panel	9	2.412	0.0915	0.0384	64152
108.42	6 FT DISH	9	2.340	0.0852	0.0399	52196
107.67	6 FT DISH	9	2.328	0.0842	0.0401	51167
107.00	15'-2" Dish Mount	9	2.317	0.0832	0.0403	50758
105.83	4 FT DISH	9	2.298	0.0816	0.0405	51610
93.17	10'6"x4" Pipe Mount	9	2.078	0.0688	0.0409	31005
90.75	4' Omni	9	2.038	0.0672	0.0407	24408
84.83	Guy	9	1.952	0.0639	0.0396	18175
81.00	20' Pipe Mount	9	1.907	0.0635	0.0387	24041
48.17	(2) Yagi	9	1.460	0.0932	0.0304	64574
44.83	Guy	9	1.393	0.0995	0.0313	81945
38.17	2' Side Mount Standoff	9	1.253	0.1131	0.0370	31639
34.42	1.2M	9	1.169	0.1213	0.0410	21963
33.00	2'6"x4" Pipe Mount	9	1.135	0.1245	0.0421	19684
29.00	4'-4" DISH	9	1.033	0.1338	0.0439	15236
27.00	2' Side Mount Standoff	9	0.978	0.1385	0.0439	13900

Maximum Tower Deflections - Design Wind

Section No.	Elevation	Horz. Deflection	Gov. Load Comb.	Tilt	Twist
	ft	in		°	°
T1	224.75 - 204.75	14.150	6	0.4193	0.2360
T2	204.75 - 184.75	16.004	6	0.4482	0.2116
T3	184.75 - 164.75	17.342	6	0.1260	0.1336
T4	164.75 - 144.75	16.893	6	0.3688	0.0935
T5	144.75 - 124.75	15.518	6	0.3272	0.0773
T6	124.75 - 104.75	13.917	6	0.4249	0.0691
T7	104.75 - 84.75	12.131	6	0.4212	0.1002
T8	84.75 - 64.75	10.273	6	0.3998	0.1402
T9	64.75 - 44.75	8.767	6	0.4321	0.1577
T10	44.75 - 24.75	6.731	6	0.5475	0.1988
T11	24.75 - 4.75	4.196	6	0.7039	0.2004
T12	4.75 - 0	0.835	6	0.8262	0.1084

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
244.00	10' 4 Bay Di-Pole	6	14.150	0.4193	0.2360	79817
235.00	3"x20' Omni	6	14.150	0.4193	0.2360	79817
232.50	21'x4.5" Pipe Mount	6	14.150	0.4193	0.2360	79817
225.00	Beacon	6	14.150	0.4193	0.2360	79817
222.50	48"x11"x6" Panel	6	14.362	0.4377	0.2349	79817
222.00	10' x 3" Dia Omni	6	14.409	0.4417	0.2346	79817
221.00	12' x 3" Dia Omni	6	14.503	0.4494	0.2340	79817
218.33	44"x12"x6" Panel	6	14.753	0.4679	0.2323	62162

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Elevation	Appurtenance	Gov. Load	Deflection	Tilt	Twist	Radius of Curvature
ft		Comb.	in	°	°	ft
217.67	16' Dipole	6	14.815	0.4718	0.2318	56368
216.25	8'-6" x 3" Dia Omni	6	14.948	0.4791	0.2307	46951
215.17	14' x 3" Dia Omni	6	15.048	0.4836	0.2296	41658
215.00	10' x 3" Dia Omni	6	15.064	0.4841	0.2295	40932
214.00	(2) 10' Side Arm	6	15.157	0.4870	0.2284	37124
212.02	Guy	6	15.341	0.4894	0.2259	31349
212.02	Guy	6	15.341	0.4894	0.2259	31349
211.00	20' 4-Bay Dipole	6	15.435	0.4887	0.2244	29024
210.00	11' x 3" Dia Omni	6	15.527	0.4866	0.2228	27056
209.00	10' Dipole	6	15.619	0.4829	0.2211	25306
205.75	8'-6" Dipole	6	15.914	0.4594	0.2141	18071
205.25	8' Dipole	6	15.959	0.4541	0.2129	16705
199.67	5' x 8" Dia Omni	6	16.450	0.3650	0.1955	6344
196.83	18'-6" Di-Pole	6	16.681	0.3071	0.1848	4491
184.33	16" Corner Reflector	6	17.352	0.1247	0.1318	2098
177.50	(4) DB844H90E-XY	6	17.373	0.1563	0.1153	2616
176.75	13'-6" T-Frame Sector Mount	6	17.361	0.1641	0.1139	2710
164.17	13'-6" T-Frame Sector Mount	6	16.861	0.3743	0.0928	6305
156.25	Yagi	6	16.363	0.3868	0.0860	10087
155.58	3'-6" x 3" Dia Omni	6	16.317	0.3840	0.0855	10566
153.00	14" Corner Reflector	6	16.135	0.3705	0.0839	12930
152.02	Guy	6	16.064	0.3646	0.0833	14131
151.00	6 FT DISH	6	15.990	0.3583	0.0826	15642
149.50	3' Side Mount Standoff	6	15.878	0.3492	0.0815	18563
147.58	3' Yagi	6	15.734	0.3385	0.0800	24093
144.83	10' Dipole	6	15.524	0.3274	0.0773	31302
144.67	12' x 3" Dia Omni	6	15.512	0.3270	0.0772	30842
143.67	6' x 3" Dia Omni	6	15.435	0.3250	0.0760	28811
143.58	44"x8"x3" Panel	6	15.428	0.3248	0.0759	28685
139.67	4' Side Mount Standoff	6	15.125	0.3266	0.0709	27491
139.50	4' Side Mount Standoff	6	15.111	0.3276	0.0706	27520
135.00	1' Side Mount Standoff	6	14.756	0.3584	0.0651	28314
127.00	24"x16"x12" Horn	6	14.105	0.4138	0.0629	27375
126.00	3' Side Mount Standoff	6	14.022	0.4191	0.0657	26766
125.00	6 FT DISH	6	13.938	0.4239	0.0684	26175
124.50	2' Side Mount Standoff	6	13.896	0.4260	0.0697	25887
116.87	Guy	6	13.240	0.4394	0.0850	20641
113.00	44"x3"x8" Panel	6	12.896	0.4363	0.0921	18604
108.42	6 FT DISH	6	12.476	0.4284	0.0982	16709
107.67	6 FT DISH	6	12.407	0.4269	0.0990	16575
107.00	15'-2" Dish Mount	6	12.344	0.4256	0.0996	16587
105.83	4 FT DISH	6	12.234	0.4232	0.1002	17045
93.17	10'6"x4" Pipe Mount	6	11.018	0.4058	0.1018	8784
90.75	4' Omni	6	10.793	0.4038	0.1141	7217
84.83	Guy	6	10.280	0.3998	0.1399	5676
81.00	20' Pipe Mount	6	9.981	0.3980	0.1513	7704
48.17	(2) Yagi	6	7.114	0.5425	0.1937	14102
44.83	Guy	6	6.740	0.5476	0.1987	16121
38.17	2' Side Mount Standoff	6	5.969	0.5321	0.2023	8920
34.42	1.2M	6	5.511	0.5331	0.2019	6599
33.00	2'6"x4" Pipe Mount	6	5.331	0.5399	0.2016	6007
29.00	4'-4" DISH	6	4.802	0.5880	0.2005	4797
27.00	2' Side Mount Standoff	6	4.523	0.6328	0.2003	4421

Bolt Design Data

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Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load Allowable	Allowable Ratio	Criteria
T1	224.75	Leg	A325N	0.7500	4	0.56	19.44	0.029 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.6250	1	3.87	6.80	0.569 ✓	1.333	Member Bearing
		Top Girt	A325N	0.6250	1	0.21	6.44	0.033 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.6250	1	2.44	6.44	0.379 ✓	1.333	Bolt Shear
T2	204.75	Leg	A325N	0.7500	4	0.25	19.41	0.013 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.5000	1	2.19	4.38	0.499 ✓	1.333	Member Bearing
		Top Girt	A325N	0.5000	1	0.48	4.12	0.116 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.5000	1	0.57	3.65	0.156 ✓	1.333	Member Bearing
T3	184.75	Leg	A325N	0.7500	4	4.66	19.44	0.240 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.5000	1	2.09	4.38	0.477 ✓	1.333	Member Bearing
		Top Girt	A325N	0.5000	1	0.41	3.65	0.112 ✓	1.333	Member Bearing
		Bottom Girt	A325N	0.5000	1	0.34	3.65	0.093 ✓	1.333	Member Bearing
T4	164.75	Leg	A325N	0.7500	4	1.52	19.40	0.078 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.6250	1	7.77	6.80	1.143 ✓	1.333	Member Bearing
		Top Girt	A325N	0.6250	1	1.22	6.44	0.190 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.6250	1	4.27	6.44	0.662 ✓	1.333	Bolt Shear
T5	144.75	Leg	A325N	0.7500	4	0.00	19.43	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.5000	1	1.74	4.38	0.397 ✓	1.333	Member Bearing
		Top Girt	A325N	0.5000	1	0.30	3.65	0.083 ✓	1.333	Member Bearing
		Bottom Girt	A325N	0.5000	1	0.60	3.65	0.165 ✓	1.333	Member Bearing
T6	124.75	Leg	A325N	0.7500	4	0.00	19.42	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.5000	1	2.03	3.65	0.557 ✓	1.333	Member Bearing
		Top Girt	A325N	0.5000	1	0.70	3.65	0.191 ✓	1.333	Member Bearing
		Bottom Girt	A325N	0.5000	1	0.49	3.65	0.135 ✓	1.333	Member Bearing
T7	104.75	Leg	A325N	0.7500	4	0.00	19.44	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.5000	1	2.13	3.65	0.583 ✓	1.333	Member Bearing
		Top Girt	A325N	0.5000	1	0.26	3.65	0.070 ✓	1.333	Member Bearing
T8	84.75	Leg	A325N	0.7500	4	0.00	19.40	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.5000	1	3.87	3.65	1.059 ✓	1.333	Member Bearing
		Top Girt	A325N	0.5000	1	1.73	3.65	0.474 ✓	1.333	Member Bearing
		Bottom Girt	A325N	0.5000	1	0.65	3.65	0.178 ✓	1.333	Member Bearing
T9	64.75	Leg	A325N	0.7500	4	0.00	19.43	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.5000	1	1.19	3.65	0.326 ✓	1.333	Member Bearing
		Top Girt	A325N	0.5000	1	0.43	3.65	0.118 ✓	1.333	Member Bearing
T10	44.75	Leg	A325N	0.7500	4	0.00	19.43	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.5000	1	1.87	3.65	0.511 ✓	1.333	Member Bearing
		Top Girt	A325N	0.5000	1	0.94	3.65	0.258 ✓	1.333	Member Bearing
		Bottom Girt	A325N	0.5000	1	0.45	3.65	0.125 ✓	1.333	Member Bearing
T11	24.75	Leg	A325N	0.7500	4	0.00	19.44	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.5000	1	2.39	3.65	0.654 ✓	1.333	Member Bearing

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Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load Allowable	Allowable Ratio	Criteria
T12	4.75	Top Girt	A325N	0.5000	1	0.50	3.65	0.137 ✓	1.333	Member Bearing
		Bottom Girt	A325N	0.5000	1	0.99	3.65	0.270 ✓	1.333	Member Bearing
		Leg	A325N	0.7500	4	0.00	17.05	0.000 ✓	1.333	Bolt Tension

Guy Design Data

Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T K	Allowable T _a K	Required S.F.	Actual S.F.
T1	212.02 (A) (559)	1/2 EHS	2.69	26.90	10.28	13.45	2.000	2.616 ✓
	212.02 (A) (560)	1/2 EHS	2.69	26.90	10.32	13.45	2.000	2.606 ✓
	212.02 (B) (553)	1/2 EHS	2.69	26.90	7.59	13.45	2.000	3.544 ✓
	212.02 (B) (554)	1/2 EHS	2.69	26.90	8.71	13.45	2.000	3.087 ✓
	212.02 (C) (547)	1/2 EHS	2.69	26.90	9.49	13.45	2.000	2.834 ✓
	212.02 (C) (548)	1/2 EHS	2.69	26.90	10.08	13.45	2.000	2.669 ✓
	212.02 (A) (570)	1/2 EHS	2.69	26.90	10.47	13.45	2.000	2.569 ✓
	212.02 (B) (569)	1/2 EHS	2.69	26.90	8.25	13.45	2.000	3.263 ✓
	212.02 (C) (565)	1/2 EHS	2.69	26.90	9.94	13.45	2.000	2.706 ✓
T4	152.02 (A) (541)	1/2 EHS	2.69	26.90	12.58	13.45	2.000	2.138 ✓
	152.02 (A) (542)	1/2 EHS	2.69	26.90	12.62	13.45	2.000	2.132 ✓
	152.02 (B) (535)	1/2 EHS	2.69	26.90	9.71	13.45	2.000	2.770 ✓
	152.02 (B) (536)	1/2 EHS	2.69	26.90	9.95	13.45	2.000	2.704 ✓
	152.02 (C) (529)	1/2 EHS	2.69	26.90	12.03	13.45	2.000	2.237 ✓
	152.02 (C) (530)	1/2 EHS	2.69	26.90	12.15	13.45	2.000	2.214 ✓
T6	116.87 (A) (528)	1/2 EHS	2.69	26.90	12.05	13.45	2.000	2.232 ✓
	116.87 (B) (527)	1/2 EHS	2.69	26.90	9.90	13.45	2.000	2.718 ✓
	116.87 (C) (523)	1/2 EHS	2.69	26.90	11.91	13.45	2.000	2.259 ✓
T7	84.83 (A) (522)	1/2 EHS	2.69	26.90	11.30	13.45	2.000	2.381 ✓
	84.83 (B) (521)	1/2 EHS	2.69	26.90	9.34	13.45	2.000	2.880 ✓
	84.83 (C) (520)	1/2 EHS	2.69	26.90	11.36	13.45	2.000	2.369 ✓
T9	44.83 (A) (573)	3/8 EHS	1.54	15.40	5.52	7.70	2.000	2.790 ✓

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Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T K	Allowable T _a K	Required S.F.	Actual S.F.
	44.83 (B) (572)	3/8 EHS	1.54	15.40	4.52	7.70	2.000	3.403 ✓
	44.83 (C) (571)	3/8 EHS	1.54	15.40	5.56	7.70	2.000	2.768 ✓

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	Mast Stability Index	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	224.75 - 204.75	ROHN 2.5 EH	20.00	2.42	31.5 K=1.00	1.00	26.969	2.2535	-14.52	60.78	0.239 ✓
T2	204.75 - 184.75	ROHN 2.5 STD	20.00	2.42	30.7 K=1.00	0.98	26.602	1.7040	-48.73	45.33	1.075 ✓
T3	184.75 - 164.75	ROHN 2.5 STD	20.00	2.42	30.7 K=1.00	0.98	26.601	1.7040	-50.07	45.33	1.105 ✓
T4	164.75 - 144.75	ROHN 2.5 EH	20.00	2.42	31.5 K=1.00	0.97	26.265	2.2535	-35.51	59.19	0.600 ✓
T5	144.75 - 124.75	ROHN 2.5 STD	20.00	2.42	30.7 K=1.00	1.00	27.067	1.7040	-38.17	46.12	0.828 ✓
T6	124.75 - 104.75	ROHN 2.5 STD	20.00	2.42	30.7 K=1.00	1.00	27.067	1.7040	-40.29	46.12	0.874 ✓
T7	104.75 - 84.75	ROHN 2.5 EH	20.00	2.41	62.7 K=2.00	1.00	22.257	2.2535	-48.94	50.16	0.976 ✓
T8	84.75 - 64.75	ROHN 2.5 EH	20.00	2.41	62.7 K=2.00	1.00	22.257	2.2535	-51.92	50.16	1.035 ✓
T9	64.75 - 44.75	ROHN 2.5 EH	20.00	2.41	62.7 K=2.00	1.00	22.257	2.2535	-56.55	50.16	1.127 ✓
T10	44.75 - 24.75	ROHN 2.5 EH	20.00	2.41	62.7 K=2.00	1.00	22.257	2.2535	-64.77	50.16	1.291 ✓
T11	24.75 - 4.75	ROHN 2.5 EH	20.00	2.41	62.7 K=2.00	1.00	22.257	2.2535	-64.15	50.16	1.279 ✓
T12	4.75 - 0	ROHN 2.5 EH	5.14	2.03	26.4 K=1.00	0.98	27.052	2.2535	-55.98	60.96	0.918 ✓

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	224.75 - 204.75	L1 3/4x1 3/4x3/16	4.19	1.78	76.7 K=1.23	15.722	0.6211	-3.08	9.76	0.316 ✓
T2	204.75 - 184.75	ROHN TS1.5x16 ga	4.19	3.90	91.6	15.296	0.2627	-2.19	4.02	0.545 ✓

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T3	184.75 - 164.75	ROHN TS1.5x16 ga	4.19	3.90	K=1.00 91.6	15.296	0.2627	-2.09	4.02	0.520 ✓
T4	164.75 - 144.75	L1 3/4x1 3/4x3/16	4.19	1.78	K=1.00 76.7	15.722	0.6211	-5.41	9.76	0.554 ✓
T5	144.75 - 124.75	ROHN TS1.5x16 ga	4.19	3.90	K=1.23 91.6	15.296	0.2627	-1.74	4.02	0.433 ✓
T6	124.75 - 104.75	ROHN TS1.5x16 ga	4.19	3.90	K=1.00 91.6	15.296	0.2627	-2.20	4.02	0.548 ✓
T7	104.75 - 84.75	ROHN TS1.5x16 ga	4.18	3.89	K=1.00 91.5	15.317	0.2627	-2.12	4.02	0.528 ✓
T8	84.75 - 64.75	ROHN TS1.5x16 ga	4.18	3.89	K=1.00 91.5	15.317	0.2627	-3.48	4.02	0.865 ✓
T9	64.75 - 44.75	ROHN TS1.5x16 ga	4.18	3.89	K=1.00 91.5	15.317	0.2627	-1.20	4.02	0.297 ✓
T10	44.75 - 24.75	ROHN TS1.5x16 ga	4.18	3.89	K=1.00 91.5	15.317	0.2627	-2.07	4.02	0.515 ✓
T11	24.75 - 4.75	ROHN TS1.5x16 ga	4.18	3.89	K=1.00 91.5	15.317	0.2627	-2.45	4.02	0.609 ✓

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	224.75 - 204.75	L1 3/4x1 3/4x3/16	3.42	2.84	109.7	11.715	0.6211	-0.21	7.28	0.029 ✓
T2	204.75 - 184.75	ROHN TS1.5x16 ga	3.42	3.18	K=1.10 74.7	17.822	0.2627	-0.48	4.68	0.102 ✓
T3	184.75 - 164.75	ROHN TS1.5x16 ga	3.42	3.18	K=1.00 74.7	17.822	0.2627	-0.05	4.68	0.012 ✓
T4	164.75 - 144.75	L1 3/4x1 3/4x3/16	3.42	2.84	K=1.00 109.7	11.715	0.6211	-0.63	7.28	0.087 ✓
T5	144.75 - 124.75	ROHN TS1.5x16 ga	3.42	3.18	K=1.10 74.7	17.822	0.2627	-0.20	4.68	0.044 ✓
T7	104.75 - 84.75	ROHN TS1.5x16 ga	3.42	3.18	K=1.00 74.7	17.822	0.2627	-0.20	4.68	0.043 ✓
T8	84.75 - 64.75	ROHN TS1.5x16 ga	3.42	3.18	K=1.00 74.7	17.822	0.2627	-1.57	4.68	0.335 ✓
T9	64.75 - 44.75	ROHN TS1.5x16 ga	3.42	3.18	K=1.00 74.7	17.822	0.2627	-0.35	4.68	0.075 ✓
T10	44.75 - 24.75	ROHN TS1.5x16 ga	3.42	3.18	K=1.00 74.7	17.822	0.2627	-0.71	4.68	0.152 ✓
T11	24.75 - 4.75	ROHN TS1.5x16 ga	3.42	3.18	K=1.00 74.7	17.822	0.2627	-0.31	4.68	0.066 ✓

Bottom Girt Design Data (Compression)

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Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	224.75 - 204.75	L1 3/4x1 3/4x3/16	3.42	2.84	109.7 K=1.10	11.715	0.6211	-2.44	7.28	0.336 ✓
T2	204.75 - 184.75	ROHN TS1.5x16 ga	3.42	3.18	74.7 K=1.00	17.822	0.2627	-0.15	4.68	0.033 ✓
T4	164.75 - 144.75	L1 3/4x1 3/4x3/16	3.42	2.84	109.7 K=1.10	11.715	0.6211	-4.27	7.28	0.587 ✓
T8	84.75 - 64.75	ROHN TS1.5x16 ga	3.42	3.18	74.7 K=1.00	17.822	0.2627	-0.34	4.68	0.072 ✓
T10	44.75 - 24.75	ROHN TS1.5x16 ga	3.42	3.18	74.7 K=1.00	17.822	0.2627	-0.23	4.68	0.049 ✓
T12	4.75 - 0	C14x2x3/16	0.66	0.42	17.2 K=1.00	20.767	3.3047	-1.00	68.63	0.015 ✓

Top Guy Pull-Off Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	224.75 - 204.75	L1 1/8x1 1/8x1/8	3.42	3.18	172.8 K=1.00	5.000	0.2656	-1.08	1.33	0.814
T6	124.75 - 104.75	4 1/2x3/8	3.42	3.18	352.2 K=1.00	21.600	1.6875	0.00	2.03	0.000*
T7	104.75 - 84.75	4 1/2x3/8	3.42	3.18	352.2 K=1.00	21.600	1.6875	0.00	2.03	0.000*
T9	64.75 - 44.75	4 1/2x3/8	3.42	3.18	352.2 K=1.00	21.600	1.6875	0.00	2.03	0.000*

* DL controls

Top Guy Pull-Off Bending Design Data

Section No.	Elevation ft	Size	Actual M _x kip-ft	Actual f _{bx} ksi	Allow. F _{bx} ksi	Ratio f _{bx} F _{bx}	Actual M _y kip-ft	Actual f _{by} ksi	Allow. F _{by} ksi	Ratio f _{by} F _{by}
T1	224.75 - 204.75	L1 1/8x1 1/8x1/8	-0.00	-0.168	23.760	0.007	-0.00	-0.324	23.760	0.014
T6	124.75 - 104.75	4 1/2x3/8	0.01	-0.110	27.000	0.004	0.00	0.000	27.000	0.000
T7	104.75 - 84.75	4 1/2x3/8	0.01	-0.110	27.000	0.004	0.00	0.000	27.000	0.000
T9	64.75 - 44.75	4 1/2x3/8	0.01	-0.110	27.000	0.004	0.00	0.000	27.000	0.000

Top Guy Pull-Off Interaction Design Data

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Section No.	Elevation ft	Size	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	224.75 - 204.75	L1 1/8x1 1/8x1/8	0.814	0.007	0.014	0.835 ✓	1.333	H1-3 ✓
T6	124.75 - 104.75	4 1/2x3/8	0.000	0.004	0.000	0.004* ✓	1.000	H1-3 ✓
T7	104.75 - 84.75	4 1/2x3/8	0.000	0.004	0.000	0.004* ✓	1.000	H1-3 ✓
T9	64.75 - 44.75	4 1/2x3/8	0.000	0.004	0.000	0.004* ✓	1.000	H1-3 ✓

* DL controls

Torque-Arm Top Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio $\frac{P}{P_a}$
T1	224.75 - 204.75 (549)	XP34.5x.03325	7.86	7.74	5.0 K=0.65	14.638	3.6003	-0.34	52.70	0.006 ✓
T1	224.75 - 204.75 (556)	d/t > 13000/Fy - 549 XP34.5x.03325	7.86	7.74	5.0 K=0.65	14.638	3.6003	-0.07	52.70	0.001 ✓
T1	224.75 - 204.75 (561)	d/t > 13000/Fy - 556 XP34.5x.03325	7.86	7.74	5.0 K=0.65	14.638	3.6003	-0.45	52.70	0.009 ✓
T4	164.75 - 144.75 (531)	d/t > 13000/Fy - 561 XP34.5x.03325	7.86	7.74	5.0 K=0.65	14.638	3.6003	-1.82	52.70	0.035 ✓
T4	164.75 - 144.75 (532)	d/t > 13000/Fy - 531 XP34.5x.03325	7.86	7.74	5.0 K=0.65	14.638	3.6003	-0.75	52.70	0.014 ✓
T4	164.75 - 144.75 (538)	d/t > 13000/Fy - 532 XP34.5x.03325	7.86	7.74	5.0 K=0.65	14.638	3.6003	-1.70	52.70	0.032 ✓
T4	164.75 - 144.75 (543)	d/t > 13000/Fy - 538 XP34.5x.03325	7.86	7.74	5.0 K=0.65	14.638	3.6003	-2.00	52.70	0.038 ✓
T4	164.75 - 144.75 (544)	d/t > 13000/Fy - 543 XP34.5x.03325	7.86	7.74	5.0 K=0.65	14.638	3.6003	-0.76	52.70	0.014 ✓
		d/t > 13000/Fy - 544								✓

Torque-Arm Bottom Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio $\frac{P}{P_a}$
T1	224.75 - 204.75 (551)	P2.5x.203	10.71	10.54	86.8 K=0.65	14.312	1.7040	-11.89	24.39	0.488 ✓
T1	224.75 - 204.75 (552)	P2.5x.203	10.71	10.54	86.8 K=0.65	14.312	1.7040	-13.17	24.39	0.540 ✓

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	224.75 - 204.75 (557)	P2.5x.203	10.71	10.54	86.8 K=0.65	14.312	1.7040	-12.92	24.39	0.530
T1	224.75 - 204.75 (558)	P2.5x.203	10.71	10.54	86.8 K=0.65	14.312	1.7040	-9.05	24.39	0.371
T1	224.75 - 204.75 (563)	P2.5x.203	10.71	10.54	86.8 K=0.65	14.312	1.7040	-11.17	24.39	0.458
T1	224.75 - 204.75 (564)	P2.5x.203	10.71	10.54	86.8 K=0.65	14.312	1.7040	-13.18	24.39	0.541
T4	164.75 - 144.75 (533)	P2.5x.203	10.71	10.54	86.8 K=0.65	14.312	1.7040	-14.67	24.39	0.601
T4	164.75 - 144.75 (534)	P2.5x.203	10.71	10.54	86.8 K=0.65	14.312	1.7040	-16.89	24.39	0.693
T4	164.75 - 144.75 (539)	P2.5x.203	10.71	10.54	86.8 K=0.65	14.312	1.7040	-17.52	24.39	0.719
T4	164.75 - 144.75 (540)	P2.5x.203	10.71	10.54	86.8 K=0.65	14.312	1.7040	-9.98	24.39	0.409
T4	164.75 - 144.75 (545)	P2.5x.203	10.71	10.54	86.8 K=0.65	14.312	1.7040	-14.41	24.39	0.591
T4	164.75 - 144.75 (546)	P2.5x.203	10.71	10.54	86.8 K=0.65	14.312	1.7040	-16.92	24.39	0.694

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	224.75 - 204.75	ROHN 2.5 EH	20.00	2.42	31.5	30.000	2.2535	8.12	67.61	0.120
T2	204.75 - 184.75	ROHN 2.5 STD	20.00	2.42	30.7	30.000	1.7040	18.13	51.12	0.355
T3	184.75 - 164.75	ROHN 2.5 STD	20.00	2.42	30.7	30.000	1.7040	19.82	51.12	0.388
T4	164.75 - 144.75	ROHN 2.5 EH	20.00	2.42	31.5	30.000	2.2535	6.09	67.61	0.090

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	224.75 - 204.75	L1 3/4x1 3/4x3/16	4.19	1.78	43.5	29.000	0.3604	3.87	10.45	0.370
T2	204.75 - 184.75	ROHN TS1.5x16 ga	4.19	3.90	91.6	25.200	0.2627	1.81	6.62	0.274

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Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T3	184.75 - 164.75	ROHN TS1.5x16 ga	4.19	3.90	91.6	25.200	0.2627	1.64	6.62	0.247 ✓
T4	164.75 - 144.75	L1 3/4x1 3/4x3/16	4.19	1.78	43.5	29.000	0.3604	7.77	10.45	0.744 ✓
T5	144.75 - 124.75	ROHN TS1.5x16 ga	4.19	3.90	91.6	25.200	0.2627	1.07	6.62	0.161 ✓
T6	124.75 - 104.75	ROHN TS1.5x16 ga	4.19	3.90	91.6	25.200	0.2627	2.03	6.62	0.307 ✓
T7	104.75 - 84.75	ROHN TS1.5x16 ga	4.18	3.89	91.5	25.200	0.2627	2.13	6.62	0.322 ✓
T8	84.75 - 64.75	ROHN TS1.5x16 ga	4.18	3.89	91.5	25.200	0.2627	3.87	6.62	0.584 ✓
T9	64.75 - 44.75	ROHN TS1.5x16 ga	4.18	3.89	91.5	25.200	0.2627	1.19	6.62	0.180 ✓
T10	44.75 - 24.75	ROHN TS1.5x16 ga	4.18	3.89	91.5	25.200	0.2627	1.87	6.62	0.282 ✓
T11	24.75 - 4.75	ROHN TS1.5x16 ga	4.18	3.89	91.5	25.200	0.2627	2.39	6.62	0.361 ✓

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	224.75 - 204.75	L1 3/4x1 3/4x3/16	3.42	2.84	71.0	29.000	0.3604	0.11	10.45	0.010 ✓
T2	204.75 - 184.75	ROHN TS1.5x16 ga	3.42	3.18	74.7	25.200	0.2627	0.23	6.62	0.035 ✓
T3	184.75 - 164.75	ROHN TS1.5x16 ga	3.42	3.18	74.7	25.200	0.2627	0.41	6.62	0.062 ✓
T4	164.75 - 144.75	L1 3/4x1 3/4x3/16	3.42	2.84	71.0	29.000	0.3604	1.22	10.45	0.117 ✓
T5	144.75 - 124.75	ROHN TS1.5x16 ga	3.42	3.18	74.7	25.200	0.2627	0.30	6.62	0.046 ✓
T6	124.75 - 104.75	ROHN TS1.5x16 ga	3.42	3.18	74.7	25.200	0.2627	0.70	6.62	0.105 ✓
T7	104.75 - 84.75	ROHN TS1.5x16 ga	3.42	3.18	74.7	25.200	0.2627	0.26	6.62	0.039 ✓
T8	84.75 - 64.75	ROHN TS1.5x16 ga	3.42	3.18	74.7	25.200	0.2627	1.73	6.62	0.262 ✓
T9	64.75 - 44.75	ROHN TS1.5x16 ga	3.42	3.18	74.7	25.200	0.2627	0.43	6.62	0.065 ✓
T10	44.75 - 24.75	ROHN TS1.5x16 ga	3.42	3.18	74.7	25.200	0.2627	0.94	6.62	0.143 ✓
T11	24.75 - 4.75	ROHN TS1.5x16 ga	3.42	3.18	74.7	25.200	0.2627	0.50	6.62	0.076 ✓
T12	4.75 - 0	C14x2x3/16	3.36	3.12	100.0	21.600	3.3047	11.29	71.38	0.158 ✓

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Bottom Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T2	204.75 - 184.75	ROHN TS1.5x16 ga	3.42	3.18	74.7	25.200	0.2627	0.57	6.62	0.086
T3	184.75 - 164.75	ROHN TS1.5x16 ga	3.42	3.18	74.7	25.200	0.2627	0.34	6.62	0.051
T4	164.75 - 144.75	L1 3/4x1 3/4x3/16	3.42	2.84	71.0	29.000	0.3604	1.83	10.45	0.176
T5	144.75 - 124.75	ROHN TS1.5x16 ga	3.42	3.18	74.7	25.200	0.2627	0.60	6.62	0.091
T6	124.75 - 104.75	ROHN TS1.5x16 ga	3.42	3.18	74.7	25.200	0.2627	0.49	6.62	0.075
T8	84.75 - 64.75	ROHN TS1.5x16 ga	3.42	3.18	74.7	25.200	0.2627	0.65	6.62	0.098
T10	44.75 - 24.75	ROHN TS1.5x16 ga	3.42	3.18	74.7	25.200	0.2627	0.45	6.62	0.069
T11	24.75 - 4.75	ROHN TS1.5x16 ga	3.42	3.18	74.7	25.200	0.2627	0.99	6.62	0.149

Mid Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T12	4.75 - 0	C14x2x3/16	2.01	1.77	56.7	21.600	3.3047	0.04	71.38	0.001*

* DL controls

Top Guy Pull-Off Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	224.75 - 204.75	L1 1/8x1 1/8x1/8	3.42	3.18	110.6	21.600	0.2656	6.05	5.74	1.054
T6	124.75 - 104.75	4 1/2x3/8	3.42	3.18	352.2	21.600	1.6875	5.58	36.45	0.153
T7	104.75 - 84.75	4 1/2x3/8	3.42	3.18	352.2	21.600	1.6875	5.41	36.45	0.148
T9	64.75 - 44.75	4 1/2x3/8	3.42	3.18	352.2	21.600	1.6875	3.10	36.45	0.085

Top Guy Pull-Off Bending Design Data

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Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
T1	224.75 - 204.75	L1 1/8x1 1/8x1/8	-0.00	0.401	23.760	0.017	-0.00	0.780	23.760	0.033
T6	124.75 - 104.75	4 1/2x3/8	0.01	0.110	27.000	0.004	0.00	0.000	27.000	0.000
T7	104.75 - 84.75	4 1/2x3/8	0.01	0.110	27.000	0.004	0.00	0.000	27.000	0.000
T9	64.75 - 44.75	4 1/2x3/8	0.01	0.110	27.000	0.004	0.00	0.000	27.000	0.000

Top Guy Pull-Off Interaction Design Data

Section No.	Elevation ft	Size	Ratio P P_a	Ratio f_{bx} F_{bx}	Ratio f_{by} F_{by}	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	224.75 - 204.75	L1 1/8x1 1/8x1/8	1.054	0.017	0.033	1.104 ✓	1.333	H2-1 ✓
T6	124.75 - 104.75	4 1/2x3/8	0.153	0.004	0.000	0.157 ✓	1.333	H2-1 ✓
T7	104.75 - 84.75	4 1/2x3/8	0.148	0.004	0.000	0.152 ✓	1.333	H2-1 ✓
T9	64.75 - 44.75	4 1/2x3/8	0.085	0.004	0.000	0.089 ✓	1.333	H2-1 ✓

Torque-Arm Top Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	KI/r	F_a ksi	A in ²	Actual P K	Allow. P_a K	Ratio P P_a
T1	224.75 - 204.75 (549)	XP34.5x.03325	7.86	7.74	7.6	21.000	3.6003	12.41	75.61	0.164 ✓
T1	224.75 - 204.75 (550)	d/t > 13000/Fy - 549 XP34.5x.03325	7.86	7.74	7.6	21.000	3.6003	11.30	75.61	0.149 ✓
T1	224.75 - 204.75 (555)	d/t > 13000/Fy - 550 XP34.5x.03325	7.86	7.74	7.6	21.000	3.6003	12.39	75.61	0.164 ✓
T1	224.75 - 204.75 (556)	d/t > 13000/Fy - 555 XP34.5x.03325	7.86	7.74	7.6	21.000	3.6003	8.89	75.61	0.118 ✓
T1	224.75 - 204.75 (561)	d/t > 13000/Fy - 556 XP34.5x.03325	7.86	7.74	7.6	21.000	3.6003	12.18	75.61	0.161 ✓
T1	224.75 - 204.75 (562)	d/t > 13000/Fy - 561 XP34.5x.03325	7.86	7.74	7.6	21.000	3.6003	11.16	75.61	0.148 ✓
T4	164.75 - 144.75 (531)	d/t > 13000/Fy - 562 XP34.5x.03325	7.86	7.74	7.6	21.000	3.6003	16.35	75.61	0.216 ✓
T4	164.75 - 144.75 (532)	d/t > 13000/Fy - 531 XP34.5x.03325	7.86	7.74	7.6	21.000	3.6003	14.65	75.61	0.194 ✓
T4	164.75 - 144.75	d/t > 13000/Fy - 532 XP34.5x.03325	7.86	7.74	7.6	21.000	3.6003	15.73	75.61	0.208 ✓

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Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
	(537)									✓
T4	164.75 - 144.75 (538)	d/t > 13000/Fy - 537 XP34.5x.03325	7.86	7.74	7.6	21.000	3.6003	10.81	75.61	0.143
T4	164.75 - 144.75 (543)	d/t > 13000/Fy - 538 XP34.5x.03325	7.86	7.74	7.6	21.000	3.6003	16.15	75.61	0.214
T4	164.75 - 144.75 (544)	d/t > 13000/Fy - 543 XP34.5x.03325	7.86	7.74	7.6	21.000	3.6003	13.43	75.61	0.178
		d/t > 13000/Fy - 544								✓

Torque-Arm Bottom Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	224.75 - 204.75 (564)	P2.5x.203	10.71	10.54	133.6	21.000	1.7040	0.02	35.79	0.000
T4	164.75 - 144.75 (533)	P2.5x.203	10.71	10.54	133.6	21.000	1.7040	1.92	35.79	0.054
T4	164.75 - 144.75 (534)	P2.5x.203	10.71	10.54	133.6	21.000	1.7040	3.56	35.79	0.100
T4	164.75 - 144.75 (540)	P2.5x.203	10.71	10.54	133.6	21.000	1.7040	3.87	35.79	0.108
T4	164.75 - 144.75 (545)	P2.5x.203	10.71	10.54	133.6	21.000	1.7040	2.28	35.79	0.064
T4	164.75 - 144.75 (546)	P2.5x.203	10.71	10.54	133.6	21.000	1.7040	3.86	35.79	0.108

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P _{allow} K	% Capacity	Pass Fail
T1	224.75 - 204.75	Leg	ROHN 2.5 EH	3	-14.52	81.02	17.9	Pass
T2	204.75 - 184.75	Leg	ROHN 2.5 STD	60	-48.73	60.43	80.6	Pass
T3	184.75 - 164.75	Leg	ROHN 2.5 STD	117	-50.07	60.42	82.9	Pass
T4	164.75 - 144.75	Leg	ROHN 2.5 EH	174	-35.51	78.90	45.0	Pass
T5	144.75 - 124.75	Leg	ROHN 2.5 STD	229	-38.17	61.48	62.1	Pass
T6	124.75 - 104.75	Leg	ROHN 2.5 STD	288	-40.29	61.48	65.5	Pass
T7	104.75 - 84.75	Leg	ROHN 2.5 EH	345	-48.94	66.86	73.2	Pass
T8	84.75 - 64.75	Leg	ROHN 2.5 EH	376	-51.92	66.86	77.7	Pass
T9	64.75 - 44.75	Leg	ROHN 2.5 EH	409	-56.55	66.86	84.6	Pass
T10	44.75 - 24.75	Leg	ROHN 2.5 EH	442	-64.77	66.86	96.9	Pass
T11	24.75 - 4.75	Leg	ROHN 2.5 EH	475	-64.15	66.86	95.9	Pass
T12	4.75 - 0	Leg	ROHN 2.5 EH	508	-55.98	81.26	68.9	Pass
T1	224.75 - 204.75	Diagonal	L1 3/4x1 3/4x3/16	26	3.87	13.93	27.8	Pass
T2	204.75 - 184.75	Diagonal	ROHN TS1.5x16 ga	109	-2.19	5.36	40.9	Pass

RISATower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	225' Guyed Lattice Tower	Page	55 of 56
	Project	Glastonbury, CT	Date	10:25:36 10/20/06
	Client	Verizon Wireless	Designed by	Staff

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P _{allow} K	% Capacity	Pass Fail
T3	184.75 - 164.75	Diagonal	ROHN TS1.5x16 ga	129	-2.09	5.36	39.0	Pass
T4	164.75 - 144.75	Diagonal	L1 3/4x1 3/4x3/16	202	7.77	13.93	55.8	Pass
							85.8 (b)	
T5	144.75 - 124.75	Diagonal	ROHN TS1.5x16 ga	242	-1.74	5.36	32.5	Pass
T6	124.75 - 104.75	Diagonal	ROHN TS1.5x16 ga	338	-2.20	5.36	41.1	Pass
							41.8 (b)	
T7	104.75 - 84.75	Diagonal	ROHN TS1.5x16 ga	356	-2.12	5.36	39.6	Pass
							43.7 (b)	
T8	84.75 - 64.75	Diagonal	ROHN TS1.5x16 ga	408	-3.48	5.36	64.9	Pass
							79.4 (b)	
T9	64.75 - 44.75	Diagonal	ROHN TS1.5x16 ga	441	-1.20	5.36	22.3	Pass
							24.5 (b)	
T10	44.75 - 24.75	Diagonal	ROHN TS1.5x16 ga	474	-2.07	5.36	38.6	Pass
T11	24.75 - 4.75	Diagonal	ROHN TS1.5x16 ga	487	-2.45	5.36	45.7	Pass
							49.1 (b)	
T1	224.75 - 204.75	Top Girt	L1 3/4x1 3/4x3/16	4	-0.21	9.70	2.2	Pass
							2.5 (b)	
T2	204.75 - 184.75	Top Girt	ROHN TS1.5x16 ga	61	-0.48	6.24	7.6	Pass
							8.7 (b)	
T3	184.75 - 164.75	Top Girt	ROHN TS1.5x16 ga	118	0.41	8.83	4.6	Pass
							8.4 (b)	
T4	164.75 - 144.75	Top Girt	L1 3/4x1 3/4x3/16	175	1.22	13.93	8.8	Pass
							14.3 (b)	
T5	144.75 - 124.75	Top Girt	ROHN TS1.5x16 ga	232	0.30	8.83	3.4	Pass
							6.2 (b)	
T6	124.75 - 104.75	Top Girt	ROHN TS1.5x16 ga	289	0.70	8.83	7.9	Pass
							14.3 (b)	
T7	104.75 - 84.75	Top Girt	ROHN TS1.5x16 ga	347	-0.20	6.24	3.2	Pass
							5.2 (b)	
T8	84.75 - 64.75	Top Girt	ROHN TS1.5x16 ga	379	-1.57	6.24	25.1	Pass
							35.6 (b)	
T9	64.75 - 44.75	Top Girt	ROHN TS1.5x16 ga	414	-0.35	6.24	5.6	Pass
							8.8 (b)	
T10	44.75 - 24.75	Top Girt	ROHN TS1.5x16 ga	445	-0.71	6.24	11.4	Pass
							19.4 (b)	
T11	24.75 - 4.75	Top Girt	ROHN TS1.5x16 ga	480	0.50	8.83	5.7	Pass
							10.3 (b)	
T12	4.75 - 0	Top Girt	C14x2x3/16	513	11.29	95.15	11.9	Pass
T1	224.75 - 204.75	Bottom Girt	L1 3/4x1 3/4x3/16	7	-2.44	9.70	25.2	Pass
							28.5 (b)	
T2	204.75 - 184.75	Bottom Girt	ROHN TS1.5x16 ga	64	0.57	8.83	6.5	Pass
							11.7 (b)	
T3	184.75 - 164.75	Bottom Girt	ROHN TS1.5x16 ga	121	0.34	8.83	3.8	Pass
							7.0 (b)	
T4	164.75 - 144.75	Bottom Girt	L1 3/4x1 3/4x3/16	178	-4.27	9.70	44.0	Pass
							49.7 (b)	
T5	144.75 - 124.75	Bottom Girt	ROHN TS1.5x16 ga	235	0.60	8.83	6.8	Pass
							12.4 (b)	
T6	124.75 - 104.75	Bottom Girt	ROHN TS1.5x16 ga	293	0.49	8.83	5.6	Pass
							10.1 (b)	
T8	84.75 - 64.75	Bottom Girt	ROHN TS1.5x16 ga	384	0.65	8.83	7.4	Pass
							13.4 (b)	
T10	44.75 - 24.75	Bottom Girt	ROHN TS1.5x16 ga	450	0.45	8.83	5.2	Pass
							9.3 (b)	
T11	24.75 - 4.75	Bottom Girt	ROHN TS1.5x16 ga	483	0.99	8.83	11.2	Pass
							20.2 (b)	
T12	4.75 - 0	Bottom Girt	C14x2x3/16	516	-0.95	91.48	11.3	Pass
T12	4.75 - 0	Mid Girt	C14x2x3/16	519	0.04	71.38	0.1	Pass
T1	224.75 - 204.75	Guy A@212.02	1/2	560	10.32	13.45	76.7	Pass
		Guy A@212.02	1/2	570	10.47	13.45	77.9	Pass
T4	164.75 - 144.75	Guy A@152.02	1/2	542	12.62	13.45	93.8	Pass

RISATower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	225' Guyed Lattice Tower	Page	56 of 56
	Project	Glastonbury, CT	Date	10:25:36 10/20/06
	Client	Verizon Wireless	Designed by	Staff

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P _{allow} K	% Capacity	Pass Fail
T6	124.75 - 104.75	Guy A@116.866	1/2	528	12.05	13.45	89.6	Pass
T7	104.75 - 84.75	Guy A@84.8333	1/2	522	11.30	13.45	84.0	Pass
T9	64.75 - 44.75	Guy A@44.8333	3/8	573	5.52	7.70	71.7	Pass
T1	224.75 - 204.75	Guy B@212.02	1/2	554	8.71	13.45	64.8	Pass
		Guy B@212.02	1/2	569	8.25	13.45	61.3	Pass
T4	164.75 - 144.75	Guy B@152.02	1/2	536	9.95	13.45	74.0	Pass
T6	124.75 - 104.75	Guy B@116.866	1/2	527	9.90	13.45	73.6	Pass
T7	104.75 - 84.75	Guy B@84.8333	1/2	521	9.34	13.45	69.4	Pass
T9	64.75 - 44.75	Guy B@44.8333	3/8	572	4.52	7.70	58.8	Pass
T1	224.75 - 204.75	Guy C@212.02	1/2	548	10.08	13.45	74.9	Pass
		Guy C@212.02	1/2	565	9.94	13.45	73.9	Pass
T4	164.75 - 144.75	Guy C@152.02	1/2	530	12.15	13.45	90.3	Pass
T6	124.75 - 104.75	Guy C@116.866	1/2	523	11.91	13.45	88.5	Pass
T7	104.75 - 84.75	Guy C@84.8333	1/2	520	11.36	13.45	84.4	Pass
T9	64.75 - 44.75	Guy C@44.8333	3/8	571	5.56	7.70	72.3	Pass
T1	224.75 - 204.75	Top Guy Pull-Off@212.02	L1 1/8x1 1/8x1/8	566	6.05	7.65	82.8	Pass
T6	124.75 - 104.75	Top Guy Pull-Off@116.866	4 1/2x3/8	524	5.58	48.59	11.8	Pass
T7	104.75 - 84.75	Top Guy Pull-Off@84.8333	4 1/2x3/8	349	5.41	48.59	11.4	Pass
T9	64.75 - 44.75	Top Guy Pull-Off@44.8333	4 1/2x3/8	415	3.10	48.59	6.7	Pass
T1	224.75 - 204.75	Torque Arm Top@212.02	XP34.5x.03325	549	12.41	100.78	12.3	Pass
T4	164.75 - 144.75	Torque Arm Top@152.02	XP34.5x.03325	531	16.35	100.78	16.2	Pass
T1	224.75 - 204.75	Torque Arm Bottom@212.02	P2.5x.203	564	-13.18	32.51	40.6	Pass
T4	164.75 - 144.75	Torque Arm Bottom@152.02	P2.5x.203	539	-17.52	32.51	53.9	Pass
Summary								
Leg (T10)							96.9	Pass
Diagonal (T4)							85.8	Pass
Top Girt (T8)							35.6	Pass
Bottom Girt (T4)							49.7	Pass
Mid Girt (T12)							0.1	Pass
Guy A (T4)							93.8	Pass
Guy B (T4)							74.0	Pass
Guy C (T4)							90.3	Pass
Top Guy Pull-Off (T1)							82.8	Pass
Torque Arm Top (T4)							16.2	Pass
Torque Arm Bottom (T4)							53.9	Pass
Bolt Checks							85.8	Pass
RATING =							96.9	Pass

General Power Density

Site Name: Glastonbury, CT
Cumulative Power Density

Operator	Operating Frequency (MHz)	Number of Trans	ERP Per Trans (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm^2)	Maximum Permissible Exposure (mW/cm^2)	Fraction of MPE (%)
VZW	875	9	200	1800	164.17	0.0240	0.583	4.12%
VZW PCS	1970	3	485	1455	164.17	0.0194	1.0	1.94%
VZW Microwave	6256.54	1	4265.8	4265.8	125	0.0982	1.0	9.82%
Total Percentage of Maximum Permissible Exposure								15.88%

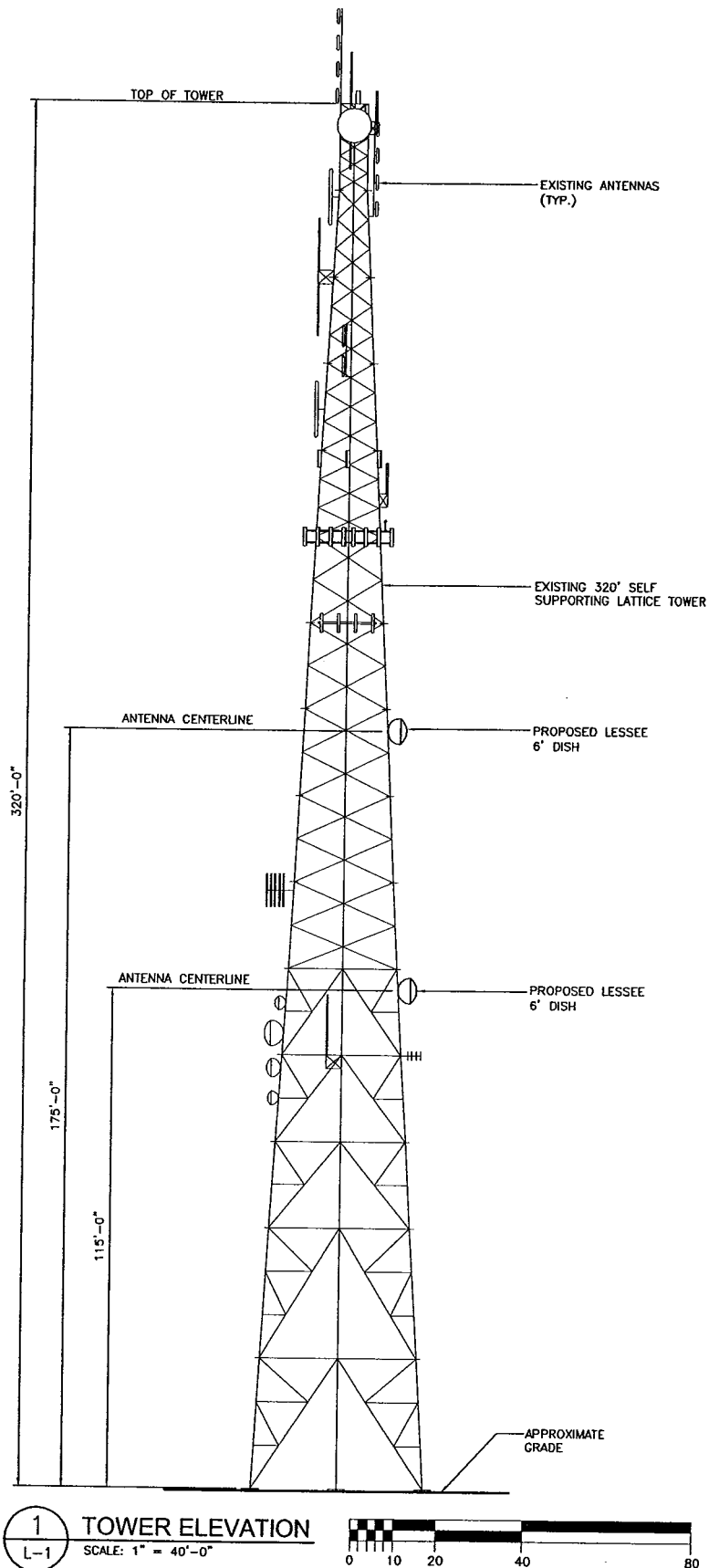
*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm^2 = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.



SITE ID NO:
36930982

Designed by:
BAL

Drawn by:

Checked by:

Approved by:

URS CORPORATION AES

500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT
1-(860)-529-8882

CELLCO PARTNERSHIP DBA
VERIZON WIRELESS
WIRELESS COMMUNICATIONS FACILITY

SITE
ADDRESS:

MUNN ROAD
112 MUNN ROAD
COLCHESTER, CT 06415

REV.	DATE:	DESCRIPTION

Scale: AS NOTED

Date: 10-12-06

Job No. VZ1-166

File No. L-1

Dwg. No.

L-1

Dwg. 1 of 1

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

112 Munn Road
Colchester, Connecticut

prepared for



Verizon Wireless
99 East River Drive
East Hartford, Connecticut 06108

prepared by



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

36930991.00008
VZ1-166

Revision 2 October 12, 2006

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 - **ERI TOWER INPUT / OUTPUT SUMMARY**
 - **ERI TOWER DETAILED OUTPUT**
 - **ERI TOWER DETAILED OUTPUT FOR DEFLECTION**
 - **ANCHOR BOLT ANALYSIS**
 - **FOUNDATION ANALYSIS**

1. EXECUTIVE SUMMARY

This report summarizes the structural analysis of the existing 320' self-supporting lattice tower structure located at 112 Munn Road in Colchester, Connecticut. The analysis was conducted in accordance with the 2005 Connecticut State Building Code, the TIA/EIA-222-F standard, and the Connecticut State Police Requirements for a wind velocity of 90 mph (fastest mile), 90 mph (fastest mile) concurrent with ½" ice, and 90 mph (fastest mile) concurrent with ½" ice at 90' AGL. The antenna loading considered in the analysis consists of all existing and proposed antennas, transmission lines, and ancillary items as outlined in the Introduction Section of this report. The proposed Verizon Wireless modification is as follows:

Proposed Antenna and Mount	Carrier	Antenna Center Elevation
Install (1) PL6-59D dish on (1) Dish Mount with (1) EW-63 coax cable routed up existing Verizon cable ladder.	Verizon Wireless (Proposed)	@ 175'
Install (1) PL6-59D dish on (1) Dish Mount with (1) EW-63 coax cable routed up existing Verizon cable ladder.	Verizon Wireless (Proposed)	@ 115'

The results of the analysis indicate that the existing tower structure is in compliance with the proposed loading conditions. **The tower and foundation are considered structurally adequate with the wind load specified above and the existing and proposed antenna loadings.** The tower sway is 0.61 degrees, and the tower twist is 0.26 degrees. These are within the Connecticut State Police specification of 0.75 degrees for twist and sway.

This analysis is based on:

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

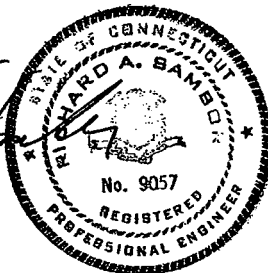
This report is only valid as per the assumptions and data utilized in this report for antenna inventory, mounts and associated cables. The user of this report shall field verify the assumption of the antenna and mount configuration. Notify the engineer in writing immediately if any of the information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

If you should have any questions, please call.

Sincerely,

URS Corporation

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



RAS/jek

cc: AA, DR, IA – URS
CF/Book

2. INTRODUCTION

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

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

The inventory provided by the Connecticut State Police is summarized in the table below:

Antenna Type	Carrier	Mount	Antenna Centerline Elevation	Cable
(3) 6 FT dishes	(wind load)	(3) Dish Mount	320'	(3) EW63 coax cables
(1) PD128 antenna	CSP/FBI (existing)	Side Arm Mount	320'	(1) 7/8" coax cable
(1) PD128 antenna	CSP (existing)	Side Arm Mount	318'	(1) 7/8" coax cable
(1) 8 FT dish	CSP (existing)	Dish Mount	315'	(1) 7/8" coax cable
(1) DB224 antenna	SHF (existing)	Side Arm Mount	294'	(1) 7/8" coax cable
(1) PD320 antenna	DEP (existing)	Side Arm Mount	292'	(1) 7/8" coax cable
(2) DB809 antenna	CSP (existing)	Side Arm Mount	285'	(2) 1 5/8" coax cables
(2) OGT9 antenna	CSP (existing)	Side Arm Mount	275'	(2) 1 5/8" coax cables
(1) PD440 antenna	OEM (existing)	Side Arm Mount	257'	(1) 7/8" coax cable
(1) PD128 antenna	OEM (existing)	Side Arm Mount	243'	(1) 7/8" coax cable
(1) PD320 antenna	CSP (existing)	Side Arm Mount	227'	(1) 7/8" coax cable
(6) DB844 antennas and (6) DB948F85T2E-M antennas	Verizon (existing)	(3) T-Arms	220'	(12) 1 5/8" coax cables
(12) Powerwave 7770.00 antennas, (12) LPG21401 TMA's and (12) LPG13519 Diplexers	Cingular (existing)	(3) T-Arms	200'	(24) 1 5/8" coax cables
(1) 6 FT dish	Verizon (proposed)	Dish Mount	175'	(1) EW63 coax cable
(1) BA1012 antenna	OEM (existing)	Side Arm Mount	140'	(1) 7/8" coax cable
(1) PD688S antenna	NEU (existing)	Side Arm Mount	140'	(1) 7/8" coax cable
(1) DB212 antenna	NEU (existing)	Side Arm Mount	140'	(1) 7/8" coax cable
(1) PD156S antenna	DEP (existing)	Flush Mount	138'	(1) 7/8" coax cable
(1) 6 FT dish	Verizon (proposed)	Dish Mount	115'	(1) EW63 coax cable
(1) 4 FT dish	CSP (existing)	Dish Mount	112'	(1) EW108 coax cable
(1) 6 FT dish	CSP (existing)	Dish Mount	105'	(1) EW65 coax cable

Antenna Type	Carrier	Mount	Antenna Centerline Elevation	Cable
(1) PD458 antenna	CTT (existing)	Side Arm Mount	100'	(1) 7/8" coax cable
(1) DB437 antenna	FBI (existing)	Side Arm Mount (listed above)	100'	(1) 7/8" coax cable
(1) 6 FT dish	CSP (existing)	Dish Mount	97'	(1) 7/8" coax cable
(1) 4 FT dish	CSP (existing)	Dish Mount	90'	(1) 7/8" coax cable

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

3. ANALYSIS METHODOLOGY AND LOADING CONDITIONS

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

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

Load Condition 1 = 90 mph (fastest mile) Wind Load + Tower Dead Load
Load Condition 2 = 90 mph (fastest mile) Wind Load (with ice) + Ice Load + Tower Dead Load
Load Condition 3 = 78 mph (fastest mile) Wind Load (with ice) + Ice Load + Tower Dead Load
(equivalent to 90 mph at the lowest dish level— 90' AGL)

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

4. FINDINGS AND EVALUATION

The stresses on the tower structure were evaluated to compare with the allowable stress in accordance with AISC. The results of the analysis indicate that the existing tower structure is in compliance with the proposed loading conditions. The anchor bolts and foundation were found to be within allowable limits. Additionally, the tower sway is 0.61 degrees, and the tower twist is 0.26 degrees. These are within the Connecticut State Police specification of 0.75 degrees for twist and sway.

5. CONCLUSIONS

The results of the analysis indicate that the existing tower structure is in compliance with the proposed loading conditions. **The tower and foundation are considered structurally adequate with the wind load specified above and the existing and proposed antenna loadings.** The tower sway is 0.61 degrees, and the tower twist is 0.26 degrees. These are within the Connecticut State Police specification of 0.75 degrees for twist and sway.

Limitations/Assumptions:

This report is based on the following:

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

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

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

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

Ongoing and Periodic Inspection and Maintenance:

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

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

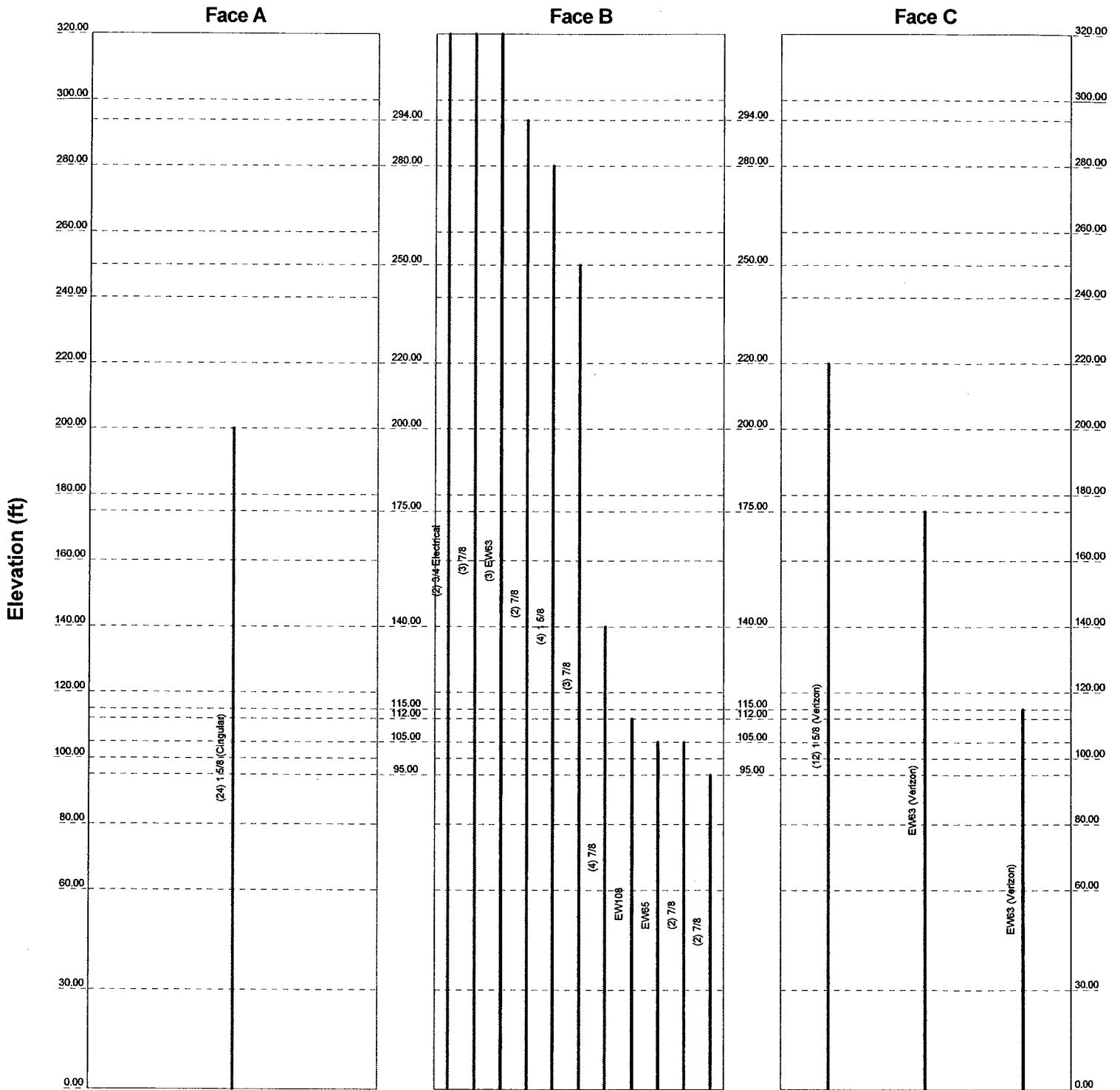
6. DRAWINGS AND DATA

ERI TOWER FEEDLINE DISTRIBUTION CHART

Feedline Distribution Chart

0' - 320'

Round Flat App In Face App Out Face Truss Leg

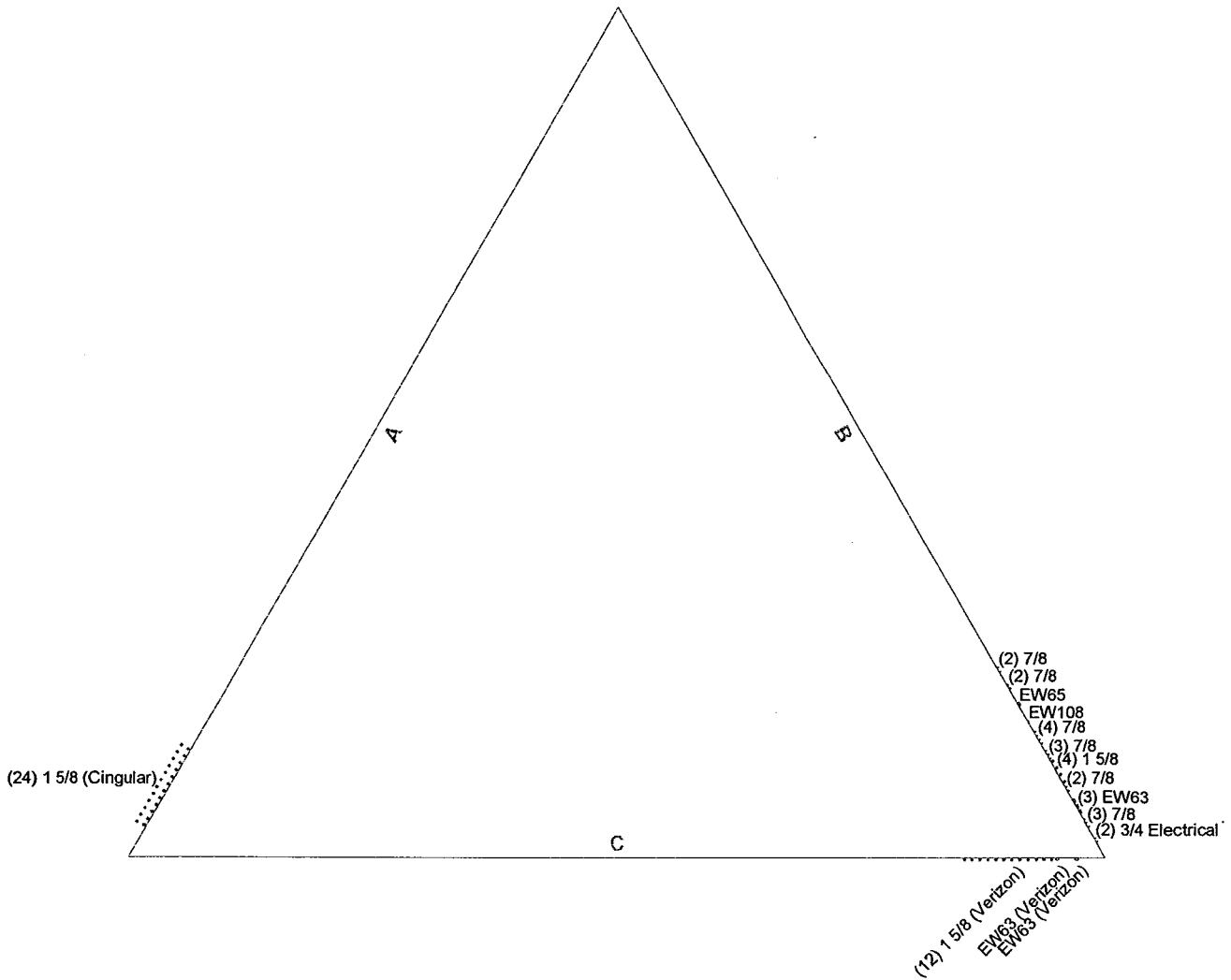


URS Corporation		
500 Enterprise Drive, Suite 3B		
Rocky Hill, CT 06067		
Phone: (860) 529-8882		
FAX: (860) 529-3991		
Job: 320' Rohn SSVMW		
Project: CSP Tower - Colchester, CT		
Client: Verizon Wireless	Drawn by: Staff	App'd:
Code: TIA/EIA-222-F	Date: 10/12/06	Scale: NTS
Path: P:\08\10.12.2006 Rev 2\ERI Files\Reinforced 320' Rohn SSVMW.en		Dwg No. E-7

ERI TOWER FEEDLINE PLAN

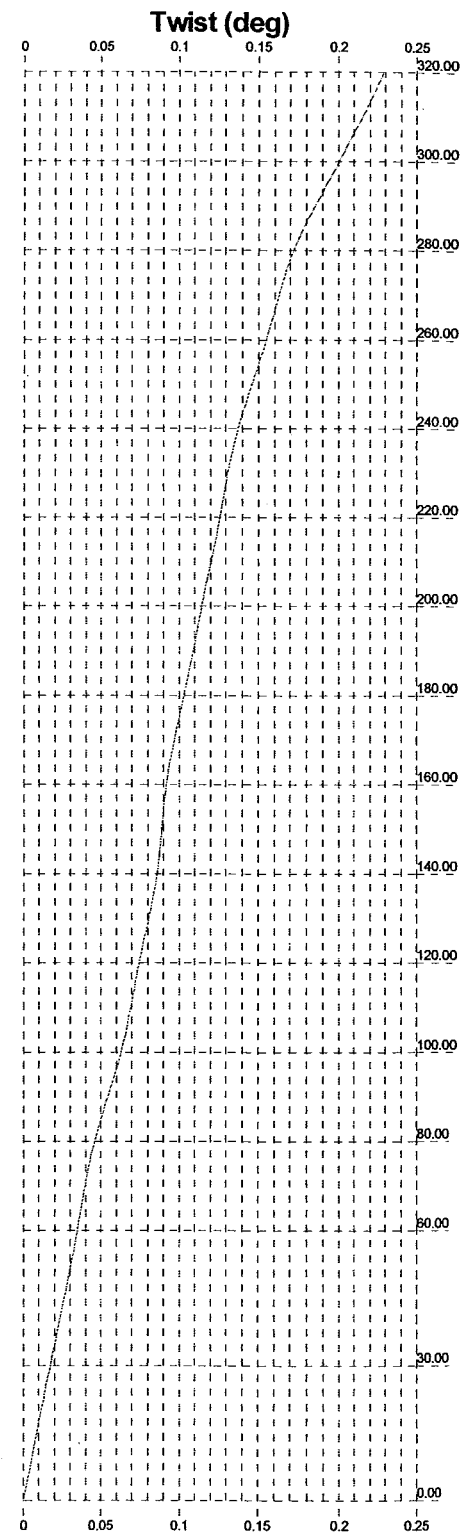
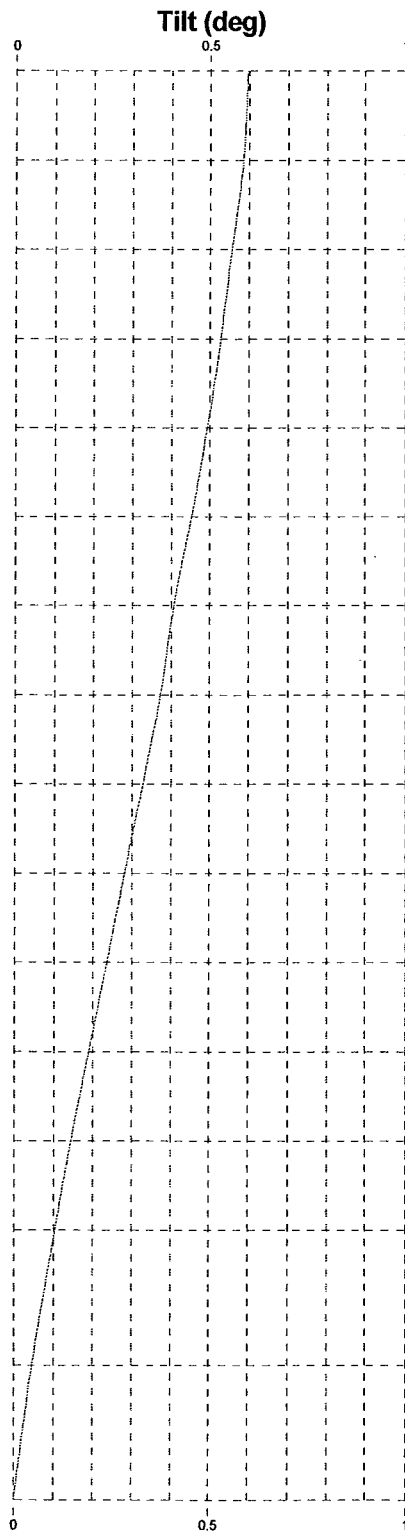
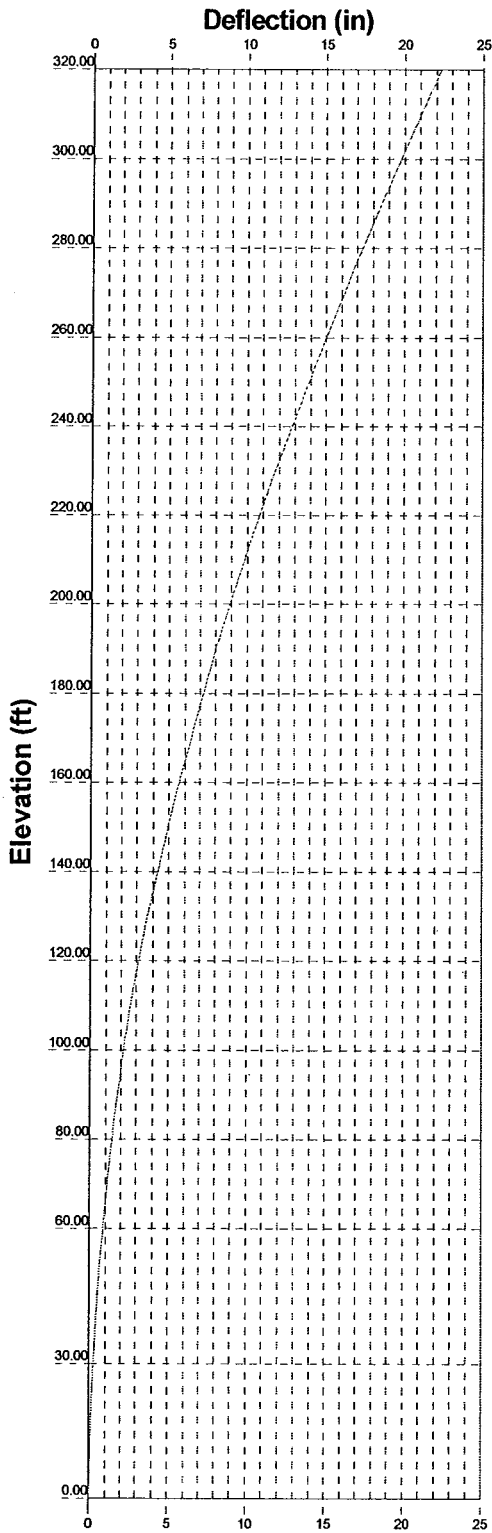
Feedline Plan

Round Flat App In Face App Out Face



URS Corporation		Job: 320' Rohn SSMW	
500 Enterprise Drive, Suite 3B		Project: CSP Tower - Colchester, CT	
Rocky Hill, CT 06067		Client: Verizon Wireless	Drawn by: Staff
Phone: (860) 529-8882		Code: TIA/EIA-222-F	Date: 10/12/06
FAX: (860) 529-3991		Path: P:\08110_12_2006 Rev 2\ERI Files\Reinforced 320' Rohn SSMW.en	Scale: NTS
			Dwg No. E-7

ERI TOWER DEFLECTION, TILT, TWIST



URS Corporation		
500 Enterprise Drive, Suite 3B		
Rocky Hill, CT 06067		
Phone: (860) 529-8882		
FAX: (860) 529-3991		
Job: 320' Rohn SSVMW		
Project: CSP Tower - Colchester, CT		
Client: Verizon Wireless	Drawn by: Staff	App'd:
Code: TIA/EIA-222-F	Date: 10/12/06	Scale: NTS
Path: P:\061012 2006 Rev 2\ERI Files\78mph Reinforced 320' Rohn SSVMW.dwg	Dwg No. E-5	

ERI TOWER INPUT/OUTPUT SUMMARY

ERI TOWER DETAILED OUTPUT

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	320' Rohn SSVMW	Page	1 of 55
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	Client	Verizon Wireless	Designed by	Staff

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 320.00 ft above the ground line.

The base of the tower is set at an elevation of 0.00 ft above the ground line.

The face width of the tower is 6.81 ft at the top and 40.69 ft at the base.

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

The following design criteria apply:

Basic wind speed of 90 mph.

Nominal ice thickness of 0.5000 in.

Ice density of 56 pcf.

A wind speed of 90 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 90 mph.

Pressures are calculated at each section.

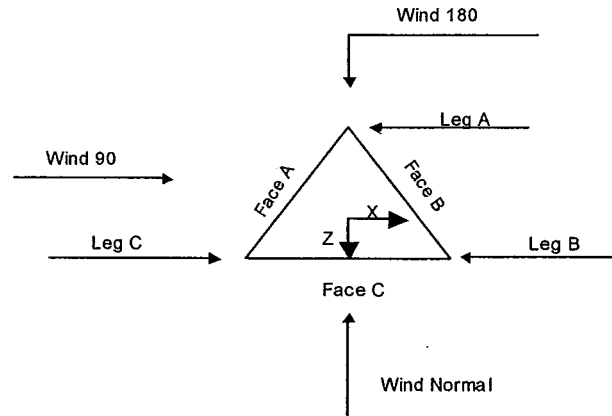
Stress ratio used in tower member design is 1.333.

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

Options

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

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Triangular Tower

Tower Section Geometry

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

Tower Section Geometry (cont'd)

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

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

Tower Section Geometry (cont'd)

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

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Tower Section Geometry (cont'd)

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 320.00-300.00	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T2 300.00-280.00	Equal Angle	L2x2x1/4	A36 (36 ksi)	Solid Round		A36 (36 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T11 120.00-100.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T12 100.00-80.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T13 80.00-60.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 3 EH	A572-50 (50 ksi)
T14 60.00-30.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 3.5 EH	A572-50 (50 ksi)
T15 30.00-0.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 4 STD	A572-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T11 120.00-100.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T12 100.00-80.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T13 80.00-60.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T14 60.00-30.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T15 30.00-0.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)

Tower Section Geometry (cont'd)

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<i>Tower Elevation</i>	<i>Redundant Bracing Grade</i>		<i>Redundant Type</i>	<i>Redundant Size</i>	<i>K Factor</i>
<i>ft</i>					
T11 120.00- 100.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Diagonal (1)	Pipe	ROHN 2 STD	1
		Hip (1)	Pipe	ROHN 1.5 STD	1
		Hip Diagonal		ROHN 2.5 STD	1
T12 100.00- 80.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Diagonal (1)	Pipe	ROHN 2 STD	1
		Hip (1)	Pipe	ROHN 1.5 STD	1
		Hip Diagonal		ROHN 2.5 STD	1
T13 80.00- 60.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 2 STD	1
		Diagonal (1)	Pipe	ROHN 2 STD	1
		Hip (1)	Pipe	ROHN 1.5 STD	1
		Hip Diagonal		ROHN 3 STD	1
T14 60.00- 30.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Horizontal (2)		ROHN 2 EH	
		Diagonal (1)	Pipe	ROHN 2 STD	1
		Diagonal (2)		ROHN 2.5 STD	
		Hip (1)	Pipe	ROHN 1.5 STD	1
		Hip (2)		ROHN 2 STD	
T15 30.00- 0.00	A572-50 (50 ksi)	Hip Diagonal		ROHN 2 STD	1
		Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Horizontal (2)		ROHN 2.5 EH	
		Diagonal (1)	Pipe	ROHN 2.5 STD	1
		Diagonal (2)		ROHN 2.5 STD	
		Hip (1)	Pipe	ROHN 1.5 STD	1
	Hip (2)		ROHN 2 STD		
	Hip Diagonal		ROHN 2.5 STD	1	

Tower Section Geometry (cont'd)

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

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Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
ft	ft ²	in						
80.00			(36 ksi)					
T13 80.00-60.00	0.00	0.0000	A36	1	1	1	36.0000	36.0000
T14 60.00-30.00	0.00	0.0000	(36 ksi)	1	1	1	36.0000	36.0000
T15 30.00-0.00	0.00	0.0000	A36	1	1	1	36.0000	36.0000
			(36 ksi)					

Tower Section Geometry (cont'd)

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	K Factors ¹							
			Legs	X Brace Diags	K Brace Diags	Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace
				X Y	X Y	X Y	X Y	X Y	X Y	X Y
T1 320.00-300.00	Yes	No	1	1	1	1	1	1	1	1
T2 300.00-280.00	Yes	No	1	1	1	1	1	1	1	1
T3 280.00-260.00	Yes	No	1	1	1	1	1	1	1	1
T4 260.00-240.00	Yes	No	1	1	1	1	1	1	1	1
T5 240.00-220.00	Yes	No	1	1	1	1	1	1	1	1
T6 220.00-200.00	Yes	No	1	1	1	1	1	1	1	1
T7 200.00-180.00	Yes	No	1	1	1	1	1	1	1	1
T8 180.00-160.00	Yes	No	1	1	1	1	1	1	1	1
T9 160.00-140.00	Yes	No	1	1	1	1	1	1	1	1
T10 140.00-120.00	Yes	No	1	1	1	1	1	1	1	1
T11 120.00-100.00	No	No	1	1	0.95	1	1	1	1	1
T12 100.00-80.00	No	No	1	1	0.95	1	1	1	1	1
T13 80.00-60.00	No	No	1	1	0.95	1	1	1	1	1
T14 60.00-30.00	No	No	1	1	0.95	1	1	1	1	1
T15 30.00-0.00	No	No	1	1	1	1	1	1	1	1

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

Tower Section Geometry (cont'd)

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Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 320.00-300.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 300.00-280.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 280.00-260.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 260.00-240.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 240.00-220.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 220.00-200.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 200.00-180.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 180.00-160.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 160.00-140.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 140.00-120.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 120.00-100.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T12 100.00-80.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T13 80.00-60.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T14 60.00-30.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T15 30.00-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 320.00-300.00	Flange	1.0000	6	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T2 300.00-280.00	Flange	1.0000	8	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T3 280.00-260.00	Flange	1.0000	8	0.7500	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T4 260.00-240.00	Flange	1.0000	8	0.7500	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T5 240.00-220.00	Flange	1.0000	8	0.7500	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T6 220.00-200.00	Flange	1.0000	12	0.7500	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T7 200.00-180.00	Flange	1.0000	12	0.8750	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	

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Tower Elevation ft	Leg Connection Type	Leg Bolt Size in	No.	Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
				Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T8 180.00-160.00	Flange	1.0000	12	0.8750	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T9 160.00-140.00	Flange	1.0000	12	0.8750	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T10 140.00-120.00	Flange	1.0000	12	0.8750	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T11 120.00-100.00	Flange	1.0000	12	0.7500	3	0.6250	0	0.6250	0	0.6250	0	0.7500	2	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325X		A325N	
T12 100.00-80.00	Flange	1.0000	16	0.7500	3	0.6250	0	0.6250	0	0.6250	0	0.7500	2	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325X		A325N	
T13 80.00-60.00	Flange	1.0000	16	0.7500	3	0.6250	0	0.6250	0	0.6250	0	0.7500	2	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325X		A325N	
T14 60.00-30.00	Flange	1.0000	16	0.8750	3	0.6250	0	0.6250	0	0.6250	0	0.7500	2	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325X		A325N	
T15 30.00-0.00	Flange	1.0000	24	0.8750	3	0.6250	0	0.6250	0	0.6250	0	0.7500	2	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325X		A325N	

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
1 5/8 (Verizon)	C	Yes	Ar (CfAe)	220.00 - 0.00	0.0000	-0.4	12	12	1.9800	1.9800		1.04
3/4 Electrical	B	Yes	Ar (CfAe)	320.00 - 0.00	0.0000	0.48	2	2	1.1100	1.1100		0.54
7/8	B	Yes	Ar (CfAe)	320.00 - 0.00	0.0000	0.46	3	3	1.1100	1.1100		0.54
EW63	B	Yes	Af (CfAe)	320.00 - 0.00	0.0000	0.44	3	3	1.5742	1.5742	5.0668	0.51
7/8	B	Yes	Ar (CfAe)	294.00 - 0.00	0.0000	0.42	2	2	1.1100	1.1100		0.54
1 5/8	B	Yes	Ar (CfAe)	280.00 - 0.00	0.0000	0.4	4	4	1.9800	1.9800		1.04
7/8	B	Yes	Ar (CfAe)	250.00 - 0.00	0.0000	0.38	3	3	1.1100	1.1100		0.54
7/8	B	Yes	Ar (CfAe)	140.00 - 0.00	0.0000	0.36	4	4	1.1100	1.1100		0.54
EW108	B	Yes	Af (CfAe)	112.00 - 0.00	0.0000	0.34	1	1	0.5899	0.5899	2.0063	0.15
EW65	B	Yes	Af (CfAe)	105.00 - 0.00	0.0000	0.32	1	1	1.5742	1.5742	5.0668	0.51
7/8	B	Yes	Ar (CfAe)	105.00 - 0.00	0.0000	0.3	2	2	1.1100	1.1100		0.54
7/8	B	Yes	Ar (CfAe)	95.00 - 0.00	0.0000	0.28	2	2	1.1100	1.1100		0.54
EW63 (Verizon)	C	Yes	Af (CfAe)	175.00 - 0.00	0.0000	-0.45	1	1	1.5742	1.5742	5.0668	0.51
EW63 (Verizon)	C	Yes	Af (CfAe)	115.00 - 0.00	0.0000	-0.47	1	1	1.5742	1.5742	5.0668	0.51
1 5/8 (Cingular)	A	Yes	Ar (CfAe)	200.00 - 0.00	0.0000	-0.42	24	12	1.9800	1.9800		1.04

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
T1	320.00-300.00	A	0.000	0.000	0.000	0.000	0.00
		B	9.250	7.871	0.000	0.000	0.08
		C	0.000	0.000	0.000	0.000	0.00

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	320' Rohn SSVMW	Page	9 of 55
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Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
T2	300.00-280.00	A	0.000	0.000	0.000	0.000	0.00
		B	11.840	7.871	0.000	0.000	0.10
		C	0.000	0.000	0.000	0.000	0.00
T3	280.00-260.00	A	0.000	0.000	0.000	0.000	0.00
		B	26.150	7.871	0.000	0.000	0.19
		C	0.000	0.000	0.000	0.000	0.00
T4	260.00-240.00	A	0.000	0.000	0.000	0.000	0.00
		B	28.925	7.871	0.000	0.000	0.21
		C	0.000	0.000	0.000	0.000	0.00
T5	240.00-220.00	A	0.000	0.000	0.000	0.000	0.00
		B	31.700	7.871	0.000	0.000	0.22
		C	0.000	0.000	0.000	0.000	0.00
T6	220.00-200.00	A	0.000	0.000	0.000	0.000	0.00
		B	31.700	7.871	0.000	0.000	0.22
		C	39.600	0.000	0.000	0.000	0.25
T7	200.00-180.00	A	39.600	0.000	0.000	0.000	0.50
		B	31.700	7.871	0.000	0.000	0.22
		C	39.600	0.000	0.000	0.000	0.25
T8	180.00-160.00	A	39.600	0.000	0.000	0.000	0.50
		B	31.700	7.871	0.000	0.000	0.22
		C	39.600	1.968	0.000	0.000	0.26
T9	160.00-140.00	A	39.600	0.000	0.000	0.000	0.50
		B	31.700	7.871	0.000	0.000	0.22
		C	39.600	2.624	0.000	0.000	0.26
T10	140.00-120.00	A	39.600	0.000	0.000	0.000	0.50
		B	39.100	7.871	0.000	0.000	0.27
		C	39.600	2.624	0.000	0.000	0.26
T11	120.00-100.00	A	39.600	0.000	0.000	0.000	0.50
		B	40.025	9.117	0.000	0.000	0.27
		C	39.600	4.591	0.000	0.000	0.27
T12	100.00-80.00	A	39.600	0.000	0.000	0.000	0.50
		B	45.575	11.478	0.000	0.000	0.32
		C	39.600	5.247	0.000	0.000	0.27
T13	80.00-60.00	A	39.600	0.000	0.000	0.000	0.50
		B	46.500	11.478	0.000	0.000	0.32
		C	39.600	5.247	0.000	0.000	0.27
T14	60.00-30.00	A	59.400	0.000	0.000	0.000	0.75
		B	69.750	17.217	0.000	0.000	0.48
		C	59.400	7.871	0.000	0.000	0.41
T15	30.00-0.00	A	59.400	0.000	0.000	0.000	0.75
		B	69.750	17.217	0.000	0.000	0.48
		C	59.400	7.871	0.000	0.000	0.41

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
T1	320.00-300.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		17.583	11.204	0.000	0.000	0.26
		C		0.000	0.000	0.000	0.000	0.00
T2	300.00-280.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		22.507	11.204	0.000	0.000	0.31
		C		0.000	0.000	0.000	0.000	0.00
T3	280.00-260.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		44.483	11.204	0.000	0.000	0.53
		C		0.000	0.000	0.000	0.000	0.00
T4	260.00-240.00	A	0.500	0.000	0.000	0.000	0.000	0.00

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Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
T5	240.00-220.00	B	0.500	49.758	11.204	0.000	0.000	0.58
		C		0.000	0.000	0.000	0.000	0.00
		A		0.000	0.000	0.000	0.000	0.00
T6	220.00-200.00	B	0.500	55.033	11.204	0.000	0.000	0.62
		C		0.000	0.000	0.000	0.000	0.00
		A		0.000	0.000	0.000	0.000	0.00
T7	200.00-180.00	B	0.500	55.033	11.204	0.000	0.000	0.62
		C		59.600	0.000	0.000	0.000	0.61
		A		59.600	0.000	0.000	0.000	1.23
T8	180.00-160.00	B	0.500	55.033	11.204	0.000	0.000	0.62
		C		59.600	0.000	0.000	0.000	0.61
		A		59.600	0.000	0.000	0.000	1.23
T9	160.00-140.00	B	0.500	55.033	11.204	0.000	0.000	0.62
		C		59.600	2.801	0.000	0.000	0.64
		A		59.600	0.000	0.000	0.000	1.23
T10	140.00-120.00	B	0.500	55.033	11.204	0.000	0.000	0.62
		C		59.600	3.735	0.000	0.000	0.65
		A		59.600	0.000	0.000	0.000	1.23
T11	120.00-100.00	B	0.500	69.100	11.204	0.000	0.000	0.74
		C		59.600	3.735	0.000	0.000	0.65
		A		59.600	0.000	0.000	0.000	1.23
T12	100.00-80.00	B	0.500	70.858	13.395	0.000	0.000	0.78
		C		59.600	6.536	0.000	0.000	0.68
		A		59.600	0.000	0.000	0.000	1.23
T13	80.00-60.00	B	0.500	81.408	17.033	0.000	0.000	0.90
		C		59.600	7.470	0.000	0.000	0.69
		A		59.600	0.000	0.000	0.000	1.23
T14	60.00-30.00	B	0.500	83.167	17.033	0.000	0.000	0.92
		C		59.600	7.470	0.000	0.000	0.69
		A		89.400	0.000	0.000	0.000	1.84
T15	30.00-0.00	B	0.500	124.750	25.550	0.000	0.000	1.38
		C		89.400	11.204	0.000	0.000	1.03
		A		89.400	0.000	0.000	0.000	1.84
		B		124.750	25.550	0.000	0.000	1.38
		C		89.400	11.204	0.000	0.000	1.03

Feed Line Shielding

Section	Elevation ft	Face	A _R ft ²	A _R Ice ft ²	A _F ft ²	A _F Ice ft ²
T1	320.00-300.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	1.573	3.863
		C	0.000	0.000	0.000	0.000
T2	300.00-280.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	1.727	4.132
		C	0.000	0.000	0.000	0.000
T3	280.00-260.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	2.564	5.474
		C	0.000	0.000	0.000	0.000
T4	260.00-240.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	3.155	6.564
		C	0.000	0.000	0.000	0.000
T5	240.00-220.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	4.380	8.768
		C	0.000	0.000	0.000	0.000
T6	220.00-200.00	A	0.000	0.000	0.000	0.000

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Section	Elevation	Face	A_R	$A_{R_{Ice}}$	A_F	$A_{F_{Ice}}$
	ft		ft ²	ft ²	ft ²	ft ²
T7	200.00-180.00	B	0.000	0.000	3.107	6.220
		C	0.000	0.000	3.109	5.460
		A	0.000	0.000	3.015	5.294
		B	0.000	0.000	3.013	6.031
T8	180.00-160.00	C	0.000	0.000	3.015	5.294
		A	0.000	0.000	2.945	5.170
		B	0.000	0.000	2.942	5.891
		C	0.000	0.000	3.091	5.449
T9	160.00-140.00	A	0.000	0.000	3.618	6.172
		B	0.000	0.000	3.616	7.032
		C	0.000	0.000	3.858	6.616
		A	0.000	0.000	3.569	6.087
T10	140.00-120.00	B	0.000	0.000	4.233	8.372
		C	0.000	0.000	3.805	6.526
		A	2.688	5.475	0.000	0.000
		B	3.335	7.936	0.000	0.000
T11	120.00-100.00	C	2.999	6.165	0.000	0.000
		A	2.572	5.239	0.000	0.000
		B	3.706	8.898	0.000	0.000
		C	2.913	5.993	0.000	0.000
T12	100.00-80.00	A	2.560	5.173	0.000	0.000
		B	3.748	8.938	0.000	0.000
		C	2.899	5.918	0.000	0.000
		A	4.171	8.402	0.000	0.000
T13	80.00-60.00	B	6.106	14.518	0.000	0.000
		C	4.723	9.612	0.000	0.000
		A	4.315	8.525	0.000	0.000
		B	6.318	14.730	0.000	0.000
T14	60.00-30.00	C	4.887	9.752	0.000	0.000
		A	4.315	8.525	0.000	0.000
		B	6.318	14.730	0.000	0.000
		C	4.887	9.752	0.000	0.000

Feed Line Center of Pressure

Section	Elevation	CP_X	CP_Z	$CP_{X_{Ice}}$	$CP_{Z_{Ice}}$
	ft	in	in	in	in
T1	320.00-300.00	5.7821	2.9520	7.1025	3.6441
T2	300.00-280.00	6.6750	3.3779	8.5933	4.3612
T3	280.00-260.00	11.0518	5.2903	14.1421	6.8116
T4	260.00-240.00	12.7911	6.0842	16.6398	7.9470
T5	240.00-220.00	13.1492	6.2185	17.5579	8.3243
T6	220.00-200.00	26.2723	15.6197	32.4306	19.0842
T7	200.00-180.00	10.5398	19.5179	13.8444	23.4557
T8	180.00-160.00	12.1105	21.5914	15.7775	25.9400
T9	160.00-140.00	12.1464	21.3930	16.0555	26.1545
T10	140.00-120.00	15.0912	23.2372	20.2284	28.4681
T11	120.00-100.00	19.9795	28.9268	24.9235	33.1525
T12	100.00-80.00	24.3917	31.5250	30.3482	36.0111
T13	80.00-60.00	24.7156	31.5797	31.3068	36.6933
T14	60.00-30.00	26.5159	33.8668	33.5485	39.3179
T15	30.00-0.00	28.0485	35.8107	35.7092	41.8405

Discrete Tower Loads

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	CAA Front ft ²	CAA Side ft ²	Weight K
Dual Lights	C	None		0.0000	320.00	No Ice 4.00 1/2" Ice 4.80	4.00 4.80	0.25 0.40
5'3"x4" Pipe Mount (CSP future)	A	From Leg	0.50 0.00 0.00	0.0000	320.00	No Ice 1.88 1/2" Ice 2.21	1.88 2.21	0.06 0.07
5'3"x4" Pipe Mount (CSP future)	B	From Leg	0.50 0.00 0.00	0.0000	320.00	No Ice 1.88 1/2" Ice 2.21	1.88 2.21	0.06 0.07
5'3"x4" Pipe Mount (CSP future)	C	From Leg	0.50 0.00 0.00	0.0000	320.00	No Ice 1.88 1/2" Ice 2.21	1.88 2.21	0.06 0.07
PD128 (CSP)	C	From Leg	6.00 0.00 0.00	0.0000	320.00	No Ice 1.00 1/2" Ice 1.80	1.00 1.80	0.01 0.02
6' Side Mount Standoff	C	None		0.0000	320.00	No Ice 6.50 1/2" Ice 8.50	6.50 8.50	0.10 0.17
PD128 (CSP)	C	From Leg	6.00 0.00 0.00	0.0000	318.00	No Ice 1.00 1/2" Ice 1.80	1.00 1.80	0.01 0.02
6' Side Mount Standoff	C	None		0.0000	318.00	No Ice 6.50 1/2" Ice 8.50	6.50 8.50	0.10 0.17
6'8"x4" Pipe Mount (CSP)	C	From Leg	0.50 0.00 0.00	0.0000	315.00	No Ice 2.60 1/2" Ice 3.01	2.60 3.01	0.07 0.09
DB224 (SHF)	A	From Leg	6.00 0.00 0.00	0.0000	294.00	No Ice 3.15 1/2" Ice 5.67	3.15 5.67	0.03 0.04
6' Side Mount Standoff	A	None		0.0000	294.00	No Ice 6.50 1/2" Ice 8.50	6.50 8.50	0.10 0.17
PD320 (DEP)	C	From Leg	6.00 0.00 0.00	0.0000	292.00	No Ice 2.25 1/2" Ice 4.05	2.25 4.05	0.03 0.04
6' Side Mount Standoff	C	None		0.0000	292.00	No Ice 6.50 1/2" Ice 8.50	6.50 8.50	0.10 0.17
(2) DB809 (CSP)	A	From Leg	6.00 0.00 0.00	0.0000	285.00	No Ice 3.39 1/2" Ice 4.55	3.39 4.55	0.03 0.06
6' Side Mount Standoff	A	None		0.0000	285.00	No Ice 6.50 1/2" Ice 8.50	6.50 8.50	0.10 0.17
(2) OGT9 (CSP)	A	From Leg	6.00 0.00 0.00	0.0000	275.00	No Ice 3.15 1/2" Ice 5.67	3.15 5.67	0.03 0.04
6' Side Mount Standoff	A	None		0.0000	275.00	No Ice 6.50 1/2" Ice 8.50	6.50 8.50	0.10 0.17
PD440 (OEM)	B	From Leg	6.00 0.00 0.00	0.0000	257.00	No Ice 1.38 1/2" Ice 2.48	1.38 2.48	0.02 0.02
6' Side Mount Standoff	B	None		0.0000	257.00	No Ice 6.50 1/2" Ice 8.50	6.50 8.50	0.10 0.17
PD128 (OEM)	C	From Leg	6.00 0.00 0.00	0.0000	243.00	No Ice 1.00 1/2" Ice 1.80	1.00 1.80	0.01 0.02
6' Side Mount Standoff	C	None		0.0000	243.00	No Ice 6.50 1/2" Ice 8.50	6.50 8.50	0.10 0.17
PD320 (CSP)	A	From Leg	6.00 0.00	0.0000	227.00	No Ice 2.25 1/2" Ice 4.05	2.25 4.05	0.03 0.04

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	320' Rohn SSVMW	Page 13 of 55
	Project	CSP Tower - Colchester, CT	Date 12:49:15 10/12/06
	Client	Verizon Wireless	Designed by Staff

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
6' Side Mount Standoff	A	None	0.00	0.0000	227.00	No Ice	6.50	6.50	0.10
DB844 (Verizon)	A	From Leg	5.00	0.0000	220.00	1/2" Ice	8.50	8.50	0.17
			6.00			No Ice	3.06	3.73	0.01
			0.00			1/2" Ice	3.39	4.10	0.04
DB844 (Verizon)	A	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
			-6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB948F85T2E-M (Verizon)	A	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
			4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB948F85T2E-M (Verizon)	A	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
			-4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB844 (Verizon)	B	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
			6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB844 (Verizon)	B	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
			-6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB948F85T2E-M (Verizon)	B	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
			4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB948F85T2E-M (Verizon)	B	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
			-4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB844 (Verizon)	C	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
			6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB844 (Verizon)	C	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
			-6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB948F85T2E-M (Verizon)	C	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
			4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB948F85T2E-M (Verizon)	C	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
			-4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
Mounting Frame (Verizon)	A	From Leg	5.00	0.0000	220.00	No Ice	17.00	17.00	0.56
			0.00			1/2" Ice	20.00	20.00	0.70
			0.00						
Mounting Frame (Verizon)	B	From Leg	5.00	0.0000	220.00	No Ice	17.00	17.00	0.56
			0.00			1/2" Ice	20.00	20.00	0.70
			0.00						
Mounting Frame (Verizon)	C	From Leg	5.00	0.0000	220.00	No Ice	17.00	17.00	0.56
			0.00			1/2" Ice	20.00	20.00	0.70
			0.00						
PiROD 12' Lightweight T- Frame (Cingular)	A	None	0.0000	0.0000	200.00	No Ice	10.20	10.20	0.25
						1/2" Ice	16.20	16.20	0.35
PiROD 12' Lightweight T- Frame (Cingular)	B	None	0.0000	0.0000	200.00	No Ice	10.20	10.20	0.25
						1/2" Ice	16.20	16.20	0.35
PiROD 12' Lightweight T- Frame (Cingular)	C	None	0.0000	0.0000	200.00	No Ice	10.20	10.20	0.25
						1/2" Ice	16.20	16.20	0.35

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	320' Rohn SSVMW	Page	14 of 55
	Project	CSP Tower - Colchester, CT	Date	12:49:15 10/12/06
	Client	Verizon Wireless	Designed by	Staff

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _{AA} Front ft²	C _{AA} Side ft²	Weight K
(4) 7770.00 (Cingular)	A	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	5.88 6.31	2.93 3.27	0.04 0.07
(4) 7770.00 (Cingular)	B	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	5.88 6.31	2.93 3.27	0.04 0.07
(4) 7770.00 (Cingular)	C	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	5.88 6.31	2.93 3.27	0.04 0.07
(4) LPG21401 TMA (Cingular)	A	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	0.95 1.09	0.37 0.48	0.02 0.02
(4) LPG21401 TMA (Cingular)	B	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	0.95 1.09	0.37 0.48	0.02 0.02
(4) LPG21401 TMA (Cingular)	C	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	0.95 1.09	0.37 0.48	0.02 0.02
(4) LPG13519 Diplexer (Cingular)	A	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	0.27 0.34	0.18 0.25	0.01 0.01
(4) LPG13519 Diplexer (Cingular)	B	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	0.27 0.34	0.18 0.25	0.01 0.01
(4) LPG13519 Diplexer (Cingular)	C	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice	0.27 0.34	0.18 0.25	0.01 0.01
5'3"x4" Pipe Mount (Verizon)	B	From Leg	0.50 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice	1.88 2.21	1.88 2.21	0.06 0.07
PD688S-4 (NEU)	A	From Leg	6.00 0.00 0.00	0.0000	140.00	No Ice 1/2" Ice	0.35 0.63	0.35 0.63	0.00 0.00
DB212-1 (NEU)	B	None		0.0000	140.00	No Ice 1/2" Ice	4.40 8.42	4.40 8.42	0.03 0.07
6' Side Mount Standoff	B	None		0.0000	140.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
BA1012-0 (OEM)	A	From Leg	6.00 0.00 0.00	0.0000	140.00	No Ice 1/2" Ice	0.47 0.96	0.47 0.96	0.00 0.01
6' Side Mount Standoff	A	None		0.0000	140.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
PD156S (DEP)	C	From Leg	1.00 0.00 0.00	0.0000	138.00	No Ice 1/2" Ice	0.44 0.79	0.44 0.79	0.01 0.01
3'4"x4" Pipe Mount (DEP)	C	From Leg	0.50 0.00 0.00	0.0000	138.00	No Ice 1/2" Ice	1.05 1.27	1.05 1.27	0.04 0.05
5'3"x4" Pipe Mount (Verizon)	A	From Leg	0.50 0.00 0.00	0.0000	115.00	No Ice 1/2" Ice	1.88 2.21	1.88 2.21	0.06 0.07
3'4"x4" Pipe Mount (CSP)	C	From Leg	0.50 0.00 0.00	0.0000	112.00	No Ice 1/2" Ice	1.05 1.27	1.05 1.27	0.04 0.05
5'3"x4" Pipe Mount (CSP)	A	From Leg	0.50 0.00 0.00	0.0000	105.00	No Ice 1/2" Ice	1.88 2.21	1.88 2.21	0.06 0.07

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	Client	Verizon Wireless	Designed by	Staff

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
PD458 (CTT)	B	From Leg	6.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	2.88 4.34	2.88 4.34	0.02 0.05
DB437 (FBI)	B	From Leg	6.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	0.45 0.81	0.45 0.81	0.01 0.01
6' Side Mount Standoff	B	None		0.0000	100.00	No Ice 1/2" Ice	6.50 8.50	6.50 8.50	0.10 0.17
5'3"x4" Pipe Mount (CSP)	A	From Leg	0.50 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice	1.88 2.21	1.88 2.21	0.06 0.07
3'4"x4" Pipe Mount (CSP)	C	From Leg	0.50 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice	1.05 1.27	1.05 1.27	0.04 0.05

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 ft²	Weight K
8 FT DISH	B	Paraboloid w/Radome	From Leg	1.00	Worst		315.00	8.00	No Ice	50.30	0.25
				0.00					1/2" Ice	51.29	0.51
				0.00							
6 FT DISH	A	Paraboloid w/Radome	From Leg	1.00	Worst		320.00	6.00	No Ice	28.27	0.14
				0.00					1/2" Ice	29.05	0.29
				0.00							
6 FT DISH	B	Paraboloid w/Radome	From Leg	1.00	Worst		320.00	6.00	No Ice	28.27	0.14
				0.00					1/2" Ice	29.05	0.29
				0.00							
6 FT DISH	C	Paraboloid w/Radome	From Leg	1.00	Worst		320.00	6.00	No Ice	28.27	0.14
				0.00					1/2" Ice	29.05	0.29
				0.00							
4 FT DISH	C	Paraboloid w/Radome	From Leg	1.00	Worst		112.00	4.00	No Ice	12.56	0.17
				0.00					1/2" Ice	13.09	0.24
				0.00							
6 FT DISH	A	Paraboloid w/Radome	From Leg	1.00	Worst		105.00	6.00	No Ice	28.27	0.14
				0.00					1/2" Ice	29.05	0.29
				0.00							
6 FT DISH	A	Paraboloid w/Radome	From Leg	1.00	Worst		97.00	6.00	No Ice	28.27	0.14
				0.00					1/2" Ice	29.05	0.29
				0.00							
4 FT DISH	C	Paraboloid w/Radome	From Leg	1.00	Worst		90.00	4.00	No Ice	12.56	0.17
				0.00					1/2" Ice	13.09	0.24
				0.00							
6 FT DISH (Verizon)	B	Paraboloid w/Radome	From Leg	1.00	Worst		175.00	6.00	No Ice	28.27	0.14
				0.00					1/2" Ice	29.05	0.29
				0.00							
6 FT DISH (Verizon)	A	Paraboloid w/Radome	From Leg	1.00	Worst		115.00	6.00	No Ice	28.27	0.14
				0.00					1/2" Ice	29.05	0.29
				0.00							

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Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	3 dB Beam Width	Elevation	Outside Diameter	Aperture Area	Weight
				ft	°	°	ft	ft	ft ²	K
				0.00						

Tower Pressures - No Ice

$$G_H = 1.084$$

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			
T1 320.00- 300.00	310.00	1.897	39	145.472	A	11.659	18.543	18.543	61.40	0.000	0.000
					B	17.958	27.793		40.53		
					C	11.659	18.543		61.40		
T2 300.00- 280.00	290.00	1.861	39	167.656	A	12.596	22.122	22.122	63.72	0.000	0.000
					B	18.740	33.962		41.97		
					C	12.596	22.122		63.72		
T3 280.00- 260.00	270.00	1.823	38	213.297	A	13.934	28.807	28.807	67.40	0.000	0.000
					B	19.241	54.957		38.82		
					C	13.934	28.807		67.40		
T4 260.00- 240.00	250.00	1.783	37	255.594	A	19.443	28.800	28.800	59.70	0.000	0.000
					B	24.159	57.725		35.17		
					C	19.443	28.800		59.70		
T5 240.00- 220.00	230.00	1.741	36	296.093	A	29.581	28.798	28.798	49.33	0.000	0.000
					B	33.073	60.498		30.78		
					C	29.581	28.798		49.33		
T6 220.00- 200.00	210.00	1.697	35	336.193	A	24.136	28.798	28.798	54.40	0.000	0.000
					B	28.900	60.498		32.21		
					C	21.026	68.398		32.20		
T7 200.00- 180.00	190.00	1.649	34	381.042	A	23.330	75.501	35.901	36.33	0.000	0.000
					B	31.203	67.601		36.34		
					C	23.330	75.501		36.33		
T8 180.00- 160.00	170.00	1.597	33	423.141	A	25.852	75.498	35.898	35.42	0.000	0.000
					B	33.725	67.598		35.43		
					C	27.674	75.498		34.79		
T9 160.00- 140.00	150.00	1.541	32	463.037	A	35.413	75.488	35.888	32.36	0.000	0.000
					B	43.287	67.588		32.37		
					C	37.797	75.488		31.68		
T10 140.00- 120.00	130.00	1.48	31	503.943	A	38.616	75.504	35.904	31.46	0.000	0.000
					B	45.823	75.004		29.72		
					C	41.004	75.504		30.82		
T11 120.00- 100.00	110.00	1.411	29	551.554	A	0.000	108.112	35.933	33.24	0.000	0.000
					B	9.117	104.259		31.69		
					C	4.591	100.540		34.18		
T12 100.00- 80.00	90.00	1.332	28	602.352	A	0.000	110.303	35.927	32.57	0.000	0.000
					B	11.478	111.311		29.26		
					C	5.247	102.296		33.41		
T13 80.00- 60.00	70.00	1.24	26	657.397	A	0.000	121.332	42.626	35.13	0.000	0.000
					B	11.478	122.122		31.91		
					C	5.247	111.148		36.62		
T14 60.00- 30.00	45.00	1.093	23	1081.03	A	0.000	181.831	63.908	35.15	0.000	0.000
				4	B	17.217	186.700		31.34		
					C	7.871	174.188		35.10		
T15 30.00-0.00	15.00	1	21	1194.29	A	0.000	191.513	63.928	33.38	0.000	0.000
				2	B	17.217	195.240		30.09		
					C	7.871	181.701		33.72		

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Tower Pressure - With Ice

$$G_H = 1.084$$

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 ft ²	C _A A _A Out Face ft ²
ft	ft		psf	in	ft ²		ft ²	ft ²	ft ²			
T1 320.00- 300.00	310.00	1.897	39	0.5000	147.138	A	16.101	21.877	21.877	57.60	0.000	0.000
						B	23.442	39.460		34.78		
						C	16.101	21.877		57.60		
T2 300.00- 280.00	290.00	1.861	39	0.5000	169.325	A	16.795	25.461	25.461	60.25	0.000	0.000
						B	23.867	47.967		35.44		
						C	16.795	25.461		60.25		
T3 280.00- 260.00	270.00	1.823	38	0.5000	214.966	A	17.649	32.147	32.147	64.56	0.000	0.000
						B	23.380	76.631		32.14		
						C	17.649	32.147		64.56		
T4 260.00- 240.00	250.00	1.783	37	0.5000	257.263	A	23.764	32.139	32.139	57.49	0.000	0.000
						B	28.404	81.897		29.14		
						C	23.764	32.139		57.49		
T5 240.00- 220.00	230.00	1.741	36	0.5000	297.762	A	34.511	32.137	32.137	48.22	0.000	0.000
						B	36.948	87.171		25.89		
						C	34.511	32.137		48.22		
T6 220.00- 200.00	210.00	1.697	35	0.5000	337.862	A	28.158	32.137	32.137	53.30	0.000	0.000
						B	33.142	87.170		26.71		
						C	22.699	91.737		28.08		
T7 200.00- 180.00	190.00	1.649	34	0.5000	382.711	A	25.442	98.841	39.241	31.57	0.000	0.000
						B	35.909	94.274		30.14		
						C	25.442	98.841		31.57		
T8 180.00- 160.00	170.00	1.597	33	0.5000	424.810	A	28.426	98.837	39.237	30.83	0.000	0.000
						B	38.910	94.271		29.46		
						C	30.948	98.837		30.23		
T9 160.00- 140.00	150.00	1.541	32	0.5000	464.706	A	38.064	98.826	39.226	28.66	0.000	0.000
						B	48.408	94.259		27.49		
						C	41.354	98.826		27.98		
T10 140.00- 120.00	130.00	1.48	31	0.5000	505.612	A	41.722	98.844	39.244	27.92	0.000	0.000
						B	50.642	108.344		24.68		
						C	45.019	98.844		27.28		
T11 120.00- 100.00	110.00	1.411	29	0.5000	553.224	A	0.000	140.454	39.275	27.96	0.000	0.000
						B	13.395	144.358		24.90		
						C	6.536	129.978		28.77		
T12 100.00- 80.00	90.00	1.332	28	0.5000	604.022	A	0.000	143.481	39.269	27.37	0.000	0.000
						B	17.033	156.464		22.63		
						C	7.470	132.394		28.08		
T13 80.00-60.00	70.00	1.24	26	0.5000	659.068	A	0.000	155.248	45.969	29.61	0.000	0.000
						B	17.033	168.720		24.75		
						C	7.470	141.845		30.79		
T14 60.00-30.00	45.00	1.093	23	0.5000	1083.539	A	0.000	233.054	68.920	29.57	0.000	0.000
						B	25.550	257.251		24.37		
						C	11.204	221.769		29.58		
T15 30.00-0.00	15.00	1	21	0.5000	1196.797	A	0.000	244.216	68.942	28.23	0.000	0.000
						B	25.550	267.134		23.56		
						C	11.204	230.535		28.52		

Tower Pressure - Service

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$$G_H = 1.084$$

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
T1 320.00- 300.00	310.00	1.897	39	145.472	A	11.659	18.543	18.543	61.40	0.000	0.000
					B	17.958	27.793		40.53		
					C	11.659	18.543		61.40		
T2 300.00- 280.00	290.00	1.861	39	167.656	A	12.596	22.122	22.122	63.72	0.000	0.000
					B	18.740	33.962		41.97		
					C	12.596	22.122		63.72		
T3 280.00- 260.00	270.00	1.823	38	213.297	A	13.934	28.807	28.807	67.40	0.000	0.000
					B	19.241	54.957		38.82		
					C	13.934	28.807		67.40		
T4 260.00- 240.00	250.00	1.783	37	255.594	A	19.443	28.800	28.800	59.70	0.000	0.000
					B	24.159	57.725		35.17		
					C	19.443	28.800		59.70		
T5 240.00- 220.00	230.00	1.741	36	296.093	A	29.581	28.798	28.798	49.33	0.000	0.000
					B	33.073	60.498		30.78		
					C	29.581	28.798		49.33		
T6 220.00- 200.00	210.00	1.697	35	336.193	A	24.136	28.798	28.798	54.40	0.000	0.000
					B	28.900	60.498		32.21		
					C	21.026	68.398		32.20		
T7 200.00- 180.00	190.00	1.649	34	381.042	A	23.330	75.501	35.901	36.33	0.000	0.000
					B	31.203	67.601		36.34		
					C	23.330	75.501		36.33		
T8 180.00- 160.00	170.00	1.597	33	423.141	A	25.852	75.498	35.898	35.42	0.000	0.000
					B	33.725	67.598		35.43		
					C	27.674	75.498		34.79		
T9 160.00- 140.00	150.00	1.541	32	463.037	A	35.413	75.488	35.888	32.36	0.000	0.000
					B	43.287	67.588		32.37		
					C	37.797	75.488		31.68		
T10 140.00- 120.00	130.00	1.48	31	503.943	A	38.616	75.504	35.904	31.46	0.000	0.000
					B	45.823	75.004		29.72		
					C	41.004	75.504		30.82		
T11 120.00- 100.00	110.00	1.411	29	551.554	A	0.000	108.112	35.933	33.24	0.000	0.000
					B	9.117	104.259		31.69		
					C	4.591	100.540		34.18		
T12 100.00- 80.00	90.00	1.332	28	602.352	A	0.000	110.303	35.927	32.57	0.000	0.000
					B	11.478	111.311		29.26		
					C	5.247	102.296		33.41		
T13 80.00- 60.00	70.00	1.24	26	657.397	A	0.000	121.332	42.626	35.13	0.000	0.000
					B	11.478	122.122		31.91		
					C	5.247	111.148		36.62		
T14 60.00- 30.00	45.00	1.093	23	1081.03	A	0.000	181.831	63.908	35.15	0.000	0.000
				4	B	17.217	186.700		31.34		
					C	7.871	174.188		35.10		
T15 30.00-0.00	15.00	1	21	1194.29	A	0.000	191.513	63.928	33.38	0.000	0.000
				2	B	17.217	195.240		30.09		
					C	7.871	181.701		33.72		

Tower Forces - No Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 320.00- 300.00	0.08	1.79	A	0.208	2.571	0.592	1	1	22.637	3.39	169.39	B
			B	0.315	2.258	0.62	1	1	35.202			

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	320' Rohn SSVMW	Page	19 of 55
	Project	CSP Tower - Colchester, CT	Date	12:49:15 10/12/06
	Client	Verizon Wireless	Designed by	Staff

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T2 300.00- 280.00	0.10	2.50	C	0.208	2.571	0.592	1	1	22.637			
			A	0.207	2.573	0.592	1	1	25.689	3.76	187.98	B
			B	0.314	2.259	0.62	1	1	39.810			
			C	0.207	2.573	0.592	1	1	25.689			
T3 280.00- 260.00	0.19	3.48	A	0.2	2.595	0.59	1	1	30.944	4.81	240.57	B
			B	0.348	2.176	0.632	1	1	53.959			
			C	0.2	2.595	0.59	1	1	30.944			
T4 260.00- 240.00	0.21	3.83	A	0.189	2.634	0.588	1	1	36.382	5.40	270.09	B
			B	0.32	2.243	0.622	1	1	60.084			
			C	0.189	2.634	0.588	1	1	36.382			
T5 240.00- 220.00	0.22	4.90	A	0.197	2.605	0.59	1	1	46.567	6.23	311.58	B
			B	0.316	2.254	0.621	1	1	70.638			
			C	0.197	2.605	0.59	1	1	46.567			
T6 220.00- 200.00	0.47	4.82	A	0.157	2.744	0.583	1	1	40.915	5.98	298.83	B
			B	0.266	2.391	0.606	1	1	65.565			
			C	0.266	2.39	0.606	1	1	62.481			
T7 200.00- 180.00	0.97	5.71	A	0.259	2.41	0.604	1	1	68.956	6.43	321.72	B
			B	0.259	2.41	0.604	1	1	72.054			
			C	0.259	2.41	0.604	1	1	68.956			
T8 180.00- 160.00	0.98	5.93	A	0.24	2.469	0.599	1	1	71.095	6.58	329.02	B
			B	0.239	2.47	0.599	1	1	74.233			
			C	0.244	2.456	0.6	1	1	72.996			
T9 160.00- 140.00	0.98	6.89	A	0.24	2.469	0.599	1	1	80.649	7.17	358.33	B
			B	0.239	2.47	0.599	1	1	83.788			
			C	0.245	2.454	0.601	1	1	83.129			
T10 140.00- 120.00	1.02	7.17	A	0.226	2.51	0.596	1	1	83.628	7.45	372.51	B
			B	0.24	2.469	0.599	1	1	90.774			
			C	0.231	2.495	0.597	1	1	86.099			
T11 120.00- 100.00	1.04	6.34	A	0.196	2.609	0.59	1	1	63.742	5.78	289.19	B
			B	0.206	2.578	0.592	1	1	70.791			
			C	0.191	2.628	0.589	1	1	63.762			
T12 100.00- 80.00	1.09	6.51	A	0.183	2.653	0.587	1	1	64.759	5.98	298.78	B
			B	0.204	2.583	0.591	1	1	77.284			
			C	0.179	2.669	0.586	1	1	65.219			
T13 80.00- 60.00	1.09	7.71	A	0.185	2.648	0.587	1	1	71.267	6.03	301.26	B
			B	0.203	2.585	0.591	1	1	83.660			
			C	0.177	2.674	0.586	1	1	70.379			
T14 60.00- 30.00	1.64	11.86	A	0.168	2.706	0.584	1	1	106.267	8.22	273.89	B
			B	0.189	2.634	0.588	1	1	127.024			
			C	0.168	2.705	0.584	1	1	109.678			
T15 30.00- 0.00	1.64	14.02	A	0.16	2.734	0.583	1	1	111.674	7.90	263.46	B
			B	0.178	2.671	0.586	1	1	131.655			
			C	0.159	2.74	0.583	1	1	113.776			
Sum Weight:	11.72	93.46						OTM	13947.19 kip-ft	91.11		

Tower Forces - No Ice - Wind 45 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 320.00- 300.00	0.08	1.79	A	0.208	2.571	0.592	0.825	1	20.596	3.09	154.27	B
			B	0.315	2.258	0.62	0.825	1	32.059			
			C	0.208	2.571	0.592	0.825	1	20.596			
T2 300.00-	0.10	2.50	A	0.207	2.573	0.592	0.825	1	23.485	3.45	172.49	B

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	320' Rohn SSVMW	Page	20 of 55
	Project	CSP Tower - Colchester, CT	Date	12:49:15 10/12/06
	Client	Verizon Wireless	Designed by	Staff

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K	e						ft ²	K	plf	
280.00			B	0.314	2.259	0.62	0.825	1	36.530			
			C	0.207	2.573	0.592	0.825	1	23.485			
T3 280.00-260.00	0.19	3.48	A	0.2	2.595	0.59	0.825	1	28.505	4.51	225.56	B
			B	0.348	2.176	0.632	0.825	1	50.591			
			C	0.2	2.595	0.59	0.825	1	28.505			
T4 260.00-240.00	0.21	3.83	A	0.189	2.634	0.588	0.825	1	32.980	5.02	251.08	B
			B	0.32	2.243	0.622	0.825	1	55.856			
			C	0.189	2.634	0.588	0.825	1	32.980			
T5 240.00-220.00	0.22	4.90	A	0.197	2.605	0.59	0.825	1	41.390	5.72	286.05	B
			B	0.316	2.254	0.621	0.825	1	64.850			
			C	0.197	2.605	0.59	0.825	1	41.390			
T6 220.00-200.00	0.47	4.82	A	0.157	2.744	0.583	0.825	1	36.691	5.52	275.78	B
			B	0.266	2.391	0.606	0.825	1	60.508			
			C	0.266	2.39	0.606	0.825	1	58.802			
T7 200.00-180.00	0.97	5.71	A	0.259	2.41	0.604	0.825	1	64.873	5.95	297.34	B
			B	0.259	2.41	0.604	0.825	1	66.594			
			C	0.259	2.41	0.604	0.825	1	64.873			
T8 180.00-160.00	0.98	5.93	A	0.24	2.469	0.599	0.825	1	66.571	6.06	302.86	B
			B	0.239	2.47	0.599	0.825	1	68.331			
			C	0.244	2.456	0.6	0.825	1	68.154			
T9 160.00-140.00	0.98	6.89	A	0.24	2.469	0.599	0.825	1	74.452	6.52	325.93	B
			B	0.239	2.47	0.599	0.825	1	76.213			
			C	0.245	2.454	0.601	0.825	1	76.515			
T10 140.00-120.00	1.02	7.17	A	0.226	2.51	0.596	0.825	1	76.871	6.79	339.60	B
			B	0.24	2.469	0.599	0.825	1	82.755			
			C	0.231	2.495	0.597	0.825	1	78.924			
T11 120.00-100.00	1.04	6.34	A	0.196	2.609	0.59	0.825	1	63.742	5.65	282.68	B
			B	0.206	2.578	0.592	0.825	1	69.196			
			C	0.191	2.628	0.589	0.825	1	62.958			
T12 100.00-80.00	1.09	6.51	A	0.183	2.653	0.587	0.825	1	64.759	5.82	291.01	B
			B	0.204	2.583	0.591	0.825	1	75.276			
			C	0.179	2.669	0.586	0.825	1	64.301			
T13 80.00-60.00	1.09	7.71	A	0.185	2.648	0.587	0.825	1	71.267	5.88	294.03	B
			B	0.203	2.585	0.591	0.825	1	81.651			
			C	0.177	2.674	0.586	0.825	1	69.460			
T14 60.00-30.00	1.64	11.86	A	0.168	2.706	0.584	0.825	1	106.267	8.02	267.39	B
			B	0.189	2.634	0.588	0.825	1	124.011			
			C	0.168	2.705	0.584	0.825	1	108.301			
T15 30.00-0.00	1.64	14.02	A	0.16	2.734	0.583	0.825	1	111.674	7.72	257.43	B
			B	0.178	2.671	0.586	0.825	1	128.642			
			C	0.159	2.74	0.583	0.825	1	112.398			
Sum Weight:	11.72	93.46						OTM	12959.01 kip-ft	85.72		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K	e						ft ²	K	plf	
T1 320.00-300.00	0.08	1.79	A	0.208	2.571	0.592	0.8	1	20.305	3.04	152.11	B
			B	0.315	2.258	0.62	0.8	1	31.610			
			C	0.208	2.571	0.592	0.8	1	20.305			
T2 300.00-280.00	0.10	2.50	A	0.207	2.573	0.592	0.8	1	23.170	3.41	170.28	B
			B	0.314	2.259	0.62	0.8	1	36.062			
			C	0.207	2.573	0.592	0.8	1	23.170			

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	320' Rohn SSVMW	Page	21 of 55
	Project	CSP Tower - Colchester, CT	Date	12:49:15 10/12/06
	Client	Verizon Wireless	Designed by	Staff

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T3 280.00- 260.00	0.19	3.48	A	0.2	2.595	0.59	0.8	1	28.157	4.47	223.41	B
			B	0.348	2.176	0.632	0.8	1	50.110			
			C	0.2	2.595	0.59	0.8	1	28.157			
T4 260.00- 240.00	0.21	3.83	A	0.189	2.634	0.588	0.8	1	32.494	4.97	248.37	B
			B	0.32	2.243	0.622	0.8	1	55.252			
			C	0.189	2.634	0.588	0.8	1	32.494			
T5 240.00- 220.00	0.22	4.90	A	0.197	2.605	0.59	0.8	1	40.651	5.65	282.40	B
			B	0.316	2.254	0.621	0.8	1	64.023			
			C	0.197	2.605	0.59	0.8	1	40.651			
T6 220.00- 200.00	0.47	4.82	A	0.157	2.744	0.583	0.8	1	36.088	5.45	272.49	B
			B	0.266	2.391	0.606	0.8	1	59.785			
			C	0.266	2.39	0.606	0.8	1	58.276			
T7 200.00- 180.00	0.97	5.71	A	0.259	2.41	0.604	0.8	1	64.290	5.88	293.85	B
			B	0.259	2.41	0.604	0.8	1	65.813			
			C	0.259	2.41	0.604	0.8	1	64.290			
T8 180.00- 160.00	0.98	5.93	A	0.24	2.469	0.599	0.8	1	65.924	5.98	299.13	B
			B	0.239	2.47	0.599	0.8	1	67.488			
			C	0.244	2.456	0.6	0.8	1	67.462			
T9 160.00- 140.00	0.98	6.89	A	0.24	2.469	0.599	0.8	1	73.567	6.43	321.31	B
			B	0.239	2.47	0.599	0.8	1	75.131			
			C	0.245	2.454	0.601	0.8	1	75.570			
T10 140.00- 120.00	1.02	7.17	A	0.226	2.51	0.596	0.8	1	75.905	6.70	334.90	B
			B	0.24	2.469	0.599	0.8	1	81.610			
			C	0.231	2.495	0.597	0.8	1	77.898			
T11 120.00- 100.00	1.04	6.34	A	0.196	2.609	0.59	0.8	1	63.742	5.63	281.74	B
			B	0.206	2.578	0.592	0.8	1	68.968			
			C	0.191	2.628	0.589	0.8	1	62.844			
T12 100.00- 80.00	1.09	6.51	A	0.183	2.653	0.587	0.8	1	64.759	5.80	289.91	B
			B	0.204	2.583	0.591	0.8	1	74.989			
			C	0.179	2.669	0.586	0.8	1	64.170			
T13 80.00- 60.00	1.09	7.71	A	0.185	2.648	0.587	0.8	1	71.267	5.86	292.99	B
			B	0.203	2.585	0.591	0.8	1	81.364			
			C	0.177	2.674	0.586	0.8	1	69.329			
T14 60.00- 30.00	1.64	11.86	A	0.168	2.706	0.584	0.8	1	106.267	7.99	266.46	B
			B	0.189	2.634	0.588	0.8	1	123.581			
			C	0.168	2.705	0.584	0.8	1	108.104			
T15 30.00- 0.00	1.64	14.02	A	0.16	2.734	0.583	0.8	1	111.674	7.70	256.57	B
			B	0.178	2.671	0.586	0.8	1	128.212			
			C	0.159	2.74	0.583	0.8	1	112.201			
Sum Weight:	11.72	93.46						OTM	12817.84 kip-ft	84.95		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 320.00- 300.00	0.08	1.79	A	0.208	2.571	0.592	0.85	1	20.888	3.13	156.43	B
			B	0.315	2.258	0.62	0.85	1	32.508			
			C	0.208	2.571	0.592	0.85	1	20.888			
T2 300.00- 280.00	0.10	2.50	A	0.207	2.573	0.592	0.85	1	23.800	3.49	174.71	B
			B	0.314	2.259	0.62	0.85	1	36.999			
			C	0.207	2.573	0.592	0.85	1	23.800			
T3 280.00- 260.00	0.19	3.48	A	0.2	2.595	0.59	0.85	1	28.854	4.55	227.70	B
			B	0.348	2.176	0.632	0.85	1	51.072			

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	320' Rohn SSVMW	Page	22 of 55
	Project	CSP Tower - Colchester, CT	Date	12:49:15 10/12/06
	Client	Verizon Wireless	Designed by	Staff

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T4 260.00- 240.00	0.21	3.83	C	0.2	2.595	0.59	0.85	1	28.854			
			A	0.189	2.634	0.588	0.85	1	33.466	5.08	253.80	B
			B	0.32	2.243	0.622	0.85	1	56.460			
			C	0.189	2.634	0.588	0.85	1	33.466			
T5 240.00- 220.00	0.22	4.90	A	0.197	2.605	0.59	0.85	1	42.130	5.79	289.70	B
			B	0.316	2.254	0.621	0.85	1	65.677			
			C	0.197	2.605	0.59	0.85	1	42.130			
T6 220.00- 200.00	0.47	4.82	A	0.157	2.744	0.583	0.85	1	37.294	5.58	279.07	B
			B	0.266	2.391	0.606	0.85	1	61.230			
			C	0.266	2.39	0.606	0.85	1	59.327			
T7 200.00- 180.00	0.97	5.71	A	0.259	2.41	0.604	0.85	1	65.457	6.02	300.82	B
			B	0.259	2.41	0.604	0.85	1	67.374			
			C	0.259	2.41	0.604	0.85	1	65.457			
T8 180.00- 160.00	0.98	5.93	A	0.24	2.469	0.599	0.85	1	67.217	6.13	306.60	B
			B	0.239	2.47	0.599	0.85	1	69.174			
			C	0.244	2.456	0.6	0.85	1	68.845			
T9 160.00- 140.00	0.98	6.89	A	0.24	2.469	0.599	0.85	1	75.337	6.61	330.56	B
			B	0.239	2.47	0.599	0.85	1	77.295			
			C	0.245	2.454	0.601	0.85	1	77.460			
T10 140.00- 120.00	1.02	7.17	A	0.226	2.51	0.596	0.85	1	77.836	6.89	344.31	B
			B	0.24	2.469	0.599	0.85	1	83.901			
			C	0.231	2.495	0.597	0.85	1	79.949			
T11 120.00- 100.00	1.04	6.34	A	0.196	2.609	0.59	0.85	1	63.742	5.67	283.61	B
			B	0.206	2.578	0.592	0.85	1	69.424			
			C	0.191	2.628	0.589	0.85	1	63.073			
T12 100.00- 80.00	1.09	6.51	A	0.183	2.653	0.587	0.85	1	64.759	5.84	292.12	B
			B	0.204	2.583	0.591	0.85	1	75.563			
			C	0.179	2.669	0.586	0.85	1	64.432			
T13 80.00- 60.00	1.09	7.71	A	0.185	2.648	0.587	0.85	1	71.267	5.90	295.06	B
			B	0.203	2.585	0.591	0.85	1	81.938			
			C	0.177	2.674	0.586	0.85	1	69.592			
T14 60.00- 30.00	1.64	11.86	A	0.168	2.706	0.584	0.85	1	106.267	8.05	268.32	B
			B	0.189	2.634	0.588	0.85	1	124.441			
			C	0.168	2.705	0.584	0.85	1	108.497			
T15 30.00- 0.00	1.64	14.02	A	0.16	2.734	0.583	0.85	1	111.674	7.75	258.29	B
			B	0.178	2.671	0.586	0.85	1	129.072			
			C	0.159	2.74	0.583	0.85	1	112.595			
Sum Weight:	11.72	93.46						OTM	13100.18 kip-ft	86.49		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 320.00- 300.00	0.26	2.46	A	0.258	2.413	0.604	1	1	29.314	4.25	212.72	B
			B	0.428	2.012	0.663	1	1	49.612			
			C	0.258	2.413	0.604	1	1	29.314			
T2 300.00- 280.00	0.31	3.23	A	0.25	2.439	0.602	1	1	32.116	4.69	234.63	B
			B	0.424	2.018	0.662	1	1	55.611			
			C	0.25	2.439	0.602	1	1	32.116			
T3 280.00- 260.00	0.53	4.32	A	0.232	2.494	0.597	1	1	36.853	6.03	301.55	B
			B	0.465	1.949	0.68	1	1	75.518			
			C	0.232	2.494	0.597	1	1	36.853			
T4 260.00-	0.58	4.83	A	0.217	2.539	0.594	1	1	42.857	6.67	333.34	B

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	320' Rohn SSVMW	Page	23 of 55
	Project	CSP Tower - Colchester, CT	Date	12:49:15 10/12/06
	Client	Verizon Wireless	Designed by	Staff

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
240.00			B	0.429	2.01	0.664	1	1	82.764			
			C	0.217	2.539	0.594	1	1	42.857			
T5 240.00- 220.00	0.62	6.22	A	0.224	2.518	0.596	1	1	53.651	7.50	375.11	B
			B	0.417	2.032	0.659	1	1	94.359			
			C	0.224	2.518	0.596	1	1	53.651			
T6 220.00- 200.00	1.23	5.95	A	0.178	2.67	0.586	1	1	46.998	7.28	363.89	B
			B	0.356	2.157	0.635	1	1	88.467			
			C	0.339	2.198	0.629	1	1	80.356			
T7 200.00- 180.00	2.46	7.00	A	0.325	2.232	0.624	1	1	87.097	7.74	387.14	B
			B	0.34	2.195	0.629	1	1	95.208			
			C	0.325	2.232	0.624	1	1	87.097			
T8 180.00- 160.00	2.49	7.29	A	0.3	2.297	0.616	1	1	89.287	7.90	395.08	B
			B	0.314	2.261	0.62	1	1	97.369			
			C	0.306	2.281	0.618	1	1	91.990			
T9 160.00- 140.00	2.50	8.55	A	0.295	2.311	0.614	1	1	98.768	8.41	420.71	B
			B	0.307	2.278	0.618	1	1	106.667			
			C	0.302	2.292	0.616	1	1	102.271			
T10 140.00- 120.00	2.62	8.93	A	0.278	2.356	0.609	1	1	101.960	8.85	442.47	B
			B	0.314	2.258	0.62	1	1	117.861			
			C	0.285	2.338	0.611	1	1	105.441			
T11 120.00- 100.00	2.68	7.69	A	0.254	2.426	0.603	1	1	84.676	7.53	376.44	B
			B	0.285	2.336	0.611	1	1	101.665			
			C	0.247	2.447	0.601	1	1	84.660			
T12 100.00- 80.00	2.82	7.91	A	0.238	2.475	0.599	1	1	85.913	7.87	393.43	B
			B	0.287	2.331	0.612	1	1	112.802			
			C	0.232	2.494	0.597	1	1	86.554			
T13 80.00- 60.00	2.83	9.27	A	0.236	2.482	0.598	1	1	92.884	7.84	392.16	B
			B	0.282	2.345	0.611	1	1	120.039			
			C	0.227	2.51	0.596	1	1	92.034			
T14 60.00- 30.00	4.25	14.28	A	0.215	2.546	0.594	1	1	138.339	10.70	356.51	B
			B	0.261	2.405	0.605	1	1	181.120			
			C	0.215	2.547	0.594	1	1	142.842			
T15 30.00- 0.00	4.25	16.66	A	0.204	2.583	0.591	1	1	144.389	10.25	341.83	B
			B	0.245	2.454	0.601	1	1	185.965			
			C	0.202	2.589	0.591	1	1	147.406			
Sum Weight:	30.44	114.60						OTM	17175.97 kip-ft	113.52		

Tower Forces - With Ice - Wind 45 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 320.00- 300.00	0.26	2.46	A	0.258	2.413	0.604	0.825	1	26.496	3.90	195.13	B
			B	0.428	2.012	0.663	0.825	1	45.510			
			C	0.258	2.413	0.604	0.825	1	26.496			
T2 300.00- 280.00	0.31	3.23	A	0.25	2.439	0.602	0.825	1	29.177	4.34	217.00	B
			B	0.424	2.018	0.662	0.825	1	51.435			
			C	0.25	2.439	0.602	0.825	1	29.177			
T3 280.00- 260.00	0.53	4.32	A	0.232	2.494	0.597	0.825	1	33.765	5.70	285.21	B
			B	0.465	1.949	0.68	0.825	1	71.427			
			C	0.232	2.494	0.597	0.825	1	33.765			
T4 260.00- 240.00	0.58	4.83	A	0.217	2.539	0.594	0.825	1	38.698	6.27	313.32	B
			B	0.429	2.01	0.664	0.825	1	77.793			
			C	0.217	2.539	0.594	0.825	1	38.698			

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	320' Rohn SSVMW	Page	24 of 55
	Project	CSP Tower - Colchester, CT	Date	12:49:15 10/12/06
	Client	Verizon Wireless	Designed by	Staff

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T5 240.00- 220.00	0.62	6.22	A	0.224	2.518	0.596	0.825	1	47.611	6.99	349.40	B
			B	0.417	2.032	0.659	0.825	1	87.894			
			C	0.224	2.518	0.596	0.825	1	47.611			
T6 220.00- 200.00	1.23	5.95	A	0.178	2.67	0.586	0.825	1	42.071	6.80	340.03	B
			B	0.356	2.157	0.635	0.825	1	82.667			
			C	0.339	2.198	0.629	0.825	1	76.384			
T7 200.00- 180.00	2.46	7.00	A	0.325	2.232	0.624	0.825	1	82.645	7.23	361.58	B
			B	0.34	2.195	0.629	0.825	1	88.924			
			C	0.325	2.232	0.624	0.825	1	82.645			
T8 180.00- 160.00	2.49	7.29	A	0.3	2.297	0.616	0.825	1	84.312	7.35	367.45	B
			B	0.314	2.261	0.62	0.825	1	90.560			
			C	0.306	2.281	0.618	0.825	1	86.574			
T9 160.00- 140.00	2.50	8.55	A	0.295	2.311	0.614	0.825	1	92.107	7.75	387.30	B
			B	0.307	2.278	0.618	0.825	1	98.195			
			C	0.302	2.292	0.616	0.825	1	95.034			
T10 140.00- 120.00	2.62	8.93	A	0.278	2.356	0.609	0.825	1	94.658	8.18	409.20	B
			B	0.314	2.258	0.62	0.825	1	108.999			
			C	0.285	2.338	0.611	0.825	1	97.563			
T11 120.00- 100.00	2.68	7.69	A	0.254	2.426	0.603	0.825	1	84.676	7.36	367.76	B
			B	0.285	2.336	0.611	0.825	1	99.321			
			C	0.247	2.447	0.601	0.825	1	83.516			
T12 100.00- 80.00	2.82	7.91	A	0.238	2.475	0.599	0.825	1	85.913	7.66	383.03	B
			B	0.287	2.331	0.612	0.825	1	109.821			
			C	0.232	2.494	0.597	0.825	1	85.247			
T13 80.00- 60.00	2.83	9.27	A	0.236	2.482	0.598	0.825	1	92.884	7.65	382.42	B
			B	0.282	2.345	0.611	0.825	1	117.058			
			C	0.227	2.51	0.596	0.825	1	90.727			
T14 60.00- 30.00	4.25	14.28	A	0.215	2.546	0.594	0.825	1	138.339	10.43	347.71	B
			B	0.261	2.405	0.605	0.825	1	176.649			
			C	0.215	2.547	0.594	0.825	1	140.881			
T15 30.00- 0.00	4.25	16.66	A	0.204	2.583	0.591	0.825	1	144.389	10.01	333.61	B
			B	0.245	2.454	0.601	0.825	1	181.494			
			C	0.202	2.589	0.591	0.825	1	145.445			
Sum Weight:	30.44	114.60						OTM	16113.15 kip-ft	107.62		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 320.00- 300.00	0.26	2.46	A	0.258	2.413	0.604	0.8	1	26.094	3.85	192.62	B
			B	0.428	2.012	0.663	0.8	1	44.924			
			C	0.258	2.413	0.604	0.8	1	26.094			
T2 300.00- 280.00	0.31	3.23	A	0.25	2.439	0.602	0.8	1	28.757	4.29	214.49	B
			B	0.424	2.018	0.662	0.8	1	50.838			
			C	0.25	2.439	0.602	0.8	1	28.757			
T3 280.00- 260.00	0.53	4.32	A	0.232	2.494	0.597	0.8	1	33.323	5.66	282.87	B
			B	0.465	1.949	0.68	0.8	1	70.842			
			C	0.232	2.494	0.597	0.8	1	33.323			
T4 260.00- 240.00	0.58	4.83	A	0.217	2.539	0.594	0.8	1	38.104	6.21	310.46	B
			B	0.429	2.01	0.664	0.8	1	77.083			
			C	0.217	2.539	0.594	0.8	1	38.104			
T5 240.00- 220.00	0.62	6.22	A	0.224	2.518	0.596	0.8	1	46.748	6.91	345.73	B
			B	0.417	2.032	0.659	0.8	1	86.970			

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	320' Rohn SSVMW	Page	25 of 55
	Project	CSP Tower - Colchester, CT	Date	12:49:15 10/12/06
	Client	Verizon Wireless	Designed by	Staff

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T6 220.00- 200.00	1.23	5.95	C	0.224	2.518	0.596	0.8	1	46.748	6.73	336.62	B
			A	0.178	2.67	0.586	0.8	1	41.367			
			B	0.356	2.157	0.635	0.8	1	81.838			
T7 200.00- 180.00	2.46	7.00	C	0.339	2.198	0.629	0.8	1	75.816	7.16	357.93	B
			A	0.325	2.232	0.624	0.8	1	82.009			
			B	0.34	2.195	0.629	0.8	1	88.027			
T8 180.00- 160.00	2.49	7.29	C	0.325	2.232	0.624	0.8	1	82.009	7.27	363.50	B
			A	0.3	2.297	0.616	0.8	1	83.602			
			B	0.314	2.261	0.62	0.8	1	89.587			
T9 160.00- 140.00	2.50	8.55	C	0.306	2.281	0.618	0.8	1	85.800	7.65	382.52	B
			A	0.295	2.311	0.614	0.8	1	91.155			
			B	0.307	2.278	0.618	0.8	1	96.985			
T10 140.00- 120.00	2.62	8.93	C	0.302	2.292	0.616	0.8	1	94.000	8.09	404.45	B
			A	0.278	2.356	0.609	0.8	1	93.615			
			B	0.314	2.258	0.62	0.8	1	107.733			
T11 120.00- 100.00	2.68	7.69	C	0.285	2.338	0.611	0.8	1	96.437	7.33	366.52	B
			A	0.254	2.426	0.603	0.8	1	84.676			
			B	0.285	2.336	0.611	0.8	1	98.986			
T12 100.00- 80.00	2.82	7.91	C	0.247	2.447	0.601	0.8	1	83.353	7.63	381.55	B
			A	0.238	2.475	0.599	0.8	1	85.913			
			B	0.287	2.331	0.612	0.8	1	109.395			
T13 80.00- 60.00	2.83	9.27	C	0.232	2.494	0.597	0.8	1	85.061	7.62	381.03	B
			A	0.236	2.482	0.598	0.8	1	92.884			
			B	0.282	2.345	0.611	0.8	1	116.632			
T14 60.00- 30.00	4.25	14.28	C	0.227	2.51	0.596	0.8	1	90.540	10.39	346.45	B
			A	0.215	2.546	0.594	0.8	1	138.339			
			B	0.261	2.405	0.605	0.8	1	176.010			
T15 30.00- 0.00	4.25	16.66	C	0.215	2.547	0.594	0.8	1	140.601	9.97	332.44	B
			A	0.204	2.583	0.591	0.8	1	144.389			
			B	0.245	2.454	0.601	0.8	1	180.855			
Sum Weight:	30.44	114.60	C	0.202	2.589	0.591	0.8	OTM	15961.32 kip-ft	106.77		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 320.00- 300.00	0.26	2.46	A	0.258	2.413	0.604	0.85	1	26.899	3.95	197.64	B
			B	0.428	2.012	0.663	0.85	1	46.096			
			C	0.258	2.413	0.604	0.85	1	26.899			
T2 300.00- 280.00	0.31	3.23	A	0.25	2.439	0.602	0.85	1	29.597	4.39	219.52	B
			B	0.424	2.018	0.662	0.85	1	52.031			
			C	0.25	2.439	0.602	0.85	1	29.597			
T3 280.00- 260.00	0.53	4.32	A	0.232	2.494	0.597	0.85	1	34.206	5.75	287.54	B
			B	0.465	1.949	0.68	0.85	1	72.011			
			C	0.232	2.494	0.597	0.85	1	34.206			
T4 260.00- 240.00	0.58	4.83	A	0.217	2.539	0.594	0.85	1	39.293	6.32	316.18	B
			B	0.429	2.01	0.664	0.85	1	78.503			
			C	0.217	2.539	0.594	0.85	1	39.293			
T5 240.00- 220.00	0.62	6.22	A	0.224	2.518	0.596	0.85	1	48.474	7.06	353.08	B
			B	0.417	2.032	0.659	0.85	1	88.817			
			C	0.224	2.518	0.596	0.85	1	48.474			
T6 220.00-	1.23	5.95	A	0.178	2.67	0.586	0.85	1	42.775	6.87	343.44	B

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	320' Rohn SSVMW	Page	26 of 55
	Project	CSP Tower - Colchester, CT	Date	12:49:15 10/12/06
	Client	Verizon Wireless	Designed by	Staff

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
200.00			B	0.356	2.157	0.635	0.85	1	83.495			
			C	0.339	2.198	0.629	0.85	1	76.951			
T7 200.00- 180.00	2.46	7.00	A	0.325	2.232	0.624	0.85	1	83.281	7.30	365.23	B
			B	0.34	2.195	0.629	0.85	1	89.822			
			C	0.325	2.232	0.624	0.85	1	83.281			
T8 180.00- 160.00	2.49	7.29	A	0.3	2.297	0.616	0.85	1	85.023	7.43	371.40	B
			B	0.314	2.261	0.62	0.85	1	91.533			
			C	0.306	2.281	0.618	0.85	1	87.348			
T9 160.00- 140.00	2.50	8.55	A	0.295	2.311	0.614	0.85	1	93.058	7.84	392.07	B
			B	0.307	2.278	0.618	0.85	1	99.406			
			C	0.302	2.292	0.616	0.85	1	96.068			
T10 140.00- 120.00	2.62	8.93	A	0.278	2.356	0.609	0.85	1	95.701	8.28	413.95	B
			B	0.314	2.258	0.62	0.85	1	110.265			
			C	0.285	2.338	0.611	0.85	1	98.688			
T11 120.00- 100.00	2.68	7.69	A	0.254	2.426	0.603	0.85	1	84.676	7.38	369.00	B
			B	0.285	2.336	0.611	0.85	1	99.656			
			C	0.247	2.447	0.601	0.85	1	83.679			
T12 100.00- 80.00	2.82	7.91	A	0.238	2.475	0.599	0.85	1	85.913	7.69	384.52	B
			B	0.287	2.331	0.612	0.85	1	110.247			
			C	0.232	2.494	0.597	0.85	1	85.434			
T13 80.00- 60.00	2.83	9.27	A	0.236	2.482	0.598	0.85	1	92.884	7.68	383.81	B
			B	0.282	2.345	0.611	0.85	1	117.484			
			C	0.227	2.51	0.596	0.85	1	90.914			
T14 60.00- 30.00	4.25	14.28	A	0.215	2.546	0.594	0.85	1	138.339	10.47	348.97	B
			B	0.261	2.405	0.605	0.85	1	177.288			
			C	0.215	2.547	0.594	0.85	1	141.161			
T15 30.00- 0.00	4.25	16.66	A	0.204	2.583	0.591	0.85	1	144.389	10.04	334.79	B
			B	0.245	2.454	0.601	0.85	1	182.132			
			C	0.202	2.589	0.591	0.85	1	145.725			
Sum Weight:	30.44	114.60						OTM	16264.98 kip-ft	108.46		

Tower Forces - Service - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 320.00- 300.00	0.08	1.79	A	0.208	2.571	0.592	1	1	22.637	3.39	169.39	B
			B	0.315	2.258	0.62	1	1	35.202			
			C	0.208	2.571	0.592	1	1	22.637			
T2 300.00- 280.00	0.10	2.50	A	0.207	2.573	0.592	1	1	25.689	3.76	187.98	B
			B	0.314	2.259	0.62	1	1	39.810			
			C	0.207	2.573	0.592	1	1	25.689			
T3 280.00- 260.00	0.19	3.48	A	0.2	2.595	0.59	1	1	30.944	4.81	240.57	B
			B	0.348	2.176	0.632	1	1	53.959			
			C	0.2	2.595	0.59	1	1	30.944			
T4 260.00- 240.00	0.21	3.83	A	0.189	2.634	0.588	1	1	36.382	5.40	270.09	B
			B	0.32	2.243	0.622	1	1	60.084			
			C	0.189	2.634	0.588	1	1	36.382			
T5 240.00- 220.00	0.22	4.90	A	0.197	2.605	0.59	1	1	46.567	6.23	311.58	B
			B	0.316	2.254	0.621	1	1	70.638			
			C	0.197	2.605	0.59	1	1	46.567			
T6 220.00- 200.00	0.47	4.82	A	0.157	2.744	0.583	1	1	40.915	5.98	298.83	B
			B	0.266	2.391	0.606	1	1	65.565			
			C	0.266	2.39	0.606	1	1	62.481			

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	320' Rohn SSVMW	Page	27 of 55
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	Client	Verizon Wireless	Designed by	Staff

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T7 200.00- 180.00	0.97	5.71	A	0.259	2.41	0.604	1	1	68.956	6.43	321.72	B
			B	0.259	2.41	0.604	1	1	72.054			
			C	0.259	2.41	0.604	1	1	68.956			
T8 180.00- 160.00	0.98	5.93	A	0.24	2.469	0.599	1	1	71.095	6.58	329.02	B
			B	0.239	2.47	0.599	1	1	74.233			
			C	0.244	2.456	0.6	1	1	72.996			
T9 160.00- 140.00	0.98	6.89	A	0.24	2.469	0.599	1	1	80.649	7.17	358.33	B
			B	0.239	2.47	0.599	1	1	83.788			
			C	0.245	2.454	0.601	1	1	83.129			
T10 140.00- 120.00	1.02	7.17	A	0.226	2.51	0.596	1	1	83.628	7.45	372.51	B
			B	0.24	2.469	0.599	1	1	90.774			
			C	0.231	2.495	0.597	1	1	86.099			
T11 120.00- 100.00	1.04	6.34	A	0.196	2.609	0.59	1	1	63.742	5.78	289.19	B
			B	0.206	2.578	0.592	1	1	70.791			
			C	0.191	2.628	0.589	1	1	63.762			
T12 100.00- 80.00	1.09	6.51	A	0.183	2.653	0.587	1	1	64.759	5.98	298.78	B
			B	0.204	2.583	0.591	1	1	77.284			
			C	0.179	2.669	0.586	1	1	65.219			
T13 80.00- 60.00	1.09	7.71	A	0.185	2.648	0.587	1	1	71.267	6.03	301.26	B
			B	0.203	2.585	0.591	1	1	83.660			
			C	0.177	2.674	0.586	1	1	70.379			
T14 60.00- 30.00	1.64	11.86	A	0.168	2.706	0.584	1	1	106.267	8.22	273.89	B
			B	0.189	2.634	0.588	1	1	127.024			
			C	0.168	2.705	0.584	1	1	109.678			
T15 30.00- 0.00	1.64	14.02	A	0.16	2.734	0.583	1	1	111.674	7.90	263.46	B
			B	0.178	2.671	0.586	1	1	131.655			
			C	0.159	2.74	0.583	1	1	113.776			
Sum Weight:	11.72	93.46						OTM	13947.19 kip-ft	91.11		

Tower Forces - Service - Wind 45 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 320.00- 300.00	0.08	1.79	A	0.208	2.571	0.592	0.825	1	20.596	3.09	154.27	B
			B	0.315	2.258	0.62	0.825	1	32.059			
			C	0.208	2.571	0.592	0.825	1	20.596			
T2 300.00- 280.00	0.10	2.50	A	0.207	2.573	0.592	0.825	1	23.485	3.45	172.49	B
			B	0.314	2.259	0.62	0.825	1	36.530			
			C	0.207	2.573	0.592	0.825	1	23.485			
T3 280.00- 260.00	0.19	3.48	A	0.2	2.595	0.59	0.825	1	28.505	4.51	225.56	B
			B	0.348	2.176	0.632	0.825	1	50.591			
			C	0.2	2.595	0.59	0.825	1	28.505			
T4 260.00- 240.00	0.21	3.83	A	0.189	2.634	0.588	0.825	1	32.980	5.02	251.08	B
			B	0.32	2.243	0.622	0.825	1	55.856			
			C	0.189	2.634	0.588	0.825	1	32.980			
T5 240.00- 220.00	0.22	4.90	A	0.197	2.605	0.59	0.825	1	41.390	5.72	286.05	B
			B	0.316	2.254	0.621	0.825	1	64.850			
			C	0.197	2.605	0.59	0.825	1	41.390			
T6 220.00- 200.00	0.47	4.82	A	0.157	2.744	0.583	0.825	1	36.691	5.52	275.78	B
			B	0.266	2.391	0.606	0.825	1	60.508			
			C	0.266	2.39	0.606	0.825	1	58.802			
T7 200.00- 180.00	0.97	5.71	A	0.259	2.41	0.604	0.825	1	64.873	5.95	297.34	B
			B	0.259	2.41	0.604	0.825	1	66.594			

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	320' Rohn SSVMW	Page	28 of 55
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	Client	Verizon Wireless	Designed by	Staff

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T8 180.00- 160.00	0.98	5.93	C	0.259	2.41	0.604	0.825	1	64.873			
			A	0.24	2.469	0.599	0.825	1	66.571	6.06	302.86	B
			B	0.239	2.47	0.599	0.825	1	68.331			
			C	0.244	2.456	0.6	0.825	1	68.154			
T9 160.00- 140.00	0.98	6.89	A	0.24	2.469	0.599	0.825	1	74.452	6.52	325.93	B
			B	0.239	2.47	0.599	0.825	1	76.213			
			C	0.245	2.454	0.601	0.825	1	76.515			
T10 140.00- 120.00	1.02	7.17	A	0.226	2.51	0.596	0.825	1	76.871	6.79	339.60	B
			B	0.24	2.469	0.599	0.825	1	82.755			
			C	0.231	2.495	0.597	0.825	1	78.924			
T11 120.00- 100.00	1.04	6.34	A	0.196	2.609	0.59	0.825	1	63.742	5.65	282.68	B
			B	0.206	2.578	0.592	0.825	1	69.196			
			C	0.191	2.628	0.589	0.825	1	62.958			
T12 100.00- 80.00	1.09	6.51	A	0.183	2.653	0.587	0.825	1	64.759	5.82	291.01	B
			B	0.204	2.583	0.591	0.825	1	75.276			
			C	0.179	2.669	0.586	0.825	1	64.301			
T13 80.00- 60.00	1.09	7.71	A	0.185	2.648	0.587	0.825	1	71.267	5.88	294.03	B
			B	0.203	2.585	0.591	0.825	1	81.651			
			C	0.177	2.674	0.586	0.825	1	69.460			
T14 60.00- 30.00	1.64	11.86	A	0.168	2.706	0.584	0.825	1	106.267	8.02	267.39	B
			B	0.189	2.634	0.588	0.825	1	124.011			
			C	0.168	2.705	0.584	0.825	1	108.301			
T15 30.00- 0.00	1.64	14.02	A	0.16	2.734	0.583	0.825	1	111.674	7.72	257.43	B
			B	0.178	2.671	0.586	0.825	1	128.642			
			C	0.159	2.74	0.583	0.825	1	112.398			
Sum Weight:	11.72	93.46						OTM	12959.01 kip-ft	85.72		

Tower Forces - Service - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 320.00- 300.00	0.08	1.79	A	0.208	2.571	0.592	0.8	1	20.305	3.04	152.11	B
			B	0.315	2.258	0.62	0.8	1	31.610			
			C	0.208	2.571	0.592	0.8	1	20.305			
T2 300.00- 280.00	0.10	2.50	A	0.207	2.573	0.592	0.8	1	23.170	3.41	170.28	B
			B	0.314	2.259	0.62	0.8	1	36.062			
			C	0.207	2.573	0.592	0.8	1	23.170			
T3 280.00- 260.00	0.19	3.48	A	0.2	2.595	0.59	0.8	1	28.157	4.47	223.41	B
			B	0.348	2.176	0.632	0.8	1	50.110			
			C	0.2	2.595	0.59	0.8	1	28.157			
T4 260.00- 240.00	0.21	3.83	A	0.189	2.634	0.588	0.8	1	32.494	4.97	248.37	B
			B	0.32	2.243	0.622	0.8	1	55.252			
			C	0.189	2.634	0.588	0.8	1	32.494			
T5 240.00- 220.00	0.22	4.90	A	0.197	2.605	0.59	0.8	1	40.651	5.65	282.40	B
			B	0.316	2.254	0.621	0.8	1	64.023			
			C	0.197	2.605	0.59	0.8	1	40.651			
T6 220.00- 200.00	0.47	4.82	A	0.157	2.744	0.583	0.8	1	36.088	5.45	272.49	B
			B	0.266	2.391	0.606	0.8	1	59.785			
			C	0.266	2.39	0.606	0.8	1	58.276			
T7 200.00- 180.00	0.97	5.71	A	0.259	2.41	0.604	0.8	1	64.290	5.88	293.85	B
			B	0.259	2.41	0.604	0.8	1	65.813			
			C	0.259	2.41	0.604	0.8	1	64.290			
T8 180.00-	0.98	5.93	A	0.24	2.469	0.599	0.8	1	65.924	5.98	299.13	B

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	Project	CSP Tower - Colchester, CT	Date	12:49:15 10/12/06
	Client	Verizon Wireless	Designed by	Staff

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
160.00			B	0.239	2.47	0.599	0.8	1	67.488			
			C	0.244	2.456	0.6	0.8	1	67.462			
T9 160.00- 140.00	0.98	6.89	A	0.24	2.469	0.599	0.8	1	73.567	6.43	321.31	B
			B	0.239	2.47	0.599	0.8	1	75.131			
			C	0.245	2.454	0.601	0.8	1	75.570			
T10 140.00- 120.00	1.02	7.17	A	0.226	2.51	0.596	0.8	1	75.905	6.70	334.90	B
			B	0.24	2.469	0.599	0.8	1	81.610			
			C	0.231	2.495	0.597	0.8	1	77.898			
T11 120.00- 100.00	1.04	6.34	A	0.196	2.609	0.59	0.8	1	63.742	5.63	281.74	B
			B	0.206	2.578	0.592	0.8	1	68.968			
			C	0.191	2.628	0.589	0.8	1	62.844			
T12 100.00- 80.00	1.09	6.51	A	0.183	2.653	0.587	0.8	1	64.759	5.80	289.91	B
			B	0.204	2.583	0.591	0.8	1	74.989			
			C	0.179	2.669	0.586	0.8	1	64.170			
T13 80.00- 60.00	1.09	7.71	A	0.185	2.648	0.587	0.8	1	71.267	5.86	292.99	B
			B	0.203	2.585	0.591	0.8	1	81.364			
			C	0.177	2.674	0.586	0.8	1	69.329			
T14 60.00- 30.00	1.64	11.86	A	0.168	2.706	0.584	0.8	1	106.267	7.99	266.46	B
			B	0.189	2.634	0.588	0.8	1	123.581			
			C	0.168	2.705	0.584	0.8	1	108.104			
T15 30.00- 0.00	1.64	14.02	A	0.16	2.734	0.583	0.8	1	111.674	7.70	256.57	B
			B	0.178	2.671	0.586	0.8	1	128.212			
			C	0.159	2.74	0.583	0.8	1	112.201			
Sum Weight:	11.72	93.46						OTM	12817.84 kip-ft	84.95		

Tower Forces - Service - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T1 320.00- 300.00	0.08	1.79	A	0.208	2.571	0.592	0.85	1	20.888	3.13	156.43	B
			B	0.315	2.258	0.62	0.85	1	32.508			
			C	0.208	2.571	0.592	0.85	1	20.888			
T2 300.00- 280.00	0.10	2.50	A	0.207	2.573	0.592	0.85	1	23.800	3.49	174.71	B
			B	0.314	2.259	0.62	0.85	1	36.999			
			C	0.207	2.573	0.592	0.85	1	23.800			
T3 280.00- 260.00	0.19	3.48	A	0.2	2.595	0.59	0.85	1	28.854	4.55	227.70	B
			B	0.348	2.176	0.632	0.85	1	51.072			
			C	0.2	2.595	0.59	0.85	1	28.854			
T4 260.00- 240.00	0.21	3.83	A	0.189	2.634	0.588	0.85	1	33.466	5.08	253.80	B
			B	0.32	2.243	0.622	0.85	1	56.460			
			C	0.189	2.634	0.588	0.85	1	33.466			
T5 240.00- 220.00	0.22	4.90	A	0.197	2.605	0.59	0.85	1	42.130	5.79	289.70	B
			B	0.316	2.254	0.621	0.85	1	65.677			
			C	0.197	2.605	0.59	0.85	1	42.130			
T6 220.00- 200.00	0.47	4.82	A	0.157	2.744	0.583	0.85	1	37.294	5.58	279.07	B
			B	0.266	2.391	0.606	0.85	1	61.230			
			C	0.266	2.39	0.606	0.85	1	59.327			
T7 200.00- 180.00	0.97	5.71	A	0.259	2.41	0.604	0.85	1	65.457	6.02	300.82	B
			B	0.259	2.41	0.604	0.85	1	67.374			
			C	0.259	2.41	0.604	0.85	1	65.457			
T8 180.00- 160.00	0.98	5.93	A	0.24	2.469	0.599	0.85	1	67.217	6.13	306.60	B
			B	0.239	2.47	0.599	0.85	1	69.174			
			C	0.244	2.456	0.6	0.85	1	68.845			

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	320' Rohn SSVMW	Page	30 of 55
	Project	CSP Tower - Colchester, CT	Date	12:49:15 10/12/06
	Client	Verizon Wireless	Designed by	Staff

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	R _R	D _F	D _R	A _E	F	w	Ctrl. Face
ft	K	K							ft ²	K	plf	
T9 160.00- 140.00	0.98	6.89	A	0.24	2.469	0.599	0.85	1	75.337	6.61	330.56	B
			B	0.239	2.47	0.599	0.85	1	77.295			
			C	0.245	2.454	0.601	0.85	1	77.460			
T10 140.00- 120.00	1.02	7.17	A	0.226	2.51	0.596	0.85	1	77.836	6.89	344.31	B
			B	0.24	2.469	0.599	0.85	1	83.901			
			C	0.231	2.495	0.597	0.85	1	79.949			
T11 120.00- 100.00	1.04	6.34	A	0.196	2.609	0.59	0.85	1	63.742	5.67	283.61	B
			B	0.206	2.578	0.592	0.85	1	69.424			
			C	0.191	2.628	0.589	0.85	1	63.073			
T12 100.00- 80.00	1.09	6.51	A	0.183	2.653	0.587	0.85	1	64.759	5.84	292.12	B
			B	0.204	2.583	0.591	0.85	1	75.563			
			C	0.179	2.669	0.586	0.85	1	64.432			
T13 80.00- 60.00	1.09	7.71	A	0.185	2.648	0.587	0.85	1	71.267	5.90	295.06	B
			B	0.203	2.585	0.591	0.85	1	81.938			
			C	0.177	2.674	0.586	0.85	1	69.592			
T14 60.00- 30.00	1.64	11.86	A	0.168	2.706	0.584	0.85	1	106.267	8.05	268.32	B
			B	0.189	2.634	0.588	0.85	1	124.441			
			C	0.168	2.705	0.584	0.85	1	108.497			
T15 30.00- 0.00	1.64	14.02	A	0.16	2.734	0.583	0.85	1	111.674	7.75	258.29	B
			B	0.178	2.671	0.586	0.85	1	129.072			
			C	0.159	2.74	0.583	0.85	1	112.595			
Sum Weight:	11.72	93.46						OTM	13100.18 kip-ft	86.49		

Force Totals

Load Case	Vertical Forces	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M _x kip-ft	Sum of Overturning Moments, M _z kip-ft	Sum of Torques kip-ft
Leg Weight	50.33					
Bracing Weight	43.13					
Total Member Self-Weight	93.46					
Total Weight	112.48			67.25	-5.07	
Wind 0 deg - No Ice		0.00	-112.12	-18679.55	-5.07	140.35
Wind 30 deg - No Ice		53.75	-93.10	-15434.43	-8954.97	177.85
Wind 45 deg - No Ice		75.47	-75.47	-12490.00	-12562.32	180.39
Wind 60 deg - No Ice		91.77	-52.98	-8741.48	-15262.24	170.58
Wind 90 deg - No Ice		107.50	0.00	67.25	-17904.86	122.56
Wind 120 deg - No Ice		97.10	56.06	9440.65	-16240.28	41.69
Wind 135 deg - No Ice		75.47	75.47	12624.49	-12562.32	-8.63
Wind 150 deg - No Ice		53.75	93.10	15568.92	-8954.97	-55.30
Wind 180 deg - No Ice		0.00	105.96	17684.70	-5.07	-132.70
Wind 210 deg - No Ice		-53.75	93.10	15568.92	8944.82	-177.85
Wind 225 deg - No Ice		-75.47	75.47	12624.49	12552.17	-180.39
Wind 240 deg - No Ice		-97.10	56.06	9440.65	16230.13	-182.03
Wind 270 deg - No Ice		-107.50	0.00	67.25	17894.72	-122.56
Wind 300 deg - No Ice		-91.77	-52.98	-8741.48	15252.09	-37.88
Wind 315 deg - No Ice		-75.47	-75.47	-12490.00	12552.17	8.63
Wind 330 deg - No Ice		-53.75	-93.10	-15434.43	8944.82	55.30
Member Ice	21.14					
Total Weight Ice	156.52			176.65	-37.88	
Wind 0 deg - Ice		0.00	-138.25	-22647.11	-37.88	221.13
Wind 30 deg - Ice		66.59	-115.34	-18800.37	-10994.27	281.42
Wind 45 deg - Ice		93.58	-93.58	-15210.66	-15425.19	285.76
Wind 60 deg - Ice		113.88	-65.75	-10627.91	-18751.92	270.60

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Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Wind 90 deg - Ice		133.19	0.00	176.65	-21950.66	194.14
Wind 120 deg - Ice		119.73	69.13	11588.53	-19803.84	65.32
Wind 135 deg - Ice		93.58	93.58	15563.96	-15425.19	-13.32
Wind 150 deg - Ice		66.59	115.34	19153.67	-10994.27	-87.28
Wind 180 deg - Ice		0.00	131.50	21785.77	-37.88	-210.11
Wind 210 deg - Ice		-66.59	115.34	19153.67	10918.51	-281.42
Wind 225 deg - Ice		-93.58	93.58	15563.96	15349.44	-285.76
Wind 240 deg - Ice		-119.73	69.13	11588.53	19728.08	-286.45
Wind 270 deg - Ice		-133.19	0.00	176.65	21874.90	-194.14
Wind 300 deg - Ice		-113.88	-65.75	-10627.91	18676.17	-60.49
Wind 315 deg - Ice		-93.58	-93.58	-15210.66	15349.44	13.32
Wind 330 deg - Ice		-66.59	-115.34	-18800.37	10918.51	87.28
Total Weight	112.48			67.25	-5.07	
Wind 0 deg - Service		0.00	-112.12	-18752.35	3.74	140.35
Wind 30 deg - Service		53.75	-93.10	-15507.22	-8946.16	177.85
Wind 45 deg - Service		75.47	-75.47	-12562.79	-12553.51	180.39
Wind 60 deg - Service		91.77	-52.98	-8814.28	-15253.43	170.58
Wind 90 deg - Service		107.50	0.00	-5.55	-17896.05	122.56
Wind 120 deg - Service		97.10	56.06	9367.85	-16231.47	41.69
Wind 135 deg - Service		75.47	75.47	12551.69	-12553.51	-8.63
Wind 150 deg - Service		53.75	93.10	15496.12	-8946.16	-55.30
Wind 180 deg - Service		0.00	105.96	17611.91	3.74	-132.70
Wind 210 deg - Service		-53.75	93.10	15496.12	8953.63	-177.85
Wind 225 deg - Service		-75.47	75.47	12551.69	12560.98	-180.39
Wind 240 deg - Service		-97.10	56.06	9367.85	16238.94	-182.03
Wind 270 deg - Service		-107.50	0.00	-5.55	17903.53	-122.56
Wind 300 deg - Service		-91.77	-52.98	-8814.28	15260.90	-37.88
Wind 315 deg - Service		-75.47	-75.47	-12562.79	12560.98	8.63
Wind 330 deg - Service		-53.75	-93.10	-15507.22	8953.63	55.30

Load Combinations

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

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	320 - 300	Leg	Max Tension	27	22.23	0.05	0.02
			Max. Compression	24	-26.22	-0.71	-0.39
			Max. Mx	30	-25.52	0.97	0.07
			Max. My	19	9.81	-0.16	0.99
			Max. Vy	31	1.51	0.00	0.00
		Diagonal	Max. Vx	19	1.53	0.00	0.00
			Max Tension	31	4.35	0.00	0.00
			Max. Compression	31	-4.39	0.00	0.00
			Max. Mx	24	3.41	0.01	-0.00
			Max. My	21	-3.58	0.01	-0.00
		Top Girt	Max. Vy	24	-0.01	0.01	-0.00
			Max. Vx	21	-0.00	0.00	0.00
			Max Tension	24	0.58	0.00	0.00
			Max. Compression	22	-0.60	0.00	0.00
			Max. Mx	18	-0.01	-0.02	0.00
			Max. Vy	18	-0.01	0.00	0.00
T2	300 - 280	Leg	Max Tension	27	49.70	-0.14	-0.01
			Max. Compression	24	-57.65	0.87	0.07
			Max. Mx	24	-57.65	0.87	0.07
			Max. My	28	-2.29	0.03	1.06
			Max. Vy	24	-0.27	0.49	0.02
		Diagonal	Max. Vx	31	-0.45	-0.01	-0.11
			Max Tension	34	4.89	0.00	0.00
			Max. Compression	34	-4.91	0.00	0.00
			Max. Mx	27	3.06	0.02	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T3	280 - 260	Top Girt	Max. My	29	-4.05	0.01	0.01
			Max. Vy	27	0.02	0.02	0.00
			Max. Vx	21	0.00	0.00	0.00
			Max Tension	24	0.14	0.00	0.00
			Max. Compression	27	-0.16	0.00	0.00
			Max. Mx	18	-0.01	-0.03	0.00
			Max. My	18	-0.01	0.00	0.00
			Max. Vy	18	0.02	0.00	0.00
		Leg	Max. Vx	18	-0.00	0.00	0.00
			Max Tension	22	77.68	-0.63	-0.01
			Max. Compression	24	-90.51	1.08	0.05
			Max. Mx	19	-89.74	1.08	-0.06
			Max. My	20	-5.34	-0.02	-1.08
			Max. Vy	27	0.31	-0.72	0.00
			Max. Vx	23	-0.51	-0.02	0.69
		Diagonal	Max Tension	34	6.58	0.00	0.00
			Max. Compression	34	-6.61	0.00	0.00
			Max. Mx	27	3.93	0.04	0.01
			Max. My	19	-6.24	0.02	-0.01
T4	260 - 240	Leg	Max. Vy	27	0.02	0.04	0.01
			Max. Vx	19	0.00	0.00	0.00
			Max Tension	22	108.92	-0.69	0.01
			Max. Compression	24	-127.44	1.98	0.07
			Max. Mx	19	-126.29	1.99	-0.28
			Max. My	20	-7.47	0.03	-1.81
			Max. Vy	19	-0.37	1.99	-0.28
			Max. Vx	28	-0.39	0.03	1.81
		Diagonal	Max Tension	34	8.02	0.00	0.00
			Max. Compression	34	-8.08	0.00	0.00
			Max. Mx	27	4.83	0.06	0.01
			Max. My	19	-7.59	0.02	-0.01
			Max. Vy	27	0.03	0.06	0.01
			Max. Vx	19	0.00	0.00	0.00
		Leg	Max Tension	22	142.01	-0.91	-0.02
			Max. Compression	24	-167.42	1.74	0.03
			Max. Mx	19	-138.79	1.99	-0.28
			Max. My	20	-7.78	0.03	-1.81
			Max. Vy	30	-0.30	1.02	0.02
			Max. Vx	28	0.29	0.03	1.81
		Diagonal	Max Tension	34	9.92	0.00	0.00
			Max. Compression	34	-9.92	0.00	0.00
			Max. Mx	22	6.49	0.14	-0.02
T5	240 - 220	Leg	Max. My	19	-9.71	0.03	-0.02
			Max. Vy	22	0.06	0.14	-0.02
			Max. Vx	19	0.00	0.00	0.00
			Max Tension	22	177.02	-0.88	-0.24
			Max. Compression	24	-211.01	1.95	-0.03
			Max. Mx	19	-208.70	1.96	-0.22
			Max. My	20	-12.11	-0.11	-2.73
			Max. Vy	32	-1.58	-1.64	-0.04
		Diagonal	Max. Vx	28	1.45	0.01	0.85
			Max Tension	34	13.61	0.00	0.00
			Max. Compression	34	-13.69	0.00	0.00
			Max. Mx	24	10.17	0.23	0.03
			Max. My	19	-12.81	0.03	-0.04
			Max. Vy	21	0.08	0.21	-0.04
			Max. Vx	19	0.01	0.00	0.00
		Leg	Max Tension	27	218.42	-1.98	0.02
			Max. Compression	24	-262.38	2.48	-0.06
			Max. Mx	19	-259.40	2.49	-0.23
			Max. My	26	-14.47	-0.11	-2.85

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft		
T8	180 - 160	Diagonal	Max. Vy	32	-1.72	-1.75	0.03		
			Max. Vx	20	-1.56	0.05	-0.50		
			Max Tension	34	15.59	0.00	0.00		
			Max. Compression	34	-15.64	0.00	0.00		
			Max. Mx	27	9.83	0.23	0.03		
			Max. My	19	-15.19	0.08	-0.04		
		Leg	Max. Vy	27	0.08	0.23	0.03		
			Max. Vx	19	0.01	0.00	0.00		
			Max Tension	27	261.36	-2.40	0.22		
			Max. Compression	24	-314.36	3.14	-0.08		
			Max. Mx	24	-314.36	3.14	-0.08		
			Max. My	28	-21.20	0.10	2.78		
		Diagonal	Max. Vy	32	0.38	-2.41	0.07		
			Max. Vx	20	0.65	-0.10	-2.52		
			Max Tension	31	17.24	0.00	0.00		
			Max. Compression	31	-17.40	0.00	0.00		
Max. Mx	27		10.62	0.27	0.04				
Max. My	28		-10.51	0.20	0.04				
T9	160 - 140	Leg	Max. Vy	27	0.09	0.27	0.04		
			Max. Vx	28	-0.01	0.00	0.00		
			Max Tension	27	305.23	-1.99	0.04		
			Max. Compression	24	-367.82	3.80	-0.11		
			Max. Mx	24	-367.82	3.80	-0.11		
			Max. My	28	-23.07	-0.23	3.57		
		Diagonal	Max. Vy	19	-0.40	3.78	-0.17		
			Max. Vx	28	0.61	-0.23	3.57		
			Max Tension	31	19.56	0.00	0.00		
			Max. Compression	30	-20.23	0.00	0.00		
			Max. Mx	24	14.71	0.44	-0.04		
			Max. My	28	13.87	0.41	0.06		
		Leg	Max. Vy	21	0.13	0.41	-0.06		
			Max. Vx	28	-0.01	0.00	0.00		
			Max Tension	27	347.16	-2.63	0.06		
			Max. Compression	24	-420.61	-3.76	0.10		
Max. Mx	24		-394.54	3.80	-0.11				
Max. My	28		-29.04	-0.89	6.17				
T10	140 - 120	Diagonal	Max. Vy	19	0.79	2.50	-0.04		
			Max. Vx	28	-0.76	-0.13	4.96		
			Max Tension	31	20.23	0.00	0.00		
			Max. Compression	30	-20.76	0.00	0.00		
			Max. Mx	25	11.36	0.51	0.06		
			Max. My	28	13.91	0.46	0.09		
		Leg	Max. Vy	25	-0.14	0.51	0.06		
			Max. Vx	28	-0.01	0.00	0.00		
			Max Tension	27	353.38	1.89	0.14		
			Max. Compression	24	-430.44	-14.84	-0.08		
			Max. Mx	24	-429.58	18.61	0.37		
			Max. My	28	-31.29	-2.18	11.68		
		T11	120 - 100	Diagonal	Max. Vy	24	3.60	18.61	0.37
					Max. Vx	28	-2.10	-2.18	11.68
					Max Tension	31	30.71	-0.22	-0.05
					Max. Compression	30	-33.08	0.00	0.00
Max. Mx	27				20.76	-0.28	0.08		
Max. My	31				-32.06	-0.01	-0.16		
Horizontal	Max. Vy			27	-0.07	-0.28	0.08		
	Max. Vx			31	0.01	-0.01	-0.16		
	Max Tension			31	17.23	-0.21	0.00		
	Max. Compression			30	-17.33	-0.26	-0.02		
	Max. Mx			27	-3.17	-0.31	-0.03		
	Max. My			19	3.37	-0.12	0.04		
Horizontal	Max. Vy			27	0.09	-0.31	-0.03		

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T12	100 - 80	Redund Horz 1 Bracing	Max. Vx	19	-0.00	0.00	0.00
			Max Tension	24	6.48	0.00	0.00
			Max. Compression	24	-6.48	0.00	0.00
			Max. Mx	18	0.47	0.02	0.00
		Redund Diag 1 Bracing	Max. Vy	18	0.01	0.00	0.00
			Max Tension	24	5.88	0.00	0.00
			Max. Compression	24	-5.88	0.00	0.00
			Max. Mx	18	0.35	0.04	0.00
		Redund Hip 1 Bracing	Max. Vy	18	-0.02	0.00	0.00
			Max Tension	31	0.02	0.00	0.00
			Max. Compression	23	-0.04	0.00	0.00
			Max. Mx	18	-0.01	0.02	0.00
		Redund Hip Diagonal Bracing	Max. Vy	18	-0.01	0.00	0.00
			Max Tension	19	0.09	0.00	0.00
			Max. Compression	27	-0.09	0.00	0.00
			Max. Mx	18	0.04	0.17	0.00
		Inner Bracing	Max. Vy	18	0.04	0.00	0.00
			Max Tension	30	0.30	0.00	0.00
			Max. Compression	30	-0.31	0.00	0.00
			Max. Mx	18	-0.01	0.20	0.00
		Leg	Max. Vy	18	-0.06	0.00	0.00
			Max Tension	27	386.21	10.16	1.39
			Max. Compression	24	-473.15	-15.81	-0.39
			Max. Mx	24	-472.26	20.23	0.38
		Diagonal	Max. My	28	-35.03	-2.41	12.26
			Max. Vy	24	3.84	20.23	0.38
			Max. Vx	28	2.39	-2.18	11.68
			Max Tension	31	32.43	-0.22	-0.04
		Horizontal	Max. Compression	30	-35.00	0.00	0.00
			Max. Mx	27	19.62	-0.28	0.08
			Max. My	31	-34.04	-0.04	-0.15
			Max. Vy	27	0.07	-0.28	0.08
		Redund Horz 1 Bracing	Max. Vx	31	-0.01	0.00	0.00
			Max Tension	31	19.21	-0.25	0.00
			Max. Compression	30	-19.74	-0.30	-0.02
			Max. Mx	27	0.76	-0.33	-0.04
		Redund Diag 1 Bracing	Max. My	19	4.57	-0.17	0.04
			Max. Vy	27	-0.09	-0.33	-0.04
			Max. Vx	19	-0.00	0.00	0.00
			Max Tension	24	7.12	0.00	0.00
		Redund Hip 1 Bracing	Max. Compression	24	-7.12	0.00	0.00
			Max. Mx	18	0.53	0.03	0.00
			Max. Vy	18	-0.01	0.00	0.00
			Max Tension	24	6.04	0.00	0.00
		Redund Hip Diagonal Bracing	Max. Compression	24	-6.04	0.00	0.00
			Max. Mx	18	0.37	0.05	0.00
			Max. Vy	18	-0.02	0.00	0.00
			Max Tension	31	0.02	0.00	0.00
		Redund Hip Diagonal Bracing	Max. Compression	23	-0.04	0.00	0.00
			Max. Mx	18	-0.01	0.03	0.00
			Max. Vy	18	-0.01	0.00	0.00
			Max Tension	19	0.08	0.00	0.00
		Redund Hip Diagonal Bracing	Max. Compression	27	-0.09	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T13	80 - 60	Inner Bracing	Max. Mx	18	0.04	0.20	0.00
			Max. Vy	18	-0.05	0.00	0.00
			Max Tension	30	0.34	0.00	0.00
			Max. Compression	30	-0.35	0.00	0.00
		Leg	Max. Mx	18	0.00	0.25	0.00
			Max. Vy	18	-0.07	0.00	0.00
			Max Tension	27	421.92	10.69	1.64
			Max. Compression	24	-518.76	-15.83	-0.52
		Diagonal	Max. Mx	24	-517.76	24.10	0.39
			Max. My	28	-39.15	-3.22	20.24
			Max. Vy	24	4.10	24.10	0.39
			Max. Vx	28	-3.01	-3.22	20.24
		Horizontal	Max Tension	31	30.56	-0.22	-0.03
			Max. Compression	30	-33.80	0.00	0.00
			Max. Mx	27	21.66	-0.27	0.06
			Max. My	31	-30.87	-0.09	-0.13
		Redund Horz 1 Bracing	Max. Vy	27	-0.07	-0.27	0.06
			Max. Vx	31	-0.01	0.00	0.00
			Max Tension	31	19.32	-0.38	0.00
			Max. Compression	30	-20.03	-0.42	-0.02
		Redund Diag 1 Bracing	Max. Mx	27	-4.69	-0.45	-0.03
			Max. My	19	4.65	-0.30	0.04
			Max. Vy	27	0.13	-0.45	-0.03
			Max. Vx	19	-0.00	0.00	0.00
		Redund Hip 1 Bracing	Max Tension	24	7.82	0.00	0.00
			Max. Compression	24	-7.80	0.00	0.00
			Max. Mx	18	0.52	0.04	0.00
			Max. Vy	18	-0.02	0.00	0.00
		Redund Hip Diagonal Bracing	Max Tension	24	6.24	0.00	0.00
			Max. Compression	24	-6.25	0.00	0.00
			Max. Mx	18	0.39	0.06	0.00
			Max. Vy	18	-0.02	0.00	0.00
T14	60 - 30	Inner Bracing	Max Tension	31	0.01	0.00	0.00
			Max. Compression	23	-0.03	0.00	0.00
			Max. Mx	18	-0.01	0.03	0.00
			Max. Vy	18	-0.02	0.00	0.00
		Leg	Max Tension	19	0.08	0.00	0.00
			Max. Compression	27	-0.09	0.00	0.00
			Max. Mx	18	0.05	0.29	0.00
			Max. Vy	18	-0.07	0.00	0.00
		Diagonal	Max Tension	30	0.35	0.00	0.00
			Max. Compression	30	-0.36	0.00	0.00
			Max. Mx	18	0.00	0.29	0.00
			Max. Vy	18	0.08	0.00	0.00
		Horizontal	Max Tension	27	456.04	9.18	2.23
			Max. Compression	24	-563.60	4.37	0.37
			Max. Mx	24	-555.29	31.19	0.50
			Max. My	28	-44.80	-1.94	25.35
		Redund Hip Diagonal Bracing	Max. Vy	24	5.81	31.19	0.50
			Max. Vx	20	3.53	-1.93	-25.34
			Max Tension	31	45.16	-0.34	-0.08
			Max. Compression	30	-49.28	0.00	0.00
		Redund Hip Diagonal Bracing	Max. Mx	27	33.43	-0.42	0.24
			Max. My	31	-44.58	0.22	-0.41
			Max. Vy	30	-0.09	-0.18	0.19
			Max. Vx	30	0.05	-0.18	0.19
		Horizontal	Max Tension	31	22.99	-0.55	0.00

ERITower URS Corporation 500 Enterprise Drive, Suite 3B Rocky Hill, CT 06067 Phone: (860) 529-8882 FAX: (860) 529-3991	Job	320' Rohn SSVMW	Page	37 of 55
	Project	CSP Tower - Colchester, CT	Date	12:49:15 10/12/06
	Client	Verizon Wireless	Designed by	Staff

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T15	30 - 0	Leg	Max. Compression	31	-22.87	-0.55	0.00
			Max. Mx	27	-3.45	-0.72	-0.04
			Max. My	19	-2.25	-0.37	0.05
			Max. Vy	27	0.17	-0.72	-0.04
			Max. Vx	19	-0.00	0.00	0.00
			Max Tension	24	8.50	0.00	0.00
		Redund Horz 1 Bracing	Max. Compression	24	-8.68	0.00	0.00
			Max. Mx	18	0.67	0.02	0.00
			Max. Vy	18	-0.01	0.00	0.00
		Redund Horz 2 Bracing	Max Tension	24	8.50	0.00	0.00
			Max. Compression	24	-8.56	0.00	0.00
			Max. Mx	18	0.67	0.10	0.00
			Max. Vy	18	0.04	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	24	8.76	0.00	0.00
			Max. Compression	24	-8.57	0.00	0.00
			Max. Mx	18	0.76	0.04	0.00
			Max. Vy	18	-0.01	0.00	0.00
		Redund Diag 2 Bracing	Max Tension	24	5.62	0.00	0.00
			Max. Compression	24	-5.56	0.00	0.00
			Max. Mx	18	0.43	0.15	0.00
			Max. Vy	18	-0.04	0.00	0.00
		Redund Hip 1 Bracing	Max Tension	30	0.09	0.00	0.00
			Max. Compression	23	-0.10	0.00	0.00
			Max. Mx	18	-0.01	0.02	0.00
			Max. Vy	18	-0.01	0.00	0.00
		Redund Hip 2 Bracing	Max Tension	31	0.03	0.00	0.00
			Max. Compression	23	-0.05	0.00	0.00
			Max. Mx	18	-0.01	0.08	0.00
			Max. Vy	18	-0.03	0.00	0.00
		Redund Hip Diagonal Bracing	Max Tension	23	0.20	0.00	0.00
			Max. Compression	31	-0.21	0.00	0.00
			Max. Mx	18	0.02	0.18	0.00
			Max. Vy	18	-0.04	0.00	0.00
		Inner Bracing	Max Tension	31	0.39	0.00	0.00
			Max. Compression	31	-0.41	0.00	0.00
			Max. Mx	18	-0.01	0.34	0.00
			Max. Vy	18	-0.08	0.00	0.00
		Diagonal	Max Tension	27	507.99	21.53	3.50
			Max. Compression	24	-631.44	5.69	0.48
			Max. Mx	24	-628.12	27.35	0.73
			Max. My	28	-49.05	-1.94	25.35
			Max. Vy	24	-3.24	5.69	0.48
			Max. Vx	20	-3.45	-1.92	-25.34
			Max Tension	31	42.76	-0.32	-0.08
			Max. Compression	30	-45.25	0.00	0.00
			Max. Mx	27	28.55	-0.41	0.20
			Max. My	31	-44.77	0.15	-0.36
		Horizontal	Max. Vy	30	-0.09	-0.23	0.18
			Max. Vx	30	0.04	-0.23	0.18
			Max Tension	22	23.14	0.00	0.00
			Max. Compression	30	-24.88	-0.63	-0.03
			Max. Mx	27	-0.75	-0.70	-0.06
			Max. My	19	6.90	-0.41	0.07
			Max. Vy	27	-0.17	-0.70	-0.06

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	19	0.00	-0.41	0.07
		Redund Horiz 1 Bracing	Max Tension	24	9.57	0.00	0.00
			Max. Compression	24	-9.53	0.00	0.00
			Max. Mx	18	0.83	0.02	0.00
			Max. Vy	18	-0.01	0.00	0.00
		Redund Horiz 2 Bracing	Max Tension	24	9.53	0.00	0.00
			Max. Compression	24	-9.73	0.00	0.00
			Max. Mx	18	0.80	0.18	0.00
			Max. Vy	18	-0.06	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	24	8.86	0.00	0.00
			Max. Compression	24	-8.90	0.00	0.00
			Max. Mx	18	0.61	0.06	0.00
			Max. Vy	18	-0.02	0.00	0.00
		Redund Diag 2 Bracing	Max Tension	24	6.12	0.00	0.00
			Max. Compression	24	-5.96	0.00	0.00
			Max. Mx	18	0.58	0.18	0.00
			Max. Vy	18	0.05	0.00	0.00
		Redund Hip 1 Bracing	Max Tension	30	0.08	0.00	0.00
			Max. Compression	23	-0.09	0.00	0.00
			Max. Mx	18	-0.01	0.02	0.00
			Max. Vy	18	-0.01	0.00	0.00
		Redund Hip 2 Bracing	Max Tension	31	0.01	0.00	0.00
			Max. Compression	23	-0.05	0.00	0.00
			Max. Mx	18	-0.02	0.10	0.00
			Max. Vy	18	-0.03	0.00	0.00
		Redund Hip Diagonal Bracing	Max Tension	23	0.17	0.00	0.00
			Max. Compression	31	-0.19	0.00	0.00
			Max. Mx	18	0.03	0.31	0.00
			Max. Vy	18	-0.06	0.00	0.00
		Inner Bracing	Max Tension	30	0.44	0.00	0.00
			Max. Compression	30	-0.44	0.00	0.00
			Max. Mx	18	0.01	0.42	0.00
			Max. Vy	18	0.09	0.00	0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg C	Max. Vert	30	689.65	75.48	-38.79
	Max. H _x	30	689.65	75.48	-38.79
	Max. H _z	21	-531.64	-60.80	33.95
	Min. Vert	22	-548.02	-64.01	32.62
	Min. H _x	22	-548.02	-64.01	32.62
	Min. H _z	30	689.65	75.48	-38.79
Leg B	Max. Vert	24	691.52	-73.93	-41.54
	Max. H _x	32	-546.16	62.50	35.17
	Max. H _z	33	-529.77	58.66	37.59
	Min. Vert	32	-546.16	62.50	35.17
	Min. H _x	24	691.52	-73.93	-41.54

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Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg A	Min. H _z	25	640.99	-66.58	-42.01
	Max. Vert	19	683.06	3.15	84.65
	Max. H _x	32	348.04	9.05	42.51
	Max. H _z	19	683.06	3.15	84.65
	Min. Vert	27	-554.61	-2.96	-71.86
	Min. H _x	24	-270.79	-9.37	-35.74
	Min. H _z	27	-554.61	-2.96	-71.86

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _y K	Overturning Moment, M _x kip-ft	Overturning Moment, M _y kip-ft	Torque kip-ft
Dead Only	112.48	0.00	0.00	67.25	-5.07	0.00
Dead+Wind 0 deg - No Ice	112.48	-0.00	-112.12	-18389.25	-5.07	140.35
Dead+Wind 30 deg - No Ice	112.48	53.75	-93.10	-15188.12	-8812.76	177.86
Dead+Wind 45 deg - No Ice	112.48	75.47	-75.47	-12289.58	-12361.90	180.39
Dead+Wind 60 deg - No Ice	112.48	91.77	-52.98	-8600.26	-15017.63	170.58
Dead+Wind 90 deg - No Ice	112.48	107.50	-0.00	67.25	-17620.45	122.56
Dead+Wind 120 deg - No Ice	112.48	97.10	56.06	9295.50	-15988.87	41.69
Dead+Wind 135 deg - No Ice	112.48	75.47	75.47	12424.08	-12361.90	-8.62
Dead+Wind 150 deg - No Ice	112.48	53.75	93.10	15322.62	-8812.76	-55.29
Dead+Wind 180 deg - No Ice	112.48	0.00	105.96	17402.26	-5.07	-132.70
Dead+Wind 210 deg - No Ice	112.48	-53.75	93.10	15322.62	8802.62	-177.86
Dead+Wind 225 deg - No Ice	112.48	-75.47	75.47	12424.08	12351.76	-180.39
Dead+Wind 240 deg - No Ice	112.48	-97.10	56.06	9295.50	15978.72	-182.04
Dead+Wind 270 deg - No Ice	112.48	-107.50	0.00	67.25	17610.31	-122.56
Dead+Wind 300 deg - No Ice	112.48	-91.77	-52.98	-8600.26	15007.49	-37.89
Dead+Wind 315 deg - No Ice	112.48	-75.47	-75.47	-12289.58	12351.76	8.62
Dead+Wind 330 deg - No Ice	112.48	-53.75	-93.10	-15188.12	8802.62	55.29
Dead+Ice+Temp	156.52	0.00	0.00	176.65	-37.88	0.00
Dead+Wind 0 deg+Ice+Temp	156.52	-0.00	-138.25	-22231.76	-37.88	221.13
Dead+Wind 30 deg+Ice+Temp	156.52	66.59	-115.34	-18448.23	-10790.96	281.42
Dead+Wind 45 deg+Ice+Temp	156.52	93.58	-93.58	-14924.17	-15138.70	285.77
Dead+Wind 60 deg+Ice+Temp	156.52	113.88	-65.75	-10426.06	-18402.31	270.60
Dead+Wind 90 deg+Ice+Temp	156.52	133.19	0.00	176.65	-21544.04	194.14
Dead+Wind 120 deg+Ice+Temp	156.52	119.73	69.13	11380.86	-19444.13	65.33
Dead+Wind 135 deg+Ice+Temp	156.52	93.58	93.58	15277.48	-15138.70	-13.32
Dead+Wind 150 deg+Ice+Temp	156.52	66.59	115.34	18801.54	-10790.96	-87.27
Dead+Wind 180 deg+Ice+Temp	156.52	0.00	131.50	21382.07	-37.88	-210.11
Dead+Wind 210 deg+Ice+Temp	156.52	-66.59	115.34	18801.54	10715.21	-281.42
Dead+Wind 225 deg+Ice+Temp	156.52	-93.58	93.58	15277.48	15062.95	-285.77
Dead+Wind 240 deg+Ice+Temp	156.52	-119.73	69.13	11380.86	19368.37	-286.46
Dead+Wind 270 deg+Ice+Temp	156.52	-133.19	0.00	176.65	21468.29	-194.14
Dead+Wind 300 deg+Ice+Temp	156.52	-113.88	-65.75	-10426.06	18326.55	-60.49
Dead+Wind 315 deg+Ice+Temp	156.52	-93.58	-93.58	-14924.17	15062.95	13.32
Dead+Wind 330 deg+Ice+Temp	156.52	-66.59	-115.34	-18448.23	10715.21	87.27
Dead+Wind 0 deg - Service	112.48	-0.00	-112.12	-18389.25	-5.07	140.35
Dead+Wind 30 deg - Service	112.48	53.75	-93.10	-15188.12	-8812.76	177.86
Dead+Wind 45 deg - Service	112.48	75.47	-75.47	-12289.58	-12361.90	180.39
Dead+Wind 60 deg - Service	112.48	91.77	-52.98	-8600.26	-15017.63	170.58
Dead+Wind 90 deg - Service	112.48	107.50	-0.00	67.25	-17620.45	122.56
Dead+Wind 120 deg - Service	112.48	97.10	56.06	9295.50	-15988.87	41.69
Dead+Wind 135 deg - Service	112.48	75.47	75.47	12424.08	-12361.90	-8.62
Dead+Wind 150 deg - Service	112.48	53.75	93.10	15322.62	-8812.76	-55.29
Dead+Wind 180 deg - Service	112.48	0.00	105.96	17402.26	-5.07	-132.70
Dead+Wind 210 deg - Service	112.48	-53.75	93.10	15322.62	8802.62	-177.86

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Load Combination	Vertical K	Shear _x K	Shear _y K	Overturning Moment, M _x kip-ft	Overturning Moment, M _y kip-ft	Torque kip-ft
Dead+Wind 225 deg - Service	112.48	-75.47	75.47	12424.08	12351.76	-180.39
Dead+Wind 240 deg - Service	112.48	-97.10	56.06	9295.50	15978.72	-182.04
Dead+Wind 270 deg - Service	112.48	-107.50	0.00	67.25	17610.31	-122.56
Dead+Wind 300 deg - Service	112.48	-91.77	-52.98	-8600.26	15007.49	-37.89
Dead+Wind 315 deg - Service	112.48	-75.47	-75.47	-12289.58	12351.76	8.62
Dead+Wind 330 deg - Service	112.48	-53.75	-93.10	-15188.12	8802.62	55.29

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	-112.48	0.00	-0.00	112.48	-0.00	0.000%
2	0.00	-112.48	-112.12	0.00	112.48	112.12	0.000%
3	53.75	-112.48	-93.10	-53.75	112.48	93.10	0.000%
4	75.47	-112.48	-75.47	-75.47	112.48	75.47	0.000%
5	91.77	-112.48	-52.98	-91.77	112.48	52.98	0.000%
6	107.50	-112.48	0.00	-107.50	112.48	0.00	0.000%
7	97.10	-112.48	56.06	-97.10	112.48	-56.06	0.000%
8	75.47	-112.48	75.47	-75.47	112.48	-75.47	0.000%
9	53.75	-112.48	93.10	-53.75	112.48	-93.10	0.000%
10	-0.00	-112.48	105.96	-0.00	112.48	-105.96	0.000%
11	-53.75	-112.48	93.10	53.75	112.48	-93.10	0.000%
12	-75.47	-112.48	75.47	75.47	112.48	-75.47	0.000%
13	-97.10	-112.48	56.06	97.10	112.48	-56.06	0.000%
14	-107.50	-112.48	0.00	107.50	112.48	-0.00	0.000%
15	-91.77	-112.48	-52.98	91.77	112.48	52.98	0.000%
16	-75.47	-112.48	-75.47	75.47	112.48	75.47	0.000%
17	-53.75	-112.48	-93.10	53.75	112.48	93.10	0.000%
18	0.00	-156.52	0.00	-0.00	156.52	-0.00	0.000%
19	0.00	-156.52	-138.25	0.00	156.52	138.25	0.000%
20	66.59	-156.52	-115.34	-66.59	156.52	115.34	0.000%
21	93.58	-156.52	-93.58	-93.58	156.52	93.58	0.000%
22	113.88	-156.52	-65.75	-113.88	156.52	65.75	0.000%
23	133.19	-156.52	0.00	-133.19	156.52	-0.00	0.000%
24	119.73	-156.52	69.13	-119.73	156.52	-69.13	0.000%
25	93.58	-156.52	93.58	-93.58	156.52	-93.58	0.000%
26	66.59	-156.52	115.34	-66.59	156.52	-115.34	0.000%
27	-0.00	-156.52	131.50	-0.00	156.52	-131.50	0.000%
28	-66.59	-156.52	115.34	66.59	156.52	-115.34	0.000%
29	-93.58	-156.52	93.58	93.58	156.52	-93.58	0.000%
30	-119.73	-156.52	69.13	119.73	156.52	-69.13	0.000%
31	-133.19	-156.52	0.00	133.19	156.52	-0.00	0.000%
32	-113.88	-156.52	-65.75	113.88	156.52	65.75	0.000%
33	-93.58	-156.52	-93.58	93.58	156.52	93.58	0.000%
34	-66.59	-156.52	-115.34	66.59	156.52	115.34	0.000%
35	0.00	-112.48	-112.12	0.00	112.48	112.12	0.000%
36	53.75	-112.48	-93.10	-53.75	112.48	93.10	0.000%
37	75.47	-112.48	-75.47	-75.47	112.48	75.47	0.000%
38	91.77	-112.48	-52.98	-91.77	112.48	52.98	0.000%
39	107.50	-112.48	0.00	-107.50	112.48	0.00	0.000%
40	97.10	-112.48	56.06	-97.10	112.48	-56.06	0.000%
41	75.47	-112.48	75.47	-75.47	112.48	-75.47	0.000%
42	53.75	-112.48	93.10	-53.75	112.48	-93.10	0.000%
43	-0.00	-112.48	105.96	-0.00	112.48	-105.96	0.000%
44	-53.75	-112.48	93.10	53.75	112.48	-93.10	0.000%
45	-75.47	-112.48	75.47	75.47	112.48	-75.47	0.000%
46	-97.10	-112.48	56.06	97.10	112.48	-56.06	0.000%

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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
47	-107.50	-112.48	0.00	107.50	112.48	-0.00	0.000%
48	-91.77	-112.48	-52.98	91.77	112.48	52.98	0.000%
49	-75.47	-112.48	-75.47	75.47	112.48	75.47	0.000%
50	-53.75	-112.48	-93.10	53.75	112.48	93.10	0.000%

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	320 - 300	24.889	40	0.6707	0.2638
T2	300 - 280	22.017	40	0.6528	0.2140
T3	280 - 260	19.282	40	0.6180	0.1761
T4	260 - 240	16.686	40	0.5872	0.1572
T5	240 - 220	14.227	40	0.5495	0.1409
T6	220 - 200	11.954	40	0.5054	0.1303
T7	200 - 180	9.876	40	0.4555	0.1213
T8	180 - 160	7.976	40	0.4124	0.1112
T9	160 - 140	6.252	40	0.3656	0.0993
T10	140 - 120	4.737	40	0.3151	0.0893
T11	120 - 100	3.435	40	0.2620	0.0789
T12	100 - 80	2.384	40	0.2105	0.0621
T13	80 - 60	1.534	40	0.1590	0.0485
T14	60 - 30	0.885	35	0.1157	0.0365
T15	30 - 0	0.274	35	0.0519	0.0182

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
320.00	6 FT DISH	40	24.889	0.6707	0.2638	111605
318.00	PD128	40	24.599	0.6694	0.2587	111605
315.00	8 FT DISH	40	24.164	0.6674	0.2509	111605
294.00	DB224	40	21.180	0.6434	0.2007	29726
292.00	PD320	40	20.904	0.6398	0.1966	30388
285.00	(2) DB809	40	19.951	0.6270	0.1837	32959
275.00	(2) OGT9	40	18.621	0.6099	0.1701	36205
257.00	PD440	40	16.308	0.5821	0.1548	36341
243.00	PD128	40	14.585	0.5557	0.1431	25582
227.00	PD320	40	12.727	0.5218	0.1336	24216
220.00	DB844	40	11.954	0.5054	0.1303	24408
200.00	PiROD 12' Lightweight T-Frame	40	9.876	0.4555	0.1213	26860
175.00	6 FT DISH	40	7.528	0.4012	0.1083	27069
140.00	PD688S-4	40	4.737	0.3151	0.0893	24466
138.00	PD156S	40	4.597	0.3099	0.0884	23848
115.00	6 FT DISH	40	3.150	0.2491	0.0751	18636
112.00	4 FT DISH	40	2.987	0.2414	0.0726	19866
105.00	6 FT DISH	40	2.626	0.2235	0.0664	23482
100.00	PD458	40	2.384	0.2105	0.0621	26144
97.00	6 FT DISH	40	2.244	0.2026	0.0597	26239
90.00	4 FT DISH	40	1.935	0.1841	0.0547	24812

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Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	320 - 300	30.157	24	0.8074	0.3437
T2	300 - 280	26.706	24	0.7872	0.2925
T3	280 - 260	23.406	24	0.7475	0.2520
T4	260 - 240	20.264	24	0.7116	0.2313
T5	240 - 220	17.281	24	0.6669	0.2105
T6	220 - 200	14.521	24	0.6139	0.1960
T7	200 - 180	11.996	24	0.5535	0.1830
T8	180 - 160	9.688	24	0.5011	0.1685
T9	160 - 140	7.593	24	0.4443	0.1516
T10	140 - 120	5.754	24	0.3829	0.1375
T11	120 - 100	4.173	24	0.3183	0.1229
T12	100 - 80	2.901	24	0.2557	0.0980
T13	80 - 60	1.870	24	0.1931	0.0767
T14	60 - 30	1.084	19	0.1405	0.0578
T15	30 - 0	0.341	19	0.0631	0.0288

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
320.00	6 FT DISH	24	30.157	0.8074	0.3437	102157
318.00	PD128	24	29.809	0.8059	0.3384	102157
315.00	8 FT DISH	24	29.287	0.8036	0.3306	102157
294.00	DB224	24	25.698	0.7765	0.2785	26984
292.00	PD320	24	25.366	0.7725	0.2741	27502
285.00	(2) DB809	24	24.215	0.7578	0.2602	29486
275.00	(2) OGT9	24	22.607	0.7382	0.2456	31828
257.00	PD440	24	19.805	0.7057	0.2283	30908
243.00	PD128	24	17.715	0.6742	0.2134	21370
227.00	PD320	24	15.459	0.6336	0.2004	20006
220.00	DB844	24	14.521	0.6139	0.1960	20090
200.00	PiROD 12' Lightweight T-Frame	24	11.996	0.5535	0.1830	22297
175.00	6 FT DISH	24	9.143	0.4876	0.1643	22165
140.00	PD688S-4	24	5.754	0.3829	0.1375	20232
138.00	PD156S	24	5.584	0.3765	0.1363	19684
115.00	6 FT DISH	24	3.828	0.3026	0.1173	15158
112.00	4 FT DISH	24	3.630	0.2932	0.1136	16217
105.00	6 FT DISH	24	3.193	0.2714	0.1045	19378
100.00	PD458	24	2.901	0.2557	0.0980	21764
97.00	6 FT DISH	24	2.731	0.2461	0.0944	21882
90.00	4 FT DISH	24	2.356	0.2236	0.0867	20682

Bolt Design Data

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Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load Allowable	Allowable Ratio	Criteria
T1	320	Leg	A325N	1.0000	6	3.71	34.56	0.107 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.6250	1	4.35	6.80	0.640 ✓	1.333	Member Bearing
T2	300	Leg	A325N	1.0000	8	6.20	34.56	0.179 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.6250	1	4.89	9.06	0.539 ✓	1.333	Member Bearing
T3	280	Leg	A325N	1.0000	8	9.71	34.56	0.281 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.7500	1	6.58	10.88	0.605 ✓	1.333	Member Bearing
T4	260	Leg	A325N	1.0000	8	13.62	34.56	0.394 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.7500	1	8.02	12.19	0.658 ✓	1.333	Member Bearing
T5	240	Leg	A325N	1.0000	8	17.75	34.56	0.514 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.7500	1	9.92	13.25	0.749 ✓	1.333	Bolt Shear
T6	220	Leg	A325N	1.0000	12	14.75	34.56	0.427 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.7500	1	13.69	13.25	1.033 ✓	1.333	Bolt Shear
T7	200	Leg	A325N	1.0000	12	18.20	34.56	0.527 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.8750	1	15.64	18.04	0.867 ✓	1.333	Bolt Shear
T8	180	Leg	A325N	1.0000	12	21.78	34.56	0.630 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.8750	1	17.40	18.04	0.964 ✓	1.333	Bolt Shear
T9	160	Leg	A325N	1.0000	12	25.44	34.56	0.736 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.8750	1	20.23	18.04	1.121 ✓	1.333	Bolt Shear
T10	140	Leg	A325N	1.0000	12	28.93	34.56	0.837 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.8750	1	20.76	18.04	1.151 ✓	1.333	Bolt Shear
T11	120	Leg	A325N	1.0000	12	29.37	34.55	0.850 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.7500	3	11.03	13.25	0.832 ✓	1.333	Bolt Shear
		Horizontal	A325X	0.7500	2	8.66	13.25	0.654 ✓	1.333	Bolt Shear
T12	100	Leg	A325N	1.0000	16	24.07	34.56	0.697 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.7500	3	11.67	13.25	0.880 ✓	1.333	Bolt Shear
		Horizontal	A325X	0.7500	2	9.87	13.25	0.745 ✓	1.333	Bolt Shear
T13	80	Leg	A325N	1.0000	16	26.32	34.56	0.762 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.7500	3	11.27	13.25	0.850 ✓	1.333	Bolt Shear
		Horizontal	A325X	0.7500	2	10.02	13.25	0.756 ✓	1.333	Bolt Shear
T14	60	Leg	A325N	1.0000	16	27.93	34.55	0.808 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.8750	3	16.43	18.04	0.911 ✓	1.333	Bolt Shear
		Horizontal	A325X	0.7500	2	11.50	13.25	0.867 ✓	1.333	Bolt Shear
T15	30	Leg	A325N	1.0000	24	20.92	34.56	0.605 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.8750	3	15.08	18.04	0.836 ✓	1.333	Bolt Shear
		Horizontal	A325X	0.7500	2	12.44	13.25	0.939 ✓	1.333	Bolt Shear

Compression Checks

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Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	320 - 300	ROHN 5 EH	20.00	4.00	26.1 K=1.00	27.622	6.1120	-26.22	168.82	0.155
T2	300 - 280	ROHN 6 EH	20.03	5.01	27.4 K=1.00	27.470	8.4049	-57.65	230.89	0.250
T3	280 - 260	ROHN 8 EH	20.04	6.68	27.9 K=1.00	27.414	12.7627	-90.51	349.88	0.259
T4	260 - 240	ROHN 8 EH	20.03	6.68	27.8 K=1.00	27.415	12.7627	-127.44	349.89	0.364
T5	240 - 220	ROHN 8 EH	20.03	6.68	27.8 K=1.00	27.415	12.7627	-167.42	349.89	0.478
T6	220 - 200	ROHN 8 EH	20.03	10.02	41.8 K=1.00	25.582	12.7627	-211.01	326.50	0.646
T7	200 - 180	ROHN 10 EH	20.04	10.02	33.1 K=1.00	26.757	16.1007	-262.38	430.80	0.609
T8	180 - 160	ROHN 10 EH	20.04	10.02	33.1 K=1.00	26.757	16.1007	-314.36	430.81	0.730
T9	160 - 140	ROHN 10 EH	20.03	10.02	33.1 K=1.00	26.758	16.1007	-367.82	430.82	0.854
T10	140 - 120	ROHN 10 EH	20.04	10.02	33.1 K=1.00	26.756	16.1007	-420.61	430.79	0.976
T11	120 - 100	ROHN 10 EH	20.06	10.03	33.2 K=1.00	26.753	16.1007	-430.44	430.74	0.999
T12	100 - 80	ROHN 10 EH	20.05	10.03	33.2 K=1.00	26.753	16.1007	-473.15	430.75	1.098
T13	80 - 60	ROHN 12 EH	20.06	10.03	27.8 K=1.00	27.425	19.2423	-518.76	527.71	0.983
T14	60 - 30	ROHN 12 EH	30.07	10.02	27.8 K=1.00	27.426	19.2423	-563.60	527.74	1.068
T15	30 - 0	ROHN 12 EHS	30.08	10.03	28.0 K=1.00	27.392	23.8074	-631.44	652.14	0.968

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	320 - 300	L1 3/4x1 3/4x3/16	7.90	3.51	122.8 K=1.00	9.884	0.6211	-4.39	6.14	0.715
T2	300 - 280	L2x2x1/4	9.94	4.63	142.2 K=1.00	7.383	0.9380	-4.91	6.93	0.709
T3	280 - 260	L2 1/2x2 1/2x1/4	12.59	5.92	144.6 K=1.00	7.137	1.1900	-6.61	8.49	0.778
T4	260 - 240	L3x3x1/4	14.38	6.81	138.0 K=1.00	7.837	1.4400	-8.08	11.29	0.716
T5	240 - 220	L4x4x5/16	16.19	7.72	117.8	10.756	2.4000	-9.92	25.82	0.384

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Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T6	220 - 200	L4x4x3/8	19.37	9.39	K=1.01 143.0 K=1.00	7.300	2.8600	-13.69	20.88	0.656 ✓
T7	200 - 180	L4x4x3/8	21.20	10.23	155.7 K=1.00	6.158	2.8600	-15.64	17.61	0.888 ✓
T8	180 - 160	L4x4x3/8	23.06	11.16	169.9 K=1.00	5.174	2.8600	-17.40	14.80	1.176 ✓
T9	160 - 140	L5x5x3/8	24.84	12.02	145.7 K=1.00	7.031	3.6100	-20.23	25.38	0.797 ✓
T10	140 - 120	L5x5x3/8	26.78	13.04	158.0 K=1.00	5.981	3.6100	-20.76	21.59	0.962 ✓
T11	120 - 100	ROHN 3 EH	24.42	12.21	122.5 K=0.95	9.956	3.0159	-33.08	30.03	1.102 ✓
T12	100 - 80	ROHN 3 EH	25.15	12.58	126.2 K=0.95	9.381	3.0159	-35.00	28.29	1.237 ✓
T13	80 - 60	ROHN 3 EH	25.98	12.99	130.3 K=0.95	8.790	3.0159	-33.80	26.51	1.275 ✓
T14	60 - 30	ROHN 3.5 EH	35.21	11.74	107.8 K=1.00	12.854	3.6784	-49.28	47.28	1.042 ✓
T15	30 - 0	ROHN 3.5 EH	36.27	12.09	111.0 K=1.00	12.116	3.6784	-45.25	44.57	1.015 ✓

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T11	120 - 100	ROHN 3 STD	25.39	12.25	126.3 K=1.00	9.361	2.2285	-17.33	20.86	0.831 ✓
T12	100 - 80	ROHN 3 STD	27.97	13.54	139.6 K=1.00	7.662	2.2285	-19.74	17.07	1.156 ✓
T13	80 - 60	ROHN 3 EH	30.47	14.79	156.2 K=1.00	6.124	3.0159	-20.03	18.47	1.085 ✓
T14	60 - 30	ROHN 3.5 EH	33.14	16.04	147.3 K=1.00	6.883	3.6784	-22.87	25.32	0.903 ✓
T15	30 - 0	ROHN 4 STD	36.80	17.87	142.0 K=1.00	7.401	3.1741	-24.88	23.49	1.059 ✓

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	320 - 300	L1 3/4x1 3/4x3/16	6.81	6.35	182.6 K=0.82	4.480	0.6211	-0.60	2.78	0.217 ✓
T2	300 - 280	L2x2x1/4	6.81	6.35	166.0 K=0.85	5.420	0.9380	-0.16	5.08	0.031 ✓

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Section No.	Elevation	Size	L	L _u	Kl/r	F _a	A	Actual P	Allow. P _a	Ratio P
	ft		ft	ft		ksi	in ²	K	K	P _a

Redundant Horizontal (1) Design Data (Compression)

Section No.	Elevation	Size	L	L _u	Kl/r	F _a	A	Actual P	Allow. P _a	Ratio P
	ft		ft	ft		ksi	in ²	K	K	P _a
T11	120 - 100	ROHN 1.5 STD	6.35	5.90	113.7 K=1.00	11.550	0.7995	-6.48	9.23	0.701
T12	100 - 80	ROHN 1.5 STD	6.99	6.54	126.1 K=1.00	9.385	0.7995	-7.12	7.50	0.949
T13	80 - 60	ROHN 2 STD	7.62	7.09	108.0 K=1.00	12.795	1.0745	-7.80	13.75	0.567
T14	60 - 30	ROHN 1.5 STD	5.52	4.99	96.2 K=1.00	15.570	0.7995	-8.68	12.45	0.698
T15	30 - 0	ROHN 1.5 STD	6.13	5.60	108.0 K=1.00	12.809	0.7995	-9.53	10.24	0.931

Redundant Horizontal (2) Design Data (Compression)

Section No.	Elevation	Size	L	L _u	Kl/r	F _a	A	Actual P	Allow. P _a	Ratio P
	ft		ft	ft		ksi	in ²	K	K	P _a
T14	60 - 30	ROHN 2 EH	11.05	10.52	164.2 K=1.00	5.535	1.4807	-8.56	8.20	1.045
T15	30 - 0	ROHN 2.5 EH	12.27	11.74	152.4 K=1.00	6.430	2.2535	-9.73	14.49	0.671

Redundant Diagonal (1) Design Data (Compression)

Section No.	Elevation	Size	L	L _u	Kl/r	F _a	A	Actual P	Allow. P _a	Ratio P
	ft		ft	ft		ksi	in ²	K	K	P _a
T11	120 - 100	ROHN 2 STD	11.52	10.61	161.8 K=1.00	5.702	1.0745	-5.88	6.13	0.959
T12	100 - 80	ROHN 2 STD	11.86	11.03	168.1 K=1.00	5.283	1.0745	-6.04	5.68	1.063
T13	80 - 60	ROHN 2 STD	12.18	11.40	173.8 K=1.00	4.944	1.0745	-6.25	5.31	1.176
T14	60 - 30	ROHN 2 STD	11.15	9.95	151.6 K=1.00	6.496	1.0745	-8.57	6.98	1.228
T15	30 - 0	ROHN 2.5 STD	11.41	10.31	130.6 K=1.00	8.759	1.7040	-8.90	14.93	0.596

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Redundant Diagonal (2) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T14	60 - 30	ROHN 2.5 STD	14.46	13.72	173.8 K=1.00	4.943	1.7040	-5.56	8.42	0.660 ✓
T15	30 - 0	ROHN 2.5 STD	15.33	14.63	185.3 K=1.00	4.347	1.7040	-5.96	7.41	0.804 ✓

Redundant Hip (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T11	120 - 100	ROHN 1.5 STD	6.35	6.35	122.3 K=1.00	9.977	0.7995	-0.04	7.98	0.005 ✓
T12	100 - 80	ROHN 1.5 STD	6.99	6.99	134.8 K=1.00	8.221	0.7995	-0.04	6.57	0.006 ✓
T13	80 - 60	ROHN 1.5 STD	7.62	7.62	146.8 K=1.00	6.928	0.7995	-0.03	5.54	0.006 ✓
T14	60 - 30	ROHN 1.5 STD	5.52	5.52	106.5 K=1.00	13.175	0.7995	-0.10	10.53	0.010 ✓
T15	30 - 0	ROHN 1.5 STD	6.13	6.13	118.2 K=1.00	10.686	0.7995	-0.09	8.54	0.011 ✓

Redundant Hip (2) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T14	60 - 30	ROHN 2 STD	11.05	11.05	168.4 K=1.00	5.265	1.0745	-0.05	5.66	0.009 ✓
T15	30 - 0	ROHN 2 STD	12.27	12.27	187.0 K=1.00	4.270	1.0745	-0.05	4.59	0.010 ✓

Redundant Hip Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T11	120 - 100	ROHN 2.5 STD	15.15	15.15	191.9 K=1.00	4.054	1.7040	-0.09	6.91	0.013 ✓
T12	100 - 80	ROHN 2.5 STD	16.00	16.00	202.6 K=1.00	3.637	1.7040	-0.09	6.20	0.014 ✓
T13	80 - 60	ROHN 3 STD	16.88	16.88	174.1	4.929	2.2285	-0.09	10.98	0.008

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T14	60 - 30	ROHN 2 STD	14.10	14.10	K=1.00 214.9	3.233	1.0745	-0.21	3.47	0.059 ✓
T15	30 - 0	ROHN 2.5 STD	14.88	14.88	K=1.00 188.4 K=1.00	4.205	1.7040	-0.19	7.17	0.026 ✓ ✓ ✓

Inner Bracing Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T11	120 - 100	ROHN 3 STD	12.69	12.69	130.9 K=1.00	8.712	2.2285	-0.31	19.41	0.016 ✓
T12	100 - 80	ROHN 3 STD	13.99	13.99	144.2 K=1.00	7.179	2.2285	-0.35	16.00	0.022 ✓
T13	80 - 60	ROHN 3 STD	15.24	15.24	157.1 K=1.00	6.049	2.2285	-0.36	13.48	0.027 ✓
T14	60 - 30	ROHN 3 STD	16.57	16.57	170.9 K=1.00	5.114	2.2285	-0.41	11.40	0.036 ✓
T15	30 - 0	ROHN 3 STD	18.40	18.40	189.8 K=1.00	4.147	2.2285	-0.44	9.24	0.048 ✓ ✓

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	320 - 300	ROHN 5 EH	20.00	4.00	26.1	30.000	6.1120	22.23	183.36	0.121 ✓
T2	300 - 280	ROHN 6 EH	20.03	5.01	27.4	30.000	8.4049	49.57	252.15	0.197 ✓
T3	280 - 260	ROHN 8 EH	20.04	6.68	27.9	30.000	12.7627	77.68	382.88	0.203 ✓
T4	260 - 240	ROHN 8 EH	20.03	6.68	27.8	30.000	12.7627	108.92	382.88	0.284 ✓
T5	240 - 220	ROHN 8 EH	20.03	6.68	27.8	30.000	12.7627	142.01	382.88	0.371 ✓
T6	220 - 200	ROHN 8 EH	20.03	10.02	41.8	30.000	12.7627	177.02	382.88	0.462 ✓
T7	200 - 180	ROHN 10 EH	20.04	10.02	33.1	30.000	16.1007	218.42	483.02	0.452 ✓
T8	180 - 160	ROHN 10 EH	20.04	10.02	33.1	30.000	16.1007	261.36	483.02	0.541 ✓ ✓

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Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T9	160 - 140	ROHN 10 EH	20.03	10.02	33.1	30.000	16.1007	305.23	483.02	0.632
T10	140 - 120	ROHN 10 EH	20.04	10.02	33.1	30.000	16.1007	347.16	483.02	0.719
T11	120 - 100	ROHN 10 EH	20.06	10.03	33.2	30.000	16.1007	353.38	483.02	0.732
T12	100 - 80	ROHN 10 EH	20.05	10.03	33.2	30.000	16.1007	386.21	483.02	0.800
T13	80 - 60	ROHN 12 EH	20.06	10.03	27.8	30.000	19.2423	421.92	577.27	0.731
T14	60 - 30	ROHN 12 EH	30.07	10.02	27.8	30.000	19.2423	456.04	577.27	0.790
T15	30 - 0	ROHN 12 EHS	30.08	10.03	28.0	30.000	23.8074	507.99	714.22	0.711

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	320 - 300	L1 3/4x1 3/4x3/16	7.90	3.51	82.2	29.000	0.3604	4.35	10.45	0.416
T2	300 - 280	L2x2x1/4	9.94	4.63	94.6	29.000	0.5629	4.89	16.32	0.299
T3	280 - 260	L2 1/2x2 1/2x1/4	12.59	5.92	95.0	29.000	0.7284	6.58	21.12	0.312
T4	260 - 240	L3x3x1/4	14.38	6.81	90.0	32.500	0.9159	8.02	29.77	0.269
T5	240 - 220	L4x4x5/16	16.19	7.72	76.3	32.500	1.5949	9.92	51.84	0.191
T6	220 - 200	L4x4x3/8	19.37	9.39	93.3	32.500	1.8989	13.61	61.71	0.221
T7	200 - 180	L4x4x3/8	21.20	10.23	101.4	32.500	1.8637	15.59	60.57	0.257
T8	180 - 160	L4x4x3/8	23.06	11.16	110.5	32.500	1.8637	17.24	60.57	0.285
T9	160 - 140	L5x5x3/8	24.84	12.02	93.8	32.500	2.4262	19.56	78.85	0.248
T10	140 - 120	L5x5x3/8	26.78	13.04	101.6	32.500	2.4262	20.23	78.85	0.257
T11	120 - 100	ROHN 3 EH	24.42	12.21	128.9	30.000	3.0159	30.71	90.48	0.339
T12	100 - 80	ROHN 3 EH	25.15	12.58	132.8	30.000	3.0159	32.43	90.48	0.358
T13	80 - 60	ROHN 3 EH	25.98	12.99	137.2	30.000	3.0159	30.56	90.48	0.338
T14	60 - 30	ROHN 3.5 EH	35.21	11.74	107.8	30.000	3.6784	45.16	110.35	0.409
T15	30 - 0	ROHN 3.5 EH	36.27	12.09	111.0	30.000	3.6784	42.76	110.35	0.387

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Section No.	Elevation	Size	L	L _u	KI/r	F _a	A	Actual P	Allow. P _a	Ratio P
	ft		ft	ft		ksi	in ²	K	K	P _a

Horizontal Design Data (Tension)

Section No.	Elevation	Size	L	L _u	KI/r	F _a	A	Actual P	Allow. P _a	Ratio P
	ft		ft	ft		ksi	in ²	K	K	P _a
T11	120 - 100	ROHN 3 STD	25.39	12.25	126.3	30.000	2.2285	17.23	66.85	0.258
T12	100 - 80	ROHN 3 STD	27.97	13.54	139.6	30.000	2.2285	19.21	66.85	✓ 0.287
T13	80 - 60	ROHN 3 EH	30.47	14.79	156.2	30.000	3.0159	19.32	90.48	✓ 0.214
T14	60 - 30	ROHN 3.5 EH	33.14	16.04	147.3	30.000	3.6784	22.99	110.35	✓ 0.208
T15	30 - 0	ROHN 4 STD	36.80	17.87	142.0	30.000	3.1741	23.14	95.22	✓ 0.243

Top Girt Design Data (Tension)

Section No.	Elevation	Size	L	L _u	KI/r	F _a	A	Actual P	Allow. P _a	Ratio P
	ft		ft	ft		ksi	in ²	K	K	P _a
T1	320 - 300	L1 3/4x1 3/4x3/16	6.81	6.35	141.8	21.600	0.6211	0.58	13.42	0.044
T2	300 - 280	L2x2x1/4	6.81	6.35	125.1	21.600	0.9380	0.14	20.26	✓ 0.007

Redundant Horizontal (1) Design Data (Tension)

Section No.	Elevation	Size	L	L _u	KI/r	F _a	A	Actual P	Allow. P _a	Ratio P
	ft		ft	ft		ksi	in ²	K	K	P _a
T11	120 - 100	ROHN 1.5 STD	6.35	5.90	113.7	30.000	0.7995	6.48	23.98	0.270
T12	100 - 80	ROHN 1.5 STD	6.99	6.54	126.1	30.000	0.7995	7.12	23.98	✓ 0.297
T13	80 - 60	ROHN 2 STD	7.62	7.09	108.0	30.000	1.0745	7.82	32.24	✓ 0.243
T14	60 - 30	ROHN 1.5 STD	5.52	4.99	96.2	30.000	0.7995	8.50	23.98	✓ 0.354
T15	30 - 0	ROHN 1.5 STD	6.13	5.60	108.0	30.000	0.7995	9.57	23.98	✓ 0.399

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Redundant Horizontal (2) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T14	60 - 30	ROHN 2 EH	11.05	10.52	164.2	30.000	1.4807	8.50	44.42	0.191
T15	30 - 0	ROHN 2.5 EH	12.27	11.74	152.4	30.000	2.2535	9.53	67.61	0.141

Redundant Diagonal (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T11	120 - 100	ROHN 2 STD	11.52	10.61	161.8	30.000	1.0745	5.88	32.24	0.182
T12	100 - 80	ROHN 2 STD	11.86	11.03	168.1	30.000	1.0745	6.04	32.24	0.187
T13	80 - 60	ROHN 2 STD	12.18	11.40	173.8	30.000	1.0745	6.24	32.24	0.194
T14	60 - 30	ROHN 2 STD	11.15	9.95	151.6	30.000	1.0745	8.76	32.24	0.272
T15	30 - 0	ROHN 2.5 STD	11.41	10.31	130.6	30.000	1.7040	8.86	51.12	0.173

Redundant Diagonal (2) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T14	60 - 30	ROHN 2.5 STD	14.46	13.72	173.8	30.000	1.7040	5.62	51.12	0.110
T15	30 - 0	ROHN 2.5 STD	15.33	14.63	185.3	30.000	1.7040	6.12	51.12	0.120

Redundant Hip (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T11	120 - 100	ROHN 1.5 STD	6.35	6.35	122.3	30.000	0.7995	0.02	23.98	0.001
T12	100 - 80	ROHN 1.5 STD	6.99	6.99	134.8	30.000	0.7995	0.02	23.98	0.001
T13	80 - 60	ROHN 1.5 STD	7.62	7.62	146.8	30.000	0.7995	0.01	23.98	0.000

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T14	60 - 30	ROHN 1.5 STD	5.52	5.52	106.5	30.000	0.7995	0.09	23.98	0.004 ✓
T15	30 - 0	ROHN 1.5 STD	6.13	6.13	118.2	30.000	0.7995	0.08	23.98	0.003 ✓

Redundant Hip (2) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T14	60 - 30	ROHN 2 STD	11.05	11.05	168.4	30.000	1.0745	0.03	32.24	0.001 ✓
T15	30 - 0	ROHN 2 STD	12.27	12.27	187.0	30.000	1.0745	0.01	32.24	0.000 ✓

Redundant Hip Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T11	120 - 100	ROHN 2.5 STD	15.15	15.15	191.9	30.000	1.7040	0.09	51.12	0.002 ✓
T12	100 - 80	ROHN 2.5 STD	16.00	16.00	202.6	30.000	1.7040	0.08	51.12	0.002 ✓
T13	80 - 60	ROHN 3 STD	16.88	16.88	174.1	30.000	2.2285	0.08	66.85	0.001 ✓
T14	60 - 30	ROHN 2 STD	14.10	14.10	214.9	30.000	1.0745	0.20	32.24	0.006 ✓
T15	30 - 0	ROHN 2.5 STD	14.88	14.88	188.4	30.000	1.7040	0.17	51.12	0.003 ✓

Inner Bracing Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T11	120 - 100	ROHN 3 STD	12.69	12.69	130.9	30.000	2.2285	0.30	66.85	0.004 ✓
T12	100 - 80	ROHN 3 STD	13.99	13.99	144.2	30.000	2.2285	0.34	66.85	0.005 ✓
T13	80 - 60	ROHN 3 STD	15.24	15.24	157.1	30.000	2.2285	0.35	66.85	0.005 ✓
T14	60 - 30	ROHN 3 STD	16.57	16.57	170.9	30.000	2.2285	0.39	66.85	0.006 ✓

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T15	30 - 0	ROHN 3 STD	18.40	18.40	189.8	30.000	2.2285	0.44	66.85	0.007

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P _{allow} K	% Capacity	Pass Fail
T1	320 - 300	Leg	ROHN 5 EH	2	-26.22	225.04	11.7	Pass
T2	300 - 280	Leg	ROHN 6 EH	38	-57.65	307.77	18.7	Pass
T3	280 - 260	Leg	ROHN 8 EH	68	-90.51	466.39	19.4	Pass
T4	260 - 240	Leg	ROHN 8 EH	89	-127.44	466.41	21.1 (b) 27.3	Pass
T5	240 - 220	Leg	ROHN 8 EH	110	-167.42	466.41	29.6 (b) 35.9	Pass
T6	220 - 200	Leg	ROHN 8 EH	131	-211.01	435.22	38.5 (b) 48.5	Pass
T7	200 - 180	Leg	ROHN 10 EH	146	-262.38	574.26	45.7	Pass
T8	180 - 160	Leg	ROHN 10 EH	161	-314.36	574.26	54.7	Pass
T9	160 - 140	Leg	ROHN 10 EH	176	-367.82	574.29	64.0	Pass
T10	140 - 120	Leg	ROHN 10 EH	191	-420.61	574.25	73.2	Pass
T11	120 - 100	Leg	ROHN 10 EH	206	-430.44	574.17	75.0	Pass
T12	100 - 80	Leg	ROHN 10 EH	239	-473.15	574.19	82.4	Pass
T13	80 - 60	Leg	ROHN 12 EH	272	-518.76	703.44	73.7	Pass
T14	60 - 30	Leg	ROHN 12 EH	305	-563.60	703.48	80.1	Pass
T15	30 - 0	Leg	ROHN 12 EHS	356	-631.44	869.31	72.6	Pass
T1	320 - 300	Diagonal	L1 3/4x1 3/4x3/16	7	-4.39	8.18	53.7	Pass
T2	300 - 280	Diagonal	L2x2x1/4	46	-4.91	9.23	53.2	Pass
T3	280 - 260	Diagonal	L2 1/2x2 1/2x1/4	73	-6.61	11.32	58.4	Pass
T4	260 - 240	Diagonal	L3x3x1/4	94	-8.08	15.04	53.7	Pass
T5	240 - 220	Diagonal	L4x4x5/16	115	-9.92	34.41	28.8	Pass
T6	220 - 200	Diagonal	L4x4x3/8	136	-13.69	27.83	56.2 (b) 49.2	Pass
T7	200 - 180	Diagonal	L4x4x3/8	151	-15.64	23.48	77.5 (b) 66.6	Pass
T8	180 - 160	Diagonal	L4x4x3/8	163	-17.40	19.72	88.2	Pass
T9	160 - 140	Diagonal	L5x5x3/8	178	-20.23	33.84	59.8	Pass
T10	140 - 120	Diagonal	L5x5x3/8	193	-20.76	28.78	84.1 (b) 72.1	Pass
T11	120 - 100	Diagonal	ROHN 3 EH	209	-33.08	40.02	86.3 (b) 82.6	Pass
T12	100 - 80	Diagonal	ROHN 3 EH	242	-35.00	37.72	92.8	Pass
T13	80 - 60	Diagonal	ROHN 3 EH	275	-33.80	35.34	95.6	Pass
T14	60 - 30	Diagonal	ROHN 3.5 EH	308	-49.28	63.03	78.2	Pass
T15	30 - 0	Diagonal	ROHN 3.5 EH	359	-45.25	59.41	76.2	Pass
T11	120 - 100	Horizontal	ROHN 3 STD	208	-17.33	27.81	62.3	Pass
T12	100 - 80	Horizontal	ROHN 3 STD	241	-19.74	22.76	86.7	Pass
T13	80 - 60	Horizontal	ROHN 3 EH	274	-20.03	24.62	81.4	Pass
T14	60 - 30	Horizontal	ROHN 3.5 EH	307	-22.87	33.75	67.8	Pass
T15	30 - 0	Horizontal	ROHN 4 STD	358	-24.88	31.31	79.5	Pass
T1	320 - 300	Top Girt	L1 3/4x1 3/4x3/16	5	-0.60	3.71	16.3	Pass
T2	300 - 280	Top Girt	L2x2x1/4	40	-0.16	6.78	2.3	Pass
T11	120 - 100	Redund Horiz 1 Bracing	ROHN 1.5 STD	213	-6.48	12.31	52.6	Pass
T12	100 - 80	Redund Horiz 1 Bracing	ROHN 1.5 STD	250	-7.12	10.00	71.2	Pass

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Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P _{allow} K	% Capacity	Pass Fail
						Redund Horz 1 Bracing (T12)	71.2	Pass
						Redund Horz 2 Bracing (T14)	78.4	Pass
						Redund Diag 1 Bracing (T14)	92.1	Pass
						Redund Diag 2 Bracing (T15)	60.3	Pass
						Redund Hip 1 Bracing (T15)	0.8	Pass
						Redund Hip 2 Bracing (T15)	0.7	Pass
						Redund Hip Diagonal Bracing (T14)	4.5	Pass
						Inner Bracing (T15)	3.6	Pass
						Bolt Checks	86.3	Pass
						RATING =	95.6	Pass

ERI TOWER DETAILED OUTPUT FOR DEFLECTION

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Tower Input Data

The main tower is a 3x free standing tower with an overall height of 320.00 ft above the ground line.

The base of the tower is set at an elevation of 0.00 ft above the ground line.

The face width of the tower is 6.81 ft at the top and 40.69 ft at the base.

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

The following design criteria apply:

Basic wind speed of 78 mph.

Nominal ice thickness of 0.5000 in.

Ice density of 56 pcf.

A wind speed of 78 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 78 mph.

Pressures are calculated at each section.

Stress ratio used in tower member design is 1.333.

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

Options

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

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Tower Section Geometry

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

Tower Section Geometry (cont'd)

<i>Tower Section</i>	<i>Tower Elevation</i>	<i>Diagonal Spacing</i>	<i>Bracing Type</i>	<i>Has K Brace End Panels</i>	<i>Has Horizontal</i>	<i>Top Girt Offset</i>	<i>Bottom Girt Offset</i>
	<i>ft</i>	<i>ft</i>				<i>in</i>	<i>in</i>

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

Tower Section Geometry (cont'd)

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

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Tower Section Geometry (cont'd)

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 320.00-300.00	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T2 300.00-280.00	Equal Angle	L2x2x1/4	A36 (36 ksi)	Solid Round		A36 (36 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T11 120.00-100.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T12 100.00-80.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T13 80.00-60.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 3 EH	A572-50 (50 ksi)
T14 60.00-30.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 3.5 EH	A572-50 (50 ksi)
T15 30.00-0.00	None	Flat Bar		A36 (36 ksi)	Pipe	ROHN 4 STD	A572-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T11 120.00-100.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T12 100.00-80.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T13 80.00-60.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T14 60.00-30.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T15 30.00-0.00	Pipe		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)

Tower Section Geometry (cont'd)

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<i>Tower Elevation</i>	<i>Redundant Bracing Grade</i>		<i>Redundant Type</i>	<i>Redundant Size</i>	<i>K Factor</i>
<i>ft</i>					
T11 120.00- 100.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Diagonal (1)	Pipe	ROHN 2 STD	1
		Hip (1)	Pipe	ROHN 1.5 STD	1
		Hip Diagonal		ROHN 2.5 STD	1
T12 100.00- 80.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Diagonal (1)	Pipe	ROHN 2 STD	1
		Hip (1)	Pipe	ROHN 1.5 STD	1
		Hip Diagonal		ROHN 2.5 STD	1
T13 80.00- 60.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 2 STD	1
		Diagonal (1)	Pipe	ROHN 2 STD	1
		Hip (1)	Pipe	ROHN 1.5 STD	1
		Hip Diagonal		ROHN 3 STD	1
T14 60.00- 30.00	A572-50 (50 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Horizontal (2)		ROHN 2 EH	
		Diagonal (1)	Pipe	ROHN 2 STD	1
		Diagonal (2)		ROHN 2.5 STD	
		Hip (1)	Pipe	ROHN 1.5 STD	1
		Hip (2)		ROHN 2 STD	
T15 30.00- 0.00	A572-50 (50 ksi)	Hip Diagonal		ROHN 2 STD	1
		Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Horizontal (2)		ROHN 2.5 EH	
		Diagonal (1)	Pipe	ROHN 2.5 STD	1
		Diagonal (2)		ROHN 2.5 STD	
		Hip (1)	Pipe	ROHN 1.5 STD	1
		Hip (2)		ROHN 2 STD	
		Hip Diagonal		ROHN 2.5 STD	1

Tower Section Geometry (cont'd)

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

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Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
ft	ft ²	in						
80.00			(36 ksi)					
T13 80.00-60.00	0.00	0.0000	A36	1	1	1	36.0000	36.0000
T14 60.00-30.00	0.00	0.0000	(36 ksi)	1	1	1	36.0000	36.0000
T15 30.00-0.00	0.00	0.0000	A36	1	1	1	36.0000	36.0000
			(36 ksi)					

Tower Section Geometry (cont'd)

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	Legs	K Factors ¹						
				X Brace Diags	K Brace Diags	Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace
				X Y	X Y	X Y	X Y	X Y	X Y	X Y
T1 320.00-300.00	Yes	No	1	1	1	1	1	1	1	1
T2 300.00-280.00	Yes	No	1	1	1	1	1	1	1	1
T3 280.00-260.00	Yes	No	1	1	1	1	1	1	1	1
T4 260.00-240.00	Yes	No	1	1	1	1	1	1	1	1
T5 240.00-220.00	Yes	No	1	1	1	1	1	1	1	1
T6 220.00-200.00	Yes	No	1	1	1	1	1	1	1	1
T7 200.00-180.00	Yes	No	1	1	1	1	1	1	1	1
T8 180.00-160.00	Yes	No	1	1	1	1	1	1	1	1
T9 160.00-140.00	Yes	No	1	1	1	1	1	1	1	1
T10 140.00-120.00	Yes	No	1	1	1	1	1	1	1	1
T11 120.00-100.00	No	No	1	1	0.95	1	1	1	1	1
T12 100.00-80.00	No	No	1	1	0.95	1	1	1	1	1
T13 80.00-60.00	No	No	1	1	0.95	1	1	1	1	1
T14 60.00-30.00	No	No	1	1	0.95	1	1	1	1	1
T15 30.00-0.00	No	No	1	1	1	1	1	1	1	1

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

Tower Section Geometry (cont'd)

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Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 320.00-300.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 300.00-280.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 280.00-260.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 260.00-240.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 240.00-220.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 220.00-200.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 200.00-180.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 180.00-160.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 160.00-140.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 140.00-120.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 120.00-100.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T12 100.00-80.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T13 80.00-60.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T14 60.00-30.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T15 30.00-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 320.00-300.00	Flange	1.0000	6	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T2 300.00-280.00	Flange	1.0000	8	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T3 280.00-260.00	Flange	1.0000	8	0.7500	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T4 260.00-240.00	Flange	1.0000	8	0.7500	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T5 240.00-220.00	Flange	1.0000	8	0.7500	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T6 220.00-200.00	Flange	1.0000	12	0.7500	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T7 200.00-180.00	Flange	1.0000	12	0.8750	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	

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Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T8 180.00-160.00	Flange	1.0000 A325N	12	0.8750 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T9 160.00-140.00	Flange	1.0000 A325N	12	0.8750 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T10 140.00-120.00	Flange	1.0000 A325N	12	0.8750 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T11 120.00-100.00	Flange	1.0000 A325N	12	0.7500 A325X	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325X	2	0.6250 A325N	0
T12 100.00-80.00	Flange	1.0000 A325N	16	0.7500 A325X	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325X	2	0.6250 A325N	0
T13 80.00-60.00	Flange	1.0000 A325N	16	0.7500 A325X	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325X	2	0.6250 A325N	0
T14 60.00-30.00	Flange	1.0000 A325N	16	0.8750 A325X	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325X	2	0.6250 A325N	0
T15 30.00-0.00	Flange	1.0000 A325N	24	0.8750 A325X	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325X	2	0.6250 A325N	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
1 5/8 (Verizon)	C	Yes	Ar (CfAe)	220.00 - 0.00	0.0000	-0.4	12	12	1.9800	1.9800		1.04
3/4 Electrical	B	Yes	Ar (CfAe)	320.00 - 0.00	0.0000	0.48	2	2	1.1100	1.1100		0.54
7/8	B	Yes	Ar (CfAe)	320.00 - 0.00	0.0000	0.46	3	3	1.1100	1.1100		0.54
EW63	B	Yes	Ar (CfAe)	320.00 - 0.00	0.0000	0.44	3	3	1.5742	1.5742	5.0668	0.51
7/8	B	Yes	Ar (CfAe)	294.00 - 0.00	0.0000	0.42	2	2	1.1100	1.1100		0.54
1 5/8	B	Yes	Ar (CfAe)	280.00 - 0.00	0.0000	0.4	4	4	1.9800	1.9800		1.04
7/8	B	Yes	Ar (CfAe)	250.00 - 0.00	0.0000	0.38	3	3	1.1100	1.1100		0.54
7/8	B	Yes	Ar (CfAe)	140.00 - 0.00	0.0000	0.36	4	4	1.1100	1.1100		0.54
EW108	B	Yes	Ar (CfAe)	112.00 - 0.00	0.0000	0.34	1	1	0.5899	0.5899	2.0063	0.15
EW65	B	Yes	Ar (CfAe)	105.00 - 0.00	0.0000	0.32	1	1	1.5742	1.5742	5.0668	0.51
7/8	B	Yes	Ar (CfAe)	105.00 - 0.00	0.0000	0.3	2	2	1.1100	1.1100		0.54
7/8	B	Yes	Ar (CfAe)	95.00 - 0.00	0.0000	0.28	2	2	1.1100	1.1100		0.54
EW63 (Verizon)	C	Yes	Ar (CfAe)	175.00 - 0.00	0.0000	-0.45	1	1	1.5742	1.5742	5.0668	0.51
EW63 (Verizon)	C	Yes	Ar (CfAe)	115.00 - 0.00	0.0000	-0.47	1	1	1.5742	1.5742	5.0668	0.51
1 5/8 (Cingular)	A	Yes	Ar (CfAe)	200.00 - 0.00	0.0000	-0.42	24	12	1.9800	1.9800		1.04

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
T1	320.00-300.00	A	0.000	0.000	0.000	0.000	0.00
		B	9.250	7.871	0.000	0.000	0.08
		C	0.000	0.000	0.000	0.000	0.00

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<i>Tower Section</i>	<i>Tower Elevation ft</i>	<i>Face</i>	<i>A_R</i> <i>ft²</i>	<i>A_F</i> <i>ft²</i>	<i>C_{AA}</i> <i>In Face ft²</i>	<i>C_{AA}</i> <i>Out Face ft²</i>	<i>Weight K</i>
T2	300.00-280.00	A	0.000	0.000	0.000	0.000	0.00
		B	11.840	7.871	0.000	0.000	0.10
		C	0.000	0.000	0.000	0.000	0.00
T3	280.00-260.00	A	0.000	0.000	0.000	0.000	0.00
		B	26.150	7.871	0.000	0.000	0.19
		C	0.000	0.000	0.000	0.000	0.00
T4	260.00-240.00	A	0.000	0.000	0.000	0.000	0.00
		B	28.925	7.871	0.000	0.000	0.21
		C	0.000	0.000	0.000	0.000	0.00
T5	240.00-220.00	A	0.000	0.000	0.000	0.000	0.00
		B	31.700	7.871	0.000	0.000	0.22
		C	0.000	0.000	0.000	0.000	0.00
T6	220.00-200.00	A	0.000	0.000	0.000	0.000	0.00
		B	31.700	7.871	0.000	0.000	0.22
		C	39.600	0.000	0.000	0.000	0.25
T7	200.00-180.00	A	39.600	0.000	0.000	0.000	0.50
		B	31.700	7.871	0.000	0.000	0.22
		C	39.600	0.000	0.000	0.000	0.25
T8	180.00-160.00	A	39.600	0.000	0.000	0.000	0.50
		B	31.700	7.871	0.000	0.000	0.22
		C	39.600	1.968	0.000	0.000	0.26
T9	160.00-140.00	A	39.600	0.000	0.000	0.000	0.50
		B	31.700	7.871	0.000	0.000	0.22
		C	39.600	2.624	0.000	0.000	0.26
T10	140.00-120.00	A	39.600	0.000	0.000	0.000	0.50
		B	39.100	7.871	0.000	0.000	0.27
		C	39.600	2.624	0.000	0.000	0.26
T11	120.00-100.00	A	39.600	0.000	0.000	0.000	0.50
		B	40.025	9.117	0.000	0.000	0.27
		C	39.600	4.591	0.000	0.000	0.27
T12	100.00-80.00	A	39.600	0.000	0.000	0.000	0.50
		B	45.575	11.478	0.000	0.000	0.32
		C	39.600	5.247	0.000	0.000	0.27
T13	80.00-60.00	A	39.600	0.000	0.000	0.000	0.50
		B	46.500	11.478	0.000	0.000	0.32
		C	39.600	5.247	0.000	0.000	0.27
T14	60.00-30.00	A	59.400	0.000	0.000	0.000	0.75
		B	69.750	17.217	0.000	0.000	0.48
		C	59.400	7.871	0.000	0.000	0.41
T15	30.00-0.00	A	59.400	0.000	0.000	0.000	0.75
		B	69.750	17.217	0.000	0.000	0.48
		C	59.400	7.871	0.000	0.000	0.41

Feed Line/Linear Appurtenances Section Areas - With Ice

<i>Tower Section</i>	<i>Tower Elevation ft</i>	<i>Face or Leg</i>	<i>Ice Thickness in</i>	<i>A_R</i> <i>ft²</i>	<i>A_F</i> <i>ft²</i>	<i>C_{AA}</i> <i>In Face ft²</i>	<i>C_{AA}</i> <i>Out Face ft²</i>	<i>Weight K</i>
T1	320.00-300.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		17.583	11.204	0.000	0.000	0.26
		C		0.000	0.000	0.000	0.000	0.00
T2	300.00-280.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		22.507	11.204	0.000	0.000	0.31
		C		0.000	0.000	0.000	0.000	0.00
T3	280.00-260.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		44.483	11.204	0.000	0.000	0.53
		C		0.000	0.000	0.000	0.000	0.00
T4	260.00-240.00	A	0.500	0.000	0.000	0.000	0.000	0.00

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Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_{AA} In Face ft^2	C_{AA} Out Face ft^2	Weight K
T5	240.00-220.00	B	0.500	49.758	11.204	0.000	0.000	0.58
		C		0.000	0.000	0.000	0.000	0.00
		A		0.000	0.000	0.000	0.000	0.00
T6	220.00-200.00	B	0.500	55.033	11.204	0.000	0.000	0.62
		C		0.000	0.000	0.000	0.000	0.00
		A		0.000	0.000	0.000	0.000	0.00
T7	200.00-180.00	B	0.500	55.033	11.204	0.000	0.000	0.62
		C		59.600	0.000	0.000	0.000	0.61
		A		59.600	0.000	0.000	0.000	1.23
T8	180.00-160.00	B	0.500	55.033	11.204	0.000	0.000	0.62
		C		59.600	0.000	0.000	0.000	0.61
		A		59.600	0.000	0.000	0.000	1.23
T9	160.00-140.00	B	0.500	55.033	11.204	0.000	0.000	0.62
		C		59.600	2.801	0.000	0.000	0.64
		A		59.600	0.000	0.000	0.000	1.23
T10	140.00-120.00	B	0.500	55.033	11.204	0.000	0.000	0.62
		C		59.600	3.735	0.000	0.000	0.65
		A		59.600	0.000	0.000	0.000	1.23
T11	120.00-100.00	B	0.500	69.100	11.204	0.000	0.000	0.74
		C		59.600	3.735	0.000	0.000	0.65
		A		59.600	0.000	0.000	0.000	1.23
T12	100.00-80.00	B	0.500	70.858	13.395	0.000	0.000	0.78
		C		59.600	6.536	0.000	0.000	0.68
		A		59.600	0.000	0.000	0.000	1.23
T13	80.00-60.00	B	0.500	81.408	17.033	0.000	0.000	0.90
		C		59.600	7.470	0.000	0.000	0.69
		A		59.600	0.000	0.000	0.000	1.23
T14	60.00-30.00	B	0.500	83.167	17.033	0.000	0.000	0.92
		C		59.600	7.470	0.000	0.000	0.69
		A		89.400	0.000	0.000	0.000	1.84
T15	30.00-0.00	B	0.500	124.750	25.550	0.000	0.000	1.38
		C		89.400	11.204	0.000	0.000	1.03
		A		89.400	0.000	0.000	0.000	1.84
		B		124.750	25.550	0.000	0.000	1.38
		C		89.400	11.204	0.000	0.000	1.03

Feed Line Shielding

Section	Elevation ft	Face	A_R ft^2	A_R Ice ft^2	A_F ft^2	A_F Ice ft^2
T1	320.00-300.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	1.573	3.863
		C	0.000	0.000	0.000	0.000
T2	300.00-280.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	1.727	4.132
		C	0.000	0.000	0.000	0.000
T3	280.00-260.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	2.564	5.474
		C	0.000	0.000	0.000	0.000
T4	260.00-240.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	3.155	6.564
		C	0.000	0.000	0.000	0.000
T5	240.00-220.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	4.380	8.768
		C	0.000	0.000	0.000	0.000
T6	220.00-200.00	A	0.000	0.000	0.000	0.000

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Section	Elevation	Face	A_R	$A_{R_{Ice}}$	A_F	$A_{F_{Ice}}$
	ft		ft ²	ft ²	ft ²	ft ²
T7	200.00-180.00	B	0.000	0.000	3.107	6.220
		C	0.000	0.000	3.109	5.460
		A	0.000	0.000	3.015	5.294
		B	0.000	0.000	3.013	6.031
T8	180.00-160.00	C	0.000	0.000	3.015	5.294
		A	0.000	0.000	2.945	5.170
		B	0.000	0.000	2.942	5.891
		C	0.000	0.000	3.091	5.449
T9	160.00-140.00	A	0.000	0.000	3.618	6.172
		B	0.000	0.000	3.616	7.032
		C	0.000	0.000	3.858	6.616
		A	0.000	0.000	3.569	6.087
T10	140.00-120.00	B	0.000	0.000	4.233	8.372
		C	0.000	0.000	3.805	6.526
		A	2.688	5.475	0.000	0.000
		B	3.335	7.936	0.000	0.000
T11	120.00-100.00	C	2.999	6.165	0.000	0.000
		A	2.572	5.239	0.000	0.000
		B	3.706	8.898	0.000	0.000
		C	2.913	5.993	0.000	0.000
T12	100.00-80.00	A	2.560	5.173	0.000	0.000
		B	3.748	8.938	0.000	0.000
		C	2.899	5.918	0.000	0.000
		A	4.171	8.402	0.000	0.000
T13	80.00-60.00	B	6.106	14.518	0.000	0.000
		C	4.723	9.612	0.000	0.000
		A	4.315	8.525	0.000	0.000
		B	6.318	14.730	0.000	0.000
T14	60.00-30.00	C	4.887	9.752	0.000	0.000
		A	4.315	8.525	0.000	0.000
		B	6.318	14.730	0.000	0.000
		C	4.887	9.752	0.000	0.000

Feed Line Center of Pressure

Section	Elevation	CP_x	CP_z	$CP_{x_{Ice}}$	$CP_{z_{Ice}}$
	ft	in	in	in	in
T1	320.00-300.00	5.7821	2.9520	7.1025	3.6441
T2	300.00-280.00	6.6750	3.3779	8.5933	4.3612
T3	280.00-260.00	11.0518	5.2903	14.1421	6.8116
T4	260.00-240.00	12.7911	6.0842	16.6398	7.9470
T5	240.00-220.00	13.1492	6.2185	17.5579	8.3243
T6	220.00-200.00	26.2723	15.6197	32.4306	19.0842
T7	200.00-180.00	10.5398	19.5179	13.8444	23.4557
T8	180.00-160.00	12.1105	21.5914	15.7775	25.9400
T9	160.00-140.00	12.1464	21.3930	16.0555	26.1545
T10	140.00-120.00	15.0912	23.2372	20.2284	28.4681
T11	120.00-100.00	19.9795	28.9268	24.9235	33.1525
T12	100.00-80.00	24.3917	31.5250	30.3482	36.0111
T13	80.00-60.00	24.7156	31.5797	31.3068	36.6933
T14	60.00-30.00	26.5159	33.8668	33.5485	39.3179
T15	30.00-0.00	28.0485	35.8107	35.7092	41.8405

Discrete Tower Loads

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
Dual Lights	C	None		0.0000	320.00	No Ice	4.00	4.00	0.25
						1/2" Ice	4.80	4.80	0.40
5'3"x4" Pipe Mount (CSP future)	A	From Leg	0.50 0.00 0.00	0.0000	320.00	No Ice	1.88	1.88	0.06
						1/2" Ice	2.21	2.21	0.07
5'3"x4" Pipe Mount (CSP future)	B	From Leg	0.50 0.00 0.00	0.0000	320.00	No Ice	1.88	1.88	0.06
						1/2" Ice	2.21	2.21	0.07
5'3"x4" Pipe Mount (CSP future)	C	From Leg	0.50 0.00 0.00	0.0000	320.00	No Ice	1.88	1.88	0.06
						1/2" Ice	2.21	2.21	0.07
PD128 (CSP)	C	From Leg	6.00 0.00 0.00	0.0000	320.00	No Ice	1.00	1.00	0.01
						1/2" Ice	1.80	1.80	0.02
6' Side Mount Standoff	C	None		0.0000	320.00	No Ice	6.50	6.50	0.10
						1/2" Ice	8.50	8.50	0.17
PD128 (CSP)	C	From Leg	6.00 0.00 0.00	0.0000	318.00	No Ice	1.00	1.00	0.01
						1/2" Ice	1.80	1.80	0.02
6' Side Mount Standoff	C	None		0.0000	318.00	No Ice	6.50	6.50	0.10
						1/2" Ice	8.50	8.50	0.17
6'8"x4" Pipe Mount (CSP)	C	From Leg	0.50 0.00 0.00	0.0000	315.00	No Ice	2.60	2.60	0.07
						1/2" Ice	3.01	3.01	0.09
DB224 (SHF)	A	From Leg	6.00 0.00 0.00	0.0000	294.00	No Ice	3.15	3.15	0.03
						1/2" Ice	5.67	5.67	0.04
6' Side Mount Standoff	A	None		0.0000	294.00	No Ice	6.50	6.50	0.10
						1/2" Ice	8.50	8.50	0.17
PD320 (DEP)	C	From Leg	6.00 0.00 0.00	0.0000	292.00	No Ice	2.25	2.25	0.03
						1/2" Ice	4.05	4.05	0.04
6' Side Mount Standoff	C	None		0.0000	292.00	No Ice	6.50	6.50	0.10
						1/2" Ice	8.50	8.50	0.17
(2) DB809 (CSP)	A	From Leg	6.00 0.00 0.00	0.0000	285.00	No Ice	3.39	3.39	0.03
						1/2" Ice	4.55	4.55	0.06
6' Side Mount Standoff	A	None		0.0000	285.00	No Ice	6.50	6.50	0.10
						1/2" Ice	8.50	8.50	0.17
(2) OGT9 (CSP)	A	From Leg	6.00 0.00 0.00	0.0000	275.00	No Ice	3.15	3.15	0.03
						1/2" Ice	5.67	5.67	0.04
6' Side Mount Standoff	A	None		0.0000	275.00	No Ice	6.50	6.50	0.10
						1/2" Ice	8.50	8.50	0.17
PD440 (OEM)	B	From Leg	6.00 0.00 0.00	0.0000	257.00	No Ice	1.38	1.38	0.02
						1/2" Ice	2.48	2.48	0.02
6' Side Mount Standoff	B	None		0.0000	257.00	No Ice	6.50	6.50	0.10
						1/2" Ice	8.50	8.50	0.17
PD128 (OEM)	C	From Leg	6.00 0.00 0.00	0.0000	243.00	No Ice	1.00	1.00	0.01
						1/2" Ice	1.80	1.80	0.02
6' Side Mount Standoff	C	None		0.0000	243.00	No Ice	6.50	6.50	0.10
						1/2" Ice	8.50	8.50	0.17
PD320 (CSP)	A	From Leg	6.00 0.00	0.0000	227.00	No Ice	2.25	2.25	0.03
						1/2" Ice	4.05	4.05	0.04

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K
			0.00						
6' Side Mount Standoff	A	None		0.0000	227.00	No Ice	6.50	6.50	0.10
						1/2" Ice	8.50	8.50	0.17
DB844	A	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
(Verizon)			6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB844	A	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
(Verizon)			-6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB948F85T2E-M	A	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
(Verizon)			4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB948F85T2E-M	A	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
(Verizon)			-4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB844	B	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
(Verizon)			6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB844	B	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
(Verizon)			-6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB948F85T2E-M	B	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
(Verizon)			4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB948F85T2E-M	B	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
(Verizon)			-4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB844	C	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
(Verizon)			6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB844	C	From Leg	5.00	0.0000	220.00	No Ice	3.06	3.73	0.01
(Verizon)			-6.00			1/2" Ice	3.39	4.10	0.04
			0.00						
DB948F85T2E-M	C	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
(Verizon)			4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
DB948F85T2E-M	C	From Leg	5.00	0.0000	220.00	No Ice	1.92	3.26	0.01
(Verizon)			-4.00			1/2" Ice	2.22	3.62	0.03
			0.00						
Mounting Frame	A	From Leg	5.00	0.0000	220.00	No Ice	17.00	17.00	0.56
(Verizon)			0.00			1/2" Ice	20.00	20.00	0.70
			0.00						
Mounting Frame	B	From Leg	5.00	0.0000	220.00	No Ice	17.00	17.00	0.56
(Verizon)			0.00			1/2" Ice	20.00	20.00	0.70
			0.00						
Mounting Frame	C	From Leg	5.00	0.0000	220.00	No Ice	17.00	17.00	0.56
(Verizon)			0.00			1/2" Ice	20.00	20.00	0.70
			0.00						
PiROD 12' Lightweight T- Frame (Cingular)	A	None		0.0000	200.00	No Ice	10.20	10.20	0.25
						1/2" Ice	16.20	16.20	0.35
PiROD 12' Lightweight T- Frame (Cingular)	B	None		0.0000	200.00	No Ice	10.20	10.20	0.25
						1/2" Ice	16.20	16.20	0.35
PiROD 12' Lightweight T- Frame (Cingular)	C	None		0.0000	200.00	No Ice	10.20	10.20	0.25
						1/2" Ice	16.20	16.20	0.35

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	CAA Front ft ²	CAA Side ft ²	Weight K
(4) 7770.00 (Cingular)	A	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice 5.88 6.31	2.93 3.27	0.04 0.07
(4) 7770.00 (Cingular)	B	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice 5.88 6.31	2.93 3.27	0.04 0.07
(4) 7770.00 (Cingular)	C	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice 5.88 6.31	2.93 3.27	0.04 0.07
(4) LPG21401 TMA (Cingular)	A	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice 0.95 1.09	0.37 0.48	0.02 0.02
(4) LPG21401 TMA (Cingular)	B	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice 0.95 1.09	0.37 0.48	0.02 0.02
(4) LPG21401 TMA (Cingular)	C	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice 0.95 1.09	0.37 0.48	0.02 0.02
(4) LPG13519 Diplexer (Cingular)	A	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice 0.27 0.34	0.18 0.25	0.01 0.01
(4) LPG13519 Diplexer (Cingular)	B	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice 0.27 0.34	0.18 0.25	0.01 0.01
(4) LPG13519 Diplexer (Cingular)	C	From Leg	3.00 0.00 0.00	0.0000	200.00	No Ice 1/2" Ice 0.27 0.34	0.18 0.25	0.01 0.01
5'3"x4" Pipe Mount (Verizon)	B	From Leg	0.50 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1.88 2.21	1.88 2.21	0.06 0.07
PD688S-4 (NEU)	A	From Leg	6.00 0.00 0.00	0.0000	140.00	No Ice 1/2" Ice 0.35 0.63	0.35 0.63	0.00 0.00
DB212-1 (NEU)	B	None		0.0000	140.00	No Ice 1/2" Ice 4.40 8.42	4.40 8.42	0.03 0.07
6' Side Mount Standoff	B	None		0.0000	140.00	No Ice 1/2" Ice 6.50 8.50	6.50 8.50	0.10 0.17
BA1012-0 (OEM)	A	From Leg	6.00 0.00 0.00	0.0000	140.00	No Ice 1/2" Ice 0.47 0.96	0.47 0.96	0.00 0.01
6' Side Mount Standoff	A	None		0.0000	140.00	No Ice 1/2" Ice 6.50 8.50	6.50 8.50	0.10 0.17
PD156S (DEP)	C	From Leg	1.00 0.00 0.00	0.0000	138.00	No Ice 1/2" Ice 0.44 0.79	0.44 0.79	0.01 0.01
3/4"x4" Pipe Mount (DEP)	C	From Leg	0.50 0.00 0.00	0.0000	138.00	No Ice 1/2" Ice 1.05 1.27	1.05 1.27	0.04 0.05
5'3"x4" Pipe Mount (Verizon)	A	From Leg	0.50 0.00 0.00	0.0000	115.00	No Ice 1/2" Ice 1.88 2.21	1.88 2.21	0.06 0.07
3/4"x4" Pipe Mount (CSP)	C	From Leg	0.50 0.00 0.00	0.0000	112.00	No Ice 1/2" Ice 1.05 1.27	1.05 1.27	0.04 0.05
5'3"x4" Pipe Mount (CSP)	A	From Leg	0.50 0.00 0.00	0.0000	105.00	No Ice 1/2" Ice 1.88 2.21	1.88 2.21	0.06 0.07

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K
PD458 (CTT)	B	From Leg	6.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 2.88 4.34	2.88 4.34	0.02 0.05
DB437 (FBI)	B	From Leg	6.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 0.45 0.81	0.45 0.81	0.01 0.01
6' Side Mount Standoff	B	None		0.0000	100.00	No Ice 1/2" Ice 6.50 8.50	6.50 8.50	0.10 0.17
5'3"x4" Pipe Mount (CSP)	A	From Leg	0.50 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1.88 2.21	1.88 2.21	0.06 0.07
3'4"x4" Pipe Mount (CSP)	C	From Leg	0.50 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1.05 1.27	1.05 1.27	0.04 0.05

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft ²	Weight K
8 FT DISH	B	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		315.00	8.00	No Ice 1/2" Ice 50.30 51.29	0.25 0.51
6 FT DISH	A	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		320.00	6.00	No Ice 1/2" Ice 28.27 29.05	0.14 0.29
6 FT DISH	B	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		320.00	6.00	No Ice 1/2" Ice 28.27 29.05	0.14 0.29
6 FT DISH	C	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		320.00	6.00	No Ice 1/2" Ice 28.27 29.05	0.14 0.29
4 FT DISH	C	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		112.00	4.00	No Ice 1/2" Ice 12.56 13.09	0.17 0.24
6 FT DISH	A	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		105.00	6.00	No Ice 1/2" Ice 28.27 29.05	0.14 0.29
6 FT DISH	A	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		97.00	6.00	No Ice 1/2" Ice 28.27 29.05	0.14 0.29
4 FT DISH	C	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		90.00	4.00	No Ice 1/2" Ice 12.56 13.09	0.17 0.24
6 FT DISH (Verizon)	B	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		175.00	6.00	No Ice 1/2" Ice 28.27 29.05	0.14 0.29
6 FT DISH (Verizon)	A	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	Worst		115.00	6.00	No Ice 1/2" Ice 28.27 29.05	0.14 0.29

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Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft²	Weight K
				0.00						

Load Combinations

Comb. No.	Description
1	Dead Only
2	Dead+Wind 0 deg - No Ice
3	Dead+Wind 30 deg - No Ice
4	Dead+Wind 45 deg - No Ice
5	Dead+Wind 60 deg - No Ice
6	Dead+Wind 90 deg - No Ice
7	Dead+Wind 120 deg - No Ice
8	Dead+Wind 135 deg - No Ice
9	Dead+Wind 150 deg - No Ice
10	Dead+Wind 180 deg - No Ice
11	Dead+Wind 210 deg - No Ice
12	Dead+Wind 225 deg - No Ice
13	Dead+Wind 240 deg - No Ice
14	Dead+Wind 270 deg - No Ice
15	Dead+Wind 300 deg - No Ice
16	Dead+Wind 315 deg - No Ice
17	Dead+Wind 330 deg - No Ice
18	Dead+Ice+Temp
19	Dead+Wind 0 deg+Ice+Temp
20	Dead+Wind 30 deg+Ice+Temp
21	Dead+Wind 45 deg+Ice+Temp
22	Dead+Wind 60 deg+Ice+Temp
23	Dead+Wind 90 deg+Ice+Temp
24	Dead+Wind 120 deg+Ice+Temp
25	Dead+Wind 135 deg+Ice+Temp
26	Dead+Wind 150 deg+Ice+Temp
27	Dead+Wind 180 deg+Ice+Temp
28	Dead+Wind 210 deg+Ice+Temp
29	Dead+Wind 225 deg+Ice+Temp
30	Dead+Wind 240 deg+Ice+Temp
31	Dead+Wind 270 deg+Ice+Temp
32	Dead+Wind 300 deg+Ice+Temp
33	Dead+Wind 315 deg+Ice+Temp
34	Dead+Wind 330 deg+Ice+Temp
35	Dead+Wind 0 deg - Service
36	Dead+Wind 30 deg - Service
37	Dead+Wind 45 deg - Service
38	Dead+Wind 60 deg - Service
39	Dead+Wind 90 deg - Service
40	Dead+Wind 120 deg - Service
41	Dead+Wind 135 deg - Service
42	Dead+Wind 150 deg - Service
43	Dead+Wind 180 deg - Service
44	Dead+Wind 210 deg - Service
45	Dead+Wind 225 deg - Service
46	Dead+Wind 240 deg - Service
47	Dead+Wind 270 deg - Service
48	Dead+Wind 300 deg - Service
49	Dead+Wind 315 deg - Service

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Comb. No.	Description
50	Dead+Wind 330 deg - Service

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	320 - 300	18.709	40	0.5043	0.1982
T2	300 - 280	16.549	40	0.4908	0.1607
T3	280 - 260	14.493	40	0.4646	0.1323
T4	260 - 240	12.542	40	0.4414	0.1181
T5	240 - 220	10.694	40	0.4132	0.1059
T6	220 - 200	8.985	40	0.3800	0.0979
T7	200 - 180	7.423	40	0.3425	0.0911
T8	180 - 160	5.995	40	0.3100	0.0836
T9	160 - 140	4.698	40	0.2749	0.0746
T10	140 - 120	3.560	40	0.2369	0.0671
T11	120 - 100	2.581	40	0.1969	0.0593
T12	100 - 80	1.791	40	0.1582	0.0467
T13	80 - 60	1.152	40	0.1195	0.0364
T14	60 - 30	0.665	35	0.0870	0.0274
T15	30 - 0	0.206	35	0.0390	0.0137

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
320.00	6 FT DISH	40	18.709	0.5043	0.1982	148070
318.00	PD128	40	18.491	0.5033	0.1943	148070
315.00	8 FT DISH	40	18.164	0.5018	0.1885	148070
294.00	DB224	40	15.920	0.4837	0.1508	39468
292.00	PD320	40	15.713	0.4810	0.1477	40359
285.00	(2) DB809	40	14.997	0.4714	0.1380	43821
275.00	(2) OGT9	40	13.996	0.4585	0.1278	48169
257.00	PD440	40	12.258	0.4377	0.1162	48324
243.00	PD128	40	10.963	0.4177	0.1075	34030
227.00	PD320	40	9.566	0.3923	0.1003	32211
220.00	DB844	40	8.985	0.3800	0.0979	32463
200.00	PiROD 12' Lightweight T-Frame	40	7.423	0.3425	0.0911	35712
175.00	6 FT DISH	40	5.657	0.3016	0.0814	35996
140.00	PD688S-4	40	3.560	0.2369	0.0671	32543
138.00	PD156S	40	3.454	0.2329	0.0664	31719
115.00	6 FT DISH	40	2.367	0.1872	0.0564	24776
112.00	4 FT DISH	40	2.244	0.1814	0.0545	26416
105.00	6 FT DISH	40	1.973	0.1680	0.0499	31238
100.00	PD458	40	1.791	0.1582	0.0467	34789
97.00	6 FT DISH	40	1.686	0.1523	0.0449	34916
90.00	4 FT DISH	40	1.454	0.1384	0.0411	33017

Maximum Tower Deflections - Design Wind

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Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	320 - 300	22.696	24	0.6080	0.2581
T2	300 - 280	20.098	24	0.5927	0.2197
T3	280 - 260	17.614	24	0.5628	0.1893
T4	260 - 240	15.248	24	0.5357	0.1737
T5	240 - 220	13.003	24	0.5021	0.1581
T6	220 - 200	10.925	24	0.4621	0.1472
T7	200 - 180	9.025	24	0.4167	0.1375
T8	180 - 160	7.288	24	0.3772	0.1265
T9	160 - 140	5.711	24	0.3345	0.1139
T10	140 - 120	4.327	24	0.2882	0.1033
T11	120 - 100	3.138	24	0.2396	0.0923
T12	100 - 80	2.180	24	0.1925	0.0736
T13	80 - 60	1.405	24	0.1453	0.0576
T14	60 - 30	0.814	19	0.1058	0.0434
T15	30 - 0	0.257	19	0.0475	0.0216

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
320.00	6 FT DISH	24	22.696	0.6080	0.2581	134951
318.00	PD128	24	22.434	0.6069	0.2542	134951
315.00	8 FT DISH	24	22.041	0.6051	0.2483	134951
294.00	DB224	24	19.339	0.5846	0.2092	35699
292.00	PD320	24	19.088	0.5816	0.2059	36404
285.00	(2) DB809	24	18.223	0.5705	0.1954	39109
275.00	(2) OGT9	24	17.012	0.5558	0.1845	42272
257.00	PD440	24	14.903	0.5313	0.1715	41022
243.00	PD128	24	13.330	0.5076	0.1603	28392
227.00	PD320	24	11.632	0.4770	0.1506	26575
220.00	DB844	24	10.925	0.4621	0.1472	26682
200.00	PiROD 12' Lightweight T-Frame	24	9.025	0.4167	0.1375	29592
175.00	6 FT DISH	24	6.878	0.3670	0.1234	29430
140.00	PD688S-4	24	4.327	0.2882	0.1033	26881
138.00	PD156S	24	4.199	0.2834	0.1024	26149
115.00	6 FT DISH	24	2.878	0.2278	0.0881	20111
112.00	4 FT DISH	24	2.729	0.2207	0.0853	21523
105.00	6 FT DISH	24	2.400	0.2043	0.0785	25740
100.00	PD458	24	2.180	0.1925	0.0736	28930
97.00	6 FT DISH	24	2.053	0.1852	0.0709	29090
90.00	4 FT DISH	24	1.771	0.1683	0.0651	27490

ANCHOR BOLT ANALYSIS



Job 320' Rohn SSVMW - Colchester, CT

Project No. VZ1-166

Page ____ of ____

Description Anchor Bolt Analysis

Computed by JEK

Sheet 1 of 3

Checked by

Date 10/12/06

Date

ANCHOR BOLT ANALYSIS

Input Data

Max Pier Reactions:

Uplift: Uplift := 555-kips *user input*Shear: Shear := 85-kips *user input*Compression: Compression := 692-kips *user input*

Anchor Bolt Data:

Use ASTM A354 Grade BC

Number of Anchor Bolts = N $N_A := 24$ *user input*Bolt Ultimate Strength: $F_u := 125\text{-ksi}$ *user input*Bolt Yield Strength: $F_y := 60\text{-ksi}$ *user input*Bolt Modulus: $E := 29000\text{-ksi}$ *user input*Thickness of Anchor Bolts $D := 1\text{in}$ *user input*Threads per Inch: $n := 8$ *user input*Coefficient of Friction: $\mu := 0.55$ *user input* (for baseplate with grout ASCE 10-97)



Job	320' Rohn SSVMW - Colchester, CT	Project No.	VZ1-166	Page	of
Description	Anchor Bolt Analysis	Computed by	JEK	Sheet	2 of 3
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				Date	

Anchor Bolt Area:

Gross Area of Bolt:

$$A_g := \frac{\pi}{4} \cdot D^2 \quad A_g = 0.785 \text{ in}^2$$

Net Area of Bolt:

$$A_n := \frac{\pi}{4} \cdot \left(D - \frac{0.9743 \cdot \text{in}}{n} \right)^2 \quad A_n = 0.606 \text{ in}^2$$

Check Tensile Forces:

Maximum Tensile Force (Gross Area):

$$\text{AllowableTension} := 1.33 \cdot (0.33 \cdot A_g \cdot F_u) \quad \text{AllowableTension} = 43.1 \text{ kips}$$

Note: 1.33 increase allowed per TIA/EIA

Maximum Tensile Force (Net Area):

$$F_{\text{net.area}} := 1.33 \cdot (0.60 \cdot A_n \cdot F_y) \quad F_{\text{net.area}} = 29.0 \text{ kips}$$

Note: 1.33 increase allowed per TIA/EIA

Applied Tension:

$$\text{MaxTension} := \frac{\text{Uplift}}{N} \quad \text{MaxTension} = 23.1 \text{ kips}$$

Check Stresses:

$$\frac{\text{MaxTension}}{F_{\text{net.area}}} = 0.80$$

$$\text{Condition1} := \text{if} \left(\frac{\text{MaxTension}}{F_{\text{net.area}}} \leq 1.00, \text{"OK"}, \text{"Overstressed"} \right)$$

$$\boxed{\text{Condition1} = \text{"OK"}}$$

Page of Job 320' Rohn SSVMW - Colchester, CTProject No. VZ1-166Sheet 3 of 3Description Anchor Bolt AnalysisComputed by JEKDate 10/12/06Checked by Date **Check Anchor Bolt Area:**

Based on the ASCE 10-97 Design of Latticed Steel Transmission Structures

Required Area:

$$A_{s1} := \frac{\text{Uplift}}{F_y} + \frac{\text{Shear}}{\mu \cdot 0.85 \cdot F_y} \quad A_{s1} = 12.3 \text{ in}^2$$

$$A_{s2} := \left| \frac{\text{Shear} - (0.3 \cdot \text{Compression})}{\mu \cdot 0.85 \cdot F_y} \right| \quad A_{s2} = 4.4 \text{ in}^2$$

Provided Area:

$$A_{s\text{provided}} := A_n \cdot N \quad A_{s\text{provided}} = 14.5 \text{ in}^2$$

$$\text{Condition2} := \text{if} \left(\frac{A_{s1}}{A_{s\text{provided}}} \leq 1.00, \text{"OK"}, \text{"Overstressed"} \right) \quad \frac{A_{s1}}{A_{s\text{provided}}} = 0.84$$

Condition2 = "OK"

$$\text{Condition3} := \text{if} \left(\frac{A_{s2}}{A_{s\text{provided}}} \leq 1.00, \text{"OK"}, \text{"Overstressed"} \right) \quad \frac{A_{s2}}{A_{s\text{provided}}} = 0.30$$

Condition3 = "OK"

FOUNDATION ANALYSIS



Job 320' Rohn SSVMW - Colchester, CT

Project No. VZ1-166

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Description Evaluation of Drilled Pier Caisson

Computed by JEK

Sheet 1 of 2

Checked by

Date 10/12/06

Compression:

Download := 692 kips

 $\gamma_c := 150 \text{ pcf}$

Concrete unit weight

Uplift:

uplift := 555 kips

 $\gamma_w := 62.4 \text{ pcf}$

Water unit weight

Depth Neglected for
Skin Friction at the top

Depthunbond := 4 ft

 $\gamma_s := 120 \text{ pcf}$

Soil unit weight

Drill Caisson length

CaissonLength := 35.5 ft

Pier ϕ := 7.5 ft

Pier diameter

Water Table Below grade:

Wd := 10 ft

hg := 0.5 ft

Height of Pier Above grade

Ave allowable Shear
at Depth of 4' to 10'

f1 := 380 psf

Per BL Companies

SoilBearingCapacity := 6.7 ksf

Ave allowable Shear
at Depth of 10' to 35'

f2 := 700 psf

Report 9.13.2000

Allowable Bearing Pressure at Depth 35'

Loading:

$$\text{TotalDownload} := \text{Download} + \pi \cdot \frac{\text{Pier}\phi^2}{4} \cdot [\text{hg} \cdot \gamma_c + [(\gamma_c - \gamma_s) \cdot (\text{CaissonLength} - \text{hg})]]$$

$$\text{TotalDownload} = 741.7 \text{ kips}$$

$$\text{Pierweight} := \pi \cdot \frac{\text{Pier}\phi^2}{4} \cdot [(\text{Wd} + \text{hg}) \cdot \gamma_c + (\text{CaissonLength} - \text{Wd} - \text{hg}) \cdot (\gamma_c - \gamma_w)]$$

$$\text{Pierweight} = 166.33 \text{ kips}$$

$$\text{SoilShear} := \pi \cdot \text{Pier}\phi \cdot [f1 \cdot (\text{Wd} - \text{Depthunbond}) + f2 \cdot (\text{CaissonLength} - \text{Wd} - \text{hg})]$$

$$\text{SoilShear} = 466.06 \text{ kips}$$

Compression Capacity:

$$\text{TotalDownloadCapacity} := \text{SoilShear} + \text{SoilBearingCapacity} \cdot \left(\pi \cdot \frac{\text{Pier}\phi^2}{4} \right)$$

$$\text{TotalDownloadCapacity} = 762.05 \text{ kips}$$

$$\text{CheckDownloadCapacity} := \text{if}(\text{TotalDownload} < \text{TotalDownloadCapacity}, \text{"Okay"}, \text{"No Good"})$$

$$\text{CheckDownloadCapacity} = \text{"Okay"}$$



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Description	Evaluation of Drilled Pier Caisson	Computed by	JEK	Sheet	2 of 2
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				Date	

Tension Capacity:

TotalUpLiftCapacity := Soilshear + Pierweight

TotalUpLiftCapacity = 632.39 kips

CkeckUpLiftCapacity := if(uplift < TotalUpLiftCapacity, "Okay", "No Good")

CkeckUpLiftCapacity = "Okay"

Check Cone Failure

ConeFailureCapacity :=
$$\frac{\left[(\text{CaissonLength} - \text{hg}) \cdot \tan(30 \cdot \text{deg}) \cdot 2 + \text{Pier}\phi \right]^2 \cdot \pi}{4} \cdot \frac{\text{CaissonLength} - \text{hg}}{3} \cdot \gamma_s$$

ConeFailureCapacity = 2524.37 kips

CheckConeFailureCapacity := if(uplift < ConeFailureCapacity, "Okay", "No Good")

CheckConeFailureCapacity = "Okay"

General Power Density

Site Name: Colchester, CT
Cumulative Power Density

Operator	Operating Frequency (MHz)	Number of Trans.	ERP Per Trans (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm^2)	Maximum Permissible Exposure (mW/cm^2)	Fraction of MPE (%)
VZW	875	9	200	1800	220	0.0134	0.583	2.29%
VZW PCS	1970	3	485	1455	220	0.0108	1.0	1.08%
VZW Microwave	6004.5	1	4265.8	4265.8	115	0.1160	1.0	11.60%
VZW Microwave	6093.45	1	4265.8	4265.8	175	0.0501	1.0	5.01%

Total Percentage of Maximum Permissible Exposure

19.98%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm^2 = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.