CENTERLINE COMMUNICATIONS
750 West Center Street, Suite 301
West Bridgewater, MA 02379
781.713.4725

Structural Analysis Report

Site ID: CTNL024A
Site Name: CTNL024A
Project Name: Coverage Strategy
Address: 689 Old Colchester Rd
Uncasville, CT 06382

Client:

T - Mobile

NORTHEAST, LLC
35 Griffin Rd S
Bloomfield, CT 06002

Date: 8/12/2021

STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED PROFESSIONAL ENGINEER

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2021.08.12 17:59:27 -04'00'

Scope of Work:

Centerline Communications was authorized by T-Mobile Northeast LLC to perform an analysis of the existing structure to determine its capacity to support the proposed and existing T-Mobile equipment/appurtenances listed in this report.

Existing & Proposed Equipment:

Carrier	Mounting Level (ft)	Center Line Elevation (ft)	Number of Appurtenances	Antenna Manufacturer	Appurtenance Model	Feed Lines (in)
WGBH	370.0	370.0	1	-	Search Antenna	(1) 7/8
-	355.0	355.0	1	-	8' Dish	(1) 7/8
		355.0	1	-	10'6"x4" Pipe Mount	
		355.0	1	-	6' Side Arm Mount	
-	350.0	350.0	1	-	20' x 3" Dia Omni	(2) 7/8
		350.0	1	-	6' x 4" Pipe Mount	
-	325.0	325.0	1	-	10' x 3" Dia Omni	(1) 1-5/8
		325.0	1	-	3' Side Arm Mount	
Verizon Wireless	305.0	305.0	3	Antel	QUAD656C0000 Panel Antenna	(12) 1-5/8 (2) 1-5/8 Hybriflex
		305.0	6	Commscope	HBXX-6517DS Panel Antenna	
		305.0	3	Commscope	LNX-6514DS-T4M Panel Antenna	
		305.0	3	Alcatel-Lucent	RRH4x45/2x90-AWS	
		305.0	3	Alcatel-Lucent	RRH4x30-B13	
		305.0	2	RFS	DB-T1-6Z-8AB-0Z	
		305.0	6	RFS	FD9R6004/2C-3L	
		305.0	3	-	6' x 12' Boom Gate	
Secret Service	250.0	250.0	1	-	20' x 3" Dia Omni	-
		250.0	1	-	6'x4" Pipe Mount	
AT&T	242.5	242.5	3	Powerwave	7770.00 Panel Antenna	(12) 1-5/8 (2) Fiber Trunk (6) DC Trunk (3) 0.3" RET
		242.5	2	CCI	HPA-65R-BUU-H8 Panel Antenna	
		242.5	1	CCI	HPA-65R-BUU-H6 Panel Antenna	
		242.5	4	Kathrein	800-10966 Panel Antenna	
		242.5	2	Kathrein	800-10965 Panel Antenna	
		242.5	3	Ericsson	8843 B2/B66A RRH	
		242.5	3	Ericsson	4449 B5/B12 RRH	
		242.5	3	Ericsson	B14 4478 RRH	
		242.5	6	Powerwave	LPG21401 TMA	
		242.5	3	Raycap	DC6-48-60-18-8F Surge Arrestor	
		242.5	3	-	12' T-Frame Mount	
		242.5	3	Site Pro 1	SFS-H Stabilizer	

T-Mobile	**230.0**	**230.0**	**3**	**RFS**	**APX16DWV-16DWV-S-E-A20 Antenna**	**(3) 6x24 Hybrid**
			3	**RFS**	**APXVAALL24_43-U-NA20 Antenna**	
			3	**Ericsson**	**AIR6449 B41 Antenna**	
			3	**Ericsson**	**4460 B25+B66 RRH**	
			3	**Ericsson**	**4489 B71+B85 RRH**	
			3	**Site Pro 1**	**VFA12-HD Sector Mount**	
-	200.0	200.0	1	-	Yagi Antenna	(1) 7/8
-	180.0	180.0	4	-	Yagi Antenna	(1) 7/8
		180.0	2	-	5'3"x4" Pipe Mount	
-	148.0	148.0	1	-	Yagi Antenna	(1) 1/2
-	140.0	140.0	1	-	Yagi Antenna	(1) 7/8
-	125.0	125.0	1	-	Yagi Antenna	(1) 1/2
-	88.0	88.0	4	-	X-Style Antenna	(4) 1/2
-	62.0	62.0	1	-	Yagi Antenna	(1) 7/8
-	40.0	40.0	1	-	Yagi Antenna	(1) 7/8

*Note: Proposed equipment shown in **bold**.*

Design Criteria:

Design Codes:

2018 Connecticut State Building Code
2015 International Building Code
ASCE 7-10
TIA-222-G Standards

Ultimate Design Wind Speed (V_{ult})	135 mph
Wind Speed with Ice	50 mph
Ice Thickness	0.75 in.
Exposure Category	B
Topographic Category	1
Risk Category	II
Site Soil Class (Assumed)	D – Stiff Soil
Seismic Design Category	B
Spectral Response Acceleration Parameter at a Short Periods, S_S	0.165 g
Spectral Response Acceleration Parameter at a Period of 1 Second, S_1	0.059 g
Short Period Site Coefficient, F_a	1.60
Long Period Site Coefficient, F_v	2.40

***Refer to calculations for additional design criteria.**

Conclusion:

Section Capacity (Summary)

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	368.75 - 362.5	Leg	2 3/4	1	-1648	102851	1.6	Pass
T2	362.5 - 356.25	Leg	2 3/4	13	-2308	102851	2.2	Pass
T3	356.25 - 350	Leg	2 3/4	27	-7365	102851	7.2	Pass
T4	350 - 343.75	Leg	3	38	-5644	135284	4.2	Pass
T5	343.75 - 337.5	Leg	3	49	-40355	135284	29.8	Pass
T6	337.5 - 331.25	Leg	3	61	-41273	135284	30.5	Pass
T7	331.25 - 325	Leg	3	73	-42145	135284	31.2	Pass
T8	325 - 318.75	Leg	3 1/4	86	-44311	171629	25.8	Pass
T9	318.75 - 312.5	Leg	3 1/4	98	-46133	171629	26.9	Pass
T10	312.5 - 306.25	Leg	3 1/4	110	-48318	171629	28.2	Pass
T11	306.25 - 300	Leg	3 1/4	122	-50010	171629	29.1	Pass
T12	300 - 293.75	Leg	3 1/4	134	-41772	171629	24.3	Pass
T13	293.75 - 287.5	Leg	3 1/4	145	-87458	171629	51.0	Pass
T14	287.5 - 281.25	Leg	3 1/4	157	-93175	171629	54.3	Pass
T15	281.25 - 275	Leg	3 1/4	169	-98618	171629	57.5	Pass
T16	275 - 268.75	Leg	3 1/4	181	-102881	171629	59.9	Pass
T17	268.75 - 262.5	Leg	3 1/4	193	-106219	171629	61.9	Pass
T18	262.5 - 256.25	Leg	3 1/4	205	-108310	171629	63.1	Pass
T19	256.25 - 250	Leg	3 1/4	217	-110446	171629	64.4	Pass
T20	250 - 243.75	Leg	3 1/4	229	-110670	171629	64.5	Pass
T21	243.75 - 237.5	Leg	3 1/4	241	-107859	171629	62.8	Pass
T22	237.5 - 231.25	Leg	3 1/4	253	-98956	171629	57.7	Pass
T23	231.25 - 225	Leg	3 1/4	266	-98309	171629	57.3	Pass
T24	225 - 218.75	Leg	3	278	-74499	135284	55.1	Pass
T25	218.75 - 212.5	Leg	3	290	-119480	135284	88.3	Pass
T26	212.5 - 206.25	Leg	3	302	-121146	135284	89.5	Pass
T27	206.25 - 181.25	Leg	3	314	-123424	135284	91.2	Pass
T28	181.25 - 175	Leg	3	353	-121904	200780	60.7	Pass
T29	175 - 168.75	Leg	3 1/4	368	-120844	171629	70.4	Pass
T30	168.75 - 162.5	Leg	3 1/4	380	-119558	171629	69.7	Pass
T31	162.5 - 156.25	Leg	3 1/4	392	-126905	171629	73.9	Pass
T32	156.25 - 150	Leg	3 1/4	404	-128316	171629	74.8	Pass
T33	150 - 125	Leg	3 1/4	416	-130492	171629	76.0	Pass
T34	125 - 100	Leg	3 1/4	454	-132847	171629	77.4	Pass
T35	100 - 93.75	Leg	3 1/4	493	-109593	171629	63.9	Pass
T36	93.75 - 87.5	Leg	3 1/4	505	-141823	171629	82.6	Pass
T37	87.5 - 81.25	Leg	3 1/4	517	-142184	171629	82.8	Pass
T38	81.25 - 75	Leg	3 1/4	529	-143347	171629	83.5	Pass
T39	75 - 50	Leg	3 1/4	541	-148670	171629	86.6	Pass
T40	50 - 25	Leg	3 1/4	580	-154278	171629	89.9	Pass
T41	25 - 0	Leg	3 1/4	619	-156670	171629	91.3	Pass
T1	368.75 - 362.5	Diagonal	L2 1/2x2 1/2x1/4	11	-389	23510	1.7 2.4 (b)	Pass
T2	362.5 - 356.25	Diagonal	2L3x3x5/16	20	-1171	102123	1.1 3.7 (b)	Pass
T3	356.25 - 350	Diagonal	2L3x3x5/16	34	3108	103075	3.0 9.8 (b)	Pass
T4	350 - 343.75	Diagonal	L3x2 1/2x1/4	46	-3341	27333	12.2 14.7 (b)	Pass
T5	343.75 - 337.5	Diagonal	5/8	55	4317	9940	43.4	Pass
T6	337.5 - 331.25	Diagonal	5/8	70	4109	9940	41.3	Pass
T7	331.25 - 325	Diagonal	5/8	82	3899	9940	39.2	Pass
T8	325 - 318.75	Diagonal	3/4	94	4427	14314	30.9	Pass
T9	318.75 - 312.5	Diagonal	3/4	106	4157	14314	29.0	Pass
T10	312.5 - 306.25	Diagonal	3/4	118	4423	14314	30.9	Pass
T11	306.25 - 300	Diagonal	3/4	132	7065	14314	49.4	Pass
T12	300 - 293.75	Diagonal	L3x2 1/2x1/4	142	-7478	27408	27.3	Pass

							30.1 (b)	
T13	293.75 - 287.5	Diagonal	3/4	152	7436	14314	52.0	Pass
T14	287.5 - 281.25	Diagonal	5/8	164	6569	9940	66.1	Pass
T15	281.25 - 275	Diagonal	5/8	176	5816	9940	58.5	Pass
T16	275 - 268.75	Diagonal	5/8	188	4908	9940	49.4	Pass
T17	268.75 - 262.5	Diagonal	5/8	200	4057	9940	40.8	Pass
T18	262.5 - 256.25	Diagonal	5/8	212	3580	9940	36.0	Pass
T19	256.25 - 250	Diagonal	3/4	227	4259	14314	29.8	Pass
T20	250 - 243.75	Diagonal	3/4	239	4275	14314	29.9	Pass
T21	243.75 - 237.5	Diagonal	3/4	249	8591	14314	60.0	Pass
T22	237.5 - 231.25	Diagonal	3/4	261	10770	14314	75.2	Pass
T23	231.25 - 225	Diagonal	1	273	15422	25447	60.6 97.0 (b)	Pass
T24	225 - 218.75	Diagonal	2L2 1/2x2 1/2x1/4	287	-13948	65285	21.4 28.1 (b)	Pass
T25	218.75 - 212.5	Diagonal	5/8	295	5664	9940	57.0	Pass
T26	212.5 - 206.25	Diagonal	5/8	307	4278	9940	43.0	Pass
T27	206.25 - 181.25	Diagonal	5/8	321	6222	9940	62.6	Pass
T28	181.25 - 175	Diagonal	5/8	363	7038	9940	70.8	Pass
T29	175 - 168.75	Diagonal	1	378	8623	25447	33.9 54.2 (b)	Pass
T30	168.75 - 162.5	Diagonal	1	385	9611	25447	37.8 60.4 (b)	Pass
T31	162.5 - 156.25	Diagonal	5/8	400	3401	9940	34.2	Pass
T32	156.25 - 150	Diagonal	5/8	412	3004	9940	30.2	Pass
T33	150 - 125	Diagonal	5/8	421	6901	9940	69.4	Pass
T34	125 - 100	Diagonal	L2 1/2x2 1/2x3/16	460	12658	24840	51.0 88.1 (b)	Pass
T35	100 - 93.75	Diagonal	2L2 1/2x2 1/2x1/4	502	-15518	65385	23.7 31.2 (b)	Pass
T36	93.75 - 87.5	Diagonal	3/4	511	4334	14314	30.3	Pass
T37	87.5 - 81.25	Diagonal	5/8	523	2986	9940	30.0	Pass
T38	81.25 - 75	Diagonal	5/8	535	2143	9940	21.6	Pass
T39	75 - 50	Diagonal	5/8	547	3511	9940	35.3	Pass
T40	50 - 25	Diagonal	5/8	615	4654	9940	46.8	Pass
T41	25 - 0	Diagonal	5/8	625	3743	9940	37.7	Pass
T27	206.25 - 181.25	Horizontal	P1.25x.14	326	-3563	12040	29.6	Pass
T33	150 - 125	Horizontal	P1.25x.14	427	-4057	12102	33.5	Pass
T34	125 - 100	Horizontal	P1.25x.14	466	-7615	12102	62.9	Pass
T39	75 - 50	Horizontal	P1.25x.14	564	-2575	12102	21.3	Pass
T40	50 - 25	Horizontal	P1.25x.14	612	-2740	12102	22.6	Pass
T41	25 - 0	Horizontal	P1.25x.14	633	-2714	12102	22.4	Pass
T28	181.25 - 175	Secondary Horizontal	P1.25x.14	364	-2111	12040	17.5 34.0 (b)	Pass
T1	368.75 - 362.5	Top Girt	2L2 1/2x2x1/4	4	94	57257	0.3	Pass
T2	362.5 - 356.25	Top Girt	2L2 1/2x3x1/4	16	282	75608	0.4 0.9 (b)	Pass
T3	356.25 - 350	Top Girt	2L2 1/2x3x1/4	28	-970	65488	1.5 3.0 (b)	Pass
T4	350 - 343.75	Top Girt	2L2 1/2x2x1/4	40	8437	57257	14.7 22.0 (b)	Pass
T5	343.75 - 337.5	Top Girt	2L2 1/2x2x1/4	52	-3850	54623	7.0 7.7 (b)	Pass
T6	337.5 - 331.25	Top Girt	P1.25x.14	65	-3149	12040	26.2	Pass
T7	331.25 - 325	Top Girt	P1.25x.14	77	-3060	12040	25.4	Pass
T8	325 - 318.75	Top Girt	P1.25x.14	89	-3674	12102	30.4	Pass
T9	318.75 - 312.5	Top Girt	P1.25x.14	101	-4207	12102	34.8	Pass
T10	312.5 - 306.25	Top Girt	P1.25x.14	113	-4313	12102	35.6	Pass
T11	306.25 - 300	Top Girt	2L2 1/2x2x1/4	126	-5825	54745	10.6 11.7 (b)	Pass
T12	300 - 293.75	Top Girt	2L2 1/2x2x1/4	136	10151	57257	17.7 26.5 (b)	Pass
T13	293.75 - 287.5	Top Girt	2L2 1/2x2x1/4	148	-2723	54745	5.0	Pass

							5.5 (b)	
T14	287.5 - 281.25	Top Girt	P1.25x.14	160	-4351	12102	36.0	Pass
T15	281.25 - 275	Top Girt	P1.25x.14	172	-3901	12102	32.2	Pass
T16	275 - 268.75	Top Girt	P1.25x.14	184	-3386	12102	28.0	Pass
T17	268.75 - 262.5	Top Girt	P1.25x.14	197	-3136	12102	25.9	Pass
T18	262.5 - 256.25	Top Girt	P1.25x.14	209	-3125	12102	25.8	Pass
T19	256.25 - 250	Top Girt	P1.25x.14	221	-3852	12102	31.8	Pass
T20	250 - 243.75	Top Girt	2L2 1/2x2x1/4	233	-4708	54378	8.7 14.8 (b)	Pass
T21	243.75 - 237.5	Top Girt	2L2 1/2x2x1/4	245	-5842	54745	10.7 11.8 (b)	Pass
T22	237.5 - 231.25	Top Girt	2L2 1/2x2x1/4	257	-6091	54745	11.1 12.3 (b)	Pass
T23	231.25 - 225	Top Girt	2L2 1/2x2x1/4	269	-8163	54745	14.9 16.4 (b)	Pass
T24	225 - 218.75	Top Girt	2L2 1/2x2x1/4	280	13332	57257	23.3 34.8 (b)	Pass
T25	218.75 - 212.5	Top Girt	2L2 1/2x2x1/4	292	6194	57257	10.8 16.2 (b)	Pass
T26	212.5 - 206.25	Top Girt	P1.25x.14	304	-2995	12040	24.9	Pass
T27	206.25 - 181.25	Top Girt	P1.25x.14	317	-2393	12040	19.9	Pass
T28	181.25 - 175	Top Girt	P1.25x.14	356	-4002	12040	33.2	Pass
T29	175 - 168.75	Top Girt	P1.25x.14	372	-4796	12102	39.6	Pass
T30	168.75 - 162.5	Top Girt	P1.25x.14	382	-5678	12102	46.9	Pass
T31	162.5 - 156.25	Top Girt	2L2 1/2x2x1/4	396	4944	59296	8.3 15.5 (b)	Pass
T32	156.25 - 150	Top Girt	P1.25x.14	406	-2223	12102	18.4	Pass
T33	150 - 125	Top Girt	P1.25x.14	418	-2260	12102	18.7	Pass
T34	125 - 100	Top Girt	P1.25x.14	457	-4962	12102	41.0	Pass
T35	100 - 93.75	Top Girt	2L2 1/2x2x1/4	498	12915	57257	22.6 33.7 (b)	Pass
T36	93.75 - 87.5	Top Girt	2L2 1/2x2x1/4	508	8487	59296	14.3 26.7 (b)	Pass
T37	87.5 - 81.25	Top Girt	P1.25x.14	522	-2463	12102	20.3	Pass
T38	81.25 - 75	Top Girt	P1.25x.14	534	-2483	12102	20.5	Pass
T39	75 - 50	Top Girt	P1.25x.14	546	-2575	12102	21.3	Pass
T40	50 - 25	Top Girt	L2 1/2x2x1/4	585	-2672	15544	17.2 19.8 (b)	Pass
T41	25 - 0	Top Girt	P1.25x.14	624	-2714	12102	22.4	Pass
T4	350 - 343.75	Guy A@350	7/8	670	20577	47820	43.0	Pass
T12	300 - 293.75	Guy A@300	7/8	688	23402	47820	48.9	Pass
T24	225 - 218.75	Guy A@225	3/4	706	20607	34980	58.9	Pass
T31	162.5 - 156.25	Guy A@162.5	3/4	714	19985	34980	57.1	Pass
T35	100 - 93.75	Guy A@100	9/16	728	10756	21000	51.2	Pass
T40	50 - 25	Guy A@50	9/16	735	9484	21000	45.2	Pass
T4	350 - 343.75	Guy B@350	7/8	665	19105	47820	40.0	Pass
T12	300 - 293.75	Guy B@300	7/8	682	22135	47820	46.3	Pass
T24	225 - 218.75	Guy B@225	3/4	700	21077	34980	60.3	Pass
T31	162.5 - 156.25	Guy B@162.5	3/4	713	20629	34980	59.0	Pass
T35	100 - 93.75	Guy B@100	9/16	721	11389	21000	54.2	Pass
T40	50 - 25	Guy B@50	9/16	734	9361	21000	44.6	Pass
T4	350 - 343.75	Guy C@350	7/8	658	19080	47820	39.9	Pass
T12	300 - 293.75	Guy C@300	7/8	677	22289	47820	46.6	Pass
T24	225 - 218.75	Guy C@225	3/4	695	20691	34980	59.1	Pass
T31	162.5 - 156.25	Guy C@162.5	3/4	712	20259	34980	57.9	Pass
T35	100 - 93.75	Guy C@100	9/16	716	10823	21000	51.5	Pass
T40	50 - 25	Guy C@50	9/16	733	9655	21000	46.0	Pass
T4	350 - 343.75	Torque Arm Top@350	2L3x2 1/2x1/4	660	18530	85212	21.7	Pass
T12	300 - 293.75	Torque Arm Top@300	2L3x2 1/2x1/4	690	20534	85212	24.1	Pass
T24	225 - 218.75	Torque Arm Top@225	2L3x2 1/2x1/4	708	19991	85212	23.5	Pass

T35	100 - 93.75	Torque Arm Top@100	2L3x2 1/2x1/4	723	12339	85212	14.5	Pass
T4	350 - 343.75	Torque Arm Bottom@350	2L3x2 1/2x1/4	675	-21838	46126	47.3	Pass
T12	300 - 293.75	Torque Arm Bottom@300	2L3x2 1/2x1/4	693	-25675	46226	55.5	Pass
T24	225 - 218.75	Torque Arm Bottom@225	2L3x2 1/2x1/4	705	-21487	46126	46.6	Pass
T35	100 - 93.75	Torque Arm Bottom@100	2L3x2 1/2x1/4	725	-8318	46226	18.0	Pass
							Summary	
						Leg (T41)	91.3	Pass
						Diagonal (T23)	97.0	Pass
						Horizontal (T34)	62.9	Pass
						Secondary Horizontal (T28)	34.0	Pass
						Top Girt (T30)	46.9	Pass
						Guy A (T24)	58.9	Pass
						Guy B (T24)	60.3	Pass
						Guy C (T24)	59.1	Pass
						Torque Arm Top (T12)	24.1	Pass
						Torque Arm Bottom (T12)	55.5	Pass
						Bolt Checks	97.0	Pass
						RATING =	**97.0**	**Pass**

Structure Rating (max from all components) =	**97.0%**

Foundation Capacity (Summary)

Component	*Capacity %*	*Pass/Fail*
Base Foundation - Soil Rating	96.5	Pass
Anchor Block at 114.41 ft. Radius – Soil Rating	16.1	Pass
Anchor Block at 193.65 ft. Radius – Soil Rating	31.9	Pass
Anchor Block at 224.79 ft. Radius – Soil Rating	30.4	Pass
Anchor Block at 247.15 ft. Radius – Soil Rating	23.4	Pass

Foundation Rating (max from all components) =	**96.5%**

Recommendations:

The existing tower and foundations have adequate capacity to support the existing and proposed loading for the final loading configuration. Modifications to the tower structure are not required.

Reference Documents:

- T-Mobile RFDS CTNL024A_Coverage Strategy_1, dated June 16, 2021
- Site Photos and Notes by Centerline Communications, dated May 20, 2021
- Structural Analysis by Centek Engineering, dated March 6, 2019
- Construction Drawings by SAI Communications, dated February 11, 2019
- Mount Analysis by SAI Communications, dated December 18, 2018

Assumptions and Limitations:

- The tower and structures were built and maintained with the manufacturer's specifications.
- The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in this report and the referenced drawings.

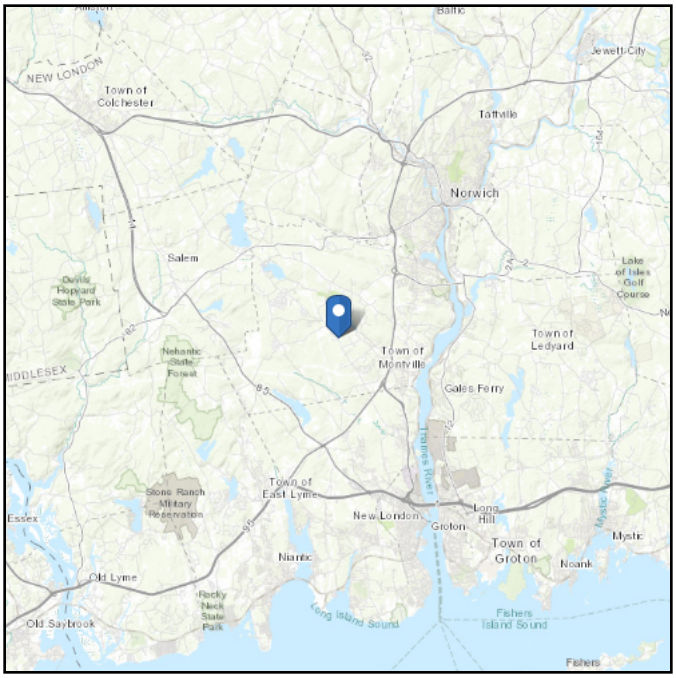
Design Calculations

ASCE 7 Hazards Report

Address:
689 Old Colchester Rd
Uncasville, Connecticut
06382

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 449.23 ft (NAVD 88)
Latitude: 41.452616
Longitude: -72.155704



Wind

Results:

Wind Speed:	132 Vmph
10-year MRI	79 Vmph
25-year MRI	89 Vmph
50-year MRI	98 Vmph
100-year MRI	108 Vmph

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

Date Accessed: Tue Aug 03 2021

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

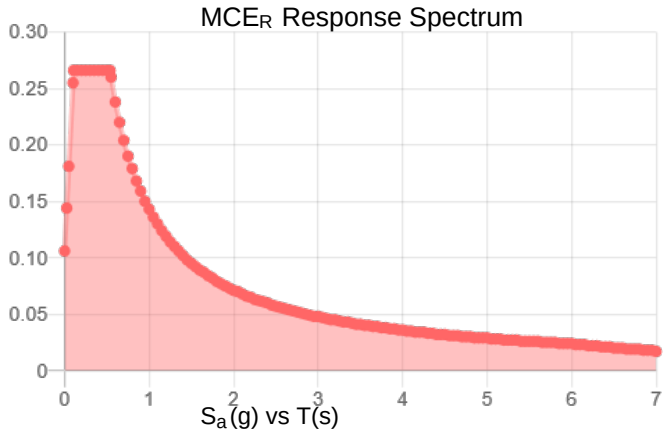
Seismic

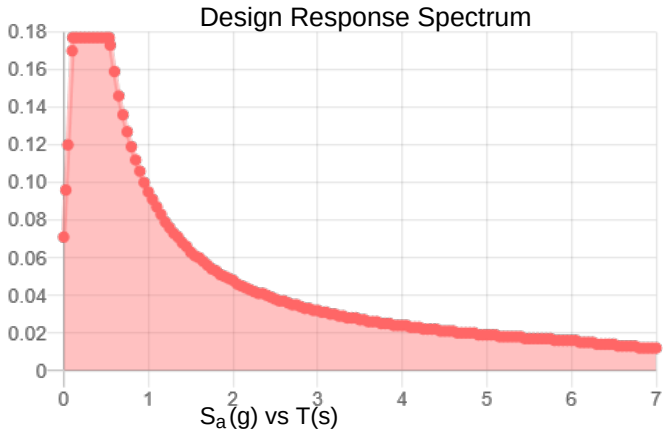
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.166	S_{DS} :	0.177
S_1 :	0.06	S_{D1} :	0.095
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.083
S_{MS} :	0.266	PGA_M :	0.133
S_{M1} :	0.143	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Tue Aug 03 2021

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Tue Aug 03 2021

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Snow

Results:

Ground Snow Load, p_g:	30 lb/ft^2
Elevation:	449.2 ft
Data Source:	ASCE/SEI 7-10, Fig. 7-1.
Date Accessed:	Tue Aug 03 2021

Values provided are ground snow loads. In areas designated "case study required," extreme local variations in ground snow loads preclude mapping at this scale. Site-specific case studies are required to establish ground snow loads at elevations not covered.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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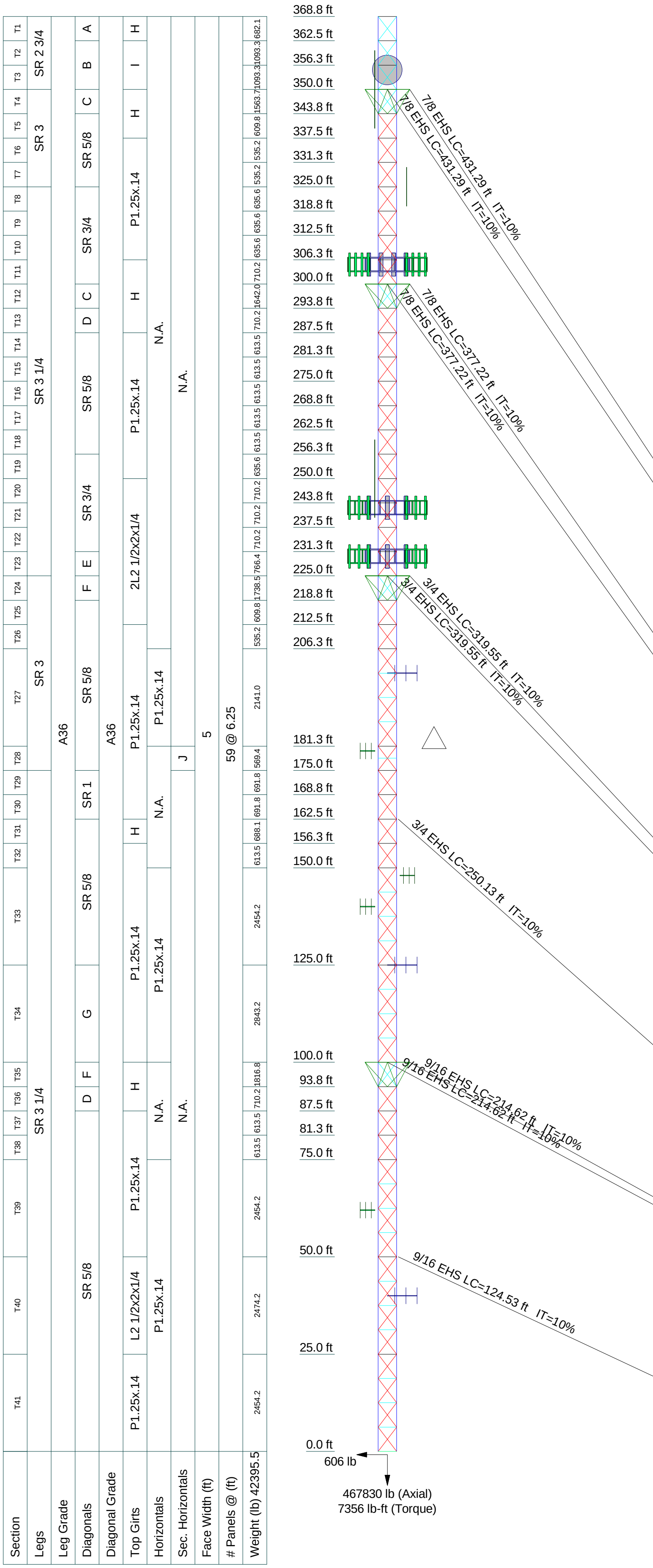
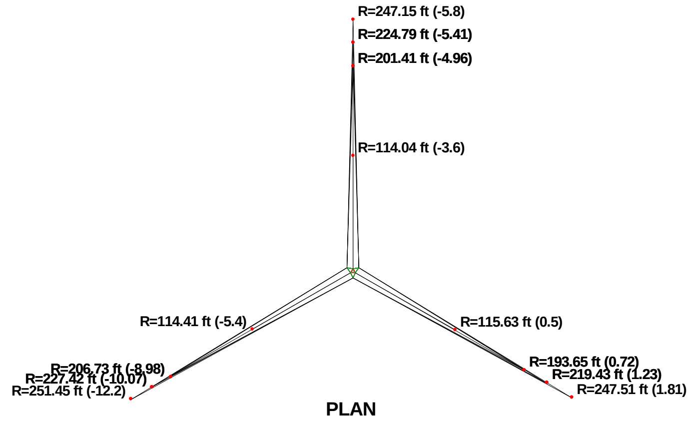




SYMBOL LIST

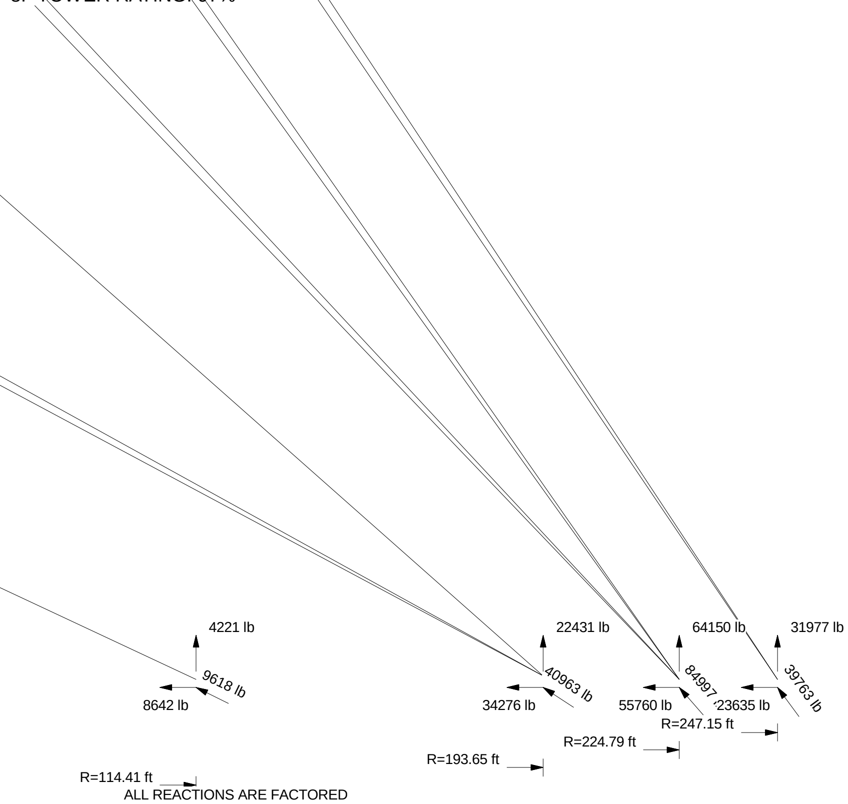
MARK	SIZE	MARK	SIZE
A	L2 1/2x2 1/2x1/4	F	2L2 1/2x2 1/2x1/4
B	2L3x3x5/16	G	L2 1/2x2 1/2x3/16
C	L3x2 1/2x1/4	H	2L2 1/2x2x1/4
D	SR 3/4	I	2L2 1/2x3x1/4
E	SR 1	J	P1.25x.14

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A36	36 ksi	58 ksi			

TOWER DESIGN NOTES

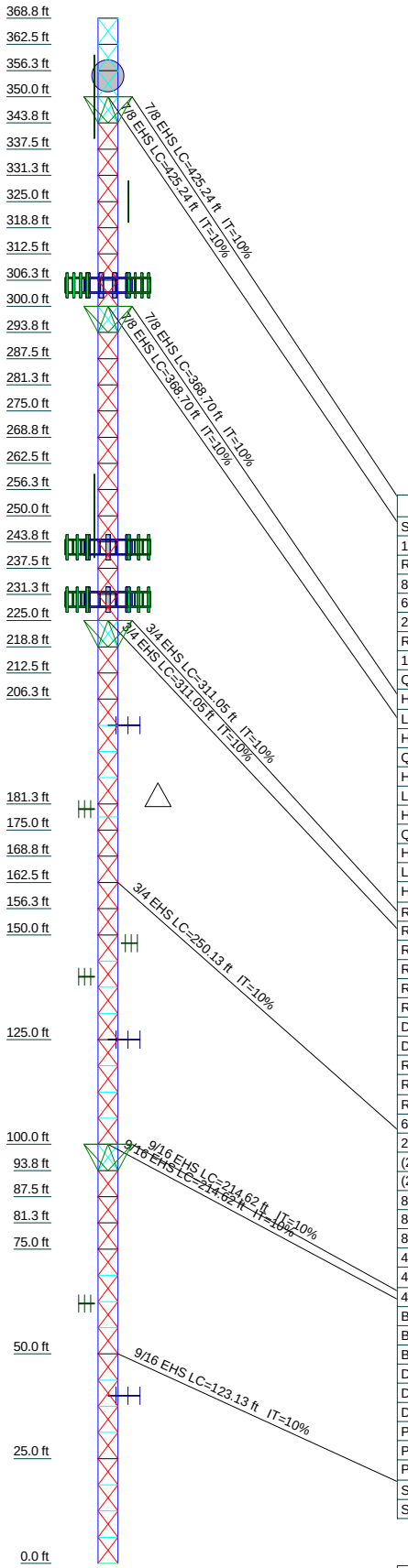
1. Tower is located in New London County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 105 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 97%

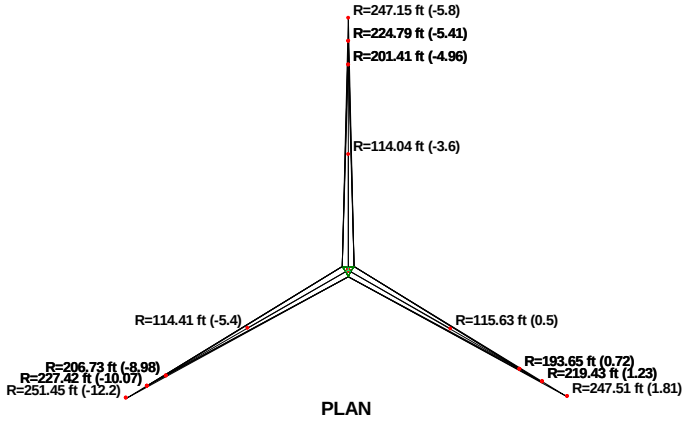


Centerline Communications
750 West Center Street, Suite 301
West Bridgewater, MA 02379
Phone: 781-713-4725
FAX:

Job: **CTNL024A**		
Project: **ANCHOR**		
Client: T-MOBILE	Drawn by: Arielle Novak	App'd:
Code: TIA-222-G	Date: 08/12/21	Scale: NTS
Path:		Dwg No. E-1

Section	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	T16	T17	T18	T19	T20	T21	T22	T23	T24	T25	T26	T27	T28	T29	T30	T31	T32	T33	T34	T35	T36	T37	T38	T39	T40	T41	
Legs	SR 2 3/4			SR 3											SR 3 1/4											SR 3									SR 3 1/4							
Leg Grade	A36																																									
Diagonals	A	B	C	SR 5/8			SR 3/4			P1.25x.14			H	I	H	A	B	C	SR 5/8			SR 3/4			P1.25x.14			H	I	H	A	B	C	SR 5/8			SR 3/4			P1.25x.14		
Diagonal Grade	A36																																									
Top Girts	P1.25x.14																																									
Horizontals	L2 1/2x2x1/4																																									
Sec. Horizontals	P1.25x.14																																									
Face Width (ft)	N.A.																																									
# Panels @ (ft)	5																																									
Weight (lb) 42395.5	59 @ 6.25																																									
	682.1	1093.3	1093.3	1563.7	609.8	535.2	535.2	635.6	635.6	635.6	710.2	1642.0	710.2	613.5	613.5	613.5	613.5	613.5	635.6	710.2	710.2	710.2	766.4	1738.5	609.8	535.2	2141.0	569.4	691.8	691.8	688.1	613.5	2454.2	2843.2	816.8	710.2	613.5	613.5	2454.2	2474.2	2454.2	





PLAN

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Search Antenna	370	Site Pro Horizontal Stabilizer SFS-H	242.5
10'6"x4' Pipe Mount	355	7770.00	242.5
Rohn 6' Side-Arm	355	HPA-65R-BUU-H6	242.5
8' Dish	355	HPA-65R-BUU-H8	242.5
6'x4" Pipe Mount	350	HPA-65R-BUU-H8	242.5
20' x 3" Dia Omni	350	80010965	242.5
ROHN 3-ft Side Arm	325	80010966	242.5
10' x 3" Dia Omni	325	80010966	242.5
QUAD656C0000	305	80010965	242.5
HBXX-6517DS	305	80010966	242.5
LNX-6514DS-T4M	305	80010966	242.5
HBXX-6517DS	305	7770.00	242.5
QUAD656C0000	305	7770.00	242.5
HBXX-6517DS	305	(2) LPG21401 TMA	242.5
LNX-6514DS-T4M	305	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	230
HBXX-6517DS	305	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	230
QUAD656C0000	305	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	230
HBXX-6517DS	305	APXVAALL24_43-U-NA20 (T-MOBILE)	230
LNX-6514DS-T4M	305	APXVAALL24_43-U-NA20 (T-MOBILE)	230
HBXX-6517DS	305	APXVAALL24_43-U-NA20 (T-MOBILE)	230
RRH4x45/2x90-AWS	305	AIR 6449 B41 (T-MOBILE)	230
RRH4x45/2x90-AWS	305	AIR 6449 B41 (T-MOBILE)	230
RRH4x45/2x90-AWS	305	AIR 6449 B41 (T-MOBILE)	230
RRH4x30-B13	305	RADIO 4460 B25_B66 (T-MOBILE)	230
RRH4x30-B13	305	RADIO 4460 B25_B66 (T-MOBILE)	230
RRH4x30-B13	305	RADIO 4460 B25_B66 (T-MOBILE)	230
DB-T1-6Z-8AB-0Z	305	RADIO 4480 B71+B85 (T-MOBILE)	230
DB-T1-6Z-8AB-0Z	305	RADIO 4480 B71+B85 (T-MOBILE)	230
Rohn 6' x 12' Boom Gate	305	RADIO 4480 B71+B85 (T-MOBILE)	230
Rohn 6' x 12' Boom Gate	305	Site Pro 1 VFA12-HD (T-MOBILE)	230
Rohn 6' x 12' Boom Gate	305	Site Pro 1 VFA12-HD (T-MOBILE)	230
6'x4" Pipe Mount	250	Site Pro 1 VFA12-HD (T-MOBILE)	230
20' x 3" Dia Omni	250	(4) 7'x2" Antenna Mount Pipe (T-MOBILE)	230
(2) LPG21401 TMA	242.5	(4) 7'x2" Antenna Mount Pipe (T-MOBILE)	230
(2) LPG21401 TMA	242.5	(4) 7'x2" Antenna Mount Pipe (T-MOBILE)	230
8843 B2/B66A	242.5	Yagi	200
8843 B2/B66A	242.5	(4) Yagi	180
8843 B2/B66A	242.5	(2) 5'3"x4" Pipe Mount	180
4449 B5/B12	242.5	Yagi	148
4449 B5/B12	242.5	Yagi	140
4449 B5/B12	242.5	Yagi	125
B14 4478	242.5	X-Style	88
B14 4478	242.5	(2) X-Style	88
B14 4478	242.5	X-Style	88
DC6-48-60-18-8F Surge Arrestor	242.5	Yagi	62
DC6-48-60-18-8F Surge Arrestor	242.5	Yagi	40
DC6-48-60-18-8F Surge Arrestor	242.5		
Pirod 12' T-Frame Sector Mount	242.5		
Pirod 12' T-Frame Sector Mount	242.5		
Pirod 12' T-Frame Sector Mount	242.5		
Site Pro Horizontal Stabilizer SFS-H	242.5		
Site Pro Horizontal Stabilizer SFS-H	242.5		

SYMBOL LIST

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A	L2 1/2x2 1/2x1/4	F	2L2 1/2x2 1/2x1/4
B	2L3x3x5/16	G	L2 1/2x2 1/2x3/16
C	L3x2 1/2x1/4	H	2L2 1/2x2x1/4
D	SR 3/4	I	2L2 1/2x3x1/4
E	SR 1	J	P1.25x.14

MATERIAL STRENGTH

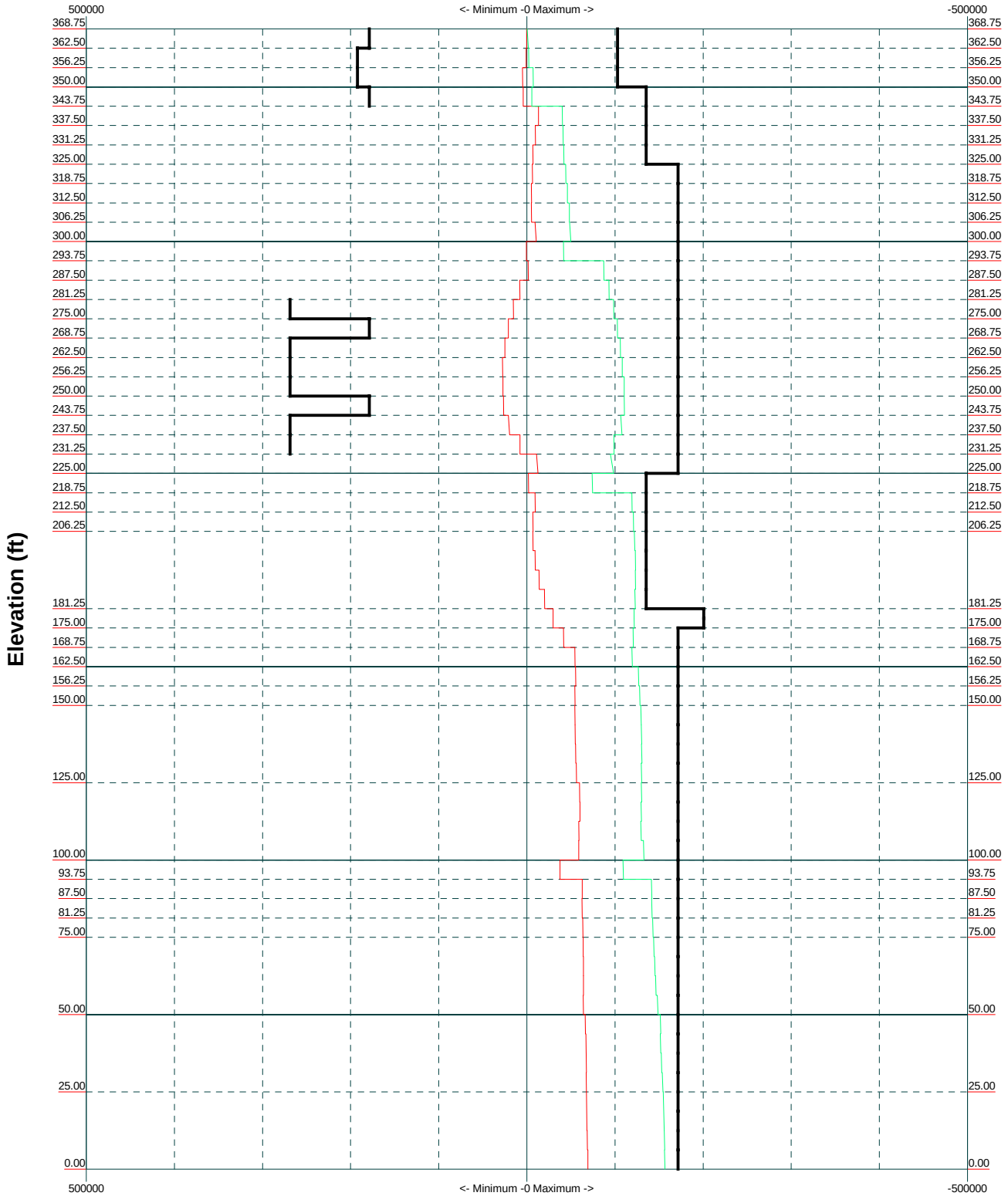
GRADE	Fy	Fu	GRADE	Fy	Fu

Centerline Communications
750 West Center Street, Suite 301
West Bridgewater, MA 02379
Phone: 781-713-4725
FAX:

Job: ***CTNL024A***
Project: ***ANCHOR***
Client: T-MOBILE | Drawn by: Arielle Novak | App'd:
Code: TIA-222-G | Date: 08/12/21 | Scale: NTS
Path: | Dwg No. E-1

TIA-222-G - 105 mph/50 mph 0.7500 in Ice Exposure B

Leg Capacity ——— **Leg Compression (lb)**



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Job: ***CTNL024A***			
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Client: T-MOBILE	Drawn by: Arielle Novak		App'd:
Code: TIA-222-G	Date: 08/12/21		Scale: NTS
Path:			Dwg No. E-3

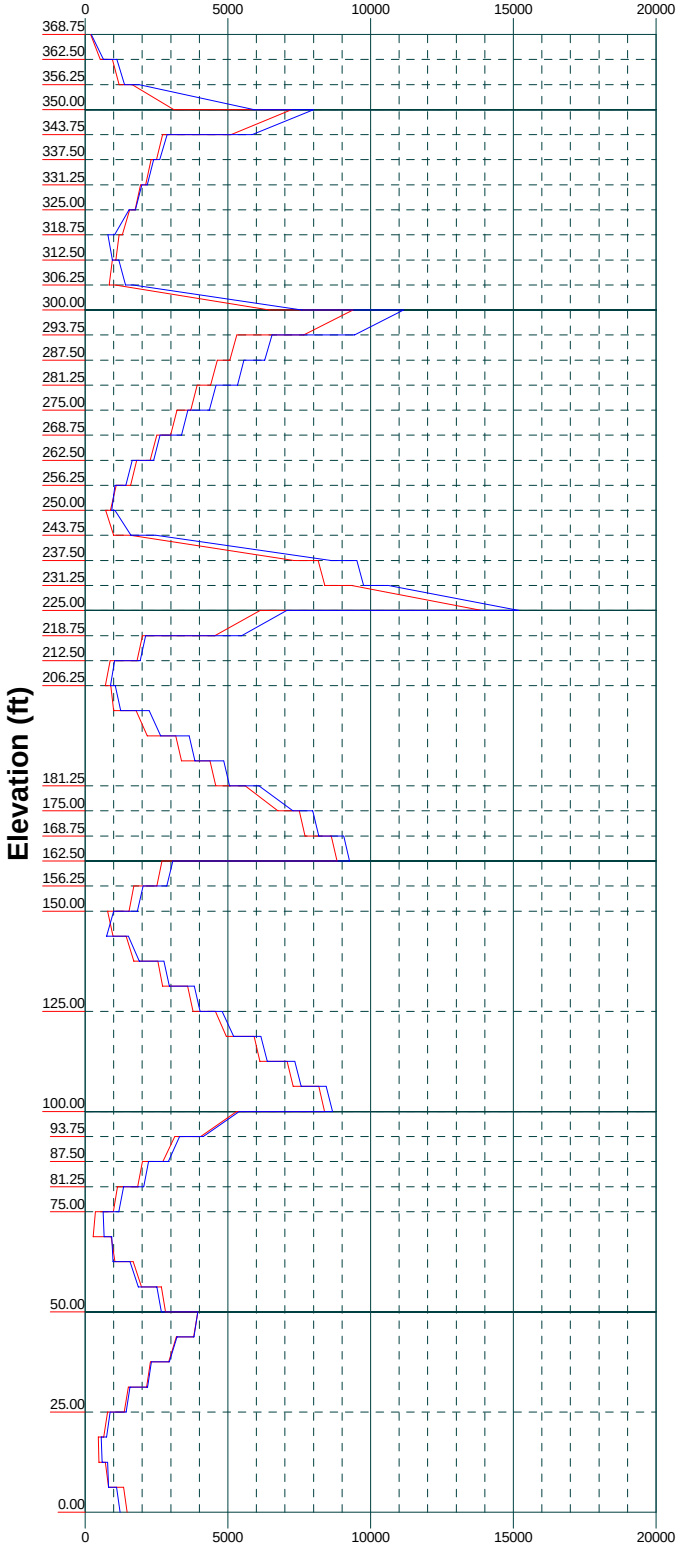
TIA-222-G - 105 mph/50 mph 0.7500 in Ice Exposure B

Vx Vz

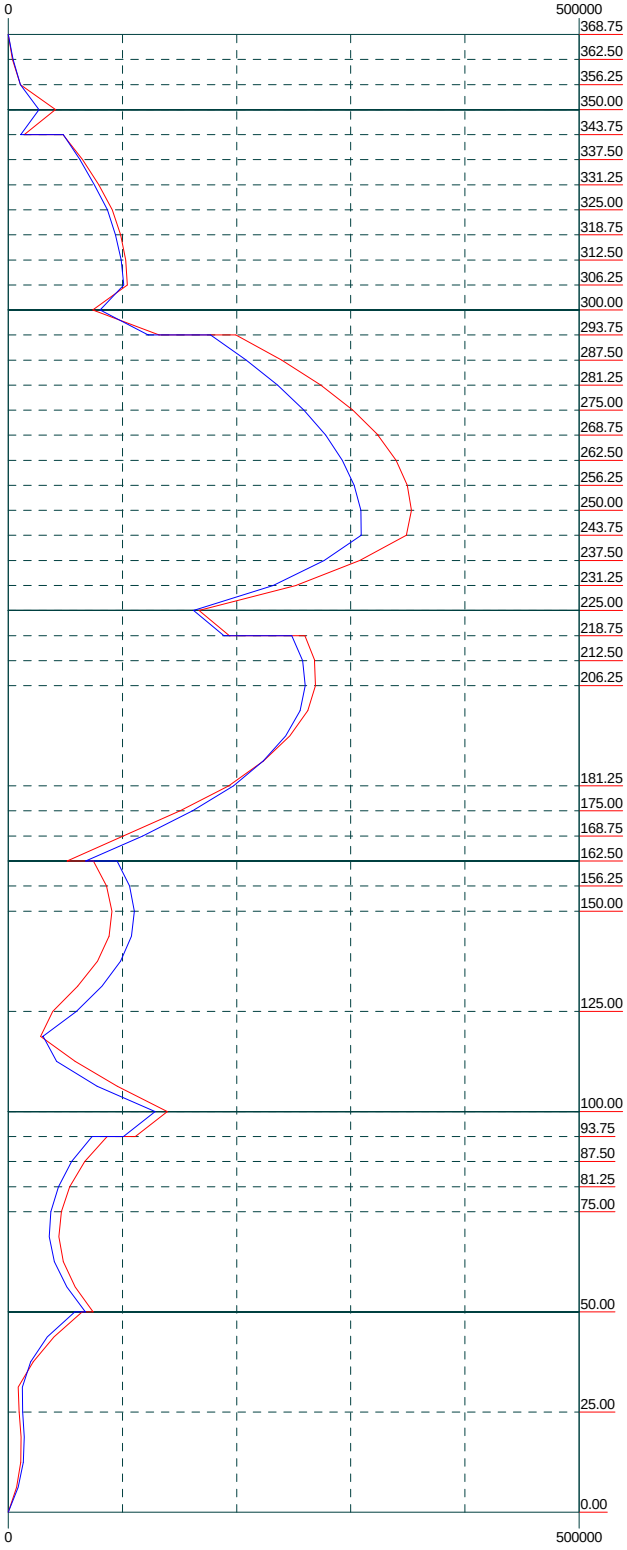
Maximum Values

Mx Mz

Global Mast Shear (lb)



Global Mast Moment (lb-ft)



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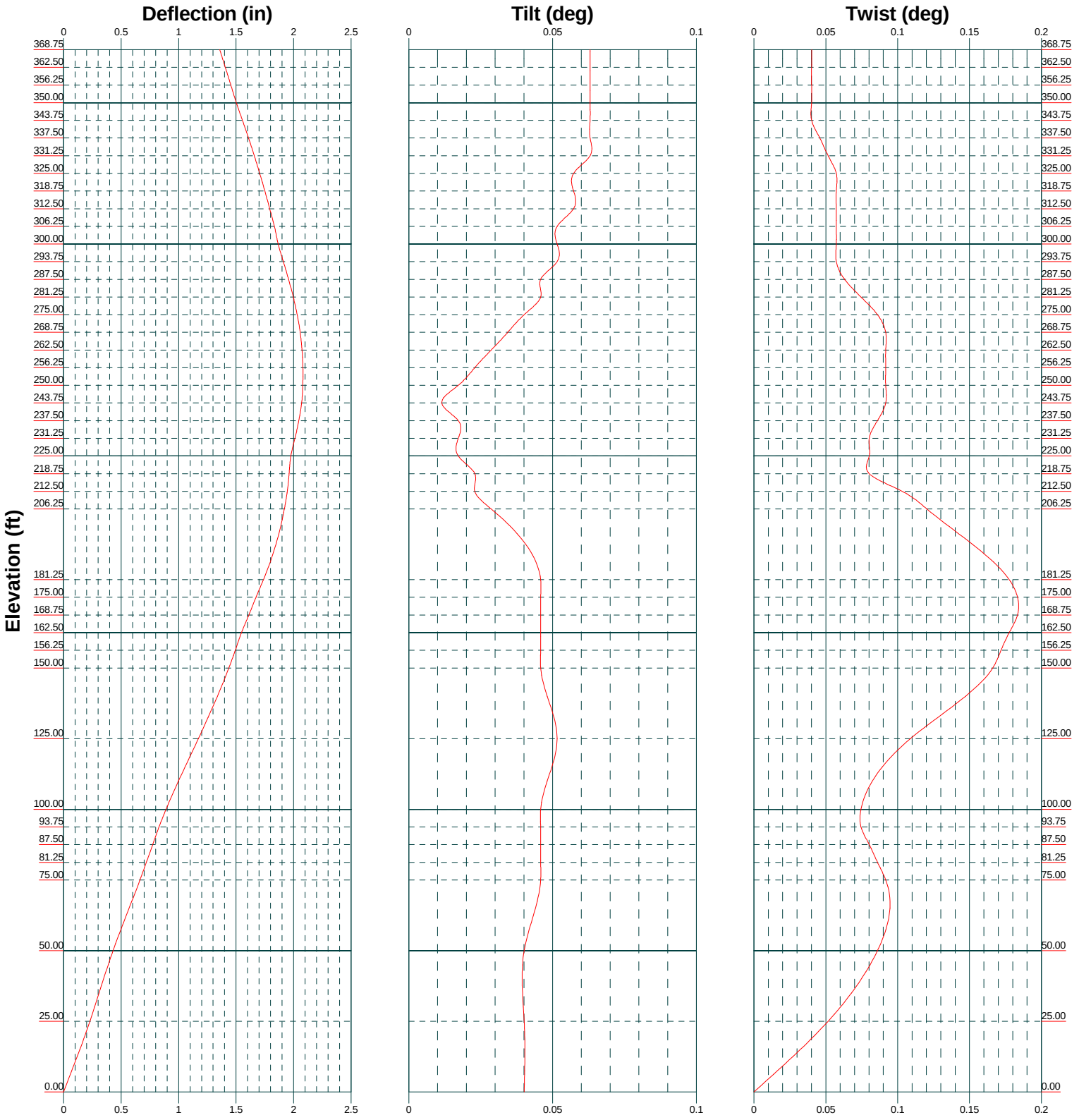
Client: T-MOBILE	Drawn by: Arielle Novak		App'd:
Code: TIA-222-G	Date: 08/12/21		Scale: NTS
Path:			Dwg No. E-4

TIA-222-G - Service - 60 mph

Maximum Values



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Job: ***CTNL024A***			
Project: ***ANCHOR***			
Client: T-MOBILE	Drawn by: Arielle Novak		App'd:
Code: TIA-222-G	Date: 08/12/21		Scale: NTS
Path:			Dwg No. E-5

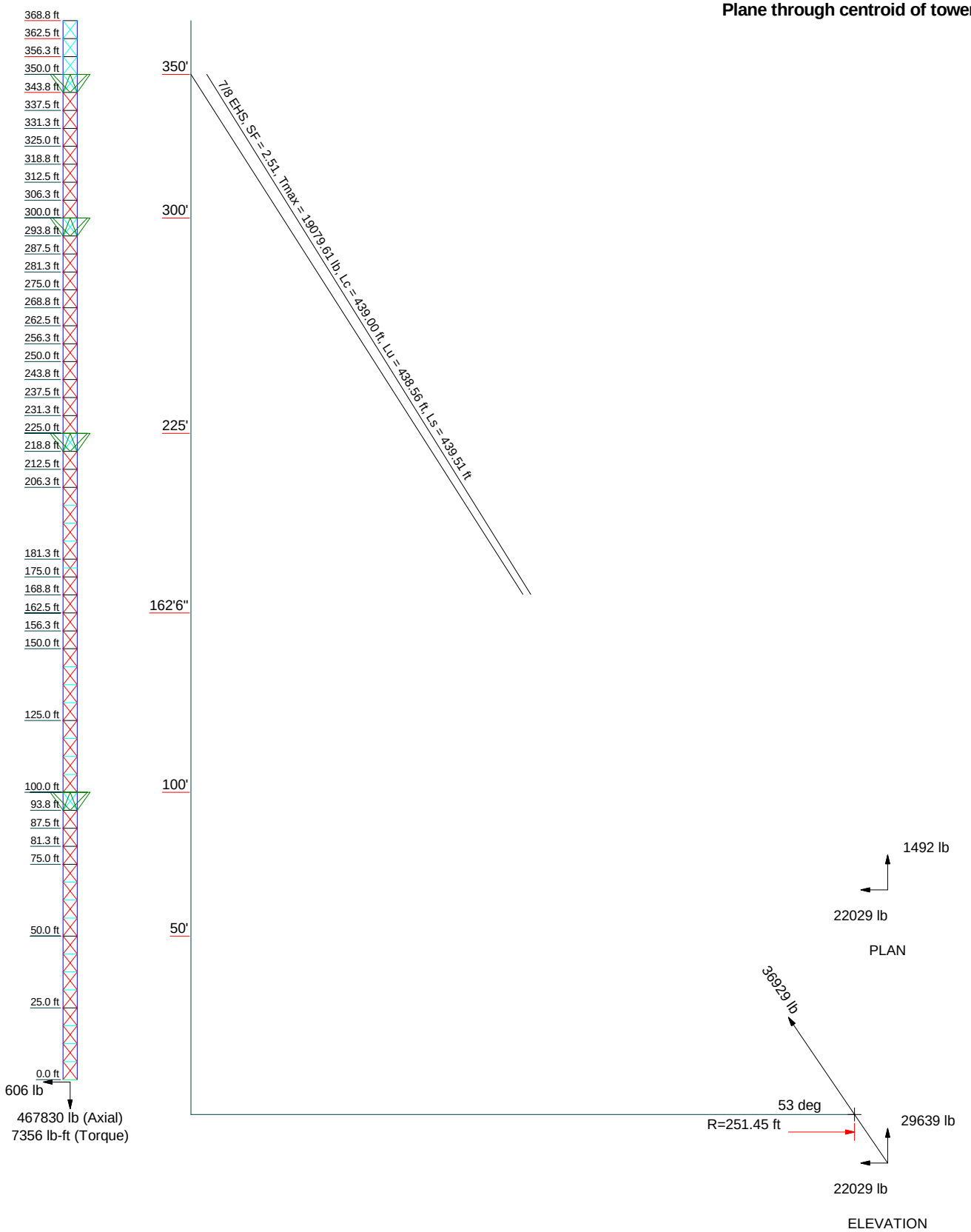
Guy Tensions and Tower Reactions

TIA-222-G - 105 mph/50 mph 0.7500 in Ice Exposure B

Maximum Values

Anchor 'C'@251.45 ft Azimuth 240 deg Elev -12.2 ft

Plane through centroid of tower



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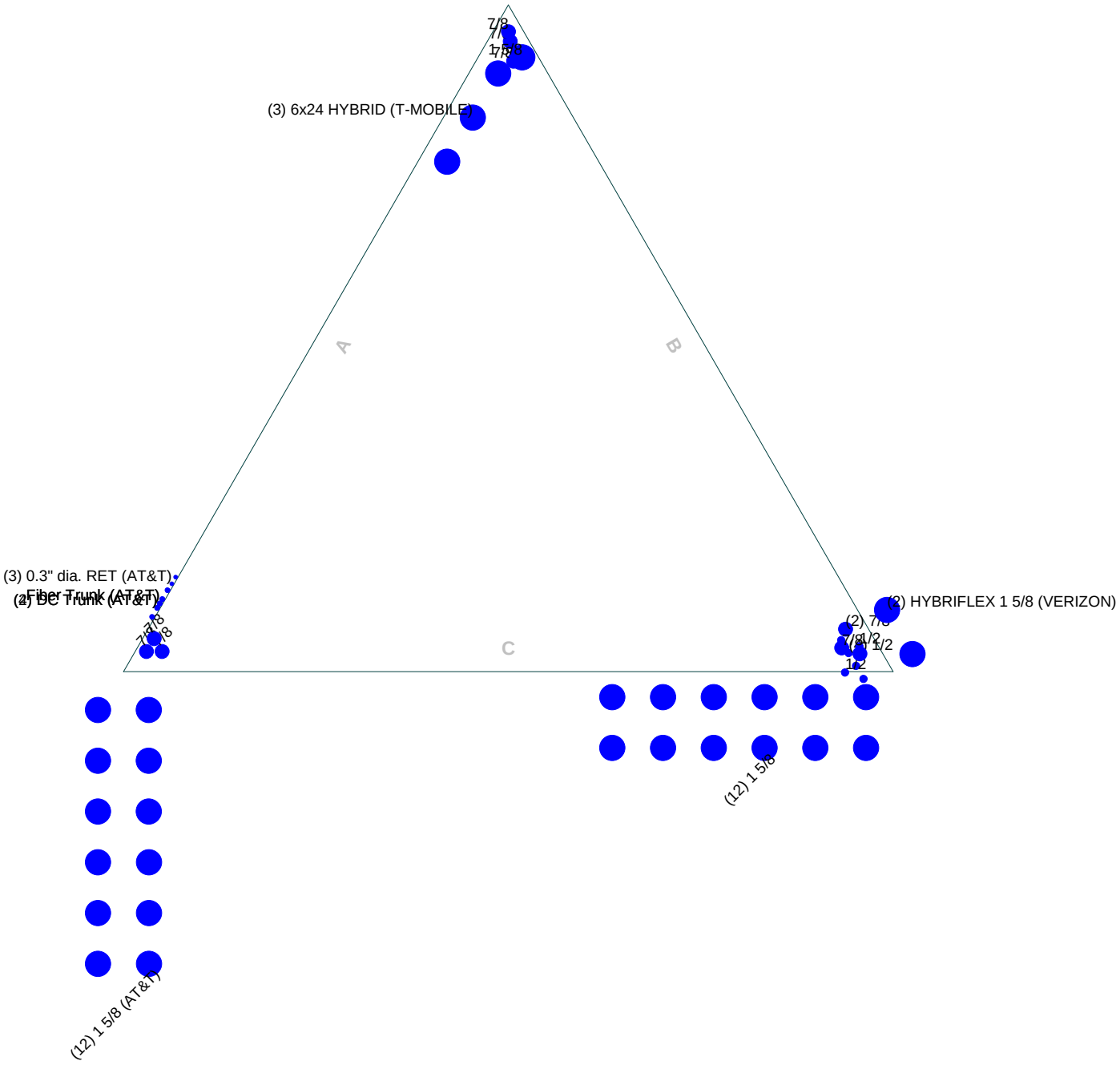
750 West Center Street, Suite 301	Project: ***ANCHOR***		
West Bridgewater, MA 02379	Client: T-MOBILE	Drawn by: Arielle Novak	App'd:
Phone: 781-713-4725	Code: TIA-222-G	Date: 08/12/21	Scale: NTS
FAX:	Path:		Dwg No. E-6

Feed Line Plan

Round Flat App In Face App Out Face



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750 West Center Street, Suite 301
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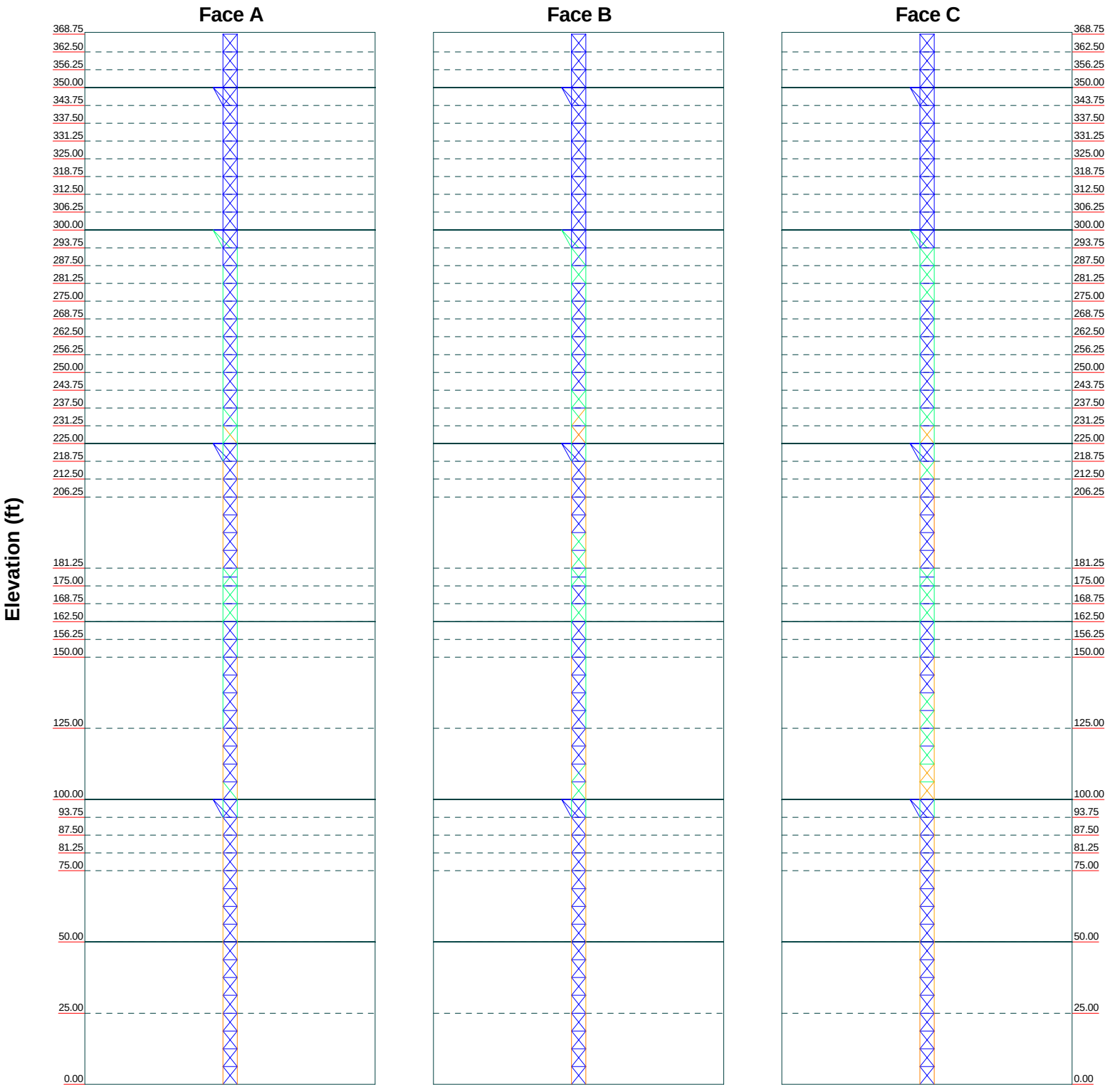
Phone: 781-713-4725
FAX:

Job: ***CTNL024A***			
Project: ***ANCHOR***			
Client: T-MOBILE	Drawn by: Arielle Novak		App'd:
Code: TIA-222-G	Date: 08/12/21		Scale: NTS
Path:			Dwg No. E-7

Stress Distribution Chart
0' - 368'9"

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

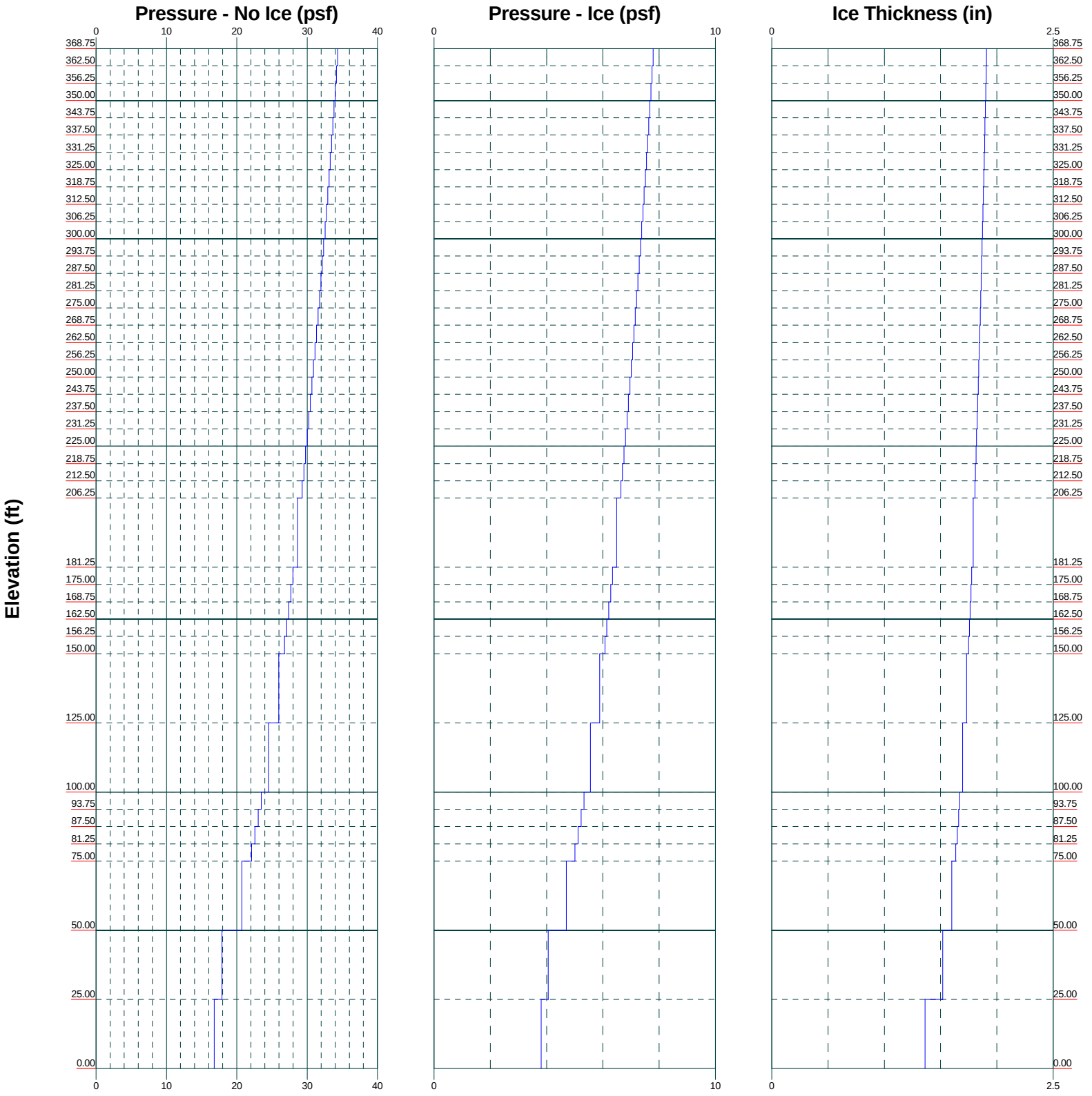


Centerline Communications
750 West Center Street, Suite 301
West Bridgewater, MA 02379
Phone: 781-713-4725
FAX:

Job: ***CTNL024A***			
Project: ***ANCHOR***			
Client: T-MOBILE	Drawn by: Arielle Novak		App'd:
Code: TIA-222-G	Date: 08/12/21		Scale: NTS
Path:			Dwg No. E-8

Wind Pressures and Ice Thickness

TIA-222-G - 105 mph/50 mph 0.7500 in Ice Exposure B



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Phone: 781-713-4725
FAX:

Job: ***CTNL024A***			
Project: ***ANCHOR***			
Client: T-MOBILE	Drawn by: Arielle Novak		App'd:
Code: TIA-222-G	Date: 08/12/21		Scale: NTS
Path:			Dwg No. E-9

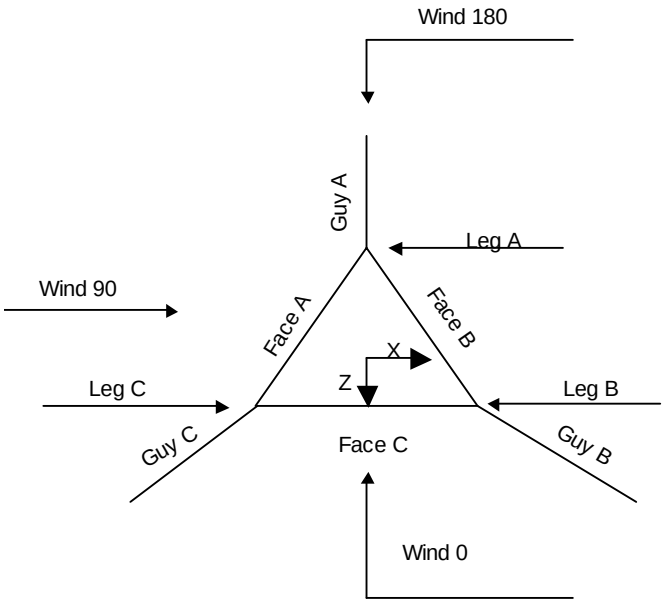
Tower Input Data

The main tower is a 3x guyed tower with an overall height of 368.75 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 5.00 ft at the top and 5.00 ft at the base.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

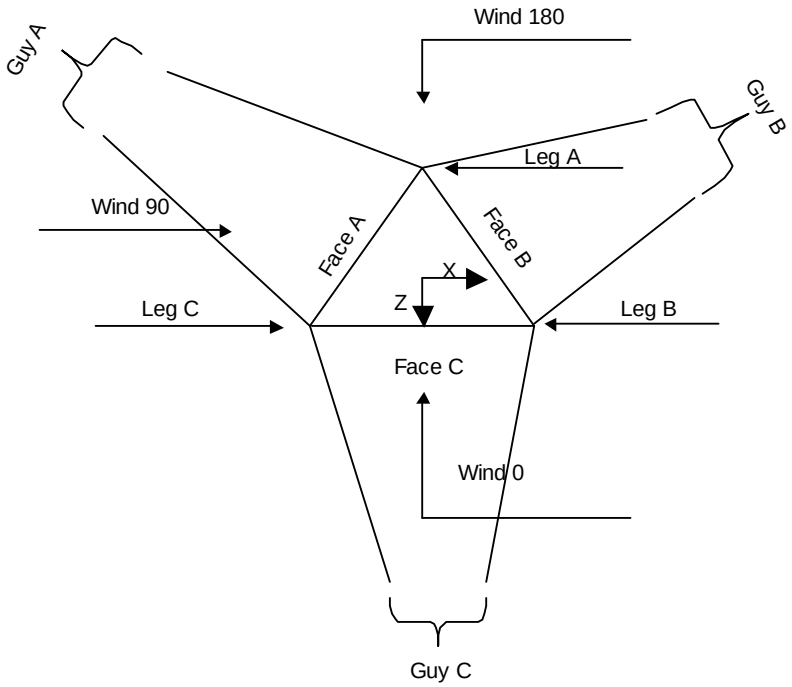
Tower is located in New London County, Connecticut.
ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).
Basic wind speed of 105 mph.
Structure Class II.
Exposure Category B.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 0.7500 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
Tension only take-up is 0.0313 in.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Safety factor used in guy design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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



Corner & Starmount Guyed Tower



Face Guyed

Tower Section Geometry

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T1	368.75-362.50			5.00	1	6.25
T2	362.50-356.25			5.00	1	6.25
T3	356.25-350.00			5.00	1	6.25
T4	350.00-343.75			5.00	1	6.25
T5	343.75-337.50			5.00	1	6.25
T6	337.50-331.25			5.00	1	6.25
T7	331.25-325.00			5.00	1	6.25
T8	325.00-318.75			5.00	1	6.25
T9	318.75-312.50			5.00	1	6.25
T10	312.50-306.25			5.00	1	6.25
T11	306.25-300.00			5.00	1	6.25
T12	300.00-293.75			5.00	1	6.25
T13	293.75-287.50			5.00	1	6.25
T14	287.50-281.25			5.00	1	6.25
T15	281.25-275.00			5.00	1	6.25
T16	275.00-268.75			5.00	1	6.25

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T17	268.75-262.50			5.00	1	6.25
T18	262.50-256.25			5.00	1	6.25
T19	256.25-250.00			5.00	1	6.25
T20	250.00-243.75			5.00	1	6.25
T21	243.75-237.50			5.00	1	6.25
T22	237.50-231.25			5.00	1	6.25
T23	231.25-225.00			5.00	1	6.25
T24	225.00-218.75			5.00	1	6.25
T25	218.75-212.50			5.00	1	6.25
T26	212.50-206.25			5.00	1	6.25
T27	206.25-181.25			5.00	1	25.00
T28	181.25-175.00			5.00	1	6.25
T29	175.00-168.75			5.00	1	6.25
T30	168.75-162.50			5.00	1	6.25
T31	162.50-156.25			5.00	1	6.25
T32	156.25-150.00			5.00	1	6.25
T33	150.00-125.00			5.00	1	25.00
T34	125.00-100.00			5.00	1	25.00
T35	100.00-93.75			5.00	1	6.25
T36	93.75-87.50			5.00	1	6.25
T37	87.50-81.25			5.00	1	6.25
T38	81.25-75.00			5.00	1	6.25
T39	75.00-50.00			5.00	1	25.00
T40	50.00-25.00			5.00	1	25.00
T41	25.00-0.00			5.00	1	25.00

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T1	368.75-362.50	6.25	X Brace	No	No	0.0000	0.0000
T2	362.50-356.25	6.25	X Brace	No	No	0.0000	0.0000
T3	356.25-350.00	6.25	X Brace	No	No	0.0000	0.0000
T4	350.00-343.75	6.25	X Brace	No	Yes	0.0000	0.0000
T5	343.75-337.50	6.25	TX Brace	No	Yes	0.0000	0.0000
T6	337.50-331.25	6.25	TX Brace	No	Yes	0.0000	0.0000
T7	331.25-325.00	6.25	TX Brace	No	Yes	0.0000	0.0000
T8	325.00-318.75	6.25	TX Brace	No	Yes	0.0000	0.0000
T9	318.75-312.50	6.25	TX Brace	No	Yes	0.0000	0.0000
T10	312.50-306.25	6.25	TX Brace	No	Yes	0.0000	0.0000
T11	306.25-300.00	6.25	TX Brace	No	Yes	0.0000	0.0000
T12	300.00-293.75	6.25	X Brace	No	Yes	0.0000	0.0000
T13	293.75-287.50	6.25	TX Brace	No	Yes	0.0000	0.0000
T14	287.50-281.25	6.25	TX Brace	No	Yes	0.0000	0.0000
T15	281.25-275.00	6.25	TX Brace	No	Yes	0.0000	0.0000
T16	275.00-268.75	6.25	TX Brace	No	Yes	0.0000	0.0000
T17	268.75-262.50	6.25	TX Brace	No	Yes	0.0000	0.0000
T18	262.50-256.25	6.25	TX Brace	No	Yes	0.0000	0.0000
T19	256.25-250.00	6.25	TX Brace	No	Yes	0.0000	0.0000
T20	250.00-243.75	6.25	TX Brace	No	Yes	0.0000	0.0000
T21	243.75-237.50	6.25	TX Brace	No	Yes	0.0000	0.0000
T22	237.50-231.25	6.25	TX Brace	No	Yes	0.0000	0.0000
T23	231.25-225.00	6.25	TX Brace	No	Yes	0.0000	0.0000

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
T24	225.00-218.75	6.25	X Brace	No	Yes	0.0000	0.0000
T25	218.75-212.50	6.25	TX Brace	No	Yes	0.0000	0.0000
T26	212.50-206.25	6.25	TX Brace	No	Yes	0.0000	0.0000
T27	206.25-181.25	6.25	TX Brace	No	Yes	0.0000	0.0000
T28	181.25-175.00	6.25	TX Brace	No	Yes	0.0000	0.0000
T29	175.00-168.75	6.25	TX Brace	No	Yes	0.0000	0.0000
T30	168.75-162.50	6.25	TX Brace	No	Yes	0.0000	0.0000
T31	162.50-156.25	6.25	TX Brace	No	Yes	0.0000	0.0000
T32	156.25-150.00	6.25	TX Brace	No	Yes	0.0000	0.0000
T33	150.00-125.00	6.25	TX Brace	No	Yes	0.0000	0.0000
T34	125.00-100.00	6.25	TX Brace	No	Yes	0.0000	0.0000
T35	100.00-93.75	6.25	X Brace	No	Yes	0.0000	0.0000
T36	93.75-87.50	6.25	TX Brace	No	Yes	0.0000	0.0000
T37	87.50-81.25	6.25	TX Brace	No	Yes	0.0000	0.0000
T38	81.25-75.00	6.25	TX Brace	No	Yes	0.0000	0.0000
T39	75.00-50.00	6.25	TX Brace	No	Yes	0.0000	0.0000
T40	50.00-25.00	6.25	TX Brace	No	Yes	0.0000	0.0000
T41	25.00-0.00	6.25	TX Brace	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 368.75-362.50	Solid Round	2 3/4	A36 (36 ksi)	Single Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)
T2 362.50-356.25	Solid Round	2 3/4	A36 (36 ksi)	Double Angle	2L3x3x5/16	A36 (36 ksi)
T3 356.25-350.00	Solid Round	2 3/4	A36 (36 ksi)	Double Angle	2L3x3x5/16	A36 (36 ksi)
T4 350.00-343.75	Solid Round	3	A36 (36 ksi)	Single Angle	L3x2 1/2x1/4	A36 (36 ksi)
T5 343.75-337.50	Solid Round	3	A36 (36 ksi)	Solid Round	5/8	A36 (36 ksi)
T6 337.50-331.25	Solid Round	3	A36 (36 ksi)	Solid Round	5/8	A36 (36 ksi)
T7 331.25-325.00	Solid Round	3	A36 (36 ksi)	Solid Round	5/8	A36 (36 ksi)
T8 325.00-318.75	Solid Round	3 1/4	A36 (36 ksi)	Solid Round	3/4	A36 (36 ksi)
T9 318.75-312.50	Solid Round	3 1/4	A36 (36 ksi)	Solid Round	3/4	A36 (36 ksi)
T10 312.50-306.25	Solid Round	3 1/4	A36 (36 ksi)	Solid Round	3/4	A36 (36 ksi)
T11 306.25-300.00	Solid Round	3 1/4	A36 (36 ksi)	Solid Round	3/4	A36 (36 ksi)
T12 300.00-293.75	Solid Round	3 1/4	A36 (36 ksi)	Single Angle	L3x2 1/2x1/4	A36 (36 ksi)
T13 293.75-287.50	Solid Round	3 1/4	A36 (36 ksi)	Solid Round	3/4	A36 (36 ksi)
T14 287.50-281.25	Solid Round	3 1/4	A36 (36 ksi)	Solid Round	5/8	A36 (36 ksi)
T15 281.25-275.00	Solid Round	3 1/4	A36 (36 ksi)	Solid Round	5/8	A36 (36 ksi)
T16 275.00-268.75	Solid Round	3 1/4	A36 (36 ksi)	Solid Round	5/8	A36 (36 ksi)
T17	Solid Round	3 1/4	A36	Solid Round	5/8	A36

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
268.75-262.50			(36 ksi)			(36 ksi)
T18	Solid Round	3 1/4	A36	Solid Round	5/8	A36
262.50-256.25			(36 ksi)			(36 ksi)
T19	Solid Round	3 1/4	A36	Solid Round	3/4	A36
256.25-250.00			(36 ksi)			(36 ksi)
T20	Solid Round	3 1/4	A36	Solid Round	3/4	A36
250.00-243.75			(36 ksi)			(36 ksi)
T21	Solid Round	3 1/4	A36	Solid Round	3/4	A36
243.75-237.50			(36 ksi)			(36 ksi)
T22	Solid Round	3 1/4	A36	Solid Round	3/4	A36
237.50-231.25			(36 ksi)			(36 ksi)
T23	Solid Round	3 1/4	A36	Solid Round	1	A36
231.25-225.00			(36 ksi)			(36 ksi)
T24	Solid Round	3	A36	Double Angle	2L2 1/2x2 1/2x1/4	A36
225.00-218.75			(36 ksi)			(36 ksi)
T25	Solid Round	3	A36	Solid Round	5/8	A36
218.75-212.50			(36 ksi)			(36 ksi)
T26	Solid Round	3	A36	Solid Round	5/8	A36
212.50-206.25			(36 ksi)			(36 ksi)
T27	Solid Round	3	A36	Solid Round	5/8	A36
206.25-181.25			(36 ksi)			(36 ksi)
T28	Solid Round	3	A36	Solid Round	5/8	A36
181.25-175.00			(36 ksi)			(36 ksi)
T29	Solid Round	3 1/4	A36	Solid Round	1	A36
175.00-168.75			(36 ksi)			(36 ksi)
T30	Solid Round	3 1/4	A36	Solid Round	1	A36
168.75-162.50			(36 ksi)			(36 ksi)
T31	Solid Round	3 1/4	A36	Solid Round	5/8	A36
162.50-156.25			(36 ksi)			(36 ksi)
T32	Solid Round	3 1/4	A36	Solid Round	5/8	A36
156.25-150.00			(36 ksi)			(36 ksi)
T33	Solid Round	3 1/4	A36	Solid Round	5/8	A36
150.00-125.00			(36 ksi)			(36 ksi)
T34	Solid Round	3 1/4	A36	Single Angle	L2 1/2x2 1/2x3/16	A36
125.00-100.00			(36 ksi)			(36 ksi)
T35 100.00-93.75	Solid Round	3 1/4	A36	Double Angle	2L2 1/2x2 1/2x1/4	A36
			(36 ksi)			(36 ksi)
T36 93.75-87.50	Solid Round	3 1/4	A36	Solid Round	3/4	A36
			(36 ksi)			(36 ksi)
T37 87.50-81.25	Solid Round	3 1/4	A36	Solid Round	5/8	A36
			(36 ksi)			(36 ksi)
T38 81.25-75.00	Solid Round	3 1/4	A36	Solid Round	5/8	A36
			(36 ksi)			(36 ksi)
T39 75.00-50.00	Solid Round	3 1/4	A36	Solid Round	5/8	A36
			(36 ksi)			(36 ksi)
T40 50.00-25.00	Solid Round	3 1/4	A36	Solid Round	5/8	A36
			(36 ksi)			(36 ksi)
T41 25.00-0.00	Solid Round	3 1/4	A36	Solid Round	5/8	A36
			(36 ksi)			(36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 368.75-362.50	Double Angle	2L2 1/2x2x1/4	A36	Flat Bar		A36

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
			(36 ksi)			(36 ksi)
T2 362.50-356.25	Double Angle	2L2 1/2x3x1/4	A36	Flat Bar		A36
			(36 ksi)			(36 ksi)
T3 356.25-350.00	Double Angle	2L2 1/2x3x1/4	A36	Flat Bar		A36
			(36 ksi)			(36 ksi)
T4 350.00-343.75	Double Angle	2L2 1/2x2x1/4	A36	Flat Bar		A36
			(36 ksi)			(36 ksi)
T5 343.75-337.50	Double Angle	2L2 1/2x2x1/4	A36	Flat Bar		A36
			(36 ksi)			(36 ksi)
T6 337.50-331.25	Pipe	P1.25x.14	A36	Flat Bar		A36
			(36 ksi)			(36 ksi)
T7 331.25-325.00	Pipe	P1.25x.14	A36	Flat Bar		A36
			(36 ksi)			(36 ksi)
T8 325.00-318.75	Pipe	P1.25x.14	A36	Flat Bar		A36
			(36 ksi)			(36 ksi)
T9 318.75-312.50	Pipe	P1.25x.14	A36	Flat Bar		A36
			(36 ksi)			(36 ksi)
T10	Pipe	P1.25x.14	A36	Flat Bar		A36
312.50-306.25			(36 ksi)			(36 ksi)
T11	Double Angle	2L2 1/2x2x1/4	A36	Flat Bar		A36
306.25-300.00			(36 ksi)			(36 ksi)
T12	Double Angle	2L2 1/2x2x1/4	A36	Flat Bar		A36
300.00-293.75			(36 ksi)			(36 ksi)
T13	Double Angle	2L2 1/2x2x1/4	A36	Flat Bar		A36
293.75-287.50			(36 ksi)			(36 ksi)
T14	Pipe	P1.25x.14	A36	Flat Bar		A36
287.50-281.25			(36 ksi)			(36 ksi)
T15	Pipe	P1.25x.14	A36	Flat Bar		A36
281.25-275.00			(36 ksi)			(36 ksi)
T16	Pipe	P1.25x.14	A36	Flat Bar		A36
275.00-268.75			(36 ksi)			(36 ksi)
T17	Pipe	P1.25x.14	A36	Flat Bar		A36
268.75-262.50			(36 ksi)			(36 ksi)
T18	Pipe	P1.25x.14	A36	Flat Bar		A36
262.50-256.25			(36 ksi)			(36 ksi)
T19	Pipe	P1.25x.14	A36	Flat Bar		A36
256.25-250.00			(36 ksi)			(36 ksi)
T20	Double Angle	2L2 1/2x2x1/4	A36	Flat Bar		A36
250.00-243.75			(36 ksi)			(36 ksi)
T21	Double Angle	2L2 1/2x2x1/4	A36	Flat Bar		A36
243.75-237.50			(36 ksi)			(36 ksi)
T22	Double Angle	2L2 1/2x2x1/4	A36	Flat Bar		A36
237.50-231.25			(36 ksi)			(36 ksi)
T23	Double Angle	2L2 1/2x2x1/4	A36	Flat Bar		A36
231.25-225.00			(36 ksi)			(36 ksi)
T24	Double Angle	2L2 1/2x2x1/4	A36	Flat Bar		A36
225.00-218.75			(36 ksi)			(36 ksi)
T25	Double Angle	2L2 1/2x2x1/4	A36	Flat Bar		A36
218.75-212.50			(36 ksi)			(36 ksi)
T26	Pipe	P1.25x.14	A36	Flat Bar		A36
212.50-206.25			(36 ksi)			(36 ksi)
T27	Pipe	P1.25x.14	A36	Flat Bar		A36
206.25-181.25			(36 ksi)			(36 ksi)
T28	Pipe	P1.25x.14	A36	Flat Bar		A36
181.25-175.00			(36 ksi)			(36 ksi)
T29	Pipe	P1.25x.14	A36	Flat Bar		A36
175.00-168.75			(36 ksi)			(36 ksi)
T30	Pipe	P1.25x.14	A36	Flat Bar		A36
168.75-162.50			(36 ksi)			(36 ksi)
T31	Double Angle	2L2 1/2x2x1/4	A36	Flat Bar		A36
162.50-156.25			(36 ksi)			(36 ksi)

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T32 156.25-150.00	Pipe	P1.25x.14	A36 (36 ksi)	Flat Bar		A36 (36 ksi)
T33 150.00-125.00	Pipe	P1.25x.14	A36 (36 ksi)	Flat Bar		A36 (36 ksi)
T34 125.00-100.00	Pipe	P1.25x.14	A36 (36 ksi)	Flat Bar		A36 (36 ksi)
T35 100.00-93.75	Double Angle	2L2 1/2x2x1/4	A36 (36 ksi)	Flat Bar		A36 (36 ksi)
T36 93.75-87.50	Double Angle	2L2 1/2x2x1/4	A36 (36 ksi)	Flat Bar		A36 (36 ksi)
T37 87.50-81.25	Pipe	P1.25x.14	A36 (36 ksi)	Flat Bar		A36 (36 ksi)
T38 81.25-75.00	Pipe	P1.25x.14	A36 (36 ksi)	Flat Bar		A36 (36 ksi)
T39 75.00-50.00	Pipe	P1.25x.14	A36 (36 ksi)	Flat Bar		A36 (36 ksi)
T40 50.00-25.00	Single Angle	L2 1/2x2x1/4	A36 (36 ksi)	Flat Bar		A36 (36 ksi)
T41 25.00-0.00	Pipe	P1.25x.14	A36 (36 ksi)	Flat Bar		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
T4 350.00-343.75	None	Flat Bar		A36 (36 ksi)	Pipe	P1.25x.14	A36 (36 ksi)
T5 343.75-337.50	None	Flat Bar		A36 (36 ksi)	Pipe	P1.25x.14	A36 (36 ksi)
T6 337.50-331.25	None	Flat Bar		A36 (36 ksi)	Pipe	P1.25x.14	A36 (36 ksi)
T7 331.25-325.00	None	Flat Bar		A36 (36 ksi)	Pipe	P1.25x.14	A36 (36 ksi)
T8 325.00-318.75	None	Flat Bar		A36 (36 ksi)	Pipe	P1.25x.14	A36 (36 ksi)
T9 318.75-312.50	None	Flat Bar		A36 (36 ksi)	Pipe	P1.25x.14	A36 (36 ksi)
T10 312.50-306.25	None	Flat Bar		A36 (36 ksi)	Pipe	P1.25x.14	A36 (36 ksi)
T11 306.25-300.00	None	Flat Bar		A36 (36 ksi)	Pipe	P1.25x.14	A36 (36 ksi)
T12 300.00-293.75	None	Flat Bar		A36 (36 ksi)	Pipe	P1.25x.14	A36 (36 ksi)
T13 293.75-287.50	None	Flat Bar		A36 (36 ksi)	Pipe	P1.25x.14	A36 (36 ksi)
T14 287.50-281.25	None	Flat Bar		A36 (36 ksi)	Pipe	P1.25x.14	A36 (36 ksi)
T15 281.25-275.00	None	Flat Bar		A36 (36 ksi)	Pipe	P1.25x.14	A36 (36 ksi)
T16 275.00-268.75	None	Flat Bar		A36 (36 ksi)	Pipe	P1.25x.14	A36 (36 ksi)
T17 268.75-262.50	None	Flat Bar		A36 (36 ksi)	Pipe	P1.25x.14	A36 (36 ksi)
T18	None	Flat Bar		A36	Pipe	P1.25x.14	A36

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
262.50-256.25				(36 ksi)			(36 ksi)
T19	None	Flat Bar		A36	Pipe	P1.25x.14	A36
256.25-250.00				(36 ksi)			(36 ksi)
T20	None	Flat Bar		A36	Pipe	P1.25x.14	A36
250.00-243.75				(36 ksi)			(36 ksi)
T21	None	Flat Bar		A36	Pipe	P1.25x.14	A36
243.75-237.50				(36 ksi)			(36 ksi)
T22	None	Flat Bar		A36	Pipe	P1.25x.14	A36
237.50-231.25				(36 ksi)			(36 ksi)
T23	None	Flat Bar		A36	Pipe	P1.25x.14	A36
231.25-225.00				(36 ksi)			(36 ksi)
T24	None	Flat Bar		A36	Pipe	P1.25x.14	A36
225.00-218.75				(36 ksi)			(36 ksi)
T25	None	Flat Bar		A36	Pipe	P1.25x.14	A36
218.75-212.50				(36 ksi)			(36 ksi)
T26	None	Flat Bar		A36	Pipe	P1.25x.14	A36
212.50-206.25				(36 ksi)			(36 ksi)
T27	None	Flat Bar		A36	Pipe	P1.25x.14	A36
206.25-181.25				(36 ksi)			(36 ksi)
T28	None	Flat Bar		A36	Pipe	P1.25x.14	A36
181.25-175.00				(36 ksi)			(36 ksi)
T29	None	Flat Bar		A36	Pipe	P1.25x.14	A36
175.00-168.75				(36 ksi)			(36 ksi)
T30	None	Flat Bar		A36	Pipe	P1.25x.14	A36
168.75-162.50				(36 ksi)			(36 ksi)
T31	None	Flat Bar		A36	Pipe	P1.25x.14	A36
162.50-156.25				(36 ksi)			(36 ksi)
T32	None	Flat Bar		A36	Pipe	P1.25x.14	A36
156.25-150.00				(36 ksi)			(36 ksi)
T33	None	Flat Bar		A36	Pipe	P1.25x.14	A36
150.00-125.00				(36 ksi)			(36 ksi)
T34	None	Flat Bar		A36	Pipe	P1.25x.14	A36
125.00-100.00				(36 ksi)			(36 ksi)
T35 100.00-93.75	None	Flat Bar		A36	Pipe	P1.25x.14	A36
				(36 ksi)			(36 ksi)
T36 93.75-87.50	None	Flat Bar		A36	Pipe	P1.25x.14	A36
				(36 ksi)			(36 ksi)
T37 87.50-81.25	None	Flat Bar		A36	Pipe	P1.25x.14	A36
				(36 ksi)			(36 ksi)
T38 81.25-75.00	None	Flat Bar		A36	Pipe	P1.25x.14	A36
				(36 ksi)			(36 ksi)
T39 75.00-50.00	None	Flat Bar		A36	Pipe	P1.25x.14	A36
				(36 ksi)			(36 ksi)
T40 50.00-25.00	None	Flat Bar		A36	Pipe	P1.25x.14	A36
				(36 ksi)			(36 ksi)
T41 25.00-0.00	None	Flat Bar		A36	Pipe	P1.25x.14	A36
				(36 ksi)			(36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T28	Pipe	P1.25x.14	A36	Solid Round		A572-50

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
181.25-175.00			(36 ksi)			(50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 368.75-362.50	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T2 362.50-356.25	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T3 356.25-350.00	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T4 350.00-343.75	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T5 343.75-337.50	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T6 337.50-331.25	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T7 331.25-325.00	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T8 325.00-318.75	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T9 318.75-312.50	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T10 312.50-306.25	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T11 306.25-300.00	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T12 300.00-293.75	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T13 293.75-287.50	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T14 287.50-281.25	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T15 281.25-275.00	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T16 275.00-268.75	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T17 268.75-262.50	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T18 262.50-256.25	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T19 256.25-250.00	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T20 250.00-243.75	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T21 243.75-237.50	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T22 237.50-231.25	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T23 231.25-225.00	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T24 225.00-218.75	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T25 218.75-212.50	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T26 212.50-206.25	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T27 206.25-181.25	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T28 181.25-175.00	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T29 175.00-168.75	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T30 168.75-162.50	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T31 162.50-156.25	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T32 156.25-150.00	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T33 150.00-125.00	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T34 125.00-100.00	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T35 100.00-93.75	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T36 93.75-87.50	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T37 87.50-81.25	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T38 81.25-75.00	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T39 75.00-50.00	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T40 50.00-25.00	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000
T41 25.00-0.00	0.00	0.0000	A36 (36 ksi)	1.05	1	1	36.0000	36.0000	36.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T1 368.75-362.50	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T2 362.50-356.25	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T3 356.25-350.00	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T4 350.00-343.75	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T5 343.75-337.50	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T6	Yes	Yes	1	1	1	1	1	1	1	1
337.50-331.25				1	1	1	1	1	1	1
T7	Yes	Yes	1	1	1	1	1	1	1	1
331.25-325.00				1	1	1	1	1	1	1
T8	Yes	Yes	1	1	1	1	1	1	1	1
325.00-318.75				1	1	1	1	1	1	1
T9	Yes	Yes	1	1	1	1	1	1	1	1
318.75-312.50				1	1	1	1	1	1	1
T10	Yes	Yes	1	1	1	1	1	1	1	1
312.50-306.25				1	1	1	1	1	1	1
T11	Yes	Yes	1	1	1	1	1	1	1	1
306.25-300.00				1	1	1	1	1	1	1
T12	Yes	Yes	1	1	1	1	1	1	1	1
300.00-293.75				1	1	1	1	1	1	1
T13	Yes	Yes	1	1	1	1	1	1	1	1
293.75-287.50				1	1	1	1	1	1	1
T14	Yes	Yes	1	1	1	1	1	1	1	1
287.50-281.25				1	1	1	1	1	1	1
T15	Yes	Yes	1	1	1	1	1	1	1	1
281.25-275.00				1	1	1	1	1	1	1
T16	Yes	Yes	1	1	1	1	1	1	1	1
275.00-268.75				1	1	1	1	1	1	1
T17	Yes	Yes	1	1	1	1	1	1	1	1
268.75-262.50				1	1	1	1	1	1	1
T18	Yes	Yes	1	1	1	1	1	1	1	1
262.50-256.25				1	1	1	1	1	1	1
T19	Yes	Yes	1	1	1	1	1	1	1	1
256.25-250.00				1	1	1	1	1	1	1
T20	Yes	Yes	1	1	1	1	1	1	1	1
250.00-243.75				1	1	1	1	1	1	1
T21	Yes	Yes	1	1	1	1	1	1	1	1
243.75-237.50				1	1	1	1	1	1	1
T22	Yes	Yes	1	1	1	1	1	1	1	1
237.50-231.25				1	1	1	1	1	1	1
T23	Yes	Yes	1	1	1	1	1	1	1	1
231.25-225.00				1	1	1	1	1	1	1
T24	Yes	Yes	1	1	1	1	1	1	1	1
225.00-218.75				1	1	1	1	1	1	1
T25	Yes	Yes	1	1	1	1	1	1	1	1
218.75-212.50				1	1	1	1	1	1	1
T26	Yes	Yes	1	1	1	1	1	1	1	1
212.50-206.25				1	1	1	1	1	1	1
T27	Yes	Yes	1	1	1	1	1	1	1	1
206.25-181.25				1	1	1	1	1	1	1
T28	Yes	Yes	1	1	1	1	1	1	1	1
181.25-175.00				1	1	1	1	1	1	1
T29	Yes	Yes	1	1	1	1	1	1	1	1
175.00-168.75				1	1	1	1	1	1	1
T30	Yes	Yes	1	1	1	1	1	1	1	1
168.75-162.50				1	1	1	1	1	1	1
T31	Yes	Yes	1	1	1	1	1	1	1	1
162.50-156.25				1	1	1	1	1	1	1
T32	Yes	Yes	1	1	1	1	1	1	1	1
156.25-150.00				1	1	1	1	1	1	1
T33	Yes	Yes	1	1	1	1	1	1	1	1
150.00-125.00				1	1	1	1	1	1	1
T34	Yes	Yes	1	1	1	1	1	1	1	1
125.00-100.00				1	1	1	1	1	1	1

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T35	Yes	Yes	1	1	1	1	1	1	1	1
100.00-93.75				1	1	1	1	1	1	1
T36	Yes	Yes	1	1	1	1	1	1	1	1
93.75-87.50				1	1	1	1	1	1	1
T37	Yes	Yes	1	1	1	1	1	1	1	1
87.50-81.25				1	1	1	1	1	1	1
T38	Yes	Yes	1	1	1	1	1	1	1	1
81.25-75.00				1	1	1	1	1	1	1
T39	Yes	Yes	1	1	1	1	1	1	1	1
75.00-50.00				1	1	1	1	1	1	1
T40	Yes	Yes	1	1	1	1	1	1	1	1
50.00-25.00				1	1	1	1	1	1	1
T41	Yes	Yes	1	1	1	1	1	1	1	1
25.00-0.00				1	1	1	1	1	1	1

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

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Net Width Deduct in	Leg U	Diagonal Net Width Deduct in	Diagonal U	Top Girt Net Width Deduct in	Top Girt U	Bottom Girt Net Width Deduct in	Bottom Girt U	Mid Girt Net Width Deduct in	Mid Girt U	Long Horizontal Net Width Deduct in	Long Horizontal U	Short Horizontal Net Width Deduct in	Short Horizontal U
T1	0.0000	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
368.75-362.50														
T2	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
362.50-356.25														
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
356.25-350.00														
T4	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
350.00-343.75														
T5	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
343.75-337.50														
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
337.50-331.25														
T7	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
331.25-325.00														
T8	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
325.00-318.75														
T9	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
318.75-312.50														
T10	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
312.50-306.25														
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
306.25-300.00														
T12	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
300.00-293.75														
T13	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
293.75-287.50														
T14	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
287.50-281.25														

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
T15 281.25-275.00	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
T16 275.00-268.75	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
T17 268.75-262.50	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
T18 262.50-256.25	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
T19 256.25-250.00	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
T20 250.00-243.75	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
T21 243.75-237.50	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
T22 237.50-231.25	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
T23 231.25-225.00	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
T24 225.00-218.75	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
T25 218.75-212.50	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
T26 212.50-206.25	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
T27 206.25-181.25	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
T28 181.25-175.00	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
T29 175.00-168.75	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
T30 168.75-162.50	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
T31 162.50-156.25	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
T32 156.25-150.00	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
T33 150.00-125.00	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
T34 125.00-100.00	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
T35 100.00-93.75	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
T36 93.75-87.50	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
T37 87.50-81.25	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
T38 81.25-75.00	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
T39 75.00-50.00	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
T40 50.00-25.00	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
T41 25.00-0.00	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 Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	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 368.75-362.50	0.0000	0.75	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 362.50-356.25	0.0000	0.75	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 356.25-350.00	0.0000	0.75	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 350.00-343.75	0.0000	0.75	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 343.75-337.50	0.0000	0.75	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 337.50-331.25	0.0000	0.75	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 331.25-325.00	0.0000	0.75	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 325.00-318.75	0.0000	0.75	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 318.75-312.50	0.0000	0.75	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 312.50-306.25	0.0000	0.75	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 306.25-300.00	0.0000	0.75	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 300.00-293.75	0.0000	0.75	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 293.75-287.50	0.0000	0.75	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 287.50-281.25	0.0000	0.75	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 281.25-275.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T16 275.00-268.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T17 268.75-262.50	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T18 262.50-256.25	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T19 256.25-250.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T20 250.00-243.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T21 243.75-237.50	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T22 237.50-231.25	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T23 231.25-225.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T24 225.00-218.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T25 218.75-212.50	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T26 212.50-206.25	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T27 206.25-181.25	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T28 181.25-175.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	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
T29 175.00-168.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T30 168.75-162.50	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T31 162.50-156.25	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T32 156.25-150.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T33 150.00-125.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T34 125.00-100.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T35 100.00-93.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T36 93.75-87.50	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T37 87.50-81.25	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T38 81.25-75.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T39 75.00-50.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T40 50.00-25.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T41 25.00-0.00	0.0000	0.75	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 368.75-362.50	Flange	0.7500 A325N	6	0.5000 A325N	2	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T2 362.50-356.25	Flange	0.7500 A325N	0	0.5000 A325N	2	0.5000 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T3 356.25-350.00	Flange	0.7500 A325N	0	0.5000 A325N	2	0.5000 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T4 350.00-343.75	Flange	0.7500 A325N	6	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T5 343.75-337.50	Flange	0.7500 A325N	0	0.5000 A325N	2	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T6 337.50-331.25	Flange	0.7500 A325N	0	0.5000 A325N	2	0.5000 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T7 331.25-325.00	Flange	0.7500 A325N	0	0.5000 A325N	2	0.5000 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A307	1
T8 325.00-318.75	Flange	0.7500 A325N	6	0.5000 A325N	2	0.5000 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A307	1
T9 318.75-312.50	Flange	0.7500 A325N	0	0.5000 A325N	2	0.5000 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A307	1

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T10	Flange	0.7500	0	0.5000	2	0.5000	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
312.50-306.25		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T11	Flange	0.7500	0	0.5000	2	0.6250	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
306.25-300.00		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T12	Flange	0.7500	6	0.6250	2	0.6250	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
300.00-293.75		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T13	Flange	0.7500	0	0.5000	2	0.6250	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
293.75-287.50		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T14	Flange	0.7500	0	0.5000	2	0.5000	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
287.50-281.25		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T15	Flange	0.7500	0	0.5000	2	0.6250	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
281.25-275.00		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T16	Flange	0.7500	6	0.5000	2	0.5000	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
275.00-268.75		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T17	Flange	0.7500	0	0.5000	2	0.5000	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
268.75-262.50		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T18	Flange	0.7500	0	0.5000	2	0.5000	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
262.50-256.25		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T19	Flange	0.7500	0	0.5000	2	0.5000	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
256.25-250.00		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T20	Flange	0.7500	6	0.5000	2	0.5000	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
250.00-243.75		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T21	Flange	0.7500	0	0.5000	2	0.6250	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
243.75-237.50		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T22	Flange	0.7500	0	0.5000	2	0.6250	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
237.50-231.25		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T23	Flange	0.7500	0	0.5000	2	0.6250	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
231.25-225.00		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T24	Flange	0.7500	6	0.6250	2	0.6250	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
225.00-218.75		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T25	Flange	0.7500	0	0.5000	2	0.6250	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
218.75-212.50		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T26	Flange	0.7500	0	0.5000	2	0.5000	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
212.50-206.25		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T27	Flange	0.7500	0	0.5000	2	0.5000	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
206.25-181.25		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T28	Flange	0.7500	6	0.5000	2	0.5000	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
181.25-175.00		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T29	Flange	0.7500	6	0.5000	2	0.5000	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
175.00-168.75		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T30	Flange	0.7500	0	0.5000	2	0.5000	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
168.75-162.50		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T31	Flange	0.7500	0	0.5000	2	0.5000	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
162.50-156.25		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T32	Flange	0.7500	0	0.5000	2	0.5000	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
156.25-150.00		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T33	Flange	0.7500	6	0.5000	2	0.5000	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
150.00-125.00		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T34	Flange	0.7500	6	0.6250	2	0.6250	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
125.00-100.00		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T35	Flange	0.7500	6	0.6250	2	0.6250	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
100.00-93.75		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T36	Flange	0.7500	0	0.5000	2	0.5000	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
93.75-87.50		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T37	Flange	0.7500	0	0.5000	2	0.5000	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
87.50-81.25		A325N		A325N		A325N		A325N		A325N		A325N		A307	
T38	Flange	0.7500	0	0.5000	2	0.5000	2	0.6250	0	0.6250	0	0.6250	2	0.6250	1
81.25-75.00		A325N		A325N		A325N		A325N		A325N		A325N		A307	

Tower Elevation ft	Leg Connection Type	Leg Bolt Size in	Leg No.	Diagonal Bolt Size in	Diagonal No.	Top Girt Bolt Size in	Top Girt No.	Bottom Girt Bolt Size in	Bottom Girt No.	Mid Girt Bolt Size in	Mid Girt No.	Long Horizontal Bolt Size in	Long Horizontal No.	Short Horizontal Bolt Size in	Short Horizontal No.
T39 75.00-50.00	Flange	0.7500 A325N	6	0.5000 A325N	2	0.5000 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A307	1
T40 50.00-25.00	Flange	0.7500 A325N	6	0.5000 A325N	2	0.5000 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A307	1
T41 25.00-0.00	Flange	0.7500 A325N	6	0.5000 A325N	2	0.5000 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A307	1

Guy Data

Guy Elevation ft	Guy Grade		Guy Size	Initial Tension lb	%	Guy Modulus ksi	Guy Weight plf	L_u ft	Anchor Radius ft	Anchor Azimuth Adj. °	Anchor Elevation ft	End Fitting Efficiency %
350	EHS	A	7/8	7970.00	10%	19000	1.581	430.92	247.15	0.0000	-5.80	100%
		B	7/8	7970.00	10%	19000	1.581	424.88	247.51	0.0000	1.81	100%
		C	7/8	7970.00	10%	19000	1.581	438.63	251.45	0.0000	-12.20	100%
300	EHS	A	7/8	7970.00	10%	19000	1.581	376.90	224.79	0.0000	-5.41	100%
		B	7/8	7970.00	10%	19000	1.581	368.38	219.43	0.0000	1.23	100%
		C	7/8	7970.00	10%	19000	1.581	382.21	227.42	0.0000	-10.07	100%
225	EHS	A	3/4	5830.00	10%	19000	1.155	319.27	224.79	0.0000	-5.41	100%
		B	3/4	5830.00	10%	19000	1.155	310.78	219.43	0.0000	1.23	100%
		C	3/4	5830.00	10%	19000	1.155	324.45	227.42	0.0000	-10.07	100%
162.5	EHS	A	3/4	5830.00	10%	19000	1.155	259.49	201.41	0.0000	-4.96	100%
		B	3/4	5830.00	10%	19000	1.155	249.91	193.65	0.0000	0.72	100%
		C	3/4	5830.00	10%	19000	1.155	266.15	206.73	0.0000	-8.98	100%
100	EHS	A	9/16	3500.00	10%	21000	0.671	223.95	201.41	0.0000	-4.96	100%
		B	9/16	3500.00	10%	21000	0.671	214.45	193.65	0.0000	0.72	100%
		C	9/16	3500.00	10%	21000	0.671	230.53	206.73	0.0000	-8.98	100%
50	EHS	A	9/16	3500.00	10%	21000	0.671	123.30	114.04	0.0000	-3.60	100%
		B	9/16	3500.00	10%	21000	0.671	123.03	115.63	0.0000	0.50	100%
		C	9/16	3500.00	10%	21000	0.671	124.42	114.41	0.0000	-5.40	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
350	Torque Arm	12.00	49.0000	Bat Ear	A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4
300	Torque Arm	12.00	49.0000	Bat Ear	A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4
225	Torque Arm	12.00	49.0000	Bat Ear	A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4
162.5	Corner						
100	Torque Arm	12.00	49.0000	Bat Ear	A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4
50	Corner						

Guy Data *(cont'd)*

Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap.	Pull-Off Grade	Pull-Off Type	Pull-Off Size
350.00	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	
300.00	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	
225.00	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	
162.50	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	
100.00	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	
50.00	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	

Guy Data *(cont'd)*

Guy Elevation ft	Cable Weight A lb	Cable Weight B lb	Cable Weight C lb	Cable Weight D lb	Tower Intercept A ft	Tower Intercept B ft	Tower Intercept C ft	Tower Intercept D ft
350	681.29	671.73	693.47		17.81 7.3 sec/pulse	17.33 7.2 sec/pulse	18.44 7.4 sec/pulse	
300	595.87	582.41	604.27		13.69 6.4 sec/pulse	13.09 6.2 sec/pulse	14.07 6.5 sec/pulse	
225	368.76	358.95	374.74		9.88 5.4 sec/pulse	9.37 5.3 sec/pulse	10.20 5.5 sec/pulse	
162.5	299.72	288.65	307.40		6.57 4.4 sec/pulse	6.10 4.3 sec/pulse	6.91 4.5 sec/pulse	
100	150.27	143.90	154.69		4.76 3.8 sec/pulse	4.37 3.6 sec/pulse	5.05 3.9 sec/pulse	
50	82.73	82.55	83.49		1.45 2.1 sec/pulse	1.45 2.1 sec/pulse	1.48 2.1 sec/pulse	

Guy Data *(cont'd)*

Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Torque Arm K_x	Torque Arm K_y	Pull Off K_x	Pull Off K_y	Diagonal K_x	Diagonal K_y
350	No	No	1	1	1	1	1	1
300	No	No	1	1	1	1	1	1
225	No	No	1	1	1	1	1	1
162.5	No	No			1	1	1	1
100	No	No	1	1	1	1	1	1
50	No	No			1	1	1	1

Guy Data *(cont'd)*

Guy Elevation ft	Torque-Arm Bolt Size in	Number	Net Width Deduct in	U	Pull Off Bolt Size in	Number	Net Width Deduct in	U	Diagonal Bolt Size in	Number	Net Width Deduct in	U
350	0.0000 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
300	0.0000 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
225	0.0000 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
162.5	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
100	0.0000 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
50	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

Guy Elevation ft	Guy Location	z ft	q_z psf	q_z Ice psf	Ice Thickness in
350	A	172.10	28	6	1.7694
	B	175.91	28	6	1.7732
	C	168.90	28	6	1.7660
300	A	147.30	26	6	1.7420
	B	150.62	27	6	1.7459
	C	144.97	26	6	1.7393
225	A	109.80	24	6	1.6916
	B	113.12	25	6	1.6966
	C	107.47	24	5	1.6880
162.5	A	78.77	22	5	1.6363
	B	81.61	22	5	1.6422
	C	76.76	22	5	1.6321
100	A	47.52	19	4	1.5557
	B	50.36	19	4	1.5648
	C	45.51	19	4	1.5490
50	A	23.20	17	4	1.4481
	B	25.25	17	4	1.4604
	C	22.30	17	4	1.4423

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
7/8	A	No	No	Ar (CaAa)	40.00 - 3.00	-1.0000	0.46	1	1	1.1100	1.1100		0.54
7/8	A	No	No	Ar (CaAa)	62.00 - 3.00	-0.5000	0.47	1	1	1.1100	1.1100		0.54
1/2	B	No	No	Ar (CaAa)	88.00 - 3.00	-2.0000	0.46	4	4	0.5800	0.5800		0.25
1/2	B	No	No	Ar (CaAa)	125.00 - 3.00	-1.0000	0.45	1	1	0.5800	0.5800		0.25

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
7/8	C	No	No	Ar (CaAa)	140.00 - 3.00	-1.0000	0.47	1	1	1.1100	1.1100		0.54
1/2	B	No	No	Ar (CaAa)	148.00 - 3.00	-3.0000	0.47	1	1	0.5800	0.5800		0.25
7/8	A	No	No	Ar (CaAa)	180.00 - 3.00	-2.0000	0.44	1	1	1.1100	1.1100		0.54
7/8	C	No	No	Ar (CaAa)	200.00 - 3.00	-1.0000	0.45	1	1	1.1100	1.1100		0.54
1 5/8	A	No	No	Ar (CaAa)	325.00 - 3.00	-2.0000	0.45	1	1	1.9800	1.9800		1.04
7/8	B	No	No	Ar (CaAa)	350.00 - 3.00	-1.0000	0.44	2	2	1.1100	1.1100		0.54
7/8	B	No	No	Ar (CaAa)	355.00 - 3.00	-2.0000	0.44	1	1	1.1100	1.1100		0.54
7/8	C	No	No	Ar (CaAa)	365.00 - 3.00	-2.0000	0.46	1	1	1.1100	1.1100		0.54
1 5/8	C	No	No	Ar (CaAa)	300.00 - 3.00	1.0000	-0.3	12	6	1.9800	1.9800		1.04
HYBRIFLEX 1 5/8 (VERIZON)	B	No	No	Ar (CaAa)	300.00 - 3.00	1.0000	0.46	2	2	1.9800	1.9800		1.04
1 5/8 (AT&T)	C	No	No	Ar (CaAa)	240.00 - 3.00	2.0000	0.5	12	2	1.9800	1.9800		1.04
Fiber Trunk (AT&T)	A	No	No	Ar (CaAa)	240.00 - 3.00	0.0000	-0.4	1	1	0.4000	0.4000		1.00
DC Trunk (AT&T)	A	No	No	Ar (CaAa)	240.00 - 3.00	0.0000	-0.4	2	2	0.4000	0.4000		0.11
Fiber Trunk (AT&T)	A	No	No	Ar (CaAa)	240.00 - 3.00	0.0000	-0.4	1	1	0.4000	0.4000		1.00
DC Trunk (AT&T)	A	No	No	Ar (CaAa)	240.00 - 3.00	0.0000	-0.4	4	4	0.4000	0.4000		0.11
0.3" dia. RET (AT&T) ***	A	No	No	Ar (CaAa)	240.00 - 3.00	0.0000	-0.37	3	3	0.3000	0.3000		0.00
6x24 HYBRID (T-MOBILE)	A	No	No	Ar (CaAa)	230.00 - 3.00	-1.0000	0.35	3	3	1.9800	1.9800		1.04

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T1	368.75-362.50	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	0.278	0.000	1.35
T2	362.50-356.25	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	0.694	0.000	3.38
T3	356.25-350.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.555	0.000	2.70
		C	0.000	0.000	0.694	0.000	3.38
T4	350.00-343.75	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	2.081	0.000	10.13
		C	0.000	0.000	0.694	0.000	3.38
T5	343.75-337.50	A	0.000	0.000	0.000	0.000	0.00

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
		B	0.000	0.000	2.081	0.000	10.13
		C	0.000	0.000	0.694	0.000	3.38
T6	337.50-331.25	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	2.081	0.000	10.13
		C	0.000	0.000	0.694	0.000	3.38
T7	331.25-325.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	2.081	0.000	10.13
		C	0.000	0.000	0.694	0.000	3.38
T8	325.00-318.75	A	0.000	0.000	1.238	0.000	6.50
		B	0.000	0.000	2.081	0.000	10.13
		C	0.000	0.000	0.694	0.000	3.38
T9	318.75-312.50	A	0.000	0.000	1.238	0.000	6.50
		B	0.000	0.000	2.081	0.000	10.13
		C	0.000	0.000	0.694	0.000	3.38
T10	312.50-306.25	A	0.000	0.000	1.238	0.000	6.50
		B	0.000	0.000	2.081	0.000	10.13
		C	0.000	0.000	0.694	0.000	3.38
T11	306.25-300.00	A	0.000	0.000	1.238	0.000	6.50
		B	0.000	0.000	2.081	0.000	10.13
		C	0.000	0.000	0.694	0.000	3.38
T12	300.00-293.75	A	0.000	0.000	1.238	0.000	6.50
		B	0.000	0.000	4.556	0.000	23.13
		C	0.000	0.000	15.544	0.000	81.38
T13	293.75-287.50	A	0.000	0.000	1.238	0.000	6.50
		B	0.000	0.000	4.556	0.000	23.13
		C	0.000	0.000	15.544	0.000	81.38
T14	287.50-281.25	A	0.000	0.000	1.238	0.000	6.50
		B	0.000	0.000	4.556	0.000	23.13
		C	0.000	0.000	15.544	0.000	81.38
T15	281.25-275.00	A	0.000	0.000	1.238	0.000	6.50
		B	0.000	0.000	4.556	0.000	23.13
		C	0.000	0.000	15.544	0.000	81.38
T16	275.00-268.75	A	0.000	0.000	1.238	0.000	6.50
		B	0.000	0.000	4.556	0.000	23.13
		C	0.000	0.000	15.544	0.000	81.38
T17	268.75-262.50	A	0.000	0.000	1.238	0.000	6.50
		B	0.000	0.000	4.556	0.000	23.13
		C	0.000	0.000	15.544	0.000	81.38
T18	262.50-256.25	A	0.000	0.000	1.238	0.000	6.50
		B	0.000	0.000	4.556	0.000	23.13
		C	0.000	0.000	15.544	0.000	81.38
T19	256.25-250.00	A	0.000	0.000	1.238	0.000	6.50
		B	0.000	0.000	4.556	0.000	23.13
		C	0.000	0.000	15.544	0.000	81.38
T20	250.00-243.75	A	0.000	0.000	1.238	0.000	6.50
		B	0.000	0.000	4.556	0.000	23.13
		C	0.000	0.000	15.544	0.000	81.38
T21	243.75-237.50	A	0.000	0.000	2.263	0.000	13.15
		B	0.000	0.000	4.556	0.000	23.13
		C	0.000	0.000	21.484	0.000	112.58
T22	237.50-231.25	A	0.000	0.000	3.800	0.000	23.13
		B	0.000	0.000	4.556	0.000	23.13
		C	0.000	0.000	30.394	0.000	159.38
T23	231.25-225.00	A	0.000	0.000	6.770	0.000	38.73
		B	0.000	0.000	4.556	0.000	23.13
		C	0.000	0.000	30.394	0.000	159.38
T24	225.00-218.75	A	0.000	0.000	7.512	0.000	42.63
		B	0.000	0.000	4.556	0.000	23.13
		C	0.000	0.000	30.394	0.000	159.38
T25	218.75-212.50	A	0.000	0.000	7.512	0.000	42.63
		B	0.000	0.000	4.556	0.000	23.13

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
		C	0.000	0.000	30.394	0.000	159.38
T26	212.50-206.25	A	0.000	0.000	7.512	0.000	42.63
		B	0.000	0.000	4.556	0.000	23.13
		C	0.000	0.000	30.394	0.000	159.38
T27	206.25-181.25	A	0.000	0.000	30.050	0.000	170.50
		B	0.000	0.000	18.225	0.000	92.50
		C	0.000	0.000	123.656	0.000	647.63
T28	181.25-175.00	A	0.000	0.000	8.068	0.000	45.33
		B	0.000	0.000	4.556	0.000	23.13
		C	0.000	0.000	31.087	0.000	162.75
T29	175.00-168.75	A	0.000	0.000	8.206	0.000	46.00
		B	0.000	0.000	4.556	0.000	23.13
		C	0.000	0.000	31.087	0.000	162.75
T30	168.75-162.50	A	0.000	0.000	8.206	0.000	46.00
		B	0.000	0.000	4.556	0.000	23.13
		C	0.000	0.000	31.087	0.000	162.75
T31	162.50-156.25	A	0.000	0.000	8.206	0.000	46.00
		B	0.000	0.000	4.556	0.000	23.13
		C	0.000	0.000	31.087	0.000	162.75
T32	156.25-150.00	A	0.000	0.000	8.206	0.000	46.00
		B	0.000	0.000	4.556	0.000	23.13
		C	0.000	0.000	31.087	0.000	162.75
T33	150.00-125.00	A	0.000	0.000	32.825	0.000	184.00
		B	0.000	0.000	19.559	0.000	98.25
		C	0.000	0.000	126.015	0.000	659.10
T34	125.00-100.00	A	0.000	0.000	32.825	0.000	184.00
		B	0.000	0.000	21.125	0.000	105.00
		C	0.000	0.000	127.125	0.000	664.50
T35	100.00-93.75	A	0.000	0.000	8.206	0.000	46.00
		B	0.000	0.000	5.281	0.000	26.25
		C	0.000	0.000	31.781	0.000	166.13
T36	93.75-87.50	A	0.000	0.000	8.206	0.000	46.00
		B	0.000	0.000	5.397	0.000	26.75
		C	0.000	0.000	31.781	0.000	166.13
T37	87.50-81.25	A	0.000	0.000	8.206	0.000	46.00
		B	0.000	0.000	6.731	0.000	32.50
		C	0.000	0.000	31.781	0.000	166.13
T38	81.25-75.00	A	0.000	0.000	8.206	0.000	46.00
		B	0.000	0.000	6.731	0.000	32.50
		C	0.000	0.000	31.781	0.000	166.13
T39	75.00-50.00	A	0.000	0.000	34.157	0.000	190.48
		B	0.000	0.000	26.925	0.000	130.00
		C	0.000	0.000	127.125	0.000	664.50
T40	50.00-25.00	A	0.000	0.000	37.265	0.000	205.60
		B	0.000	0.000	26.925	0.000	130.00
		C	0.000	0.000	127.125	0.000	664.50
T41	25.00-0.00	A	0.000	0.000	33.770	0.000	185.68
		B	0.000	0.000	23.694	0.000	114.40
		C	0.000	0.000	111.870	0.000	584.76

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T1	368.75-362.50	A	1.908	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	1.231	0.000	18.94

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T2	362.50-356.25	A	1.905	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	3.074	0.000	47.22
T3	356.25-350.00	A	1.901	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	2.456	0.000	37.67
		C		0.000	0.000	3.070	0.000	47.09
T4	350.00-343.75	A	1.898	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	9.825	0.000	121.42
		C		0.000	0.000	3.066	0.000	46.96
T5	343.75-337.50	A	1.894	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	9.813	0.000	121.12
		C		0.000	0.000	3.062	0.000	46.83
T6	337.50-331.25	A	1.891	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	9.801	0.000	120.82
		C		0.000	0.000	3.057	0.000	46.70
T7	331.25-325.00	A	1.887	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	9.789	0.000	120.52
		C		0.000	0.000	3.053	0.000	46.57
T8	325.00-318.75	A	1.884	0.000	0.000	3.592	0.000	62.07
		B		0.000	0.000	9.776	0.000	120.21
		C		0.000	0.000	3.048	0.000	46.43
T9	318.75-312.50	A	1.880	0.000	0.000	3.587	0.000	61.91
		B		0.000	0.000	9.764	0.000	119.90
		C		0.000	0.000	3.044	0.000	46.30
T10	312.50-306.25	A	1.876	0.000	0.000	3.583	0.000	61.75
		B		0.000	0.000	9.751	0.000	119.58
		C		0.000	0.000	3.039	0.000	46.16
T11	306.25-300.00	A	1.872	0.000	0.000	3.578	0.000	61.58
		B		0.000	0.000	9.738	0.000	119.25
		C		0.000	0.000	3.034	0.000	46.02
T12	300.00-293.75	A	1.869	0.000	0.000	3.573	0.000	61.41
		B		0.000	0.000	18.505	0.000	234.37
		C		0.000	0.000	24.350	0.000	617.19
T13	293.75-287.50	A	1.865	0.000	0.000	3.568	0.000	61.24
		B		0.000	0.000	18.483	0.000	233.79
		C		0.000	0.000	24.337	0.000	616.41
T14	287.50-281.25	A	1.860	0.000	0.000	3.563	0.000	61.06
		B		0.000	0.000	18.461	0.000	233.19
		C		0.000	0.000	24.324	0.000	615.62
T15	281.25-275.00	A	1.856	0.000	0.000	3.558	0.000	60.88
		B		0.000	0.000	18.438	0.000	232.58
		C		0.000	0.000	24.310	0.000	614.81
T16	275.00-268.75	A	1.852	0.000	0.000	3.553	0.000	60.70
		B		0.000	0.000	18.414	0.000	231.96
		C		0.000	0.000	24.297	0.000	613.99
T17	268.75-262.50	A	1.848	0.000	0.000	3.547	0.000	60.51
		B		0.000	0.000	18.390	0.000	231.33
		C		0.000	0.000	24.283	0.000	613.14
T18	262.50-256.25	A	1.843	0.000	0.000	3.542	0.000	60.32
		B		0.000	0.000	18.366	0.000	230.68
		C		0.000	0.000	24.268	0.000	612.29
T19	256.25-250.00	A	1.839	0.000	0.000	3.536	0.000	60.13
		B		0.000	0.000	18.341	0.000	230.03
		C		0.000	0.000	24.254	0.000	611.41
T20	250.00-243.75	A	1.834	0.000	0.000	3.530	0.000	59.93
		B		0.000	0.000	18.315	0.000	229.35
		C		0.000	0.000	24.239	0.000	610.51
T21	243.75-237.50	A	1.830	0.000	0.000	11.949	0.000	144.74
		B		0.000	0.000	18.289	0.000	228.67
		C		0.000	0.000	32.720	0.000	835.66
T22	237.50-231.25	A	1.825	0.000	0.000	24.537	0.000	271.21

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
		B		0.000	0.000	18.263	0.000	227.97
		C		0.000	0.000	45.440	0.000	1173.05
T23	231.25-225.00	A	1.820	0.000	0.000	33.649	0.000	402.56
		B		0.000	0.000	18.235	0.000	227.25
		C		0.000	0.000	45.414	0.000	1171.31
T24	225.00-218.75	A	1.815	0.000	0.000	35.877	0.000	434.15
		B		0.000	0.000	18.207	0.000	226.52
		C		0.000	0.000	45.388	0.000	1169.52
T25	218.75-212.50	A	1.810	0.000	0.000	35.813	0.000	432.61
		B		0.000	0.000	18.178	0.000	225.76
		C		0.000	0.000	45.360	0.000	1167.70
T26	212.50-206.25	A	1.804	0.000	0.000	35.748	0.000	431.02
		B		0.000	0.000	18.149	0.000	224.99
		C		0.000	0.000	45.332	0.000	1165.82
T27	206.25-181.25	A	1.790	0.000	0.000	142.302	0.000	1707.54
		B		0.000	0.000	72.285	0.000	891.92
		C		0.000	0.000	189.830	0.000	4772.75
T28	181.25-175.00	A	1.775	0.000	0.000	37.721	0.000	456.45
		B		0.000	0.000	17.988	0.000	220.82
		C		0.000	0.000	48.093	0.000	1198.14
T29	175.00-168.75	A	1.769	0.000	0.000	38.218	0.000	462.87
		B		0.000	0.000	17.953	0.000	219.92
		C		0.000	0.000	48.051	0.000	1195.70
T30	168.75-162.50	A	1.763	0.000	0.000	38.129	0.000	460.72
		B		0.000	0.000	17.916	0.000	218.98
		C		0.000	0.000	48.009	0.000	1193.17
T31	162.50-156.25	A	1.756	0.000	0.000	38.037	0.000	458.50
		B		0.000	0.000	17.879	0.000	218.02
		C		0.000	0.000	47.965	0.000	1190.56
T32	156.25-150.00	A	1.749	0.000	0.000	37.942	0.000	456.20
		B		0.000	0.000	17.840	0.000	217.02
		C		0.000	0.000	47.919	0.000	1187.86
T33	150.00-125.00	A	1.730	0.000	0.000	150.751	0.000	1800.42
		B		0.000	0.000	80.236	0.000	975.51
		C		0.000	0.000	198.043	0.000	4820.80
T34	125.00-100.00	A	1.696	0.000	0.000	148.885	0.000	1756.10
		B		0.000	0.000	90.038	0.000	1086.36
		C		0.000	0.000	201.545	0.000	4828.83
T35	100.00-93.75	A	1.671	0.000	0.000	36.880	0.000	431.00
		B		0.000	0.000	22.307	0.000	266.57
		C		0.000	0.000	50.191	0.000	1196.76
T36	93.75-87.50	A	1.659	0.000	0.000	36.729	0.000	427.49
		B		0.000	0.000	22.739	0.000	269.62
		C		0.000	0.000	50.105	0.000	1192.16
T37	87.50-81.25	A	1.648	0.000	0.000	36.569	0.000	423.76
		B		0.000	0.000	28.617	0.000	327.17
		C		0.000	0.000	50.013	0.000	1187.28
T38	81.25-75.00	A	1.635	0.000	0.000	36.397	0.000	419.80
		B		0.000	0.000	28.489	0.000	324.10
		C		0.000	0.000	49.915	0.000	1182.08
T39	75.00-50.00	A	1.599	0.000	0.000	148.802	0.000	1704.36
		B		0.000	0.000	112.491	0.000	1261.69
		C		0.000	0.000	198.539	0.000	4669.13
T40	50.00-25.00	A	1.519	0.000	0.000	155.912	0.000	1754.50
		B		0.000	0.000	109.259	0.000	1186.79
		C		0.000	0.000	196.069	0.000	4539.91
T41	25.00-0.00	A	1.361	0.000	0.000	131.934	0.000	1396.91
		B		0.000	0.000	90.513	0.000	919.58
		C		0.000	0.000	168.232	0.000	3774.43

Feed Line Center of Pressure

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
T1	368.75-362.50	-0.2980	0.1786	-0.6410	0.3601
T2	362.50-356.25	-0.6773	0.4071	-1.4281	0.8045
T3	356.25-350.00	-0.1639	0.7324	-0.3385	1.4182
T4	350.00-343.75	1.1050	1.5126	1.6224	2.5922
T5	343.75-337.50	1.9062	2.4418	2.3365	3.5918
T6	337.50-331.25	2.2801	2.8003	2.4843	3.7703
T7	331.25-325.00	2.2801	2.8003	2.4858	3.7725
T8	325.00-318.75	2.0836	0.2338	2.3138	1.1881
T9	318.75-312.50	2.0827	0.2337	2.3152	1.1887
T10	312.50-306.25	2.0819	0.2336	2.3166	1.1892
T11	306.25-300.00	1.7813	0.2074	2.1922	1.1384
T12	300.00-293.75	7.5728	3.8034	6.5528	3.7943
T13	293.75-287.50	10.1100	5.2583	8.2684	4.8059
T14	287.50-281.25	11.0625	5.8055	8.6591	5.0260
T15	281.25-275.00	11.0600	5.8037	8.6663	5.0302
T16	275.00-268.75	11.0574	5.8018	8.6737	5.0344
T17	268.75-262.50	11.0548	5.7998	8.6812	5.0388
T18	262.50-256.25	11.0521	5.7978	8.6889	5.0432
T19	256.25-250.00	10.9382	5.7134	8.6255	4.9998
T20	250.00-243.75	10.0957	5.2479	8.3184	4.8346
T21	243.75-237.50	7.3920	9.9011	4.3930	7.9636
T22	237.50-231.25	3.9734	14.1016	-0.1259	10.9567
T23	231.25-225.00	3.5642	11.4041	-0.2401	8.4185
T24	225.00-218.75	2.9141	9.4136	-0.2348	7.1795
T25	218.75-212.50	3.5929	11.1762	-0.2640	8.0679
T26	212.50-206.25	3.8349	11.7276	-0.2648	8.2375
T27	206.25-181.25	3.4678	11.7743	-0.8323	8.4089
T28	181.25-175.00	3.2077	10.9364	-0.8990	7.1253
T29	175.00-168.75	3.1882	10.7791	-0.9335	7.3055
T30	168.75-162.50	3.1882	10.7791	-0.9259	7.3141
T31	162.50-156.25	3.0659	10.5272	-0.9099	7.2977
T32	156.25-150.00	3.2602	11.0162	-0.9249	7.4466
T33	150.00-125.00	3.1420	11.1034	-0.7496	7.7985
T34	125.00-100.00	2.5535	9.4059	-0.2703	7.3180
T35	100.00-93.75	2.4510	9.1171	-0.2404	7.2083
T36	93.75-87.50	2.9997	10.6294	-0.1860	7.9849
T37	87.50-81.25	3.7202	11.3205	0.6515	8.4859
T38	81.25-75.00	3.7202	11.3205	0.6643	8.4941
T39	75.00-50.00	3.6945	11.0256	0.6933	8.0719
T40	50.00-25.00	3.5838	10.2482	0.7556	7.1244
T41	25.00-0.00	3.4939	9.7927	0.8977	6.7460

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	12	7/8	362.50 - 365.00	0.6000	0.4924
T2	12	7/8	356.25 - 362.50	0.6000	0.4736

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T3	11	7/8	350.00 - 355.00	0.6000	0.4741
T3	12	7/8	350.00 - 356.25	0.6000	0.4741
T4	10	7/8	343.75 - 350.00	0.6000	0.4705
T4	11	7/8	343.75 - 350.00	0.6000	0.4705
T4	12	7/8	343.75 - 350.00	0.6000	0.4705
T5	10	7/8	337.50 - 343.75	0.6000	0.5629
T5	11	7/8	337.50 - 343.75	0.6000	0.5629
T5	12	7/8	337.50 - 343.75	0.6000	0.5629
T6	10	7/8	331.25 - 337.50	0.6000	0.5744
T6	11	7/8	331.25 - 337.50	0.6000	0.5744
T6	12	7/8	331.25 - 337.50	0.6000	0.5744
T7	10	7/8	325.00 - 331.25	0.6000	0.5749
T7	11	7/8	325.00 - 331.25	0.6000	0.5749
T7	12	7/8	325.00 - 331.25	0.6000	0.5749
T8	9	1 5/8	318.75 - 325.00	0.6000	0.5660
T8	10	7/8	318.75 - 325.00	0.6000	0.5660
T8	11	7/8	318.75 - 325.00	0.6000	0.5660
T8	12	7/8	318.75 - 325.00	0.6000	0.5660
T9	9	1 5/8	312.50 - 318.75	0.6000	0.5665
T9	10	7/8	312.50 - 318.75	0.6000	0.5665
T9	11	7/8	312.50 - 318.75	0.6000	0.5665
T9	12	7/8	312.50 - 318.75	0.6000	0.5665
T10	9	1 5/8	306.25 - 312.50	0.6000	0.5671
T10	10	7/8	306.25 - 312.50	0.6000	0.5671
T10	11	7/8	306.25 - 312.50	0.6000	0.5671
T10	12	7/8	306.25 - 312.50	0.6000	0.5671
T11	9	1 5/8	300.00 - 306.25	0.6000	0.5567
T11	10	7/8	300.00 - 306.25	0.6000	0.5567
T11	11	7/8	300.00 - 306.25	0.6000	0.5567
T11	12	7/8	300.00 - 306.25	0.6000	0.5567
T12	9	1 5/8	293.75 - 300.00	0.6000	0.4705

Tower Section	*Feed Line Record No.*	*Description*	*Feed Line Segment Elev.*	*K_a No Ice*	*K_a Ice*
T12	10	7/8	293.75 - 300.00	0.6000	0.4705
T12	11	7/8	293.75 - 300.00	0.6000	0.4705
T12	12	7/8	293.75 - 300.00	0.6000	0.4705
T12	13	1 5/8	293.75 - 300.00	0.6000	0.4705
T12	14	HYBRIFLEX 1 5/8	293.75 - 300.00	0.6000	0.4705
T13	9	1 5/8	287.50 - 293.75	0.6000	0.5578
T13	10	7/8	287.50 - 293.75	0.6000	0.5578
T13	11	7/8	287.50 - 293.75	0.6000	0.5578
T13	12	7/8	287.50 - 293.75	0.6000	0.5578
T13	13	1 5/8	287.50 - 293.75	0.6000	0.5578
T13	14	HYBRIFLEX 1 5/8	287.50 - 293.75	0.6000	0.5578
T14	9	1 5/8	281.25 - 287.50	0.6000	0.5738
T14	10	7/8	281.25 - 287.50	0.6000	0.5738
T14	11	7/8	281.25 - 287.50	0.6000	0.5738
T14	12	7/8	281.25 - 287.50	0.6000	0.5738
T14	13	1 5/8	281.25 - 287.50	0.6000	0.5738
T14	14	HYBRIFLEX 1 5/8	281.25 - 287.50	0.6000	0.5738
T15	9	1 5/8	275.00 - 281.25	0.6000	0.5744
T15	10	7/8	275.00 - 281.25	0.6000	0.5744
T15	11	7/8	275.00 - 281.25	0.6000	0.5744
T15	12	7/8	275.00 - 281.25	0.6000	0.5744
T15	13	1 5/8	275.00 - 281.25	0.6000	0.5744
T15	14	HYBRIFLEX 1 5/8	275.00 - 281.25	0.6000	0.5744
T16	9	1 5/8	268.75 - 275.00	0.6000	0.5750
T16	10	7/8	268.75 - 275.00	0.6000	0.5750
T16	11	7/8	268.75 - 275.00	0.6000	0.5750
T16	12	7/8	268.75 - 275.00	0.6000	0.5750
T16	13	1 5/8	268.75 - 275.00	0.6000	0.5750
T16	14	HYBRIFLEX 1 5/8	268.75 - 275.00	0.6000	0.5750
T17	9	1 5/8	262.50 - 268.75	0.6000	0.5756
T17	10	7/8	262.50 - 268.75	0.6000	0.5756

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T17	11	7/8	262.50 - 268.75	0.6000	0.5756
T17	12	7/8	262.50 - 268.75	0.6000	0.5756
T17	13	1 5/8	262.50 - 268.75	0.6000	0.5756
T17	14	HYBRIFLEX 1 5/8	262.50 - 268.75	0.6000	0.5756
T18	9	1 5/8	256.25 - 262.50	0.6000	0.5762
T18	10	7/8	256.25 - 262.50	0.6000	0.5762
T18	11	7/8	256.25 - 262.50	0.6000	0.5762
T18	12	7/8	256.25 - 262.50	0.6000	0.5762
T18	13	1 5/8	256.25 - 262.50	0.6000	0.5762
T18	14	HYBRIFLEX 1 5/8	256.25 - 262.50	0.6000	0.5762
T19	9	1 5/8	250.00 - 256.25	0.6000	0.5724
T19	10	7/8	250.00 - 256.25	0.6000	0.5724
T19	11	7/8	250.00 - 256.25	0.6000	0.5724
T19	12	7/8	250.00 - 256.25	0.6000	0.5724
T19	13	1 5/8	250.00 - 256.25	0.6000	0.5724
T19	14	HYBRIFLEX 1 5/8	250.00 - 256.25	0.6000	0.5724
T20	9	1 5/8	243.75 - 250.00	0.6000	0.5621
T20	10	7/8	243.75 - 250.00	0.6000	0.5621
T20	11	7/8	243.75 - 250.00	0.6000	0.5621
T20	12	7/8	243.75 - 250.00	0.6000	0.5621
T20	13	1 5/8	243.75 - 250.00	0.6000	0.5621
T20	14	HYBRIFLEX 1 5/8	243.75 - 250.00	0.6000	0.5621
T21	9	1 5/8	237.50 - 243.75	0.6000	0.5628
T21	10	7/8	237.50 - 243.75	0.6000	0.5628
T21	11	7/8	237.50 - 243.75	0.6000	0.5628
T21	12	7/8	237.50 - 243.75	0.6000	0.5628
T21	13	1 5/8	237.50 - 243.75	0.6000	0.5628
T21	14	HYBRIFLEX 1 5/8	237.50 - 243.75	0.6000	0.5628
T21	15	1 5/8	237.50 - 240.00	0.6000	0.5628
T21	16	Fiber Trunk	237.50 - 240.00	0.6000	0.5628
T21	17	DC Trunk	237.50 - 240.00	0.6000	0.5628

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T21	18	Fiber Trunk	237.50 - 240.00	0.6000	0.5628
T21	19	DC Trunk	237.50 - 240.00	0.6000	0.5628
T21	20	0.3" dia. RET	237.50 - 240.00	0.6000	0.5628
T22	9	1 5/8	231.25 - 237.50	0.6000	0.5634
T22	10	7/8	231.25 - 237.50	0.6000	0.5634
T22	11	7/8	231.25 - 237.50	0.6000	0.5634
T22	12	7/8	231.25 - 237.50	0.6000	0.5634
T22	13	1 5/8	231.25 - 237.50	0.6000	0.5634
T22	14	HYBRIFLEX 1 5/8	231.25 - 237.50	0.6000	0.5634
T22	15	1 5/8	231.25 - 237.50	0.6000	0.5634
T22	16	Fiber Trunk	231.25 - 237.50	0.6000	0.5634
T22	17	DC Trunk	231.25 - 237.50	0.6000	0.5634
T22	18	Fiber Trunk	231.25 - 237.50	0.6000	0.5634
T22	19	DC Trunk	231.25 - 237.50	0.6000	0.5634
T22	20	0.3" dia. RET	231.25 - 237.50	0.6000	0.5634
T23	9	1 5/8	225.00 - 231.25	0.6000	0.5551
T23	10	7/8	225.00 - 231.25	0.6000	0.5551
T23	11	7/8	225.00 - 231.25	0.6000	0.5551
T23	12	7/8	225.00 - 231.25	0.6000	0.5551
T23	13	1 5/8	225.00 - 231.25	0.6000	0.5551
T23	14	HYBRIFLEX 1 5/8	225.00 - 231.25	0.6000	0.5551
T23	15	1 5/8	225.00 - 231.25	0.6000	0.5551
T23	16	Fiber Trunk	225.00 - 231.25	0.6000	0.5551
T23	17	DC Trunk	225.00 - 231.25	0.6000	0.5551
T23	18	Fiber Trunk	225.00 - 231.25	0.6000	0.5551
T23	19	DC Trunk	225.00 - 231.25	0.6000	0.5551
T23	20	0.3" dia. RET	225.00 - 231.25	0.6000	0.5551
T23	22	6x24 HYBRID	225.00 - 230.00	0.6000	0.5551
T24	9	1 5/8	218.75 - 225.00	0.6000	0.5012
T24	10	7/8	218.75 - 225.00	0.6000	0.5012
T24	11	7/8	218.75 - 225.00	0.6000	0.5012

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T24	12	7/8	218.75 - 225.00	0.6000	0.5012
T24	13	1 5/8	218.75 - 225.00	0.6000	0.5012
T24	14	HYBRIFLEX 1 5/8	218.75 - 225.00	0.6000	0.5012
T24	15	1 5/8	218.75 - 225.00	0.6000	0.5012
T24	16	Fiber Trunk	218.75 - 225.00	0.6000	0.5012
T24	17	DC Trunk	218.75 - 225.00	0.6000	0.5012
T24	18	Fiber Trunk	218.75 - 225.00	0.6000	0.5012
T24	19	DC Trunk	218.75 - 225.00	0.6000	0.5012
T24	20	0.3" dia. RET	218.75 - 225.00	0.6000	0.5012
T24	22	6x24 HYBRID	218.75 - 225.00	0.6000	0.5012
T25	9	1 5/8	212.50 - 218.75	0.6000	0.5750
T25	10	7/8	212.50 - 218.75	0.6000	0.5750
T25	11	7/8	212.50 - 218.75	0.6000	0.5750
T25	12	7/8	212.50 - 218.75	0.6000	0.5750
T25	13	1 5/8	212.50 - 218.75	0.6000	0.5750
T25	14	HYBRIFLEX 1 5/8	212.50 - 218.75	0.6000	0.5750
T25	15	1 5/8	212.50 - 218.75	0.6000	0.5750
T25	16	Fiber Trunk	212.50 - 218.75	0.6000	0.5750
T25	17	DC Trunk	212.50 - 218.75	0.6000	0.5750
T25	18	Fiber Trunk	212.50 - 218.75	0.6000	0.5750
T25	19	DC Trunk	212.50 - 218.75	0.6000	0.5750
T25	20	0.3" dia. RET	212.50 - 218.75	0.6000	0.5750
T25	22	6x24 HYBRID	212.50 - 218.75	0.6000	0.5750
T26	9	1 5/8	206.25 - 212.50	0.6000	0.5868
T26	10	7/8	206.25 - 212.50	0.6000	0.5868
T26	11	7/8	206.25 - 212.50	0.6000	0.5868
T26	12	7/8	206.25 - 212.50	0.6000	0.5868
T26	13	1 5/8	206.25 - 212.50	0.6000	0.5868
T26	14	HYBRIFLEX 1 5/8	206.25 - 212.50	0.6000	0.5868
T26	15	1 5/8	206.25 - 212.50	0.6000	0.5868
T26	16	Fiber Trunk	206.25 - 212.50	0.6000	0.5868

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T26	17	DC Trunk	206.25 - 212.50	0.6000	0.5868
T26	18	Fiber Trunk	206.25 - 212.50	0.6000	0.5868
T26	19	DC Trunk	206.25 - 212.50	0.6000	0.5868
T26	20	0.3" dia. RET	206.25 - 212.50	0.6000	0.5868
T26	22	6x24 HYBRID	206.25 - 212.50	0.6000	0.5868
T27	8	7/8	181.25 - 200.00	0.6000	0.5888
T27	9	1 5/8	181.25 - 206.25	0.6000	0.5888
T27	10	7/8	181.25 - 206.25	0.6000	0.5888
T27	11	7/8	181.25 - 206.25	0.6000	0.5888
T27	12	7/8	181.25 - 206.25	0.6000	0.5888
T27	13	1 5/8	181.25 - 206.25	0.6000	0.5888
T27	14	HYBRIFLEX 1 5/8	181.25 - 206.25	0.6000	0.5888
T27	15	1 5/8	181.25 - 206.25	0.6000	0.5888
T27	16	Fiber Trunk	181.25 - 206.25	0.6000	0.5888
T27	17	DC Trunk	181.25 - 206.25	0.6000	0.5888
T27	18	Fiber Trunk	181.25 - 206.25	0.6000	0.5888
T27	19	DC Trunk	181.25 - 206.25	0.6000	0.5888
T27	20	0.3" dia. RET	181.25 - 206.25	0.6000	0.5888
T27	22	6x24 HYBRID	181.25 - 206.25	0.6000	0.5888
T28	7	7/8	175.00 - 180.00	0.6000	0.5314
T28	8	7/8	175.00 - 181.25	0.6000	0.5314
T28	9	1 5/8	175.00 - 181.25	0.6000	0.5314
T28	10	7/8	175.00 - 181.25	0.6000	0.5314
T28	11	7/8	175.00 - 181.25	0.6000	0.5314
T28	12	7/8	175.00 - 181.25	0.6000	0.5314
T28	13	1 5/8	175.00 - 181.25	0.6000	0.5314
T28	14	HYBRIFLEX 1 5/8	175.00 - 181.25	0.6000	0.5314
T28	15	1 5/8	175.00 - 181.25	0.6000	0.5314
T28	16	Fiber Trunk	175.00 - 181.25	0.6000	0.5314
T28	17	DC Trunk	175.00 - 181.25	0.6000	0.5314
T28	18	Fiber Trunk	175.00 - 181.25	0.6000	0.5314

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T28	19	DC Trunk	175.00 - 181.25	0.6000	0.5314
T28	20	0.3" dia. RET	175.00 - 181.25	0.6000	0.5314
T28	22	6x24 HYBRID	175.00 - 181.25	0.6000	0.5314
T29	7	7/8	168.75 - 175.00	0.6000	0.5732
T29	8	7/8	168.75 - 175.00	0.6000	0.5732
T29	9	1 5/8	168.75 - 175.00	0.6000	0.5732
T29	10	7/8	168.75 - 175.00	0.6000	0.5732
T29	11	7/8	168.75 - 175.00	0.6000	0.5732
T29	12	7/8	168.75 - 175.00	0.6000	0.5732
T29	13	1 5/8	168.75 - 175.00	0.6000	0.5732
T29	14	HYBRIFLEX 1 5/8	168.75 - 175.00	0.6000	0.5732
T29	15	1 5/8	168.75 - 175.00	0.6000	0.5732
T29	16	Fiber Trunk	168.75 - 175.00	0.6000	0.5732
T29	17	DC Trunk	168.75 - 175.00	0.6000	0.5732
T29	18	Fiber Trunk	168.75 - 175.00	0.6000	0.5732
T29	19	DC Trunk	168.75 - 175.00	0.6000	0.5732
T29	20	0.3" dia. RET	168.75 - 175.00	0.6000	0.5732
T29	22	6x24 HYBRID	168.75 - 175.00	0.6000	0.5732
T30	7	7/8	162.50 - 168.75	0.6000	0.5742
T30	8	7/8	162.50 - 168.75	0.6000	0.5742
T30	9	1 5/8	162.50 - 168.75	0.6000	0.5742
T30	10	7/8	162.50 - 168.75	0.6000	0.5742
T30	11	7/8	162.50 - 168.75	0.6000	0.5742
T30	12	7/8	162.50 - 168.75	0.6000	0.5742
T30	13	1 5/8	162.50 - 168.75	0.6000	0.5742
T30	14	HYBRIFLEX 1 5/8	162.50 - 168.75	0.6000	0.5742
T30	15	1 5/8	162.50 - 168.75	0.6000	0.5742
T30	16	Fiber Trunk	162.50 - 168.75	0.6000	0.5742
T30	17	DC Trunk	162.50 - 168.75	0.6000	0.5742
T30	18	Fiber Trunk	162.50 - 168.75	0.6000	0.5742
T30	19	DC Trunk	162.50 - 168.75	0.6000	0.5742

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T30	20	0.3" dia. RET	162.50 - 168.75	0.6000	0.5742
T30	22	6x24 HYBRID	162.50 - 168.75	0.6000	0.5742
T31	7	7/8	156.25 - 162.50	0.6000	0.5778
T31	8	7/8	156.25 - 162.50	0.6000	0.5778
T31	9	1 5/8	156.25 - 162.50	0.6000	0.5778
T31	10	7/8	156.25 - 162.50	0.6000	0.5778
T31	11	7/8	156.25 - 162.50	0.6000	0.5778
T31	12	7/8	156.25 - 162.50	0.6000	0.5778
T31	13	1 5/8	156.25 - 162.50	0.6000	0.5778
T31	14	HYBRIFLEX 1 5/8	156.25 - 162.50	0.6000	0.5778
T31	15	1 5/8	156.25 - 162.50	0.6000	0.5778
T31	16	Fiber Trunk	156.25 - 162.50	0.6000	0.5778
T31	17	DC Trunk	156.25 - 162.50	0.6000	0.5778
T31	18	Fiber Trunk	156.25 - 162.50	0.6000	0.5778
T31	19	DC Trunk	156.25 - 162.50	0.6000	0.5778
T31	20	0.3" dia. RET	156.25 - 162.50	0.6000	0.5778
T31	22	6x24 HYBRID	156.25 - 162.50	0.6000	0.5778
T32	7	7/8	150.00 - 156.25	0.6000	0.5897
T32	8	7/8	150.00 - 156.25	0.6000	0.5897
T32	9	1 5/8	150.00 - 156.25	0.6000	0.5897
T32	10	7/8	150.00 - 156.25	0.6000	0.5897
T32	11	7/8	150.00 - 156.25	0.6000	0.5897
T32	12	7/8	150.00 - 156.25	0.6000	0.5897
T32	13	1 5/8	150.00 - 156.25	0.6000	0.5897
T32	14	HYBRIFLEX 1 5/8	150.00 - 156.25	0.6000	0.5897
T32	15	1 5/8	150.00 - 156.25	0.6000	0.5897
T32	16	Fiber Trunk	150.00 - 156.25	0.6000	0.5897
T32	17	DC Trunk	150.00 - 156.25	0.6000	0.5897
T32	18	Fiber Trunk	150.00 - 156.25	0.6000	0.5897
T32	19	DC Trunk	150.00 - 156.25	0.6000	0.5897
T32	20	0.3" dia. RET	150.00 - 156.25	0.6000	0.5897

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T32	22	6x24 HYBRID	150.00 - 156.25	0.6000	0.5897
T33	5	7/8	125.00 - 140.00	0.6000	0.5924
T33	6	1/2	125.00 - 148.00	0.6000	0.5924
T33	7	7/8	125.00 - 150.00	0.6000	0.5924
T33	8	7/8	125.00 - 150.00	0.6000	0.5924
T33	9	1 5/8	125.00 - 150.00	0.6000	0.5924
T33	10	7/8	125.00 - 150.00	0.6000	0.5924
T33	11	7/8	125.00 - 150.00	0.6000	0.5924
T33	12	7/8	125.00 - 150.00	0.6000	0.5924
T33	13	1 5/8	125.00 - 150.00	0.6000	0.5924
T33	14	HYBRIFLEX 1 5/8	125.00 - 150.00	0.6000	0.5924
T33	15	1 5/8	125.00 - 150.00	0.6000	0.5924
T33	16	Fiber Trunk	125.00 - 150.00	0.6000	0.5924
T33	17	DC Trunk	125.00 - 150.00	0.6000	0.5924
T33	18	Fiber Trunk	125.00 - 150.00	0.6000	0.5924
T33	19	DC Trunk	125.00 - 150.00	0.6000	0.5924
T33	20	0.3" dia. RET	125.00 - 150.00	0.6000	0.5924
T33	22	6x24 HYBRID	125.00 - 150.00	0.6000	0.5924
T34	4	1/2	100.00 - 125.00	0.6000	0.5246
T34	5	7/8	100.00 - 125.00	0.6000	0.5246
T34	6	1/2	100.00 - 125.00	0.6000	0.5246
T34	7	7/8	100.00 - 125.00	0.6000	0.5246
T34	8	7/8	100.00 - 125.00	0.6000	0.5246
T34	9	1 5/8	100.00 - 125.00	0.6000	0.5246
T34	10	7/8	100.00 - 125.00	0.6000	0.5246
T34	11	7/8	100.00 - 125.00	0.6000	0.5246
T34	12	7/8	100.00 - 125.00	0.6000	0.5246
T34	13	1 5/8	100.00 - 125.00	0.6000	0.5246
T34	14	HYBRIFLEX 1 5/8	100.00 - 125.00	0.6000	0.5246
T34	15	1 5/8	100.00 - 125.00	0.6000	0.5246
T34	16	Fiber Trunk	100.00 - 125.00	0.6000	0.5246

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T34	17	DC Trunk	100.00 - 125.00	0.6000	0.5246
T34	18	Fiber Trunk	100.00 - 125.00	0.6000	0.5246
T34	19	DC Trunk	100.00 - 125.00	0.6000	0.5246
T34	20	0.3" dia. RET	100.00 - 125.00	0.6000	0.5246
T34	22	6x24 HYBRID	100.00 - 125.00	0.6000	0.5246
T35	4	1/2	93.75 - 100.00	0.6000	0.5172
T35	5	7/8	93.75 - 100.00	0.6000	0.5172
T35	6	1/2	93.75 - 100.00	0.6000	0.5172
T35	7	7/8	93.75 - 100.00	0.6000	0.5172
T35	8	7/8	93.75 - 100.00	0.6000	0.5172
T35	9	1 5/8	93.75 - 100.00	0.6000	0.5172
T35	10	7/8	93.75 - 100.00	0.6000	0.5172
T35	11	7/8	93.75 - 100.00	0.6000	0.5172
T35	12	7/8	93.75 - 100.00	0.6000	0.5172
T35	13	1 5/8	93.75 - 100.00	0.6000	0.5172
T35	14	HYBRIFLEX 1 5/8	93.75 - 100.00	0.6000	0.5172
T35	15	1 5/8	93.75 - 100.00	0.6000	0.5172
T35	16	Fiber Trunk	93.75 - 100.00	0.6000	0.5172
T35	17	DC Trunk	93.75 - 100.00	0.6000	0.5172
T35	18	Fiber Trunk	93.75 - 100.00	0.6000	0.5172
T35	19	DC Trunk	93.75 - 100.00	0.6000	0.5172
T35	20	0.3" dia. RET	93.75 - 100.00	0.6000	0.5172
T35	22	6x24 HYBRID	93.75 - 100.00	0.6000	0.5172
T36	3	1/2	87.50 - 88.00	0.6000	0.5870
T36	4	1/2	87.50 - 93.75	0.6000	0.5870
T36	5	7/8	87.50 - 93.75	0.6000	0.5870
T36	6	1/2	87.50 - 93.75	0.6000	0.5870
T36	7	7/8	87.50 - 93.75	0.6000	0.5870
T36	8	7/8	87.50 - 93.75	0.6000	0.5870
T36	9	1 5/8	87.50 - 93.75	0.6000	0.5870
T36	10	7/8	87.50 - 93.75	0.6000	0.5870
T36	11	7/8	87.50 - 93.75	0.6000	0.5870
T36	12	7/8	87.50 - 93.75	0.6000	0.5870
T36	13	1 5/8	87.50 - 93.75	0.6000	0.5870
T36	14	HYBRIFLEX 1 5/8	87.50 - 93.75	0.6000	0.5870
T36	15	1 5/8	87.50 - 93.75	0.6000	0.5870
T36	16	Fiber Trunk	87.50 - 93.75	0.6000	0.5870
T36	17	DC Trunk	87.50 - 93.75	0.6000	0.5870
T36	18	Fiber Trunk	87.50 - 93.75	0.6000	0.5870
T36	19	DC Trunk	87.50 - 93.75	0.6000	0.5870
T36	20	0.3" dia. RET	87.50 - 93.75	0.6000	0.5870
T36	22	6x24 HYBRID	87.50 - 93.75	0.6000	0.5870
T37	3	1/2	81.25 - 87.50	0.6000	0.6000
T37	4	1/2	81.25 - 87.50	0.6000	0.6000
T37	5	7/8	81.25 - 87.50	0.6000	0.6000
T37	6	1/2	81.25 - 87.50	0.6000	0.6000
T37	7	7/8	81.25 - 87.50	0.6000	0.6000
T37	8	7/8	81.25 - 87.50	0.6000	0.6000
T37	9	1 5/8	81.25 - 87.50	0.6000	0.6000
T37	10	7/8	81.25 - 87.50	0.6000	0.6000
T37	11	7/8	81.25 - 87.50	0.6000	0.6000
T37	12	7/8	81.25 - 87.50	0.6000	0.6000
T37	13	1 5/8	81.25 - 87.50	0.6000	0.6000
T37	14	HYBRIFLEX 1 5/8	81.25 - 87.50	0.6000	0.6000
T37	15	1 5/8	81.25 - 87.50	0.6000	0.6000
T37	16	Fiber Trunk	81.25 - 87.50	0.6000	0.6000
T37	17	DC Trunk	81.25 - 87.50	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T37	18	Fiber Trunk	81.25 - 87.50	0.6000	0.6000
T37	19	DC Trunk	81.25 - 87.50	0.6000	0.6000
T37	20	0.3" dia. RET	81.25 - 87.50	0.6000	0.6000
T37	22	6x24 HYBRID	81.25 - 87.50	0.6000	0.6000
T38	3	1/2	75.00 - 81.25	0.6000	0.6000
T38	4	1/2	75.00 - 81.25	0.6000	0.6000
T38	5	7/8	75.00 - 81.25	0.6000	0.6000
T38	6	1/2	75.00 - 81.25	0.6000	0.6000
T38	7	7/8	75.00 - 81.25	0.6000	0.6000
T38	8	7/8	75.00 - 81.25	0.6000	0.6000
T38	9	1 5/8	75.00 - 81.25	0.6000	0.6000
T38	10	7/8	75.00 - 81.25	0.6000	0.6000
T38	11	7/8	75.00 - 81.25	0.6000	0.6000
T38	12	7/8	75.00 - 81.25	0.6000	0.6000
T38	13	1 5/8	75.00 - 81.25	0.6000	0.6000
T38	14	HYBRIFLEX 1 5/8	75.00 - 81.25	0.6000	0.6000
T38	15	1 5/8	75.00 - 81.25	0.6000	0.6000
T38	16	Fiber Trunk	75.00 - 81.25	0.6000	0.6000
T38	17	DC Trunk	75.00 - 81.25	0.6000	0.6000
T38	18	Fiber Trunk	75.00 - 81.25	0.6000	0.6000
T38	19	DC Trunk	75.00 - 81.25	0.6000	0.6000
T38	20	0.3" dia. RET	75.00 - 81.25	0.6000	0.6000
T38	22	6x24 HYBRID	75.00 - 81.25	0.6000	0.6000
T39	2	7/8	50.00 - 62.00	0.6000	0.6000
T39	3	1/2	50.00 - 75.00	0.6000	0.6000
T39	4	1/2	50.00 - 75.00	0.6000	0.6000
T39	5	7/8	50.00 - 75.00	0.6000	0.6000
T39	6	1/2	50.00 - 75.00	0.6000	0.6000
T39	7	7/8	50.00 - 75.00	0.6000	0.6000
T39	8	7/8	50.00 - 75.00	0.6000	0.6000
T39	9	1 5/8	50.00 - 75.00	0.6000	0.6000
T39	10	7/8	50.00 - 75.00	0.6000	0.6000
T39	11	7/8	50.00 - 75.00	0.6000	0.6000
T39	12	7/8	50.00 - 75.00	0.6000	0.6000
T39	13	1 5/8	50.00 - 75.00	0.6000	0.6000
T39	14	HYBRIFLEX 1 5/8	50.00 - 75.00	0.6000	0.6000
T39	15	1 5/8	50.00 - 75.00	0.6000	0.6000
T39	16	Fiber Trunk	50.00 - 75.00	0.6000	0.6000
T39	17	DC Trunk	50.00 - 75.00	0.6000	0.6000
T39	18	Fiber Trunk	50.00 - 75.00	0.6000	0.6000
T39	19	DC Trunk	50.00 - 75.00	0.6000	0.6000
T39	20	0.3" dia. RET	50.00 - 75.00	0.6000	0.6000
T39	22	6x24 HYBRID	50.00 - 75.00	0.6000	0.6000
T40	1	7/8	25.00 - 40.00	0.6000	0.6000
T40	2	7/8	25.00 - 50.00	0.6000	0.6000
T40	3	1/2	25.00 - 50.00	0.6000	0.6000
T40	4	1/2	25.00 - 50.00	0.6000	0.6000
T40	5	7/8	25.00 - 50.00	0.6000	0.6000
T40	6	1/2	25.00 - 50.00	0.6000	0.6000
T40	7	7/8	25.00 - 50.00	0.6000	0.6000
T40	8	7/8	25.00 - 50.00	0.6000	0.6000
T40	9	1 5/8	25.00 - 50.00	0.6000	0.6000
T40	10	7/8	25.00 - 50.00	0.6000	0.6000
T40	11	7/8	25.00 - 50.00	0.6000	0.6000
T40	12	7/8	25.00 - 50.00	0.6000	0.6000
T40	13	1 5/8	25.00 - 50.00	0.6000	0.6000
T40	14	HYBRIFLEX 1 5/8	25.00 - 50.00	0.6000	0.6000
T40	15	1 5/8	25.00 - 50.00	0.6000	0.6000
T40	16	Fiber Trunk	25.00 - 50.00	0.6000	0.6000
T40	17	DC Trunk	25.00 - 50.00	0.6000	0.6000
T40	18	Fiber Trunk	25.00 - 50.00	0.6000	0.6000
T40	19	DC Trunk	25.00 - 50.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T40	20	0.3" dia. RET	25.00 - 50.00	0.6000	0.6000
T40	22	6x24 HYBRID	25.00 - 50.00	0.6000	0.6000
T41	1	7/8	3.00 - 25.00	0.6000	0.6000
T41	2	7/8	3.00 - 25.00	0.6000	0.6000
T41	3	1/2	3.00 - 25.00	0.6000	0.6000
T41	4	1/2	3.00 - 25.00	0.6000	0.6000
T41	5	7/8	3.00 - 25.00	0.6000	0.6000
T41	6	1/2	3.00 - 25.00	0.6000	0.6000
T41	7	7/8	3.00 - 25.00	0.6000	0.6000
T41	8	7/8	3.00 - 25.00	0.6000	0.6000
T41	9	1 5/8	3.00 - 25.00	0.6000	0.6000
T41	10	7/8	3.00 - 25.00	0.6000	0.6000
T41	11	7/8	3.00 - 25.00	0.6000	0.6000
T41	12	7/8	3.00 - 25.00	0.6000	0.6000
T41	13	1 5/8	3.00 - 25.00	0.6000	0.6000
T41	14	HYBRIFLEX 1 5/8	3.00 - 25.00	0.6000	0.6000
T41	15	1 5/8	3.00 - 25.00	0.6000	0.6000
T41	16	Fiber Trunk	3.00 - 25.00	0.6000	0.6000
T41	17	DC Trunk	3.00 - 25.00	0.6000	0.6000
T41	18	Fiber Trunk	3.00 - 25.00	0.6000	0.6000
T41	19	DC Trunk	3.00 - 25.00	0.6000	0.6000
T41	20	0.3" dia. RET	3.00 - 25.00	0.6000	0.6000
T41	22	6x24 HYBRID	3.00 - 25.00	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
Search Antenna	C	From Leg	1.00	0.0000	370.00	No Ice	1.28	3.73	300.00
			0.00			1/2" Ice	3.73	4.39	450.00
			0.00			1" Ice	6.18	5.05	600.00
***									
10'6"x4' Pipe Mount	A	From Leg	0.50	0.0000	355.00	No Ice	2.99	2.99	110.00
			0.00			1/2" Ice	5.62	5.62	150.00
			0.00			1" Ice	6.25	6.25	190.00
Rohn 6' Side-Arm	B	From Leg	3.00	0.0000	355.00	No Ice	6.00	6.00	140.00
			0.00			1/2" Ice	8.50	8.50	210.00
			0.00			1" Ice	11.00	11.00	280.00
***									
20' x 3" Dia Omni	C	From Leg	1.00	0.0000	350.00	No Ice	5.70	5.70	50.00
			0.00			1/2" Ice	8.03	8.03	90.00
			0.00			1" Ice	10.08	10.08	150.00
6'x4" Pipe Mount	C	From Leg	0.50	0.0000	350.00	No Ice	1.59	1.59	50.00
			0.00			1/2" Ice	2.46	2.46	70.00
			0.00			1" Ice	2.83	2.83	90.00
***									
10' x 3" Dia Omni	B	From Leg	3.00	0.0000	325.00	No Ice	2.87	2.87	30.00
			0.00			1/2" Ice	4.03	4.03	50.00
			0.00			1" Ice	5.03	5.03	80.00
ROHN 3-ft Side Arm	B	From Leg	2.00	0.0000	325.00	No Ice	3.10	3.10	70.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0.00			1/2" Ice	5.00	5.00	100.00
			0.00			1" Ice	6.90	6.90	130.00
***									
20' x 3" Dia Omni	C	From Leg	1.00	0.0000	250.00	No Ice	5.90	5.90	50.00
			0.00			1/2" Ice	8.03	8.03	90.00
			0.00			1" Ice	10.08	10.08	150.00
6'x4" Pipe Mount	C	From Leg	0.50	0.0000	250.00	No Ice	1.63	1.63	50.00
			0.00			1/2" Ice	2.46	2.46	70.00
			0.00			1" Ice	2.83	2.83	90.00
***									
Yagi	A	From Leg	1.00	0.0000	200.00	No Ice	5.00	5.00	40.00
			0.00			1/2" Ice	6.50	6.50	60.00
			0.00			1" Ice	8.00	8.00	80.00
***									
(4) Yagi	C	From Leg	1.00	0.0000	180.00	No Ice	5.00	5.00	40.00
			0.00			1/2" Ice	6.50	6.50	60.00
			0.00			1" Ice	8.00	8.00	80.00
(2) 5'3"x4" Pipe Mount	C	From Leg	1.00	0.0000	180.00	No Ice	1.44	2.44	60.00
			0.00			1/2" Ice	2.21	2.21	70.00
			0.00			1" Ice	2.54	2.54	90.00
***									
Yagi	B	From Leg	1.00	0.0000	148.00	No Ice	5.00	5.00	40.00
			0.00			1/2" Ice	6.50	6.50	60.00
			0.00			1" Ice	8.00	8.00	80.00
***									
Yagi	C	From Leg	1.00	0.0000	140.00	No Ice	5.00	5.00	40.00
			0.00			1/2" Ice	6.50	6.50	60.00
			0.00			1" Ice	8.00	8.00	80.00
***									
Yagi	A	From Leg	1.00	0.0000	125.00	No Ice	5.00	5.00	40.00
			0.00			1/2" Ice	6.50	6.50	60.00
			0.00			1" Ice	8.00	8.00	80.00
***									
X-Style	A	From Leg	1.00	0.0000	88.00	No Ice	1.50	2.00	20.00
			0.00			1/2" Ice	2.00	2.50	30.00
			0.00			1" Ice	2.50	3.00	40.00
***									
(2) X-Style	B	From Leg	1.00	0.0000	88.00	No Ice	1.50	2.00	20.00
			0.00			1/2" Ice	2.00	2.50	30.00
			0.00			1" Ice	2.50	3.00	40.00
***									
X-Style	A	From Leg	1.00	0.0000	88.00	No Ice	1.50	2.00	20.00
			0.00			1/2" Ice	2.00	2.50	30.00
			0.00			1" Ice	2.50	3.00	40.00
***									
Yagi	C	From Leg	1.00	0.0000	62.00	No Ice	5.00	5.00	40.00
			0.00			1/2" Ice	6.50	6.50	60.00
			0.00			1" Ice	8.00	8.00	80.00
***									
Yagi	A	From Leg	1.00	0.0000	40.00	No Ice	5.00	5.00	40.00
			0.00			1/2" Ice	6.50	6.50	60.00
			0.00			1" Ice	8.00	8.00	80.00
***									
HPA-65R-BUU-H6	A	From Leg	3.00	0.0000	242.50	No Ice	9.66	6.45	50.00
			-6.00			1/2" Ice	10.13	6.91	110.00
			0.00			1" Ice	10.61	7.38	180.00
HPA-65R-BUU-H8	B	From Leg	3.00	0.0000	242.50	No Ice	12.98	7.52	70.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			-6.00				1/2" Ice	13.56	8.09	140.00
			0.00				1" Ice	14.15	8.67	220.00
HPA-65R-BUU-H8	C	From Leg	3.00		0.0000	242.50	No Ice	12.98	7.52	70.00
			-6.00				1/2" Ice	13.56	8.09	140.00
			0.00				1" Ice	14.15	8.67	220.00
80010965	A	From Leg	3.00		0.0000	242.50	No Ice	13.81	5.83	110.00
			-2.00				1/2" Ice	14.35	6.32	190.00
			0.00				1" Ice	14.89	6.82	270.00
80010966	B	From Leg	3.00		0.0000	242.50	No Ice	17.36	7.50	130.00
			-2.00				1/2" Ice	17.99	8.09	220.00
			0.00				1" Ice	18.63	8.69	320.00
80010966	C	From Leg	3.00		0.0000	242.50	No Ice	17.36	7.50	130.00
			-2.00				1/2" Ice	17.99	8.09	220.00
			0.00				1" Ice	18.63	8.69	320.00
80010965	A	From Leg	3.00		0.0000	242.50	No Ice	13.81	5.83	110.00
			2.00				1/2" Ice	14.35	6.32	190.00
			0.00				1" Ice	14.89	6.82	270.00
80010966	B	From Leg	3.00		0.0000	242.50	No Ice	17.36	7.50	130.00
			-2.00				1/2" Ice	17.99	8.09	220.00
			0.00				1" Ice	18.63	8.69	320.00
80010966	C	From Leg	3.00		0.0000	242.50	No Ice	17.36	7.50	130.00
			-2.00				1/2" Ice	17.99	8.09	220.00
			0.00				1" Ice	18.63	8.69	320.00
7770.00	A	From Leg	3.00		0.0000	242.50	No Ice	5.51	2.93	40.00
			6.00				1/2" Ice	5.87	3.27	70.00
			0.00				1" Ice	6.23	3.63	110.00
7770.00	B	From Leg	3.00		0.0000	242.50	No Ice	5.51	2.93	40.00
			6.00				1/2" Ice	5.87	3.27	70.00
			0.00				1" Ice	6.23	3.63	110.00
7770.00	C	From Leg	3.00		0.0000	242.50	No Ice	5.51	2.93	40.00
			6.00				1/2" Ice	5.87	3.27	70.00
			0.00				1" Ice	6.23	3.63	110.00
(2) LPG21401 TMA	A	From Leg	3.00		0.0000	242.50	No Ice	0.82	0.35	20.00
			0.00				1/2" Ice	0.94	0.44	25.00
			0.00				1" Ice	1.06	0.54	30.00
(2) LPG21401 TMA	B	From Leg	3.00		0.0000	242.50	No Ice	0.82	0.35	20.00
			0.00				1/2" Ice	0.94	0.44	25.00
			0.00				1" Ice	1.06	0.54	30.00
(2) LPG21401 TMA	C	From Leg	3.00		0.0000	242.50	No Ice	0.82	0.35	20.00
			0.00				1/2" Ice	0.94	0.44	25.00
			0.00				1" Ice	1.06	0.54	30.00
8843 B2/B66A	A	From Leg	3.00		0.0000	242.50	No Ice	1.64	1.35	70.00
			0.00				1/2" Ice	1.80	1.50	90.00
			0.00				1" Ice	1.97	1.65	110.00
8843 B2/B66A	B	From Leg	3.00		0.0000	242.50	No Ice	1.64	1.35	70.00
			0.00				1/2" Ice	1.80	1.50	90.00
			0.00				1" Ice	1.97	1.65	110.00
8843 B2/B66A	C	From Leg	3.00		0.0000	242.50	No Ice	1.64	1.35	70.00
			0.00				1/2" Ice	1.80	1.50	90.00
			0.00				1" Ice	1.97	1.65	110.00
4449 B5/B12	A	From Leg	3.00		0.0000	242.50	No Ice	1.97	1.41	70.00
			0.00				1/2" Ice	2.14	1.56	90.00
			0.00				1" Ice	2.33	1.73	110.00
4449 B5/B12	B	From Leg	3.00		0.0000	242.50	No Ice	1.97	1.41	70.00
			0.00				1/2" Ice	2.14	1.56	90.00
			0.00				1" Ice	2.33	1.73	110.00
4449 B5/B12	C	From Leg	3.00		0.0000	242.50	No Ice	1.97	1.41	70.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0.00				1/2" Ice	2.14	1.56	90.00
			0.00				1" Ice	2.33	1.73	110.00
B14 4478	A	From Leg	3.00		0.0000	242.50	No Ice	1.84	1.06	60.00
			0.00				1/2" Ice	2.01	1.20	80.00
			0.00				1" Ice	2.19	1.34	90.00
B14 4478	B	From Leg	3.00		0.0000	242.50	No Ice	1.84	1.06	60.00
			0.00				1/2" Ice	2.01	1.20	80.00
			0.00				1" Ice	2.19	1.34	90.00
B14 4478	C	From Leg	3.00		0.0000	242.50	No Ice	1.84	1.06	60.00
			0.00				1/2" Ice	2.01	1.20	80.00
			0.00				1" Ice	2.19	1.34	90.00
DC6-48-60-18-8F Surge Arrestor	A	From Leg	3.00		0.0000	242.50	No Ice	1.91	1.91	20.00
			0.00				1/2" Ice	2.10	2.10	40.00
			0.00				1" Ice	2.29	2.29	60.00
DC6-48-60-18-8F Surge Arrestor	B	From Leg	3.00		0.0000	242.50	No Ice	1.91	1.91	20.00
			0.00				1/2" Ice	2.10	2.10	40.00
			0.00				1" Ice	2.29	2.29	60.00
DC6-48-60-18-8F Surge Arrestor	C	From Leg	3.00		0.0000	242.50	No Ice	1.91	1.91	20.00
			0.00				1/2" Ice	2.10	2.10	40.00
			0.00				1" Ice	2.29	2.29	60.00
Pirod 12' T-Frame Sector Mount	A	From Leg	1.00		0.0000	242.50	No Ice	13.60	13.60	470.00
			0.00				1/2" Ice	18.40	18.40	600.00
			0.00				1" Ice	23.20	23.20	730.00
Pirod 12' T-Frame Sector Mount	B	From Leg	1.00		0.0000	242.50	No Ice	13.60	13.60	470.00
			0.00				1/2" Ice	18.40	18.40	600.00
			0.00				1" Ice	23.20	23.20	730.00
Pirod 12' T-Frame Sector Mount	C	From Leg	1.00		0.0000	242.50	No Ice	13.60	13.60	470.00
			0.00				1/2" Ice	18.40	18.40	600.00
			0.00				1" Ice	23.20	23.20	730.00
Site Pro Horizontal Stabilizer SFS-H	A	From Leg	1.00		0.0000	242.50	No Ice	2.00	2.00	70.00
			0.00				1/2" Ice	3.50	3.50	100.00
			0.00				1" Ice	5.00	5.00	130.00
Site Pro Horizontal Stabilizer SFS-H	B	From Leg	1.00		0.0000	242.50	No Ice	2.00	2.00	70.00
			0.00				1/2" Ice	3.50	3.50	100.00
			0.00				1" Ice	5.00	5.00	130.00
Site Pro Horizontal Stabilizer SFS-H	C	From Leg	1.00		0.0000	242.50	No Ice	2.00	2.00	70.00
			0.00				1/2" Ice	3.50	3.50	100.00
			0.00				1" Ice	5.00	5.00	130.00
***										
QUAD656C0000	A	From Leg	3.00		0.0000	305.00	No Ice	13.24	5.62	60.00
			-6.00				1/2" Ice	13.75	6.09	130.00
			0.00				1" Ice	14.27	6.56	210.00
HBXX-6517DS	A	From Leg	3.00		0.0000	305.00	No Ice	8.53	5.24	50.00
			-4.00				1/2" Ice	9.00	5.71	100.00
			0.00				1" Ice	9.48	6.18	160.00
LNX-6514DS-T4M	A	From Leg	3.00		0.0000	305.00	No Ice	8.17	5.41	40.00
			0.00				1/2" Ice	8.63	5.86	90.00
			0.00				1" Ice	9.10	6.33	150.00
HBXX-6517DS	A	From Leg	3.00		0.0000	305.00	No Ice	8.53	5.24	50.00
			4.00				1/2" Ice	9.00	5.71	100.00
			0.00				1" Ice	9.48	6.18	160.00
QUAD656C0000	B	From Leg	3.00		0.0000	305.00	No Ice	13.24	5.62	60.00
			-6.00				1/2" Ice	13.75	6.09	130.00
			0.00				1" Ice	14.27	6.56	210.00
HBXX-6517DS	B	From Leg	3.00		0.0000	305.00	No Ice	8.53	5.24	50.00
			-4.00				1/2" Ice	9.00	5.71	100.00
			0.00				1" Ice	9.48	6.18	160.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
LNX-6514DS-T4M	B	From Leg	3.00	0.0000	305.00	No Ice	8.17	5.41	40.00
			0.00			1/2" Ice	8.63	5.86	90.00
			0.00			1" Ice	9.10	6.33	150.00
HBXX-6517DS	B	From Leg	3.00	0.0000	305.00	No Ice	8.53	5.24	50.00
			4.00			1/2" Ice	9.00	5.71	100.00
			0.00			1" Ice	9.48	6.18	160.00
QUAD656C0000	C	From Leg	3.00	0.0000	305.00	No Ice	13.24	5.62	60.00
			-6.00			1/2" Ice	13.75	6.09	130.00
			0.00			1" Ice	14.27	6.56	210.00
HBXX-6517DS	C	From Leg	3.00	0.0000	305.00	No Ice	8.53	5.24	50.00
			-4.00			1/2" Ice	9.00	5.71	100.00
			0.00			1" Ice	9.48	6.18	160.00
LNX-6514DS-T4M	C	From Leg	3.00	0.0000	305.00	No Ice	8.17	5.41	40.00
			0.00			1/2" Ice	8.63	5.86	90.00
			0.00			1" Ice	9.10	6.33	150.00
HBXX-6517DS	C	From Leg	3.00	0.0000	305.00	No Ice	8.53	5.24	50.00
			4.00			1/2" Ice	9.00	5.71	100.00
			0.00			1" Ice	9.48	6.18	160.00
RRH4x45/2x90-AWS	A	From Leg	3.00	0.0000	305.00	No Ice	2.58	1.69	80.00
			4.00			1/2" Ice	2.79	1.87	100.00
			0.00			1" Ice	3.01	2.06	120.00
RRH4x45/2x90-AWS	B	From Leg	3.00	0.0000	305.00	No Ice	2.58	1.69	80.00
			4.00			1/2" Ice	2.79	1.87	100.00
			0.00			1" Ice	3.01	2.06	120.00
RRH4x45/2x90-AWS	C	From Leg	3.00	0.0000	305.00	No Ice	2.58	1.69	80.00
			4.00			1/2" Ice	2.79	1.87	100.00
			0.00			1" Ice	3.01	2.06	120.00
RRH4x30-B13	A	From Leg	3.00	0.0000	305.00	No Ice	2.16	1.62	60.00
			-4.00			1/2" Ice	2.35	1.79	80.00
			0.00			1" Ice	2.55	1.97	100.00
RRH4x30-B13	B	From Leg	3.00	0.0000	305.00	No Ice	2.16	1.62	60.00
			-4.00			1/2" Ice	2.35	1.79	80.00
			0.00			1" Ice	2.55	1.97	100.00
RRH4x30-B13	C	From Leg	3.00	0.0000	305.00	No Ice	2.16	1.62	60.00
			-4.00			1/2" Ice	2.35	1.79	80.00
			0.00			1" Ice	2.55	1.97	100.00
DB-T1-6Z-8AB-0Z	A	From Leg	3.00	0.0000	305.00	No Ice	4.80	2.00	40.00
			0.00			1/2" Ice	5.07	2.19	80.00
			0.00			1" Ice	5.35	2.39	120.00
DB-T1-6Z-8AB-0Z	B	From Leg	3.00	0.0000	305.00	No Ice	4.80	2.00	40.00
			0.00			1/2" Ice	5.07	2.19	80.00
			0.00			1" Ice	5.35	2.39	120.00
Rohn 6' x 12' Boom Gate	A	From Leg	1.00	0.0000	305.00	No Ice	16.60	16.60	560.00
			0.00			1/2" Ice	19.80	19.80	700.00
			0.00			1" Ice	23.00	23.00	840.00
Rohn 6' x 12' Boom Gate	B	From Leg	1.00	0.0000	305.00	No Ice	16.60	16.60	560.00
			0.00			1/2" Ice	19.80	19.80	700.00
			0.00			1" Ice	23.00	23.00	840.00
Rohn 6' x 12' Boom Gate	C	From Leg	1.00	0.0000	305.00	No Ice	16.60	16.60	560.00
			0.00			1/2" Ice	19.80	19.80	700.00
			0.00			1" Ice	23.00	23.00	840.00
***									
APX16DWV-16DWV-S-E-A20 (T-MOBILE)	A	From Leg	3.00	0.0000	230.00	No Ice	6.46	2.15	40.70
			0.00			1/2" Ice	6.83	2.49	73.65
			0.00			1" Ice	7.21	2.84	111.47
APX16DWV-16DWV-S-E-A20	B	From Leg	3.00	0.0000	230.00	No Ice	6.46	2.15	40.70
			0.00			1/2" Ice	6.83	2.49	73.65

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
(T-MOBILE)			0.00			1" Ice	7.21	2.84	111.47
APX16DWV-16DWV-S-E-A	C	From Leg	3.00	0.0000	230.00	No Ice	6.46	2.15	40.70
20			0.00			1/2" Ice	6.83	2.49	73.65
(T-MOBILE)			0.00			1" Ice	7.21	2.84	111.47
APXVAALL24_43-U-NA20	A	From Leg	3.00	0.0000	230.00	No Ice	20.24	8.89	153.30
(T-MOBILE)			0.00			1/2" Ice	20.89	9.49	265.89
			0.00			1" Ice	21.54	10.09	387.02
APXVAALL24_43-U-NA20	B	From Leg	3.00	0.0000	230.00	No Ice	20.24	8.89	153.30
(T-MOBILE)			0.00			1/2" Ice	20.89	9.49	265.89
			0.00			1" Ice	21.54	10.09	387.02
APXVAALL24_43-U-NA20	C	From Leg	3.00	0.0000	230.00	No Ice	20.24	8.89	153.30
(T-MOBILE)			0.00			1/2" Ice	20.89	9.49	265.89
			0.00			1" Ice	21.54	10.09	387.02
AIR 6449 B41	A	From Leg	3.00	0.0000	230.00	No Ice	5.68	2.49	104.00
(T-MOBILE)			0.00			1/2" Ice	5.98	2.72	143.12
			0.00			1" Ice	6.29	2.95	186.46
AIR 6449 B41	B	From Leg	3.00	0.0000	230.00	No Ice	5.68	2.49	104.00
(T-MOBILE)			0.00			1/2" Ice	5.98	2.72	143.12
			0.00			1" Ice	6.29	2.95	186.46
AIR 6449 B41	C	From Leg	3.00	0.0000	230.00	No Ice	5.68	2.49	104.00
(T-MOBILE)			0.00			1/2" Ice	5.98	2.72	143.12
			0.00			1" Ice	6.29	2.95	186.46
RADIO 4460 B25_B66	A	From Leg	3.00	0.0000	230.00	No Ice	2.14	1.50	108.00
(T-MOBILE)			0.00			1/2" Ice	2.32	1.65	130.16
			0.00			1" Ice	2.51	1.81	155.36
RADIO 4460 B25_B66	B	From Leg	3.00	0.0000	230.00	No Ice	2.14	1.50	108.00
(T-MOBILE)			0.00			1/2" Ice	2.32	1.65	130.16
			0.00			1" Ice	2.51	1.81	155.36
RADIO 4460 B25_B66	C	From Leg	3.00	0.0000	230.00	No Ice	2.14	1.50	108.00
(T-MOBILE)			0.00			1/2" Ice	2.32	1.65	130.16
			0.00			1" Ice	2.51	1.81	155.36
RADIO 4480 B71+B85	A	From Leg	3.00	0.0000	230.00	No Ice	1.63	1.00	74.00
(T-MOBILE)			0.00			1/2" Ice	1.79	1.13	89.91
			0.00			1" Ice	1.95	1.27	108.43
RADIO 4480 B71+B85	B	From Leg	3.00	0.0000	230.00	No Ice	1.63	1.00	74.00
(T-MOBILE)			0.00			1/2" Ice	1.79	1.13	89.91
			0.00			1" Ice	1.95	1.27	108.43
RADIO 4480 B71+B85	C	From Leg	3.00	0.0000	230.00	No Ice	1.63	1.00	74.00
(T-MOBILE)			0.00			1/2" Ice	1.79	1.13	89.91
			0.00			1" Ice	1.95	1.27	108.43
Site Pro 1 VFA12-HD	A	From Leg	1.50	0.0000	230.00	No Ice	13.20	9.20	658.00
(T-MOBILE)			0.00			1/2" Ice	19.50	14.60	804.00
			0.00			1" Ice	25.80	19.50	1015.00
Site Pro 1 VFA12-HD	B	From Leg	1.50	0.0000	230.00	No Ice	13.20	9.20	658.00
(T-MOBILE)			0.00			1/2" Ice	19.50	14.60	804.00
			0.00			1" Ice	25.80	19.50	1015.00
Site Pro 1 VFA12-HD	C	From Leg	1.50	0.0000	230.00	No Ice	13.20	9.20	658.00
(T-MOBILE)			0.00			1/2" Ice	19.50	14.60	804.00
			0.00			1" Ice	25.80	19.50	1015.00
(4) 7'x2" Antenna Mount Pipe	A	From Leg	1.50	0.0000	230.00	No Ice	1.66	1.66	26.00
(T-MOBILE)			0.00			1/2" Ice	2.39	2.39	38.58
			0.00			1" Ice	2.83	2.83	55.84
(4) 7'x2" Antenna Mount Pipe	B	From Leg	1.50	0.0000	230.00	No Ice	1.66	1.66	26.00
(T-MOBILE)			0.00			1/2" Ice	2.39	2.39	38.58
			0.00			1" Ice	2.83	2.83	55.84
(4) 7'x2" Antenna Mount Pipe	C	From Leg	1.50	0.0000	230.00	No Ice	1.66	1.66	26.00
(T-MOBILE)			0.00			1/2" Ice	2.39	2.39	38.58

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
***			0.00			1" Ice	2.83	2.83	55.84

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 lb
8' Dish	A	Paraboloid w/o Radome	From Leg	1.00 0.00 0.00	0.0000		355.00	8.00	No Ice 1/2" Ice 1" Ice	50.27 51.32 52.37	100.00 260.00 490.00

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice+1.0 Guy
3	1.2 Dead+1.6 Wind 30 deg - No Ice+1.0 Guy
4	1.2 Dead+1.6 Wind 60 deg - No Ice+1.0 Guy
5	1.2 Dead+1.6 Wind 90 deg - No Ice+1.0 Guy
6	1.2 Dead+1.6 Wind 120 deg - No Ice+1.0 Guy
7	1.2 Dead+1.6 Wind 150 deg - No Ice+1.0 Guy
8	1.2 Dead+1.6 Wind 180 deg - No Ice+1.0 Guy
9	1.2 Dead+1.6 Wind 210 deg - No Ice+1.0 Guy
10	1.2 Dead+1.6 Wind 240 deg - No Ice+1.0 Guy
11	1.2 Dead+1.6 Wind 270 deg - No Ice+1.0 Guy
12	1.2 Dead+1.6 Wind 300 deg - No Ice+1.0 Guy
13	1.2 Dead+1.6 Wind 330 deg - No Ice+1.0 Guy
14	1.2 Dead+1.0 Ice+1.0 Temp+Guy
15	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy
16	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy
17	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy
18	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy
19	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy
20	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy
21	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy
22	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy
23	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy
24	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy
25	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy
26	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy
27	Dead+Wind 0 deg - Service+Guy
28	Dead+Wind 30 deg - Service+Guy
29	Dead+Wind 60 deg - Service+Guy
30	Dead+Wind 90 deg - Service+Guy

Comb. No.	*Description*
31	Dead+Wind 120 deg - Service+Guy
32	Dead+Wind 150 deg - Service+Guy
33	Dead+Wind 180 deg - Service+Guy
34	Dead+Wind 210 deg - Service+Guy
35	Dead+Wind 240 deg - Service+Guy
36	Dead+Wind 270 deg - Service+Guy
37	Dead+Wind 300 deg - Service+Guy
38	Dead+Wind 330 deg - Service+Guy

Maximum Reactions

Location	*Condition*	*Gov. Load Comb.*	*Vertical lb*	*Horizontal, X lb*	*Horizontal, Z lb*
Guy C @ 251.45 ft Elev -12.2 ft Azimuth 240 deg	Max. Vert	10	-6511.44	-3245.33	1873.15
	Max. H_x	10	-6511.44	-3245.33	1873.15
	Max. H_z	3	-28865.84	-18188.58	11280.46
	Min. Vert	4	-29638.84	-19075.21	11018.02
	Min. H_x	4	-29638.84	-19075.21	11018.02
	Min. H_z	10	-6511.44	-3245.33	1873.15
Guy B @ 247.51 ft Elev 1.81 ft Azimuth 120 deg	Max. Vert	6	-6055.01	3084.86	1780.43
	Max. H_x	12	-29380.62	19302.74	11151.59
	Max. H_z	13	-28391.21	18282.38	11324.37
	Min. Vert	12	-29380.62	19302.74	11151.59
	Min. H_x	6	-6055.01	3084.86	1780.43
	Min. H_z	6	-6055.01	3084.86	1780.43
Guy A @ 247.15 ft Elev -5.8 ft Azimuth 0 deg	Max. Vert	2	-6189.51	0.46	-3534.51
	Max. H_x	11	-19239.20	1469.52	-13643.90
	Max. H_z	2	-6189.51	0.46	-3534.51
	Min. Vert	8	-31977.07	-3.95	-23634.57
	Min. H_x	5	-19104.73	-1470.40	-13550.96
	Min. H_z	8	-31977.07	-3.95	-23634.57
Guy C @ 227.42 ft Elev -10.07 ft Azimuth 240 deg	Max. Vert	10	-4664.75	-2452.89	1417.84
	Max. H_x	10	-4664.75	-2452.89	1417.84
	Max. H_z	3	-60652.69	-45064.16	27170.29
	Min. Vert	4	-62310.43	-46859.86	27018.06
	Min. H_x	4	-62310.43	-46859.86	27018.06
	Min. H_z	10	-4664.75	-2452.89	1417.84
Guy B @ 219.43 ft Elev 1.23 ft Azimuth 120 deg	Max. Vert	6	-4403.74	2298.82	1328.83
	Max. H_x	12	-62497.93	47278.97	27251.05
	Max. H_z	13	-60497.52	45229.00	27281.79
	Min. Vert	12	-62497.93	47278.97	27251.05
	Min. H_x	6	-4403.74	2298.82	1328.83
	Min. H_z	6	-4403.74	2298.82	1328.83

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Guy A @ 224.79 ft Elev -5.41 ft Azimuth 0 deg	Max. Vert	2	-4421.84	0.88	-2672.62
	Max. H_x	11	-32601.96	2120.19	-27678.73
	Max. H_z	2	-4421.84	0.88	-2672.62
	Min. Vert	8	-64150.35	-21.92	-55759.94
	Min. H_x	5	-32301.61	-2122.79	-27425.50
	Min. H_z	8	-64150.35	-21.92	-55759.94
Guy C @ 206.73 ft Elev -8.98 ft Azimuth 240 deg	Max. Vert	10	-196.36	-415.16	240.21
	Max. H_x	10	-196.36	-415.16	240.21
	Max. H_z	4	-22116.63	-29104.43	16768.14
	Min. Vert	4	-22116.63	-29104.43	16768.14
	Min. H_x	4	-22116.63	-29104.43	16768.14
	Min. H_z	10	-196.36	-415.16	240.21
Guy B @ 193.65 ft Elev 0.72 ft Azimuth 120 deg	Max. Vert	6	-174.01	373.76	216.71
	Max. H_x	12	-22430.99	29714.46	17084.51
	Max. H_z	13	-22039.77	29112.67	17120.24
	Min. Vert	12	-22430.99	29714.46	17084.51
	Min. H_x	6	-174.01	373.76	216.71
	Min. H_z	6	-174.01	373.76	216.71
Guy A @ 201.41 ft Elev -4.96 ft Azimuth 0 deg	Max. Vert	2	-195.67	0.12	-476.97
	Max. H_x	11	-11557.49	652.61	-17878.45
	Max. H_z	2	-195.67	0.12	-476.97
	Min. Vert	7	-21915.62	-275.71	-33481.13
	Min. H_x	5	-11441.75	-653.65	-17704.82
	Min. H_z	7	-21915.62	-275.71	-33481.13
Guy C @ 114.41 ft Elev -5.4 ft Azimuth 240 deg	Max. Vert	10	-70.90	-164.04	94.73
	Max. H_x	10	-70.90	-164.04	94.73
	Max. H_z	5	-4220.85	-7504.92	4285.72
	Min. Vert	5	-4220.85	-7504.92	4285.72
	Min. H_x	5	-4220.85	-7504.92	4285.72
	Min. H_z	10	-70.90	-164.04	94.73
Guy B @ 115.63 ft Elev 0.5 ft Azimuth 120 deg	Max. Vert	6	-67.04	184.46	106.57
	Max. H_x	11	-3692.37	7434.54	4247.45
	Max. H_z	13	-3671.76	7355.97	4289.23
	Min. Vert	12	-3697.35	7417.33	4279.70
	Min. H_x	6	-67.04	184.46	106.57
	Min. H_z	6	-67.04	184.46	106.57
Guy A @ 114.04 ft Elev -3.6 ft Azimuth 0 deg	Max. Vert	2	-74.13	-0.00	-203.39
	Max. H_x	11	-2238.59	89.04	-4732.17
	Max. H_z	2	-74.13	-0.00	-203.39
	Min. Vert	7	-4046.86	-37.95	-8538.00

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Mast	Min. H_x	5	-2218.75	-89.67	-4690.95
	Min. H_z	7	-4046.86	-37.95	-8538.00
	Max. Vert	23	467830.32	-296.33	356.34
	Max. H_x	7	288721.57	506.47	-135.45
	Max. H_z	11	284759.89	55.87	521.54
	Max. M_x	1	0.00	-36.93	40.83
	Max. M_z	1	0.00	-36.93	40.83
	Max. Torsion	12	7356.37	382.79	365.05
	Min. Vert	1	202316.83	-36.93	40.83
	Min. H_x	9	288645.84	-591.06	-132.26
	Min. H_z	2	293873.16	2.23	-413.28
	Min. M_x	1	0.00	-36.93	40.83
	Min. M_z	1	0.00	-36.93	40.83
	Min. Torsion	6	-6912.99	227.24	109.08

Tower Mast Reaction Summary

Load Combination	Vertical lb	$Shear_x$ lb	$Shear_z$ lb	Overturning Moment, M_x lb-ft	Overturning Moment, M_z lb-ft	Torque lb-ft
Dead Only	202316.83	36.93	-40.83	0.00	0.00	-0.14
1.2 Dead+1.6 Wind 0 deg - No Ice+1.0 Guy	293873.16	-2.23	413.28	0.00	0.00	1770.71
1.2 Dead+1.6 Wind 30 deg - No Ice+1.0 Guy	287562.35	391.52	341.62	0.00	0.00	4167.09
1.2 Dead+1.6 Wind 60 deg - No Ice+1.0 Guy	276712.17	421.34	-273.03	0.00	0.00	4702.90
1.2 Dead+1.6 Wind 90 deg - No Ice+1.0 Guy	283895.00	62.46	-494.30	0.00	0.00	6074.80
1.2 Dead+1.6 Wind 120 deg - No Ice+1.0 Guy	294018.45	-227.24	-109.08	0.00	0.00	6912.99
1.2 Dead+1.6 Wind 150 deg - No Ice+1.0 Guy	288721.57	-506.47	135.45	0.00	0.00	3102.63
1.2 Dead+1.6 Wind 180 deg - No Ice+1.0 Guy	279362.19	93.42	298.34	0.00	0.00	-1913.27
1.2 Dead+1.6 Wind 210 deg - No Ice+1.0 Guy	288645.84	591.06	132.26	0.00	0.00	-4150.25
1.2 Dead+1.6 Wind 240 deg - No Ice+1.0 Guy	293398.80	233.86	-113.90	0.00	0.00	-4255.41
1.2 Dead+1.6 Wind 270 deg - No Ice+1.0 Guy	284759.89	-55.87	-521.54	0.00	0.00	-6000.22
1.2 Dead+1.6 Wind 300 deg - No Ice+1.0 Guy	278658.52	-382.79	-365.05	0.00	0.00	-7356.37
1.2 Dead+1.6 Wind 330 deg - No Ice+1.0 Guy	288460.32	-376.96	277.19	0.00	0.00	-3058.22
1.2 Dead+1.0 Ice+1.0 Temp+Guy	460840.98	210.93	-328.55	0.00	0.00	42.74
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy	467665.40	188.14	-207.22	0.00	0.00	49.34
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy	466275.89	91.96	-235.57	0.00	0.00	677.19
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy	465196.52	84.73	-233.01	0.00	0.00	942.18
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy	466339.22	117.11	-239.30	0.00	0.00	1103.74
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy	467680.53	137.29	-324.80	0.00	0.00	1159.01

Load Combination	Vertical lb	$Shear_x$ lb	$Shear_z$ lb	Overturning Moment, M_x lb-ft	Overturning Moment, M_z lb-ft	Torque lb-ft
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy	466540.43	210.94	-417.65	0.00	0.00	783.66
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy	465475.66	239.68	-457.30	0.00	0.00	7.20
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy	466514.68	251.64	-427.49	0.00	0.00	-589.90
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy	467830.32	296.33	-356.34	0.00	0.00	-822.15
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy	466726.41	291.28	-291.23	0.00	0.00	-1076.36
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy	465715.91	307.39	-279.58	0.00	0.00	-1234.58
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy	466684.17	290.61	-261.27	0.00	0.00	-802.42
Dead+Wind 0 deg - Service+Guy	204308.77	32.18	-282.19	0.00	0.00	366.12
Dead+Wind 30 deg - Service+Guy	203974.99	142.82	-254.69	0.00	0.00	845.66
Dead+Wind 60 deg - Service+Guy	203756.25	257.07	-167.76	0.00	0.00	888.97
Dead+Wind 90 deg - Service+Guy	203904.16	297.12	-24.13	0.00	0.00	1225.09
Dead+Wind 120 deg - Service+Guy	204122.08	271.05	108.67	0.00	0.00	1468.68
Dead+Wind 150 deg - Service+Guy	204025.42	167.97	172.31	0.00	0.00	621.08
Dead+Wind 180 deg - Service+Guy	203947.53	40.19	192.60	0.00	0.00	-365.83
Dead+Wind 210 deg - Service+Guy	204182.84	-88.30	168.17	0.00	0.00	-847.23
Dead+Wind 240 deg - Service+Guy	204478.63	-194.89	101.97	0.00	0.00	-891.92
Dead+Wind 270 deg - Service+Guy	204369.62	-226.74	-32.16	0.00	0.00	-1222.18
Dead+Wind 300 deg - Service+Guy	204248.26	-191.04	-176.26	0.00	0.00	-1458.69
Dead+Wind 330 deg - Service+Guy	204309.05	-78.52	-260.71	0.00	0.00	-618.46

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	% Error
1	-0.00	-76000.61	0.00	5.57	76000.45	0.40	0.007%
2	-134.05	-89554.32	-96522.37	134.10	89554.13	96516.20	0.005%
3	47394.08	-88855.19	-82389.06	-47394.68	88855.09	82385.17	0.003%
4	81661.65	-88146.62	-47486.10	-81662.89	88146.61	47483.53	0.002%
5	92538.13	-88898.12	106.59	-92534.88	88898.02	-103.92	0.003%
6	82653.39	-89628.91	51275.60	-82647.05	89628.70	-51272.15	0.005%
7	46990.11	-88862.95	84941.21	-46985.60	88862.83	-84939.61	0.004%
8	134.05	-88085.71	96498.81	-134.67	88085.72	-96499.16	0.001%
9	-46412.02	-88784.84	84207.68	46408.71	88784.76	-84206.46	0.003%
10	-82182.04	-89493.41	50848.69	82177.24	89493.25	-50846.01	0.004%
11	-92538.13	-88741.91	-161.15	92535.67	88741.84	163.18	0.002%
12	-82133.00	-88011.12	-47913.02	82133.42	88011.12	47912.96	0.000%
13	-47972.16	-88777.08	-83122.59	47972.86	88776.99	83118.59	0.003%
14	-0.00	-271800.95	0.00	-0.31	271800.95	0.91	0.000%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	% Error
15	7.28	-272368.37	-34685.79	-7.16	272368.36	34684.25	0.001%
16	17292.57	-271824.11	-29936.99	-17292.21	271824.10	29935.92	0.000%
17	30051.73	-271273.72	-17399.32	-30049.07	271273.69	17397.74	0.001%
18	34830.15	-271852.74	-10.62	-34829.12	271852.73	10.94	0.000%
19	30197.09	-272418.27	17943.30	-30195.79	272418.26	-17942.43	0.001%
20	17198.91	-271829.59	30326.11	-17198.29	271829.58	-30325.33	0.000%
21	-7.28	-271233.53	34736.08	6.64	271233.50	-34732.82	0.001%
22	-17142.33	-271777.80	30215.21	17141.39	271777.78	-30214.29	0.000%
23	-30084.67	-272328.18	17886.80	30083.16	272328.16	-17885.69	0.001%
24	-34830.15	-271749.16	2.28	34829.01	271749.15	-1.68	0.000%
25	-30164.15	-271183.63	-17455.82	30161.72	271183.60	17455.15	0.001%
26	-17349.15	-271772.32	-30047.89	17348.97	271772.31	30046.91	0.000%
27	-27.36	-76150.47	-19702.38	27.61	76150.46	19698.91	0.004%
28	9674.23	-76007.79	-16817.51	-9673.23	76007.78	16814.90	0.004%
29	16669.06	-75863.19	-9693.01	-16667.16	75863.18	9691.88	0.003%
30	18889.27	-76016.55	21.75	-18886.86	76016.54	-21.32	0.003%
31	16871.45	-76165.69	10466.38	-16868.68	76165.68	-10464.48	0.004%
32	9591.79	-76009.37	17338.35	-9590.17	76009.36	-17336.30	0.003%
33	27.36	-75850.76	19697.58	-27.41	75850.74	-19695.28	0.003%
34	-9473.81	-75993.44	17188.65	9472.13	75993.42	-17186.37	0.004%
35	-16775.26	-76138.04	10379.25	16772.43	76138.02	-10377.06	0.005%
36	-18889.27	-75984.67	-32.89	18886.91	75984.66	33.61	0.003%
37	-16765.25	-75835.53	-9780.14	16763.61	75835.52	9779.21	0.002%
38	-9792.21	-75991.85	-16967.21	9791.66	75991.84	16964.67	0.003%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	7	0.00000001	0.00004973
2	Yes	13	0.00009881	0.00011007
3	Yes	13	0.00006322	0.00007177
4	Yes	9	0.00008062	0.00013945
5	Yes	13	0.00006166	0.00008127
6	Yes	13	0.00010445	0.00012003
7	Yes	13	0.00007393	0.00008319
8	Yes	10	0.00000001	0.00006820
9	Yes	13	0.00005840	0.00006407
10	Yes	13	0.00008404	0.00009830
11	Yes	13	0.00000001	0.00006364
12	Yes	10	0.00000001	0.00005427
13	Yes	13	0.00006536	0.00007382
14	Yes	9	0.00000001	0.00003571
15	Yes	11	0.00000001	0.00005388
16	Yes	11	0.00000001	0.00004015
17	Yes	10	0.00000001	0.00004348
18	Yes	11	0.00000001	0.00003662
19	Yes	11	0.00000001	0.00005229
20	Yes	11	0.00000001	0.00003479
21	Yes	10	0.00000001	0.00004283
22	Yes	11	0.00000001	0.00004674
23	Yes	11	0.00000001	0.00006187
24	Yes	11	0.00000001	0.00004638
25	Yes	10	0.00000001	0.00004135
26	Yes	11	0.00000001	0.00003815
27	Yes	8	0.00000001	0.00011620

28	Yes	8	0.00000001	0.00008698
29	Yes	8	0.00000001	0.00004195
30	Yes	8	0.00000001	0.00007823
31	Yes	8	0.00000001	0.00011224
32	Yes	8	0.00000001	0.00008247
33	Yes	8	0.00000001	0.00003652
34	Yes	8	0.00000001	0.00009372
35	Yes	8	0.00000001	0.00012243
36	Yes	8	0.00000001	0.00008739
37	Yes	8	0.00000001	0.00004395
38	Yes	8	0.00000001	0.00008388

Maximum Tower Deflections - Service Wind

Section No.	*Elevation*	*Horz. Deflection*	*Gov. Load Comb.*	*Tilt*	*Twist*
	ft	*in*		°	°
T1	368.75 - 362.5	1.358	33	0.0614	0.0414
T2	362.5 - 356.25	1.406	33	0.0616	0.0415
T3	356.25 - 350	1.454	33	0.0619	0.0416
T4	350 - 343.75	1.502	33	0.0626	0.0413
T5	343.75 - 337.5	1.555	33	0.0631	0.0414
T6	337.5 - 331.25	1.608	33	0.0620	0.0462
T7	331.25 - 325	1.658	33	0.0606	0.0508
T8	325 - 318.75	1.705	33	0.0589	0.0550
T9	318.75 - 312.5	1.750	33	0.0573	0.0558
T10	312.5 - 306.25	1.792	33	0.0557	0.0563
T11	306.25 - 300	1.833	33	0.0541	0.0568
T12	300 - 293.75	1.866	33	0.0529	0.0568
T13	293.75 - 287.5	1.911	33	0.0516	0.0572
T14	287.5 - 281.25	1.956	33	0.0479	0.0656
T15	281.25 - 275	1.997	33	0.0436	0.0757
T16	275 - 268.75	2.031	33	0.0388	0.0835
T17	268.75 - 262.5	2.057	33	0.0335	0.0890
T18	262.5 - 256.25	2.073	33	0.0280	0.0923
T19	256.25 - 250	2.081	33	0.0223	0.0933
T20	250 - 243.75	2.080	33	0.0166	0.0923
T21	243.75 - 237.5	2.070	33	0.0114	0.0911
T22	237.5 - 231.25	2.045	33	0.0145	0.0843
T23	231.25 - 225	2.012	33	0.0181	0.0796
T24	225 - 218.75	1.976	33	0.0199	0.0795
T25	218.75 - 212.5	1.961	29	0.0211	0.0800
T26	212.5 - 206.25	1.945	29	0.0250	0.1020
T27	206.25 - 181.25	1.920	29	0.0291	0.1221
T28	181.25 - 175	1.738	29	0.0442	0.1798
T29	175 - 168.75	1.673	29	0.0465	0.1821
T30	168.75 - 162.5	1.611	29	0.0474	0.1812
T31	162.5 - 156.25	1.547	29	0.0473	0.1796
T32	156.25 - 150	1.493	29	0.0476	0.1741
T33	150 - 125	1.437	29	0.0482	0.1660
T34	125 - 100	1.172	29	0.0517	0.1064
T35	100 - 93.75	0.891	29	0.0483	0.0747
T36	93.75 - 87.5	0.830	29	0.0460	0.0747
T37	87.5 - 81.25	0.775	29	0.0451	0.0800
T38	81.25 - 75	0.720	29	0.0445	0.0864
T39	75 - 50	0.664	29	0.0442	0.0907
T40	50 - 25	0.430	29	0.0420	0.0858
T41	25 - 0	0.229	29	0.0416	0.0537

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
370.00	Search Antenna	33	1.358	0.0614	0.0414	86797
355.00	8' Dish	33	1.464	0.0620	0.0416	114124
350.00	Guy	33	1.502	0.0626	0.0413	50669
325.00	10' x 3" Dia Omni	33	1.705	0.0589	0.0550	125385
305.00	QUAD656C0000	33	1.840	0.0538	0.0568	57971
300.00	Guy	33	1.866	0.0529	0.0568	31059
250.00	20' x 3" Dia Omni	33	2.080	0.0166	0.0923	58194
242.50	HPA-65R-BUU-H6	33	2.066	0.0112	0.0902	28433
230.00	APX16DWV-16DWV-S-E-A20	33	2.004	0.0186	0.0799	297626
225.00	Guy	33	1.976	0.0199	0.0795	36833
200.00	Yagi	29	1.888	0.0333	0.1405	52906
180.00	(4) Yagi	29	1.725	0.0448	0.1807	84529
162.50	Guy	29	1.547	0.0473	0.1796	35900
148.00	Yagi	29	1.418	0.0484	0.1626	101293
140.00	Yagi	29	1.337	0.0496	0.1447	120734
125.00	Yagi	29	1.172	0.0517	0.1064	191350
100.00	Guy	29	0.891	0.0483	0.0747	75465
88.00	X-Style	29	0.779	0.0451	0.0794	308853
62.00	Yagi	29	0.541	0.0430	0.0921	388600
50.00	Guy	29	0.430	0.0420	0.0858	95330
40.00	Yagi	29	0.348	0.0416	0.0760	260791

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	368.75 - 362.5	11.903	8	0.3871	0.3885
T2	362.5 - 356.25	12.045	8	0.3872	0.3894
T3	356.25 - 350	12.190	8	0.3879	0.3899
T4	350 - 343.75	12.356	2	0.3915	0.3884
T5	343.75 - 337.5	12.839	2	0.3932	0.3888
T6	337.5 - 331.25	13.326	2	0.3855	0.4113
T7	331.25 - 325	13.799	2	0.3758	0.4333
T8	325 - 318.75	14.254	2	0.3644	0.4530
T9	318.75 - 312.5	14.684	2	0.3537	0.4560
T10	312.5 - 306.25	15.095	2	0.3424	0.4579
T11	306.25 - 300	15.490	2	0.3307	0.4594
T12	300 - 293.75	15.834	2	0.3207	0.4589
T13	293.75 - 287.5	16.218	2	0.3099	0.4605
T14	287.5 - 281.25	16.600	2	0.2863	0.5039
T15	281.25 - 275	16.961	2	0.2586	0.5692
T16	275 - 268.75	17.265	2	0.2276	0.6116
T17	268.75 - 262.5	17.509	2	0.1939	0.6360
T18	262.5 - 256.25	17.695	2	0.1580	0.6487
T19	256.25 - 250	17.819	2	0.1210	0.6503
T20	250 - 243.75	17.878	2	0.1009	0.6435
T21	243.75 - 237.5	17.878	2	0.1241	0.6345
T22	237.5 - 231.25	17.828	6	0.1491	0.5840
T23	231.25 - 225	17.743	6	0.1681	0.5254
T24	225 - 218.75	17.627	6	0.1781	0.5325

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T25	218.75 - 212.5	17.537	6	0.1845	0.5350
T26	212.5 - 206.25	17.425	6	0.2044	0.6724
T27	206.25 - 181.25	17.246	6	0.2253	0.8045
T28	181.25 - 175	15.847	6	0.3449	1.2204
T29	175 - 168.75	15.321	6	0.3682	1.2269
T30	168.75 - 162.5	14.826	6	0.3828	1.2107
T31	162.5 - 156.25	14.311	6	0.3912	1.1907
T32	156.25 - 150	13.834	6	0.4008	1.1671
T33	150 - 125	13.331	6	0.4112	1.1314
T34	125 - 100	10.969	6	0.4485	0.7510
T35	100 - 93.75	8.459	6	0.4415	0.5300
T36	93.75 - 87.5	7.896	6	0.4300	0.5299
T37	87.5 - 81.25	7.356	6	0.4246	0.5543
T38	81.25 - 75	6.822	6	0.4208	0.5884
T39	75 - 50	6.280	6	0.4179	0.6070
T40	50 - 25	4.065	6	0.4017	0.5660
T41	25 - 0	2.122	6	0.3957	0.3252

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
370.00	Search Antenna	8	11.903	0.3871	0.3885	11642
355.00	8' Dish	8	12.217	0.3884	0.3898	8058
350.00	Guy	2	12.356	0.3915	0.3884	7347
325.00	10' x 3" Dia Omni	2	14.254	0.3644	0.4530	12792
305.00	QUAD656C0000	2	15.561	0.3285	0.4597	10221
300.00	Guy	2	15.834	0.3207	0.4589	6256
250.00	20' x 3" Dia Omni	2	17.878	0.1009	0.6435	8704
242.50	HPA-65R-BUU-H6	2	17.866	0.1294	0.6280	4552
230.00	APX16DWV-16DWV-S-E-A20	6	17.720	0.1709	0.5296	23536
225.00	Guy	6	17.627	0.1781	0.5325	5788
200.00	Yagi	6	17.004	0.2480	0.9370	7082
180.00	(4) Yagi	6	15.743	0.3501	1.2252	10349
162.50	Guy	6	14.311	0.3912	1.1907	6931
148.00	Yagi	6	13.161	0.4147	1.1127	11881
140.00	Yagi	6	12.441	0.4280	1.0018	15335
125.00	Yagi	6	10.969	0.4485	0.7510	35787
100.00	Guy	6	8.459	0.4415	0.5300	12243
88.00	X-Style	6	7.399	0.4249	0.5516	36297
62.00	Yagi	6	5.112	0.4036	0.6099	38553
50.00	Guy	6	4.065	0.4017	0.5660	13990
40.00	Yagi	6	3.273	0.4196	0.4892	34717

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load per Bolt lb	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	368.75	Leg	A325N	0.7500	6	91.58	29820.60	0.003	1	Bolt Tension

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load per Bolt lb	Ratio Load / Allowable	Allowable Ratio	Criteria
		Diagonal	A325N	0.5000	2	194.40	7952.16	0.024	1	Bolt Shear
		Top Girt	A325N	0.6250	2	47.04	19167.20	0.002	1	Member Block Shear
T2	362.5	Diagonal	A325N	0.5000	2	585.70	15904.30	0.037	1	Bolt Shear
		Top Girt	A325N	0.5000	2	140.80	15904.30	0.009	1	Bolt Shear
T3	356.25	Diagonal	A325N	0.5000	2	1553.83	15904.30	0.098	1	Bolt Shear
		Top Girt	A325N	0.5000	2	484.98	15904.30	0.030	1	Bolt Shear
T4	350	Leg	A325N	0.7500	6	714.45	29820.60	0.024	1	Bolt Tension
		Diagonal	A325N	0.6250	2	1511.90	10263.30	0.147	1	Member Block Shear
		Top Girt	A325N	0.6250	2	4218.61	19167.20	0.220	1	Member Block Shear
T5	343.75	Diagonal	A325N	0.5000	2	2158.49	7952.16	0.271	1	Bolt Shear
		Top Girt	A325N	0.6250	2	1925.23	24850.50	0.077	1	Bolt Shear
T6	337.5	Diagonal	A325N	0.5000	2	2054.34	7952.16	0.258	1	Bolt Shear
		Top Girt	A325N	0.5000	2	1574.63	7952.16	0.198	1	Bolt Shear
T7	331.25	Diagonal	A325N	0.5000	2	1949.42	7952.16	0.245	1	Bolt Shear
		Top Girt	A325N	0.5000	2	1530.17	7952.16	0.192	1	Bolt Shear
T8	325	Leg	A325N	0.7500	6	2461.70	29820.60	0.083	1	Bolt Tension
		Diagonal	A325N	0.5000	2	2213.58	7952.16	0.278	1	Bolt Shear
		Top Girt	A325N	0.5000	2	1837.22	7952.16	0.231	1	Bolt Shear
T9	318.75	Diagonal	A325N	0.5000	2	2078.67	7952.16	0.261	1	Bolt Shear
		Top Girt	A325N	0.5000	2	2103.56	7952.16	0.265	1	Bolt Shear
T10	312.5	Diagonal	A325N	0.5000	2	2211.63	7952.16	0.278	1	Bolt Shear
		Top Girt	A325N	0.5000	2	2156.60	7952.16	0.271	1	Bolt Shear
T11	306.25	Diagonal	A325N	0.5000	2	3532.74	7952.16	0.444	1	Bolt Shear
		Top Girt	A325N	0.6250	2	2912.43	24850.50	0.117	1	Bolt Shear
T12	300	Leg	A325N	0.7500	6	2320.66	29820.60	0.078	1	Bolt Tension
		Diagonal	A325N	0.6250	2	3738.84	12425.20	0.301	1	Bolt Shear
		Top Girt	A325N	0.6250	2	5075.57	19167.20	0.265	1	Member Block Shear
T13	293.75	Diagonal	A325N	0.5000	2	3718.15	7952.16	0.468	1	Bolt Shear
		Top Girt	A325N	0.6250	2	1361.47	24850.50	0.055	1	Bolt Shear
T14	287.5	Diagonal	A325N	0.5000	2	3284.56	7952.16	0.413	1	Bolt Shear
		Top Girt	A325N	0.5000	2	2175.69	7952.16	0.274	1	Bolt Shear
T15	281.25	Diagonal	A325N	0.5000	2	2907.91	7952.16	0.366	1	Bolt Shear
		Top Girt	A325N	0.6250	2	1950.36	12425.20	0.157	1	Bolt Shear
T16	275	Leg	A325N	0.7500	6	5715.63	29820.60	0.192	1	Bolt Tension
		Diagonal	A325N	0.5000	2	2454.20	7952.16	0.309	1	Bolt Shear
		Top Girt	A325N	0.5000	2	1692.80	7952.16	0.213	1	Bolt Shear
T17	268.75	Diagonal	A325N	0.5000	2	2028.60	7952.16	0.255	1	Bolt Shear
		Top Girt	A325N	0.5000	2	1568.08	7952.16	0.197	1	Bolt Shear
T18	262.5	Diagonal	A325N	0.5000	2	1790.10	7952.16	0.225	1	Bolt Shear
		Top Girt	A325N	0.5000	2	1562.59	7952.16	0.196	1	Bolt Shear
T19	256.25	Diagonal	A325N	0.5000	2	2129.41	7952.16	0.268	1	Bolt Shear
		Top Girt	A325N	0.5000	2	1926.12	7952.16	0.242	1	Bolt Shear
T20	250	Leg	A325N	0.7500	6	6148.35	29820.60	0.206	1	Bolt Tension
		Diagonal	A325N	0.5000	2	2137.31	7952.16	0.269	1	Bolt Shear
		Top Girt	A325N	0.5000	2	2354.23	15904.30	0.148	1	Bolt Shear
T21	243.75	Diagonal	A325N	0.5000	2	4295.25	7952.16	0.540	1	Bolt Shear
		Top Girt	A325N	0.6250	2	2921.07	24850.50	0.118	1	Bolt Shear
T22	237.5	Diagonal	A325N	0.5000	2	5385.14	7952.16	0.677	1	Bolt Shear
		Top Girt	A325N	0.6250	2	3045.54	24850.50	0.123	1	Bolt Shear
T23	231.25	Diagonal	A325N	0.5000	2	7710.78	7952.16	0.970	1	Bolt Shear
		Top Girt	A325N	0.6250	2	4081.67	24850.50	0.164	1	Bolt Shear
T24	225	Leg	A325N	0.7500	6	4138.82	29820.60	0.139	1	Bolt Tension
		Diagonal	A325N	0.6250	2	6974.14	24850.50	0.281	1	Bolt Shear
		Top Girt	A325N	0.6250	2	6665.83	19167.20	0.348	1	Member Block Shear
T25	218.75	Diagonal	A325N	0.5000	2	2831.85	7952.16	0.356	1	Bolt Shear

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load per Bolt lb	Ratio Load / Allowable	Allowable Ratio	Criteria
		Top Girt	A325N	0.6250	2	3097.18	19167.20	0.162	1	Member Block Shear
T26	212.5	Diagonal	A325N	0.5000	2	2138.81	7952.16	0.269	1	Bolt Shear
		Top Girt	A325N	0.5000	2	1497.41	7952.16	0.188	1	Bolt Shear
T27	206.25	Diagonal	A325N	0.5000	2	3110.98	7952.16	0.391	1	Bolt Shear
		Horizontal	A325N	0.6250	2	1781.74	12425.20	0.143	1	Bolt Shear
		Top Girt	A325N	0.5000	2	1196.72	7952.16	0.150	1	Bolt Shear
T28	181.25	Leg	A325N	0.7500	6	6759.03	29820.60	0.227	1	Bolt Tension
		Diagonal	A325N	0.5000	2	3519.24	7952.16	0.443	1	Bolt Shear
		Secondary Horizontal	A307	0.6250	1	2111.45	6212.62	0.340	1	Bolt Shear
		Top Girt	A325N	0.5000	2	2001.11	7952.16	0.252	1	Bolt Shear
T29	175	Leg	A325N	0.7500	6	6713.55	29820.60	0.225	1	Bolt Tension
		Diagonal	A325N	0.5000	2	4311.70	7952.16	0.542	1	Bolt Shear
		Top Girt	A325N	0.5000	2	2397.97	7952.16	0.302	1	Bolt Shear
T30	168.75	Diagonal	A325N	0.5000	2	4805.29	7952.16	0.604	1	Bolt Shear
		Top Girt	A325N	0.5000	2	2838.97	7952.16	0.357	1	Bolt Shear
T31	162.5	Diagonal	A325N	0.5000	2	1700.26	7952.16	0.214	1	Bolt Shear
		Top Girt	A325N	0.5000	2	2472.09	15904.30	0.155	1	Bolt Shear
T32	156.25	Diagonal	A325N	0.5000	2	1502.24	7952.16	0.189	1	Bolt Shear
		Top Girt	A325N	0.5000	2	1111.25	7952.16	0.140	1	Bolt Shear
T33	150	Leg	A325N	0.7500	6	7203.16	29820.60	0.242	1	Bolt Tension
		Diagonal	A325N	0.5000	2	3450.28	7952.16	0.434	1	Bolt Shear
		Horizontal	A325N	0.6250	2	2028.45	12425.20	0.163	1	Bolt Shear
		Top Girt	A325N	0.5000	2	1130.10	7952.16	0.142	1	Bolt Shear
T34	125	Leg	A325N	0.7500	6	7244.46	29820.60	0.243	1	Bolt Tension
		Diagonal	A325N	0.6250	2	6328.89	7187.70	0.881	1	Member Block Shear
		Horizontal	A325N	0.6250	2	3807.50	12425.20	0.306	1	Bolt Shear
		Top Girt	A325N	0.6250	2	2480.93	12425.20	0.200	1	Bolt Shear
T35	100	Leg	A325N	0.7500	6	6088.51	29820.60	0.204	1	Bolt Tension
		Diagonal	A325N	0.6250	2	7759.17	24850.50	0.312	1	Bolt Shear
		Top Girt	A325N	0.6250	2	6457.24	19167.20	0.337	1	Member Block Shear
T36	93.75	Diagonal	A325N	0.5000	2	2166.99	7952.16	0.273	1	Bolt Shear
		Top Girt	A325N	0.5000	2	4243.63	15904.30	0.267	1	Bolt Shear
T37	87.5	Diagonal	A325N	0.5000	2	1493.19	7952.16	0.188	1	Bolt Shear
		Top Girt	A325N	0.5000	2	1231.35	7952.16	0.155	1	Bolt Shear
T38	81.25	Diagonal	A325N	0.5000	2	1071.58	7952.16	0.135	1	Bolt Shear
		Top Girt	A325N	0.5000	2	1241.43	7952.16	0.156	1	Bolt Shear
T39	75	Leg	A325N	0.7500	6	8019.77	29820.60	0.269	1	Bolt Tension
		Diagonal	A325N	0.5000	2	1755.26	7952.16	0.221	1	Bolt Shear
		Horizontal	A325N	0.6250	2	1287.52	12425.20	0.104	1	Bolt Shear
		Top Girt	A325N	0.5000	2	1287.52	7952.16	0.162	1	Bolt Shear
T40	50	Leg	A325N	0.7500	6	8447.21	29820.60	0.283	1	Bolt Tension
		Diagonal	A325N	0.5000	2	2326.84	7952.16	0.293	1	Bolt Shear
		Horizontal	A325N	0.6250	2	1369.83	12425.20	0.110	1	Bolt Shear
		Top Girt	A325N	0.5000	2	1576.13	7952.16	0.198	1	Bolt Shear
T41	25	Leg	A325N	0.7500	6	8622.27	29820.60	0.289	1	Bolt Tension
		Diagonal	A325N	0.5000	2	1871.40	7952.16	0.235	1	Bolt Shear
		Horizontal	A325N	0.6250	2	1356.80	12425.20	0.109	1	Bolt Shear
		Top Girt	A325N	0.5000	2	1356.80	7952.16	0.171	1	Bolt Shear

Guy Design Data

Section No.	Elevation ft	Size	Initial Tension lb	Breaking Load lb	Actual T_u lb	Allowable ϕT_n lb	Required S.F.	Actual S.F.
T4	350.00 (A) (670)	7/8 EHS	7970.00	79699.84	20577.20	47820.00	1.000	2.324
	350.00 (A) (671)	7/8 EHS	7970.00	79699.84	20308.00	47820.00	1.000	2.355
	350.00 (B) (664)	7/8 EHS	7970.00	79699.84	18874.40	47820.00	1.000	2.534
	350.00 (B) (665)	7/8 EHS	7970.00	79699.84	19104.50	47820.00	1.000	2.503
	350.00 (C) (658)	7/8 EHS	7970.00	79699.84	19079.60	47820.00	1.000	2.506
	350.00 (C) (659)	7/8 EHS	7970.00	79699.84	18991.20	47820.00	1.000	2.518
T12	300.00 (A) (688)	7/8 EHS	7970.00	79699.84	23402.00	47820.00	1.000	2.043
	300.00 (A) (689)	7/8 EHS	7970.00	79699.84	22767.60	47820.00	1.000	2.100
	300.00 (B) (682)	7/8 EHS	7970.00	79699.84	22134.80	47820.00	1.000	2.160
	300.00 (B) (683)	7/8 EHS	7970.00	79699.84	21908.20	47820.00	1.000	2.183
	300.00 (C) (676)	7/8 EHS	7970.00	79699.84	21780.80	47820.00	1.000	2.196
	300.00 (C) (677)	7/8 EHS	7970.00	79699.84	22288.50	47820.00	1.000	2.145
T24	225.00 (A) (706)	3/4 EHS	5830.00	58299.91	20607.30	34980.00	1.000	1.697
	225.00 (A) (707)	3/4 EHS	5830.00	58299.91	19898.70	34980.00	1.000	1.758
	225.00 (B) (700)	3/4 EHS	5830.00	58299.91	21076.90	34980.00	1.000	1.660
	225.00 (B) (701)	3/4 EHS	5830.00	58299.91	19674.40	34980.00	1.000	1.778
	225.00 (C) (694)	3/4 EHS	5830.00	58299.91	19443.00	34980.00	1.000	1.799
	225.00 (C) (695)	3/4 EHS	5830.00	58299.91	20690.70	34980.00	1.000	1.691
T31	162.50 (A) (714)	3/4 EHS	5830.00	58299.91	19985.30	34980.00	1.000	1.750
	162.50 (B) (713)	3/4 EHS	5830.00	58299.91	20629.00	34980.00	1.000	1.696
	162.50 (C) (712)	3/4 EHS	5830.00	58299.91	20258.50	34980.00	1.000	1.727
T35	100.00 (A) (727)	9/16 EHS	3500.00	35000.04	10617.00	21000.00	1.000	1.978
	100.00 (A) (728)	9/16 EHS	3500.00	35000.04	10756.00	21000.00	1.000	1.952
	100.00 (B) (721)	9/16 EHS	3500.00	35000.04	11388.80	21000.00	1.000	1.844
	100.00 (B) (722)	9/16 EHS	3500.00	35000.04	9906.98	21000.00	1.000	2.120
	100.00 (C) (715)	9/16 EHS	3500.00	35000.04	9724.67	21000.00	1.000	2.159
	100.00 (C) (716)	9/16 EHS	3500.00	35000.04	10822.80	21000.00	1.000	1.940
T40	50.00 (A) (735)	9/16 EHS	3500.00	35000.04	9484.38	21000.00	1.000	2.214
	50.00 (B) (734)	9/16 EHS	3500.00	35000.04	9360.65	21000.00	1.000	2.243
	50.00 (C) (733)	9/16 EHS	3500.00	35000.04	9655.01	21000.00	1.000	2.175

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	Mast Stability Index	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	368.75 - 362.5	2 3/4	6.25	6.25	109.1 K=1.00	5.9396	1.00	-1648.36	102851.00	0.016 [1]
T2	362.5 - 356.25	2 3/4	6.25	6.25	109.1 K=1.00	5.9396	1.00	-2308.03	102851.00	0.022 [1]
T3	356.25 - 350	2 3/4	6.25	6.25	109.1 K=1.00	5.9396	1.00	-7365.11	102851.00	0.072 [1]
T4	350 - 343.75	3	6.25	6.25	100.0 K=1.00	7.0686	1.00	-5643.73	135284.00	0.042 [1]
T5	343.75 - 337.5	3	6.25	6.25	100.0 K=1.00	7.0686	1.00	-40354.80	135284.00	0.298 [1]
T6	337.5 - 331.25	3	6.25	6.25	100.0 K=1.00	7.0686	1.00	-41272.70	135284.00	0.305 [1]
T7	331.25 - 325	3	6.25	6.25	100.0 K=1.00	7.0686	1.00	-42144.90	135284.00	0.312 [1]
T8	325 - 318.75	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-44310.60	171629.00	0.258 [1]
T9	318.75 - 312.5	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-46132.80	171629.00	0.269 [1]
T10	312.5 - 306.25	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-48317.50	171629.00	0.282 [1]
T11	306.25 - 300	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-50010.20	171629.00	0.291 [1]
T12	300 - 293.75	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-41771.80	171629.00	0.243 [1]
T13	293.75 - 287.5	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-87458.20	171629.00	0.510 [1]
T14	287.5 - 281.25	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-93174.90	171629.00	0.543 [1]
T15	281.25 - 275	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-98618.00	171629.00	0.575 [1]
T16	275 - 268.75	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-102881.00	171629.00	0.599 [1]
T17	268.75 - 262.5	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-106219.00	171629.00	0.619 [1]
T18	262.5 - 256.25	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-108310.00	171629.00	0.631 [1]
T19	256.25 - 250	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-110446.00	171629.00	0.644 [1]
T20	250 - 243.75	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-110670.00	171629.00	0.645 [1]
T21	243.75 - 237.5	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-107859.00	171629.00	0.628 [1]
T22	237.5 - 231.25	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-98956.40	171629.00	0.577 [1]
T23	231.25 - 225	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-98309.20	171629.00	0.573 [1]
T24	225 - 218.75	3	6.25	6.25	100.0 K=1.00	7.0686	1.00	-74498.70	135284.00	0.551 [1]
T25	218.75 - 212.5	3	6.25	6.25	100.0 K=1.00	7.0686	1.00	-119480.00	135284.00	0.883 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	Mast Stability Index	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T26	212.5 - 206.25	3	6.25	6.25	100.0 K=1.00	7.0686	1.00	-121146.00	135284.00	0.895 [1]
T27	206.25 - 181.25	3	25.00	6.25	100.0 K=1.00	7.0686	1.00	-123424.00	135284.00	0.912 [1]
T28	181.25 - 175	3	6.25	3.13	50.0 K=1.00	7.0686	1.00	-121904.00	200780.00	0.607 [1]
T29	175 - 168.75	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-120844.00	171629.00	0.704 [1]
T30	168.75 - 162.5	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-119558.00	171629.00	0.697 [1]
T31	162.5 - 156.25	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-126905.00	171629.00	0.739 [1]
T32	156.25 - 150	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-128316.00	171629.00	0.748 [1]
T33	150 - 125	3 1/4	25.00	6.25	92.3 K=1.00	8.2958	1.00	-130492.00	171629.00	0.760 [1]
T34	125 - 100	3 1/4	25.00	6.25	92.3 K=1.00	8.2958	1.00	-132847.00	171629.00	0.774 [1]
T35	100 - 93.75	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-109593.00	171629.00	0.639 [1]
T36	93.75 - 87.5	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-141823.00	171629.00	0.826 [1]
T37	87.5 - 81.25	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-142184.00	171629.00	0.828 [1]
T38	81.25 - 75	3 1/4	6.25	6.25	92.3 K=1.00	8.2958	1.00	-143347.00	171629.00	0.835 [1]
T39	75 - 50	3 1/4	25.00	6.25	92.3 K=1.00	8.2958	1.00	-148670.00	171629.00	0.866 [1]
T40	50 - 25	3 1/4	25.00	6.25	92.3 K=1.00	8.2958	1.00	-154278.00	171629.00	0.899 [1]
T41	25 - 0	3 1/4	25.00	6.25	92.3 K=1.00	8.2958	1.00	-156670.00	171629.00	0.913 [1]

[1] P_u / ϕP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	368.75 - 362.5	L2 1/2x2 1/2x1/4	8.00	3.65	96.9 K=1.09	1.1900	-388.79	23509.60	0.017 [1]
T2	362.5 - 356.25	2L3x3x5/16	8.00	3.65	47.5 K=1.00	3.5500	-1171.40	102123.00	0.011 [1]
T3	356.25 - 350	2L3x3x5/16	8.00	3.65	47.5 K=1.00	3.5500	-2991.88	102123.00	0.029 [1]
T4	350 - 343.75	L3x2 1/2x1/4	8.00	3.60	91.4 K=1.12	1.3100	-3340.61	27333.10	0.122 [1]
T12	300 - 293.75	L3x2 1/2x1/4	8.00	3.59	91.1 K=1.12	1.3100	-7477.68	27407.90	0.273 [1]
T24	225 - 218.75	2L2 1/2x2 1/2x1/4	8.00	3.60	56.2 K=1.00	2.3800	-13948.30	65284.70	0.214 [1]
T35	100 - 93.75	2L2 1/2x2 1/2x1/4	8.00	3.59	56.0 K=1.00	2.3800	-15518.30	65385.10	0.237 [1]

[1] P_u / ϕP_n controls

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T27	206.25 - 181.25	P1.25x.14	5.00	4.75	105.6 K=1.00	0.6685	-3563.47	12039.80	0.296 [1]
T33	150 - 125	P1.25x.14	5.00	4.73	105.2 K=1.00	0.6685	-4056.89	12101.80	0.335 [1]
T34	125 - 100	P1.25x.14	5.00	4.73	105.2 K=1.00	0.6685	-7614.99	12101.80	0.629 [1]
T39	75 - 50	P1.25x.14	5.00	4.73	105.2 K=1.00	0.6685	-2575.05	12101.80	0.213 [1]
T40	50 - 25	P1.25x.14	5.00	4.73	105.2 K=1.00	0.6685	-2739.65	12101.80	0.226 [1]
T41	25 - 0	P1.25x.14	5.00	4.73	105.2 K=1.00	0.6685	-2713.61	12101.80	0.224 [1]

[1] P_u / ϕP_n controls

Secondary Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T28	181.25 - 175	P1.25x.14	5.00	4.75	105.6 K=1.00	0.6685	-2111.45	12039.80	0.175 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	368.75 - 362.5	2L2 1/2x2x1/4	5.00	4.38	67.0 K=1.00	2.1300	-73.17	54500.60	0.001 [1]
T2	362.5 - 356.25	2L2 1/2x3x1/4	5.00	4.44	70.7 K=1.00	2.6300	-89.92	65488.30	0.001 [1]
T3	356.25 - 350	2L2 1/2x3x1/4	5.00	4.44	70.7 K=1.00	2.6300	-969.96	65488.30	0.015 [1]
T4	350 - 343.75	2L2 1/2x2x1/4	5.00	4.35	66.6 K=1.00	2.1300	-5096.34	54623.00	0.093 [1]
T5	343.75 - 337.5	2L2 1/2x2x1/4	5.00	4.35	66.6 K=1.00	2.1300	-3850.46	54623.00	0.070 [1]
T6	337.5 - 331.25	P1.25x.14	5.00	4.75	105.6 K=1.00	0.6685	-3149.26	12039.80	0.262 [1]
T7	331.25 - 325	P1.25x.14	5.00	4.75	105.6	0.6685	-3060.34	12039.80	0.254 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T8	325 - 318.75	P1.25x.14	5.00	4.73	K=1.00 105.2	0.6685	-3674.43	12101.80	0.304 [1]
T9	318.75 - 312.5	P1.25x.14	5.00	4.73	K=1.00 105.2	0.6685	-4207.12	12101.80	0.348 [1]
T10	312.5 - 306.25	P1.25x.14	5.00	4.73	K=1.00 105.2	0.6685	-4313.19	12101.80	0.356 [1]
T11	306.25 - 300	2L2 1/2x2x1/4	5.00	4.33	K=1.00 66.3	2.1300	-5824.86	54745.00	0.106 [1]
T12	300 - 293.75	2L2 1/2x2x1/4	5.00	4.33	K=1.00 66.3	2.1300	-7469.15	54745.00	0.136 [1]
T13	293.75 - 287.5	2L2 1/2x2x1/4	5.00	4.33	K=1.00 66.3	2.1300	-2722.94	54745.00	0.050 [1]
T14	287.5 - 281.25	P1.25x.14	5.00	4.73	K=1.00 105.2	0.6685	-4351.37	12101.80	0.360 [1]
T15	281.25 - 275	P1.25x.14	5.00	4.73	K=1.00 105.2	0.6685	-3900.72	12101.80	0.322 [1]
T16	275 - 268.75	P1.25x.14	5.00	4.73	K=1.00 105.2	0.6685	-3385.59	12101.80	0.280 [1]
T17	268.75 - 262.5	P1.25x.14	5.00	4.73	K=1.00 105.2	0.6685	-3136.15	12101.80	0.259 [1]
T18	262.5 - 256.25	P1.25x.14	5.00	4.73	K=1.00 105.2	0.6685	-3125.18	12101.80	0.258 [1]
T19	256.25 - 250	P1.25x.14	5.00	4.73	K=1.00 105.2	0.6685	-3852.24	12101.80	0.318 [1]
T20	250 - 243.75	2L2 1/2x2x1/4	5.00	4.40	K=1.00 67.3	2.1300	-4708.46	54377.90	0.087 [1]
T21	243.75 - 237.5	2L2 1/2x2x1/4	5.00	4.33	K=1.00 66.3	2.1300	-5842.14	54745.00	0.107 [1]
T22	237.5 - 231.25	2L2 1/2x2x1/4	5.00	4.33	K=1.00 66.3	2.1300	-6091.08	54745.00	0.111 [1]
T23	231.25 - 225	2L2 1/2x2x1/4	5.00	4.33	K=1.00 66.3	2.1300	-8163.35	54745.00	0.149 [1]
T24	225 - 218.75	2L2 1/2x2x1/4	5.00	4.35	K=1.00 66.6	2.1300	-5116.14	54623.00	0.094 [1]
T25	218.75 - 212.5	2L2 1/2x2x1/4	5.00	4.35	K=1.00 66.6	2.1300	-2069.45	54623.00	0.038 [1]
T26	212.5 - 206.25	P1.25x.14	5.00	4.75	K=1.00 105.6	0.6685	-2994.82	12039.80	0.249 [1]
T27	206.25 - 181.25	P1.25x.14	5.00	4.75	K=1.00 105.6	0.6685	-2393.45	12039.80	0.199 [1]
T28	181.25 - 175	P1.25x.14	5.00	4.75	K=1.00 105.6	0.6685	-4002.23	12039.80	0.332 [1]
T29	175 - 168.75	P1.25x.14	5.00	4.73	K=1.00 105.2	0.6685	-4795.94	12101.80	0.396 [1]
T30	168.75 - 162.5	P1.25x.14	5.00	4.73	K=1.00 105.2	0.6685	-5677.95	12101.80	0.469 [1]
T31	162.5 - 156.25	2L2 1/2x2x1/4	5.00	4.40	K=1.00 67.3	2.1300	-2198.05	54377.90	0.040 [1]
T32	156.25 - 150	P1.25x.14	5.00	4.73	K=1.00 105.2	0.6685	-2222.50	12101.80	0.184 [1]
T33	150 - 125	P1.25x.14	5.00	4.73	K=1.00 105.2	0.6685	-2260.19	12101.80	0.187 [1]
T34	125 - 100	P1.25x.14	5.00	4.73	K=1.00 105.2	0.6685	-4961.87	12101.80	0.410 [1]
T35	100 - 93.75	2L2 1/2x2x1/4	5.00	4.33	K=1.00 66.3	2.1300	-4529.80	54745.00	0.083 [1]
T36	93.75 - 87.5	2L2 1/2x2x1/4	5.00	4.40	K=1.00 67.3	2.1300	-2456.45	54377.90	0.045 [1]
T37	87.5 - 81.25	P1.25x.14	5.00	4.73	K=1.00 105.2	0.6685	-2462.69	12101.80	0.203 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T38	81.25 - 75	P1.25x.14	5.00	4.73	K=1.00 105.2	0.6685	-2482.85	12101.80	0.205 [1]
T39	75 - 50	P1.25x.14	5.00	4.73	K=1.00 105.2	0.6685	-2575.05	12101.80	0.213 [1]
T40	50 - 25	L2 1/2x2x1/4	5.00	4.40	K=1.00 122.7	1.0600	-2672.18	15544.20	0.172 [1]
T41	25 - 0	P1.25x.14	5.00	4.73	K=0.99 105.2	0.6685	-2713.61	12101.80	0.224 [1]
					K=1.00				

[1] $P_u / \phi P_n$ controls

Torque-Arm Top Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T35	100 - 93.75 (717)	2L3x2 1/2x1/4	6.03	5.89	74.8 K=1.00	2.6300	-1011.85	63460.30	0.016 [1]
T35	100 - 93.75 (718)	2L3x2 1/2x1/4	6.03	5.89	74.8 K=1.00	2.6300	-933.93	63460.30	0.015 [1]
T35	100 - 93.75 (723)	2L3x2 1/2x1/4	6.03	5.89	74.8 K=1.00	2.6300	-1216.62	63460.30	0.019 [1]
T35	100 - 93.75 (724)	2L3x2 1/2x1/4	6.03	5.89	74.8 K=1.00	2.6300	-1305.66	63460.30	0.021 [1]
T35	100 - 93.75 (729)	2L3x2 1/2x1/4	6.03	5.89	74.8 K=1.00	2.6300	-1132.44	63460.30	0.018 [1]
T35	100 - 93.75 (730)	2L3x2 1/2x1/4	6.03	5.89	74.8 K=1.00	2.6300	-964.27	63460.30	0.015 [1]

[1] $P_u / \phi P_n$ controls

Torque-Arm Bottom Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T4	350 - 343.75 (662)	2L3x2 1/2x1/4	8.68	8.50	108.0 K=1.00	2.6300	-20711.70	46126.40	0.449 [1]
T4	350 - 343.75 (663)	2L3x2 1/2x1/4	8.68	8.50	108.0 K=1.00	2.6300	-21466.00	46126.40	0.465 [1]
T4	350 - 343.75 (668)	2L3x2 1/2x1/4	8.68	8.50	108.0 K=1.00	2.6300	-20852.90	46126.40	0.452 [1]
T4	350 - 343.75 (669)	2L3x2 1/2x1/4	8.68	8.50	108.0 K=1.00	2.6300	-20719.40	46126.40	0.449 [1]
T4	350 - 343.75 (674)	2L3x2 1/2x1/4	8.68	8.50	108.0 K=1.00	2.6300	-20408.00	46126.40	0.442 [1]
T4	350 - 343.75 (675)	2L3x2 1/2x1/4	8.68	8.50	108.0 K=1.00	2.6300	-21837.80	46126.40	0.473 [1]
T12	300 - 293.75 (680)	2L3x2 1/2x1/4	8.68	8.49	107.8 K=1.00	2.6300	-23504.50	46226.30	0.508 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	300 - 293.75 (681)	2L3x2 1/2x1/4	8.68	8.49	107.8 K=1.00	2.6300	-24755.50	46226.30	0.536 [1]
T12	300 - 293.75 (686)	2L3x2 1/2x1/4	8.68	8.49	107.8 K=1.00	2.6300	-24757.50	46226.30	0.536 [1]
T12	300 - 293.75 (687)	2L3x2 1/2x1/4	8.68	8.49	107.8 K=1.00	2.6300	-24610.10	46226.30	0.532 [1]
T12	300 - 293.75 (692)	2L3x2 1/2x1/4	8.68	8.49	107.8 K=1.00	2.6300	-23860.90	46226.30	0.516 [1]
T12	300 - 293.75 (693)	2L3x2 1/2x1/4	8.68	8.49	107.8 K=1.00	2.6300	-25674.50	46226.30	0.555 [1]
T24	225 - 218.75 (698)	2L3x2 1/2x1/4	8.68	8.50	108.0 K=1.00	2.6300	-19737.40	46126.40	0.428 [1]
T24	225 - 218.75 (699)	2L3x2 1/2x1/4	8.68	8.50	108.0 K=1.00	2.6300	-20082.50	46126.40	0.435 [1]
T24	225 - 218.75 (704)	2L3x2 1/2x1/4	8.68	8.50	108.0 K=1.00	2.6300	-20833.50	46126.40	0.452 [1]
T24	225 - 218.75 (705)	2L3x2 1/2x1/4	8.68	8.50	108.0 K=1.00	2.6300	-21487.20	46126.40	0.466 [1]
T24	225 - 218.75 (710)	2L3x2 1/2x1/4	8.68	8.50	108.0 K=1.00	2.6300	-19796.80	46126.40	0.429 [1]
T24	225 - 218.75 (711)	2L3x2 1/2x1/4	8.68	8.50	108.0 K=1.00	2.6300	-20183.20	46126.40	0.438 [1]
T35	100 - 93.75 (719)	2L3x2 1/2x1/4	8.68	8.49	107.8 K=1.00	2.6300	-7346.70	46226.30	0.159 [1]
T35	100 - 93.75 (720)	2L3x2 1/2x1/4	8.68	8.49	107.8 K=1.00	2.6300	-7589.24	46226.30	0.164 [1]
T35	100 - 93.75 (725)	2L3x2 1/2x1/4	8.68	8.49	107.8 K=1.00	2.6300	-8317.80	46226.30	0.180 [1]
T35	100 - 93.75 (726)	2L3x2 1/2x1/4	8.68	8.49	107.8 K=1.00	2.6300	-8250.43	46226.30	0.178 [1]
T35	100 - 93.75 (731)	2L3x2 1/2x1/4	8.68	8.49	107.8 K=1.00	2.6300	-7464.19	46226.30	0.161 [1]
T35	100 - 93.75 (732)	2L3x2 1/2x1/4	8.68	8.49	107.8 K=1.00	2.6300	-7522.77	46226.30	0.163 [1]

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	368.75 - 362.5	2 3/4	6.25	6.25	109.1	5.9396	283.32	192442.00	0.001 [1]
T2	362.5 - 356.25	2 3/4	6.25	6.25	109.1	5.9396	920.29	192442.00	0.005 [1]
T3	356.25 - 350	2 3/4	6.25	6.25	109.1	5.9396	5143.46	192442.00	0.027 [1]
T4	350 - 343.75	3	6.25	6.25	100.0	7.0686	4286.67	229022.00	0.019 [1]
T12	300 - 293.75	3 1/4	6.25	6.25	92.3	8.2958	681.07	268783.00	0.003 [1]
T14	287.5 - 281.25	3 1/4	6.25	6.25	92.3	8.2958	8109.27	268783.00	0.030 [1]
T15	281.25 - 275	3 1/4	6.25	6.25	92.3	8.2958	15339.90	268783.00	0.057 [1]
T16	275 - 268.75	3 1/4	6.25	6.25	92.3	8.2958	21020.60	268783.00	0.078 [1]
T17	268.75 - 262.5	3 1/4	6.25	6.25	92.3	8.2958	25052.60	268783.00	0.093 [1]
T18	262.5 - 256.25	3 1/4	6.25	6.25	92.3	8.2958	27801.80	268783.00	0.103 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T19	256.25 - 250	3 1/4	6.25	6.25	92.3	8.2958	27251.70	268783.00	0.101 [1]
T20	250 - 243.75	3 1/4	6.25	6.25	92.3	8.2958	26683.20	268783.00	0.099 [1]
T21	243.75 - 237.5	3 1/4	6.25	6.25	92.3	8.2958	20938.60	268783.00	0.078 [1]
T22	237.5 - 231.25	3 1/4	6.25	6.25	92.3	8.2958	8012.42	268783.00	0.030 [1]

[1] $P_u / \phi P_n$ controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	368.75 - 362.5	L2 1/2x2 1/2x1/4	8.00	3.65	59.6	0.7753	314.99	33726.10	0.009 [1]
T2	362.5 - 356.25	2L3x3x5/16	8.00	3.65	49.7	2.3695	775.15	103075.00	0.008 [1]
T3	356.25 - 350	2L3x3x5/16	8.00	3.65	49.7	2.3695	3107.66	103075.00	0.030 [1]
T4	350 - 343.75	L3x2 1/2x1/4	8.00	3.60	60.7	0.8419	3023.79	36621.60	0.083 [1]
T5	343.75 - 337.5	5/8	8.00	7.60	584.0	0.3068	4316.98	9940.20	0.434 [1]
T6	337.5 - 331.25	5/8	8.00	7.60	584.0	0.3068	4108.69	9940.20	0.413 [1]
T7	331.25 - 325	5/8	8.00	7.60	584.0	0.3068	3898.84	9940.20	0.392 [1]
T8	325 - 318.75	3/4	8.00	7.57	484.5	0.4418	4427.16	14313.90	0.309 [1]
T9	318.75 - 312.5	3/4	8.00	7.57	484.5	0.4418	4157.34	14313.90	0.290 [1]
T10	312.5 - 306.25	3/4	8.00	7.57	484.5	0.4418	4423.26	14313.90	0.309 [1]
T11	306.25 - 300	3/4	8.00	7.57	484.5	0.4418	7065.48	14313.90	0.494 [1]
T12	300 - 293.75	L3x2 1/2x1/4	8.00	3.59	60.4	0.8419	3217.30	36621.60	0.088 [1]
T13	293.75 - 287.5	3/4	8.00	7.57	484.5	0.4418	7436.29	14313.90	0.520 [1]
T14	287.5 - 281.25	5/8	8.00	7.57	581.4	0.3068	6569.13	9940.20	0.661 [1]
T15	281.25 - 275	5/8	8.00	7.57	581.4	0.3068	5815.81	9940.20	0.585 [1]
T16	275 - 268.75	5/8	8.00	7.57	581.4	0.3068	4908.40	9940.20	0.494 [1]
T17	268.75 - 262.5	5/8	8.00	7.57	581.4	0.3068	4057.20	9940.20	0.408 [1]
T18	262.5 - 256.25	5/8	8.00	7.57	581.4	0.3068	3580.21	9940.20	0.360 [1]
T19	256.25 - 250	3/4	8.00	7.57	484.5	0.4418	4258.81	14313.90	0.298 [1]
T20	250 - 243.75	3/4	8.00	7.57	484.5	0.4418	4274.63	14313.90	0.299 [1]
T21	243.75 - 237.5	3/4	8.00	7.57	484.5	0.4418	8590.50	14313.90	0.600 [1]
T22	237.5 - 231.25	3/4	8.00	7.57	484.5	0.4418	10770.30	14313.90	0.752 [1]
T23	231.25 - 225	1	8.00	7.57	363.4	0.7854	15421.60	25446.90	0.606 [1]
T25	218.75 - 212.5	5/8	8.00	7.60	584.0	0.3068	5663.70	9940.20	0.570 [1]
T26	212.5 - 206.25	5/8	8.00	7.60	584.0	0.3068	4277.62	9940.20	0.430 [1]
T27	206.25 - 181.25	5/8	8.00	7.60	584.0	0.3068	6221.96	9940.20	0.626 [1]
T28	181.25 - 175	5/8	8.00	7.60	584.0	0.3068	7038.48	9940.20	0.708 [1]
T29	175 - 168.75	1	8.00	7.57	363.4	0.7854	8623.41	25446.90	0.339 [1]
T30	168.75 - 162.5	1	8.00	7.57	363.4	0.7854	9610.58	25446.90	0.378 [1]
T31	162.5 - 156.25	5/8	8.00	7.57	581.4	0.3068	3400.53	9940.20	0.342 [1]
T32	156.25 - 150	5/8	8.00	7.57	581.4	0.3068	3004.49	9940.20	0.302 [1]
T33	150 - 125	5/8	8.00	7.57	581.4	0.3068	6900.56	9940.20	0.694 [1]
T34	125 - 100	L2 1/2x2 1/2x3/16	8.00	7.17	116.8	0.5710	12657.80	24839.90	0.510 [1]
T36	93.75 - 87.5	3/4	8.00	7.57	484.5	0.4418	4333.98	14313.90	0.303 [1]
T37	87.5 - 81.25	5/8	8.00	7.57	581.4	0.3068	2986.39	9940.20	0.300 [1]
T38	81.25 - 75	5/8	8.00	7.57	581.4	0.3068	2143.16	9940.20	0.216 [1]
T39	75 - 50	5/8	8.00	7.57	581.4	0.3068	3510.52	9940.20	0.353 [1]
T40	50 - 25	5/8	8.00	7.57	581.4	0.3068	4653.67	9940.20	0.468 [1]
T41	25 - 0	5/8	8.00	7.57	581.4	0.3068	3742.79	9940.20	0.377 [1]

[1] $P_u / \phi P_n$ controls

Horizontal Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T27	206.25 - 181.25	P1.25x.14	5.00	4.75	105.6	0.6685	2137.76	21660.40	0.099 [1]
T33	150 - 125	P1.25x.14	5.00	4.73	105.2	0.6685	2260.19	21660.40	0.104 [1]
T34	125 - 100	P1.25x.14	5.00	4.73	105.2	0.6685	2300.98	21660.40	0.106 [1]
T39	75 - 50	P1.25x.14	5.00	4.73	105.2	0.6685	2575.05	21660.40	0.119 [1]
T40	50 - 25	P1.25x.14	5.00	4.73	105.2	0.6685	2672.18	21660.40	0.123 [1]
T41	25 - 0	P1.25x.14	5.00	4.73	105.2	0.6685	2713.61	21660.40	0.125 [1]

[1] P_u / ϕP_n controls

Secondary Horizontal Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T28	181.25 - 175	P1.25x.14	5.00	4.75	105.6	0.6685	2111.45	21660.40	0.097 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T1	368.75 - 362.5	2L2 1/2x2x1/4	5.00	4.38	73.0	1.3162	94.07	57256.90	0.002 [1]
T2	362.5 - 356.25	2L2 1/2x3x1/4	5.00	4.44	76.0	1.7381	281.61	75608.40	0.004 [1]
T3	356.25 - 350	2L2 1/2x3x1/4	5.00	4.44	76.0	1.7381	925.04	75608.40	0.012 [1]
T4	350 - 343.75	2L2 1/2x2x1/4	5.00	4.35	72.7	1.3162	8437.21	57256.90	0.147 [1]
T5	343.75 - 337.5	2L2 1/2x2x1/4	5.00	4.35	72.7	1.3162	698.97	57256.90	0.012 [1]
T6	337.5 - 331.25	P1.25x.14	5.00	4.75	105.6	0.6685	714.86	21660.40	0.033 [1]
T7	331.25 - 325	P1.25x.14	5.00	4.75	105.6	0.6685	729.97	21660.40	0.034 [1]
T8	325 - 318.75	P1.25x.14	5.00	4.73	105.2	0.6685	767.48	21660.40	0.035 [1]
T9	318.75 - 312.5	P1.25x.14	5.00	4.73	105.2	0.6685	799.04	21660.40	0.037 [1]
T10	312.5 - 306.25	P1.25x.14	5.00	4.73	105.2	0.6685	836.88	21660.40	0.039 [1]
T11	306.25 - 300	2L2 1/2x2x1/4	5.00	4.33	72.4	1.3162	866.20	57256.90	0.015 [1]
T12	300 - 293.75	2L2 1/2x2x1/4	5.00	4.33	72.4	1.3162	10151.10	57256.90	0.177 [1]
T13	293.75 - 287.5	2L2 1/2x2x1/4	5.00	4.33	72.4	1.3162	1514.82	57256.90	0.026 [1]
T14	287.5 - 281.25	P1.25x.14	5.00	4.73	105.2	0.6685	1613.84	21660.40	0.075 [1]
T15	281.25 - 275	P1.25x.14	5.00	4.73	105.2	0.6685	1708.11	21660.40	0.079 [1]
T16	275 - 268.75	P1.25x.14	5.00	4.73	105.2	0.6685	1781.96	21660.40	0.082 [1]
T17	268.75 - 262.5	P1.25x.14	5.00	4.73	105.2	0.6685	1839.76	21660.40	0.085 [1]
T18	262.5 - 256.25	P1.25x.14	5.00	4.73	105.2	0.6685	1875.99	21660.40	0.087 [1]
T19	256.25 - 250	P1.25x.14	5.00	4.73	105.2	0.6685	1912.99	21660.40	0.088 [1]
T20	250 - 243.75	2L2 1/2x2x1/4	5.00	4.40	72.4	1.3631	1916.86	59295.90	0.032 [1]
T21	243.75 - 237.5	2L2 1/2x2x1/4	5.00	4.33	72.4	1.3162	1868.16	57256.90	0.033 [1]
T22	237.5 - 231.25	2L2 1/2x2x1/4	5.00	4.33	72.4	1.3162	1713.98	57256.90	0.030 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T23	231.25 - 225	2L2 1/2x2x1/4	5.00	4.33	72.4	1.3162	1702.77	57256.90	0.030 [1]
T24	225 - 218.75	2L2 1/2x2x1/4	5.00	4.35	72.7	1.3162	13331.70	57256.90	0.233 [1]
T25	218.75 - 212.5	2L2 1/2x2x1/4	5.00	4.35	72.7	1.3162	6194.35	57256.90	0.108 [1]
T26	212.5 - 206.25	P1.25x.14	5.00	4.75	105.6	0.6685	2098.31	21660.40	0.097 [1]
T27	206.25 - 181.25	P1.25x.14	5.00	4.75	105.6	0.6685	2137.76	21660.40	0.099 [1]
T28	181.25 - 175	P1.25x.14	5.00	4.75	105.6	0.6685	2111.45	21660.40	0.097 [1]
T29	175 - 168.75	P1.25x.14	5.00	4.73	105.2	0.6685	2093.08	21660.40	0.097 [1]
T30	168.75 - 162.5	P1.25x.14	5.00	4.73	105.2	0.6685	2070.80	21660.40	0.096 [1]
T31	162.5 - 156.25	2L2 1/2x2x1/4	5.00	4.40	72.4	1.3631	4944.19	59295.90	0.083 [1]
T32	156.25 - 150	P1.25x.14	5.00	4.73	105.2	0.6685	2222.50	21660.40	0.103 [1]
T33	150 - 125	P1.25x.14	5.00	4.73	105.2	0.6685	2260.19	21660.40	0.104 [1]
T34	125 - 100	P1.25x.14	5.00	4.73	105.2	0.6685	2300.98	21660.40	0.106 [1]
T35	100 - 93.75	2L2 1/2x2x1/4	5.00	4.33	72.4	1.3162	12914.50	57256.90	0.226 [1]
T36	93.75 - 87.5	2L2 1/2x2x1/4	5.00	4.40	72.4	1.3631	8487.25	59295.90	0.143 [1]
T37	87.5 - 81.25	P1.25x.14	5.00	4.73	105.2	0.6685	2462.69	21660.40	0.114 [1]
T38	81.25 - 75	P1.25x.14	5.00	4.73	105.2	0.6685	2482.85	21660.40	0.115 [1]
T39	75 - 50	P1.25x.14	5.00	4.73	105.2	0.6685	2575.05	21660.40	0.119 [1]
T40	50 - 25	L2 1/2x2x1/4	5.00	4.40	95.8	0.6778	3152.26	29484.80	0.107 [1]
T41	25 - 0	P1.25x.14	5.00	4.73	105.2	0.6685	2713.61	21660.40	0.125 [1]

[1] P_u / ϕP_n controls

Torque-Arm Top Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T4	350 - 343.75 (660)	2L3x2 1/2x1/4	6.03	5.90	75.0	2.6300	18529.80	85212.00	0.217 [1]
T4	350 - 343.75 (661)	2L3x2 1/2x1/4	6.03	5.90	75.0	2.6300	18165.10	85212.00	0.213 [1]
T4	350 - 343.75 (666)	2L3x2 1/2x1/4	6.03	5.90	75.0	2.6300	18153.60	85212.00	0.213 [1]
T4	350 - 343.75 (667)	2L3x2 1/2x1/4	6.03	5.90	75.0	2.6300	17993.10	85212.00	0.211 [1]
T4	350 - 343.75 (672)	2L3x2 1/2x1/4	6.03	5.90	75.0	2.6300	18509.60	85212.00	0.217 [1]
T4	350 - 343.75 (673)	2L3x2 1/2x1/4	6.03	5.90	75.0	2.6300	18097.30	85212.00	0.212 [1]
T12	300 - 293.75 (678)	2L3x2 1/2x1/4	6.03	5.89	74.8	2.6300	20160.20	85212.00	0.237 [1]
T12	300 - 293.75 (679)	2L3x2 1/2x1/4	6.03	5.89	74.8	2.6300	19140.80	85212.00	0.225 [1]
T12	300 - 293.75 (684)	2L3x2 1/2x1/4	6.03	5.89	74.8	2.6300	19393.80	85212.00	0.228 [1]
T12	300 - 293.75 (685)	2L3x2 1/2x1/4	6.03	5.89	74.8	2.6300	19752.00	85212.00	0.232 [1]
T12	300 - 293.75 (690)	2L3x2 1/2x1/4	6.03	5.89	74.8	2.6300	20533.60	85212.00	0.241 [1]
T12	300 - 293.75 (691)	2L3x2 1/2x1/4	6.03	5.89	74.8	2.6300	19296.20	85212.00	0.226 [1]
T24	225 - 218.75 (696)	2L3x2 1/2x1/4	6.03	5.90	75.0	2.6300	19350.30	85212.00	0.227 [1]
T24	225 - 218.75 (697)	2L3x2 1/2x1/4	6.03	5.90	75.0	2.6300	17996.70	85212.00	0.211 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T24	225 - 218.75 (702)	2L3x2 1/2x1/4	6.03	5.90	75.0	2.6300	19429.50	85212.00	0.228 [1]
T24	225 - 218.75 (703)	2L3x2 1/2x1/4	6.03	5.90	75.0	2.6300	19718.50	85212.00	0.231 [1]
T24	225 - 218.75 (708)	2L3x2 1/2x1/4	6.03	5.90	75.0	2.6300	19990.60	85212.00	0.235 [1]
T24	225 - 218.75 (709)	2L3x2 1/2x1/4	6.03	5.90	75.0	2.6300	18452.70	85212.00	0.217 [1]
T35	100 - 93.75 (717)	2L3x2 1/2x1/4	6.03	5.89	74.8	2.6300	10891.60	85212.00	0.128 [1]
T35	100 - 93.75 (718)	2L3x2 1/2x1/4	6.03	5.89	74.8	2.6300	10591.10	85212.00	0.124 [1]
T35	100 - 93.75 (723)	2L3x2 1/2x1/4	6.03	5.89	74.8	2.6300	12338.80	85212.00	0.145 [1]
T35	100 - 93.75 (724)	2L3x2 1/2x1/4	6.03	5.89	74.8	2.6300	11812.00	85212.00	0.139 [1]
T35	100 - 93.75 (729)	2L3x2 1/2x1/4	6.03	5.89	74.8	2.6300	10800.50	85212.00	0.127 [1]
T35	100 - 93.75 (730)	2L3x2 1/2x1/4	6.03	5.89	74.8	2.6300	10862.60	85212.00	0.127 [1]

[1] $P_u / \phi P_n$ controls

Torque-Arm Bottom Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T24	225 - 218.75 (705)	2L3x2 1/2x1/4	8.68	8.50	108.0	2.6300	139.03	85212.00	0.002 [1]
T35	100 - 93.75 (719)	2L3x2 1/2x1/4	8.68	8.49	107.8	2.6300	341.10	85212.00	0.004 [1]
T35	100 - 93.75 (720)	2L3x2 1/2x1/4	8.68	8.49	107.8	2.6300	226.98	85212.00	0.003 [1]
T35	100 - 93.75 (725)	2L3x2 1/2x1/4	8.68	8.49	107.8	2.6300	602.04	85212.00	0.007 [1]
T35	100 - 93.75 (726)	2L3x2 1/2x1/4	8.68	8.49	107.8	2.6300	648.61	85212.00	0.008 [1]
T35	100 - 93.75 (731)	2L3x2 1/2x1/4	8.68	8.49	107.8	2.6300	359.90	85212.00	0.004 [1]
T35	100 - 93.75 (732)	2L3x2 1/2x1/4	8.68	8.49	107.8	2.6300	432.54	85212.00	0.005 [1]

[1] $P_u / \phi P_n$ controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	368.75 - 362.5	Leg	2 3/4	1	-1648.36	102851.00	1.6	Pass
T2	362.5 - 356.25	Leg	2 3/4	13	-2308.03	102851.00	2.2	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T3	356.25 - 350	Leg	2 3/4	27	-7365.11	102851.00	7.2	Pass
T4	350 - 343.75	Leg	3	38	-5643.73	135284.00	4.2	Pass
T5	343.75 - 337.5	Leg	3	49	-40354.80	135284.00	29.8	Pass
T6	337.5 - 331.25	Leg	3	61	-41272.70	135284.00	30.5	Pass
T7	331.25 - 325	Leg	3	73	-42144.90	135284.00	31.2	Pass
T8	325 - 318.75	Leg	3 1/4	86	-44310.60	171629.00	25.8	Pass
T9	318.75 - 312.5	Leg	3 1/4	98	-46132.80	171629.00	26.9	Pass
T10	312.5 - 306.25	Leg	3 1/4	110	-48317.50	171629.00	28.2	Pass
T11	306.25 - 300	Leg	3 1/4	122	-50010.20	171629.00	29.1	Pass
T12	300 - 293.75	Leg	3 1/4	134	-41771.80	171629.00	24.3	Pass
T13	293.75 - 287.5	Leg	3 1/4	145	-87458.20	171629.00	51.0	Pass
T14	287.5 - 281.25	Leg	3 1/4	157	-93174.90	171629.00	54.3	Pass
T15	281.25 - 275	Leg	3 1/4	169	-98618.00	171629.00	57.5	Pass
T16	275 - 268.75	Leg	3 1/4	181	-102881.00	171629.00	59.9	Pass
T17	268.75 - 262.5	Leg	3 1/4	193	-106219.00	171629.00	61.9	Pass
T18	262.5 - 256.25	Leg	3 1/4	205	-108310.00	171629.00	63.1	Pass
T19	256.25 - 250	Leg	3 1/4	217	-110446.00	171629.00	64.4	Pass
T20	250 - 243.75	Leg	3 1/4	229	-110670.00	171629.00	64.5	Pass
T21	243.75 - 237.5	Leg	3 1/4	241	-107859.00	171629.00	62.8	Pass
T22	237.5 - 231.25	Leg	3 1/4	253	-98956.40	171629.00	57.7	Pass
T23	231.25 - 225	Leg	3 1/4	266	-98309.20	171629.00	57.3	Pass
T24	225 - 218.75	Leg	3	278	-74498.70	135284.00	55.1	Pass
T25	218.75 - 212.5	Leg	3	290	-119480.00	135284.00	88.3	Pass
T26	212.5 - 206.25	Leg	3	302	-121146.00	135284.00	89.5	Pass
T27	206.25 - 181.25	Leg	3	314	-123424.00	135284.00	91.2	Pass
T28	181.25 - 175	Leg	3	353	-121904.00	200780.00	60.7	Pass
T29	175 - 168.75	Leg	3 1/4	368	-120844.00	171629.00	70.4	Pass
T30	168.75 - 162.5	Leg	3 1/4	380	-119558.00	171629.00	69.7	Pass
T31	162.5 - 156.25	Leg	3 1/4	392	-126905.00	171629.00	73.9	Pass
T32	156.25 - 150	Leg	3 1/4	404	-128316.00	171629.00	74.8	Pass
T33	150 - 125	Leg	3 1/4	416	-130492.00	171629.00	76.0	Pass
T34	125 - 100	Leg	3 1/4	454	-132847.00	171629.00	77.4	Pass
T35	100 - 93.75	Leg	3 1/4	493	-109593.00	171629.00	63.9	Pass
T36	93.75 - 87.5	Leg	3 1/4	505	-141823.00	171629.00	82.6	Pass
T37	87.5 - 81.25	Leg	3 1/4	517	-142184.00	171629.00	82.8	Pass
T38	81.25 - 75	Leg	3 1/4	529	-143347.00	171629.00	83.5	Pass
T39	75 - 50	Leg	3 1/4	541	-148670.00	171629.00	86.6	Pass
T40	50 - 25	Leg	3 1/4	580	-154278.00	171629.00	89.9	Pass
T41	25 - 0	Leg	3 1/4	619	-156670.00	171629.00	91.3	Pass
T1	368.75 - 362.5	Diagonal	L2 1/2x2 1/2x1/4	11	-388.79	23509.60	1.7 2.4 (b)	Pass
T2	362.5 - 356.25	Diagonal	2L3x3x5/16	20	-1171.40	102123.00	1.1 3.7 (b)	Pass
T3	356.25 - 350	Diagonal	2L3x3x5/16	34	3107.66	103075.00	3.0 9.8 (b)	Pass
T4	350 - 343.75	Diagonal	L3x2 1/2x1/4	46	-3340.61	27333.10	12.2 14.7 (b)	Pass
T5	343.75 - 337.5	Diagonal	5/8	55	4316.98	9940.20	43.4	Pass
T6	337.5 - 331.25	Diagonal	5/8	70	4108.69	9940.20	41.3	Pass
T7	331.25 - 325	Diagonal	5/8	82	3898.84	9940.20	39.2	Pass
T8	325 - 318.75	Diagonal	3/4	94	4427.16	14313.90	30.9	Pass
T9	318.75 - 312.5	Diagonal	3/4	106	4157.34	14313.90	29.0	Pass
T10	312.5 - 306.25	Diagonal	3/4	118	4423.26	14313.90	30.9	Pass
T11	306.25 - 300	Diagonal	3/4	132	7065.48	14313.90	49.4	Pass
T12	300 - 293.75	Diagonal	L3x2 1/2x1/4	142	-7477.68	27407.90	27.3 30.1 (b)	Pass
T13	293.75 - 287.5	Diagonal	3/4	152	7436.29	14313.90	52.0	Pass
T14	287.5 - 281.25	Diagonal	5/8	164	6569.13	9940.20	66.1	Pass
T15	281.25 - 275	Diagonal	5/8	176	5815.81	9940.20	58.5	Pass
T16	275 - 268.75	Diagonal	5/8	188	4908.40	9940.20	49.4	Pass
T17	268.75 - 262.5	Diagonal	5/8	200	4057.20	9940.20	40.8	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T18	262.5 - 256.25	Diagonal	5/8	212	3580.21	9940.20	36.0	Pass
T19	256.25 - 250	Diagonal	3/4	227	4258.81	14313.90	29.8	Pass
T20	250 - 243.75	Diagonal	3/4	239	4274.63	14313.90	29.9	Pass
T21	243.75 - 237.5	Diagonal	3/4	249	8590.50	14313.90	60.0	Pass
T22	237.5 - 231.25	Diagonal	3/4	261	10770.30	14313.90	75.2	Pass
T23	231.25 - 225	Diagonal	1	273	15421.60	25446.90	60.6	Pass
							97.0 (b)	
T24	225 - 218.75	Diagonal	2L2 1/2x2 1/2x1/4	287	-13948.30	65284.70	21.4	Pass
							28.1 (b)	
T25	218.75 - 212.5	Diagonal	5/8	295	5663.70	9940.20	57.0	Pass
T26	212.5 - 206.25	Diagonal	5/8	307	4277.62	9940.20	43.0	Pass
T27	206.25 - 181.25	Diagonal	5/8	321	6221.96	9940.20	62.6	Pass
T28	181.25 - 175	Diagonal	5/8	363	7038.48	9940.20	70.8	Pass
T29	175 - 168.75	Diagonal	1	378	8623.41	25446.90	33.9	Pass
							54.2 (b)	
T30	168.75 - 162.5	Diagonal	1	385	9610.58	25446.90	37.8	Pass
							60.4 (b)	
T31	162.5 - 156.25	Diagonal	5/8	400	3400.53	9940.20	34.2	Pass
T32	156.25 - 150	Diagonal	5/8	412	3004.49	9940.20	30.2	Pass
T33	150 - 125	Diagonal	5/8	421	6900.56	9940.20	69.4	Pass
T34	125 - 100	Diagonal	L2 1/2x2 1/2x3/16	460	12657.80	24839.90	51.0	Pass
							88.1 (b)	
T35	100 - 93.75	Diagonal	2L2 1/2x2 1/2x1/4	502	-15518.30	65385.10	23.7	Pass
							31.2 (b)	
T36	93.75 - 87.5	Diagonal	3/4	511	4333.98	14313.90	30.3	Pass
T37	87.5 - 81.25	Diagonal	5/8	523	2986.39	9940.20	30.0	Pass
T38	81.25 - 75	Diagonal	5/8	535	2143.16	9940.20	21.6	Pass
T39	75 - 50	Diagonal	5/8	547	3510.52	9940.20	35.3	Pass
T40	50 - 25	Diagonal	5/8	615	4653.67	9940.20	46.8	Pass
T41	25 - 0	Diagonal	5/8	625	3742.79	9940.20	37.7	Pass
T27	206.25 - 181.25	Horizontal	P1.25x.14	326	-3563.47	12039.80	29.6	Pass
T33	150 - 125	Horizontal	P1.25x.14	427	-4056.89	12101.80	33.5	Pass
T34	125 - 100	Horizontal	P1.25x.14	466	-7614.99	12101.80	62.9	Pass
T39	75 - 50	Horizontal	P1.25x.14	564	-2575.05	12101.80	21.3	Pass
T40	50 - 25	Horizontal	P1.25x.14	612	-2739.65	12101.80	22.6	Pass
T41	25 - 0	Horizontal	P1.25x.14	633	-2713.61	12101.80	22.4	Pass
T28	181.25 - 175	Secondary Horizontal	P1.25x.14	364	-2111.45	12039.80	17.5	Pass
							34.0 (b)	
T1	368.75 - 362.5	Top Girt	2L2 1/2x2x1/4	4	93.76	57256.90	0.3	Pass
T2	362.5 - 356.25	Top Girt	2L2 1/2x3x1/4	16	281.61	75608.40	0.4	Pass
							0.9 (b)	
T3	356.25 - 350	Top Girt	2L2 1/2x3x1/4	28	-969.96	65488.30	1.5	Pass
							3.0 (b)	
T4	350 - 343.75	Top Girt	2L2 1/2x2x1/4	40	8437.21	57256.90	14.7	Pass
							22.0 (b)	
T5	343.75 - 337.5	Top Girt	2L2 1/2x2x1/4	52	-3850.46	54623.00	7.0	Pass
							7.7 (b)	
T6	337.5 - 331.25	Top Girt	P1.25x.14	65	-3149.26	12039.80	26.2	Pass
T7	331.25 - 325	Top Girt	P1.25x.14	77	-3060.34	12039.80	25.4	Pass
T8	325 - 318.75	Top Girt	P1.25x.14	89	-3674.43	12101.80	30.4	Pass
T9	318.75 - 312.5	Top Girt	P1.25x.14	101	-4207.12	12101.80	34.8	Pass
T10	312.5 - 306.25	Top Girt	P1.25x.14	113	-4313.19	12101.80	35.6	Pass
T11	306.25 - 300	Top Girt	2L2 1/2x2x1/4	126	-5824.86	54745.00	10.6	Pass
							11.7 (b)	
T12	300 - 293.75	Top Girt	2L2 1/2x2x1/4	136	10151.10	57256.90	17.7	Pass
							26.5 (b)	
T13	293.75 - 287.5	Top Girt	2L2 1/2x2x1/4	148	-2722.94	54745.00	5.0	Pass
							5.5 (b)	
T14	287.5 - 281.25	Top Girt	P1.25x.14	160	-4351.37	12101.80	36.0	Pass
T15	281.25 - 275	Top Girt	P1.25x.14	172	-3900.72	12101.80	32.2	Pass
T16	275 - 268.75	Top Girt	P1.25x.14	184	-3385.59	12101.80	28.0	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T17	268.75 - 262.5	Top Girt	P1.25x.14	197	-3136.15	12101.80	25.9	Pass
T18	262.5 - 256.25	Top Girt	P1.25x.14	209	-3125.18	12101.80	25.8	Pass
T19	256.25 - 250	Top Girt	P1.25x.14	221	-3852.24	12101.80	31.8	Pass
T20	250 - 243.75	Top Girt	2L2 1/2x2x1/4	233	-4708.46	54377.90	8.7	Pass
							14.8 (b)	
T21	243.75 - 237.5	Top Girt	2L2 1/2x2x1/4	245	-5842.14	54745.00	10.7	Pass
							11.8 (b)	
T22	237.5 - 231.25	Top Girt	2L2 1/2x2x1/4	257	-6091.08	54745.00	11.1	Pass
							12.3 (b)	
T23	231.25 - 225	Top Girt	2L2 1/2x2x1/4	269	-8163.35	54745.00	14.9	Pass
							16.4 (b)	
T24	225 - 218.75	Top Girt	2L2 1/2x2x1/4	280	13331.70	57256.90	23.3	Pass
							34.8 (b)	
T25	218.75 - 212.5	Top Girt	2L2 1/2x2x1/4	292	6194.35	57256.90	10.8	Pass
							16.2 (b)	
T26	212.5 - 206.25	Top Girt	P1.25x.14	304	-2994.82	12039.80	24.9	Pass
T27	206.25 - 181.25	Top Girt	P1.25x.14	317	-2393.45	12039.80	19.9	Pass
T28	181.25 - 175	Top Girt	P1.25x.14	356	-4002.23	12039.80	33.2	Pass
T29	175 - 168.75	Top Girt	P1.25x.14	372	-4795.94	12101.80	39.6	Pass
T30	168.75 - 162.5	Top Girt	P1.25x.14	382	-5677.95	12101.80	46.9	Pass
T31	162.5 - 156.25	Top Girt	2L2 1/2x2x1/4	396	4944.19	59295.90	8.3	Pass
							15.5 (b)	
T32	156.25 - 150	Top Girt	P1.25x.14	406	-2222.50	12101.80	18.4	Pass
T33	150 - 125	Top Girt	P1.25x.14	418	-2260.19	12101.80	18.7	Pass
T34	125 - 100	Top Girt	P1.25x.14	457	-4961.87	12101.80	41.0	Pass
T35	100 - 93.75	Top Girt	2L2 1/2x2x1/4	498	12914.50	57256.90	22.6	Pass
							33.7 (b)	
T36	93.75 - 87.5	Top Girt	2L2 1/2x2x1/4	508	8487.25	59295.90	14.3	Pass
							26.7 (b)	
T37	87.5 - 81.25	Top Girt	P1.25x.14	522	-2462.69	12101.80	20.3	Pass
T38	81.25 - 75	Top Girt	P1.25x.14	534	-2482.85	12101.80	20.5	Pass
T39	75 - 50	Top Girt	P1.25x.14	546	-2575.05	12101.80	21.3	Pass
T40	50 - 25	Top Girt	L2 1/2x2x1/4	585	-2672.18	15544.20	17.2	Pass
							19.8 (b)	
T41	25 - 0	Top Girt	P1.25x.14	624	-2713.61	12101.80	22.4	Pass
T4	350 - 343.75	Guy A@350	7/8	670	20577.20	47820.00	43.0	Pass
T12	300 - 293.75	Guy A@300	7/8	688	23402.00	47820.00	48.9	Pass
T24	225 - 218.75	Guy A@225	3/4	706	20607.30	34980.00	58.9	Pass
T31	162.5 - 156.25	Guy A@162.5	3/4	714	19985.30	34980.00	57.1	Pass
T35	100 - 93.75	Guy A@100	9/16	728	10756.00	21000.00	51.2	Pass
T40	50 - 25	Guy A@50	9/16	735	9484.38	21000.00	45.2	Pass
T4	350 - 343.75	Guy B@350	7/8	665	19104.50	47820.00	40.0	Pass
T12	300 - 293.75	Guy B@300	7/8	682	22134.80	47820.00	46.3	Pass
T24	225 - 218.75	Guy B@225	3/4	700	21076.90	34980.00	60.3	Pass
T31	162.5 - 156.25	Guy B@162.5	3/4	713	20629.00	34980.00	59.0	Pass
T35	100 - 93.75	Guy B@100	9/16	721	11388.80	21000.00	54.2	Pass
T40	50 - 25	Guy B@50	9/16	734	9360.65	21000.00	44.6	Pass
T4	350 - 343.75	Guy C@350	7/8	658	19079.60	47820.00	39.9	Pass
T12	300 - 293.75	Guy C@300	7/8	677	22288.50	47820.00	46.6	Pass
T24	225 - 218.75	Guy C@225	3/4	695	20690.70	34980.00	59.1	Pass
T31	162.5 - 156.25	Guy C@162.5	3/4	712	20258.50	34980.00	57.9	Pass
T35	100 - 93.75	Guy C@100	9/16	716	10822.80	21000.00	51.5	Pass
T40	50 - 25	Guy C@50	9/16	733	9655.01	21000.00	46.0	Pass
T4	350 - 343.75	Torque Arm Top@350	2L3x2 1/2x1/4	660	18529.80	85212.00	21.7	Pass
T12	300 - 293.75	Torque Arm Top@300	2L3x2 1/2x1/4	690	20533.60	85212.00	24.1	Pass
T24	225 - 218.75	Torque Arm Top@225	2L3x2 1/2x1/4	708	19990.60	85212.00	23.5	Pass
T35	100 - 93.75	Torque Arm Top@100	2L3x2 1/2x1/4	723	12338.80	85212.00	14.5	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T4	350 - 343.75	Torque Arm Bottom@350	2L3x2 1/2x1/4	675	-21837.80	46126.40	47.3	Pass
T12	300 - 293.75	Torque Arm Bottom@300	2L3x2 1/2x1/4	693	-25674.50	46226.30	55.5	Pass
T24	225 - 218.75	Torque Arm Bottom@225	2L3x2 1/2x1/4	705	-21487.20	46126.40	46.6	Pass
T35	100 - 93.75	Torque Arm Bottom@100	2L3x2 1/2x1/4	725	-8317.80	46226.30	18.0	Pass
							Summary	
						Leg (T41)	91.3	Pass
						Diagonal (T23)	97.0	Pass
						Horizontal (T34)	62.9	Pass
						Secondary Horizontal (T28)	34.0	Pass
						Top Girt (T30)	46.9	Pass
						Guy A (T24)	58.9	Pass
						Guy B (T24)	60.3	Pass
						Guy C (T24)	59.1	Pass
						Torque Arm Top (T12)	24.1	Pass
						Torque Arm Bottom (T12)	55.5	Pass
						Bolt Checks	97.0	Pass
						RATING =	**97.0**	**Pass**

Pier and Pad Foundation

BU # :	
Site Name:	CTNL024A
App. Number:	

TIA-222 Revision:	G
Tower Type:	Guyed

Top & Bot. Pad Rein. Different?:	☐
Block Foundation?:	☐

Superstructure Analysis Reactions		
Compression, P_{comp}:	467.83	kips
Base Shear, Vu_comp:	0.606	kips
Moment, M_u:	0	ft-kips
Tower Height, **H**:	368.75	ft
BP Dist. Above Fdn, bp_{dist}:		in
Bolt Circle / Bearing Plate Width, **BC**:		in

Foundation Analysis Checks				
	Capacity	**Demand**	**Rating***	**Check**
Lateral (Sliding) (kips)	136.50	0.61	**0.4%**	**Pass**
Bearing Pressure (ksf)	9.60	10.19	**96.5%**	**Pass**
*Overturning (kip*ft)*	160.59	3.03	**1.9%**	**Pass**

Pier Properties		
Pier Shape:	Circular	
Pier Diameter, **dpier**:	3	ft
Ext. Above Grade, **E**:	1.5	ft

Pad Properties		
Depth, **D**:	3.5	ft
Pad Width, **W**:	7	ft
Pad Thickness, **T**:	2	ft

Material Properties		
Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	3	ksi
Dry Concrete Density, δ**c**:	150	pcf

Soil Properties		
Total Soil Unit Weight, γ:	120	pcf
Ultimate Gross Bearing, Qult:	16.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	30	degrees
SPT Blow Count, N_{blows}:	10	
Base Friction, μ:	0.45	
Neglected Depth, **N**:	0.00	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

<--Toggle between Gross and Net

Guyed Anchor Block Foundation

Checks capacity of anchor blocks for a guyed tower.

BU#:	
Site Name:	CTNL024A
Order Number:	
Location:	

TIA-222 Revision:	G

Design Reactions		
Shear, **S**:	8.64	kips
Uplift, **Ua**:	4.22	kips
Resultant Force, **Rf**:	9.6	kips
Tower Height, **H**:	368.75	ft
Guy Anchor Radius, **R**:	114.41	ft
Resultant Angle to Horizontal, **θ**:	26.0	deg

Guy Anchor Properties		
Depth to Bottom of Deadman, **Da**:	6.5	ft
Anchor Width, **Wa**:	4	ft
Anchor Thickness, **Ta**:	3	ft
Anchor Length, **La**:	10	ft
Concrete Volume, **Vc**:	4.4	yd^3
Toe Width, **toe**:		ft

Anchor Shaft Diameter, **ds**:		in
Anchor Shaft Quantity. **n**:		
Anchor Shaft Area Override:		in^2
Shear Lag Factor, **u**:		

Material Properties		
Wt. Avg.Concrete Density, **δx**:	0.150	kcf

Design Checks	**Capacity**	**Demand**	**Rating**	**Check**
Lateral Capacity (kips):	53.57	8.64	**16.1%**	**Pass**
Uplift Capacity (kips):	56.12	4.22	**7.5%**	**Pass**

Soil Rating:	**16.1%**
Structural Rating:	**N/A**
Anchor Shaft Rating:	**N/A**

Neglect Depth, **Neg**:	0	ft
Groundwater Level, **gw**:	N/A	ft

Soil Properties:	**No. of Soil Layers?**			9		
Layer	**φ, deg**	**cu, ksf**	**δ, pcf**	**d, ft**	**Ultimate fs (ksf)**	**N (blows/ft)**
1	30		120	6.50		10
2						
3						
4						
5						
6						
7						
8						
9						

*key:

cu = Cohesion / Undrained Shear Strength
δ = Buoyant Soil Unit Weight

d = Depth to Bottom of Layer

Ultimate fs = Geotechnical Report-provided skin friction / adhesion

N = SPT Blow Count

Guyed Anchor Block Foundation

Checks capacity of anchor blocks for a guyed tower.

BU#:	
Site Name:	CTNL024A
Order Number:	
Location:	

TIA-222 Revision: G

Design Reactions		
Shear, **S**:	34.28	kips
Uplift, **Ua**:	22.43	kips
Resultant Force, **Rf**:	41.0	kips
Tower Height, **H**:	368.75	ft
Guy Anchor Radius, **R**:	193.65	ft
Resultant Angle to Horizontal, **θ**:	33.2	deg

Guy Anchor Properties		
Depth to Bottom of Deadman, **Da**:	10	ft
Anchor Width, **Wa**:	4	ft
Anchor Thickness, **Ta**:	4	ft
Anchor Length, **La**:	10	ft
Concrete Volume, **Vc**:	5.9	yd^3
Toe Width, **toe**:		ft

Anchor Shaft Diameter, **ds**:		in
Anchor Shaft Quantity. **n**:		
Anchor Shaft Area Override:		in^2
Shear Lag Factor, **u**:		

Material Properties		
Wt. Avg.Concrete Density, **δx**:	0.150	kcf

Design Checks	Capacity	Demand	Rating	Check
Lateral Capacity (kips):	107.44	34.28	**31.9%**	**Pass**
Uplift Capacity (kips):	113.54	22.43	**19.8%**	**Pass**

Soil Rating:	**31.9%**
Structural Rating:	**N/A**
Anchor Shaft Rating:	**N/A**

Neglect Depth, **Neg**:	0	ft
Groundwater Level, **gw**:	N/A	ft

Soil Properties:	**No. of Soil Layers?**			9		
Layer	**φ, deg**	**cu, ksf**	**δ, pcf**	**d, ft**	**Ultimate fs (ksf)**	**N (blows/ft)**
1	30		120	10.00		10
2						
3						
4						
5						
6						
7						
8						
9						

*key:

cu = Cohesion / Undrained Shear Strength
δ = Buoyant Soil Unit Weight

d = Depth to Bottom of Layer

Ultimate fs = Geotechnical Report-provided skin friction / adhesion

N = SPT Blow Count

Guyed Anchor Block Foundation

Checks capacity of anchor blocks for a guyed tower.

BU#:	
Site Name:	CTNL024A
Order Number:	
Location:	

TIA-222 Revision: G

Design Reactions		
Shear, **S**:	55.76	kips
Uplift, **Ua**:	64.15	kips
Resultant Force, **Rf**:	85.0	kips
Tower Height, **H**:	368.75	ft
Guy Anchor Radius, **R**:	224.79	ft
Resultant Angle to Horizontal, **θ**:	49.0	deg

Guy Anchor Properties		
Depth to Bottom of Deadman, **Da**:	10	ft
Anchor Width, **Wa**:	6	ft
Anchor Thickness, **Ta**:	4	ft
Anchor Length, **La**:	16	ft
Concrete Volume, **Vc**:	14.2	yd^3
Toe Width, **toe**:		ft

Anchor Shaft Diameter, **ds**:		in
Anchor Shaft Quantity. **n**:		
Anchor Shaft Area Override:		in^2
Shear Lag Factor, **u**:		

Material Properties		
Wt. Avg.Concrete Density, **δx**:	0.150	kcf

Design Checks	Capacity	Demand	Rating	Check
Lateral Capacity (kips):	183.60	55.76	**30.4%**	**Pass**
Uplift Capacity (kips):	213.84	64.15	**30.0%**	**Pass**

Soil Rating:	**30.4%**
Structural Rating:	**N/A**
Anchor Shaft Rating:	**N/A**

Neglect Depth, **Neg**:	0	ft
Groundwater Level, **gw**:	N/A	ft

Soil Properties:	No. of Soil Layers?			9		
Layer	**φ, deg**	**cu, ksf**	**δ, pcf**	**d, ft**	**Ultimate fs (ksf)**	**N (blows/ft)**
1	30		120	10.00		10
2						
3						
4						
5						
6						
7						
8						
9						

*key:

cu = Cohesion / Undrained Shear Strength
δ = Buoyant Soil Unit Weight

d = Depth to Bottom of Layer

Ultimate fs = Geotechnical Report-provided skin friction / adhesion

N = SPT Blow Count

Guyed Anchor Block Foundation

Checks capacity of anchor blocks for a guyed tower.

BU#:	
Site Name:	CTNL024A
Order Number:	
Location:	

TIA-222 Revision: G

Design Reactions		
Shear, **S**:	23.64	kips
Uplift, **Ua**:	31.98	kips
Resultant Force, **Rf**:	39.8	kips
Tower Height, **H**:	368.75	ft
Guy Anchor Radius, **R**:	247.15	ft
Resultant Angle to Horizontal, **θ**:	53.5	deg

Guy Anchor Properties		
Depth to Bottom of Deadman, **Da**:	9.75	ft
Anchor Width, **Wa**:	4	ft
Anchor Thickness, **Ta**:	3	ft
Anchor Length, **La**:	12	ft
Concrete Volume, **Vc**:	5.3	yd^3
Toe Width, **toe**:		ft

Anchor Shaft Diameter, **ds**:		in
Anchor Shaft Quantity. **n**:		
Anchor Shaft Area Override:		in^2
Shear Lag Factor, **u**:		

Material Properties		
Wt. Avg.Concrete Density, **δx**:	0.150	kcf

Design Checks	Capacity	Demand	Rating	Check
Lateral Capacity (kips):	104.25	23.64	**22.7%**	**Pass**
Uplift Capacity (kips):	136.79	31.98	**23.4%**	**Pass**

Soil Rating:	**23.4%**
Structural Rating:	**N/A**
Anchor Shaft Rating:	**N/A**

Neglect Depth, **Neg**:	0	ft
Groundwater Level, **gw**:	N/A	ft

Soil Properties:	No. of Soil Layers?			9		
Layer	φ, deg	cu, ksf	δ, pcf	d, ft	Ultimate fs (ksf)	N (blows/ft)
1	30		120	9.75		10
2						
3						
4						
5						
6						
7						
8						
9						

*key:

cu = Cohesion / Undrained Shear Strength
δ = Buoyant Soil Unit Weight

d = Depth to Bottom of Layer

Ultimate fs = Geotechnical Report-provided skin friction / adhesion

N = SPT Blow Count