

ZONE 4 WITH AND WITHOUT ICE 70 M.P.H. WIND

TOWER HGT. FT.	10' SPAN											15' SPAN											20' SPAN											25' SPAN											TOWER HGT. FT.									
	TOWER PIPE			ANCHOR BOLTS		BASE PLATE	TRUSS			DESIGN LOADS			TOWER PIPE			ANCHOR BOLTS		BASE PLATE	TRUSS			DESIGN LOADS			TOWER PIPE			ANCHOR BOLTS		BASE PLATE	TRUSS			DESIGN LOADS			TOWER PIPE			ANCHOR BOLTS		BASE PLATE	TRUSS			DESIGN LOADS								
	O.D. IN.	WALL THICK. IN.	DEFL. ΔH IN.	SIZE	NO.	BOLT CIRCLE DIA.	SIZE IN.	DEFL. ΔV IN.	SHEAR V KIPS	TORSION T K-FT	MOMENT M K-FT	O.D. IN.	WALL THICK. IN.	DEFL. ΔH IN.	SIZE	NO.	BOLT CIRCLE DIA.	SIZE IN.	DEFL. ΔV IN.	SHEAR V KIPS	TORSION T K-FT	MOMENT M K-FT	O.D. IN.	WALL THICK. IN.	DEFL. ΔH IN.	SIZE	NO.	BOLT CIRCLE DIA.	SIZE IN.	DEFL. ΔV IN.	SHEAR V KIPS	TORSION T K-FT	MOMENT M K-FT	O.D. IN.	WALL THICK. IN.	DEFL. ΔH IN.	SIZE	NO.	BOLT CIRCLE DIA.	SIZE IN.	DEFL. ΔV IN.	SHEAR V KIPS	TORSION T K-FT	MOMENT M K-FT		O.D. IN.	WALL THICK. IN.	DEFL. ΔH IN.	SIZE	NO.	BOLT CIRCLE DIA.	SIZE IN.	DEFL. ΔV IN.	SHEAR V KIPS
14'	16	0.250	0.104	1 1/4"	6	20 1/2"	24 X 1 1/4"	0.2	2.75	12.39	38.53	16	0.250	0.234	1 3/8"	6	20 3/4"	24 1/2 X 1 1/4"	0.5	4.13	28.76	59.63	16	0.250	0.419	1 3/4"	6	21 1/2"	26 X 1 3/4"	1.3	5.59	52.67	83.06	20	0.250	0.333	1 3/8"	8	24 3/4"	28 1/2 X 1 3/8"	1.4	7.00	82.44	107.23	14'									
15'			0.119						2.76		41.23			0.268			24 1/2 X 1 1/4"	0.6	4.14		63.62			0.250	0.481						1.4	5.61		88.34			0.382				1.5	7.02		113.64	15'									
16'			0.136						2.77		43.94			0.305			24 1/2 X 1 1/4"	0.6	4.16		67.63			0.250	0.547						1.5	5.62		93.66			0.435				1.6	7.03		120.14	16'									
17'			0.153						2.79		46.68			0.345	1 3/8"	20 3/4"	24 1/2 X 1 1/4"	0.6	4.17		71.67			0.281	0.549						1.4	5.63		99.03			0.491				1.7	7.05		126.71	17'									
18'			0.172						2.80		49.43			0.386	1 1/2"	21"	25 X 1 1/2"	0.7	4.18		75.74				0.615					1.5	5.64		104.44			0.550	1 3/8"	24 3/4"	28 1/2 X 1 3/8"	1.7	7.07		133.34	18'										
19'			0.191						2.81		52.20			0.431			25 X 1 1/2"	0.7	4.20		79.83				0.685					1.5	5.66		109.88			0.613	1 1/2"	25"	29 X 1 1/2"	1.8	7.08		140.03	19'										
20'			0.212						2.83		54.99			0.477				0.7	4.21		83.94			0.281	0.759				26 X 1 3/4"	1.6	5.67		115.36			0.679				1.9	7.10		146.77	20'										
21'			0.234						2.84		57.79			0.526				0.8	4.22		88.08			0.310	0.759				26 X 2"	1.5	5.68		120.86		0.250	0.749				2.0	7.12		153.56	21'										
22'			0.257					0.2	2.85		60.61			0.577	6		25 X 1 1/2"	0.8	4.23		92.23				0.834					1.6	5.70		126.40		0.281	0.735				29 X 1 1/2"	2.1	7.13		160.39	22'									
23'			0.280					0.3	2.87		63.45			0.631	8		25 X 1 1/2"	0.9	4.25		96.40				0.911					1.7	5.71		131.96			0.803				29 X 1 5/8"	2.2	7.15		167.26	23'									
24'			0.305						2.88		66.30			0.687				0.9	4.26		100.60			0.310	0.992			6			1.7	5.77		138.12			0.874	1 1/2"	25"		2.0	7.16		174.17	24'									
25'			0.331	1 1/4"		20 1/2"	24 X 1 1/4"		2.89		69.16			0.745				0.9	4.27		104.81			0.340	0.990						1.7	5.73		143.15		0.281	0.949	1 3/4"	25 3/8"		2.0	7.18		181.12	25'									
26'			0.358	1 3/8"		20 3/4"	24 1/2 X 1 3/8"		2.90		72.04			0.806				1.0	4.29		109.03			0.340	1.071						1.7	5.75		148.78		0.312	0.920				29 X 1 5/8"	2.1	7.20		188.02	26'								
27'			0.386						2.92		74.93			0.869					4.30		113.28			0.340	1.155						1.8	5.76		154.43			0.992				29 3/4 X 1 3/4"	2.2	7.21		195.03	27'								
28'			0.416						2.93		77.84	0.250	0.935						4.31		117.54			0.375	1.139						1.7	5.77		160.10			1.067				29 3/4 X 1 3/4"	2.1	7.24		202.07	28'								
29'			0.446						2.94		80.76	0.280	0.998						4.33		121.82			0.375	1.221						1.8	5.79		165.79		0.312	1.145				29 3/4 X 1 3/4"	2.1	7.24		209.14	29'								
30'			0.477	1 3/8"		20 3/4"	24 1/2 X 1 3/8"		2.96		83.69			0.961					4.34		126.11			0.375	1.307						1.8	5.80		171.49		0.344	1.119				29 3/4 X 2"	2.2	7.26		216.23	30'								
31'			0.509	1 1/2"		21"	25 X 1 1/2"		2.97		86.64			1.026					4.35		130.42			0.410	1.297						1.8	5.81		177.22		0.344	1.194				29 3/4 X 2"	2.2	7.28		223.35	31'								
32'	16	0.250	0.543	1 1/2"	6	21"	25 X 1 1/2"	0.3	2.98	12.39	89.61	16	0.280	1.094	1 1/2"	8	21"	25 X 1 1/2"	1.1	4.36	28.76	134.74	16	0.410	1.382	1 3/4"	8	21 1/2"	26 X 2"	1.8	5.83	52.67	182.97	20	0.344	1.273	1 3/4"	8	25 3/8"	29 3/4 X 2"	2.2	7.29	82.44	230.50	32'									

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	O.D. IN.	WALL THICK. IN.	DEFL. ΔH IN.	SIZE	NO.	BOLT CIRCLE DIA.	SIZE IN.	DEFL. ΔV IN.	SHEAR V KIPS	TORSION T K-FT	MOMENT M K-FT	O.D. IN.	WALL THICK. IN.	DEFL. ΔH IN.	SIZE	NO.	BOLT CIRCLE DIA.	SIZE IN.	DEFL. ΔV IN.	SHEAR V KIPS	TORSION T K-FT	MOMENT M K-FT	O.D. IN.	WALL THICK. IN.	DEFL. ΔH IN.	SIZE	NO.	BOLT CIRCLE DIA.	SIZE IN.	DEFL. ΔV IN.	SHEAR V KIPS	TORSION T K-FT	MOMENT M K-FT		O.D. IN.	WALL THICK. IN.	DEFL. ΔH IN.	SIZE	NO.	BOLT CIRCLE DIA.	SIZE IN.	DEFL. ΔV IN.	SHEAR V KIPS	TORSION T K-FT	MOMENT M K-FT
14'	24	0.250	0.285	1 1/2"	8	29"	33 X 1 1/2"	1.6	8.42	119.01	134.48	24	0.250	0.406	1 3/4"	8	29 3/8"	33 3/4 X 1 1/2"	2.6	9.77	161.98	165.20	30	0.250	0.280	1 3/4"	8	35 3/8"	39 3/4 X 1 1/2"	2.4	11.22	211.94	200.44	14'											
15'			0.327					1.6	8.44		141.90			0.467					2.7	9.79		173.37								2.5	11.24		209.33			0.322				2.6	11.27		218.45	15'	
16'			0.372					1.7	8.46		149.44			0.531					2.8	9.81		181.71								2.6	11.27		218.45			0.366				2.7	11.29		227.79	16'	
17'			0.420					1.8	8.48		157.10	0.250	0.599						3.0	9.83		190.21								2.7	11.29		227.79			0.413				2.8	11.32		237.32	17'	
18'			0.471					1.9	8.50		164.85	0.281	0.602						2.9	9.85		198.85								2.8	11.32		237.32			0.463				2.9	11.34		247.01	18'	
19'			0.524					2.0	8.52		172.68			0.671					3.0	9.87		207.61			0.250	0.516				2.9	11.34		247.01			0.516				3.0	9.89		216.48	19'	
20'			0.581					2.1	8.54		180.60			0.743					3.1	9.89		216.48			0.281	0.510				2.8	11.37		256.86			0.510				3.1	9.89		216.48	20'	
21'			0.641	1 1/2"		29"	33 X 1 1/2"	2.2	8.56		188.59			0.820					3.2	9.91		225.46				0.562				2.9	11.39		266.86			0.562				3.2	9.91		225.46	21'	
22'			0.703	1 3/4"		29 3/8"	33 3/4 X 1 1/2"	2.2	8.58		196.65	0.281	0.900						3.4	9.93		234.52				0.617				3.0	11.41		276.98			0.617				3.4	9.93		234.52	22'	
23'			0.768				33 3/4 X 1 1/2"	2.3	8.60		204.76	0.312	0.889						3.2	9.95		243.67				0.675				3.1	11.44		287.22			0.675				3.2	9.95		243.67	23'	
24'			0.837				33 3/4 X 1 1/2"	2.4	8.62		212.93			0.968	1 3/4"	29 3/8"	33 3/4 X 1 1/2"	3.3	9.96		252.90				0.735	1 3/4"		35 3/8"	39 3/4 X 1 1/2"	3.2	11.46		297.57			0.735	1 3/4"		35 3/8"	39 3/4 X 1 1/2"	3.3	9.96		252.90	24'
25'			0.908				33 3/4 X 1 1/2"	2.5	8.64		221.15			1.050	2"	29 3/4"	34 1/2 X 1 1/8"	3.5	9.98		262.20				0.797	2"		35 3/4"	40 1/2 X 1 5/8"	3.3	11.49		308.01			0.797	2"		35 3/4"	40 1/2 X 1 5/8"	3.3	11.49		308.01	25'
26'		0.250	0.982				33 3/4 X 1 1/2"	2.6	8.66		229.42			1.136					3.6	10.00		271.57				0.862				3.4	11.51		318.55			0.862				3.6	10.00		271.57	26'	
27'		0.281	0.949				33 3/4 X 1 1/2"	2.4	8.67		237.74	0.312	1.225						3.7	10.02		280.99				0.930				3.5	11.54		329.18			0.930				3.7	10.02		280.99	27'	
28'			1.021				33 3/4 X 1 1/2"	2.5	8.69		246.10	0.340	1.200						3.5	10.04		290.48																							