

# Wind Ratings for Trees -- ITRS 2015

AK.Yellow Cedar      Rating of horizontal anchor at 0.6m (kN)      Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	1.5	2.0	2.5	3.1	3.7	4.5	5.2	6.1	7.0	7.9	8.9	10.0
15	1.9	2.5	3.2	3.9	4.8	5.7	6.7	7.7	8.9	10.1	11.4	12.8
16	2.4	3.2	4.0	4.9	6.0	7.1	8.4	9.7	11.1	12.7	14.3	16.0
17	2.9	3.8	4.9	6.0	7.3	8.7	10.2	11.8	13.5	15.4	17.4	19.5
18	3.6	4.7	5.9	7.3	8.9	10.6	12.4	14.4	16.5	18.8	21.2	23.8
19	4.3	5.6	7.1	8.7	10.6	12.6	14.8	17.1	19.6	22.3	25.2	28.3
20	5.1	6.7	8.5	10.4	12.6	15.0	17.6	20.5	23.5	26.7	30.2	33.8
21	6.0	7.8	9.9	12.2	14.8	17.6	20.6	23.9	27.5	31.3	35.3	39.6
22	7.0	9.2	11.6	14.4	17.4	20.7	24.3	28.2	32.3	36.8	41.5	46.5
23	8.1	10.6	13.4	16.6	20.0	23.9	28.0	32.5	37.3	42.4	47.9	53.7
24	9.3	12.2	15.4	19.0	23.0	27.4	32.1	37.2	42.7	48.6	54.9	61.6
25	10.7	14.0	17.7	21.9	26.5	31.5	37.0	42.9	49.3	56.1	63.3	71.0
26	12.2	15.9	20.1	24.9	30.1	35.8	42.0	48.7	55.9	63.6	71.8	80.5
27	13.7	18.0	22.7	28.1	34.0	40.4	47.4	55.0	63.1	71.8	81.1	90.9
28	15.8	20.6	26.1	32.2	39.0	46.4	54.4	63.1	72.5	82.5	93.1	104
29	17.7	23.1	29.2	36.1	43.6	51.9	60.9	70.7	81.1	92.3	104	117
30	20.0	26.2	33.1	40.9	49.5	58.9	69.1	80.2	92.0	105	118	133
31	22.3	29.1	36.8	45.4	55.0	65.4	76.8	89.1	102	116	131	147
32	25.1	32.8	41.6	51.3	62.1	73.9	86.7	101	115	131	148	166
33	28.6	37.3	47.2	58.3	70.5	83.9	98.5	114	131	149	168	189
34	31.4	41.1	52.0	64.2	77.6	92.4	108	126	144	164	185	208
35	34.5	45.1	57.1	70.4	85.2	101	119	138	158	180	204	228
36	38.7	50.5	63.9	78.9	95.5	114	133	155	178	202	228	256
37	42.2	55.2	69.8	86.2	104	124	146	169	194	221	249	279
38	47.1	61.5	77.8	96.1	116	138	162	188	216	246	278	311

# Wind Ratings for Trees -- ITRS 2015

AK.Yellow\_Cedar      Rating of High-D at 2m pulled 45deg (kN)      Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	0.6	0.8	1.0	1.2	1.5	1.8	2.1	2.4	2.8	3.2	3.6	4.0
15	0.8	1.0	1.3	1.6	1.9	2.3	2.7	3.1	3.6	4.1	4.6	5.1
16	1.0	1.3	1.6	2.0	2.4	2.9	3.4	3.9	4.5	5.1	5.8	6.5
17	1.2	1.6	2.0	2.4	2.9	3.5	4.1	4.7	5.5	6.2	7.0	7.9
18	1.4	1.9	2.4	3.0	3.6	4.3	5.0	5.8	6.6	7.6	8.5	9.6
19	1.7	2.3	2.8	3.5	4.3	5.1	5.9	6.9	7.9	9.0	10.2	11.4
20	2.1	2.7	3.4	4.2	5.1	6.1	7.1	8.2	9.5	10.8	12.2	13.6
21	2.4	3.1	4.0	4.9	6.0	7.1	8.3	9.6	11.1	12.6	14.2	15.9
22	2.8	3.7	4.7	5.8	7.0	8.3	9.8	11.3	13.0	14.8	16.7	18.7
23	3.3	4.3	5.4	6.7	8.1	9.6	11.3	13.1	15.0	17.1	19.3	21.6
24	3.8	4.9	6.2	7.7	9.3	11.0	12.9	15.0	17.2	19.6	22.1	24.8
25	4.3	5.6	7.1	8.8	10.7	12.7	14.9	17.3	19.9	22.6	25.5	28.6
26	4.9	6.4	8.1	10.0	12.1	14.4	16.9	19.6	22.5	25.6	28.9	32.4
27	5.5	7.2	9.2	11.3	13.7	16.3	19.1	22.2	25.4	28.9	32.7	36.6
28	6.4	8.3	10.5	13.0	15.7	18.7	21.9	25.4	29.2	33.2	37.5	42.0
29	7.1	9.3	11.8	14.5	17.6	20.9	24.5	28.5	32.7	37.2	42.0	47.1
30	8.1	10.5	13.3	16.5	19.9	23.7	27.8	32.3	37.1	42.2	47.6	53.4
31	9.0	11.7	14.8	18.3	22.2	26.4	30.9	35.9	41.2	46.9	52.9	59.3
32	10.1	13.2	16.7	20.7	25.0	29.8	34.9	40.5	46.5	52.9	59.8	67.0
33	11.5	15.0	19.0	23.5	28.4	33.8	39.7	46.0	52.8	60.1	67.9	76.1
34	12.7	16.5	20.9	25.9	31.3	37.2	43.7	50.7	58.2	66.2	74.7	83.8
35	13.9	18.2	23.0	28.4	34.3	40.9	48.0	55.6	63.9	72.6	82.0	91.9
36	15.6	20.4	25.8	31.8	38.5	45.8	53.7	62.3	71.6	81.4	91.9	103
37	17.0	22.2	28.1	34.7	42.0	50.0	58.7	68.1	78.2	88.9	100	113
38	19.0	24.8	31.4	38.7	46.8	55.7	65.4	75.9	87.1	99.1	112	125

# Wind Ratings for Trees -- ITRS 2015

Douglas_Fir	Rating of horizontal anchor at 0.6m (kN)											Complete: 10/31/2015 12:34:41 PM
C \Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	2.7	3.6	4.5	5.6	6.7	8.0	9.4	10.9	12.5	14.2	16.1	18.0
15	3.5	4.5	5.7	7.0	8.5	10.1	11.9	13.8	15.9	18.0	20.4	22.8
16	4.2	5.5	7.0	8.7	10.5	12.5	14.7	17.0	19.5	22.2	25.1	28.1
17	5.2	6.8	8.6	10.6	12.9	15.3	18.0	20.8	23.9	27.2	30.7	34.4
18	6.3	8.2	10.4	12.9	15.6	18.5	21.7	25.2	28.9	32.9	37.2	41.7
19	7.5	9.8	12.4	15.3	18.5	22.0	25.9	30.0	34.4	39.2	44.2	49.6
20	8.9	11.6	14.7	18.1	21.9	26.1	30.6	35.5	40.7	46.3	52.3	58.6
21	10.4	13.5	17.1	21.2	25.6	30.5	35.8	41.5	47.6	54.2	61.2	68.6
22	12.0	15.7	19.9	24.6	29.7	35.4	41.5	48.2	55.3	62.9	71.0	79.7
23	13.9	18.2	23.0	28.4	34.4	40.9	48.0	55.7	63.9	72.7	82.1	92.0
24	16.0	20.8	26.4	32.6	39.4	46.9	55.0	63.8	73.3	83.4	94.1	106
25	18.2	23.8	30.1	37.1	44.9	53.5	62.8	72.8	83.6	95.1	107	120
26	20.6	27.0	34.1	42.1	51.0	60.7	71.2	82.6	94.8	108	122	137
27	23.7	30.9	39.2	48.3	58.5	69.6	81.7	94.8	109	124	140	157
28	27.4	35.7	45.2	55.8	67.5	80.4	94.3	109	126	143	161	181
29	30.6	40.0	50.6	62.5	75.6	90.0	106	122	141	160	181	202
30	35.2	46.0	58.2	71.9	87.0	104	121	141	162	184	208	233
31	40.5	52.9	67.0	82.7	100	119	140	162	186	212	239	268
32	44.9	58.6	74.2	91.6	111	132	155	180	206	235	265	297
33	51.1	66.8	84.5	104	126	150	176	205	235	267	302	338
34	56.3	73.5	93.1	115	139	165	194	225	258	294	332	372
35	61.8	80.7	102	126	153	182	213	247	284	323	364	409
36	69.5	90.8	115	142	172	204	240	278	319	363	410	460
37	75.9	99.2	126	155	188	223	262	304	349	397	448	502
38	84.5	110	140	172	209	248	291	338	388	441	498	558

# Wind Ratings for Trees -- ITRS 2015

Douglas\_Fir
Rating of High-D at 2m pulled 45deg (kN)
Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	1.1	1.4	1.8	2.2	2.7	3.2	3.8	4.4	5.0	5.7	6.5	7.3
15	1.4	1.8	2.3	2.8	3.4	4.1	4.8	5.6	6.4	7.3	8.2	9.2
16	1.7	2.2	2.8	3.5	4.2	5.0	5.9	6.8	7.9	8.9	10.1	11.3
17	2.1	2.7	3.5	4.3	5.2	6.2	7.2	8.4	9.6	11.0	12.4	13.9
18	2.5	3.3	4.2	5.2	6.3	7.5	8.8	10.2	11.7	13.3	15.0	16.8
19	3.0	3.9	5.0	6.2	7.5	8.9	10.4	12.1	13.9	15.8	17.8	20.0
20	3.6	4.7	5.9	7.3	8.8	10.5	12.3	14.3	16.4	18.7	21.1	23.6
21	4.2	5.5	6.9	8.5	10.3	12.3	14.4	16.7	19.2	21.8	24.6	27.6
22	4.9	6.3	8.0	9.9	12.0	14.3	16.7	19.4	22.3	25.4	28.6	32.1
23	5.6	7.3	9.3	11.4	13.8	16.5	19.3	22.4	25.7	29.3	33.1	37.1
24	6.4	8.4	10.6	13.1	15.9	18.9	22.2	25.7	29.5	33.6	37.9	42.5
25	7.3	9.6	12.1	15.0	18.1	21.5	25.3	29.3	33.7	38.3	43.2	48.5
26	8.3	10.9	13.7	17.0	20.5	24.4	28.7	33.3	38.2	43.5	49.1	55.0
27	9.5	12.5	15.8	19.5	23.6	28.0	32.9	38.2	43.8	49.9	56.3	63.1
28	11.0	14.4	18.2	22.5	27.2	32.4	38.0	44.1	50.6	57.6	65.0	72.9
29	12.3	16.1	20.4	25.2	30.5	36.3	42.5	49.3	56.6	64.4	72.8	81.6
30	14.2	18.5	23.5	29.0	35.0	41.7	48.9	56.8	65.2	74.1	83.7	93.8
31	16.3	21.3	27.0	33.3	40.3	48.0	56.3	65.3	75.0	85.3	96.3	108
32	18.1	23.6	29.9	36.9	44.7	53.2	62.4	72.3	83.0	94.5	107	120
33	20.6	26.9	34.1	42.0	50.9	60.5	71.1	82.4	94.6	108	122	136
34	22.7	29.6	37.5	46.3	56.0	66.6	78.2	90.7	104	118	134	150
35	24.9	32.5	41.2	50.8	61.5	73.2	85.9	99.6	114	130	147	165
36	28.0	36.6	46.3	57.2	69.2	82.3	96.6	112	129	146	165	185
37	30.6	40.0	50.6	62.4	75.5	89.9	106	122	140	160	180	202
38	34.0	44.4	56.2	69.4	84.0	100.0	117	136	156	178	201	225

## Wind Ratings for Trees -- ITRS 2015

Engelmann\_Spruce      Rating of horizontal anchor at 0.6m (kN) Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	2.5	3.3	4.1	5.1	6.2	7.4	8.6	10.0	11.5	13.1	14.8	16.5
15	3.2	4.2	5.3	6.6	7.9	9.5	11.1	12.9	14.8	16.8	19.0	21.3
16	4.1	5.3	6.7	8.3	10.0	11.9	14.0	16.3	18.7	21.2	24.0	26.9
17	5.0	6.6	8.3	10.3	12.4	14.8	17.3	20.1	23.1	26.3	29.6	33.2
18	6.0	7.9	10.0	12.3	14.9	17.7	20.8	24.2	27.7	31.6	35.6	39.9
19	7.3	9.6	12.1	14.9	18.1	21.5	25.2	29.3	33.6	38.2	43.1	48.4
20	8.9	11.6	14.6	18.1	21.9	26.0	30.5	35.4	40.7	46.3	52.2	58.6
21	10.5	13.8	17.4	21.5	26.0	31.0	36.4	42.2	48.4	55.1	62.2	69.7
22	12.2	16.0	20.2	25.0	30.2	36.0	42.2	49.0	56.2	64.0	72.2	81.0
23	14.5	19.0	24.0	29.6	35.9	42.7	50.1	58.1	66.7	75.9	85.7	96.1
24	16.9	22.0	27.9	34.4	41.7	49.6	58.2	67.5	77.5	88.2	99.5	112
25	19.9	26.0	32.9	40.7	49.2	58.6	68.7	79.7	91.5	104	118	132
26	22.6	29.5	37.4	46.1	55.8	66.4	78.0	90.4	104	118	133	149
27	26.2	34.2	43.3	53.4	64.6	76.9	90.3	105	120	137	154	173
28	29.8	39.0	49.3	60.9	73.7	87.7	103	119	137	156	176	197
29	34.4	44.9	56.8	70.2	84.9	101	119	138	158	180	203	227
30	38.9	50.8	64.3	79.4	96.1	114	134	156	179	203	229	257
31	44.5	58.1	73.5	90.8	110	131	153	178	204	232	262	294
32	50.5	66.0	83.5	103	125	148	174	202	232	264	298	334
33	57.4	74.9	94.9	117	142	169	198	230	263	300	338	379
34	64.1	83.8	106	131	158	189	221	257	295	335	378	424
35	73.3	95.8	121	150	181	215	253	293	337	383	432	485
36	80.3	105	133	164	198	236	277	321	369	419	474	531
37	90.4	118	149	184	223	266	312	361	415	472	533	597
38	99.9	130	165	204	247	294	345	400	459	522	589	661

## Wind Ratings for Trees -- ITRS 2015

Engelmann\_Spruce      Rating of High-D at 2m pulled 45deg (kN) Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	1.0	1.3	1.7	2.1	2.5	3.0	3.5	4.0	4.6	5.3	5.9	6.7
15	1.3	1.7	2.1	2.6	3.2	3.8	4.5	5.2	5.9	6.8	7.6	8.6
16	1.6	2.1	2.7	3.3	4.0	4.8	5.6	6.6	7.5	8.6	9.7	10.8
17	2.0	2.6	3.3	4.1	5.0	5.9	7.0	8.1	9.3	10.6	11.9	13.4
18	2.4	3.2	4.0	5.0	6.0	7.2	8.4	9.7	11.2	12.7	14.3	16.1
19	2.9	3.8	4.9	6.0	7.3	8.7	10.2	11.8	13.5	15.4	17.4	19.5
20	3.6	4.7	5.9	7.3	8.8	10.5	12.3	14.3	16.4	18.6	21.0	23.6
21	4.2	5.5	7.0	8.7	10.5	12.5	14.7	17.0	19.5	22.2	25.1	28.1
22	4.9	6.4	8.2	10.1	12.2	14.5	17.0	19.7	22.7	25.8	29.1	32.6
23	5.9	7.6	9.7	11.9	14.5	17.2	20.2	23.4	26.9	30.6	34.5	38.7
24	6.8	8.9	11.2	13.9	16.8	20.0	23.4	27.2	31.2	35.5	40.1	45.0
25	8.0	10.5	13.3	16.4	19.8	23.6	27.7	32.1	36.9	41.9	47.3	53.1
26	9.1	11.9	15.1	18.6	22.5	26.8	31.4	36.4	41.8	47.6	53.7	60.2
27	10.5	13.8	17.4	21.5	26.0	31.0	36.4	42.2	48.4	55.1	62.2	69.7
28	12.0	15.7	19.9	24.5	29.7	35.3	41.5	48.1	55.2	62.8	70.9	79.5
29	13.9	18.1	22.9	28.3	34.2	40.7	47.8	55.4	63.6	72.4	81.7	91.6
30	15.7	20.5	25.9	32.0	38.7	46.1	54.1	62.7	72.0	81.9	92.4	104
31	17.9	23.4	29.6	36.6	44.3	52.7	61.8	71.7	82.3	93.6	106	119
32	20.3	26.6	33.6	41.5	50.3	59.8	70.2	81.4	93.4	106	120	135
33	23.1	30.2	38.2	47.2	57.1	67.9	79.7	92.5	106	121	136	153
34	25.8	33.8	42.7	52.7	63.8	75.9	89.1	103	119	135	152	171
35	29.5	38.6	48.8	60.3	72.9	86.8	102	118	136	154	174	195
36	32.3	42.2	53.5	66.0	79.9	95.1	112	129	149	169	191	214
37	36.4	47.5	60.2	74.3	89.9	107	126	146	167	190	215	241
38	40.2	52.6	66.5	82.1	99.4	118	139	161	185	210	237	266

# Wind Ratings for Trees -- ITRS 2015

Loblolly\_Pine
Rating of horizontal anchor at 0.6m (kN)
Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	2.4	3.1	3.9	4.8	5.9	7.0	8.2	9.5	10.9	12.4	14.0	15.7
15	3.0	3.9	4.9	6.0	7.3	8.7	10.2	11.8	13.6	15.5	17.5	19.6
16	3.7	4.8	6.1	7.5	9.1	10.8	12.7	14.7	16.9	19.2	21.7	24.3
17	4.5	5.8	7.4	9.1	11.0	13.1	15.4	17.9	20.5	23.4	26.4	29.6
18	5.5	7.2	9.1	11.2	13.5	16.1	18.9	21.9	25.1	28.6	32.3	36.2
19	6.6	8.7	11.0	13.6	16.4	19.5	22.9	26.6	30.5	34.7	39.2	43.9
20	8.0	10.5	13.2	16.3	19.8	23.5	27.6	32.0	36.8	41.8	47.2	52.9
21	9.6	12.5	15.9	19.6	23.7	28.2	33.1	38.4	44.1	50.1	56.6	63.5
22	11.4	14.9	18.9	23.3	28.2	33.6	39.4	45.7	52.4	59.7	67.4	75.5
23	13.2	17.2	21.8	26.9	32.5	38.7	45.4	52.7	60.5	68.8	77.7	87.1
24	15.5	20.2	25.6	31.6	38.2	45.5	53.4	62.0	71.1	80.9	91.4	102
25	17.7	23.1	29.2	36.0	43.6	51.9	60.9	70.6	81.1	92.3	104	117
26	20.5	26.8	33.9	41.8	50.6	60.2	70.7	82.0	94.1	107	121	136
27	23.1	30.2	38.3	47.2	57.1	68.0	79.8	92.6	106	121	136	153
28	26.5	34.6	43.8	54.1	65.4	77.9	91.4	106	122	138	156	175
29	29.7	38.7	49.0	60.5	73.2	87.2	102	119	136	155	175	196
30	34.0	44.4	56.2	69.3	83.9	99.8	117	136	156	177	200	225
31	38.4	50.2	63.5	78.4	94.9	113	133	154	176	201	227	254
32	42.6	55.6	70.3	86.8	105	125	147	170	195	222	251	281
33	48.5	63.4	80.2	99.1	120	143	167	194	223	254	286	321
34	53.4	69.8	88.3	109	132	157	184	214	245	279	315	353
35	60.6	79.2	100	124	150	178	209	243	278	317	358	401
36	67.1	87.6	111	137	166	197	231	268	308	351	396	444
37	76.2	99.6	126	156	188	224	263	305	350	398	450	504
38	83.1	109	137	170	205	244	287	332	381	434	490	549

# Wind Ratings for Trees -- ITRS 2015

Loblolly\_Pine
Rating of High-D at 2m pulled 45deg (kN)
Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	1.0	1.2	1.6	1.9	2.4	2.8	3.3	3.8	4.4	5.0	5.6	6.3
15	1.2	1.6	2.0	2.4	2.9	3.5	4.1	4.8	5.5	6.2	7.0	7.9
16	1.5	1.9	2.5	3.0	3.7	4.4	5.1	5.9	6.8	7.7	8.7	9.8
17	1.8	2.4	3.0	3.7	4.4	5.3	6.2	7.2	8.3	9.4	10.6	11.9
18	2.2	2.9	3.6	4.5	5.4	6.5	7.6	8.8	10.1	11.5	13.0	14.6
19	2.7	3.5	4.4	5.5	6.6	7.9	9.2	10.7	12.3	14.0	15.8	17.7
20	3.2	4.2	5.3	6.6	8.0	9.5	11.1	12.9	14.8	16.8	19.0	21.3
21	3.9	5.1	6.4	7.9	9.5	11.4	13.3	15.5	17.8	20.2	22.8	25.6
22	4.6	6.0	7.6	9.4	11.4	13.5	15.9	18.4	21.1	24.0	27.1	30.4
23	5.3	6.9	8.8	10.8	13.1	15.6	18.3	21.2	24.4	27.7	31.3	35.1
24	6.2	8.1	10.3	12.7	15.4	18.3	21.5	25.0	28.7	32.6	36.8	41.3
25	7.1	9.3	11.8	14.5	17.6	20.9	24.5	28.5	32.7	37.2	42.0	47.0
26	8.3	10.8	13.6	16.9	20.4	24.3	28.5	33.0	37.9	43.1	48.7	54.6
27	9.3	12.2	15.4	19.0	23.0	27.4	32.2	37.3	42.8	48.7	55.0	61.6
28	10.7	13.9	17.6	21.8	26.4	31.4	36.8	42.7	49.0	55.8	63.0	70.6
29	11.9	15.6	19.8	24.4	29.5	35.1	41.2	47.8	54.9	62.4	70.5	79.0
30	13.7	17.9	22.6	27.9	33.8	40.2	47.2	54.7	62.8	71.5	80.7	90.5
31	15.5	20.2	25.6	31.6	38.2	45.5	53.4	61.9	71.1	80.9	91.3	102
32	17.1	22.4	28.3	35.0	42.3	50.4	59.1	68.6	78.7	89.6	101	113
33	19.6	25.5	32.3	39.9	48.3	57.5	67.5	78.2	89.8	102	115	129
34	21.5	28.1	35.6	43.9	53.2	63.3	74.2	86.1	98.9	112	127	142
35	24.4	31.9	40.4	49.9	60.3	71.8	84.3	97.7	112	128	144	162
36	27.0	35.3	44.7	55.2	66.7	79.4	93.2	108	124	141	159	179
37	30.7	40.1	50.8	62.7	75.9	90.3	106	123	141	160	181	203
38	33.5	43.7	55.3	68.3	82.6	98.4	115	134	154	175	197	221



# Wind Ratings for Trees -- ITRS 2015

Pacific_Yew	Rating of horizontal anchor at 0.6m (kN)											Complete: 10/31/2015 12:34:41 PM
C \Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	1.6	2.1	2.6	3.2	3.9	4.6	5.4	6.3	7.2	8.2	9.3	10.4
15	2.0	2.6	3.3	4.1	5.0	5.9	7.0	8.1	9.3	10.5	11.9	13.3
16	2.5	3.3	4.2	5.2	6.3	7.5	8.8	10.2	11.7	13.3	15.0	16.8
17	3.1	4.1	5.2	6.4	7.8	9.2	10.8	12.6	14.4	16.4	18.5	20.8
18	3.8	5.0	6.4	7.8	9.5	11.3	13.3	15.4	17.7	20.1	22.7	25.4
19	4.6	6.0	7.6	9.3	11.3	13.4	15.8	18.3	21.0	23.9	27.0	30.2
20	5.5	7.1	9.0	11.2	13.5	16.1	18.8	21.9	25.1	28.6	32.2	36.1
21	6.4	8.3	10.6	13.0	15.8	18.8	22.0	25.6	29.4	33.4	37.7	42.3
22	7.5	9.8	12.4	15.3	18.5	22.0	25.9	30.0	34.4	39.2	44.2	49.6
23	8.6	11.3	14.3	17.7	21.4	25.4	29.8	34.6	39.7	45.2	51.0	57.2
24	10.0	13.0	16.5	20.4	24.6	29.3	34.4	39.9	45.8	52.1	58.9	66.0
25	11.4	14.9	18.8	23.2	28.1	33.4	39.2	45.5	52.2	59.4	67.1	75.2
26	12.9	16.9	21.3	26.3	31.9	37.9	44.5	51.6	59.3	67.4	76.1	85.3
27	14.6	19.0	24.1	29.7	36.0	42.8	50.3	58.3	66.9	76.1	85.9	96.3
28	16.4	21.5	27.2	33.6	40.6	48.3	56.7	65.8	75.5	85.9	97.0	109
29	18.4	24.0	30.4	37.6	45.5	54.1	63.5	73.6	84.5	96.2	109	122
30	20.5	26.8	33.9	41.9	50.7	60.3	70.8	82.1	94.3	107	121	136
31	22.8	29.8	37.7	46.6	56.3	67.0	78.7	91.3	105	119	135	151
32	25.7	33.6	42.6	52.5	63.6	75.6	88.8	103	118	134	152	170
33	28.4	37.1	47.0	58.0	70.2	83.5	98.0	114	130	148	168	188
34	32.1	41.9	53.0	65.5	79.2	94.3	111	128	147	168	189	212
35	36.1	47.2	59.7	73.8	89.3	106	125	145	166	189	213	239
36	39.6	51.7	65.4	80.8	97.7	116	136	158	182	207	233	262
37	43.2	56.4	71.4	88.2	107	127	149	173	198	226	255	286
38	48.5	63.3	80.1	98.9	120	142	167	194	223	253	286	320

# Wind Ratings for Trees -- ITRS 2015

Pacific\_Yew Rating of High-D at 2m pulled 45deg (kN) Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	0.6	0.8	1.0	1.3	1.6	1.9	2.2	2.5	2.9	3.3	3.7	4.2
15	0.8	1.1	1.3	1.7	2.0	2.4	2.8	3.2	3.7	4.2	4.8	5.4
16	1.0	1.3	1.7	2.1	2.5	3.0	3.5	4.1	4.7	5.3	6.0	6.8
17	1.3	1.7	2.1	2.6	3.1	3.7	4.4	5.1	5.8	6.6	7.5	8.4
18	1.5	2.0	2.6	3.2	3.8	4.6	5.3	6.2	7.1	8.1	9.1	10.2
19	1.8	2.4	3.0	3.8	4.6	5.4	6.4	7.4	8.5	9.6	10.9	12.2
20	2.2	2.9	3.6	4.5	5.4	6.5	7.6	8.8	10.1	11.5	13.0	14.6
21	2.6	3.4	4.3	5.3	6.4	7.6	8.9	10.3	11.8	13.5	15.2	17.0
22	3.0	3.9	5.0	6.2	7.5	8.9	10.4	12.1	13.9	15.8	17.8	20.0
23	3.5	4.6	5.8	7.1	8.6	10.2	12.0	13.9	16.0	18.2	20.5	23.0
24	4.0	5.3	6.6	8.2	9.9	11.8	13.9	16.1	18.5	21.0	23.7	26.6
25	4.6	6.0	7.6	9.4	11.3	13.5	15.8	18.3	21.0	23.9	27.0	30.3
26	5.2	6.8	8.6	10.6	12.8	15.3	17.9	20.8	23.9	27.2	30.7	34.4
27	5.9	7.7	9.7	12.0	14.5	17.2	20.2	23.5	27.0	30.7	34.6	38.8
28	6.6	8.7	11.0	13.5	16.4	19.5	22.9	26.5	30.4	34.6	39.1	43.8
29	7.4	9.7	12.3	15.1	18.3	21.8	25.6	29.7	34.1	38.8	43.7	49.0
30	8.3	10.8	13.7	16.9	20.4	24.3	28.5	33.1	38.0	43.2	48.8	54.7
31	9.2	12.0	15.2	18.8	22.7	27.0	31.7	36.8	42.2	48.0	54.2	60.8
32	10.4	13.5	17.1	21.2	25.6	30.5	35.8	41.5	47.6	54.2	61.2	68.6
33	11.4	15.0	18.9	23.4	28.3	33.6	39.5	45.8	52.6	59.8	67.5	75.7
34	12.9	16.9	21.4	26.4	31.9	38.0	44.6	51.7	59.4	67.5	76.2	85.5
35	14.6	19.0	24.1	29.7	36.0	42.8	50.2	58.2	66.9	76.1	85.9	96.3
36	15.9	20.8	26.4	32.5	39.4	46.8	55.0	63.8	73.2	83.3	94.0	105
37	17.4	22.7	28.8	35.5	43.0	51.2	60.0	69.6	79.9	91.0	103	115
38	19.5	25.5	32.3	39.8	48.2	57.4	67.3	78.1	89.7	102	115	129

# Wind Ratings for Trees -- ITRS 2015

Ponderosa\_Pine      Rating of horizontal anchor at 0.6m (kN)      Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	1.6	2.1	2.6	3.3	3.9	4.7	5.5	6.4	7.3	8.4	9.4	10.6
15	2.0	2.6	3.3	4.1	4.9	5.9	6.9	8.0	9.2	10.4	11.8	13.2
16	2.5	3.3	4.1	5.1	6.2	7.3	8.6	10.0	11.5	13.0	14.7	16.5
17	3.0	4.0	5.0	6.2	7.5	8.9	10.5	12.1	13.9	15.8	17.9	20.0
18	3.7	4.8	6.1	7.5	9.1	10.8	12.7	14.7	16.9	19.3	21.7	24.4
19	4.4	5.7	7.2	8.9	10.8	12.9	15.1	17.5	20.1	22.9	25.9	29.0
20	5.2	6.8	8.5	10.6	12.8	15.2	17.8	20.7	23.7	27.0	30.5	34.2
21	6.1	8.0	10.2	12.5	15.2	18.1	21.2	24.6	28.2	32.1	36.3	40.6
22	7.3	9.5	12.0	14.9	18.0	21.4	25.1	29.1	33.4	38.0	42.9	48.1
23	8.6	11.2	14.1	17.5	21.1	25.1	29.5	34.2	39.3	44.7	50.5	56.6
24	9.8	12.8	16.2	20.0	24.2	28.8	33.8	39.2	45.1	51.3	57.9	64.9
25	11.4	14.9	18.9	23.3	28.3	33.6	39.5	45.8	52.5	59.8	67.5	75.7
26	13.3	17.3	21.9	27.1	32.8	39.0	45.8	53.1	60.9	69.3	78.3	87.8
27	15.0	19.6	24.8	30.6	37.0	44.0	51.7	59.9	68.8	78.3	88.4	99.1
28	17.2	22.5	28.4	35.1	42.5	50.6	59.3	68.8	79.0	89.9	101	114
29	19.3	25.2	31.8	39.3	47.6	56.6	66.4	77.0	88.4	101	114	127
30	21.9	28.6	36.3	44.8	54.2	64.5	75.7	87.7	101	115	129	145
31	24.4	31.8	40.3	49.7	60.2	71.6	84.1	97.5	112	127	144	161
32	27.5	36.0	45.5	56.2	68.0	80.9	95.0	110	126	144	162	182
33	30.4	39.7	50.3	62.1	75.1	89.4	105	122	140	159	179	201
34	33.9	44.3	56.1	69.2	83.8	99.7	117	136	156	177	200	224
35	37.9	49.5	62.7	77.4	93.7	111	131	152	174	198	224	251
36	42.3	55.2	69.9	86.3	104	124	146	169	194	221	249	280
37	46.2	60.3	76.3	94.3	114	136	159	185	212	241	272	305
38	52.0	67.9	86.0	106	128	153	179	208	239	272	307	344

# Wind Ratings for Trees -- ITRS 2015

Ponderosa\_Pine
Rating of High-D at 2m pulled 45deg (kN)
Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	0.6	0.8	1.1	1.3	1.6	1.9	2.2	2.6	3.0	3.4	3.8	4.3
15	0.8	1.1	1.3	1.6	2.0	2.4	2.8	3.2	3.7	4.2	4.7	5.3
16	1.0	1.3	1.7	2.1	2.5	3.0	3.5	4.0	4.6	5.3	5.9	6.6
17	1.2	1.6	2.0	2.5	3.0	3.6	4.2	4.9	5.6	6.4	7.2	8.1
18	1.5	1.9	2.5	3.0	3.7	4.4	5.1	5.9	6.8	7.8	8.8	9.8
19	1.8	2.3	2.9	3.6	4.4	5.2	6.1	7.1	8.1	9.2	10.4	11.7
20	2.1	2.7	3.4	4.3	5.1	6.1	7.2	8.3	9.6	10.9	12.3	13.8
21	2.5	3.2	4.1	5.1	6.1	7.3	8.5	9.9	11.4	12.9	14.6	16.4
22	2.9	3.8	4.8	6.0	7.2	8.6	10.1	11.7	13.5	15.3	17.3	19.4
23	3.4	4.5	5.7	7.0	8.5	10.1	11.9	13.8	15.8	18.0	20.3	22.8
24	4.0	5.2	6.5	8.1	9.8	11.6	13.6	15.8	18.2	20.7	23.3	26.1
25	4.6	6.0	7.6	9.4	11.4	13.5	15.9	18.4	21.2	24.1	27.2	30.5
26	5.3	7.0	8.8	10.9	13.2	15.7	18.4	21.4	24.6	27.9	31.5	35.4
27	6.0	7.9	10.0	12.3	14.9	17.7	20.8	24.1	27.7	31.5	35.6	39.9
28	6.9	9.1	11.5	14.1	17.1	20.4	23.9	27.7	31.8	36.2	40.9	45.8
29	7.8	10.1	12.8	15.8	19.2	22.8	26.8	31.0	35.6	40.5	45.8	51.3
30	8.8	11.5	14.6	18.0	21.8	26.0	30.5	35.3	40.6	46.2	52.1	58.4
31	9.8	12.8	16.2	20.0	24.2	28.9	33.9	39.3	45.1	51.3	57.9	64.9
32	11.1	14.5	18.3	22.6	27.4	32.6	38.3	44.4	50.9	58.0	65.4	73.4
33	12.2	16.0	20.2	25.0	30.2	36.0	42.2	49.0	56.2	64.0	72.2	81.0
34	13.7	17.9	22.6	27.9	33.7	40.2	47.1	54.7	62.8	71.4	80.6	90.4
35	15.3	20.0	25.3	31.2	37.7	44.9	52.7	61.1	70.2	79.8	90.1	101
36	17.0	22.3	28.2	34.8	42.1	50.1	58.8	68.1	78.2	89.0	100	113
37	18.6	24.3	30.8	38.0	45.9	54.7	64.2	74.4	85.4	97.2	110	123
38	21.0	27.4	34.6	42.8	51.7	61.6	72.3	83.8	96.2	109	124	139

# Wind Ratings for Trees -- ITRS 2015

Silver\_Fir                      Rating of horizontal anchor at 0.6m (kN)                      Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	1.8	2.3	2.9	3.6	4.4	5.2	6.1	7.1	8.1	9.3	10.5	11.7
15	2.2	2.9	3.7	4.6	5.5	6.6	7.7	9.0	10.3	11.7	13.3	14.9
16	2.8	3.6	4.6	5.6	6.8	8.1	9.5	11.1	12.7	14.4	16.3	18.3
17	3.4	4.4	5.6	6.9	8.4	10.0	11.7	13.6	15.6	17.8	20.1	22.5
18	4.1	5.3	6.8	8.3	10.1	12.0	14.1	16.4	18.8	21.4	24.1	27.0
19	4.9	6.4	8.1	10.0	12.1	14.5	17.0	19.7	22.6	25.7	29.0	32.5
20	5.8	7.6	9.6	11.8	14.3	17.0	20.0	23.2	26.6	30.3	34.2	38.3
21	6.8	8.9	11.2	13.8	16.8	19.9	23.4	27.1	31.1	35.4	40.0	44.9
22	8.0	10.5	13.3	16.4	19.8	23.6	27.7	32.1	36.9	41.9	47.4	53.1
23	9.4	12.3	15.6	19.2	23.3	27.7	32.5	37.7	43.2	49.2	55.5	62.3
24	11.0	14.4	18.2	22.5	27.3	32.4	38.1	44.1	50.7	57.7	65.1	73.0
25	12.6	16.4	20.8	25.7	31.1	37.0	43.4	50.3	57.8	65.7	74.2	83.2
26	14.6	19.1	24.2	29.9	36.1	43.0	50.5	58.6	67.2	76.5	86.3	96.8
27	16.5	21.6	27.3	33.7	40.8	48.6	57.0	66.1	75.9	86.3	97.5	109
28	19.0	24.9	31.5	38.8	47.0	55.9	65.6	76.1	87.4	99.4	112	126
29	21.8	28.5	36.0	44.5	53.8	64.0	75.2	87.2	100	114	129	144
30	24.3	31.7	40.2	49.6	60.0	71.4	83.8	97.2	112	127	143	161
31	27.0	35.3	44.6	55.1	66.7	79.4	93.1	108	124	141	159	179
32	30.6	39.9	50.5	62.4	75.5	89.8	105	122	140	160	180	202
33	33.7	44.1	55.8	68.9	83.3	99.2	116	135	155	176	199	223
34	37.9	49.5	62.6	77.3	93.5	111	131	151	174	198	223	250
35	41.6	54.3	68.7	84.8	103	122	143	166	191	217	245	275
36	46.0	60.1	76.1	93.9	114	135	159	184	211	240	271	304
37	51.2	66.8	84.6	104	126	150	176	205	235	267	302	338
38	56.6	74.0	93.6	116	140	166	195	226	260	296	334	374

# Wind Ratings for Trees -- ITRS 2015

Silver\_Fir      Rating of High-D at 2m pulled 45deg (kN)      Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	0.7	0.9	1.2	1.5	1.8	2.1	2.5	2.9	3.3	3.7	4.2	4.7
15	0.9	1.2	1.5	1.8	2.2	2.7	3.1	3.6	4.2	4.7	5.3	6.0
16	1.1	1.5	1.8	2.3	2.8	3.3	3.8	4.5	5.1	5.8	6.6	7.4
17	1.4	1.8	2.3	2.8	3.4	4.0	4.7	5.5	6.3	7.2	8.1	9.1
18	1.6	2.2	2.7	3.4	4.1	4.8	5.7	6.6	7.6	8.6	9.7	10.9
19	2.0	2.6	3.3	4.0	4.9	5.8	6.8	7.9	9.1	10.3	11.7	13.1
20	2.3	3.1	3.9	4.8	5.8	6.9	8.1	9.3	10.7	12.2	13.8	15.4
21	2.7	3.6	4.5	5.6	6.7	8.0	9.4	10.9	12.5	14.3	16.1	18.1
22	3.2	4.2	5.3	6.6	8.0	9.5	11.2	12.9	14.9	16.9	19.1	21.4
23	3.8	5.0	6.3	7.7	9.4	11.2	13.1	15.2	17.4	19.8	22.4	25.1
24	4.4	5.8	7.3	9.1	11.0	13.1	15.3	17.8	20.4	23.2	26.2	29.4
25	5.1	6.6	8.4	10.3	12.5	14.9	17.5	20.3	23.3	26.5	29.9	33.5
26	5.9	7.7	9.7	12.0	14.6	17.3	20.3	23.6	27.1	30.8	34.8	39.0
27	6.7	8.7	11.0	13.6	16.4	19.6	23.0	26.6	30.6	34.8	39.3	44.0
28	7.7	10.0	12.7	15.6	18.9	22.5	26.4	30.7	35.2	40.1	45.2	50.7
29	8.8	11.5	14.5	17.9	21.7	25.8	30.3	35.1	40.3	45.9	51.8	58.0
30	9.8	12.8	16.2	20.0	24.2	28.8	33.8	39.2	45.0	51.1	57.7	64.7
31	10.9	14.2	18.0	22.2	26.9	32.0	37.5	43.5	50.0	56.8	64.2	71.9
32	12.3	16.1	20.4	25.1	30.4	36.2	42.5	49.3	56.5	64.3	72.6	81.4
33	13.6	17.8	22.5	27.7	33.6	40.0	46.9	54.4	62.4	71.0	80.2	89.9
34	15.3	19.9	25.2	31.1	37.7	44.8	52.6	61.0	70.1	79.7	90.0	101
35	16.7	21.9	27.7	34.2	41.4	49.2	57.8	67.0	76.9	87.5	98.8	111
36	18.5	24.2	30.6	37.8	45.8	54.5	63.9	74.2	85.1	96.9	109	123
37	20.6	26.9	34.1	42.1	50.9	60.6	71.1	82.4	94.6	108	122	136
38	22.8	29.8	37.7	46.5	56.3	67.0	78.7	91.2	105	119	135	151

# Wind Ratings for Trees -- ITRS 2015

Sitka_Spruce	Rating of horizontal anchor at 0.6m (kN)											
C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	1.3	1.7	2.2	2.7	3.3	3.9	4.6	5.3	6.1	6.9	7.8	8.7
15	1.7	2.2	2.8	3.4	4.2	4.9	5.8	6.7	7.7	8.8	9.9	11.1
16	2.1	2.8	3.5	4.3	5.2	6.2	7.3	8.5	9.7	11.1	12.5	14.0
17	2.6	3.4	4.4	5.4	6.5	7.7	9.1	10.5	12.1	13.8	15.5	17.4
18	3.2	4.2	5.4	6.6	8.0	9.5	11.2	13.0	14.9	17.0	19.1	21.5
19	4.0	5.2	6.5	8.1	9.8	11.6	13.7	15.8	18.2	20.7	23.4	26.2
20	4.8	6.2	7.9	9.8	11.8	14.1	16.5	19.1	22.0	25.0	28.2	31.6
21	5.6	7.3	9.2	11.4	13.8	16.4	19.3	22.4	25.7	29.2	33.0	37.0
22	6.7	8.7	11.0	13.6	16.5	19.6	23.0	26.7	30.6	34.8	39.3	44.1
23	7.9	10.3	13.0	16.1	19.4	23.1	27.1	31.5	36.1	41.1	46.4	52.0
24	9.0	11.8	14.9	18.4	22.3	26.5	31.1	36.1	41.4	47.1	53.2	59.7
25	10.3	13.4	17.0	21.0	25.4	30.2	35.5	41.1	47.2	53.7	60.7	68.0
26	11.9	15.5	19.6	24.2	29.3	34.9	41.0	47.5	54.5	62.0	70.0	78.5
27	13.4	17.5	22.2	27.4	33.1	39.4	46.2	53.6	61.6	70.0	79.1	88.6
28	15.3	20.0	25.3	31.2	37.8	44.9	52.7	61.2	70.2	79.9	90.2	101
29	17.1	22.4	28.3	34.9	42.3	50.3	59.0	68.5	78.6	89.4	101	113
30	19.1	24.9	31.6	39.0	47.1	56.1	65.8	76.4	87.7	99.7	113	126
31	21.2	27.7	35.1	43.3	52.4	62.3	73.2	84.9	97.4	111	125	140
32	23.8	31.0	39.3	48.5	58.7	69.9	82.0	95.1	109	124	140	157
33	26.2	34.3	43.4	53.6	64.8	77.1	90.5	105	121	137	155	174
34	28.9	37.7	47.8	59.0	71.3	84.9	99.6	116	133	151	170	191
35	31.7	41.4	52.4	64.7	78.3	93.2	109	127	146	166	187	210
36	35.0	45.8	57.9	71.5	86.5	103	121	140	161	183	207	232
37	38.3	50.0	63.3	78.1	94.5	112	132	153	176	200	226	253
38	41.7	54.5	68.9	85.1	103	123	144	167	191	218	246	276

Complete: 10/31/2015 12:34:41 PM

# Wind Ratings for Trees -- ITRS 2015

Sitka\_Spruce      Rating of High-D at 2m pulled 45deg (kN)      Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	0.5	0.7	0.9	1.1	1.3	1.6	1.8	2.1	2.4	2.8	3.1	3.5
15	0.7	0.9	1.1	1.4	1.7	2.0	2.3	2.7	3.1	3.5	4.0	4.5
16	0.9	1.1	1.4	1.7	2.1	2.5	2.9	3.4	3.9	4.5	5.0	5.6
17	1.1	1.4	1.8	2.2	2.6	3.1	3.7	4.2	4.9	5.5	6.3	7.0
18	1.3	1.7	2.2	2.7	3.2	3.8	4.5	5.2	6.0	6.8	7.7	8.6
19	1.6	2.1	2.6	3.3	3.9	4.7	5.5	6.4	7.3	8.3	9.4	10.5
20	1.9	2.5	3.2	3.9	4.8	5.7	6.6	7.7	8.8	10.1	11.4	12.7
21	2.3	2.9	3.7	4.6	5.6	6.6	7.8	9.0	10.3	11.8	13.3	14.9
22	2.7	3.5	4.4	5.5	6.6	7.9	9.3	10.7	12.3	14.0	15.8	17.7
23	3.2	4.1	5.2	6.5	7.8	9.3	10.9	12.7	14.6	16.6	18.7	21.0
24	3.6	4.7	6.0	7.4	9.0	10.7	12.5	14.5	16.7	19.0	21.4	24.0
25	4.1	5.4	6.9	8.5	10.2	12.2	14.3	16.6	19.0	21.7	24.4	27.4
26	4.8	6.2	7.9	9.8	11.8	14.1	16.5	19.1	22.0	25.0	28.2	31.6
27	5.4	7.1	8.9	11.0	13.3	15.9	18.6	21.6	24.8	28.2	31.8	35.7
28	6.2	8.0	10.2	12.6	15.2	18.1	21.2	24.6	28.3	32.2	36.3	40.7
29	6.9	9.0	11.4	14.1	17.0	20.3	23.8	27.6	31.7	36.0	40.7	45.6
30	7.7	10.0	12.7	15.7	19.0	22.6	26.5	30.8	35.3	40.2	45.4	50.9
31	8.5	11.2	14.1	17.4	21.1	25.1	29.5	34.2	39.2	44.7	50.4	56.5
32	9.6	12.5	15.8	19.5	23.6	28.1	33.0	38.3	44.0	50.0	56.5	63.3
33	10.6	13.8	17.5	21.6	26.1	31.1	36.5	42.3	48.5	55.2	62.4	69.9
34	11.6	15.2	19.2	23.8	28.7	34.2	40.1	46.6	53.4	60.8	68.6	77.0
35	12.8	16.7	21.1	26.1	31.5	37.5	44.1	51.1	58.7	66.7	75.3	84.5
36	14.1	18.4	23.3	28.8	34.9	41.5	48.7	56.5	64.8	73.7	83.2	93.3
37	15.4	20.1	25.5	31.5	38.1	45.3	53.2	61.7	70.8	80.5	90.9	102
38	16.8	21.9	27.8	34.3	41.5	49.4	57.9	67.2	77.1	87.7	99.1	111



# Wind Ratings for Trees -- ITRS 2015

W.Hemlock	Rating of horizontal anchor at 0.6m (kN)											Complete: 10/31/2015 12:34:41 PM
C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	1.9	2.4	3.1	3.8	4.6	5.5	6.4	7.5	8.6	9.7	11.0	12.3
15	2.4	3.1	3.9	4.9	5.9	7.0	8.2	9.5	10.9	12.4	14.0	15.7
16	3.0	3.9	5.0	6.1	7.4	8.8	10.3	12.0	13.8	15.7	17.7	19.8
17	3.7	4.8	6.1	7.6	9.2	10.9	12.8	14.8	17.0	19.4	21.9	24.5
18	4.5	5.8	7.4	9.1	11.0	13.1	15.4	17.8	20.5	23.3	26.3	29.5
19	5.4	7.1	8.9	11.0	13.3	15.9	18.6	21.6	24.8	28.2	31.9	35.7
20	6.4	8.3	10.5	13.0	15.7	18.7	22.0	25.5	29.3	33.3	37.6	42.1
21	7.6	9.9	12.5	15.4	18.7	22.2	26.1	30.2	34.7	39.5	44.6	50.0
22	8.8	11.5	14.5	17.9	21.7	25.8	30.3	35.1	40.3	45.9	51.8	58.1
23	10.1	13.2	16.7	20.7	25.0	29.8	34.9	40.5	46.5	52.9	59.7	67.0
24	11.7	15.3	19.4	24.0	29.0	34.5	40.5	47.0	53.9	61.3	69.3	77.6
25	13.4	17.5	22.1	27.3	33.1	39.3	46.2	53.6	61.5	70.0	79.0	88.5
26	15.2	19.8	25.1	31.0	37.5	44.6	52.4	60.8	69.7	79.4	89.6	100
27	17.1	22.4	28.3	35.0	42.3	50.4	59.1	68.6	78.7	89.6	101	113
28	19.6	25.6	32.4	40.0	48.4	57.6	67.6	78.3	89.9	102	116	130
29	22.2	28.9	36.6	45.2	54.7	65.1	76.4	88.6	102	116	131	147
30	24.7	32.3	40.9	50.4	61.0	72.6	85.2	98.9	113	129	146	163
31	27.9	36.5	46.2	57.0	69.0	82.1	96.4	112	128	146	165	185
32	30.9	40.4	51.2	63.2	76.4	90.9	107	124	142	162	183	205
33	35.0	45.7	57.8	71.4	86.4	103	121	140	161	183	206	231
34	38.5	50.3	63.6	78.6	95.1	113	133	154	177	201	227	255
35	43.3	56.6	71.6	88.4	107	127	149	173	199	226	256	287
36	47.4	62.0	78.4	96.8	117	139	164	190	218	248	280	314
37	53.1	69.4	87.8	108	131	156	183	212	244	277	313	351
38	57.9	75.6	95.7	118	143	170	200	231	266	302	341	383

# Wind Ratings for Trees -- ITRS 2015

W.Hemlock
Rating of High-D at 2m pulled 45deg (kN)
Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	0.8	1.0	1.2	1.5	1.9	2.2	2.6	3.0	3.4	3.9	4.4	5.0
15	1.0	1.3	1.6	2.0	2.4	2.8	3.3	3.8	4.4	5.0	5.7	6.3
16	1.2	1.6	2.0	2.5	3.0	3.6	4.2	4.8	5.5	6.3	7.1	8.0
17	1.5	2.0	2.5	3.1	3.7	4.4	5.2	6.0	6.9	7.8	8.8	9.9
18	1.8	2.3	3.0	3.7	4.4	5.3	6.2	7.2	8.3	9.4	10.6	11.9
19	2.2	2.8	3.6	4.4	5.4	6.4	7.5	8.7	10.0	11.4	12.8	14.4
20	2.6	3.4	4.2	5.2	6.3	7.5	8.9	10.3	11.8	13.4	15.1	17.0
21	3.0	4.0	5.0	6.2	7.5	9.0	10.5	12.2	14.0	15.9	18.0	20.1
22	3.5	4.6	5.8	7.2	8.7	10.4	12.2	14.1	16.2	18.5	20.9	23.4
23	4.1	5.3	6.7	8.3	10.1	12.0	14.1	16.3	18.7	21.3	24.1	27.0
24	4.7	6.2	7.8	9.7	11.7	13.9	16.3	18.9	21.7	24.7	27.9	31.3
25	5.4	7.0	8.9	11.0	13.3	15.9	18.6	21.6	24.8	28.2	31.8	35.7
26	6.1	8.0	10.1	12.5	15.1	18.0	21.1	24.5	28.1	32.0	36.1	40.5
27	6.9	9.0	11.4	14.1	17.1	20.3	23.8	27.6	31.7	36.1	40.7	45.7
28	7.9	10.3	13.0	16.1	19.5	23.2	27.2	31.6	36.2	41.2	46.5	52.2
29	8.9	11.7	14.8	18.2	22.0	26.2	30.8	35.7	41.0	46.6	52.7	59.0
30	10.0	13.0	16.5	20.3	24.6	29.3	34.3	39.8	45.7	52.0	58.7	65.8
31	11.3	14.7	18.6	23.0	27.8	33.1	38.8	45.0	51.7	58.8	66.4	74.4
32	12.5	16.3	20.6	25.4	30.8	36.6	43.0	49.9	57.2	65.1	73.5	82.4
33	14.1	18.4	23.3	28.8	34.8	41.4	48.6	56.4	64.7	73.6	83.1	93.2
34	15.5	20.3	25.6	31.7	38.3	45.6	53.5	62.0	71.2	81.0	91.5	103
35	17.5	22.8	28.9	35.6	43.1	51.3	60.2	69.8	80.2	91.2	103	115
36	19.1	25.0	31.6	39.0	47.2	56.2	65.9	76.5	87.8	99.9	113	126
37	21.4	27.9	35.4	43.7	52.8	62.9	73.8	85.6	98.3	112	126	141
38	23.3	30.5	38.5	47.6	57.6	68.5	80.4	93.3	107	122	138	154

# Wind Ratings for Trees -- ITRS 2015

W.Red\_Cedar
Rating of horizontal anchor at 0.6m (kN)
Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	1.8	2.3	2.9	3.6	4.3	5.2	6.1	7.0	8.1	9.2	10.4	11.6
15	2.2	2.9	3.7	4.6	5.5	6.6	7.7	9.0	10.3	11.7	13.2	14.8
16	2.8	3.7	4.7	5.8	7.0	8.3	9.7	11.3	12.9	14.7	16.6	18.6
17	3.5	4.6	5.8	7.1	8.7	10.3	12.1	14.0	16.1	18.3	20.7	23.2
18	4.2	5.5	7.0	8.6	10.4	12.4	14.5	16.8	19.3	22.0	24.8	27.8
19	5.1	6.7	8.5	10.4	12.6	15.0	17.7	20.5	23.5	26.7	30.2	33.8
20	6.0	7.9	10.0	12.3	14.9	17.7	20.8	24.1	27.7	31.5	35.6	39.9
21	7.2	9.4	11.9	14.7	17.8	21.1	24.8	28.8	33.0	37.6	42.4	47.6
22	8.4	10.9	13.8	17.0	20.6	24.5	28.8	33.4	38.4	43.6	49.3	55.2
23	9.8	12.8	16.2	20.0	24.2	28.8	33.8	39.2	45.0	51.2	57.8	64.8
24	11.2	14.7	18.6	22.9	27.7	33.0	38.8	44.9	51.6	58.7	66.3	74.3
25	13.0	17.0	21.5	26.6	32.1	38.3	44.9	52.1	59.8	68.0	76.8	86.1
26	14.8	19.3	24.4	30.1	36.5	43.4	50.9	59.1	67.8	77.2	87.1	97.7
27	16.7	21.8	27.6	34.0	41.2	49.0	57.5	66.7	76.6	87.1	98.3	110
28	18.7	24.5	31.0	38.3	46.3	55.1	64.6	75.0	86.1	97.9	111	124
29	21.3	27.8	35.2	43.5	52.6	62.6	73.4	85.2	97.8	111	126	141
30	23.7	31.0	39.3	48.5	58.6	69.8	81.9	95.0	109	124	140	157
31	26.4	34.5	43.6	53.8	65.2	77.5	91.0	106	121	138	156	174
32	29.2	38.2	48.3	59.6	72.2	85.9	101	117	134	153	172	193
33	32.8	42.9	54.3	67.0	81.1	96.5	113	131	151	172	194	217
34	36.1	47.2	59.7	73.8	89.2	106	125	145	166	189	213	239
35	40.0	52.3	66.2	81.7	98.9	118	138	160	184	209	236	265
36	43.8	57.3	72.5	89.5	108	129	151	175	201	229	259	290
37	48.5	63.4	80.2	99.1	120	143	167	194	223	254	286	321
38	52.9	69.1	87.4	108	131	155	182	212	243	276	312	350

# Wind Ratings for Trees -- ITRS 2015

W.Red\_Cedar      Rating of High-D at 2m pulled 45deg (kN)      Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	0.7	0.9	1.2	1.4	1.7	2.1	2.4	2.8	3.3	3.7	4.2	4.7
15	0.9	1.2	1.5	1.8	2.2	2.7	3.1	3.6	4.1	4.7	5.3	6.0
16	1.1	1.5	1.9	2.3	2.8	3.3	3.9	4.5	5.2	5.9	6.7	7.5
17	1.4	1.8	2.3	2.9	3.5	4.1	4.9	5.6	6.5	7.4	8.3	9.3
18	1.7	2.2	2.8	3.5	4.2	5.0	5.8	6.8	7.8	8.9	10.0	11.2
19	2.1	2.7	3.4	4.2	5.1	6.1	7.1	8.2	9.5	10.8	12.2	13.6
20	2.4	3.2	4.0	5.0	6.0	7.1	8.4	9.7	11.2	12.7	14.3	16.1
21	2.9	3.8	4.8	5.9	7.2	8.5	10.0	11.6	13.3	15.1	17.1	19.2
22	3.4	4.4	5.6	6.9	8.3	9.9	11.6	13.5	15.5	17.6	19.8	22.2
23	3.9	5.2	6.5	8.1	9.7	11.6	13.6	15.8	18.1	20.6	23.3	26.1
24	4.5	5.9	7.5	9.2	11.2	13.3	15.6	18.1	20.8	23.7	26.7	29.9
25	5.2	6.9	8.7	10.7	13.0	15.4	18.1	21.0	24.1	27.4	30.9	34.7
26	5.9	7.8	9.8	12.1	14.7	17.5	20.5	23.8	27.3	31.1	35.1	39.3
27	6.7	8.8	11.1	13.7	16.6	19.7	23.2	26.9	30.8	35.1	39.6	44.4
28	7.6	9.9	12.5	15.4	18.6	22.2	26.0	30.2	34.7	39.4	44.5	49.9
29	8.6	11.2	14.2	17.5	21.2	25.2	29.6	34.3	39.4	44.8	50.6	56.7
30	9.6	12.5	15.8	19.5	23.6	28.1	33.0	38.3	43.9	50.0	56.4	63.3
31	10.6	13.9	17.6	21.7	26.2	31.2	36.7	42.5	48.8	55.5	62.7	70.3
32	11.8	15.4	19.5	24.0	29.1	34.6	40.6	47.1	54.1	61.5	69.4	77.8
33	13.2	17.3	21.9	27.0	32.7	38.9	45.6	52.9	60.7	69.1	78.0	87.5
34	14.6	19.0	24.1	29.7	36.0	42.8	50.2	58.2	66.9	76.1	85.9	96.3
35	16.1	21.1	26.7	32.9	39.8	47.4	55.6	64.5	74.1	84.3	95.1	107
36	17.7	23.1	29.2	36.0	43.6	51.9	60.9	70.6	81.1	92.3	104	117
37	19.6	25.5	32.3	39.9	48.3	57.5	67.4	78.2	89.8	102	115	129
38	21.3	27.8	35.2	43.5	52.6	62.6	73.5	85.2	97.8	111	126	141

# Wind Ratings for Trees -- ITRS 2015

W.White\_Pine      Rating of horizontal anchor at 0.6m (kN)      Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	1.5	1.9	2.4	3.0	3.6	4.3	5.1	5.9	6.7	7.7	8.7	9.7
15	1.9	2.4	3.1	3.8	4.6	5.5	6.4	7.4	8.5	9.7	11.0	12.3
16	2.3	3.0	3.8	4.7	5.6	6.7	7.9	9.1	10.5	11.9	13.5	15.1
17	2.8	3.6	4.6	5.7	6.9	8.2	9.6	11.2	12.8	14.6	16.5	18.5
18	3.4	4.4	5.6	6.9	8.3	9.9	11.6	13.4	15.4	17.5	19.8	22.2
19	4.0	5.2	6.6	8.2	9.9	11.7	13.8	16.0	18.3	20.9	23.6	26.4
20	4.8	6.2	7.9	9.8	11.8	14.0	16.5	19.1	21.9	25.0	28.2	31.6
21	5.7	7.4	9.4	11.6	14.1	16.7	19.6	22.8	26.2	29.8	33.6	37.7
22	6.8	8.8	11.2	13.8	16.7	19.9	23.3	27.1	31.1	35.4	39.9	44.8
23	8.0	10.4	13.2	16.3	19.7	23.5	27.6	32.0	36.7	41.8	47.2	52.9
24	9.2	12.0	15.2	18.7	22.6	26.9	31.6	36.7	42.1	47.9	54.1	60.6
25	10.7	14.0	17.7	21.8	26.4	31.4	36.9	42.8	49.1	55.9	63.1	70.7
26	12.1	15.8	20.0	24.7	29.9	35.6	41.8	48.5	55.7	63.4	71.5	80.2
27	14.0	18.3	23.2	28.6	34.6	41.2	48.3	56.0	64.3	73.2	82.6	92.7
28	15.8	20.6	26.0	32.1	38.9	46.3	54.3	63.0	72.3	82.3	92.9	104
29	18.0	23.6	29.8	36.8	44.5	53.0	62.2	72.2	82.8	94.2	106	119
30	20.1	26.3	33.3	41.1	49.7	59.1	69.4	80.5	92.4	105	119	133
31	22.9	29.9	37.8	46.7	56.4	67.2	78.8	91.4	105	119	135	151
32	25.3	33.1	41.9	51.7	62.5	74.4	87.3	101	116	132	149	167
33	28.8	37.7	47.7	58.9	71.2	84.8	99.5	115	132	151	170	191
34	31.8	41.5	52.5	64.8	78.4	93.3	110	127	146	166	187	210
35	35.5	46.3	58.6	72.4	87.6	104	122	142	163	185	209	235
36	38.8	50.7	64.2	79.3	95.9	114	134	155	178	203	229	257
37	43.9	57.4	72.6	89.6	108	129	151	176	202	229	259	290
38	47.9	62.5	79.1	97.7	118	141	165	191	220	250	282	316

# Wind Ratings for Trees -- ITRS 2015

W.White\_Pine
Rating of High-D at 2m pulled 45deg (kN)
Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	0.6	0.8	1.0	1.2	1.5	1.7	2.0	2.4	2.7	3.1	3.5	3.9
15	0.7	1.0	1.2	1.5	1.8	2.2	2.6	3.0	3.4	3.9	4.4	4.9
16	0.9	1.2	1.5	1.9	2.3	2.7	3.2	3.7	4.2	4.8	5.4	6.1
17	1.1	1.5	1.9	2.3	2.8	3.3	3.9	4.5	5.2	5.9	6.6	7.4
18	1.4	1.8	2.2	2.8	3.3	4.0	4.7	5.4	6.2	7.1	8.0	8.9
19	1.6	2.1	2.7	3.3	4.0	4.7	5.6	6.4	7.4	8.4	9.5	10.6
20	1.9	2.5	3.2	3.9	4.8	5.7	6.6	7.7	8.8	10.1	11.4	12.7
21	2.3	3.0	3.8	4.7	5.7	6.7	7.9	9.2	10.5	12.0	13.5	15.2
22	2.7	3.6	4.5	5.6	6.7	8.0	9.4	10.9	12.5	14.2	16.1	18.0
23	3.2	4.2	5.3	6.6	8.0	9.5	11.1	12.9	14.8	16.8	19.0	21.3
24	3.7	4.8	6.1	7.5	9.1	10.9	12.7	14.8	17.0	19.3	21.8	24.4
25	4.3	5.6	7.1	8.8	10.6	12.7	14.9	17.2	19.8	22.5	25.4	28.5
26	4.9	6.4	8.1	10.0	12.1	14.4	16.9	19.5	22.4	25.5	28.8	32.3
27	5.6	7.4	9.3	11.5	13.9	16.6	19.5	22.6	25.9	29.5	33.3	37.3
28	6.3	8.3	10.5	12.9	15.7	18.6	21.9	25.4	29.1	33.2	37.4	42.0
29	7.3	9.5	12.0	14.8	17.9	21.4	25.1	29.1	33.4	38.0	42.9	48.0
30	8.1	10.6	13.4	16.5	20.0	23.8	27.9	32.4	37.2	42.3	47.8	53.6
31	9.2	12.0	15.2	18.8	22.7	27.1	31.8	36.8	42.3	48.1	54.3	60.9
32	10.2	13.3	16.9	20.8	25.2	30.0	35.2	40.8	46.8	53.3	60.2	67.4
33	11.6	15.2	19.2	23.7	28.7	34.1	40.1	46.5	53.4	60.7	68.5	76.8
34	12.8	16.7	21.1	26.1	31.6	37.6	44.1	51.2	58.7	66.8	75.4	84.6
35	14.3	18.7	23.6	29.2	35.3	42.0	49.3	57.2	65.6	74.7	84.3	94.5
36	15.6	20.4	25.9	31.9	38.6	46.0	54.0	62.6	71.8	81.7	92.3	103
37	17.7	23.1	29.3	36.1	43.7	52.0	61.0	70.8	81.3	92.4	104	117
38	19.3	25.2	31.9	39.3	47.6	56.7	66.5	77.1	88.5	101	114	127

# Wind Ratings for Trees -- ITRS 2015

Bigleaf\_Maple      Rating of horizontal anchor at 0.6m (kN)      Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	1.8	2.4	3.0	3.7	4.5	5.4	6.3	7.3	8.4	9.5	10.8	12.1
15	2.3	3.1	3.9	4.8	5.8	6.9	8.1	9.4	10.7	12.2	13.8	15.5
16	2.9	3.8	4.9	6.0	7.3	8.6	10.1	11.8	13.5	15.4	17.3	19.4
17	3.6	4.8	6.0	7.4	9.0	10.7	12.6	14.6	16.7	19.0	21.5	24.1
18	4.4	5.7	7.2	8.9	10.8	12.9	15.1	17.5	20.1	22.9	25.8	28.9
19	5.3	6.9	8.7	10.8	13.1	15.5	18.2	21.2	24.3	27.6	31.2	35.0
20	6.2	8.1	10.3	12.7	15.4	18.3	21.5	25.0	28.6	32.6	36.8	41.2
21	7.4	9.6	12.2	15.1	18.2	21.7	25.4	29.5	33.9	38.5	43.5	48.8
22	8.6	11.2	14.2	17.5	21.1	25.2	29.5	34.3	39.3	44.7	50.5	56.6
23	10.0	13.0	16.5	20.3	24.6	29.3	34.4	39.8	45.7	52.0	58.7	65.9
24	11.4	14.9	18.9	23.3	28.2	33.6	39.4	45.7	52.4	59.7	67.4	75.5
25	13.1	17.1	21.6	26.7	32.3	38.5	45.2	52.4	60.1	68.4	77.2	86.6
26	14.9	19.4	24.6	30.3	36.7	43.6	51.2	59.4	68.2	77.6	87.6	98.2
27	16.8	21.9	27.7	34.2	41.4	49.3	57.8	67.1	77.0	87.6	98.9	111
28	18.8	24.6	31.2	38.5	46.5	55.4	65.0	75.4	86.6	98.5	111	125
29	21.2	27.7	35.0	43.2	52.3	62.2	73.0	84.7	97.3	111	125	140
30	23.6	30.8	39.0	48.2	58.3	69.4	81.5	94.5	108	123	139	156
31	26.2	34.3	43.4	53.6	64.8	77.1	90.5	105	121	137	155	174
32	29.1	38.0	48.1	59.3	71.8	85.4	100	116	133	152	171	192
33	32.9	43.0	54.4	67.2	81.3	96.7	113	132	151	172	194	218
34	36.2	47.3	59.9	73.9	89.4	106	125	145	166	189	214	240
35	40.8	53.3	67.5	83.3	101	120	141	163	187	213	241	270
36	44.7	58.4	73.9	91.2	110	131	154	179	205	234	264	296
37	50.2	65.5	82.9	102	124	147	173	201	230	262	296	332
38	54.7	71.4	90.3	112	135	161	188	219	251	286	322	361

# Wind Ratings for Trees -- ITRS 2015

Bigleaf_Maple		Rating of High-D at 2m pulled 45deg (kN)											Complete: 10/31/2015 12:34:41 PM	
C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90		
14	0.7	1.0	1.2	1.5	1.8	2.2	2.5	2.9	3.4	3.8	4.3	4.9		
15	0.9	1.2	1.6	1.9	2.3	2.8	3.2	3.8	4.3	4.9	5.6	6.2		
16	1.2	1.5	2.0	2.4	2.9	3.5	4.1	4.7	5.4	6.2	7.0	7.8		
17	1.5	1.9	2.4	3.0	3.6	4.3	5.1	5.9	6.7	7.7	8.7	9.7		
18	1.8	2.3	2.9	3.6	4.4	5.2	6.1	7.1	8.1	9.2	10.4	11.7		
19	2.1	2.8	3.5	4.3	5.3	6.3	7.4	8.5	9.8	11.1	12.6	14.1		
20	2.5	3.3	4.2	5.1	6.2	7.4	8.7	10.1	11.5	13.1	14.8	16.6		
21	3.0	3.9	4.9	6.1	7.3	8.7	10.2	11.9	13.6	15.5	17.5	19.6		
22	3.5	4.5	5.7	7.0	8.5	10.1	11.9	13.8	15.8	18.0	20.3	22.8		
23	4.0	5.2	6.6	8.2	9.9	11.8	13.8	16.1	18.4	21.0	23.7	26.5		
24	4.6	6.0	7.6	9.4	11.4	13.5	15.9	18.4	21.1	24.0	27.1	30.4		
25	5.3	6.9	8.7	10.8	13.0	15.5	18.2	21.1	24.2	27.6	31.1	34.9		
26	6.0	7.8	9.9	12.2	14.8	17.6	20.6	23.9	27.5	31.3	35.3	39.6		
27	6.8	8.8	11.2	13.8	16.7	19.9	23.3	27.0	31.0	35.3	39.8	44.7		
28	7.6	9.9	12.6	15.5	18.8	22.3	26.2	30.4	34.9	39.7	44.8	50.2		
29	8.5	11.1	14.1	17.4	21.1	25.1	29.4	34.1	39.2	44.6	50.3	56.4		
30	9.5	12.4	15.7	19.4	23.5	28.0	32.8	38.1	43.7	49.7	56.1	62.9		
31	10.6	13.8	17.5	21.6	26.1	31.1	36.5	42.3	48.6	55.2	62.4	69.9		
32	11.7	15.3	19.4	23.9	28.9	34.4	40.4	46.8	53.8	61.2	69.1	77.4		
33	13.3	17.3	21.9	27.1	32.7	39.0	45.7	53.0	60.9	69.3	78.2	87.7		
34	14.6	19.1	24.1	29.8	36.0	42.9	50.3	58.4	67.0	76.2	86.1	96.5		
35	16.4	21.5	27.2	33.6	40.6	48.3	56.7	65.8	75.5	85.9	97.0	109		
36	18.0	23.5	29.8	36.7	44.5	52.9	62.1	72.0	82.7	94.1	106	119		
37	20.2	26.4	33.4	41.2	49.9	59.4	69.7	80.8	92.8	106	119	134		
38	22.0	28.8	36.4	44.9	54.4	64.7	75.9	88.1	101	115	130	146		



# Wind Ratings for Trees -- ITRS 2015

Black\_Cottonwood Rating of horizontal anchor at 0.6m (kN) Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	2.4	3.2	4.0	5.0	6.0	7.1	8.4	9.7	11.1	12.7	14.3	16.0
15	3.1	4.0	5.1	6.3	7.6	9.0	10.6	12.3	14.1	16.1	18.1	20.3
16	3.8	5.0	6.3	7.8	9.4	11.2	13.2	15.3	17.6	20.0	22.5	25.3
17	4.6	6.1	7.7	9.5	11.5	13.7	16.0	18.6	21.3	24.3	27.4	30.7
18	5.6	7.4	9.3	11.5	13.9	16.5	19.4	22.5	25.9	29.4	33.2	37.2
19	6.7	8.7	11.1	13.7	16.5	19.7	23.1	26.8	30.8	35.0	39.5	44.3
20	7.9	10.4	13.1	16.2	19.6	23.3	27.4	31.8	36.5	41.5	46.8	52.5
21	9.3	12.1	15.4	19.0	22.9	27.3	32.0	37.2	42.7	48.5	54.8	61.4
22	10.8	14.1	17.8	22.0	26.6	31.7	37.2	43.2	49.5	56.4	63.6	71.3
23	12.5	16.3	20.6	25.5	30.8	36.7	43.1	50.0	57.4	65.3	73.7	82.6
24	14.3	18.7	23.7	29.2	35.4	42.1	49.4	57.3	65.8	74.8	84.5	94.7
25	16.3	21.3	27.0	33.3	40.3	48.0	56.3	65.3	75.0	85.3	96.3	108
26	19.1	24.9	31.5	38.9	47.1	56.0	65.7	76.2	87.5	99.6	112	126
27	22.1	28.9	36.6	45.2	54.6	65.0	76.3	88.5	102	116	131	146
28	24.9	32.5	41.1	50.8	61.4	73.1	85.8	99.5	114	130	147	164
29	28.7	37.4	47.4	58.5	70.8	84.2	98.8	115	132	150	169	189
30	32.0	41.7	52.8	65.2	78.9	93.9	110	128	147	167	188	211
31	36.5	47.7	60.4	74.6	90.2	107	126	146	168	191	215	242
32	41.5	54.2	68.6	84.7	102	122	143	166	191	217	245	274
33	45.8	59.8	75.7	93.5	113	135	158	183	210	239	270	303
34	50.4	65.9	83.4	103	125	148	174	202	232	264	297	333
35	56.7	74.0	93.7	116	140	167	195	227	260	296	334	375
36	62.0	81.0	103	127	153	182	214	248	285	324	366	410
37	69.0	90.1	114	141	170	203	238	276	317	361	407	456
38	75.2	98.2	124	153	186	221	259	301	345	393	443	497

# Wind Ratings for Trees -- ITRS 2015

Black\_Cottonwood      Rating of High-D at 2m pulled 45deg (kN) Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	1.0	1.3	1.6	2.0	2.4	2.9	3.4	3.9	4.5	5.1	5.8	6.5
15	1.2	1.6	2.0	2.5	3.1	3.6	4.3	5.0	5.7	6.5	7.3	8.2
16	1.5	2.0	2.5	3.1	3.8	4.5	5.3	6.2	7.1	8.0	9.1	10.2
17	1.9	2.4	3.1	3.8	4.6	5.5	6.5	7.5	8.6	9.8	11.0	12.4
18	2.3	3.0	3.7	4.6	5.6	6.7	7.8	9.1	10.4	11.8	13.4	15.0
19	2.7	3.5	4.5	5.5	6.7	7.9	9.3	10.8	12.4	14.1	15.9	17.8
20	3.2	4.2	5.3	6.5	7.9	9.4	11.0	12.8	14.7	16.7	18.9	21.2
21	3.7	4.9	6.2	7.6	9.2	11.0	12.9	15.0	17.2	19.6	22.1	24.7
22	4.3	5.7	7.2	8.9	10.7	12.8	15.0	17.4	20.0	22.7	25.6	28.7
23	5.0	6.6	8.3	10.3	12.4	14.8	17.4	20.1	23.1	26.3	29.7	33.3
24	5.8	7.5	9.5	11.8	14.2	17.0	19.9	23.1	26.5	30.1	34.0	38.2
25	6.6	8.6	10.9	13.4	16.2	19.3	22.7	26.3	30.2	34.4	38.8	43.5
26	7.7	10.0	12.7	15.7	19.0	22.6	26.5	30.7	35.3	40.1	45.3	50.8
27	8.9	11.6	14.7	18.2	22.0	26.2	30.7	35.7	40.9	46.6	52.6	59.0
28	10.0	13.1	16.6	20.5	24.7	29.5	34.6	40.1	46.0	52.4	59.1	66.3
29	11.5	15.1	19.1	23.6	28.5	33.9	39.8	46.2	53.0	60.3	68.1	76.3
30	12.9	16.8	21.3	26.3	31.8	37.8	44.4	51.5	59.1	67.3	75.9	85.1
31	14.7	19.2	24.3	30.0	36.3	43.2	50.8	58.9	67.6	76.9	86.8	97.3
32	16.7	21.8	27.6	34.1	41.3	49.1	57.7	66.9	76.8	87.3	98.6	111
33	18.5	24.1	30.5	37.7	45.6	54.2	63.7	73.8	84.8	96.4	109	122
34	20.3	26.5	33.6	41.5	50.2	59.7	70.1	81.3	93.3	106	120	134
35	22.8	29.8	37.7	46.6	56.4	67.1	78.7	91.3	105	119	135	151
36	25.0	32.6	41.3	51.0	61.7	73.5	86.2	100.0	115	131	147	165
37	27.8	36.3	46.0	56.7	68.6	81.7	95.9	111	128	145	164	184
38	30.3	39.6	50.1	61.8	74.8	89.0	104	121	139	158	179	200

# Wind Ratings for Trees -- ITRS 2015

Quake\_Aspen      Rating of horizontal anchor at 0.6m (kN)      Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	3.7	4.8	6.1	7.5	9.0	10.8	12.6	14.6	16.8	19.1	21.6	24.2
15	4.9	6.4	8.1	10.0	12.2	14.5	17.0	19.7	22.6	25.7	29.0	32.6
16	6.5	8.4	10.7	13.2	15.9	19.0	22.3	25.8	29.7	33.7	38.1	42.7
17	8.4	10.9	13.8	17.1	20.7	24.6	28.9	33.5	38.4	43.7	49.3	55.3
18	10.5	13.7	17.3	21.4	25.8	30.7	36.1	41.8	48.0	54.7	61.7	69.2
19	13.0	17.0	21.5	26.6	32.1	38.2	44.9	52.0	59.7	68.0	76.7	86.0
20	16.1	21.1	26.7	32.9	39.8	47.4	55.6	64.5	74.0	84.2	95.1	107
21	19.5	25.5	32.2	39.8	48.2	57.3	67.3	78.0	89.6	102	115	129
22	23.6	30.8	39.0	48.1	58.2	69.3	81.3	94.3	108	123	139	156
23	28.5	37.2	47.1	58.2	70.4	83.7	98.3	114	131	149	168	188
24	33.5	43.8	55.4	68.4	82.8	98.5	116	134	154	175	198	222
25	39.4	51.5	65.1	80.4	97.3	116	136	158	181	206	232	261
26	46.6	60.8	77.0	95.0	115	137	161	186	214	243	275	308
27	53.1	69.3	87.7	108	131	156	183	212	244	277	313	351
28	62.1	81.2	103	127	153	183	214	249	285	325	367	411
29	69.6	90.9	115	142	172	204	240	278	319	364	410	460
30	81.8	107	135	167	202	240	282	327	375	427	482	541
31	92.6	121	153	189	229	272	320	371	425	484	546	613
32	106	138	175	216	261	311	365	423	486	552	624	699
33	119	156	197	244	295	351	412	477	548	623	704	789
34	134	175	221	273	330	393	461	535	614	698	788	884
35	151	197	249	308	372	443	520	603	693	788	890	997
36	169	221	280	346	418	498	584	678	778	885	999	1120
37	186	243	308	380	460	547	642	744	854	972	1098	1230
38	191	250	316	390	472	562	659	764	878	998	1127	1264

# Wind Ratings for Trees -- ITRS 2015

Quake\_Aspen      Rating of High-D at 2m pulled 45deg (kN)      Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	1.5	1.9	2.4	3.0	3.6	4.3	5.1	5.9	6.8	7.7	8.7	9.8
15	2.0	2.6	3.3	4.0	4.9	5.8	6.8	7.9	9.1	10.4	11.7	13.1
16	2.6	3.4	4.3	5.3	6.4	7.6	9.0	10.4	11.9	13.6	15.3	17.2
17	3.4	4.4	5.6	6.9	8.3	9.9	11.6	13.5	15.5	17.6	19.9	22.3
18	4.2	5.5	7.0	8.6	10.4	12.4	14.5	16.9	19.4	22.0	24.9	27.9
19	5.2	6.8	8.7	10.7	12.9	15.4	18.1	21.0	24.1	27.4	30.9	34.7
20	6.5	8.5	10.7	13.3	16.0	19.1	22.4	26.0	29.8	33.9	38.3	43.0
21	7.9	10.3	13.0	16.0	19.4	23.1	27.1	31.4	36.1	41.1	46.3	52.0
22	9.5	12.4	15.7	19.4	23.4	27.9	32.7	38.0	43.6	49.6	56.0	62.8
23	11.5	15.0	19.0	23.4	28.3	33.7	39.6	45.9	52.7	60.0	67.7	75.9
24	13.5	17.6	22.3	27.6	33.3	39.7	46.6	54.0	62.0	70.5	79.6	89.3
25	15.9	20.7	26.2	32.4	39.2	46.7	54.8	63.5	72.9	82.9	93.6	105
26	18.8	24.5	31.0	38.3	46.3	55.1	64.7	75.0	86.1	98.0	111	124
27	21.4	27.9	35.3	43.6	52.8	62.8	73.7	85.5	98.2	112	126	141
28	25.0	32.7	41.4	51.1	61.8	73.6	86.3	100	115	131	148	166
29	28.0	36.6	46.3	57.2	69.2	82.4	96.7	112	129	146	165	185
30	32.9	43.0	54.4	67.2	81.3	96.8	114	132	151	172	194	218
31	37.3	48.7	61.7	76.2	92.2	110	129	149	171	195	220	247
32	42.6	55.6	70.4	86.9	105	125	147	170	196	223	251	282
33	48.1	62.8	79.5	98.1	119	141	166	192	221	251	284	318
34	53.8	70.3	89.0	110	133	158	186	215	247	281	318	356
35	60.8	79.4	100	124	150	179	210	243	279	317	358	402
36	68.2	89.1	113	139	168	201	235	273	313	356	402	451
37	75.0	97.9	124	153	185	220	259	300	344	392	442	496
38	77.0	101	127	157	190	226	266	308	354	402	454	509

# Wind Ratings for Trees -- ITRS 2015

Complete: 10/31/2015 12:34:41 PM

Red_Alder	Rating of horizontal anchor at 0.6m (kN)											
C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	2.3	2.9	3.7	4.6	5.6	6.6	7.8	9.0	10.3	11.8	13.3	14.9
15	2.8	3.7	4.6	5.7	6.9	8.3	9.7	11.2	12.9	14.7	16.6	18.6
16	3.5	4.6	5.8	7.2	8.7	10.4	12.2	14.1	16.2	18.4	20.8	23.3
17	4.4	5.8	7.3	9.0	10.9	13.0	15.2	17.6	20.2	23.0	26.0	29.2
18	5.5	7.1	9.0	11.2	13.5	16.1	18.9	21.9	25.1	28.6	32.2	36.1
19	6.7	8.8	11.1	13.7	16.5	19.7	23.1	26.8	30.8	35.0	39.5	44.3
20	7.9	10.3	13.1	16.1	19.5	23.2	27.3	31.6	36.3	41.3	46.6	52.3
21	9.5	12.4	15.7	19.4	23.5	28.0	32.8	38.1	43.7	49.7	56.1	62.9
22	11.3	14.8	18.7	23.1	28.0	33.3	39.1	45.3	52.0	59.2	66.8	74.9
23	13.1	17.1	21.6	26.7	32.3	38.4	45.1	52.3	60.0	68.3	77.1	86.4
24	15.3	20.0	25.3	31.2	37.8	45.0	52.8	61.2	70.3	80.0	90.3	101
25	17.8	23.2	29.4	36.3	43.9	52.2	61.3	71.1	81.6	92.9	105	118
26	20.2	26.3	33.3	41.2	49.8	59.3	69.6	80.7	92.6	105	119	133
27	23.2	30.3	38.3	47.3	57.3	68.1	80.0	92.7	106	121	137	153
28	26.4	34.5	43.7	53.9	65.2	77.6	91.1	106	121	138	156	175
29	30.3	39.6	50.1	61.9	74.9	89.1	105	121	139	158	179	200
30	35.1	45.9	58.0	71.7	86.7	103	121	140	161	183	207	232
31	39.0	51.0	64.5	79.6	96.4	115	135	156	179	204	230	258
32	45.2	59.0	74.6	92.2	112	133	156	181	207	236	266	299
33	50.2	65.5	82.9	102	124	147	173	201	230	262	296	332
34	58.0	75.7	95.9	118	143	170	200	232	266	303	342	383
35	63.7	83.1	105	130	157	187	220	255	292	333	375	421
36	73.2	95.6	121	149	181	215	252	293	336	382	432	484
37	80.1	105	132	163	198	235	276	320	368	418	472	530
38	91.0	119	150	186	225	267	314	364	418	475	537	602

# Wind Ratings for Trees -- ITRS 2015

Complete: 10/31/2015 12:34:41 PM

Red_Alder	Rating of High-D at 2m pulled 45deg (kN)											
C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	0.9	1.2	1.5	1.9	2.2	2.7	3.1	3.6	4.2	4.7	5.4	6.0
15	1.1	1.5	1.9	2.3	2.8	3.3	3.9	4.5	5.2	5.9	6.7	7.5
16	1.4	1.9	2.4	2.9	3.5	4.2	4.9	5.7	6.5	7.4	8.4	9.4
17	1.8	2.3	2.9	3.6	4.4	5.2	6.1	7.1	8.2	9.3	10.5	11.7
18	2.2	2.9	3.6	4.5	5.4	6.5	7.6	8.8	10.1	11.5	13.0	14.6
19	2.7	3.5	4.5	5.5	6.7	7.9	9.3	10.8	12.4	14.1	15.9	17.9
20	3.2	4.2	5.3	6.5	7.9	9.4	11.0	12.7	14.6	16.6	18.8	21.1
21	3.8	5.0	6.3	7.8	9.5	11.3	13.2	15.3	17.6	20.0	22.6	25.3
22	4.6	6.0	7.5	9.3	11.3	13.4	15.7	18.3	21.0	23.9	26.9	30.2
23	5.3	6.9	8.7	10.7	13.0	15.5	18.2	21.1	24.2	27.5	31.1	34.8
24	6.2	8.1	10.2	12.6	15.2	18.1	21.3	24.7	28.3	32.2	36.4	40.8
25	7.2	9.4	11.8	14.6	17.7	21.0	24.7	28.6	32.9	37.4	42.2	47.4
26	8.1	10.6	13.4	16.6	20.1	23.9	28.0	32.5	37.3	42.5	47.9	53.7
27	9.3	12.2	15.4	19.1	23.1	27.5	32.2	37.4	42.9	48.8	55.1	61.8
28	10.6	13.9	17.6	21.7	26.3	31.3	36.7	42.6	48.9	55.6	62.8	70.4
29	12.2	16.0	20.2	24.9	30.2	35.9	42.1	48.9	56.1	63.8	72.0	80.8
30	14.1	18.5	23.4	28.9	34.9	41.6	48.8	56.6	65.0	73.9	83.4	93.5
31	15.7	20.5	26.0	32.1	38.8	46.2	54.2	62.9	72.2	82.1	92.7	104
32	18.2	23.8	30.1	37.1	44.9	53.5	62.7	72.8	83.5	95.0	107	120
33	20.2	26.4	33.4	41.2	49.9	59.4	69.7	80.8	92.8	106	119	134
34	23.4	30.5	38.6	47.7	57.7	68.7	80.6	93.4	107	122	138	154
35	25.6	33.5	42.4	52.3	63.3	75.4	88.5	103	118	134	151	170
36	29.5	38.5	48.7	60.2	72.8	86.6	102	118	135	154	174	195
37	32.3	42.1	53.3	65.8	79.7	94.8	111	129	148	169	190	213
38	36.7	47.9	60.6	74.8	90.5	108	126	147	168	191	216	242

# Wind Ratings for Trees -- ITRS 2015

Smooth\_Hickory      Rating of horizontal anchor at 0.6m (kN)      Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	2.1	2.8	3.5	4.4	5.3	6.3	7.4	8.5	9.8	11.2	12.6	14.1
15	2.7	3.5	4.4	5.4	6.6	7.8	9.2	10.7	12.2	13.9	15.7	17.6
16	3.3	4.4	5.5	6.8	8.3	9.8	11.5	13.4	15.4	17.5	19.7	22.1
17	4.2	5.4	6.9	8.5	10.3	12.2	14.3	16.6	19.1	21.7	24.5	27.5
18	5.1	6.7	8.4	10.4	12.6	15.0	17.6	20.4	23.5	26.7	30.1	33.8
19	6.3	8.2	10.3	12.8	15.4	18.4	21.6	25.0	28.7	32.7	36.9	41.3
20	7.5	9.9	12.5	15.4	18.6	22.2	26.0	30.2	34.6	39.4	44.5	49.9
21	9.0	11.8	14.9	18.4	22.3	26.6	31.2	36.1	41.5	47.2	53.3	59.7
22	10.5	13.7	17.3	21.4	25.9	30.8	36.2	42.0	48.2	54.8	61.9	69.4
23	12.3	16.1	20.4	25.2	30.4	36.2	42.5	49.3	56.6	64.4	72.7	81.5
24	14.1	18.5	23.4	28.8	34.9	41.5	48.7	56.5	64.9	73.8	83.3	93.4
25	16.5	21.5	27.2	33.6	40.6	48.4	56.7	65.8	75.6	86.0	97.0	109
26	18.9	24.7	31.3	38.7	46.8	55.7	65.4	75.8	87.0	99.0	112	125
27	21.8	28.5	36.0	44.5	53.8	64.1	75.2	87.2	100	114	129	144
28	25.0	32.7	41.3	51.0	61.7	73.5	86.2	100	115	131	147	165
29	29.0	37.8	47.9	59.1	71.5	85.1	99.9	116	133	151	171	192
30	32.3	42.2	53.4	65.9	79.8	94.9	111	129	148	169	191	214
31	37.3	48.7	61.7	76.1	92.1	110	129	149	171	195	220	247
32	41.7	54.5	69.0	85.1	103	123	144	167	192	218	246	276
33	48.0	62.6	79.3	97.9	118	141	165	192	220	251	283	317
34	52.8	69.0	87.3	108	130	155	182	211	242	276	311	349
35	60.4	78.9	99.8	123	149	177	208	242	277	315	356	399
36	67.5	88.2	112	138	167	198	233	270	310	353	398	446
37	75.4	98.5	125	154	186	222	260	302	346	394	445	499
38	84.9	111	140	173	210	250	293	340	390	444	501	562

# Wind Ratings for Trees -- ITRS 2015

Complete: 10/31/2015 12:34:41 PM

Smooth_Hickory	Rating of High-D at 2m pulled 45deg (kN)											
C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	0.9	1.1	1.4	1.8	2.1	2.5	3.0	3.4	4.0	4.5	5.1	5.7
15	1.1	1.4	1.8	2.2	2.7	3.2	3.7	4.3	4.9	5.6	6.3	7.1
16	1.3	1.8	2.2	2.8	3.3	4.0	4.6	5.4	6.2	7.0	8.0	8.9
17	1.7	2.2	2.8	3.4	4.1	4.9	5.8	6.7	7.7	8.7	9.9	11.1
18	2.1	2.7	3.4	4.2	5.1	6.0	7.1	8.2	9.4	10.8	12.1	13.6
19	2.5	3.3	4.2	5.1	6.2	7.4	8.7	10.1	11.6	13.2	14.9	16.6
20	3.0	4.0	5.0	6.2	7.5	8.9	10.5	12.2	14.0	15.9	17.9	20.1
21	3.6	4.8	6.0	7.4	9.0	10.7	12.6	14.6	16.7	19.0	21.5	24.1
22	4.2	5.5	7.0	8.6	10.4	12.4	14.6	16.9	19.4	22.1	24.9	28.0
23	5.0	6.5	8.2	10.1	12.3	14.6	17.1	19.9	22.8	25.9	29.3	32.8
24	5.7	7.4	9.4	11.6	14.1	16.7	19.6	22.8	26.1	29.7	33.6	37.6
25	6.6	8.7	11.0	13.5	16.4	19.5	22.9	26.5	30.4	34.6	39.1	43.8
26	7.6	10.0	12.6	15.6	18.9	22.4	26.3	30.5	35.1	39.9	45.0	50.5
27	8.8	11.5	14.5	17.9	21.7	25.8	30.3	35.1	40.3	45.9	51.8	58.1
28	10.1	13.2	16.7	20.6	24.9	29.6	34.7	40.3	46.3	52.6	59.4	66.6
29	11.7	15.2	19.3	23.8	28.8	34.3	40.3	46.7	53.6	61.0	68.8	77.2
30	13.0	17.0	21.5	26.6	32.1	38.3	44.9	52.1	59.8	68.0	76.8	86.1
31	15.0	19.6	24.8	30.7	37.1	44.2	51.8	60.1	69.0	78.5	88.6	99.3
32	16.8	22.0	27.8	34.3	41.5	49.4	58.0	67.2	77.2	87.8	99.1	111
33	19.3	25.2	31.9	39.4	47.7	56.8	66.6	77.3	88.7	101	114	128
34	21.3	27.8	35.2	43.4	52.5	62.5	73.4	85.1	97.7	111	125	141
35	24.3	31.8	40.2	49.6	60.1	71.5	83.9	97.3	112	127	143	161
36	27.2	35.5	45.0	55.5	67.2	79.9	93.8	109	125	142	160	180
37	30.4	39.7	50.2	62.0	75.0	89.3	105	121	139	159	179	201
38	34.2	44.7	56.6	69.8	84.5	101	118	137	157	179	202	226



# Wind Ratings for Trees -- ITRS 2015

Water_Oak	Rating of horizontal anchor at 0.6m (kN)											Complete: 10/31/2015 12:34:41 PM
C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	2.5	3.3	4.2	5.2	6.3	7.4	8.7	10.1	11.6	13.2	14.9	16.7
15	3.2	4.1	5.2	6.4	7.8	9.3	10.9	12.6	14.5	16.5	18.6	20.9
16	3.9	5.1	6.5	8.0	9.7	11.5	13.6	15.7	18.0	20.5	23.2	26.0
17	4.8	6.2	7.9	9.7	11.8	14.0	16.5	19.1	21.9	24.9	28.2	31.6
18	5.8	7.6	9.6	11.8	14.3	17.0	20.0	23.1	26.6	30.2	34.1	38.3
19	6.9	9.0	11.4	14.0	17.0	20.2	23.7	27.5	31.6	36.0	40.6	45.5
20	8.3	10.8	13.7	16.9	20.5	24.4	28.6	33.1	38.1	43.3	48.9	54.8
21	9.9	12.9	16.4	20.2	24.5	29.1	34.2	39.6	45.5	51.8	58.4	65.5
22	11.5	15.0	19.0	23.5	28.4	33.8	39.7	46.0	52.8	60.1	67.9	76.1
23	13.6	17.7	22.4	27.7	33.5	39.9	46.8	54.3	62.4	70.9	80.1	89.8
24	16.0	20.9	26.5	32.7	39.5	47.0	55.2	64.0	73.5	83.6	94.4	106
25	18.7	24.4	30.9	38.2	46.2	55.0	64.5	74.8	85.9	97.7	110	124
26	21.2	27.7	35.1	43.3	52.4	62.3	73.2	84.9	97.4	111	125	140
27	24.5	32.0	40.5	50.0	60.5	71.9	84.4	97.9	112	128	144	162
28	27.5	35.9	45.5	56.2	68.0	80.9	94.9	110	126	144	162	182
29	31.4	41.1	52.0	64.2	77.6	92.4	108	126	144	164	185	208
30	35.1	45.8	58.0	71.6	86.6	103	121	140	161	183	207	232
31	39.7	51.8	65.6	81.0	98.0	117	137	159	182	207	234	262
32	44.0	57.4	72.7	89.7	109	129	152	176	202	230	259	291
33	49.2	64.3	81.3	100	121	145	170	197	226	257	290	325
34	55.1	71.9	91.0	112	136	162	190	220	253	288	325	364
35	61.7	80.6	102	126	152	181	213	247	283	322	364	408
36	67.5	88.2	112	138	167	198	233	270	310	353	398	447
37	76.3	99.6	126	156	188	224	263	305	350	398	450	504
38	83.1	109	137	170	205	244	287	332	382	434	490	549

# Wind Ratings for Trees -- ITRS 2015

Water\_Oak      Rating of High-D at 2m pulled 45deg (kN)      Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	1.0	1.3	1.7	2.1	2.5	3.0	3.5	4.1	4.7	5.3	6.0	6.7
15	1.3	1.7	2.1	2.6	3.1	3.7	4.4	5.1	5.8	6.7	7.5	8.4
16	1.6	2.1	2.6	3.2	3.9	4.7	5.5	6.3	7.3	8.3	9.3	10.5
17	1.9	2.5	3.2	3.9	4.7	5.7	6.6	7.7	8.8	10.0	11.3	12.7
18	2.3	3.0	3.9	4.8	5.8	6.8	8.0	9.3	10.7	12.2	13.7	15.4
19	2.8	3.6	4.6	5.7	6.8	8.1	9.6	11.1	12.7	14.5	16.4	18.3
20	3.3	4.4	5.5	6.8	8.2	9.8	11.5	13.4	15.3	17.4	19.7	22.1
21	4.0	5.2	6.6	8.1	9.9	11.7	13.8	16.0	18.3	20.9	23.5	26.4
22	4.6	6.1	7.7	9.5	11.4	13.6	16.0	18.5	21.3	24.2	27.3	30.7
23	5.5	7.1	9.0	11.2	13.5	16.1	18.9	21.9	25.1	28.6	32.3	36.2
24	6.4	8.4	10.7	13.2	15.9	18.9	22.2	25.8	29.6	33.7	38.0	42.6
25	7.5	9.8	12.5	15.4	18.6	22.1	26.0	30.1	34.6	39.4	44.4	49.8
26	8.5	11.2	14.1	17.4	21.1	25.1	29.5	34.2	39.2	44.7	50.4	56.5
27	9.9	12.9	16.3	20.1	24.4	29.0	34.0	39.5	45.3	51.5	58.2	65.2
28	11.1	14.5	18.3	22.6	27.4	32.6	38.2	44.3	50.9	57.9	65.4	73.3
29	12.7	16.5	20.9	25.9	31.3	37.2	43.7	50.7	58.2	66.2	74.7	83.8
30	14.1	18.4	23.4	28.8	34.9	41.5	48.7	56.5	64.9	73.8	83.3	93.4
31	16.0	20.9	26.4	32.6	39.5	47.0	55.2	64.0	73.4	83.5	94.3	106
32	17.7	23.1	29.3	36.1	43.7	52.0	61.1	70.8	81.3	92.5	104	117
33	19.8	25.9	32.8	40.4	48.9	58.2	68.4	79.3	91.0	104	117	131
34	22.2	29.0	36.7	45.3	54.8	65.2	76.5	88.7	102	116	131	147
35	24.9	32.5	41.1	50.7	61.4	73.0	85.7	99.4	114	130	147	164
36	27.2	35.5	45.0	55.5	67.2	80.0	93.8	109	125	142	160	180
37	30.7	40.1	50.8	62.7	75.9	90.3	106	123	141	161	181	203
38	33.5	43.7	55.3	68.3	82.7	98.4	115	134	154	175	197	221

# Wind Ratings for Trees -- ITRS 2015

White_Ash	Rating of horizontal anchor at 0.6m (kN)											Complete: 10/31/2015 12:34:41 PM
C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	4.0	5.2	6.5	8.1	9.8	11.6	13.7	15.8	18.2	20.7	23.4	26.2
15	5.1	6.7	8.4	10.4	12.6	15.0	17.6	20.4	23.5	26.7	30.1	33.8
16	6.5	8.5	10.8	13.3	16.1	19.2	22.5	26.1	30.0	34.1	38.5	43.2
17	8.2	10.7	13.5	16.7	20.2	24.1	28.2	32.7	37.6	42.8	48.3	54.1
18	10.5	13.7	17.4	21.4	25.9	30.8	36.2	42.0	48.2	54.8	61.9	69.4
19	13.3	17.3	21.9	27.0	32.7	38.9	45.7	53.0	60.8	69.2	78.2	87.6
20	16.4	21.5	27.2	33.5	40.6	48.3	56.7	65.7	75.4	85.8	96.9	109
21	20.4	26.7	33.8	41.7	50.5	60.1	70.5	81.7	93.8	107	121	135
22	24.8	32.4	41.0	50.6	61.2	72.8	85.4	99.1	114	129	146	164
23	30.1	39.3	49.8	61.4	74.3	88.5	104	120	138	157	178	199
24	35.2	46.0	58.3	71.9	87.0	104	122	141	162	184	208	233
25	41.6	54.4	68.8	85.0	103	122	144	167	191	218	246	275
26	48.6	63.5	80.3	99.2	120	143	168	194	223	254	287	321
27	56.1	73.3	92.8	115	139	165	194	225	258	293	331	371
28	66.8	87.2	110	136	165	196	230	267	307	349	394	441
29	74.7	97.6	124	153	185	220	258	299	343	391	441	494
30	86.3	113	143	176	213	254	298	345	396	451	509	571
31	96.0	125	159	196	237	282	331	384	441	502	566	635
32	110	144	182	225	272	324	380	441	506	576	650	728
33	124	162	206	254	307	365	429	497	571	650	733	822
34	143	187	237	292	354	421	494	573	658	749	845	947
35	158	206	261	322	390	464	544	631	724	824	931	1043
36	180	235	297	367	444	528	620	718	825	938	1059	1188
37	196	257	325	401	485	577	678	786	902	1026	1159	1299
38	214	280	354	437	529	629	738	856	983	1118	1263	1416

# Wind Ratings for Trees -- ITRS 2015

White\_Ash                      Rating of High-D at 2m pulled 45deg (kN)                      Complete: 10/31/2015 12:34:41 PM

C \ Wind	35	40	45	50	55	60	65	70	75	80	85	90
14	1.6	2.1	2.6	3.3	3.9	4.7	5.5	6.4	7.3	8.3	9.4	10.6
15	2.1	2.7	3.4	4.2	5.1	6.0	7.1	8.2	9.4	10.8	12.1	13.6
16	2.6	3.4	4.3	5.4	6.5	7.7	9.1	10.5	12.1	13.7	15.5	17.4
17	3.3	4.3	5.5	6.7	8.1	9.7	11.4	13.2	15.1	17.2	19.5	21.8
18	4.2	5.5	7.0	8.6	10.4	12.4	14.6	16.9	19.4	22.1	24.9	28.0
19	5.3	7.0	8.8	10.9	13.2	15.7	18.4	21.4	24.5	27.9	31.5	35.3
20	6.6	8.6	10.9	13.5	16.3	19.4	22.8	26.5	30.4	34.6	39.0	43.8
21	8.2	10.8	13.6	16.8	20.3	24.2	28.4	32.9	37.8	43.0	48.6	54.4
22	10.0	13.0	16.5	20.4	24.6	29.3	34.4	39.9	45.8	52.1	58.9	66.0
23	12.1	15.8	20.0	24.7	29.9	35.6	41.8	48.5	55.7	63.4	71.5	80.2
24	14.2	18.5	23.5	29.0	35.1	41.7	49.0	56.8	65.2	74.2	83.7	93.9
25	16.8	21.9	27.7	34.2	41.4	49.3	57.9	67.1	77.0	87.6	98.9	111
26	19.6	25.6	32.4	39.9	48.3	57.5	67.5	78.3	89.9	102	115	129
27	22.6	29.5	37.4	46.1	55.8	66.4	78.0	90.4	104	118	133	150
28	26.9	35.1	44.5	54.9	66.4	79.0	92.8	108	123	141	159	178
29	30.1	39.3	49.8	61.5	74.4	88.5	104	120	138	157	178	199
30	34.8	45.4	57.5	70.9	85.8	102	120	139	160	182	205	230
31	38.7	50.5	63.9	78.9	95.5	114	133	155	178	202	228	256
32	44.4	58.0	73.4	90.6	110	130	153	178	204	232	262	293
33	50.1	65.4	82.8	102	124	147	173	200	230	262	295	331
34	57.7	75.4	95.4	118	143	170	199	231	265	302	340	382
35	63.6	83.0	105	130	157	187	219	254	292	332	375	420
36	72.4	94.5	120	148	179	213	250	289	332	378	427	478
37	79.1	103	131	162	195	233	273	317	363	414	467	523
38	86.2	113	143	176	213	253	297	345	396	451	509	570