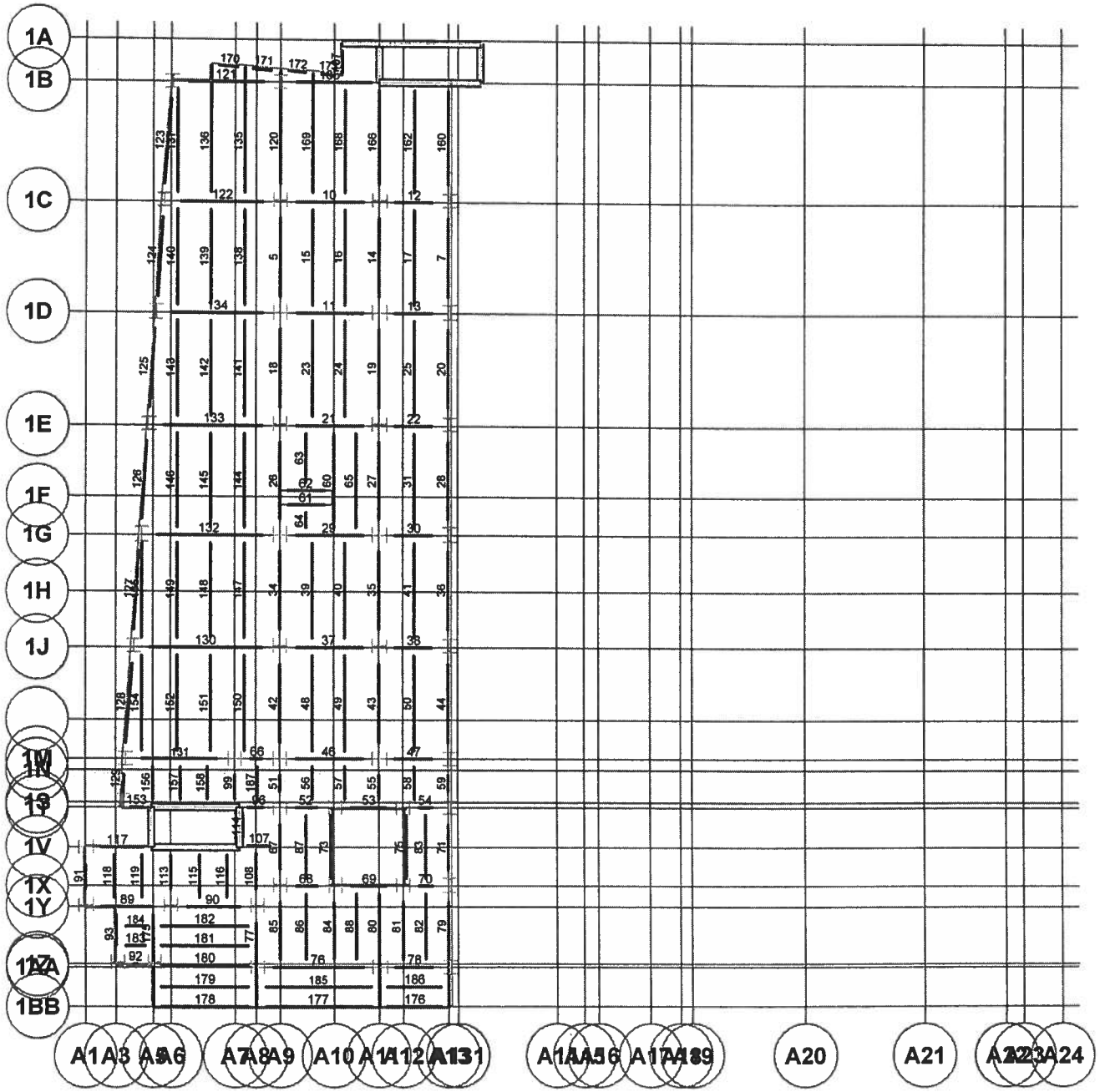
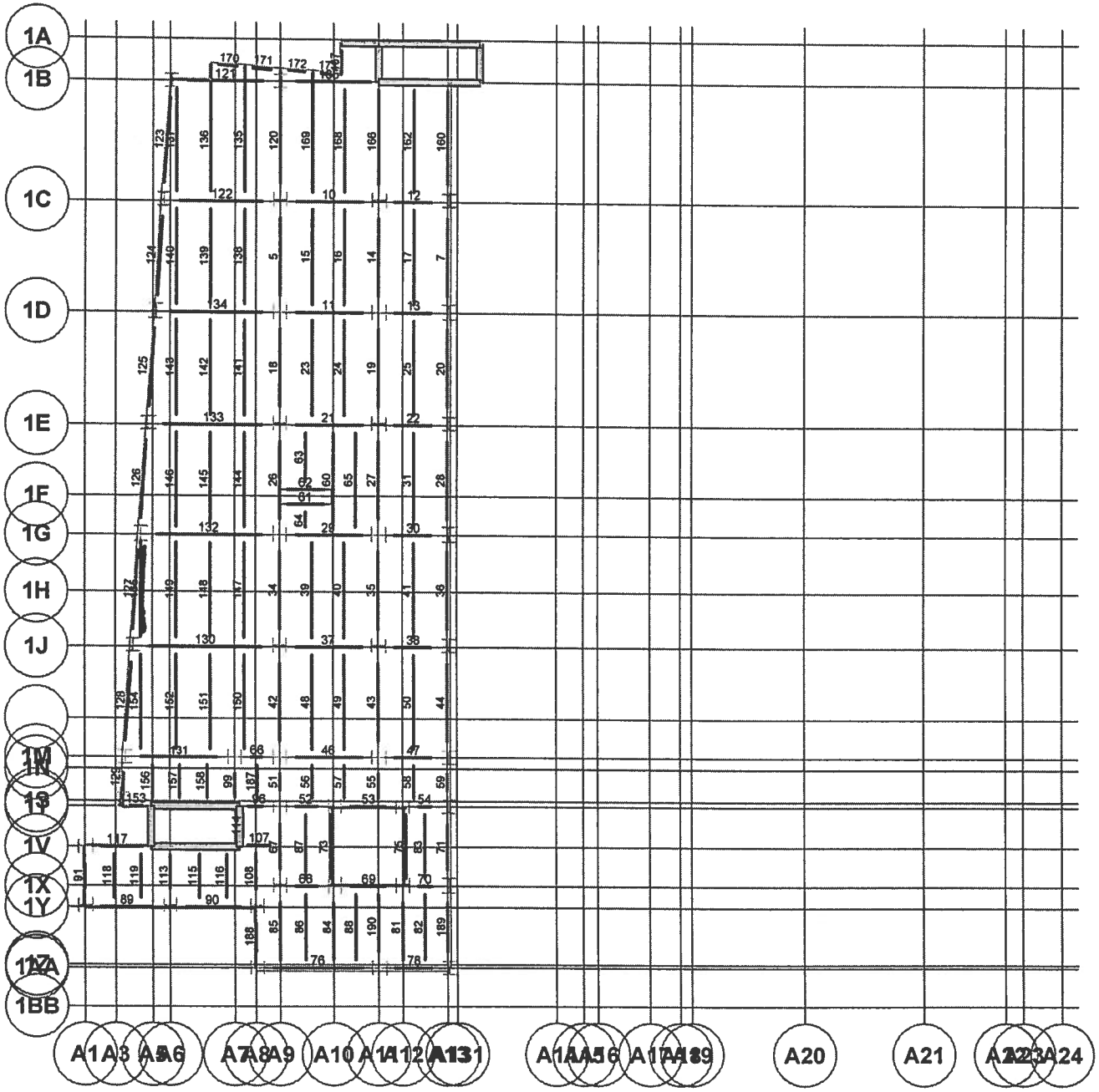
City of Aurora
Building Codes Division
15151 E Alameda Pkwy
Aurora, CO 80012
(303) 739-7420

Notice

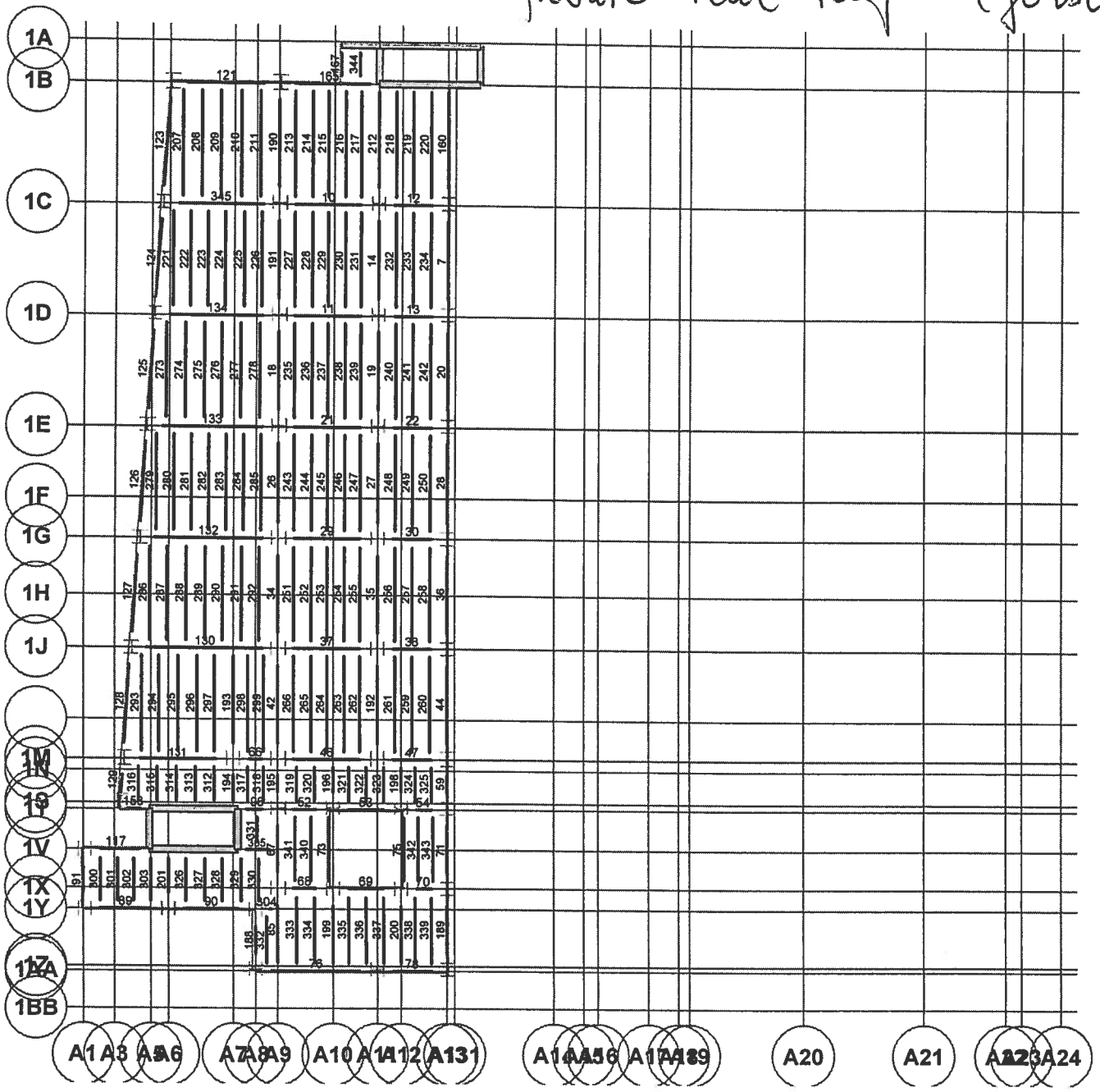
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future real roof (joists).



Beam Summary

RAM Steel v10.0
HCA Aurora
DataBase: HCA Aurora-100psf
Building Code: IBC

04/17/06 16:01:32
Steel Code: AISC LRFD

STEEL BEAM DESIGN SUMMARY:

Floor Type: Roof ? S300 & S301 (future floor only) → Same as typical floor!

Real future roof (joists)

Bm #	Length ft	+Mu kip-ft	-Mu kip-ft	Mn kip-ft	Fy ksi	Beam Size	Studs
~~91~~	~~15.33~~	~~17.1~~	~~0.0~~	~~37.0~~	~~50.0~~	~~W8X10~~	
~~89~~	~~22.21~~	~~45.0~~	~~0.0~~	~~72.5~~	~~50.0~~	~~W12X14~~	
~~117~~	~~17.17~~	~~27.1~~	~~0.0~~	~~37.0~~	~~50.0~~	~~W8X10~~	
153	7.69	1.7	0.0	37.0	50.0	W8X10	
129	1.59	0.0	-2.0				
	11.19	8.1	-2.0	37.0	50.0	W8X10	
128	29.07	60.9	0.0	72.5	50.0	W12X14	
131	28.84	63.5	0.0	138.3	50.0	W14X22	
127	29.07	61.0	0.0	72.5	50.0	W12X14	
130	38.56	160.1	0.0	326.7	50.0	W18X40	
126	29.07	60.6	0.0	72.5	50.0	W12X14	
132	36.53	142.7	0.0	277.1	50.0	W18X35	
125	29.07	61.1	0.0	72.5	50.0	W12X14	
133	34.50	126.5	0.0	277.1	50.0	W18X35	
124	29.07	60.7	0.0	72.5	50.0	W12X14	
134	32.48	111.1	0.0	225.0	50.0	W16X31	
123	31.08	70.3	0.0	83.8	50.0	W12X16	
345	30.45	100.5	0.0	184.2	50.0	W16X26	
~~90~~	~~22.75~~	~~47.4~~	~~0.0~~	~~72.5~~	~~50.0~~	~~W12X14~~	
~~121~~	~~28.28~~	~~47.4~~	~~0.0~~	~~102.9~~	~~50.0~~	~~W12X19~~	
~~66~~	~~11.75~~	~~9.2~~	~~0.0~~	~~37.0~~	~~50.0~~	~~W8X10~~	
305	10.46	5.1	0.0	37.0	50.0	W8X10	
96	10.46	4.5	0.0	37.0	50.0	W8X10	
188	16.00	17.9	0.0	37.0	50.0	W8X10	
76	32.00	107.6	0.0	138.3	50.0	W14X22	
304	6.00	1.7	0.0	37.0	50.0	W8X10	
85	21.33	8.8	0.0	37.0	50.0	W8X10	
67	20.58	13.4	0.0	37.0	50.0	W8X10	
68	14.33	16.2	0.0	37.0	50.0	W8X10	
52	14.33	13.5	0.0	37.0	50.0	W8X10	
46	26.00	51.4	0.0	102.9	50.0	W12X19	
37	26.00	71.2	0.0	138.3	50.0	W14X22	
29	26.00	71.2	0.0	138.3	50.0	W14X22	
21	26.00	71.2	0.0	138.3	50.0	W14X22	
11	26.00	71.2	0.0	138.3	50.0	W14X22	
10	26.00	73.6	0.0	138.3	50.0	W14X22	
~~165~~	~~26.00~~	~~43.4~~	~~0.0~~	~~83.8~~	~~50.0~~	~~W12X16~~	
73	20.58	20.5	0.0	52.5	50.0	W10X12	
69	17.92	25.0	0.0	52.5	50.0	W10X12	
53	17.92	20.2	0.0	52.5	50.0	W10X12	

Beam Summary

Bm #	Length	+Mu	-Mu	Mn	Fy	Beam Size	Studs
167	10.17	1.2	0.0	37.0	50.0	W8X10	
78	18.42	34.7	0.0	52.5	50.0	W10X12	
47	18.42	25.4	0.0	52.5	50.0	W10X12	
38	18.42	35.3	0.0	72.5	50.0	W12X14	
30	18.42	35.3	0.0	72.5	50.0	W12X14	
22	18.42	35.3	0.0	72.5	50.0	W12X14	
13	18.42	35.3	0.0	72.5	50.0	W12X14	
12	18.42	36.5	0.0	72.5	50.0	W12X14	
70	12.17	12.3	0.0	37.0	50.0	W8X10	
54	12.17	10.3	0.0	37.0	50.0	W8X10	
75	20.58	20.0	0.0	52.5	50.0	W10X12	
189	21.33	33.0	0.0	72.5	50.0	W12X14	
71	20.58	30.2	0.0	37.0	50.0	W8X10	
59	12.75	11.7	0.0	37.0	50.0	W8X10	
44	29.00	61.8	0.0	72.5	50.0	W12X14	
36	29.00	61.8	0.0	72.5	50.0	W12X14	
28	29.00	61.8	0.0	72.5	50.0	W12X14	
20	29.00	61.8	0.0	72.5	50.0	W12X14	
7	29.00	61.8	0.0	72.5	50.0	W12X14	
160	31.00	71.0	0.0	83.8	50.0	W12X16	

Floor Type: Typical

Bm #	Length ft	+Mu kip-ft	-Mu kip-ft	Mn kip-ft	Fy ksi	Beam Size	Studs
91	15.33	56.4	0.0	141.9	50.0	~~W12X16~~	10
89	22.21	168.4	0.0	299.1	50.0	~~W14X22~~	32
117	17.17	111.3	0.0	167.0	50.0	~~W12X16~~	15
118	15.33	55.5	0.0	142.8	50.0	~~W12X16 u~~	10
153	7.69	1.1	0.0	130.9	50.0	~~W12X16~~	6
129	1.59	0.0	-3.6				
	11.19	31.8	-3.6	131.5	50.0	~~W12X16~~	9
128	29.07	154.1	0.0	420.9	50.0	~~W18X35~~	23
131	28.84	511.0	0.0	707.9	50.0	~~W18X46 u~~	54
127	29.07	127.1	0.0	383.7	50.0	~~W18X35~~	17
130	38.56	1053.7	0.0	1721.2	50.0	~~W18X130~~	67
126	29.07	219.8	0.0	522.6	50.0	~~W18X35~~	49
132	36.53	954.8	0.0	1557.3	50.0	~~W18X106~~	102
119	15.33	55.5	0.0	142.8	50.0	~~W12X16 u~~	10
154	29.00	170.1	0.0	289.5	50.0	~~W16X26~~	17
missing? 155	29.00	142.7	0.0	240.3	50.0	~~W14X22~~	19
125	29.07	192.9	0.0	485.1	50.0	~~W18X35~~	37
133	34.50	867.9	0.0	1268.0	50.0	~~W18X97~~	51
156	12.75	44.6	0.0	142.5	50.0	~~W12X16 u~~	11
124	29.07	165.9	0.0	432.5	50.0	~~W18X35~~	26
134	32.48	762.8	0.0	1126.4	50.0	~~W18X76~~	86

Beam Summary

Bm #	Length	+Mu	-Mu	Mn	Fy	Beam Size	Studs
123	31.08	159.0	0.0	482.9	50.0	W21X44	11
122	30.45	680.9	0.0	978.8	50.0	W18X71 u	60
113	15.33	56.1	0.0	142.8	50.0	W12X16 u	10
90	22.75	176.9	0.0	310.5	50.0	W16X26	16
121	28.28	452.1	0.0	606.6	50.0	W18X46 u	40
152	29.00	228.0	0.0	357.3	50.0	W16X26	32
149	29.00	228.0	0.0	357.3	50.0	W16X26	32
146	29.00	223.3	0.0	342.4	50.0	W16X26	29
143	29.00	203.3	0.0	290.1	50.0	W16X26	17
140	29.00	181.9	0.0	289.7	50.0	W16X26	17
137	31.00	176.1	0.0	289.3	50.0	W16X26	17
157	12.75	40.3	0.0	142.5	50.0	W12X16 u	10
115	15.33	56.8	0.0	142.8	50.0	W12X16 u	10
158	12.75	37.4	0.0	142.5	50.0	W12X16 u	10
151	29.00	228.0	0.0	357.3	50.0	W16X26	32
148	29.00	228.0	0.0	357.3	50.0	W16X26	32
145	29.00	228.0	0.0	357.3	50.0	W16X26	32
142	29.00	228.0	0.0	357.3	50.0	W16X26	32
139	29.00	228.0	0.0	357.3	50.0	W16X26	32
136	31.00	257.4	-14.4	637.0	50.0	W16X50 u	45
	4.42	0.0	-14.4				
116	15.33	56.8	0.0	142.8	50.0	W12X16 u	10
99	12.75	33.9	0.0	142.5	50.0	W12X16 u	10
66	11.75	83.9	0.0	273.4	50.0	W16X26 u	22
107	10.46	38.7	0.0	145.2	50.0	W12X16 u	10
96	10.46	28.7	0.0	145.2	50.0	W12X16 u	10
114	10.17	17.3	0.0	131.4	50.0	W12X16 u	8
150	29.00	228.0	0.0	357.3	50.0	W16X26	32
147	29.00	228.0	0.0	357.3	50.0	W16X26	32
144	29.00	228.0	0.0	357.3	50.0	W16X26	32
141	29.00	228.0	0.0	357.3	50.0	W16X26	32
138	29.00	228.0	0.0	357.3	50.0	W16X26	32
135	31.00	256.3	-20.7	637.0	50.0	W16X50 u	45
	3.74	0.0	-20.7				
188	16.00	55.8	0.0	141.4	50.0	W12X16 u	10
76	32.00	500.6	0.0	1312.8	50.0	W18X106	45
108	15.75	53.7	0.0	142.8	50.0	W12X16 u	10
187	12.75	30.5	0.0	142.5	50.0	W12X16 u	10
85	21.33	95.6	0.0	143.2	50.0	W12X16	10
67	20.58	134.2	0.0	241.1	50.0	W14X22 u	20
68	14.33	139.2	0.0	166.1	50.0	W12X16	12
51	12.75	37.7	0.0	142.5	50.0	W12X16 u	10
52	14.33	109.2	0.0	144.8	50.0	W12X16	8
42	29.00	224.7	0.0	349.9	50.0	W16X26	30
46	26.00	356.0	0.0	477.0	50.0	W18X35	24

Beam Summary

Bm #	Length	+Mu	-Mu	Mn	Fy	Beam Size	Studs
34	29.00	224.7	0.0	349.9	50.0	W16X26	30
37	26.00	466.2	0.0	723.7	50.0	W18X50 u	45
26	29.00	252.3	0.0	378.3	50.0	W16X31	30
29	26.00	480.0	0.0	708.7	50.0	W18X50 u	45
61	14.00	26.0	0.0	131.4	50.0	W12X16	6
62	14.00	55.1	0.0	131.4	50.0	W12X16	6
18	29.00	226.3	0.0	349.9	50.0	W16X26	31
21	26.00	539.4	0.0	667.4	50.0	W18X46 u	45
5	29.00	224.7	0.0	349.9	50.0	W16X26	30
11	26.00	467.4	0.0	716.3	50.0	W18X50 u	45
120	31.00	253.8	-14.4	637.0	50.0	W16X50 u	45
	3.07	0.0	-14.4				
10	26.00	480.7	0.0	659.6	50.0	W18X46 u	45
165	26.00	339.9	0.0	424.1	50.0	W18X35	22
64	8.00	14.3	0.0	83.8	50.0	W12X16	
63	17.00	66.9	0.0	142.9	50.0	W12X16	11
86	21.33	104.0	0.0	143.2	50.0	W12X16	10
87	20.58	90.1	0.0	143.2	50.0	W12X16	10
56	12.75	44.8	0.0	142.5	50.0	W12X16 u	10
48	29.00	221.5	0.0	335.4	50.0	W16X26	26
39	29.00	221.5	0.0	335.4	50.0	W16X26	26
23	29.00	228.1	0.0	349.9	50.0	W16X26	31
15	29.00	221.5	0.0	335.4	50.0	W16X26	26
169	31.00	251.1	-9.0	637.0	50.0	W16X50 u	45
	2.43	0.0	-9.0				
73	20.58	62.2	0.0	142.4	50.0	W12X16	10
60	29.00	226.8	0.0	357.6	50.0	W16X26	42
84	21.33	107.7	0.0	143.2	50.0	W12X16	10
69	17.92	145.1	0.0	183.5	50.0	W12X16	21
53	17.92	88.3	0.0	145.3	50.0	W12X16	12
167	10.17	18.9	0.0	131.4	50.0	W12X16	9
57	12.75	44.8	0.0	142.5	50.0	W12X16 u	10
49	29.00	221.5	0.0	335.4	50.0	W16X26	26
40	29.00	221.5	0.0	335.4	50.0	W16X26	26
24	29.00	224.6	0.0	342.4	50.0	W16X26	29
16	29.00	221.5	0.0	335.4	50.0	W16X26	26
168	31.00	250.1	0.0	398.3	50.0	W16X31	30
65	29.00	162.8	0.0	289.9	50.0	W16X26	17
88	21.33	111.4	0.0	143.2	50.0	W12X16	10
190	21.33	115.2	0.0	149.0	50.0	W12X14	14
78	18.42	177.3	0.0	266.9	50.0	W14X22	23
55	12.75	46.2	0.0	142.5	50.0	W12X16 u	10
43	29.00	226.7	0.0	357.3	50.0	W16X26	32
47	18.42	227.4	0.0	358.3	50.0	W16X26 u	26
35	29.00	226.7	0.0	357.3	50.0	W16X26	32

Bm #	Length	+Mu	-Mu	Mn	Fy	Beam Size	Studs
38	18.42	296.0	0.0	350.7	50.0	W16X26	24
27	29.00	200.5	0.0	290.1	50.0	W16X26	16
30	18.42	296.0	0.0	350.7	50.0	W16X26	24
19	29.00	226.7	0.0	357.3	50.0	W16X26	32
22	18.42	296.0	0.0	350.7	50.0	W16X26	24
14	29.00	226.7	0.0	357.3	50.0	W16X26	32
13	18.42	296.0	0.0	350.7	50.0	W16X26	24
166	31.00	256.1	0.0	420.9	50.0	W16X31	36
12	18.42	304.3	0.0	365.8	50.0	W16X26	28
81	21.33	117.7	0.0	143.2	50.0	W12X16	10
70	12.17	116.7	0.0	144.4	50.0	W12X16	8
54	12.17	72.6	0.0	144.4	50.0	W12X16	8
75	20.58	55.0	0.0	142.4	50.0	W12X16	10
58	12.75	47.6	0.0	142.5	50.0	W12X16 u	10
50	29.00	232.0	0.0	371.7	50.0	W16X26	36
41	29.00	232.0	0.0	371.7	50.0	W16X26	36
31	29.00	232.0	0.0	371.7	50.0	W16X26	36
25	29.00	232.0	0.0	371.7	50.0	W16X26	36
17	29.00	232.0	0.0	371.7	50.0	W16X26	36
162	31.00	262.0	0.0	442.4	50.0	W16X31	42
82	21.33	116.1	0.0	143.2	50.0	W12X16	10
83	20.58	75.6	0.0	143.2	50.0	W12X16	10
189	21.33	113.5	0.0	139.4	50.0	W12X14	12
71	20.58	93.0	0.0	189.6	50.0	W12X19	16
59	12.75	43.6	0.0	141.5	50.0	W12X16	10
44	29.00	228.2	0.0	527.6	50.0	W18X35	51
36	29.00	228.2	0.0	527.6	50.0	W18X35	51
28	29.00	228.2	0.0	527.6	50.0	W18X35	51
20	29.00	228.2	0.0	527.6	50.0	W18X35	51
7	29.00	228.2	0.0	527.6	50.0	W18X35	51
160	31.00	262.3	0.0	674.1	50.0	W18X46	58

Floor Type: 2nd Floor

Bm #	Length ft	+Mu kip-ft	-Mu kip-ft	Mn kip-ft	Fy ksi	Beam Size	Studs
91	15.33	56.4	0.0	141.9	50.0	W12X16	10
89	22.21	173.4	0.0	299.1	50.0	W14X22	35
117	17.17	111.3	0.0	167.0	50.0	W12X16	15
118	15.33	55.5	0.0	142.8	50.0	W12X16 u	
93	14.92	7.3	0.0	83.8	50.0	W12X16	
92	9.63	2.3	0.0	83.8	50.0	W12X16	
183	9.63	1.8	0.0	83.8	50.0	W12X16	
184	9.63	1.9	0.0	83.8	50.0	W12X16	
153	7.69	1.1	0.0	130.9	50.0	W12X16	
129	1.59	0.0	-3.6				

Beam Summary

Bm #	Length	+Mu	-Mu	Mn	Fy	Beam Size	Studs
	11.19	31.8	-3.6	131.5	50.0	W12X16	9
128	29.07	154.1	0.0	420.9	50.0	W18X35	23
131	28.84	512.7	0.0	758.3	50.0	W18X60 u	30
127	29.07	127.1	0.0	383.7	50.0	W18X35	17
130	38.56	1053.7	0.0	1763.2	50.0	W18X130 u	78
126	29.07	219.8	0.0	522.6	50.0	W18X35	49
132	36.53	954.8	0.0	1579.6	50.0	W18X106 u	110
119	15.33	55.5	0.0	142.8	50.0	W12X16 u	10
154	29.00	170.1	0.0	289.5	50.0	W16X26	17
155	29.00	142.7	0.0	240.3	50.0	W14X22	19
125	29.07	192.9	0.0	485.1	50.0	W18X35	37
133	34.50	867.9	0.0	1301.7	50.0	W18X97 u	60
156	12.75	44.6	0.0	142.5	50.0	W12X16 u	11
178	27.17	19.8	0.0	138.3	50.0	W14X22 u	
179	27.17	16.3	0.0	138.3	50.0	W14X22 u	
180	27.17	16.3	0.0	138.3	50.0	W14X22 u	
175	11.04	0.0	-54.9				
	14.92	1.2	-54.9	138.3	50.0	W14X22	
181	27.17	16.3	0.0	138.3	50.0	W14X22 u	
182	27.17	16.3	0.0	138.3	50.0	W14X22 u	
124	29.07	165.9	0.0	432.5	50.0	W18X35	26
134	32.48	766.1	0.0	1225.2	50.0	W18X97 u	45
123	31.08	159.3	0.0	513.0	50.0	W18X46	21
122	30.45	680.9	0.0	978.8	50.0	W18X71 u	60
113	15.33	56.1	0.0	142.8	50.0	W12X16 u	10
90	22.75	172.8	0.0	299.5	50.0	W16X26	14
121	28.28	452.5	0.0	602.7	50.0	W18X50 u	30
152	29.00	228.0	0.0	357.3	50.0	W16X26	32
149	29.00	228.0	0.0	357.3	50.0	W16X26	32
146	29.00	223.3	0.0	342.4	50.0	W16X26	29
143	29.00	203.3	0.0	290.1	50.0	W16X26	17
140	29.00	181.9	0.0	289.7	50.0	W16X26	17
137	31.00	176.1	0.0	289.3	50.0	W16X26	17
157	12.75	40.3	0.0	142.5	50.0	W12X16 u	10
115	15.33	56.8	0.0	142.8	50.0	W12X16 u	10
158	12.75	37.4	0.0	142.5	50.0	W12X16 u	10
151	29.00	228.0	0.0	357.3	50.0	W16X26	32
148	29.00	228.0	0.0	357.3	50.0	W16X26	32
145	29.00	228.0	0.0	357.3	50.0	W16X26	32
142	29.00	228.0	0.0	357.3	50.0	W16X26	32
139	29.00	228.0	0.0	357.3	50.0	W16X26	32
136	31.00	257.4	-14.4	637.0	50.0	W16X50 u	45
	4.42	0.0	-14.4				
116	15.33	56.8	0.0	142.8	50.0	W12X16 u	10
99	12.75	33.9	0.0	142.5	50.0	W12X16 u	10

Beam Summary

Bm #	Length	+Mu	-Mu	Mn	Fy	Beam Size	Studs
66	11.75	83.9	0.0	273.4	50.0	W16X26 u	22
107	10.46	38.7	0.0	145.2	50.0	W12X16 u	10
96	10.46	28.7	0.0	145.2	50.0	W12X16 u	10
114	10.17	17.3	0.0	131.4	50.0	W12X16 u	8
150	29.00	228.0	0.0	357.3	50.0	W16X26	32
147	29.00	228.0	0.0	357.3	50.0	W16X26	32
144	29.00	228.0	0.0	357.3	50.0	W16X26	32
141	29.00	228.0	0.0	357.3	50.0	W16X26	32
138	29.00	228.0	0.0	357.3	50.0	W16X26	32
135	31.00	256.3	-20.7	637.0	50.0	W16X50 u	45
	3.74	0.0	-20.7				
177	32.00	26.6	0.0	83.8	50.0	W12X16	
185	32.00	20.7	0.0	83.8	50.0	W12X16	
77	9.96	0.0	-83.9				
	16.00	37.5	-83.8	138.3	50.0	W14X22	
76	32.00	490.7	0.0	1236.6	50.0	W18X97	51
108	15.75	53.7	0.0	142.8	50.0	W12X16 u	10
187	12.75	30.5	0.0	142.5	50.0	W12X16 u	10
85	21.33	95.6	0.0	143.2	50.0	W12X16	10
67	20.58	134.2	0.0	241.1	50.0	W14X22 u	20
68	14.33	139.2	0.0	166.1	50.0	W12X16	12
51	12.75	37.7	0.0	142.5	50.0	W12X16 u	10
52	14.33	109.2	0.0	144.8	50.0	W12X16	8
42	29.00	224.7	0.0	349.9	50.0	W16X26	30
46	26.00	356.0	0.0	477.0	50.0	W18X35	24
34	29.00	224.7	0.0	349.9	50.0	W16X26	30
37	26.00	466.2	0.0	723.7	50.0	W18X50 u	45
26	29.00	252.3	0.0	378.3	50.0	W16X31	30
29	26.00	480.0	0.0	708.7	50.0	W18X50 u	45
61	14.00	26.0	0.0	131.4	50.0	W12X16	6
62	14.00	55.1	0.0	131.4	50.0	W12X16	6
18	29.00	226.3	0.0	349.9	50.0	W16X26	31
21	26.00	539.8	0.0	708.7	50.0	W18X50 u	45
5	29.00	224.7	0.0	349.9	50.0	W16X26	30
11	26.00	466.4	0.0	673.9	50.0	W18X40	66
120	31.00	253.8	-14.4	637.0	50.0	W16X50 u	45
	3.07	0.0	-14.4				
10	26.00	480.7	0.0	659.6	50.0	W18X46 u	45
165	26.00	339.9	0.0	424.1	50.0	W18X35	22
64	8.00	14.3	0.0	83.8	50.0	W12X16	
63	17.00	66.9	0.0	142.9	50.0	W12X16	11
86	21.33	104.0	0.0	143.2	50.0	W12X16	10
87	20.58	90.1	0.0	143.2	50.0	W12X16	10
56	12.75	44.8	0.0	142.5	50.0	W12X16 u	10
48	29.00	221.5	0.0	335.4	50.0	W16X26	26

Beam Summary

Bm #	Length	+Mu	-Mu	Mn	Fy	Beam Size	Studs
39	29.00	221.5	0.0	335.4	50.0	W16X26	26
23	29.00	228.1	0.0	349.9	50.0	W16X26	31
15	29.00	221.5	0.0	335.4	50.0	W16X26	26
169	31.00	251.1	-9.0	637.0	50.0	W16X50 u	45
	2.43	0.0	-9.0				
73	20.58	62.2	0.0	142.4	50.0	W12X16	10
60	29.00	226.8	0.0	357.6	50.0	W16X26	42
84	21.33	107.7	0.0	143.2	50.0	W12X16	10
69	17.92	138.2	0.0	286.8	50.0	W16X26 u	14
53	17.92	88.3	0.0	145.3	50.0	W12X16	12
167	10.17	18.9	0.0	131.4	50.0	W12X16	9
57	12.75	44.8	0.0	142.5	50.0	W12X16 u	10
49	29.00	221.5	0.0	335.4	50.0	W16X26	26
40	29.00	221.5	0.0	335.4	50.0	W16X26	26
24	29.00	224.6	0.0	342.4	50.0	W16X26	29
16	29.00	221.5	0.0	335.4	50.0	W16X26	26
168	31.00	250.1	0.0	398.3	50.0	W16X31	30
65	29.00	162.8	0.0	289.9	50.0	W16X26	17
88	21.33	111.4	0.0	143.2	50.0	W12X16	10
176	18.42	8.8	0.0	83.8	50.0	W12X16	
186	18.42	6.9	0.0	83.8	50.0	W12X16	
80	9.96	0.0	-70.7				
	21.33	92.5	-70.7	225.0	50.0	W16X31	
78	18.42	174.4	0.0	260.8	50.0	W14X22	21
55	12.75	46.2	0.0	142.5	50.0	W12X16 u	10
43	29.00	226.7	0.0	357.3	50.0	W16X26	32
47	18.42	227.4	0.0	289.1	50.0	W16X26 u	12
35	29.00	226.7	0.0	357.3	50.0	W16X26	32
38	18.42	296.0	0.0	350.7	50.0	W16X26	24
27	29.00	200.5	0.0	290.1	50.0	W16X26	16
30	18.42	296.0	0.0	350.7	50.0	W16X26	24
19	29.00	226.7	0.0	357.3	50.0	W16X26	32
22	18.42	296.0	0.0	350.7	50.0	W16X26	24
14	29.00	226.7	0.0	357.3	50.0	W16X26	32
13	18.42	296.0	0.0	350.7	50.0	W16X26	24
166	31.00	256.1	0.0	420.9	50.0	W16X31	36
12	18.42	304.3	0.0	365.8	50.0	W16X26	28
81	21.33	117.7	0.0	143.2	50.0	W12X16	10
70	12.17	116.7	0.0	144.4	50.0	W12X16	8
54	12.17	72.6	0.0	144.4	50.0	W12X16	8
75	20.58	55.0	0.0	142.4	50.0	W12X16	10
58	12.75	47.6	0.0	142.5	50.0	W12X16 u	10
50	29.00	232.0	0.0	371.7	50.0	W16X26	36
41	29.00	232.0	0.0	371.7	50.0	W16X26	36
31	29.00	232.0	0.0	371.7	50.0	W16X26	36

Beam Summary

Bm #	Length	+Mu	-Mu	Mn	Fy	Beam Size	Studs
25	29.00	232.0	0.0	371.7	50.0	W16X26	36
17	29.00	232.0	0.0	371.7	50.0	W16X26	36
162	31.00	262.0	0.0	442.4	50.0	W16X31	42
82	21.33	116.1	0.0	143.2	50.0	W12X16	10
83	20.58	75.6	0.0	143.2	50.0	W12X16	10
79	9.96	0.0	-32.9				
	21.33	103.7	-32.9	315.2	50.0	W16X26	24
71	20.58	93.2	0.0	245.8	50.0	W14X22 u	20
59	12.75	43.6	0.0	141.5	50.0	W12X16	10
44	29.00	228.2	0.0	527.6	50.0	W18X35	51
36	29.00	228.2	0.0	527.6	50.0	W18X35	51
28	29.00	228.2	0.0	527.6	50.0	W18X35	51
20	29.00	228.2	0.0	527.6	50.0	W18X35	51
7	29.00	228.2	0.0	527.6	50.0	W18X35	51
160	31.00	262.3	0.0	674.1	50.0	W18X46	58

* after Size denotes beam failed stress/capacity criteria.
\# after Size denotes beam failed deflection criteria.
u after Size denotes this size has been assigned by the User.

JOIST SELECTION SUMMARY:

Floor Type: Roof

Standard Joists:

Joist #	Length	WDL	WLL	WTL	Joist
300	15.33	88.8	0.0	88.8	10K1
301	15.33	88.8	0.0	88.8	10K1
302	15.33	89.1	0.0	89.1	10K1
316	12.75	99.1	0.0	99.1	10K1
293	29.00	86.0	0.0	89.4	16K2SP
286	29.00	86.3	0.0	89.6	16K2SP
303	15.33	88.8	0.0	88.8	10K1
279	29.00	81.2	0.0	84.6	16K2SP
315	12.75	99.1	0.0	99.1	10K1
294	29.00	96.1	0.0	96.1	16K2
273	29.00	88.4	0.0	91.8	16K2SP
287	29.00	96.4	0.0	96.4	16K2
201	15.33	92.1	0.0	92.1	10K1
221	29.00	82.7	0.0	86.0	16K2SP
280	29.00	91.3	0.0	91.3	16K2
314	12.75	99.1	0.0	99.1	10K1
295	29.00	96.1	0.0	96.1	16K2
207	31.00	90.7	0.0	94.3	16K2SP
274	29.00	98.6	0.0	98.6	16K2
288	29.00	96.4	0.0	96.4	16K2
326	15.33	95.8	0.0	95.8	10K1
222	29.00	92.8	0.0	92.8	16K2
281	29.00	91.3	0.0	91.3	16K2
313	12.75	99.1	0.0	99.1	10K1
296	29.00	96.1	0.0	96.1	16K2
208	31.00	101.5	0.0	101.5	16K2
275	29.00	98.6	0.0	98.6	16K2
289	29.00	96.4	0.0	96.4	16K2
327	15.33	95.8	0.0	95.8	10K1
223	29.00	92.8	0.0	92.8	16K2
282	29.00	91.3	0.0	91.3	16K2
312	12.75	99.1	0.0	99.1	10K1
297	29.00	96.1	0.0	96.1	16K2
209	31.00	101.5	0.0	101.5	16K2
276	29.00	98.6	0.0	98.6	16K2
290	29.00	96.4	0.0	96.4	16K2
328	15.33	95.8	0.0	95.8	10K1
224	29.00	92.8	0.0	92.8	16K2
283	29.00	91.3	0.0	91.3	16K2
194	12.75	88.7	0.0	88.7	10K1

Beam Summary

Joist #	Length	WDL	WLL	WTL	Joist
193	29.00	87.2	0.0	87.2	16K2
210	31.00	101.5	0.0	101.5	16K2
277	29.00	98.6	0.0	98.6	16K2
291	29.00	96.4	0.0	96.4	16K2
329	15.33	95.8	0.0	95.8	10K1
225	29.00	92.8	0.0	92.8	16K2
284	29.00	91.3	0.0	91.3	16K2
317	12.75	78.3	0.0	78.3	10K1
298	29.00	78.3	0.0	78.3	16K2
331	10.58	104.6	0.0	104.6	10K1
211	31.00	101.5	0.0	101.5	16K2
278	29.00	98.6	0.0	98.6	16K2
292	29.00	96.4	0.0	96.4	16K2
330	15.33	95.8	0.0	95.8	10K1
226	29.00	92.8	0.0	92.8	16K2
285	29.00	91.3	0.0	91.3	16K2
318	12.75	78.3	0.0	78.3	10K1
299	29.00	78.3	0.0	78.3	16K2
332	16.00	60.0	0.0	60.0	10K1
195	12.75	86.9	0.0	86.9	10K1
42	29.00	82.5	0.0	82.5	16K2
34	29.00	91.5	0.0	91.5	16K2
26	29.00	89.0	0.0	89.0	16K2
18	29.00	92.6	0.0	92.6	16K2
191	29.00	89.7	0.0	89.7	16K2
190	31.00	94.1	0.0	94.1	16K2
266	29.00	86.7	0.0	86.7	16K2
251	29.00	86.7	0.0	86.7	16K2
243	29.00	86.7	0.0	86.7	16K2
235	29.00	86.7	0.0	86.7	16K2
227	29.00	86.7	0.0	86.7	16K2
213	31.00	86.7	0.0	86.7	16K2
341	20.58	88.9	0.0	88.9	12K1
333	21.33	95.5	0.0	95.5	12K1
319	12.75	95.5	0.0	95.5	10K1
265	29.00	86.7	0.0	86.7	16K2
252	29.00	86.7	0.0	86.7	16K2
244	29.00	86.7	0.0	86.7	16K2
236	29.00	86.7	0.0	86.7	16K2
228	29.00	86.7	0.0	86.7	16K2
214	31.00	86.7	0.0	86.7	16K2
340	20.58	88.9	0.0	88.9	12K1
334	21.33	95.5	0.0	95.5	12K1
320	12.75	95.5	0.0	95.5	10K1
264	29.00	86.7	0.0	86.7	16K2

Joist #	Length	WDL	WLL	WTL	Joist
253	29.00	86.7	0.0	86.7	16K2
245	29.00	86.7	0.0	86.7	16K2
237	29.00	86.7	0.0	86.7	16K2
229	29.00	86.7	0.0	86.7	16K2
215	31.00	86.7	0.0	86.7	16K2
199	21.33	92.6	0.0	92.6	12K1
196	12.75	92.6	0.0	92.6	10K1
263	29.00	86.7	0.0	86.7	16K2
254	29.00	86.7	0.0	86.7	16K2
246	29.00	86.7	0.0	86.7	16K2
238	29.00	86.7	0.0	86.7	16K2
230	29.00	86.7	0.0	86.7	16K2
216	31.00	86.7	0.0	86.7	16K2
335	21.33	89.6	0.0	89.6	12K1
321	12.75	89.6	0.0	89.6	10K1
344	10.17	96.2	0.0	96.2	10K1
262	29.00	86.7	0.0	86.7	16K2
255	29.00	86.7	0.0	86.7	16K2
247	29.00	86.7	0.0	86.7	16K2
239	29.00	86.7	0.0	86.7	16K2
231	29.00	86.7	0.0	86.7	16K2
217	31.00	86.7	0.0	86.7	16K2
336	21.33	89.6	0.0	89.6	12K1
322	12.75	89.6	0.0	89.6	10K1
192	29.00	89.4	0.0	89.4	16K2
35	29.00	89.4	0.0	89.4	16K2
27	29.00	89.4	0.0	89.4	16K2
19	29.00	89.4	0.0	89.4	16K2
14	29.00	89.4	0.0	89.4	16K2
212	31.00	89.4	0.0	89.4	16K2
337	21.33	89.6	0.0	89.6	12K1
323	12.75	89.6	0.0	89.6	10K1
261	29.00	92.1	0.0	92.1	16K2
256	29.00	92.1	0.0	92.1	16K2
248	29.00	92.1	0.0	92.1	16K2
240	29.00	92.1	0.0	92.1	16K2
232	29.00	92.1	0.0	92.1	16K2
218	31.00	92.1	0.0	92.1	16K2
200	21.33	85.4	0.0	85.4	12K1
198	12.75	85.4	0.0	85.4	10K1
259	29.00	92.1	0.0	92.1	16K2
257	29.00	92.1	0.0	92.1	16K2
249	29.00	92.1	0.0	92.1	16K2
241	29.00	92.1	0.0	92.1	16K2
233	29.00	92.1	0.0	92.1	16K2

Joist #	Length	WDL	WLL	WTL	Joist
219	31.00	92.1	0.0	92.1	16K2
338	21.33	81.1	0.0	81.1	12K1
324	12.75	81.1	0.0	81.1	10K1
342	20.58	74.4	0.0	74.4	12K1
260	29.00	92.1	0.0	92.1	16K2
258	29.00	92.1	0.0	92.1	16K2
250	29.00	92.1	0.0	92.1	16K2
242	29.00	92.1	0.0	92.1	16K2
234	29.00	92.1	0.0	92.1	16K2
220	31.00	92.1	0.0	92.1	16K2
339	21.33	81.1	0.0	81.1	12K1
325	12.75	81.1	0.0	81.1	10K1
343	20.58	74.4	0.0	74.4	12K1

* after Size denotes joist is inadequate.
u after Size denotes this size has been assigned by the User.

Design Warnings

RAM Steel v10.0
HCA Aurora
DataBase: HCA Aurora-100psf

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Beam 131 on 2nd Floor: Depth exceeds maximum depth restriction.
Beam 130 on 2nd Floor: Depth exceeds maximum depth restriction.
Beam 132 on 2nd Floor: Depth exceeds maximum depth restriction.
Beam 133 on 2nd Floor: Depth exceeds maximum depth restriction.
Beam 134 on 2nd Floor: Depth exceeds maximum depth restriction.