MULTI-SPAN TABLES

Tables are based on HEM FIR #2 lumber (or better), 40 PSF LL, 15 PSF DL, and 1500 PSF soil bearing pressure.
Note: Redwood may not be used for joists and beams.

NO CANTILEVER

*Rims require two additional 16d nails per lag bolt.

JOIST SPAN (feet)	(A) MINIMUM JOIST SIZE with joists spaced at:			(B) MINIMUM BEAM SIZE for spacing between posts at: END BEAM						CENTER BEAM						(C) MINIMUM CONNECTION OF LEDGER for spacing bolts with full penetration into: STUD		RIM*		
	12" OC	16" OC	24" OC	5 feet	6 feet	7 feet	8 feet	9 feet	10 feet	5 feet	6 feet	7 feet	8 feet	9 feet	10 feet	16" OC	24" OC	12" OC	16" OC	24" OC
6	2 x 6	2 x 6	2 x 6	2 - 2 x 6	2 - 2 x 6	2 - 2 x 6	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 6	2 - 2 x 6	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	1 - 7/16	2 - 5/16	1 - 3/8	1 - 3/8	2 - 3/8
7	2 x 6	2 x 6	2 x 6	2 - 2 x 6	2 - 2 x 6	2 - 2 x 6	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 12	2 - 2 x 12	1 - 7/16	2 - 3/8	1 - 3/8	2 - 3/8	2 - 3/8
8	2 x 6	2 x 6	2 x 8	2 - 2 x 6	2 - 2 x 6	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 6	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	—	2 - 5/16	2 - 7/16	1 - 3/8	2 - 3/8	2 - 3/8
9	2 x 6	2 x 6	2 x 8	2 - 2 x 6	2 - 2 x 6	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 12	2 - 2 x 12	—	2 - 5/16	2 - 7/16	2 - 3/8	2 - 3/8	3 - 3/8
10	2 x 6	2 x 8	2 x 8	2 - 2 x 6	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	—	—	2 - 3/8	2 - 7/16	2 - 3/8	2 - 3/8	3 - 3/8
11	2 x 8	2 x 8	2 x 10	2 - 2 x 6	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 8	2 - 2 x 10	2 - 2 x 12	2 - 2 x 12	—	—	2 - 3/8	3 - 3/8	2 - 3/8	2 - 3/8	3 - 3/8
12	2 x 8	2 x 10	2 x 10	2 - 2 x 6	2 - 2 x 6	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	—	—	—	2 - 7/16	3 - 7/16	2 - 3/8	2 - 3/8	3 - 3/8
13	2 x 8	2 x 10	2 x 12	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	2 - 2 x 10	2 - 2 x 12	2 - 2 x 12	—	—	—	2 - 7/16	3 - 7/16	2 - 3/8	3 - 3/8	4 - 3/8
14	2 x 10	2 x 10	2 x 12	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 12	2 - 2 x 12	2 - 2 x 10	2 - 2 x 12	—	—	—	—	2 - 7/16	3 - 7/16	2 - 3/8	3 - 3/8	4 - 3/8
15	2 x 10	2 x 10	—	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 12	—	2 - 2 x 10	2 - 2 x 12	—	—	—	—	2 - 7/16	3 - 7/16	2 - 3/8	3 - 3/8	4 - 3/8
16	2 x 10	2 x 12	—	2 - 2 x 6	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	—	2 - 2 x 10	2 - 2 x 12	—	—	—	—	3 - 3/8	4 - 3/8	2 - 3/8	3 - 3/8	4 - 3/8

JOIST SPAN (feet)	(D) MINIMUM DIAMETER OF FOOTINGS (inches) END BEAM END PIERS						END BEAM CENTER PIERS						CENTER BEAM END PIERS						CENTER BEAM CENTER PIERS						JOIST SPAN (feet)
	5 ft	6 ft	7 ft	8 ft	9 ft	10 ft	5 ft	6 ft	7 ft	8 ft	9 ft	10 ft	5 ft	6 ft	7 ft	8 ft	9 ft	10 ft	5 ft	6 ft	7 ft	8 ft	9 ft	10 ft	
6	8	8	8	8	8	8	8	8	8	8	10	10	8	8	8	8	8	8	10	12	12	14	14	16	6
7	8	8	8	8	8	8	8	8	8	10	10	10	8	8	8	8	8	10	10	12	14	14	16	18	7
8	8	8	8	8	8	8	8	8	10	10	12	12	8	8	8	8	10	10	12	14	14	16	18	18	8
9	8	8	8	8	8	8	8	10	10	12	12	12	8	8	8	10	10	12	12	14	16	18	18	24	9
10	8	8	8	8	8	8	8	10	10	12	12	14	8	8	10	10	12	12	14	16	18	18	24	24	10
11	8	8	8	8	8	8	10	10	12	12	14	14	8	8	10	10	12	12	14	16	18	24	24	24	11
12	8	8	8	8	8	8	10	12	12	14	14	16	8	10	10	12	12	14	16	18	20	24	24	24	12
13	8	8	8	8	8	8	10	12	12	14	16	16	8	10	12	12	14	14	16	18	24	24	24	26	13
14	8	8	8	8	8	10	10	12	14	14	16	18	10	10	12	12	14	14	18	20	24	24	26	26	14
15	8	8	8	8	10	10	12	12	14	16	16	18	10	12	12	14	14	16	18	24	24	24	26	28	15
16	8	8	8	8	10	10	12	14	14	16	18	18	10	12	12	14	16	16	18	24	24	26	28	30	16

2' CANTILEVER

*Rims require two additional 16d nails per lag bolt.

JOIST SPAN (feet)	(A) MINIMUM JOIST SIZE with joists spaced at:			(B) MINIMUM BEAM SIZE for spacing between posts at: END BEAM						CENTER BEAM						(C) MINIMUM CONNECTION OF LEDGER for spacing bolts with full penetration into: STUD		RIM*		
	12" OC	16" OC	24" OC	5 feet	6 feet	7 feet	8 feet	9 feet	10 feet	5 feet	6 feet	7 feet	8 feet	9 feet	10 feet	16" OC	24" OC	12" OC	16" OC	24" OC
6	2 x 6	2 x 6	2 x 6	2 - 2 x 6	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 6	2 - 2 x 6	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	1 - 7/16	2 - 5/16	1 - 3/8	1 - 3/8	2 - 3/8
7	2 x 6	2 x 6	2 x 6	2 - 2 x 6	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 12	2 - 2 x 12	1 - 7/16	2 - 3/8	1 - 3/8	2 - 3/8	2 - 3/8
8	2 x 6	2 x 6	2 x 8	2 - 2 x 6	2 - 2 x 6	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	2 - 2 x 6	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	—	2 - 5/16	2 - 7/16	1 - 3/8	2 - 3/8	2 - 3/8
9	2 x 6	2 x 6	2 x 8	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 12	2 - 2 x 12	—	2 - 5/16	2 - 7/16	2 - 3/8	2 - 3/8	3 - 3/8
10	2 x 6	2 x 8	2 x 8	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 12	2 - 2 x 12	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	—	—	2 - 3/8	2 - 7/16	2 - 3/8	2 - 3/8	3 - 3/8
11	2 x 8	2 x 8	2 x 10	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 12	—	2 - 2 x 8	2 - 2 x 10	2 - 2 x 12	2 - 2 x 12	—	—	2 - 3/8	3 - 3/8	2 - 3/8	2 - 3/8	3 - 3/8
12	2 x 8	2 x 8	2 x 10	2 - 2 x 6	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	—	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	—	—	—	2 - 7/16	3 - 7/16	2 - 3/8	2 - 3/8	3 - 3/8
13	2 x 8	2 x 10	2 x 12	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	—	2 - 2 x 10	2 - 2 x 12	2 - 2 x 12	—	—	—	2 - 7/16	3 - 7/16	2 - 3/8	3 - 3/8	4 - 3/8
14	2 x 10	2 x 10	2 x 12	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 12	2 - 2 x 12	—	2 - 2 x 10	2 - 2 x 12	—	—	—	—	2 - 7/16	3 - 7/16	2 - 3/8	3 - 3/8	4 - 3/8
15	2 x 10	2 x 10	—	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	—	—	2 - 2 x 10	2 - 2 x 12	—	—	—	—	2 - 7/16	3 - 7/16	2 - 3/8	3 - 3/8	4 - 3/8
16	2 x 10	2 x 12	—	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	—	—	2 - 2 x 10	2 - 2 x 12	—	—	—	—	3 - 3/8	4 - 3/8	2 - 3/8	3 - 3/8	4 - 3/8

JOIST SPAN (feet)	(D) MINIMUM DIAMETER OF FOOTINGS (inches) END BEAM END PIERS						END BEAM CENTER PIERS						CENTER BEAM END PIERS						CENTER BEAM CENTER PIERS						JOIST SPAN (feet)
	5 ft	6 ft	7 ft	8 ft	9 ft	10 ft	5 ft	6 ft	7 ft	8 ft	9 ft	10 ft	5 ft	6 ft	7 ft	8 ft	9 ft	10 ft	5 ft	6 ft	7 ft	8 ft	9 ft	10 ft	
6	8	8	8	8	8	8	8	10	10	12	12	14	8	8	8	8	8	8	10	12	12	14	14	16	6
7	8	8	8	8	8	8	10	10	12	12	14	14	8	8	8	8	8	10	10	12	14	14	16	18	7
8	8	8	8	8	8	8	10	12	12	14	14	16	8	8	8	8	10	10	12	14	14	16	18	18	8
9	8	8	8	8	8	8	10	12	12	14	16	16	8	8	8	10	10	12	12	14	16	18	18	24	9
10	8	8	8	8	8	10	10	12	14	14	16	18	8	8	10	10	12	12	14	16	18	18	24	24	10
11	8	8	8	8	10	10	12	12	14	16	16	18	8	8	10	10	12	12	14	16	18	24	24	24	11
12	8	8	8	8	10	10	12	14	14	16	18	18	8	10	10	12	12	14	16	18	20	24	24	24	12
13	8	8	8	10	10	10	12	14	16	16	18	24	8	10	12	12	14	14	16	18	24	24	24	26	13
14	8	8	8	10	10	12	12	14	16	18	18	24	10	10	12	12	14	14	18	20	24	24	26	26	14
15	8	8	8	10	10	12	14	16	16	18	24	24	10	12	12	14	14	16	18	24	24	24	26	28	15
16	8	8	10	10	12	12	14	16	18	18	24	24	10	12	12	14	16	16	18	24	24	26	28	30	16

MULTI-SPAN TABLES

Tables are based on HEM FIR #2 lumber (or better), 40 PSF LL, 15 PSF DL, and 1500 PSF soil bearing pressure.
Note: Redwood may not be used for joists and beams.

3' CANTILEVER

***Rims require two additional 16d nails per lag bolt.**

JOIST SPAN (feet)	(A) MINIMUM JOIST SIZE with joists spaced at:			(B) MINIMUM BEAM SIZE with spacing between posts at:												(C) MINIMUM CONNECTION OF LEDGER for spacing bolts with full penetration into:				
				END BEAM						CENTER BEAM						STUD		RIM*		
	12" OC	16" OC	24" OC	5 feet	6 feet	7 feet	8 feet	9 feet	10 feet	5 feet	6 feet	7 feet	8 feet	9 feet	10 feet	16" OC	24" OC	12" OC	16" OC	24" OC
6	2 x 6	2 x 6	2 x 8	2 - 2 x 6	2 - 2 x 6	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	2 - 2 x 6	2 - 2 x 6	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	1 - 7/16	2 - 5/16	1 - 3/8	1 - 3/8	2 - 3/8
7	2 x 6	2 x 8	2 x 8	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 12	2 - 2 x 12	1 - 7/16	2 - 3/8	1 - 3/8	2 - 3/8	2 - 3/8
8	2 x 8	2 x 8	2 x 8	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 12	2 - 2 x 12	2 - 2 x 6	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	—	2 - 5/16	2 - 7/16	1 - 3/8	2 - 3/8	2 - 3/8
9	2 x 8	2 x 8	2 x 10	2 - 2 x 6	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 12	—	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 12	2 - 2 x 12	—	2 - 5/16	2 - 7/16	2 - 3/8	2 - 3/8	3 - 3/8
10	2 x 8	2 x 8	2 x 10	2 - 2 x 6	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	—	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	—	—	2 - 3/8	2 - 7/16	2 - 3/8	2 - 3/8	3 - 3/8
11	2 x 8	2 x 8	2 x 10	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	—	2 - 2 x 8	2 - 2 x 10	2 - 2 x 12	2 - 2 x 12	—	—	2 - 3/8	3 - 3/8	2 - 3/8	2 - 3/8	3 - 3/8
12	2 x 8	2 x 10	2 x 10	2 - 2 x 8	2 - 2 x 8	2 - 2 x 10	2 - 2 x 12	2 - 2 x 12	—	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	—	—	—	2 - 7/16	3 - 7/16	2 - 3/8	2 - 3/8	3 - 3/8
13	2 x 8	2 x 10	2 x 10	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	—	—	2 - 2 x 10	2 - 2 x 12	2 - 2 x 12	—	—	—	2 - 7/16	3 - 7/16	2 - 3/8	3 - 3/8	4 - 3/8
14	2 x 10	2 x 10	2 x 12	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	—	—	2 - 2 x 10	2 - 2 x 12	—	—	—	—	2 - 7/16	3 - 7/16	2 - 3/8	3 - 3/8	4 - 3/8
15	2 x 10	2 x 10	—	2 - 2 x 8	2 - 2 x 10	2 - 2 x 10	2 - 2 x 12	—	—	2 - 2 x 10	2 - 2 x 12	—	—	—	—	2 - 7/16	3 - 7/16	2 - 3/8	3 - 3/8	4 - 3/8
16	2 x 12	2 x 12	—	2 - 2 x 8	2 - 2 x 10	2 - 2 x 12	2 - 2 x 12	—	—	2 - 2 x 10	2 - 2 x 12	—	—	—	—	3 - 3/8	4 - 3/8	2 - 3/8	3 - 3/8	4 - 3/8

JOIST SPAN (feet)	(D) MINIMUM DIAMETER OF FOOTINGS (inches)																							JOIST SPAN (feet)
	END BEAM END PIERS						END BEAM CENTER PIERS						CENTER BEAM END PIERS						CENTER BEAM CENTER PIERS						
	5 ft	6 ft	7 ft	8 ft	9 ft	10 ft	5 ft	6 ft	7 ft	8 ft	9 ft	10 ft	5 ft	6 ft	7 ft	8 ft	9 ft	10 ft	5 ft	6 ft	7 ft	8 ft	9 ft	10 ft	
6	8	8	8	8	8	8	10	12	12	14	14	16	8	8	8	8	8	8	10	12	12	14	14	16	6
7	8	8	8	8	8	8	10	12	12	14	16	16	8	8	8	8	8	10	10	12	14	14	16	18	7
8	8	8	8	8	8	10	10	12	14	14	16	18	8	8	8	8	10	10	12	14	14	16	18	18	8
9	8	8	8	8	10	10	12	12	14	16	16	18	8	8	8	10	10	12	12	14	16	18	18	24	9
10	8	8	8	8	10	10	12	14	14	16	18	18	8	8	10	10	12	12	14	16	18	18	24	24	10
11	8	8	8	10	10	10	12	14	16	16	18	24	8	8	10	10	12	12	14	16	18	24	24	24	11
12	8	8	8	10	10	12	12	14	16	18	18	24	8	10	10	12	12	14	16	18	20	24	24	24	12
13	8	8	8	10	10	12	14	16	16	18	24	24	8	10	12	12	14	14	16	18	24	24	24	26	13
14	8	8	10	10	12	12	14	16	18	18	24	24	10	10	12	12	14	14	18	20	24	24	26	26	14
15	8	8	10	10	12	12	14	16	18	20	24	24	10	12	12	14	14	16	18	24	24	24	26	28	15
16	8	8	10	10	12	12	14	16	18	24	24	24	10	12	12	14	16	16	18	24	24	26	28	28	16

NOTE:
DL - Dead load
LL - Live load
OC - On Center
PSF - Pounds per square foot
Rims - Require two (2) additional 16d nails per lag bolt.
Joists and Beams - Do not use redwood.