

# Noble County Building Department – Deck Requirements

TABLE R507.3.1  
MINIMUM FOOTING SIZE FOR DECKS

LIVE OR GROUND SNOW LOAD <sup>a</sup> (psf)	TRIBUTARY AREA (sq. ft.)	LOAD BEARING VALUE OF SOILS <sup>a, c, d</sup> (psf)											
		1500 <sup>a</sup>			2000 <sup>a</sup>			2500 <sup>a</sup>			≥ 3000 <sup>a</sup>		
		Side of a square footing (inches)	Diameter of a round footing (inches)	Thickness (inches)	Side of a square footing (inches)	Diameter of a round footing (inches)	Thickness (inches)	Side of a square footing (inches)	Diameter of a round footing (inches)	Thickness (inches)	Side of a square footing (inches)	Diameter of a round footing (inches)	Thickness (inches)
50	20	12	14	6	12	14	6	12	14	6	12	14	6
	40	15	17	6	13	15	6	12	14	6	12	14	6
	60	19	21	6	16	18	6	14	16	6	13	15	6
	80	21	24	8	19	21	6	17	19	6	15	17	6
	100	24	27	9	21	23	7	19	21	6	17	19	6
	120	26	30	10	23	26	8	20	23	7	19	21	6
	140	28	32	11	25	28	9	22	25	8	20	23	7
	160	30	34	12	26	30	10	24	27	9	21	24	8

TABLE R507.5  
DECK BEAM SPAN LENGTHS<sup>a, b, g</sup> (feet - inches)

SPECIES <sup>a</sup>	SIZE <sup>d</sup>	DECK JOIST SPAN LESS THAN OR EQUAL TO: (feet)						
		6	8	10	12	14	16	18
Southern pine	1 – 2 × 6	4-11	4-0	3-7	3-3	3-0	2-10	2-8
	1 – 2 × 8	5-11	5-1	4-7	4-2	2-10	3-7	3-5
	1 – 2 × 10	7-0	6-0	5-5	4-11	4-7	4-3	4-0
	1 – 2 × 12	8-3	7-1	6-4	5-10	5-5	5-0	4-9
	2 – 2 × 6	6-11	5-11	5-4	4-10	4-6	4-3	4-0
	2 – 2 × 8	8-9	7-7	6-9	6-2	5-9	5-4	5-0
	2 – 2 × 10	10-4	9-0	8-0	7-4	6-9	6-4	6-0
	2 – 2 × 12	12-2	10-7	9-5	8-7	8-0	7-6	7-0
	3 – 2 × 6	8-2	7-5	6-8	6-1	5-8	5-3	5-0
	3 – 2 × 8	10-10	9-6	8-6	7-9	7-2	6-8	6-4
	3 – 2 × 10	13-0	11-3	10-0	9-2	8-6	7-11	7-6
	3 – 2 × 12	15-3	13-3	11-10	10-9	10-0	9-4	8-10

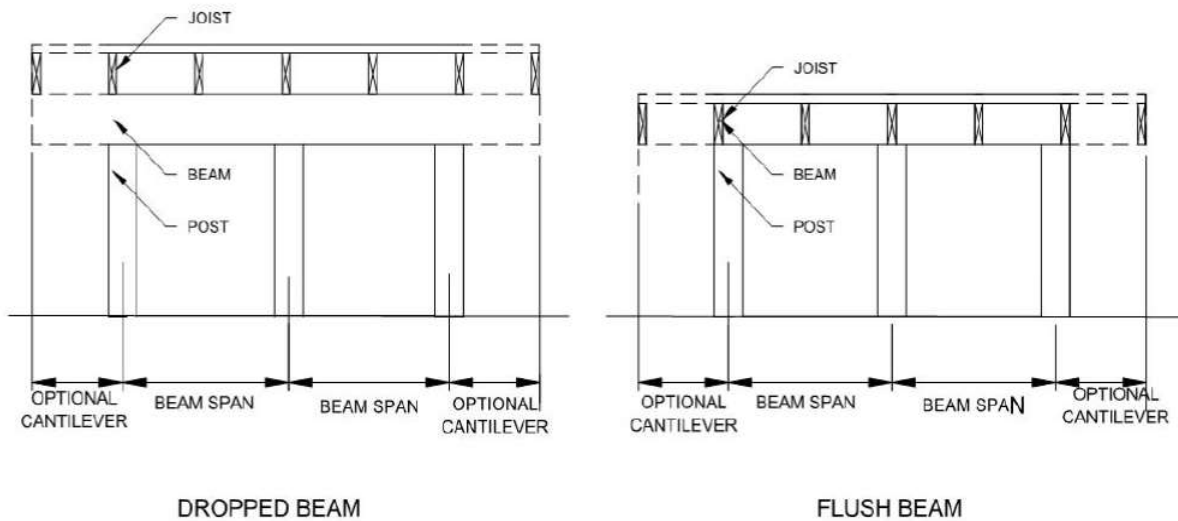


FIGURE R507.5  
TYPICAL DECK JOIST SPANS

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TABLE R507.6  
DECK JOIST SPANS FOR COMMON LUMBER SPECIES (ft. - in.)

SPECIES <sup>a</sup>	SIZE	ALLOWABLE JOIST SPAN <sup>b</sup>			MAXIMUM CANTILEVER <sup>c,1</sup>		
		SPACING OF DECK JOISTS (inches)			SPACING OF DECK JOISTS WITH CANTILEVERS <sup>d</sup> (inches)		
		12	16	24	12	16	24
Southern pine	2 x 6	9-11	9-0	7-7	1-3	1-4	1-6
	2 x 8	13-1	11-10	9-8	2-1	2-3	2-5
	2 x 10	16-2	14-0	11-5	3-4	3-6	2-10
	2 x 12	18-0	16-6	13-6	4-6	4-2	3-4

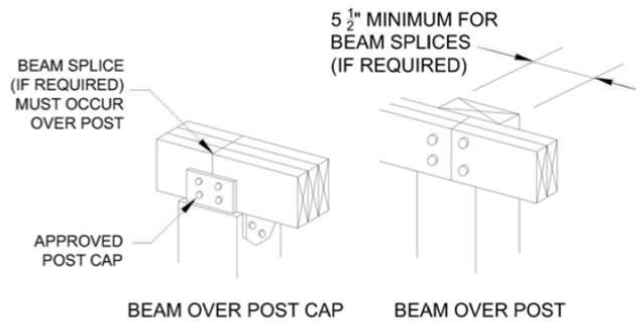
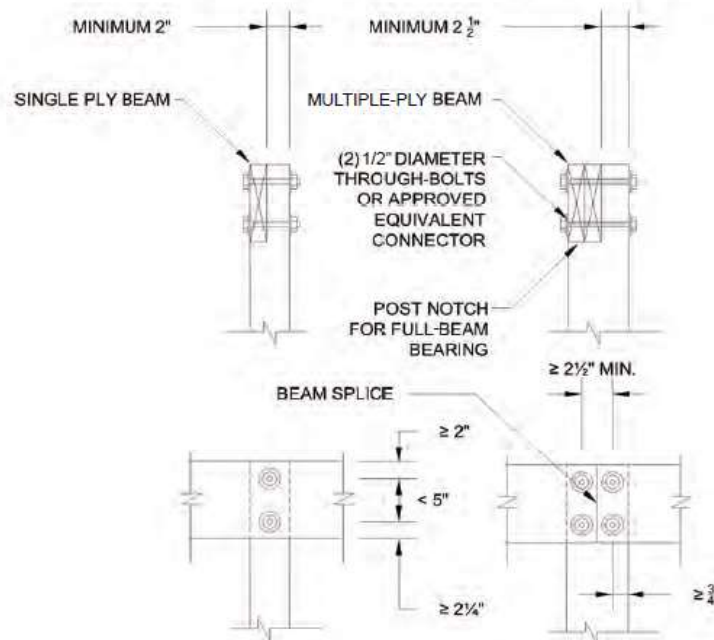


FIGURE R507.5.1(1)  
DECK BEAM TO DECK POST



For SI: 1 inch = 25.4 mm.

FIGURE R507.5.1(2)  
NOTCHED POST-TO-BEAM CONNECTION

# Noble County Building Department – Deck Requirements

TABLE R507.7  
MAXIMUM JOIST SPACING FOR DECKING

DECKING MATERIAL TYPE AND NOMINAL SIZE	MAXIMUM ON-CENTER JOIST SPACING	
	Decking perpendicular to joist	Decking diagonal to joist*
1 1/4-inch-thick wood	16 inches	12 inches
2-inch-thick wood	24 inches	16 inches
Plastic composite	In accordance with Section R507.2	In accordance with Section R507.2

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 degree = 0.01745 rad.

a. Maximum angle of 45 degrees from perpendicular for wood deck boards.

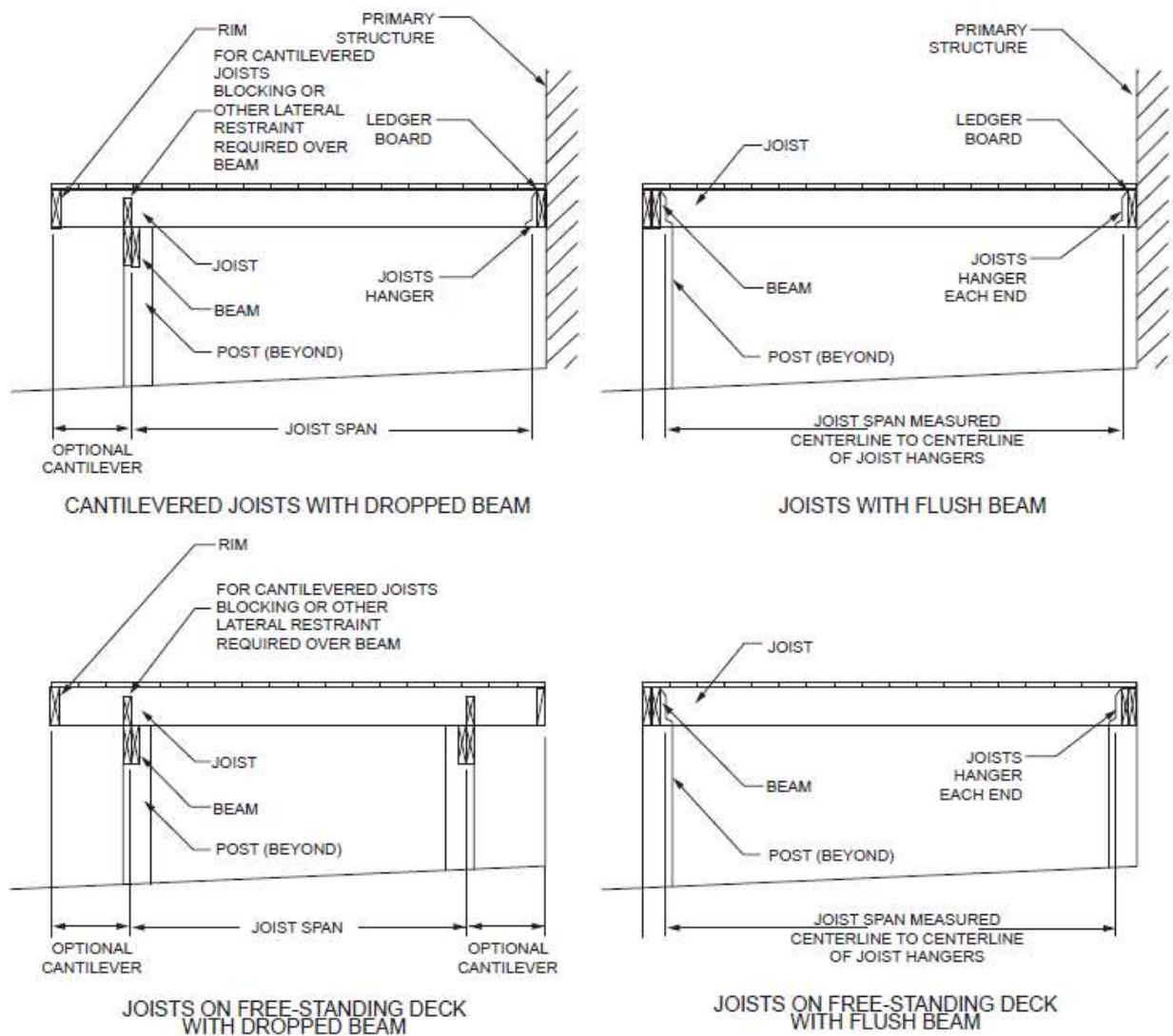
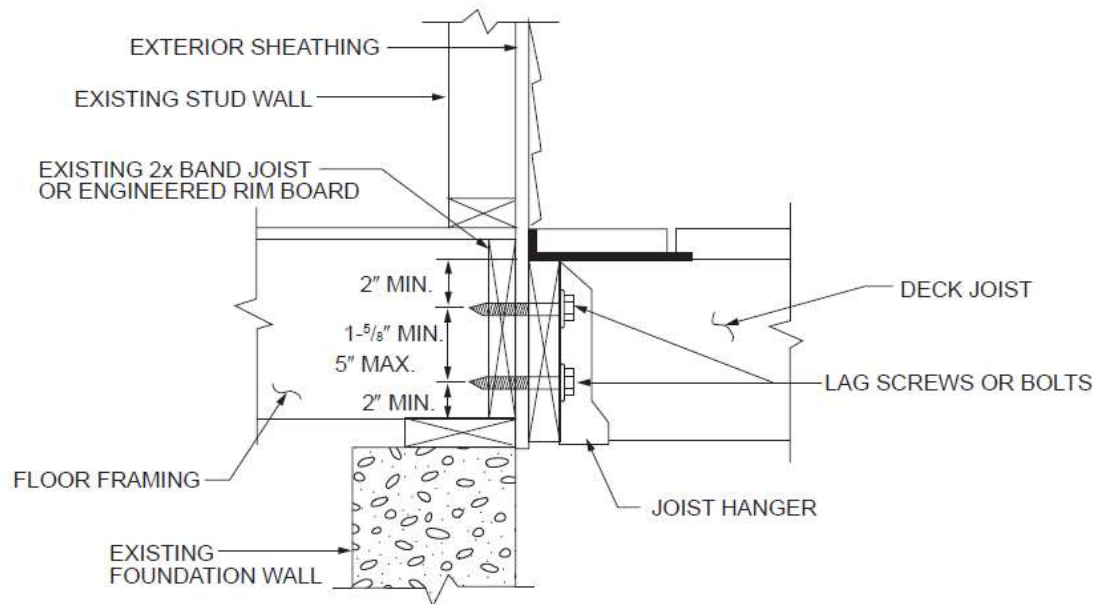


FIGURE R507.6  
TYPICAL DECK JOIST SPANS

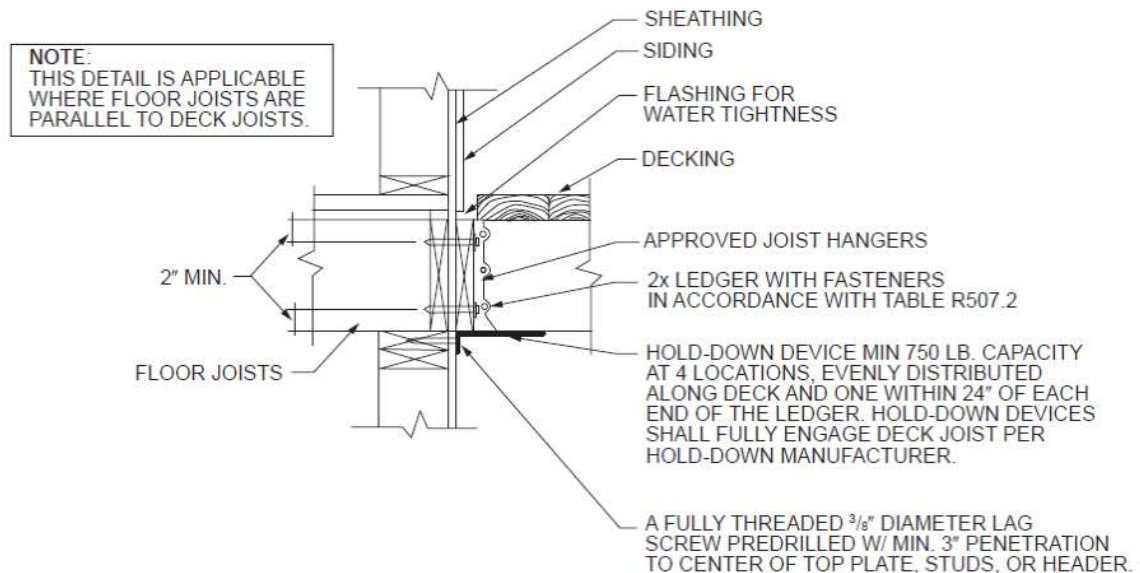
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For SI: 1 inch = 25.4 mm.

**FIGURE R507.9.1.3(2)**  
**PLACEMENT OF LAG SCREWS AND BOLTS IN BAND JOISTS**

## FLOORS



For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

**FIGURE R507.9.2(2)**  
**DECK ATTACHMENT FOR LATERAL LOADS**

# Noble County Building Department – Deck Requirements

TABLE R507.9.1.3(1)  
DECK LEDGER CONNECTION TO BAND JOIST<sup>a, b</sup>  
(Deck live load = 40 psf, deck dead load = 10 psf, snow load ≤ 40 psf)

CONNECTION DETAILS	JOIST SPAN						
	6' and less	6'1" to 8'	8'1" to 10'	10'1" to 12'	12'1" to 14'	14'1" to 16'	16'1" to 18'
	On-center spacing of fasteners						
<sup>1</sup> / <sub>2</sub> -inch diameter lag screw with <sup>1</sup> / <sub>2</sub> -inch maximum sheathing <sup>c, d</sup>	30	23	18	15	13	11	10
<sup>1</sup> / <sub>2</sub> -inch diameter bolt with <sup>1</sup> / <sub>2</sub> -inch maximum sheathing <sup>d</sup>	36	36	34	29	24	21	19
<sup>1</sup> / <sub>2</sub> -inch diameter bolt with 1-inch maximum sheathing <sup>e</sup>	36	36	29	24	21	18	16

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa.

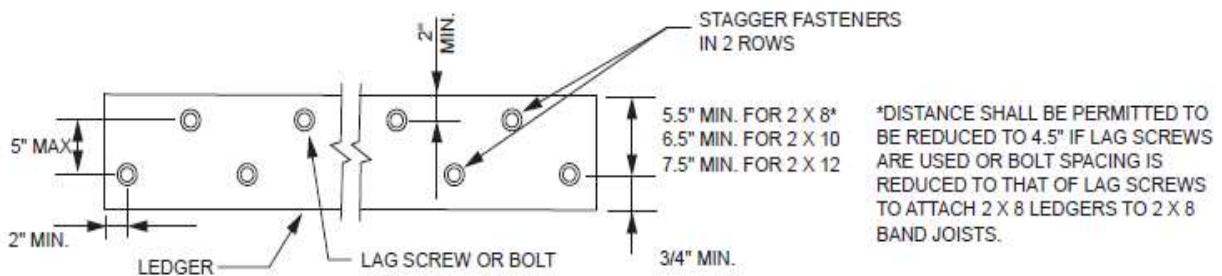
- Ledgers shall be flashed in accordance with Section R703.4 to prevent water from contacting the house band joist.
- Snow load shall not be assumed to act concurrently with live load.
- The tip of the lag screw shall fully extend beyond the inside face of the band joist.
- Sheathing shall be wood structural panel or solid sawn lumber.
- Sheathing shall be permitted to be wood structural panel, gypsum board, fiberboard, lumber or foam sheathing. Up to <sup>1</sup>/<sub>2</sub>-inch thickness of stacked washers shall be permitted to substitute for up to <sup>1</sup>/<sub>2</sub> inch of allowable sheathing thickness where combined with wood structural panel or lumber sheathing.

TABLE R507.9.1.3(2)  
PLACEMENT OF LAG SCREWS AND BOLTS IN DECK LEDGERS AND BAND JOISTS

	MINIMUM END AND EDGE DISTANCES AND SPACING BETWEEN ROWS			
	TOP EDGE	BOTTOM EDGE	ENDS	ROW SPACING
Ledger <sup>a</sup>	2 inches <sup>d</sup>	<sup>3</sup> / <sub>4</sub> inch	2 inches <sup>b</sup>	1 <sup>3</sup> / <sub>8</sub> inches <sup>b</sup>
Band Joist <sup>c</sup>	<sup>3</sup> / <sub>4</sub> inch	2 inches	2 inches <sup>b</sup>	1 <sup>5</sup> / <sub>8</sub> inches <sup>b</sup>

For SI: 1 inch = 25.4 mm.

- Lag screws or bolts shall be staggered from the top to the bottom along the horizontal run of the deck ledger in accordance with Figure R507.9.1.3(1).
- Maximum 5 inches.
- For engineered rim joists, the manufacturer's recommendations shall govern.
- The minimum distance from bottom row of lag screws or bolts to the top edge of the ledger shall be in accordance with Figure R507.9.1.3(1).



For SI: 1 inch = 25.4 mm.

FIGURE R507.9.1.3(1)  
PLACEMENT OF LAG SCREWS AND BOLTS IN LEDGERS