

Maximum Joist Spacing for Decks

Table 1:1

Decking Type	Perpendicular to Joist	Diagonal to Joist (Maximum angle of 45° from perpendicular)
Wood- 1 ¼" Thick	16" OC	12" OC
Wood- 2" Thick	24" OC	16" OC
Plastic Composite	In Compliance with ASTM D 7032 As Per Manufacturer Specifications	In Compliance with ASTM D 7032 As Per Manufacturer Specifications

Southern Pine Deck Joist Maximum Spans

Table 1:2

No Cantilever

Lumber Size	Joist Spacing- 12" OC	Joist Spacing- 16" OC	Joist Spacing- 24" OC
2 X 6	9'11"	9'	7' 7"
2 X 8	13'1"	11' 10"	9' 8"
2 X 10	16' 2"	14'	11'5"
2 X 12	18'	16'6"	13'6"

Table 1:3

With Cantilever*

Lumber Size	Joist Spacing- 12" OC	Joist Spacing- 16" OC	Joist Spacing- 24" OC
2 X 6	6'8"	6'8"	6'8"
2 X 8	10'1"	10' 1"	9' 8"
2 X 10	14' 6"	14'	11'5"
2 X 12	18'	16'6"	13'6"

*Joists may cantilever up to ¼ of the actual adjacent span. For example, a 2 x 12 joist placed 16" OC, spanning 16'-6" between supports may cantilever up to an additional 4'-1 ½" for a total maximum length of 20' -7 ½"

Southern Pine Deck Beam Maximum Spans*

Table 1:4

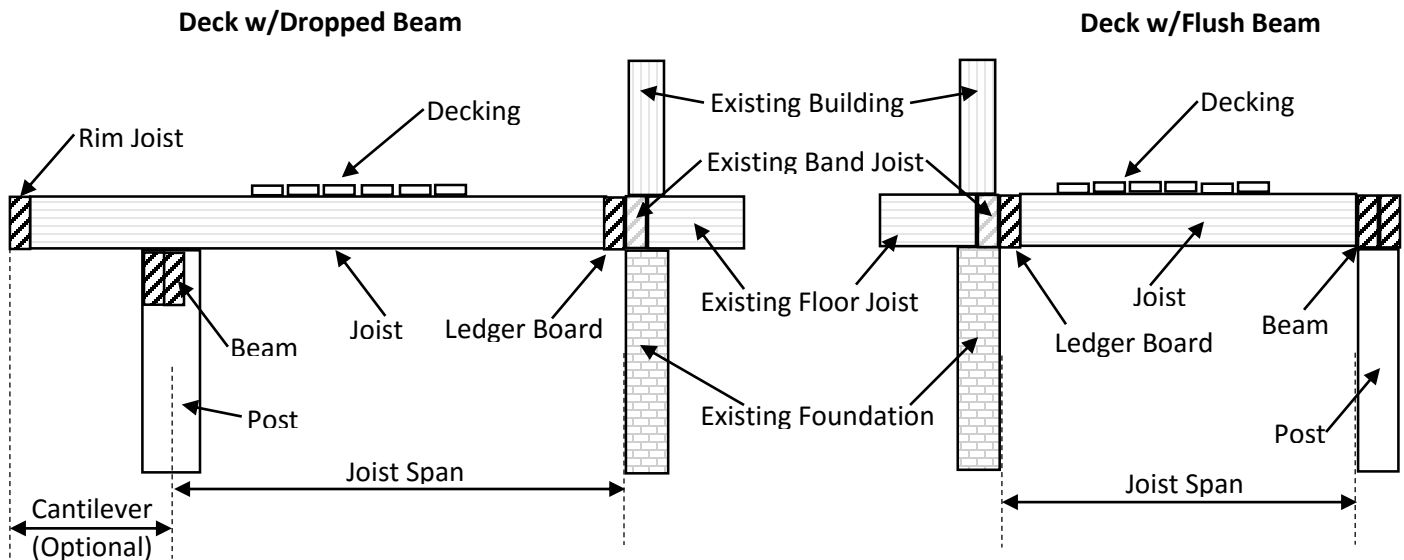
Lumber Size	Total Deck Joist Span (including cantilever) (Less than or equal to)						
	6'	8'	10'	12'	14'	16'	18'
2- 2 X 6	6'11"	5'11"	5'4"	4'10"	4'6"	4'3"	4'
2- 2 X 8	8'9"	7'7"	6'9"	6'2"	5'9"	5'4"	5'
2- 2 X 10	10'4"	9'	8'	7'4"	6'9"	6'4"	6'
2- 2 X 12	12'2"	10'7"	9'5"	8'7"	8'	7'6"	7'
3- 2 X 6	8'2"	7'5"	6'8"	6'1"	5'8"	5'3"	5'
3- 2 X 8	10'10"	9'6"	8'6"	7'9"	7'2"	6'8"	6'4"
3- 2 X 10	13'	11'3"	10'	9'2"	8'6"	7'11"	7'6"
3- 2 X 12	15'3"	13'3"	11'10"	10'9"	10'	9'4"	8'10"

*Beams may cantilever at each end up to ¼ of the of the actual beam span. For example, a 16' beam span can cantilever a maximum of 4'.

HOW TO USE THE SPAN TABLES ON PREVIOUS PAGE

1. Determine the decking board thickness and direction to determine joist spacing. **(Table 1:1)**
2. Decide whether the joists will cantilever over or not. Then using the lumber size of joists and the joist spacing, determine if you are within the maximum allowable joist span. **(Table 1:2 or Table 1:3)**
3. Using the beam span table, select your beam lumber size. Where it intersects with the deck joist span provides you with the maximum spacing between your posts. **(Table 1:4)**

Deck Terminology

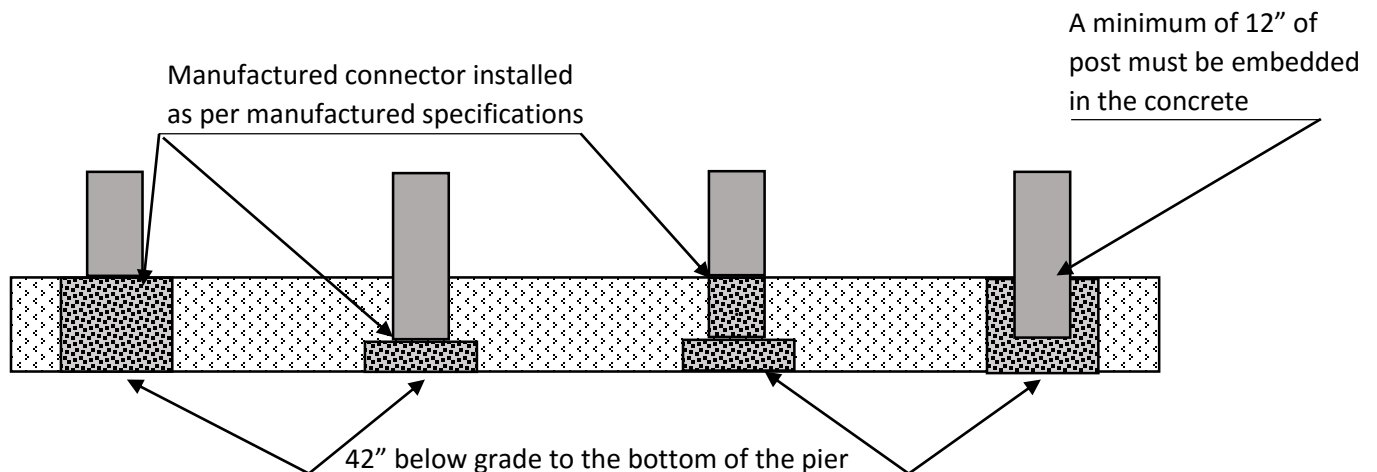


Deck Posts Maximum Height

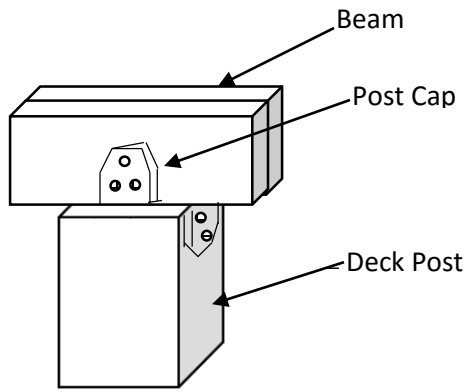
4 X 4 or 4 X 6 Post - 8' High- measured to the underside of the beam

6 X 6 Post - 14' High- measured to the underside of the beam

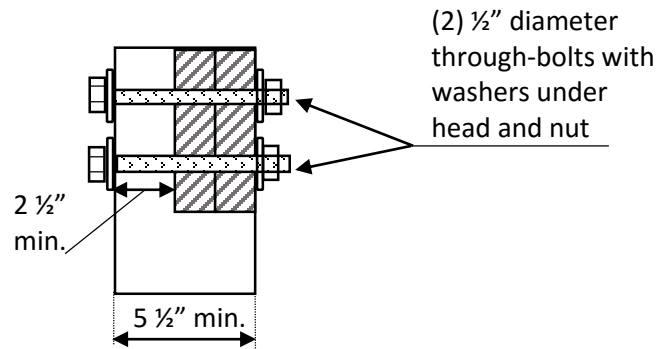
Deck Post to Deck Footing Requirements



Deck Post to Deck Beam Requirements

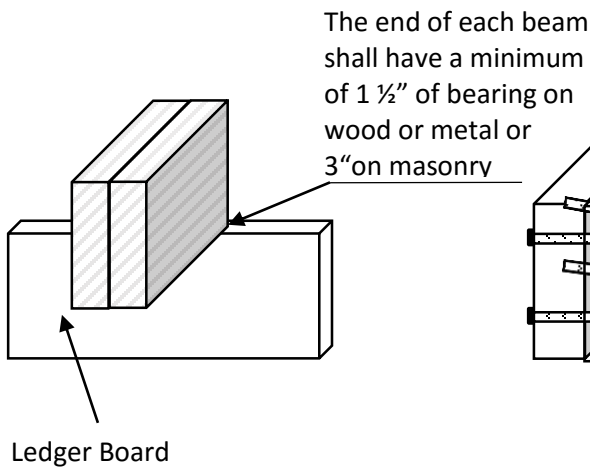


Post Cap Requirements

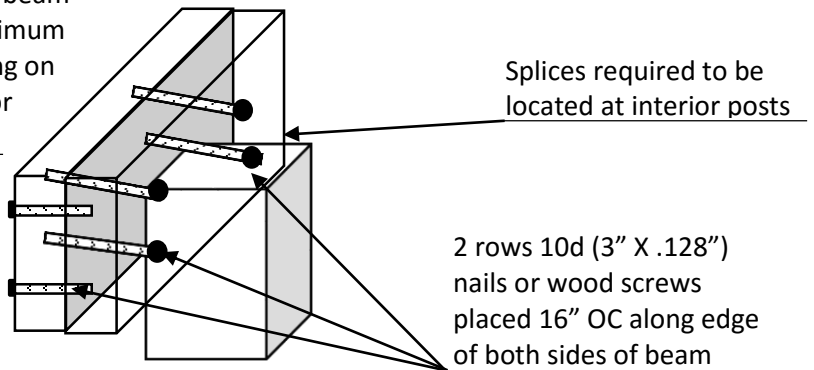


Notched Post to Beam Requirements

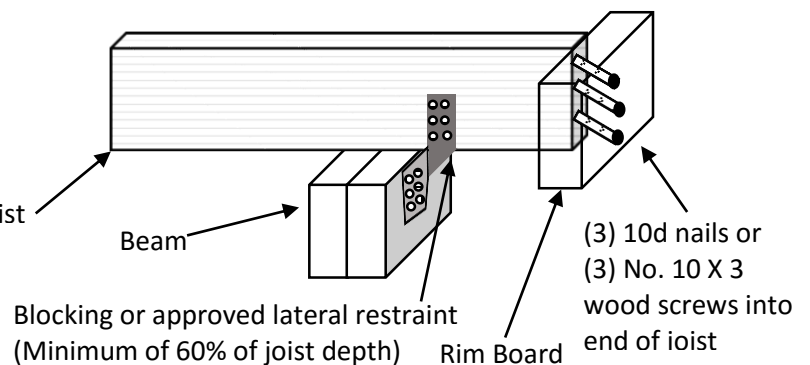
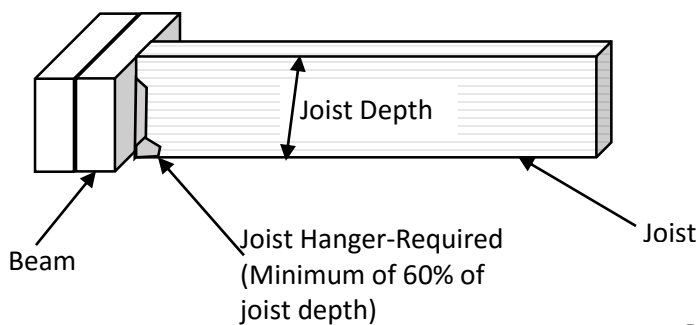
Deck Beam Requirements



The end of each beam shall have a minimum of $1\frac{1}{2}$ " of bearing on wood or metal or 3" on masonry

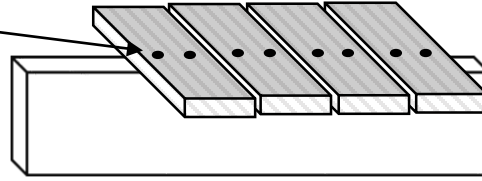


Deck Joist Requirements



Deck Flooring Requirements

Decking must be attached to every supporting member with (2) 8d threaded nails or (2) No. 8 wood screws



Deck Ledger Connection to Band Joist Requirements*

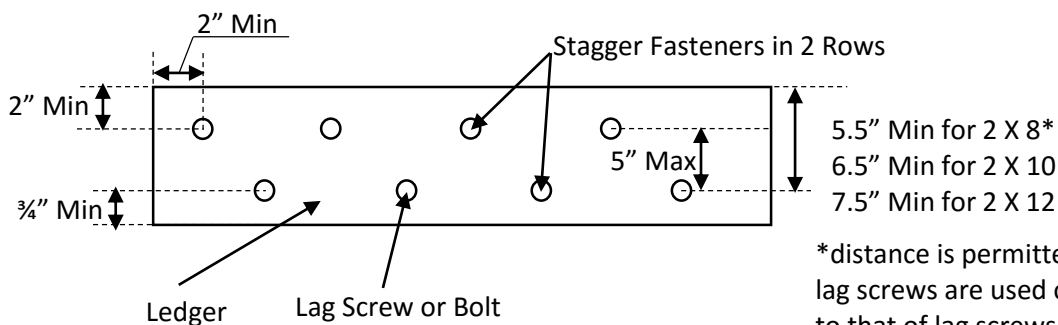
Connection Details	Joist Span						
	6' or less	6'1" to 8'	8'1" to 10'	10'1" to 12'	12'1" to 14'	14'1" to 16'	16'1" to 18'
½" diameter lag screw with ½" maximum sheathing	30" OC	23" OC	18" OC	15" OC	13" OC	11" OC	10" OC
½" diameter bolt with ½" maximum sheathing	36" OC	36" OC	34" OC	29" OC	24" OC	21" OC	19" OC
½" diameter bolt with 1" maximum sheathing	36" OC	36" OC	29" OC	24" OC	21" OC	18" OC	16" OC

*Lag screws, bolts, and washers must be stainless steel or hot-dipped galvanized.

Placement of Lag Screws/Bolts

Minimum End, Edge, & Row Spacing Distances				
	Top Edge	Bottom Edge	End	Row Spacing
Ledger	2"	¾"	2"	1 5/8"
Band Joist	¾"	2"	2"	1 5/8"

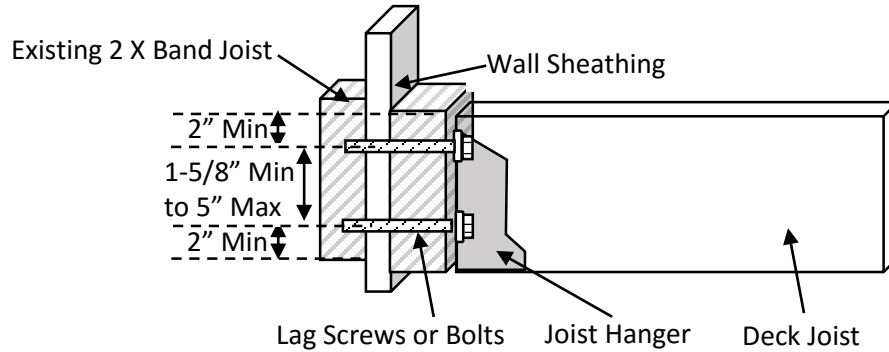
Placement of Lag Screw/Bolt in Ledger Board



5.5" Min for 2 X 8*
6.5" Min for 2 X 10
7.5" Min for 2 X 12

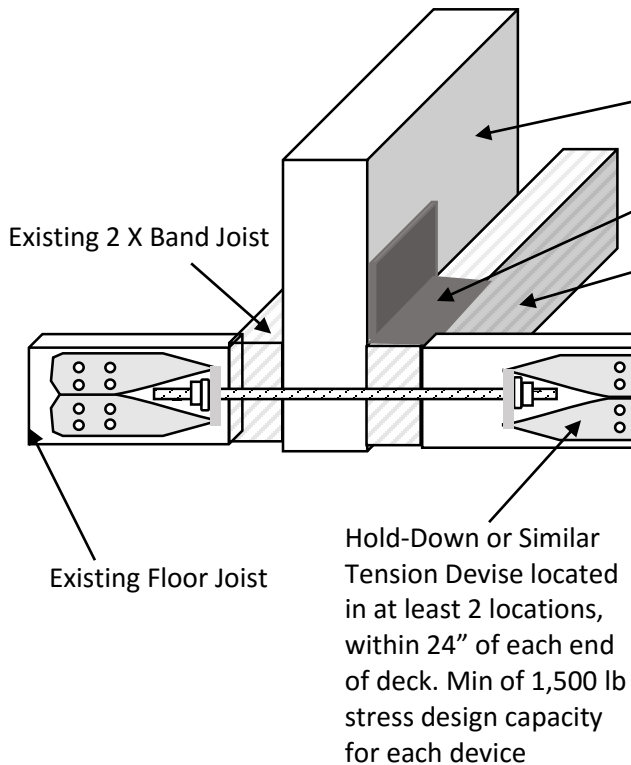
*distance is permitted to be reduced to 4.5" if lag screws are used or bolt spacing is reduced to that of lag screws to attach 2 X 8 ledger & band joist

Placement of Lag Screw/Bolt in Band Joist

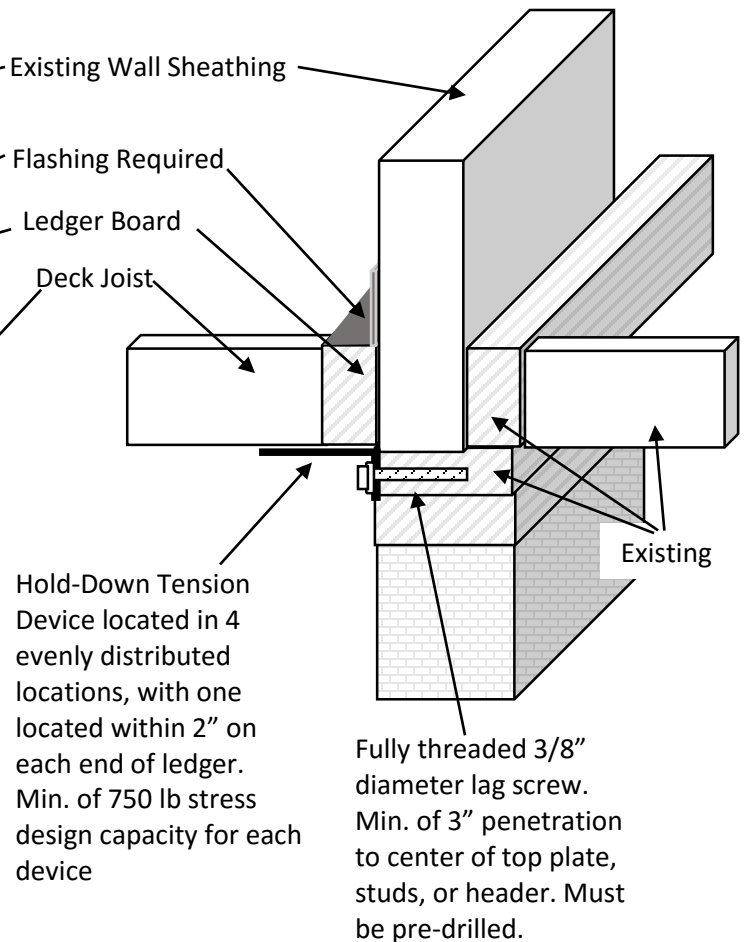


Lateral Load Connection Requirements

Option 1



Option 2*



***Option 2 is permitted only when floor joists run parallel to deck joist**