



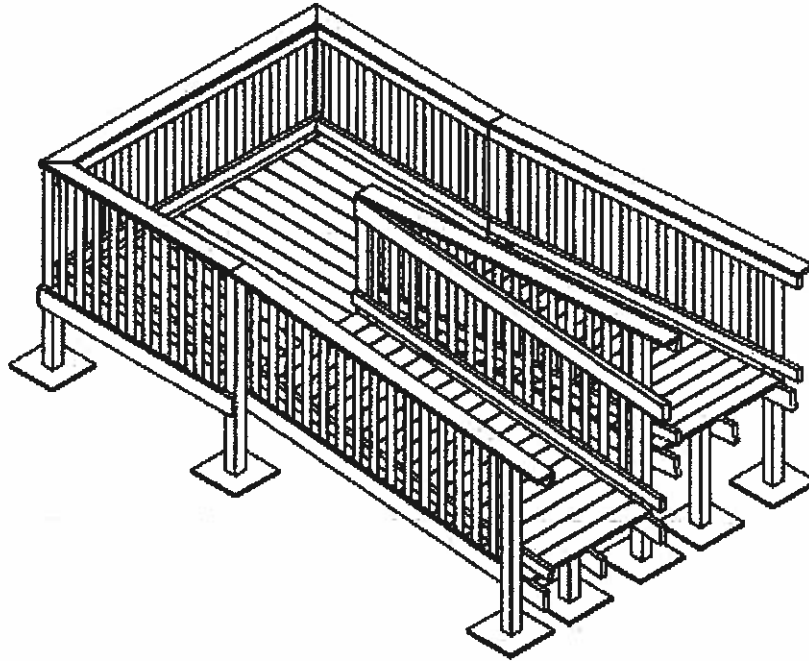
BERKELEY COUNTY SC

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BERKELEY COUNTY BUILDING AND CODE ENFORCEMENT

Henry Jackson
Chief Building Official

Guidelines for Wheelchair Accessible Ramps Not to Include Decks.



Plan review information

Ramp Length: _____

Ramp Height: _____

Slope: _____

Post size: 4 X 4 Post Minimum

Floor Joist size _____

Length _____

Girder size _____

Length _____

******Ramps must be in compliance with the 2018 International Residential Code and the 2017 ICC A117.1**

Inspections

The following inspections are needed for a Ramp:

- 1) Post Footer
- 2) Framing
- 3) Final

***Please be advised other inspections may be needed and other code requirements may be applicable.

Requirements from ICC A117.1-2017

405.1 General. Ramps along accessible routes shall comply with Section 405.

Exception: In assembly areas, aisle ramps adjacent to seating and not serving elements required to be on an accessible route shall not be required to comply with this section.

405.2 Slope. Ramp runs shall have a running slope greater than 1:20 and not steeper than 1:12.

Exception: In existing buildings or facilities, ramps shall be permitted to have slopes steeper than 1:12 complying with Table 405.2 where such slopes are necessary due to space limitations.

405.3 Cross slope. Cross slope of ramp runs shall not be steeper than 1:48.

405.4 Floor surfaces. Floor surfaces of ramp runs shall comply with Section 302.

405.5 Clear width. The clear width of a ramp run shall be 36 inches (915 mm) minimum. Handrails and handrail supports that are provided on the ramp run shall not project into the required clear width of the ramp run.

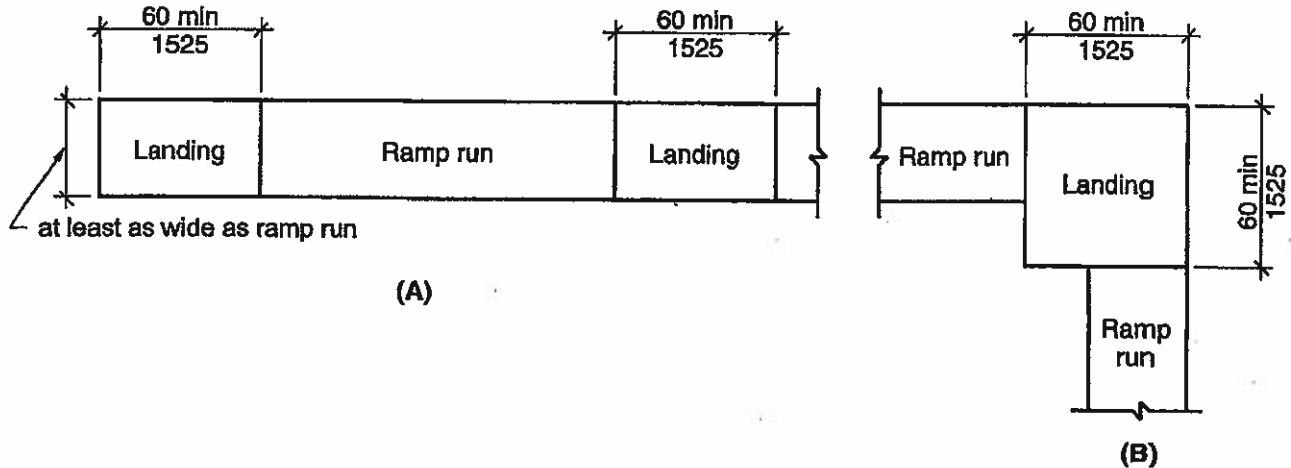
Exception: Within employee work areas, the required clear width of ramps that are a part of common use circulation paths shall be permitted to be decreased by work area equipment provided that the decrease is essential to the function of the work being performed.

405.6 Rise. The rise for any ramp run shall be 30 inches (760 mm) maximum.

405.7 Landings. Ramps shall have landings at the bottom and top of each ramp run. Landings shall comply with Section 405.7.

TABLE 405.2—ALLOWABLE RAMP DIMENSIONS FOR CONSTRUCTION IN EXISTING SITES, BUILDINGS AND FACILITIES

Slope ¹	Maximum Rise
Steeper than 1:10 but not steeper than 1:8	3 inches (75 mm)
Steeper than 1:12 but not steeper than 1:10	6 inches (150 mm)



**FIGURE 405.7
RAMP LANDINGS**

405.7.1 Slope. Landings shall have a slope not steeper than 1:48 and shall comply with Section 302.

405.7.2 Width. Clear width of landings shall be at least as wide as the widest ramp run leading to the landing.

405.7.3 Length. Landings shall have a clear length of 60 inches (1525 mm) minimum.

405.7.4 Change in direction. Ramps that change direction between runs at landings shall have a clear landing 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum.

405.7.5 Doorways. Where a door or gate is adjacent to a ramp landing, maneuvering clearances required by Sections 404.2.3 and 404.3.4 shall be permitted to overlap the landing area. Where a door or gate that is subject to locking is located adjacent to a ramp landing, the landing shall be sized to provide a turning space complying with Section 304.3.

405.8 Handrails. Ramp runs with a rise greater than 6 inches (150 mm) shall have handrails complying with Section 505.

Exception: Within employee work areas, handrails shall not be required where ramps that are part of common use circulation paths, and which are used for the movement of equipment, are designed to permit the installation of hand-

rails complying with Section 505. Ramps not subject to the exception to Section 405.5 shall be designed to maintain a 36-inch (915 mm) minimum clear width where handrails are installed.

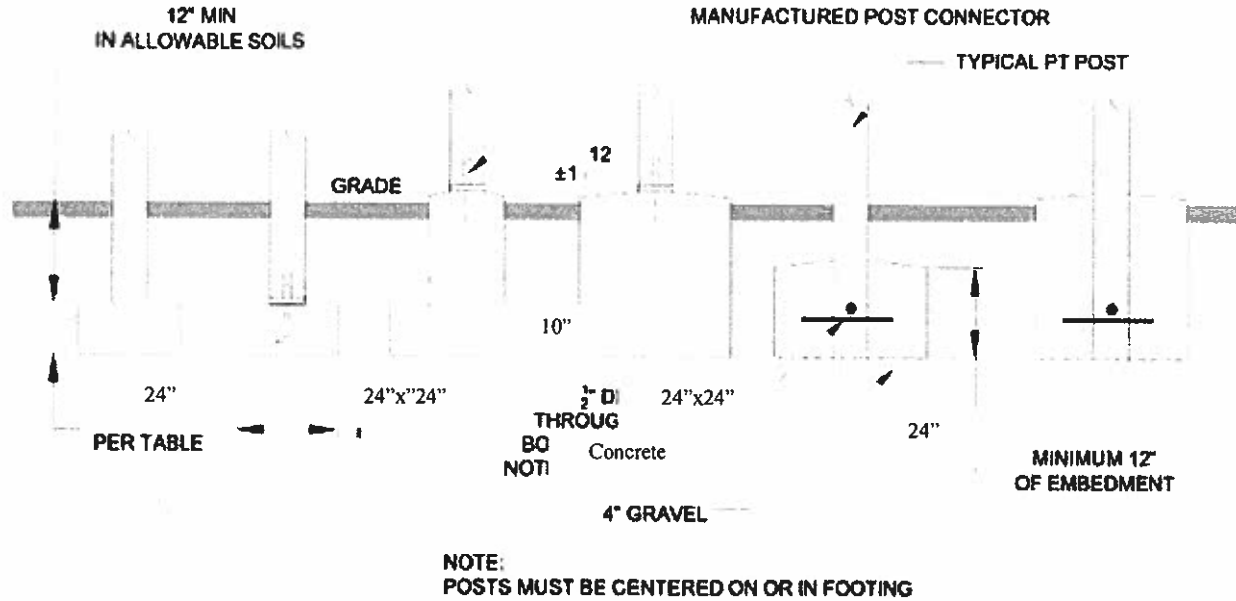
405.9 Edge protection. Edge protection complying with Section 405.9.1 or 405.9.2 shall be provided on each side of ramp runs and at each side of ramp landings.

Exceptions:

1. Edge protection shall not be required on ramps not required to have handrails and that have flared sides complying with Section 406.3.
2. Edge protection shall not be required on the sides of ramp landings serving an adjoining ramp run or stairway.
3. Edge protection shall not be required on the sides of ramp landings having a vertical drop-off of 1/2 inch (13 mm) maximum within 10 inches (255 mm) horizontally of the minimum landing area specified in Section 405.7.
4. Edge protection shall not be required on the sides of ramped aisles where the ramps provide access to the adjacent seats and aisle access ways.

Ramp Footing

R507.4.1 Deck post to deck footing connection. Where posts bear on concrete footings in accordance with Section R403 and Figure R507.4.1, lateral restraint shall be provided by manufactured connectors or a minimum post embedment of 12 inches (305 mm) in surrounding soils or concrete piers. Other footing systems shall be permitted.



For SI: 1 inch = 25.4 mm.

**FIGURE R507.3
DECK POSTS TO DECK FOOTING CONNECTION**

*******Ramp Footing Must be installed with one of the examples listed above*******

Ledger details

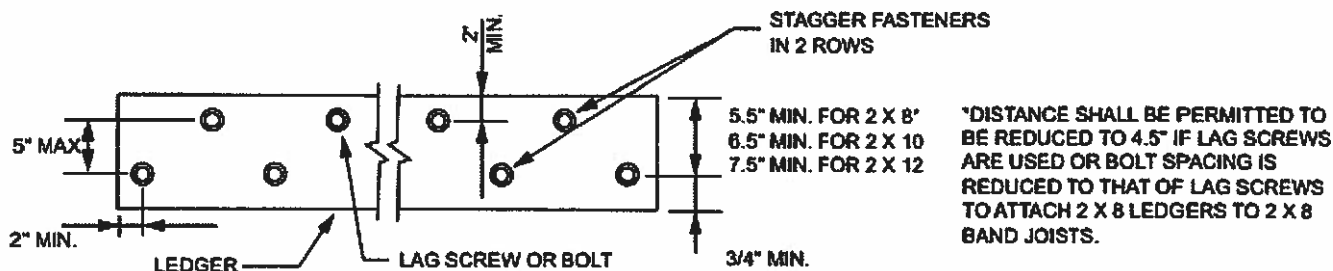
R507.9.1.1 Ledger details. Deck ledgers shall be a minimum 2-inch by 8-inch (51 mm by 203 mm) nominal, pressure-preservative-treated Southern pine, incised pressure-preservative-treated hem-fir, or approved, naturally durable, No. 2 grade or better lumber. Deck ledgers shall not support concentrated loads from beams or girders. Deck ledgers shall not be supported on stone or masonry veneer.

**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 ^a	2 inches ^d	$\frac{3}{4}$ inch	2 inches ^b	$1\frac{5}{8}$ inches ^b
Band Joist ^c	$\frac{3}{4}$ inch	2 inches	2 inches ^b	$1\frac{5}{8}$ inches ^b

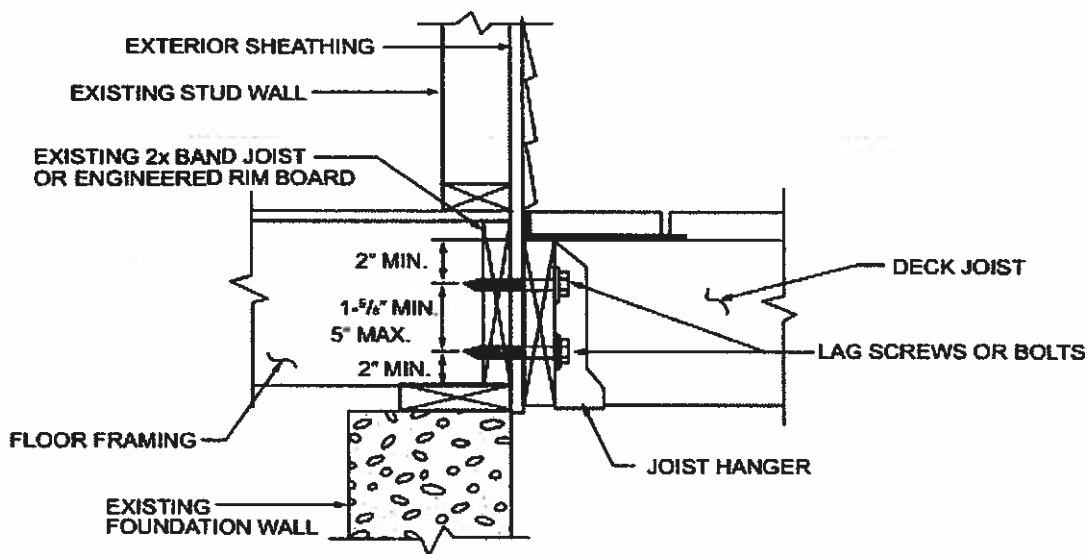
For SI: 1 inch = 25.4 mm.

- a. 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).
- b. Maximum 5 inches.
- c. For engineered rim joists, the manufacturer's recommendations shall govern.
- d. 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**



For SI: 1 inch = 25.4 mm.

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

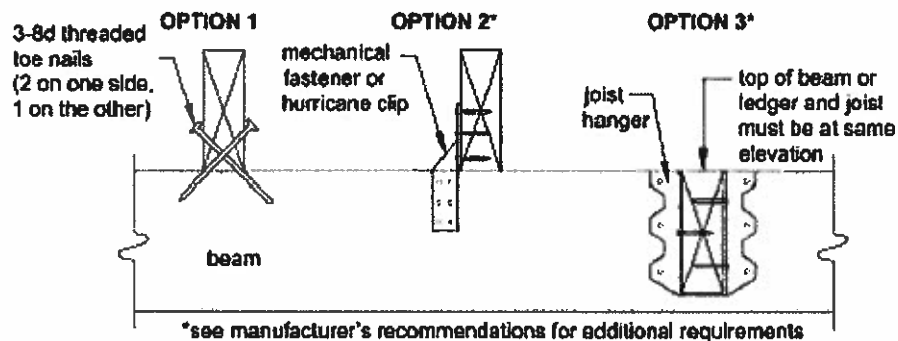
Joists Spans and Maximum Spacing

507.6 Deck joists. Maximum allowable spans for wood deck joists, as shown in Figure R507.6 shall be in accordance with Table R507.6. The maximum joist spacing shall be limited by the decking materials in accordance with Table R507.7. The maximum joist cantilever shall be limited to one-fourth of the joist span or the maximum cantilever length specified in Table R507.6, whichever is less.

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

SPECIES ^a	SIZE	ALLOWABLE JOIST SPAN ^b			MAXIMUM CANTILEVER ^c		
		SPACING OF DECK JOISTS (inches)			SPACING OF DECK JOISTS WITH CANTILEVERS ^c (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

Joist-to-Beam Detail



Girder Spans

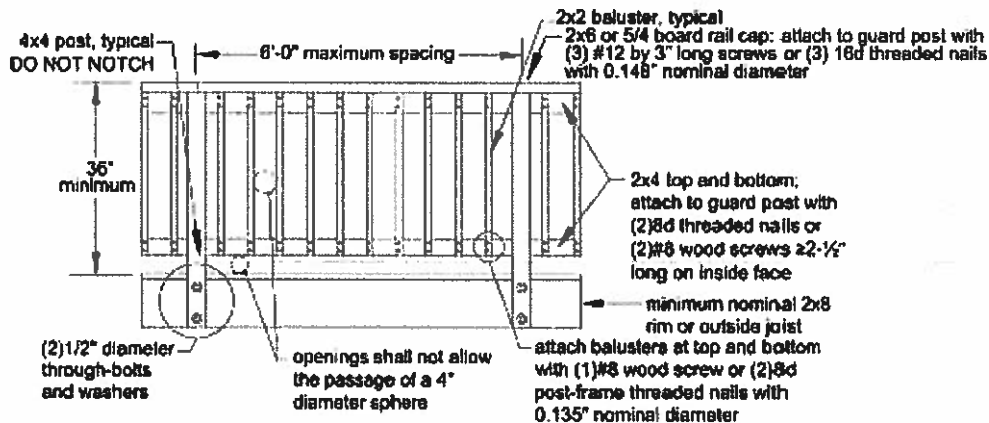
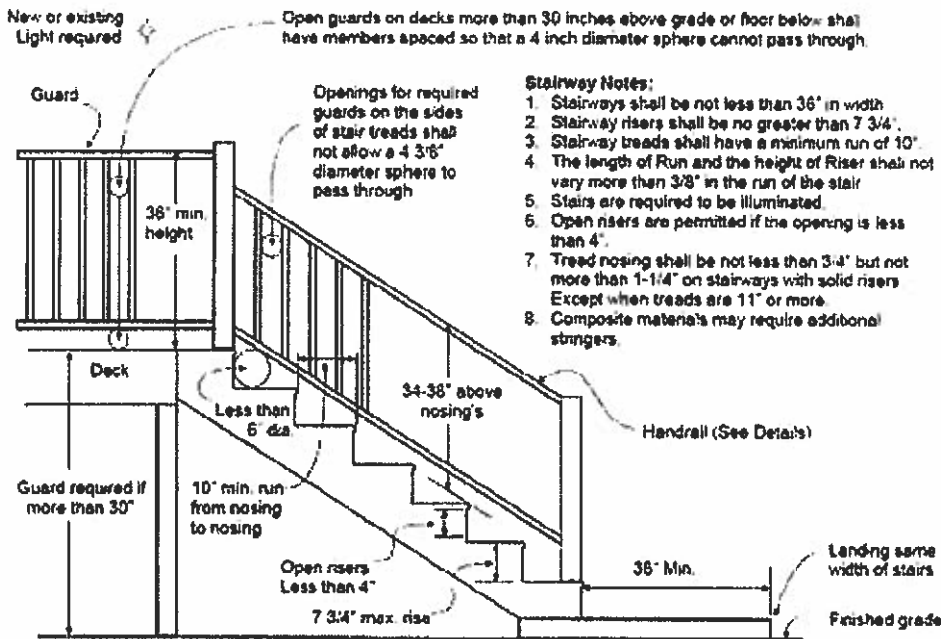
**TABLE R602.7(3)
GIRDER AND HEADER SPANS^a FOR OPEN PORCHES (Maximum span for Douglas fir-larch, hem-fir, southern pine and spruce-pine-fir^b)**

SIZE	SUPPORTING ROOF						SUPPORTING FLOOR	
	GROUND SNOW LOAD (psf)							
	30		50		70			
	DEPTH OF PORCH ^c (feet)							
	8	14	8	14	8	14	8	14
2-2 x 6	7-6	5-8	6-2	4-8	5-4	4-0	6-4	4-9
2-2 x 8	10-1	7-7	8-3	6-2	7-1	5-4	8-5	6-4
2-2 x 10	12-4	9-4	10-1	7-7	8-9	6-7	10-4	7-9
2-2 x 12	14-4	10-10	11-8	8-10	10-1	7-8	11-11	9-0

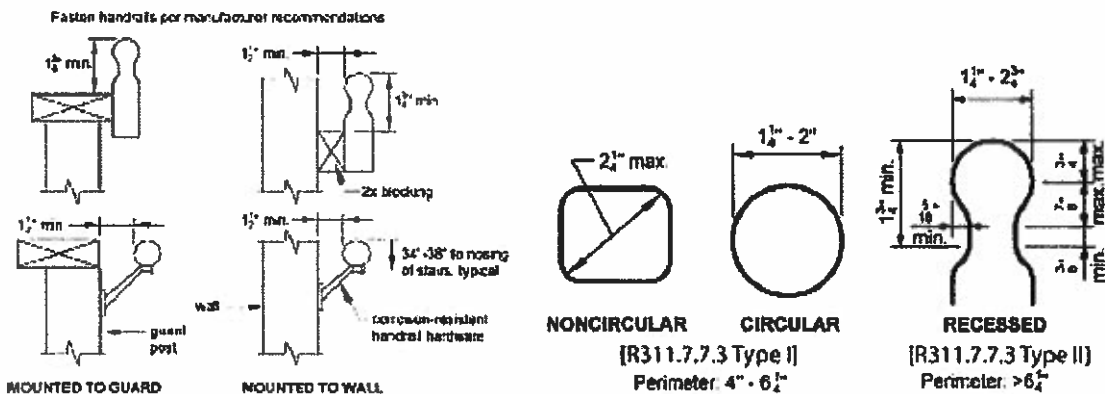
For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa

- a Spans are given in feet and inches
- b Tabulated values assume #2 grade lumber, wet service and choosing for laboratory species. Use 30 psf ground snow load for cases in which ground snow load is less than 30 psf and the roof live load is equal to or less than 20 psf
- c Porch depth is measured horizontally from building face to centerline of the header. For depths between those shown, spans are permitted to be interpolated.

Guard Detail

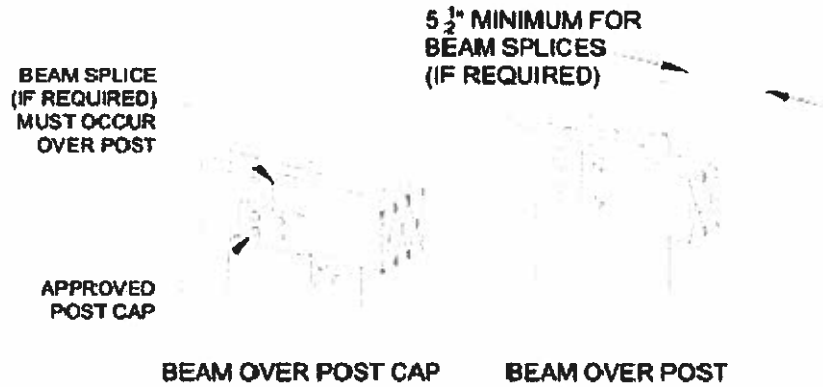


Handrail Detail



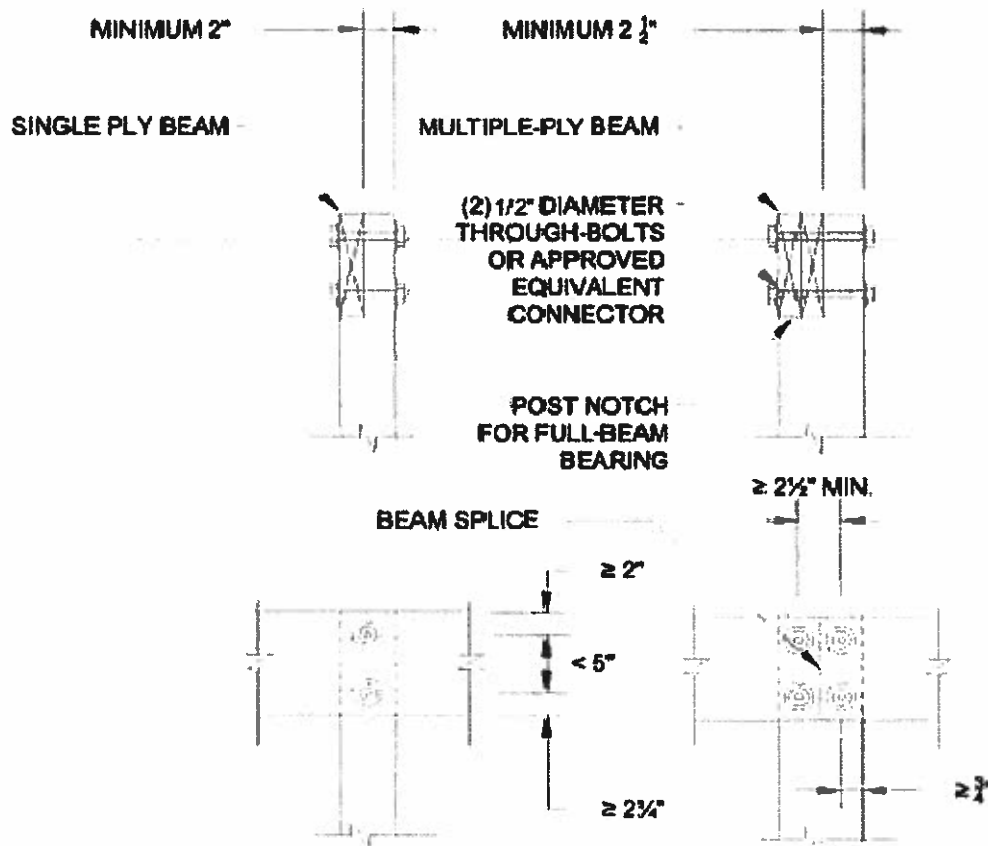
Post to Girder

R507.5.2 Deck beam connection to supports. Deck beams shall be attached to supports in a manner capable of transferring vertical loads and resisting horizontal displacement. Deck beam connections to wood posts shall be in accordance with Figures R507.5.1(1) and R507.5.1(2). Manufactured post-to-beam connectors shall be sized for the post and beam sizes. Bolts shall have washers under the head and nut.

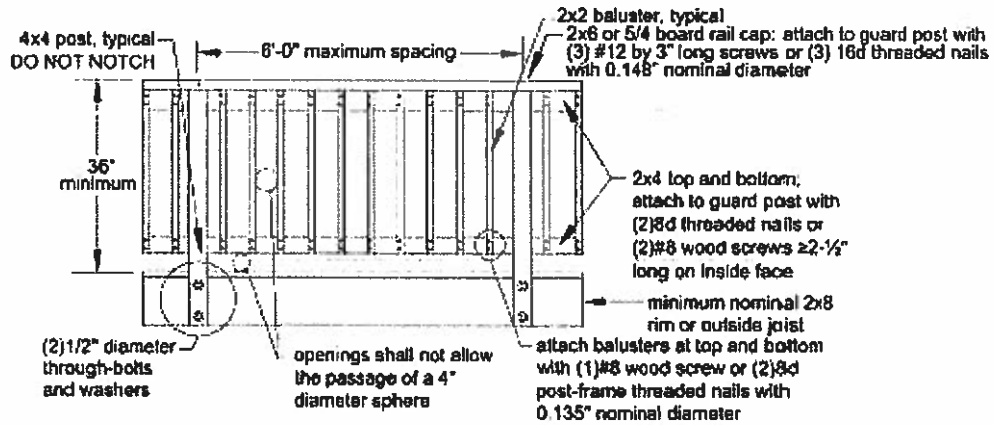
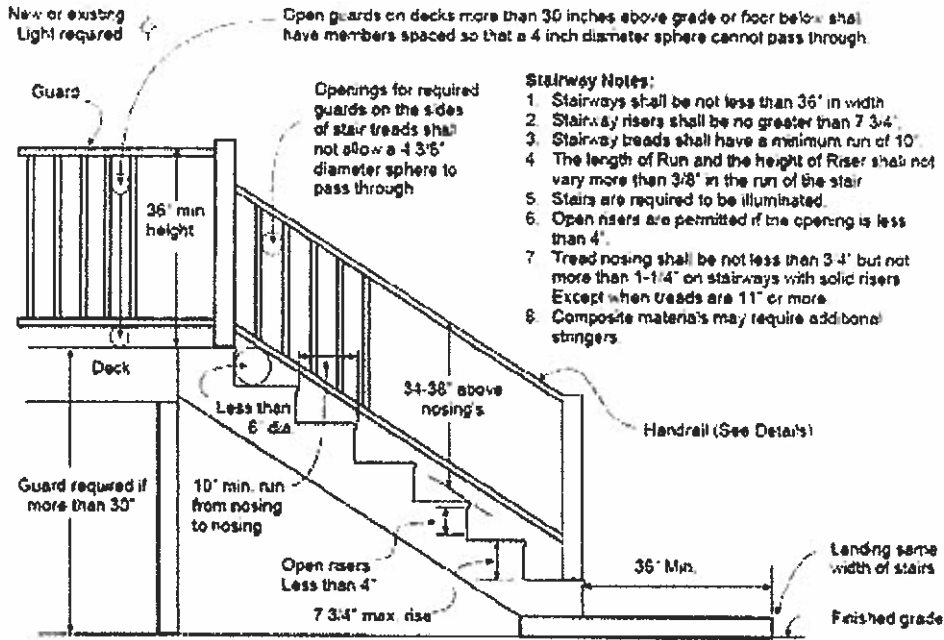


1 inch = 25.4 mm.

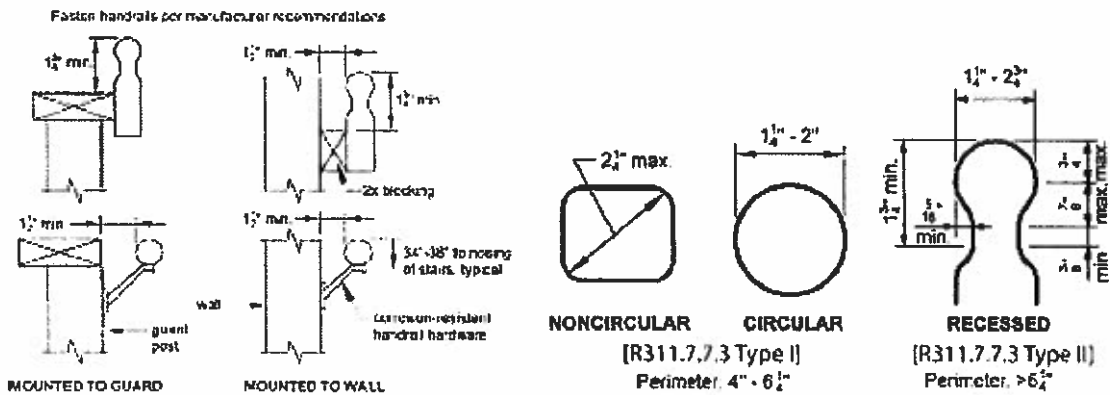
**FIGURE R507.5.1(1)
DECK BEAM TO DECK POST**



Guard Detail

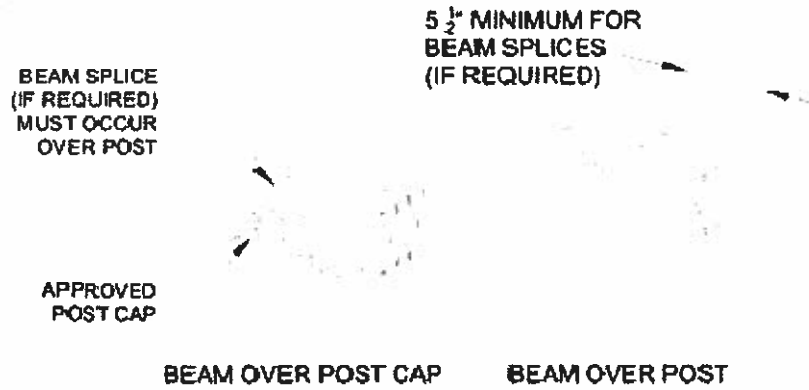


Handrail Detail



Post to Girder

R507.5.2 Deck beam connection to supports. Deck beams shall be attached to supports in a manner capable of transferring vertical loads and resisting horizontal displacement. Deck beam connections to wood posts shall be in accordance with Figures R507.5.1(1) and R507.5.1(2). Manufactured post-to-beam connectors shall be sized for the post and beam sizes. Bolts shall have washers under the head and nut.



1 inch = 25.4 mm.

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

