

ECONOMIC DEVELOPMENT DEPARTMENT

1937 MUNICIPAL WAY ROUND LAKE BEACH ILLINOIS 60073

TEL: (847) 546-2351 FAX: (847) 201-7229

GUIDELINES FOR RESIDENTIAL DECKS

PLAN SUBMITTAL REQUIREMENTS (DRAWING REQUIREMENTS) *Submit 2 Copies

Indicate proposed deck location on a copy of the Plat of Survey showing overall size and distances from the lot lines, main building and setback distances.

Show pier location and depth (**at least 42" below grade**) / diameter and dimensions from pier to pier.

Show size, spacing, and spans of all posts, beams, joists, decking and show connection details.

Show the height of the deck above the final grade and the height of the guardrails above the deck.

REQUIRED INSPECTIONS

- **All inspections require 24 hour advance notice**
- Contact JULIE before you dig, dial 811 or 1-800-892-0123
- Post Hole Inspection (Prior to pouring concrete)
- Rough Framing (Prior to installing any decking- when deck is less than 48" above grade)
- Final Framing (When job is complete)

LOCATION

- Decks located in a floodplain shall comply with the storm water ordinance [Title 9, Chapter 4, Section 9-4-5].
- Decks attached to principal structures shall be setback at least 5' from the side and rear lot lines [Zoning 215.3, 1]
- Decks, not to exceed six feet by six feet (6' x 6') are permitted in front yards **only if** the principal structure does **not** have a rear exit. [Zoning 215.4]

GENERAL

- Pressure treated or decay resistant lumber is required. [IRC R317]
- Rust resistant hardware shall be used. [IRC R317.3.1]
- Weed barriers are required under decks that are less than 48" above the ground with not less than 2" of gravel placed on top of weed barrier for securing [Title 6, Section 6-4-1]

STAIRS

- All stairs shall be provided with illumination. [IRC 303.7]
- Minimum width is 36". [IRC R311.7.1]
- Minimum of 3 stair stringers are required for a 36" wide stairway or a maximum of 18" o.c. [AFPA*]
- Maximum riser height is 7³/₄". [IRC R311.7.5.1] **{see figure #27}**
- Minimum tread depth is 10" plus a 3/4" to 1 1/4" Nosing. [IRC R311.7.5.2] **{see figure #27}**
- Tread riser height shall not deviate from one another by more than 3/8" [IRC R311.7.5.1] **{see figure #27}**
- Openings between risers must not allow the passage of a 4" diameter sphere [IRC R311.7.5.1] **{see #27}**
- A nosing not less than 3/4" but not more than 1 1/4" shall be provided on stairways with solid risers. [IRC 311.7.5.3] **{see figure #27}**
- See Figures 27,28,30,31, for more stairways and stringer requirements.

HANDRAILS

- Handrail required on one side of steps where there are four or more risers. [IRC R311.7.8] **{see figure #30}**
- Handrail cross section is 1 1/4" to 2". [IRC R311.7.8.3] **{see figure B}**
- Handrail shall be 34" to 38" above the nosing. [IRC R311.7.8.1]
- See Figures A and B for specific handrail sizing & spacing

GUARDRAILS

- Required where the deck is more than 30" above grade. [IRC R312.1]
- Guardrail spindles shall be spaced such that there is less than a 4" space between spindles. [IRC R312.1.3]
- The triangular openings formed by the tread and riser of the stairs and the lower chord of the guardrail shall not allow the passage of a six-inch (6") sphere. [IRC R312.1.3] **{see figure #30}**
- The height of the guardrails shall be at least 36". [IRC R312.1.3]
- Along the open sides of stairways that are thirty inches (30") or more in height, guardrails shall be at least 34" in height measured vertically from the nosing of the tread. [IRC R312.1.2]
- **See figures 24,25,26 for other guardrail requirements.**

PIER SIZING CHART (assumed soil bearing capacity = 3,000 pst)

Minimum post size shall be a 6x6 maximum height of 14'

6" x 6" Posts require 12" diameter piers

8" x 8" Posts require 14" diameter piers

JOIST SPAN INFORMATION

Joist Span Capabilities for #2 Southern Yellow Pine (Treated) at 16" o.c. [IRC Table R502.3.1 (2)]

2x6 = 9'9"

2x8 = 12'10"

2x10 = 16'1"

2x12 = 18'10"

Joist Span Capabilities with a 25% Cantilever for #2 Southern Yellow Pine (Treated) at 16" o.c. [AF&PA*]

2x6 = N.A.

2x8 = 10'9"

2x10 = 15'6"

2x12 = 18'0"

BEAM SUPPORT / SPAN INFORMATION

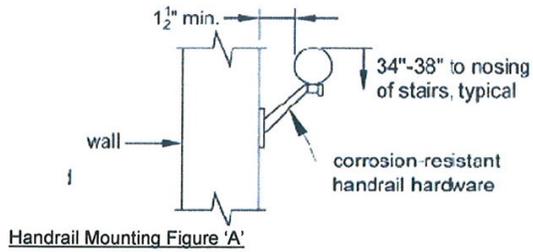
		Beam Support Spacing						
Beam Size	Joist Span>	<u>Up to 6'</u>	<u>Up to 8'</u>	<u>Up to 10'</u>	<u>Up to 12'</u>	<u>Up to 14'</u>	<u>Up to 16'</u>	<u>Up to 18'</u>
<u>2- 2X6</u>	SYP	7'-1"	6'-2"	5'-6"	5'-0"	4'-8"	4'-4"	4'-1"
	SYP	9'-2"	7'-11"	7'-1"	6'-6"	6'-0"	5'-7"	5'-3"
<u>2- 2X8</u> 2- 2X10	SYP	11'-10"	10'-3"	9'-2"	8'-5"	7'-9"	7'-3"	6'-10"
	SYP	13'-11"	12'-0"	10'-9"	9'-10"	9'-1"	8'-6"	8'-0"
<u>2- 2X12</u> 3- 2X6	SYP	8'-7"	7'-8"	6'-11"	6'-3"	5'-10"	5'-5"	5'-2"
	SYP	11'-4"	9'-11"	8'-11"	8'-1"	7'-6"	7'-0"	6'-7"
<u>3- 2X8</u> 3- 2X10	SYP	14'-4"	12'-10"	11'-6"	10'-6"	9'-9"	9'-1"	8'-7"
	SYP	17'-5"	15'-1"	13'-6"	12'-4"	11'-5"	10'-8"	10'-1"
<ul style="list-style-type: none"> • Beam Spans Above Assume Joists From One Side Only (Spanning From House To Beam) • Supporting Joists From Both Sides, Double The 'Joist Span' Distance Above 								
SYP = #2 Southern Yellow Pine								

JOIST CONNECTIONS

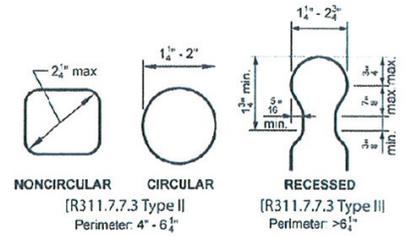
- Joists sitting on bearing points shall have hurricane clips or rafter ties holding the joist down. (IRC R507.1)
- Joists connected to the face of other joists/beams/ledgers are required to utilize joist hangers. (IRC R507.2.3)
- Deck lateral load connection ,hold down tension devices shall be installed on not less than two locations per deck [IRC R507.2.3] {see figure #26 and #507.2.3}

LEDGER BOARD ATTACHEMENT

- Ledger Board shall be a minimum of 2x8 nominal lumber. [AF&PA*]
- Ledger board shall be flashed throughout its length. (Under siding & house wrap, over top of ledger- See Figure 'C', Note 5). [IRC R703.8]
- For joist spans up to 18'-0", ½" lag bolts into 2" nominal Southern Pine Rim/Band Board shall be 16" o.c. staggered high/low, 2" from the edge of the ledger. (See Figure 'D') [AF&PA*]
- For joist spans up to 18'-0", ½" lag bolts into 1" Engineered Wood Product shall be 8" o.c. staggered high/low, 2" from the edge of the ledger. (See Figure 'D') [AF&PA*]



Handrail Mounting Figure 'A'



Handrail Grip Size Figure 'B'

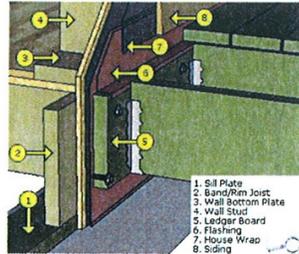


Figure 'C'

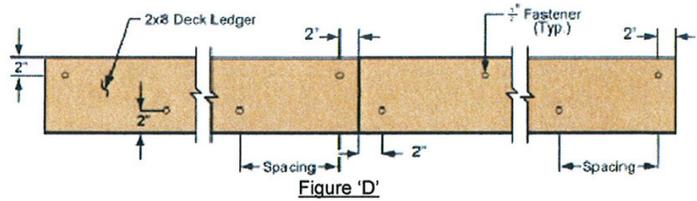


Figure 'D'

Figure 30. Stair Guard Requirements.

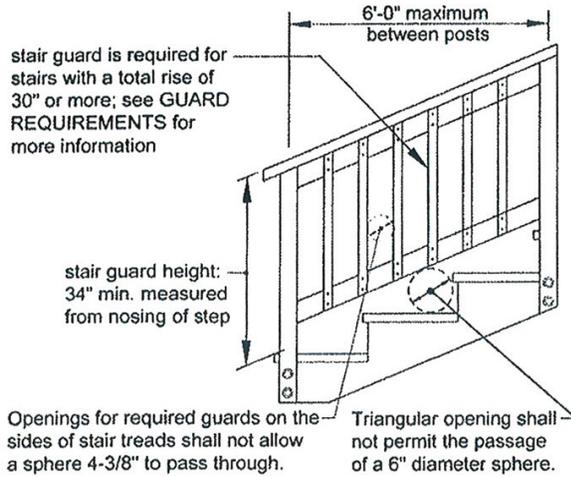


Figure 31. Stair Stringer Attachment Detail.

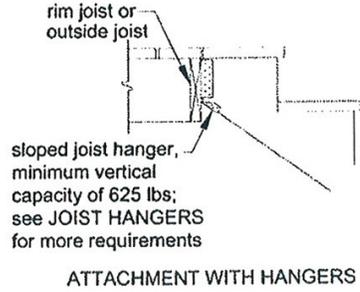


Figure 28. Stair Stringer Requirements.

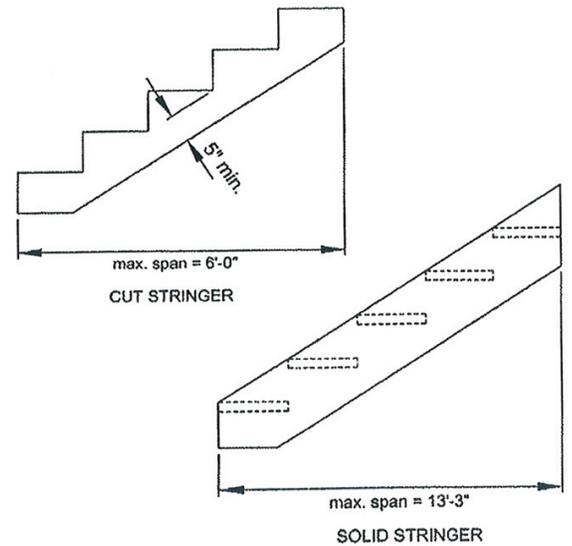


Figure 27. Tread and Riser Detail.

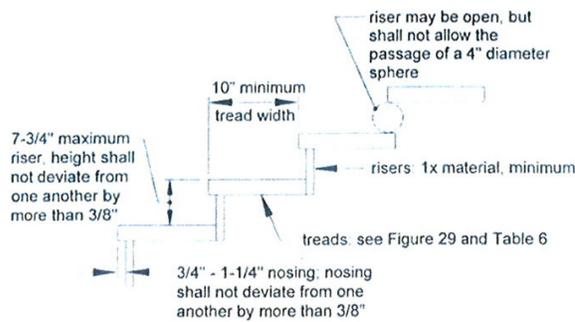


Figure 24. Example Guard Detail.

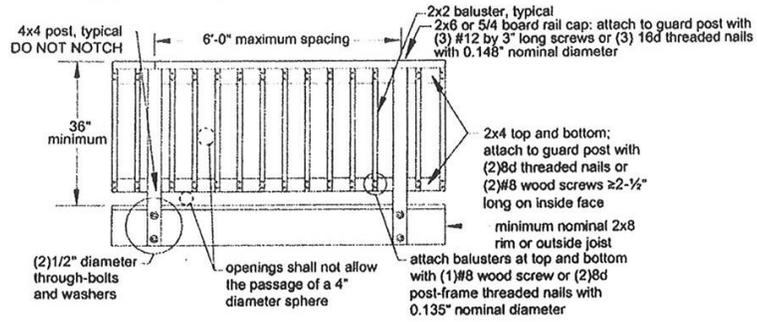


Figure 25. Guard Post to Outside-Joist Example.

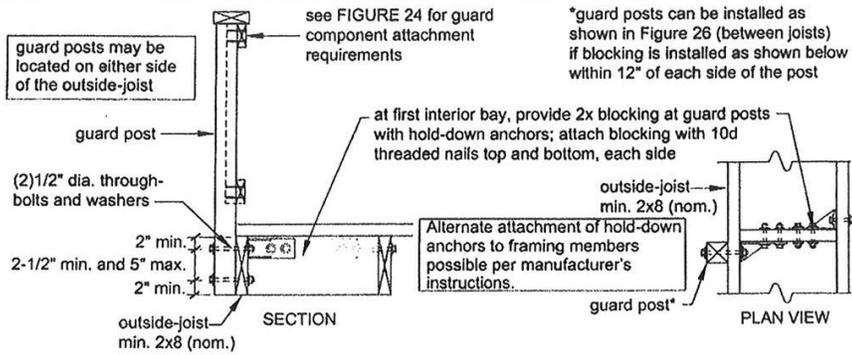


Figure 26. Guard Post to Rim Joist Example.

