

DECK SUBMITTAL INSTRUCTIONS

1. New pressure treatment methods use chemicals that will prematurely corrode standard fasteners, hardware, and flashing when in contact with pressure treated lumber; and as a result, fastener and hardware requirements have changed. Note the following:
 - a. All screws and nails shall be hot-dipped galvanized or stainless steel.
 - b. All hardware (joist hanger, cast-in-place post anchors, etc.) shall be galvanized
 - c. With 1.85 oz/sf of zinc (G-185 coating) or shall be stainless steel. Look for
 - d. Products such as "Zmax" from Simpson Strong-Tie or "Triple Zinc" from USP.
2. Decks constructed according to this handout are not designed to support spas or hot tubs. Installation of spas or hot tubs will require additional structural supports.
3. Decks shall not be attached to house overhangs, bay windows, brick veneers, or chimneys.
4. Deck designs that deviate from the conditions of this handout will require a specific plan submission and may require engineering.
5. All decking material shall be composed of 2x4, 2x6, or five-quarter ("5/4") boards. Attach decking to each joist with two 10d nails or two #8 screws. Decking may be placed from an angle perpendicular to the joists to an angle of 45 degrees to the joists. Decking must have a span length such that each board bears on a minimum of two joists.
6. Plastic or composite decking products may be used as a substitute for conventional wood decking, but installation and span lengths of the substituted material must be in strict conformance with the product listing and the manufacturer's installation instructions. Copies of the manufacturer's installation instructions must be submitted with this handout and permit application.
7. ***Inspections:***
 - a. A footing, framing, and final inspection are required on all decks.
 - b. Footing inspections are required PRIOR to the placement of concrete.
 - c. Framing and final inspections may be combined if all portions of the deck when framing and mechanical attachments are at least four feet above grade.
 - d. It is the responsibility of the permit holder or the permit holder's representative to Notify CCI who issued the permit when stages of construction are reached that requires an inspection.

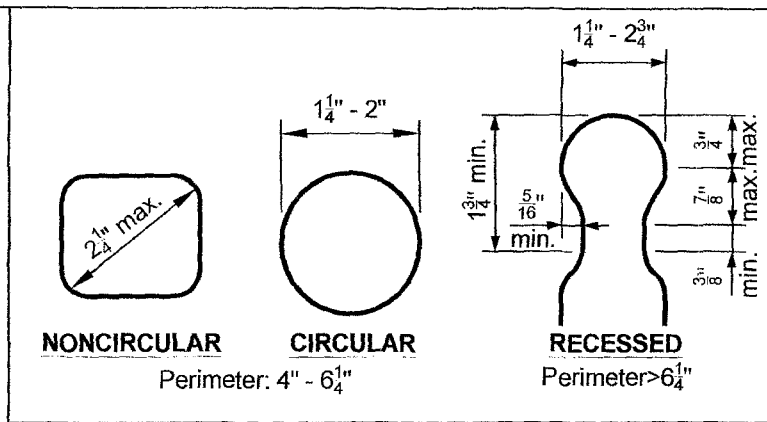


FIGURE 39: HANDRAIL GRASPABILITY TYPES/GEOMETRY

Handrails shall run continuously from a point directly over the lowest riser to a point directly over the highest riser and shall return to the guard at each end; see FIGURE 41. Handrails may be interrupted by guard posts only at a turn in the stair.

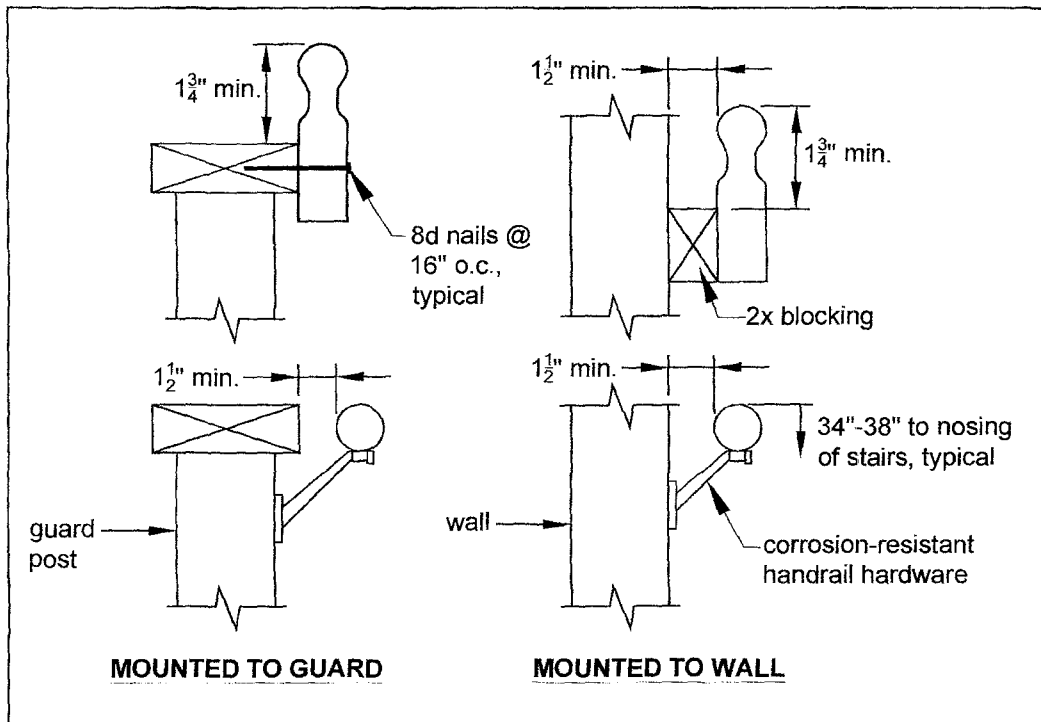


FIGURE 40: HANDRAIL REQUIREMENTS

TABLE 1: MAXIMUM JOIST SPANS¹ (excludes overhangs)

Joist Size	Joist Spacing, on center		
	12"	16"	24"
2x6	11'-1"	9'-7"	7'-10"
2x8	14'-4"	12'-4"	10'-1"
2x10	17'-10"	16'-0"	13'-1"
2x12	18'-0"	18'-0"	15'-4"

¹ Spans are based on 40 PSF live load, 10 PSF dead load, southern pine#2, normal loading duration, wet service conditions and deflection: $\Delta = \ell/360$.

BEAM SIZE & ASSEMBLY REQUIREMENTS

The determination of beam size is based on the characteristics of the joist, i.e., span length and overhang. Use TABLE 2 to determine your beam size; see FIGURE 4 for beam span types.

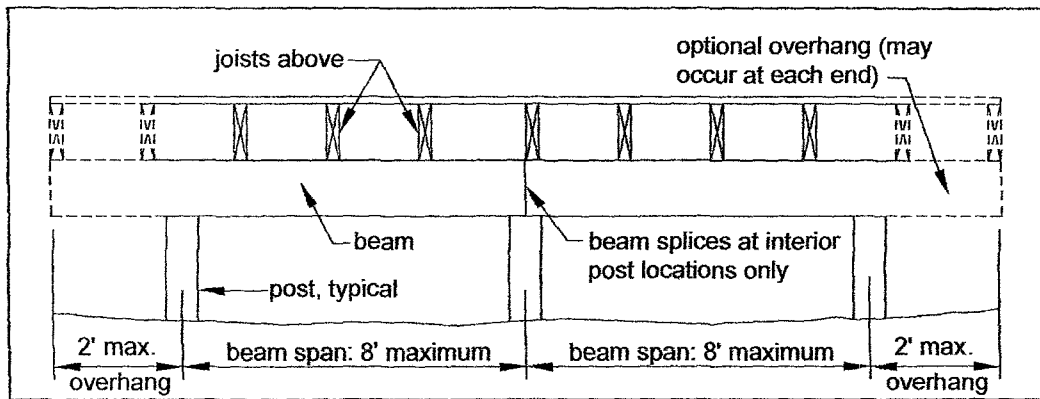


FIGURE 4: BEAM SPAN TYPES

TABLE 2: MINIMUM BEAM SIZE*

Joist Span	Beam Size	
	when joists overhang beam	when joists attach to side of beam
0 - 6'-0"	(2) 2x8	(2) 2x6
6'-1" - 11'-2"	(2) 2x10	(2) 2x8
11'-3" - 12'-8"	(2) 2x10	(2) 2x10
12'-9" - 16'-0"	(2) 2x12	(2) 2x10
16'-1" - 18'-0"	(2) 2x12	(2) 2x12

* You may substitute a larger beam size for the one shown in the table. For instance, if the table requires (2) 2x8, you may substitute a (2) 2x10 or (2) 2x12.

The beam is assembled by attaching the two members identified in the tables above in accordance with FIGURE 5.

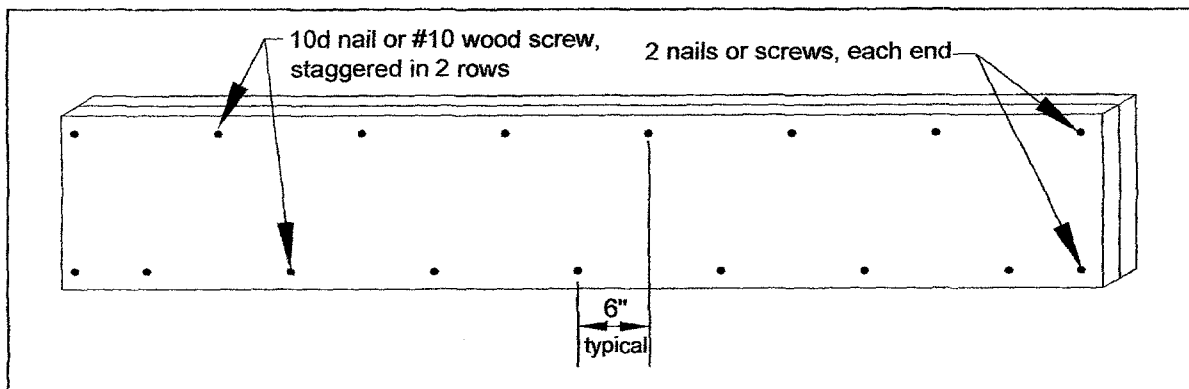


FIGURE 5: BEAM ASSEMBLY DETAIL

PROHIBITED LEDGER ATTACHMENTS

Attachments to the ends of pre-manufactured open web joists, to brick veneers or chimneys, and to house overhangs or bay windows are strictly prohibited; see FIGURE 17 through FIGURE 19. In such cases the deck shall be free-standing. See FREE-STANDING DECKS on Sheet 12.

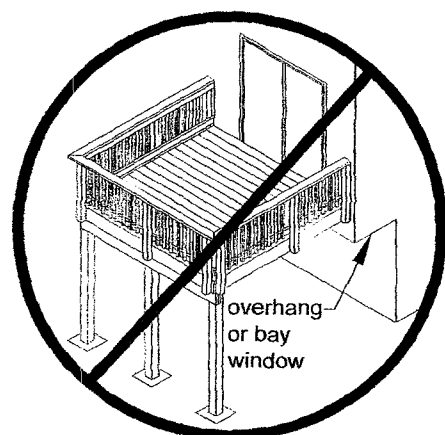
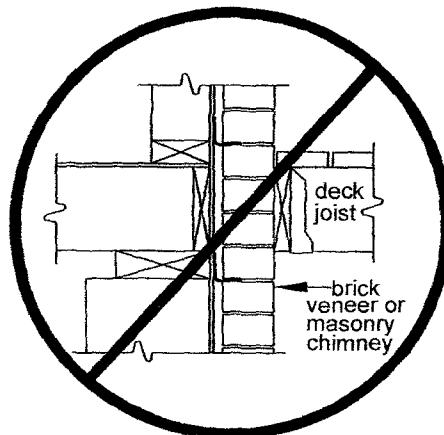
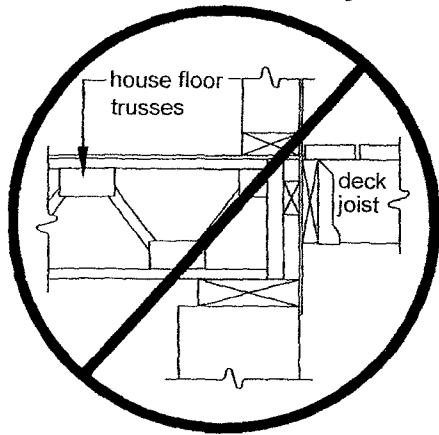


FIGURE 17: NO ATTACHMENT TO OPEN WEB TRUSSES

FIGURE 18: NO ATTACHMENT OR THROUGH BRICK VENEER

FIGURE 19: NO ATTACHMENT TO HOUSE OVERHANG

LEDGER BOARD FASTENERS

Ledger board fasteners shall be installed in accordance with FIGURE 20 and the spacing in TABLE 4. Only those fastener types noted herein are approved for use; LEAD ANCHORS ARE STRICTLY PROHIBITED. Adequacy of connections will be verified by county inspectors.

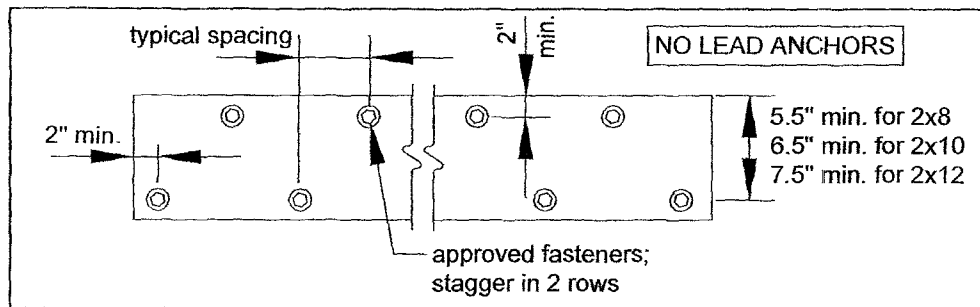


FIGURE 20: LEDGER BOARD FASTENER SPACING AND CLEARANCES

TABLE 4: LEDGER BOARD FASTENER SPACING¹

Fastener	Band Board Material ²	Joist Span						
		0 to 6'-0"	6'-1" to 8'-0"	8'-1" to 10'-0"	10'-1" to 12'-0"	12'-1" to 14'-0"	14'-1" to 16'-0"	16'-1" to 18'-0"
Spacing of Fasteners, on center								
Lag Screws	1" EWP	24"	18"	14"	12"	10"	9"	8"
	1-1/8" EWP	28"	21"	16"	14"	12"	10"	9"
	2x lumber	30"	23"	18"	15"	13"	11"	10"
Through Bolts	1" EWP	24"	18"	14"	12"	10"	9"	8"
	1-1/8" EWP	28"	21"	16"	14"	12"	10"	9"
	2x lumber	36"	36"	34"	29"	24"	21"	19"
Approved Wood Screws	1" EWP	18"	13"	11"	9"	8"	7"	6"
	1-1/8" EWP	21"	15"	12"	10"	9"	7"	7"
	2x lumber	19"	14"	11"	9"	8"	7"	6"
Expansion Anchors		36"	36"	34"	29"	24"	21"	19"
Approved Epoxy Anchors		32"	32"	32"	24"	24"	16"	16"

¹See Sheet 11 for fastener specifications.

²EWP = manufactured engineered wood product; see Sheet 8 for more information.

DECK FRAMING PLAN

A framing plan shows a bird's-eye view of the joist and beam layout; the location of the ledger board, posts and footings, and the type, size and spacing of the ledger board fasteners. See FIGURE 6 for an example of a typical deck framing plan.

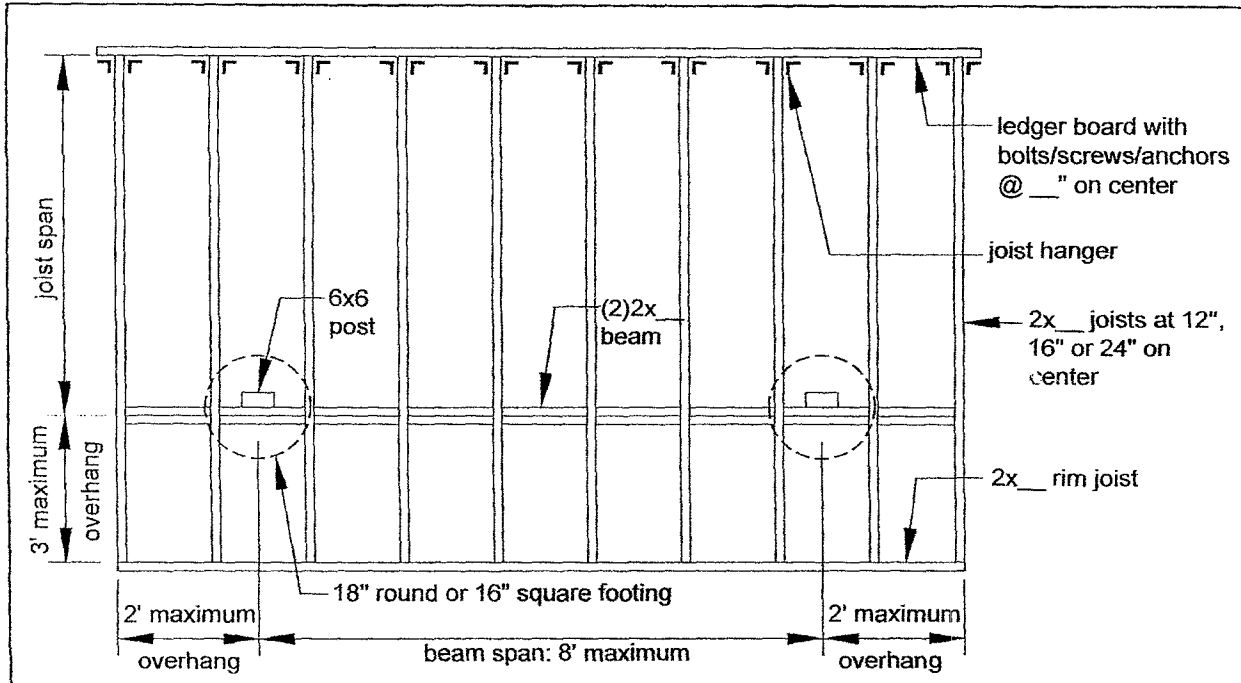


FIGURE 6: TYPICAL DECK FRAMING PLAN

JOIST-TO-BEAM CONNECTION

Each joist shall be attached to the beam as shown in FIGURE 7. Use Option 1 or Option 2 when joists bear on or overhang past the beam; see FIGURE 1 and FIGURE 3. Use Option 3 when joists attach to the side of the beam

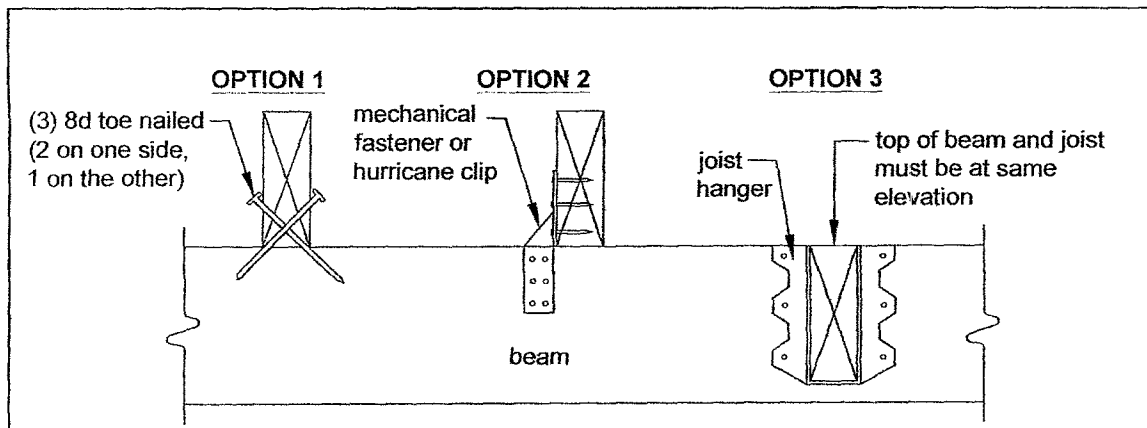


FIGURE 7: JOIST-TO-BEAM DETAIL

**SECTION R403
FOOTINGS**

R403.4 Exterior deck footings.

Exterior deck footings of poured-in-place concrete shall be a minimum of 8 inches (203 mm) thick and extend below the frost depth per Table R301.2 (1). The diameter or width of the footing shall comply with Table R403.4.

TABLE R403.4

**MINIMUM FOOTING SIZE FOR DECK
FOOTINGS WITHOUT ROOF LOADS**

EXTERIOR DECK AND PORCH FOOTING SIZE IN INCHES <i>a, b</i>		
Diameter	Square	Maximum tributary area allowed per post (square feet)
8	8x8	14
10	9x9	22
12	11x11	31.6
14	13x13	42.8
16	15x15	56
18	16x16	70.8
20	18x18	87.2

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929 m²,
1 pound per square foot = 4.882 10 g/m².

- a. Based upon 2,000 pounds per square foot soil bearing capacity.
- b. Based upon 40 pounds per square foot live load and 10 pounds per square foot dead load.

