

City of Pevely

Deck Handout



City of Pevely
301 Main Street
Pevely, Mo. 63070
636-475-4452

Updated: December 30, 2005

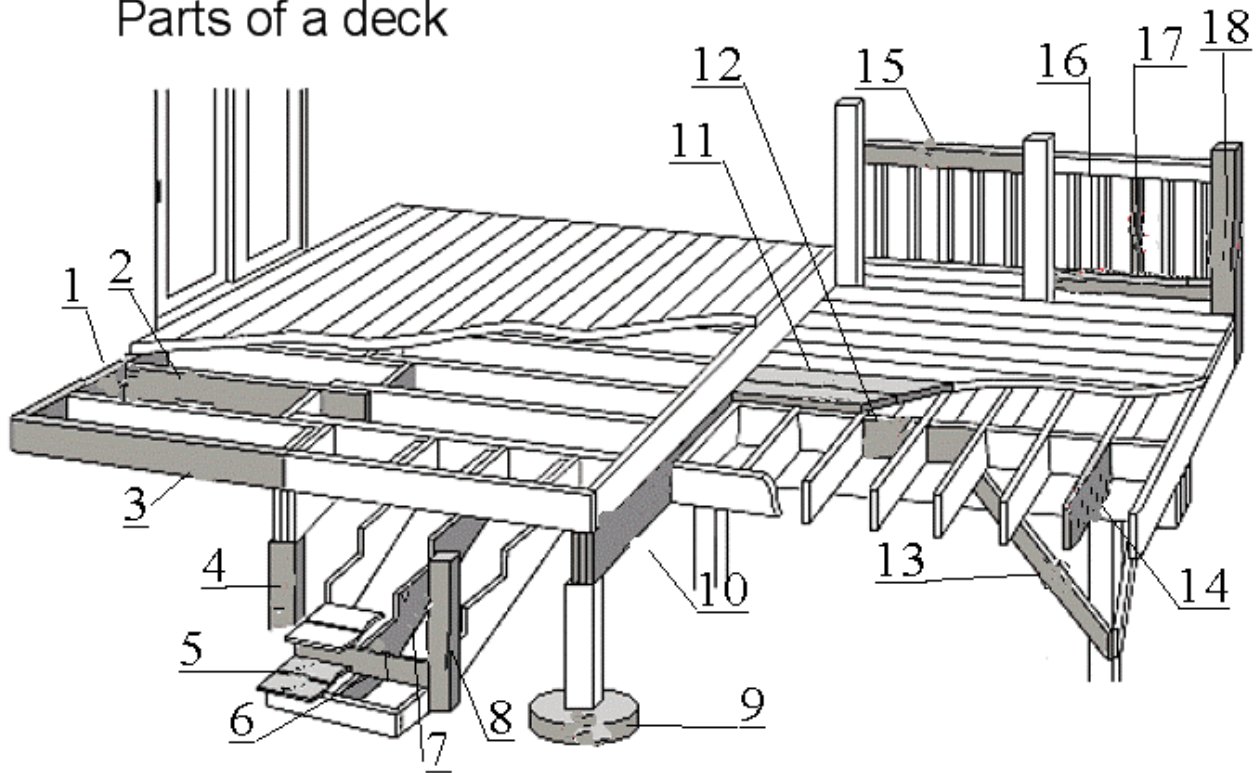
THIS MEMORANDEUM IS A GENERAL, BRIEF STATEMENT FOR THE CONVENIENCE OF THE BUILDERS, ARCHITECTS AND OTHER INTERESTED PERSONS. FULL PROVISIONS ARE DECLARED TO BE THE CITY OF PEVELY CODE.

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Application for Deck building permit

- 1) A permit application must be completely filled out and submitted to the City of Pevely Building Department. This application must include the address location where the deck is to be built, applicant's name(s), a drawing of the proposed deck (also indicate on the drawing the distance from property lines or street) and an estimated cost of the project.
- 2) A minimum fee of \$10.00 shall be charged for the permit when the total cost of construction is less than \$4999.00. Permit costs for construction that exceed \$5000.00 are set by City of Pevely Municipal Code, Section 500.030 as amended.
- 3) All fees must be paid prior to the permit being issued or inspection made. All monies can be paid by mail, or in person at Pevely City Hall.
- 4) If the deck will require footings or piers to be set and poured (see Page 8), an inspection will be called for BEFORE any concrete is poured to insure proper depth and placement of footings. A minimum of **24 HOURS** notice must be given to insure proper scheduling of the inspector. After approval of the footings, the concrete can be poured.
- 5) After the deck is completed, a FINAL inspection will be required. This will allow us to close out the permit and insure there are no predications.
- 6) During the inspection, if any predications/code violations are observed, the inspector will discuss the nature of the violation(s) and leave a copy of the inspection report at the property.
- 7) After all predications/code violations are corrected; the property owner or agent must contact the City of Pevely Building Department to schedule a re-inspection. As noted above, 24 hours notice must be given.
- 8) All deck permits shall expire after SIX (6) months.

Parts of a deck



- | | | |
|-----|-----|-----------------|
| 1) | 1) | Ledger Board |
| 2) | 2) | Floor Joist |
| 3) | 3) | Rim Joist |
| 4) | 4) | Foundation Post |
| 5) | 5) | Stair Tread |
| 6) | 6) | Stair Riser |
| 7) | 7) | Stair Stringer |
| 8) | 8) | Railing Post |
| 9) | 9) | Footing/Pier |
| 10) | 10) | Beam |
| 11) | 11) | Deck Boards |
| 12) | 12) | Blocking |
| 13) | 13) | Bracing |
| 14) | 14) | Cantilever |
| 15) | 15) | Railing Cap |
| 16) | 16) | Railing Shoe |
| 17) | 17) | Baluster |
| 18) | 18) | Guard Rail Post |

USING THE FOLLOWING TABLES TO HELP YOU PLAN YOUR DECK

Let's say that your deck will extend 8 feet from your house and will be 14 feet long. In this example, the deck will only be 2 feet high. If it is to be just above ground level, there is little need for a railing. However, decks over 30 inches and higher call for a sturdy railing.

Table 1 shows the appropriate beam size. For example, the distance between the house and the beam is 8 feet. Using (2) 2 x 12's as your beam members allows a span of 7 feet between posts, a convenient figure for a deck 14 feet long. A beam can be built up from 2 smaller pieces either nailed together or placed a few inches apart on either side of a post. Be sure you have a post under any joints in your beams.

To calculate the post size needed, multiply the beam spacing, in this example 8 feet, by the post spacing, 7 feet. This gives you the load area of 56 Square Feet. Refer to **Table 2** to see that in our example, for a load area of less than 72 sq. feet and a post height less than 6 feet, a 4 x 4 post is adequate.

Decking in this example will be 2 x 6 boards, laid flat. **Table 3** shows the safe span for decking.

Now refer to **Table 4**. As in our example our joists must span the 8 feet between the house and the outer beam. That can be achieved with 2 x 8 joists spaced 24 inches apart. To avoid any springiness in our deck, however, it should be designed with joists 16 inches apart.

If a railing is desired, refer to **Table 5** to determine the proper post sizes and spacing requirements. The space between the balusters is specified to be no more than 4 inches apart to be sure the small heads of children cannot get stuck between them.

Required Deck Beam Sizing (Table 1)

Length of Span (FT.)	Spacing Between Posts (FT.)									
	4	5	6	7	8	9	10			
6	(2) 2 x 8s	(2) 2 x 8s	(2) 2 x 8s	(2) 2 x 10s	(2) 2 x 10s	(2) 2 x 10s	(2) 2 x 12s	(2) 2 x 10s	(2) 2 x 10s	(2) 2 x 12s
7	(2) 2 x 10s	(2) 2 x 10s	(2) 2 x 10s	(2) 2 x 10s	(2) 2 x 10s	(2) 2 x 10s	(2) 2 x 12s	(2) 2 x 10s	(2) 2 x 12s	(2) 2 x 12s
8	(2) 2 x 10s	(2) 2 x 10s	(2) 2 x 10s	(2) 2 x 10s	(2) 2 x 12s	(2) 2 x 12s	(2) 2 x 12s	(2) 2 x 12s	(2) 2 x 12s	(3) 2x12s
9	(2) 2 x 10s	(2) 2 x 10s	(2) 2 x 12s	(2) 2 x 12s	(2) 2 x 12s	(2) 2 x 12s	(2) 2 x 12s	(3) 2x12s	(3) 2x12s	See Note
10	(2) 2 x 10s	(2) 2 x 12s	(2) 2 x 12s	(3) 2x12s	(3) 2x12s	(3) 2x12s	(3) 2x12s	See Note	See Note	See Note
11	(2) 2 x 12s	(2) 2 x 12s	(3) 2x12s	(3) 2x12s	See Note	See Note	See Note	See Note	See Note	See Note
12	(2) 2 x 12s	(3) 2x12s	(3) 2x12s	(3) 2x12s	See Note	See Note	See Note	See Note	See Note	See Note

NOTE: At this spacing, beams LARGER than 2" x 12" are recommended!

Minimum Post Sizes (Table 2)

Height (ft)	Load Area (sq. ft.) = Beam Spacing x Post Spacing		
	48	72	96
up to 6	4x4	4x4	6x6
up to 8	6x6	6x6	6x6

Vertical loads figured as concentric along axis. No lateral loads considered

Recommended Spans For Spaced Deck Boards (Table 3)

SPANS IN INCHES

Boards Laid FLAT		Boards Laid On EDGE
Board size	5/4 x 4	2 x 4
On Center	16" / 24" **	2 x 6
	16"	16" / 24" **
		48"

** Although 24 inches is a safe span, undesirable deflection or springiness may occur

Maximum Allowable Spans For Deck Joists (Table 4)

Joist Size (inches)	Joist Spacing
16	24
2 x 6	9'-9"
2 x 8	12'-10"
2 x 10	16'-5"
	13'-4"

Railing Sizing (Table 5)

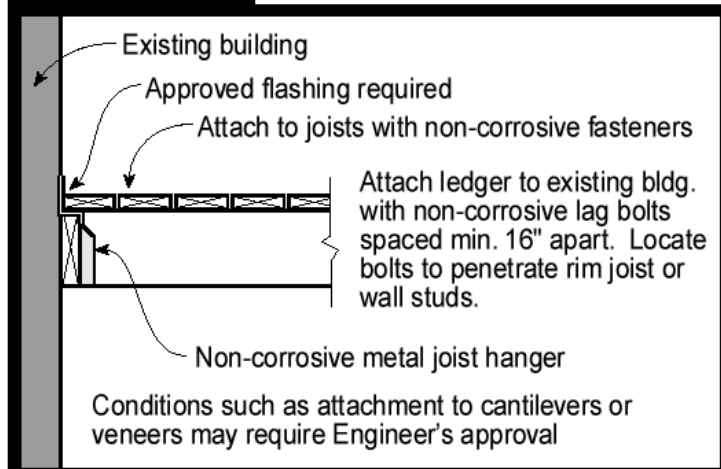
Distance between Posts (Feet)	Post Size (Inches)	Cap Size (Inches)
2' - 3'	2 x 4	2 x 4

3' - 4'	2 x 4, 4 x 4	2 x 4, 2 x 6
4' - 6'	2 x 6, 4 x 4	2 x 6

Side rails can be nominal 1" or 2" lumber of varying widths

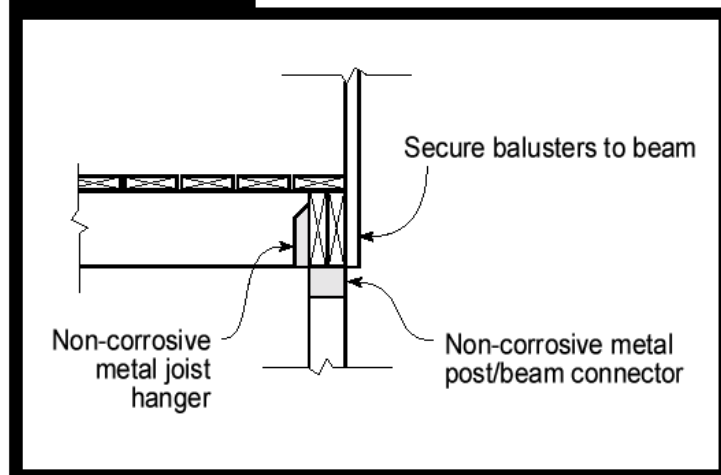
Above Tables are based on lumber with 1200 psi bearing stress rating and a live load of 40 psi.

Detail A



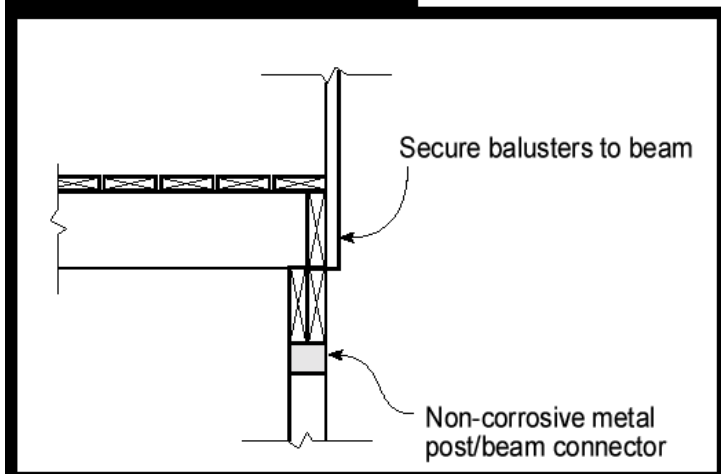
Detail "A" shows the proper method of attaching the ledger board to the side of an existing building and attaching the joists via approved metal hangers.

Detail B



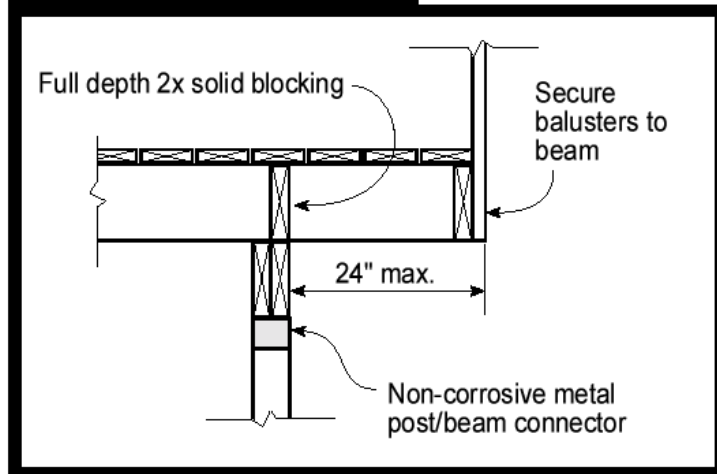
Detail "B" shows the proper method for attaching the opposite end of your joists to the rim joist with approved metal hangers.

Alternate Detail B1



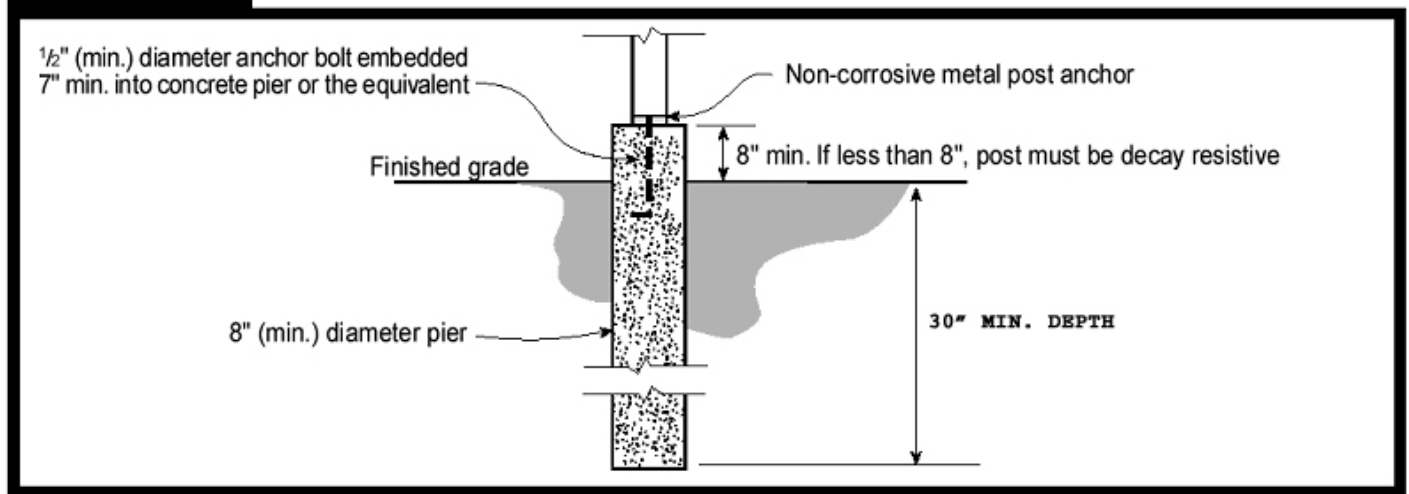
Alt. Detail "B1" shows how to attach the joists to the deck beam without metal joist hangers.

Alternate Detail B2



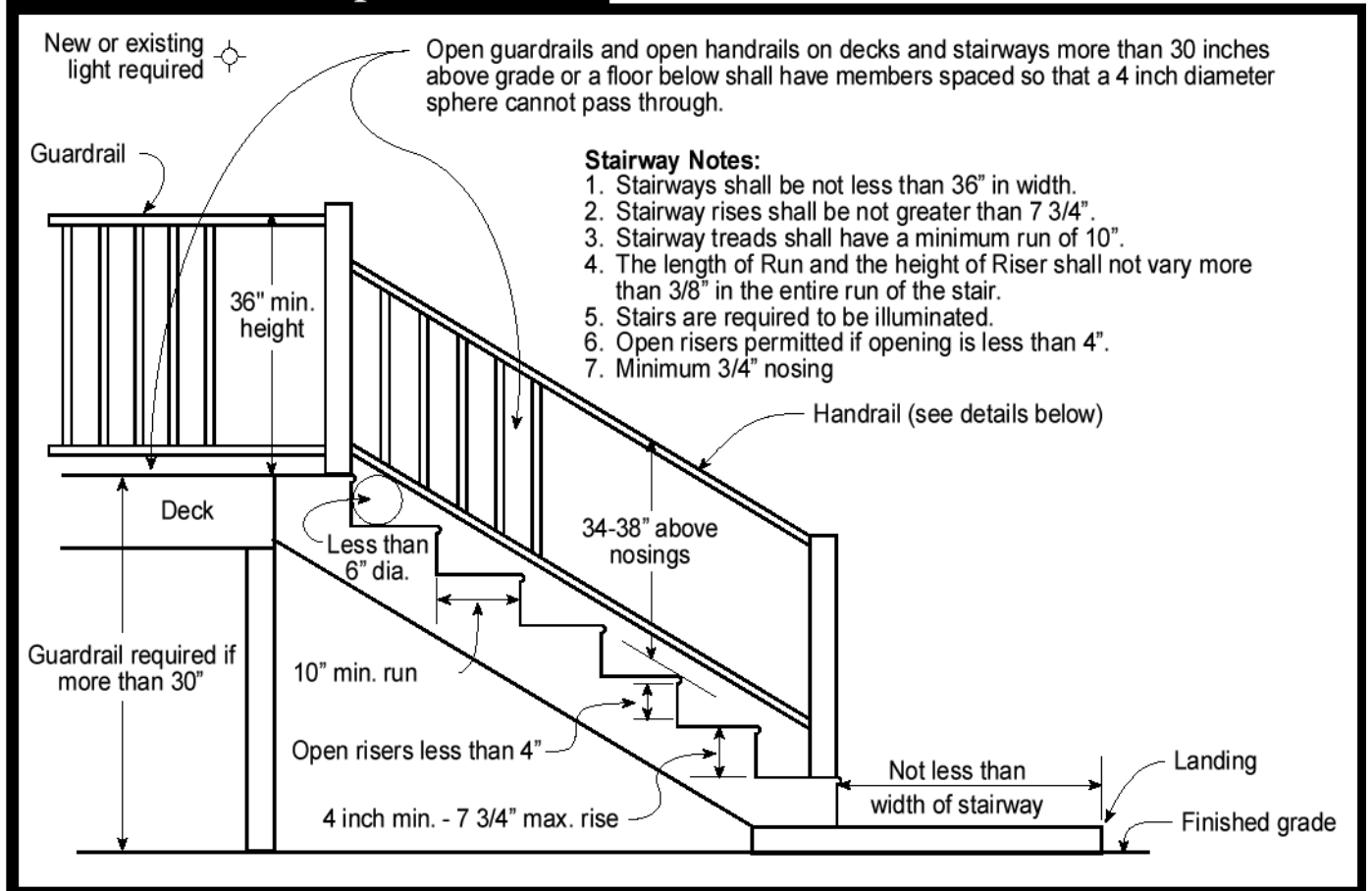
Alt. Detail "B2" shows the proper method of attaching the floor joists in a cantilevered set up. Please note that a 24 inch overhang is the maximum allowed.

Detail C



Detail "C" shows the proper way to set concrete piers to support the deck posts. The depth of the hole is critical since the local freeze/frost depth for the St. Louis Area is 30". Set too shallow, the piers could rise in cold weather. Before concrete can be poured, please contact the Building Department to schedule an inspection.

Stair & Handrail Specifications



Handrail Notes:

1. Handrails shall be continuous on at least one side of stairs with 2 or more risers.
2. Handrails shall be placed not less than 34 inches nor more than 38 inches above stair nosings.
3. The handgrip portion of handrails shall be not less than 1-1/4 inches nor more than 2 1/4 inches in circular cross section.
4. Handrails shall be placed not less than 1-1/2 inches from any wall or other surface.

Please read this section carefully if you are building stairs on your deck. These specifications are applicable to all stairways that you build, interior or exterior.

On the following page, you will find graph paper that can be used to sketch your deck plans for submission. Deck plans DO NOT have to be professionally drawn, just understandable to you and the Building Inspector! Submit this drawing along with the completed permit application and the site plan for review by the Code Enforcement Officer.

If you have any questions about this handout, planning or building your deck, please call the Pevely Building Department.

