



# Building Guide

Colorado Chapter of the International Code Council

## Single Family Residential Uncovered Decks and Porches

### How to Use this Guide

Check with your jurisdiction regarding type of submittal (paper or electronic) and for additional requirements. Draw to scale and complete the following (hint: use graph paper with  $\frac{1}{4}$ " squares. Example:  $\frac{1}{4}$ " = 1').

**1. Complete this Building Guide** by filling in the blanks on page three, and indicating which construction details will be used.

**2. Provide Plot Plan (site plan)** showing dimensions of your project or addition and its relationship to existing buildings or structures on the property and the distance to existing property lines drawn to scale. See page 2.

### 3. Fill out a building permit application.

The majority of permit applications are processed with little delay. The submitted documents will help determine if the project is in compliance with building safety codes, zoning ordinances and other applicable laws.

The Colorado Chapter of the International Code Council is a professional organization seeking to promote the public health, safety and welfare to building construction. We appreciate your feedback and suggestions. please write to the Colorado chapter of the International code Council, P.O.Box 961, Arvada, CO 80001. This building guide can be found on Colorado Chapter of the International Code Council website at: <http://www.coloradochaptericc.org>

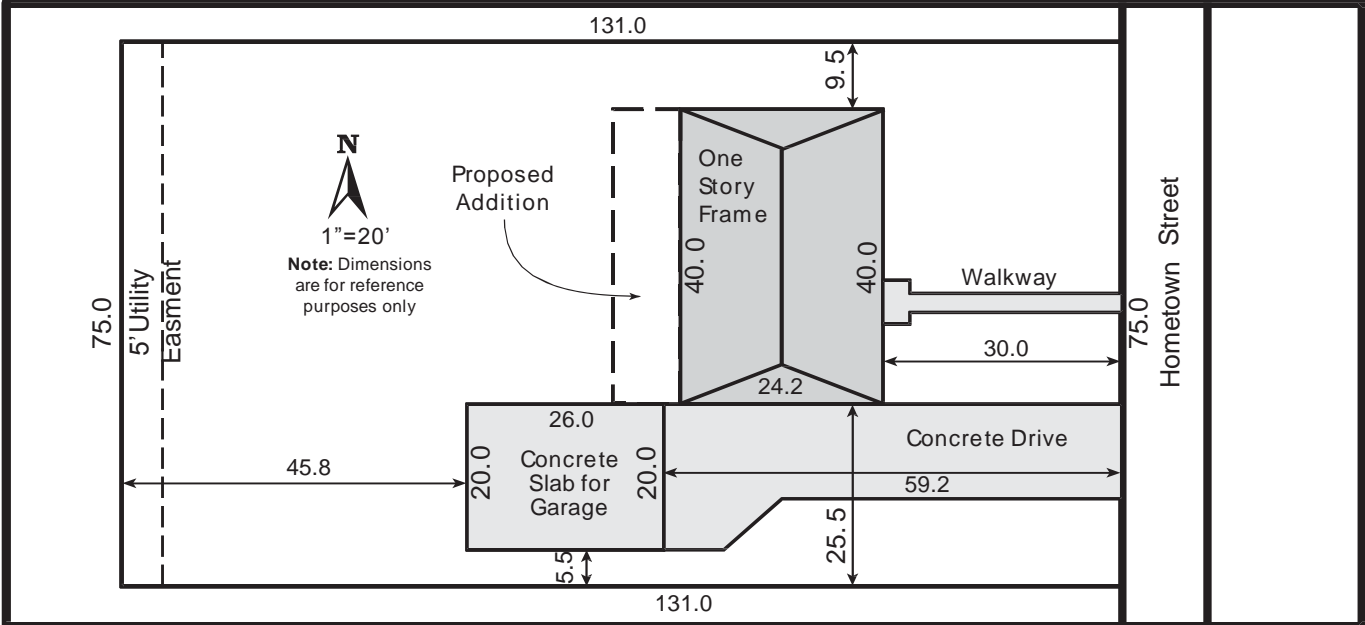


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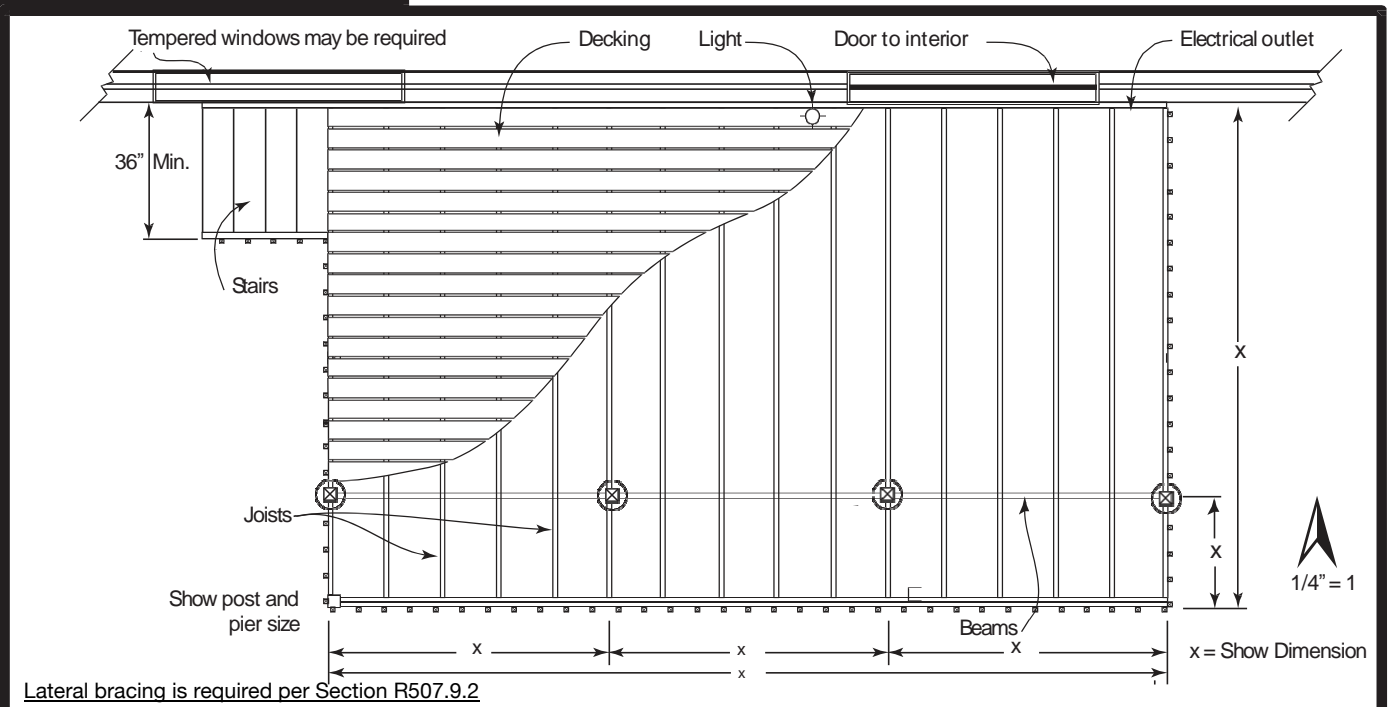
# Single Family Residential Uncovered Decks and Porches

**Note:** A plot plan (plan view) showing the dimensions of your project or additions and its relationships to existing buildings or structures on the property must be included. In addition to project dimensions, your plot plan must also show other details such as post locations and spacing, joist and beam spans, and any other pertinent information not shown on the section drawing.

## Site Plan Example



## Plan View Example



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## Directions

1. Fill in the blanks. Please print legibly.
2. Indicate in the check box which detail from page 6 will be used.

Address: \_\_\_\_\_

### Size and Spacing of Lags

(example: Two rows 1/2" x 4 1/2" lags @ 16" O.C.)  
see Table 1

## Deck Section

Type of decking \_\_\_\_\_ x \_\_\_\_\_ - \_\_\_\_\_  
(example: 1 x 4 or 2 x 6 - Trex)

2x \_\_\_\_\_ joists  
spaced \_\_\_\_\_" apart  
(example: 2 x 10" spaced 24" apart) see Table 2

( ) x \_\_\_\_\_ beam  
(example: (2) 2 x 10 - see detail B) see Table 3

\_\_\_\_\_ x \_\_\_\_\_ posts spaced \_\_\_\_\_  
apart (example: 4 x 4 posts spaced 8' apart)  
Post height \_\_\_\_\_ see Table 4

Span \_\_\_\_\_  
(example: 13' - 4")

Type of exterior wall covering  
(existing)

Existing bldg.

Electrical outlet  
required on decks

Approved  
flashing  
required

Beam splices to occur over  
posts with 1 1/2" bearing

Attach decking with non corrosive fasteners

36" high guard  
with balusters  
spaced so that a  
4 inch diameter  
sphere cannot  
pass through

36 inches min.

6 Ft. 8 in. min. (see note)

✓ Check one  
☐ Detail B  
☐ Alternate Detail B1  
☐ Alternate Detail B2  
(see page 6)

Detail A  
(see page 6)

Conditions such as attachment  
to cantilevers or veneers may  
require Engineer's approval

Span

Finished grade

Detail C  
(see page 6)

**Note:** Emergency escape windows are allowed  
to be installed under decks and porches provided  
the location of the deck allows the emergency  
escape window to be fully opened and provides a  
path not less than 36" in height to a yard or court.  
6'8" required for walk out basements or patios.

below frost depth  
check with your  
jurisdiction

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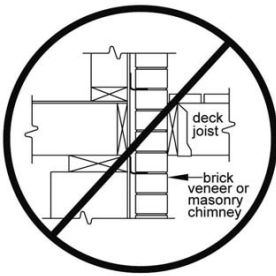
# Single Family Residential Uncovered Decks and Porches

## Table 1 Ledger connection

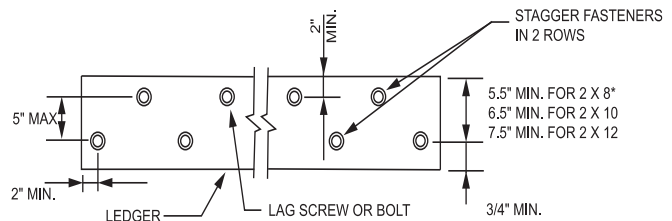
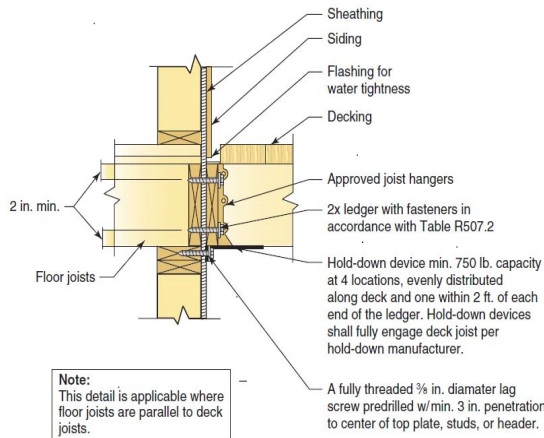
### Ledger Connection to rim joist

Deck live load =40psf; Snowload =40psf; Dead load=10 psf

CONNECTION DETAILS	JOIST SPAN						
	6' and 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'
On-center spacing of fasteners							
1/2 -inch diameter lag screw with 1/2 -inch maximum sheathing	30	23	18	15	13	11	10
1/2 -inch diameter bolt with 1/2 maximum sheathing	36	36	34	29	24	21	19
1/2 -inch diameter bolt with 1 -inch maximum sheathing	36	36	29	24	21	18	16



Ledger minimum size 2x8 presure treated HF, DF or SP #2 or better ;shall not be supported by stone or masonry veneer or be attached to a cantelivered floor



### LAGSREWS AND BOLTS LOCATION IN DECK LEDGERS AND RIM JOISTS

#### MINIMUM END AND EDGE DISTANCES AND SPACING BETWEEN ROWS

	TOP EDGE	BOTTOM EDGE	ENDS	ROW SPACING
<b>Ledger</b>	2 inches	3/4 inch	2 inches	1 -5/8 inches
<b>Band Joist</b>	3/4 inch	2 inches	2 inches	1 -5/8 inches

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**Table 2 - Wood Joist simple span**

Maximum Live Load or Ground Snow Load 40psf, Maximum Dead Load 10psf  
deflection L/360 Main span; L/180 cantilever

WOOD SPECIES grade # 2 or better	JOIST SIZE	MAXIMUM JOIST SPAN			MAXIMUM CANTILEVER		
		SPACING OF DECK JOISTS (inches)			SPACING OF DECK JOISTS WITH CANTILEVERS (inches)		
	Simple Span	12 on center	16 on center	24 on center	12 on center	16 on center	24 on center
Southern pine	2x6	9-11	9-0	7-7	1-3	1-4	1-6
	2x8	13-1	11-10	9-8	2-1	2-3	2-5
	2x10	16-2	14-0	11-5	3-4	3-6	2-10
	2x12	18-0	16-6	13-6	4-6	4-2	3-4
Douglas fir-larch, hem-fir, spruce-pine-fir	2x6	9-6	8-8	7-2	1-2	1-3	1-5
	2x8	12-6	11-1	9-1	1-11	2-1	2-3
	2x10	15-8	13-7	11-1	3-1	3-5	2-9
	2x12	18-0	15-9	12-10	4-6	3-11	3-3

**Table 3 - Wood Beam simple span**

Maximum Live Load or Ground Snow Load 40psf, Maximum Dead Load 10psf  
deflection L/360 Main span; L/180 cantilever

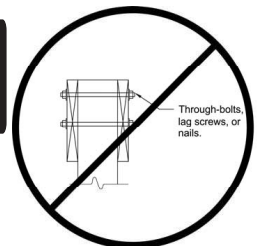
WOOD SPECIES grade #2 or better	SIZE	DECK JOIST SPAN (ft-in) LESS THAN OR EQUAL TO:						
		6	8	10	12	14	16	18
Southern pine	(2)-2x8	8-9	7-7	6-9	6-2	5-9	5-4	5-0
	(2)-2x10	10-4	9-0	8-0	7-4	6-9	6-4	6-0
	(2)-2x12	12-2	10-7	9-5	8-7	8-0	7-6	7-0
	(3)-2x8	10-10	9-8	8-6	7-9	7-2	6-8	6-4
	(3)-2x10	13-0	11-3	10-0	9-2	8-6	7-11	7-6
	(3)-2x12	15-3	13-3	11-10	10-9	10-0	9-4	8-10
Douglas fir-larch, hem-fir, spruce-pine-fir,	3 x 8 or (2)- 2 x 8	6-10	5-11	5-4	4-10	4-6	4-1	3-8
	3 x 10 or (2)- 2 x 10	8-4	7-5	6-6	5-11	5-6	5-1	4-8
	3 x 12 or (2)- 2 x 12	9-8	8-5	7-6	6-10	6-4	5-11	5-7
	4x6	6-5	5-6	4-11	4-6	4-2	3-11	3-5
	4x8	8-5	7-3	6-6	5-11	5-6	5-2	4-10
	4x10	9-11	8-7	7-8	7-0	6-6	6-1	5-8
	4 x12	11-5	9-11	8-10	8-1	7-6	7-0	6-7
	(3)-2x8	9-8	8-6	7-7	6-11	6-5	6-0	5-8
	(3)-2x10	12-0	10-5	9-4	8-6	7-10	7-4	6-11
	(3)-2x12	13-11	12-1	10-9	9-10	9-1	8-6	8-1

**Table 4 - Wood Post**

	Deck Wood Post		Live Load 40 psf	
Deck post size	4x4	4x6	6x6	8x8
Maximum height	6'-9"	8'	14'	14'



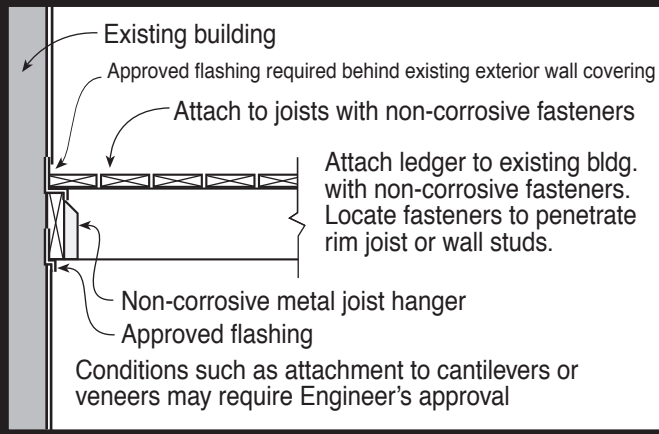
Use of engineered lumber is not covered by this guide.



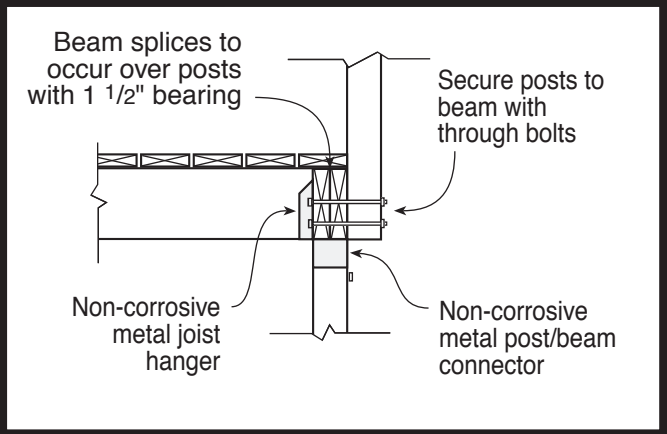
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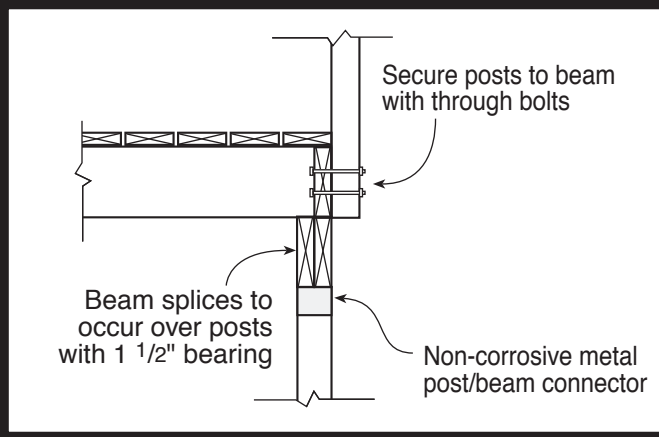
## Detail A



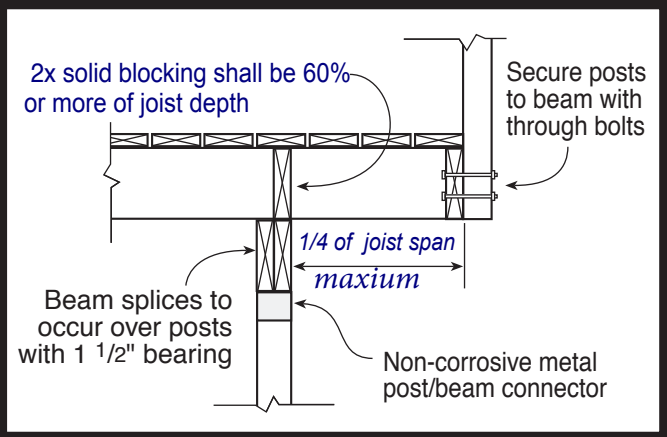
## Detail B



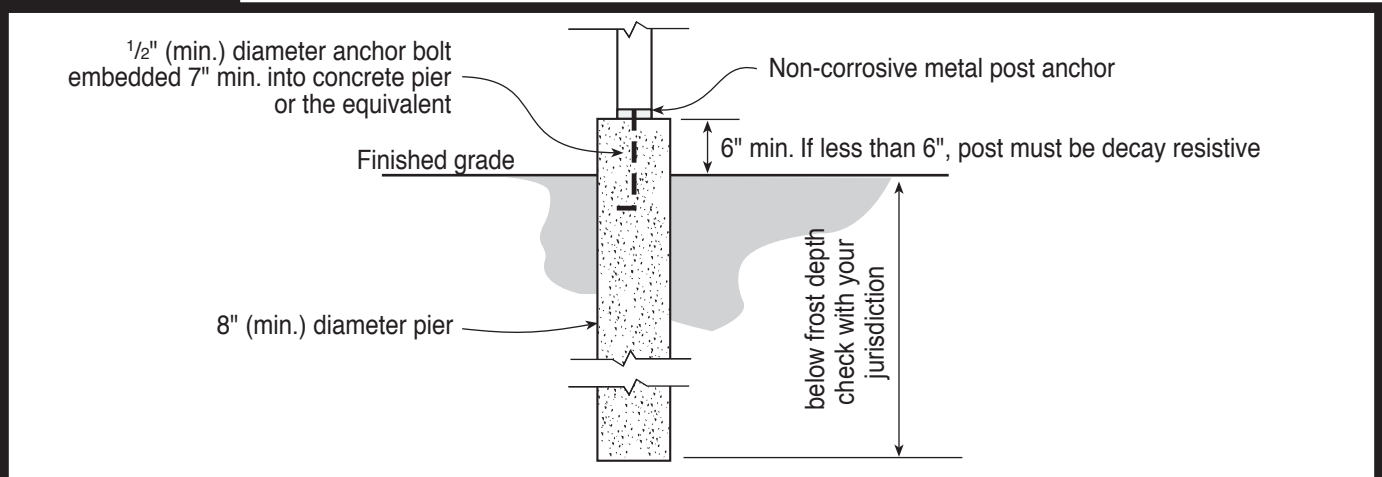
## Alternate Detail B1



## Alternate Detail B2



## Detail C

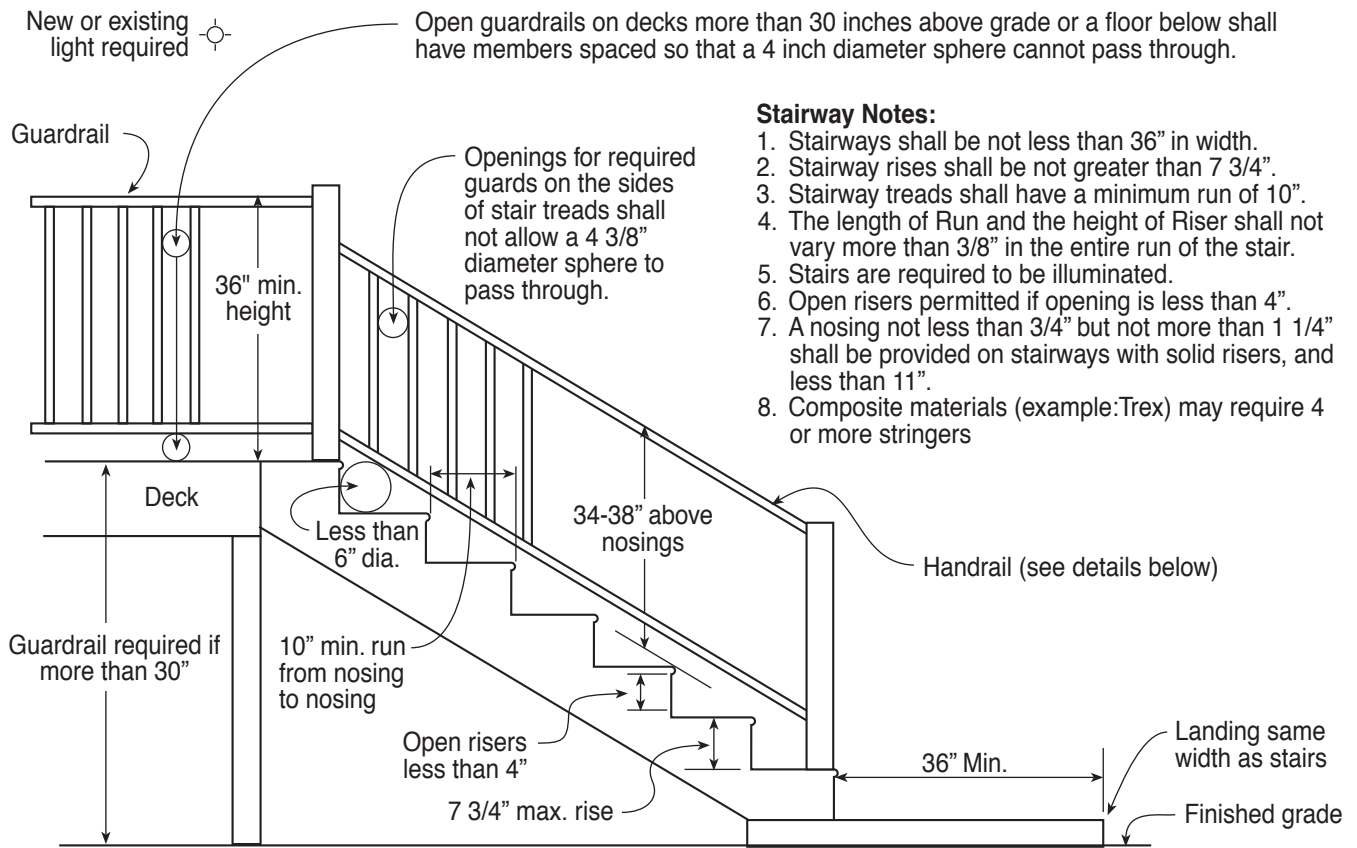


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## Stair & Handrail Specifications



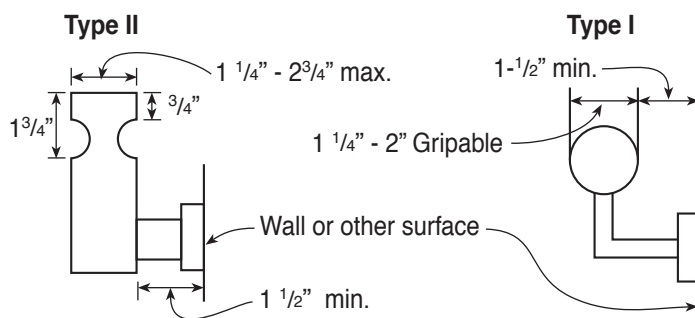
### Stairway Notes:

1. Stairways shall be not less than 36" in width.
2. Stairway rises shall be not greater than 7 3/4".
3. Stairway treads shall have a minimum run of 10".
4. The length of Run and the height of Riser shall not vary more than 3/8" in the entire run of the stair.
5. Stairs are required to be illuminated.
6. Open risers permitted if opening is less than 4".
7. A nosing not less than 3/4" but not more than 1 1/4" shall be provided on stairways with solid risers, and less than 11".
8. Composite materials (example: Trex) may require 4 or more stringers

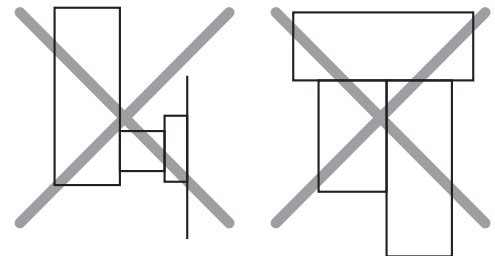
### Handrail Notes:

1. Handrails shall be continuous on at least one side of stairs with 4 or more risers.
2. Top of the 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 cross section for non circular handrails.
4. Handrails shall be placed not less than 1-1/2 inches from any wall or other surface.
5. Handrails to be returned to wall, post or safety terminal (per 311.7.8.4 IRC)

## Acceptable Handrail Details



## Unacceptable Handrails



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