

CITY OF COTTLEVILLE

DECK REQUIREMENTS

GENERAL INFORMATION:

A building permit is required for any deck construction, and the City is currently using the guidelines set forth by the 2015 International Residential Code.

A permit may be obtained by submitting the following information to City Hall:

Deck plans indicating the size, spacing, spans, lateral bracket locations and type of lumber being used.

A plot plan showing the location of your home with the proposed deck on the lot.

The plan review process typically takes about 5 days. The applicant will be notified when the permit is ready and the amount of the permit fee.

INSPECTIONS:

Inspections must be scheduled 24 hours in advance prior to the day of the requested inspection. To schedule an inspection contact City Hall at 636-498-6565. If necessary to change or cancellation your inspection, please do so as soon as possible. Also remember to post your permit so it is visible from the street.

The first inspection will be performed when the piers have been excavated. The inspector will measure them for proper depth, size, soil condition and location on the lot. The final inspection will be performed when the deck is completed. Your approved final inspection will serve as your Certificate of Occupancy.

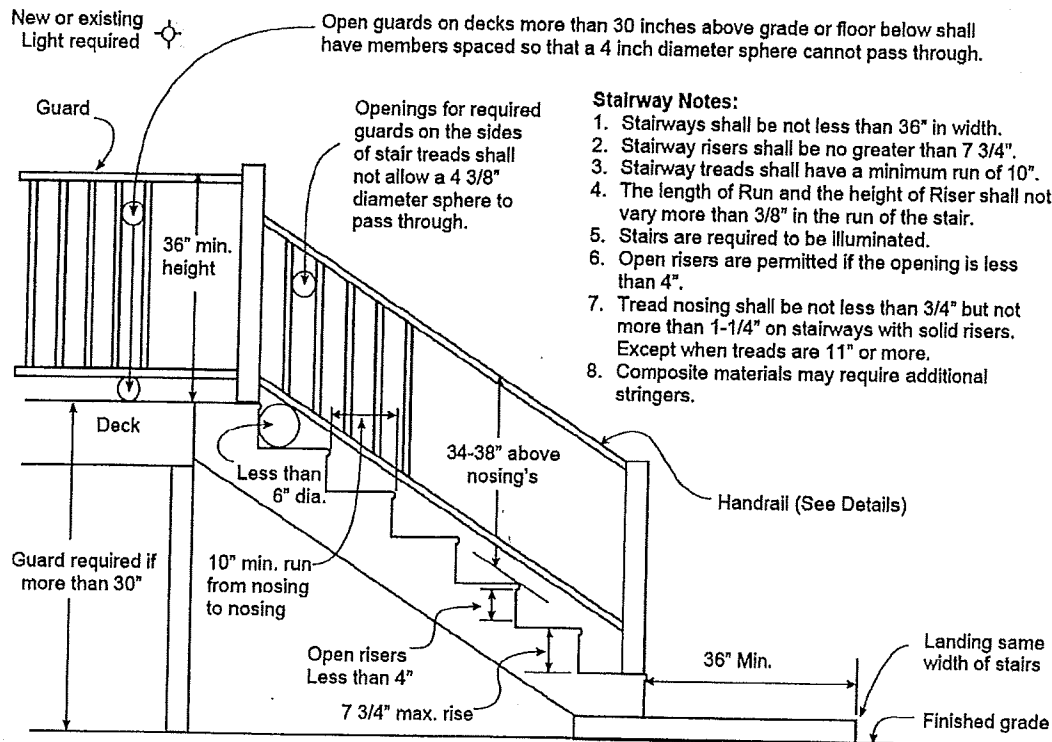
CONSTRUCTION REQUIREMENTS:

The following are general guidelines for typical deck construction. For full details and requirements refer to the 2015 IRC Code, Section R507, Exterior Decks.

1. All piers must be a minimum of 12 inches in diameter and may be required to bell out larger, depending on the load imposed on the post, and extend a minimum of 30 inches below grade. The post must be anchored to piers with a bolt or other approved fasteners.
2. Wood which is exposed to soil or weather must be termite and decay resistant. Examples include redwood, cedar and pressure treated pine.
3. Decks are to be designed for 40 lbs/sq ft live load.
4. Decks shall not bear on cantilevered bays of fireplace chases.
5. Ledger board must be attached to an existing structure in conformance with table R507.2 (included)
6. Joist hangers are required at the band board and ledger board connections.
7. Cantilevered areas must not exceed the following design parameters unless Missouri engineered:
 - a. 2x8's, 16" on center, maximum 2' span
 - b. 2x10's, 16" on center, maximum 4' span
 - c. 2x12's, 16" on center, maximum 6' span
8. Guardrails must be vertical and a minimum 36" in height and are required when the ground to deck surface is greater than 30". The clear space between balusters must be less than 4", where a 4" diameter sphere would not be allowed to pass through.
9. Stair riser height cannot be greater than 7 ¾", tread length must be a minimum of 10", and these measurements must be uniform for the entire length of the stairs. Stairways must have closed risers if the opening is larger than 4".

10. Handrails must be 34" to 38" high, measured vertically above the nosing of the treads. Handrail must extend from the nose of the top tread to the nose of the bottom tread and are required to be graspable continuously from the top of stair row. Example: 2"x 2", 2" round or 2"x 4" on edge.
11. Unsupported stair stringers must use metal stringer straps and use at least (3) 2'x12" stringers.
12. All lag screws, washers and bolts must be either hot dipped galvanized or stainless steel. All nails, screw, staples and hangers must be A.C.Q. lumber compatible.
13. Two (2) lateral support brackets on decks over 100 sq ft must be provided
14. A 15 lb. moisture barrier between the band board and ledger board must be provided.
15. Flashing behind the siding and over the top ledger board must be provided.

The following diagrams are examples of the code requirements based on the 2015 International residential Code for single-story decks. The 2015 International Residential Code Section 507 contains additional information and details specific to deck construction.



Decks shall be fastened to existing homes with lag screws or bolts. Nails are NOT permitted.

- Step 1: Determine joist span
- Step 2: Select lag screws or bolts
- Step 3: Fasten per table R507.2 & details below
- Step 4: Provide lateral ties per details below
- All members shall be pressure treated wood

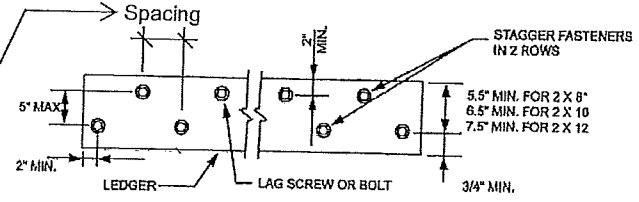
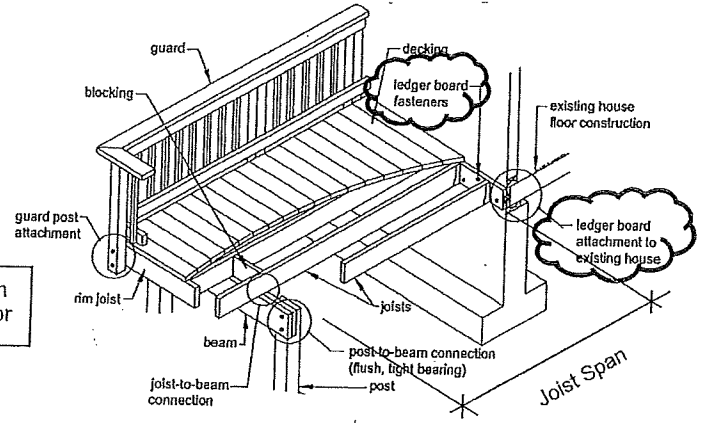
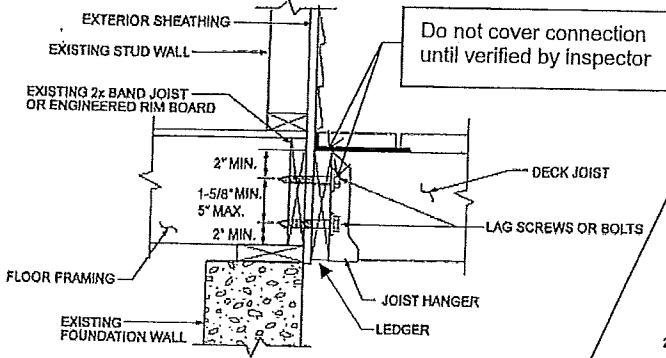
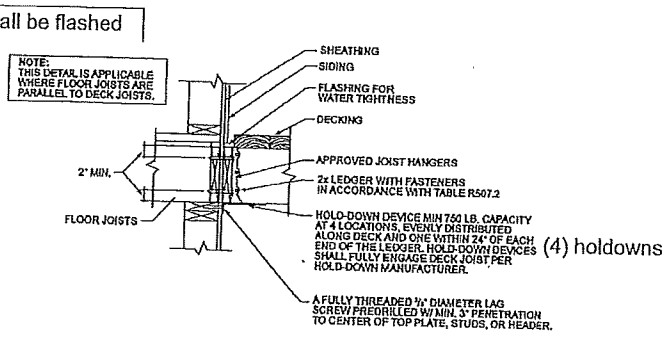
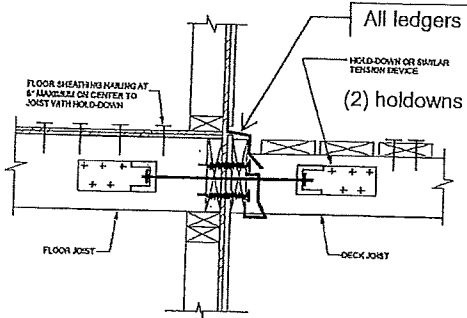


TABLE R507.2
DECK LEDGER CONNECTION TO BAND JOIST^{a,b}
(Deck live load = 40 psf, deck dead load = 10 psf, snow load ≤ 40 psf)

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'
1/2-inch diameter lag screw with 1/2-inch maximum sheathing ^d	30	23	18	15	13	11	10
1/2-inch diameter bolt with 1/2-inch maximum sheathing ^d	36	36	34	29	24	21	19
1/2-inch diameter bolt with 1-inch maximum sheathing ^e	36	36	29	24	21	18	16

On-center spacing of fasteners

Lateral Tie Options (select one per R507.2.4)



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

SPECIES ^a	SIZE	SPACING OF DECK JOISTS WITH NO CANTILEVER ^b (Inches)			SPACING OF DECK JOISTS WITH CANTILEVERS ^c (Inches)		
		12	16	24	12	16	24
Southern pine	2 × 6	9-11	9-0	7-7	6-8	6-8	6-8
	2 × 8	13-1	11-10	9-8	10-1	10-1	9-8
	2 × 10	16-2	14-0	11-5	14-6	14-0	11-5
	2 × 12	18-0	16-6	13-6	18-0	16-6	13-6
Douglas fir-larch ^d , hem-fir ^d spruce-pine-fir ^d	2 × 6	9-6	8-8	7-2	6-3	6-3	6-3
	2 × 8	12-6	11-1	9-1	9-5	9-5	9-1
	2 × 10	15-8	13-7	11-1	13-7	13-7	11-1
	2 × 12	18-0	15-9	12-10	18-0	15-9	12-10
Redwood, western cedars, ponderosa pine ^e , red pine ^e	2 × 6	8-10	8-0	7-0	5-7	5-7	5-7
	2 × 8	11-8	10-7	8-8	8-6	8-6	8-6
	2 × 10	14-11	13-0	10-7	12-3	12-3	10-7
	2 × 12	17-5	15-1	12-4	16-5	15-1	12-4

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg.

- a. No. 2 grade with wet service factor.
- b. Ground snow load, live load = 40 psf, dead load = 10 psf, L/Δ = 360.
- c. Ground snow load, live load = 40 psf, dead load = 10 psf, L/Δ = 360 at main span, L/Δ = 180 at cantilever with a 220-pound point load applied to end.
- d. Includes incising factor.
- e. Northern species with no incising factor
- f. Cantilevered spans not exceeding the nominal depth of the joist are permitted.