



**Building ~ Zoning ~ Environmental Office**  
**3610 Park Avenue West · Muscatine · Iowa 52761-5634**

Telephone 563-263-0482 FAX 563-288-4338  
Office Email: [zoning@co.muscatine.ia.us](mailto:zoning@co.muscatine.ia.us) County Website: [www.co.muscatine.ia.us](http://www.co.muscatine.ia.us)

**BUILDING PERMIT APPLICATION**

Project Address \_\_\_\_\_

Project Description \_\_\_\_\_

Sub/Lot/Legal \_\_\_\_\_

Owner(s) \_\_\_\_\_

Address \_\_\_\_\_

Email \_\_\_\_\_ Phone \_\_\_\_\_

Contractor \_\_\_\_\_

Address \_\_\_\_\_

Email \_\_\_\_\_ Phone \_\_\_\_\_

Licensed Iowa Contractors – as needed (State License Number will be required)

Electrical \_\_\_\_\_ Phone \_\_\_\_\_

Plumbing \_\_\_\_\_ Phone \_\_\_\_\_

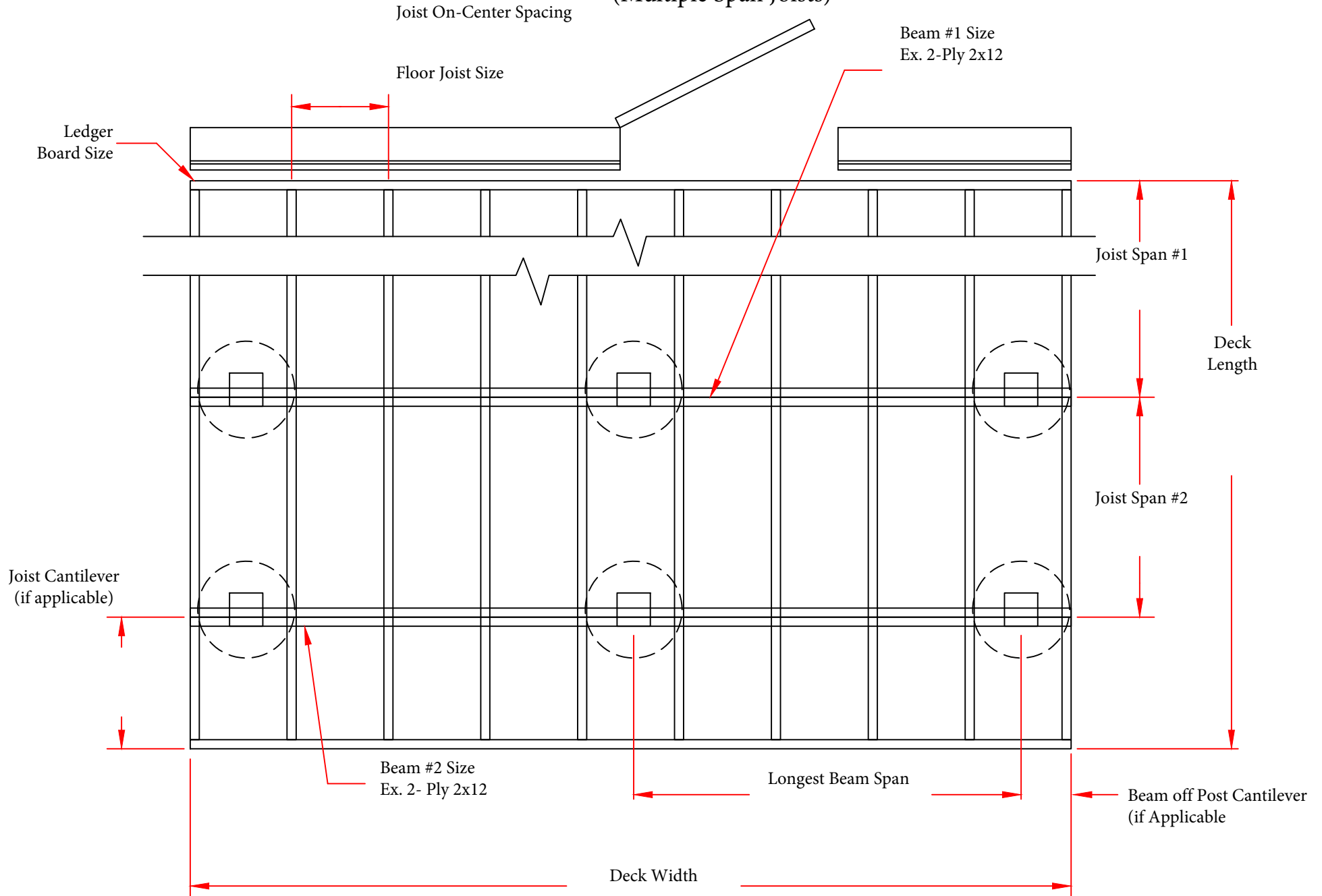
Mechanical \_\_\_\_\_ Phone \_\_\_\_\_

Submit this form and the following to the Muscatine County Zoning Office:

- Site plan – Sketch of project on aerial view of plat (Beacon-MAGIC print) or drawing on a 8½” x 11” paper. Indicate well and septic system locations if applicable. (these require separate permits)
- Two (2) complete sets of plans (New house ¼” per 12” minimum scale with foundation and elevation views)

Our office will contact you when the site plan review is completed or if additional information is needed. Please allow up to five (5) working days for permit to be issued.

# Deck Type 2 (Multiple Span Joists)



# DECK POST & FOOTING DETAILS

PLEASE SELECT THE INTENDED DESIGN:

DECK POST SIZE:

4x4      4x6      6x6

**NOTE:** POST "ON" BEAM CONSTRUCTION WITH A MECHANICALLY FASTENED POST CAP IS THE ONLY ALLOWABLE METHOD IF USING 4x4 POSTS

POST TO BEAM CONNECTION:

POST NOTCHED WITH THROUGH BOLTS

MECHANICALLY FASTENED POST CAP TO BEAM CONNECTION

JOIST TO BEAM CONNECTION:

JOIST IN HANGERS ATTACHED TO THE BEAM

JOIST SET ON TOP OF BEAM

POST TO FOOTING CONNECTION:

POST STANDOFF WITH CONCRETE ANCHOR.

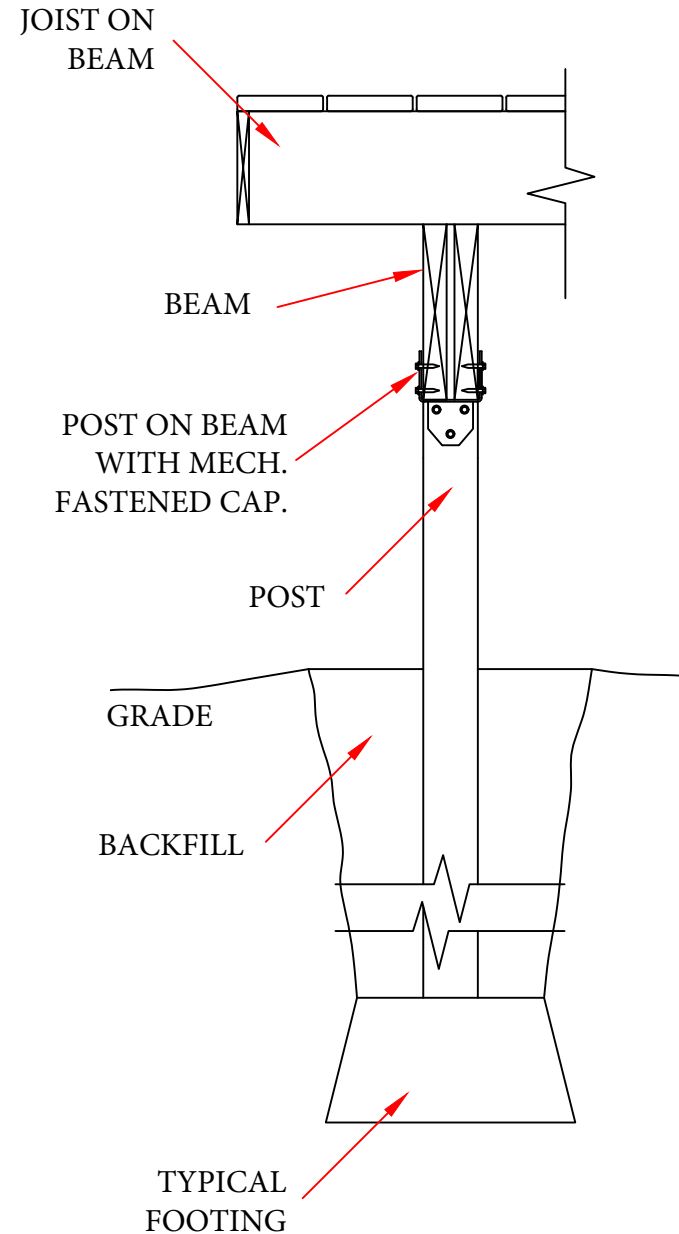
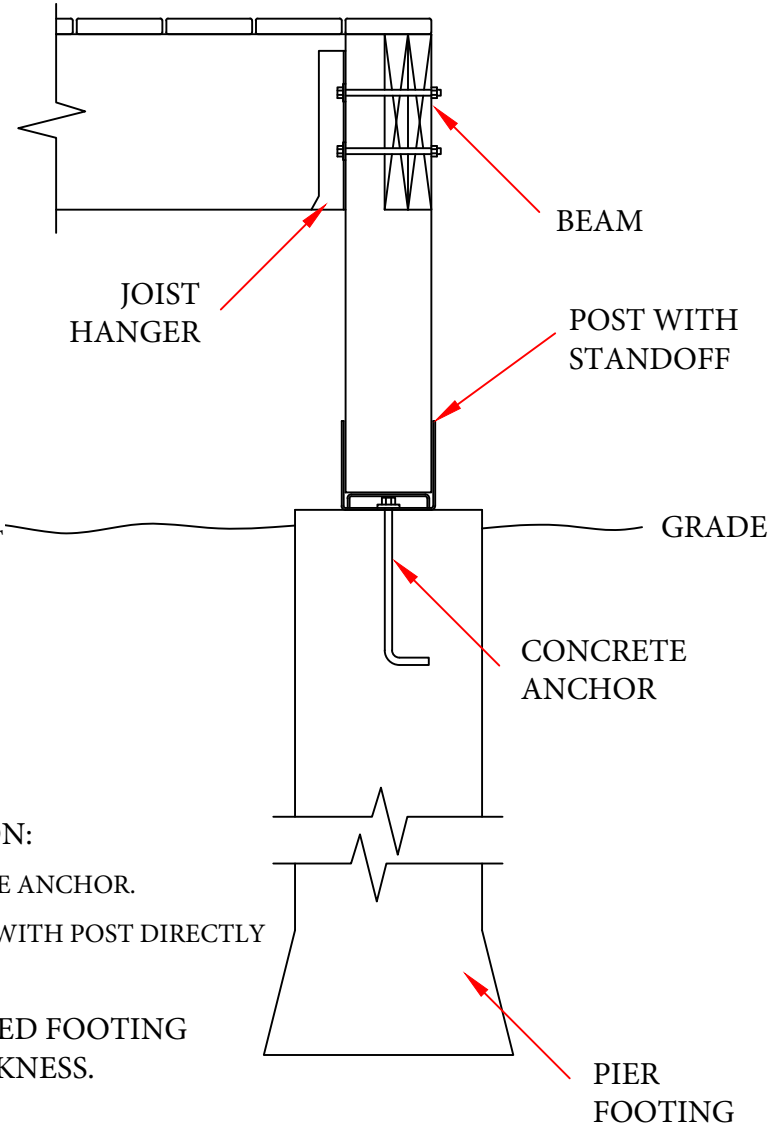
CONVENTIONAL FOOTING TYPE WITH POST DIRECTLY ON FOOTING WITH BACKFILL.

PLEASE INDICATE THE INTENDED FOOTING SIZE. (LENGTH, WIDTH, & THICKNESS.

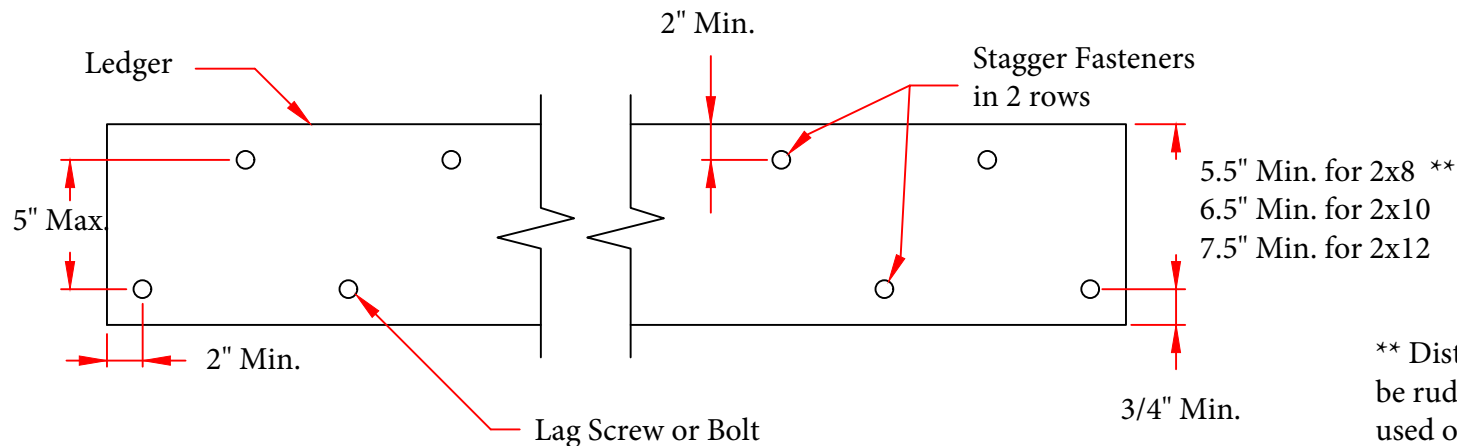
LENGTH/DIAMETER:

WIDTH:

THICKNESS:



**\*\*PLEASE NOTE\*\*** - GENERALLY A Ø12" BORED POST FOOTING IS NOT SUFFICIENT TO CARRY DECK FLOOR LOADS.



\*\* Distance shall be permitted to be reduced to 4.5" if lag screws are used or bolt spacing is reduced to that of lag screws to attach 2x8 ledgers to 2x8 band joists.

Figure 507.2.1(1)  
Placement of lag screws and bolts in ledgers

TABLE R507.2 DECK LEDGER CONNECTION TO BAND JOIST							
CONNECTION DETAILS	JOIST SPAN						
	< 6'	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						
Ø1/2" LAG SCREWS WITH 1/2" MAX. SHEATHING (c) (d)	30	23	18	15	13	11	10
Ø1/2" BOLT WITH 1/2" MAX. SHEATHING (d)	36	36	34	29	24	21	19
Ø1/2" BOLT WITH 1" MAX. SHEATHING (e)	36	36	29	24	21	18	16

PLEASE SELECT THE LEDGER TO BAND JOIST CONNECTION METHOD YOU INTEND TO USE.

Ø1/2" LAG SCREWS WITH MAX. 1/2" SHEATHING

Ø1/2" BOLT WITH MAX. 1/2" SHEATHING

Ø1/2" BOLT WITH 1" MAX. SHEATHING

THE DECK IS FREE STANDING WITH NO LEDGER

I INTEND TO USE AN ENGINEERED FASTENER PLEASE IDENTIFY BELOW.

Manufacturer:

Fastener Type:

Size

X

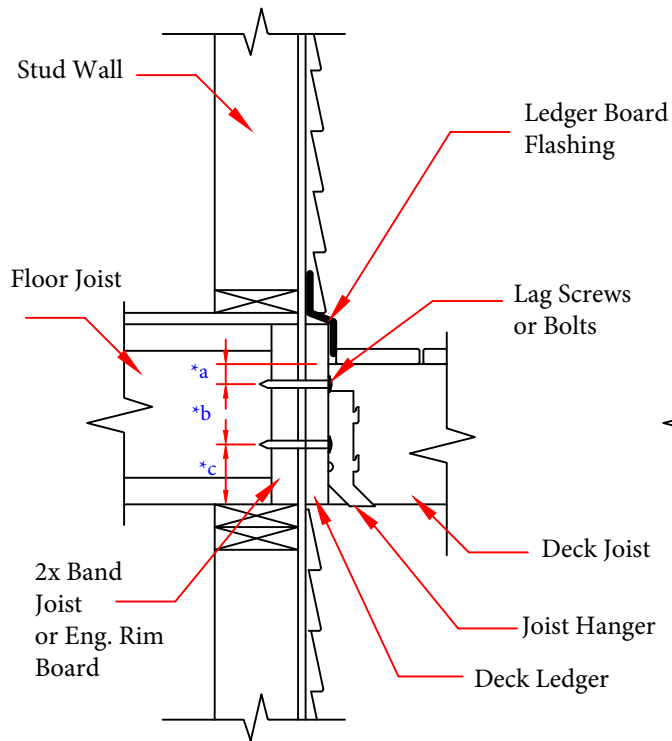
Long

- (a) - Ledgers shall be flashed in accordance with section R703.8 to prevent water from coming into contact with the house band joist.
- (b) - Snow load shall not be assumed to act concurrently with live load.
- (c) - The tip of lag screws shall fully extend beyond the inside face of the band joist.
- (d) - Sheathing shall be wood structural panel or solid sawn lumber.
- (e) - Sheathing shall be permitted to be wooden structural panel, gypsum board, fiber board, lumber or foam sheathing. Up to 1/2" of stacked washers shall be permitted to substitute for up to 1/2" of allowable sheathing thickness where combined with wood structural panel or lumber sheathing.

TABLE R507.5 DECK JOIST SPANS FOR COMMON LUMBER SPECIES							
SPECIES	SIZE	SPACING OF DECK JOISTS WITH NO CANTILEVERS			SPACING OF DECK JOISTS WITH CANTILEVERS		
		12"	16"	24"	12"	16"	24"
SOUTHERN PINE	2x6	9'-11"	9'-0"	7'-7"	6'-8"	6'-8"	6'-8"
	2x8	13'-1"	11'-10"	9'-8"	10'-1"	10'-1"	9'-8"
	2x10	16'-2"	14'-0"	11'-5"	14'-6"	14'-0"	11'-5"
	2x12	18'-0"	16'-6"	13'-6"	18'-0"	16'-6"	13'-6"
SPRUCE-PINE- FIR	2x6	9'-6"	8'-8"	7'-2"	6'-3"	6'-3"	6'-3"
	2x8	12'-6"	11'-1"	9'-1"	9'-5"	9'-5"	9'-1"
	2x10	15'-8"	13'-7"	11'-1"	13'-7"	13'-7"	11'-1"
	2x12	18'-0"	15'-9"	12'-10"	18'-0"	15'-6"	12'-10"

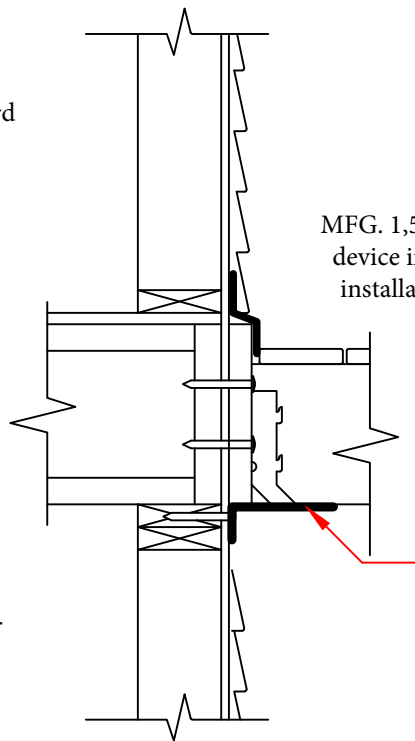
TABLE R507.6 DECK BEAM SPAN LENGTHS								
SPECIES	SIZE	DECK JOIST SPAN LESS THAN OR EQUAL TO:						
		6	8	10	12	14	16	18
SOUTHERN PINE	2-2x6	6'-11"	5'-11"	5'-4"	4'-10"	4'-6"	4'-3"	4'-0"
	2-2x8	8'-9"	7'-7"	6'-9"	6'-2"	5'-9"	5'-4"	5'-0"
	2-2x10	10'-4"	9'-0"	8'-0"	7'-4"	6'-9"	6'-4"	6'-0"
	2-2x12	12'-2"	10'-7"	9'-5"	8'-7"	8'-0"	7'-6"	7'-0"
	3-2x6	8'-2"	7'-5"	6'-8"	6'-1"	5'-8"	5'-3"	5'-0"
	3-2x8	10'-10"	9'-6"	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"
SPRUCE-PINE-FIR	3x6 or 2-2x6	5'-5"	4'-8"	4'-2"	3'-10"	3'-6"	3'-1"	2'-9"
	3x8 or 2-2x8	6'-10"	5'-11"	5'-4"	4'-10"	4'-6"	4'-1"	3'-8"
	3x10 or 2-2x10	8'-4"	7'-3"	6'-6"	5'-11"	5'-6"	5'-1"	4'-8"
	3x12 or 2-2x12	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'-8"
	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"
	4x12	11'-5"	9'-11"	8'-10"	8'-1"	7'-6"	7'-0"	6'-7"
	3-2x6	7'-4"	6'-8"	6'-0"	5'-6"	5'-1"	4'-9"	4'-6"
	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 R507.4 MAXIMUM JOIST SPACING		
DECKING MATERIAL TYPE & NOMINAL SIZE	MAXIMUM ON-CENTER JOIST SPACING	
	PERPENDICULAR TO JOIST	DIAGONAL TO JOIST
1 1/4" THICK WOOD	16"	12"
2" THICK WOOD	24"	16"
PLASTIC COMPOSITE	SEE SECTION R507.3	SEE SECTION R507.3



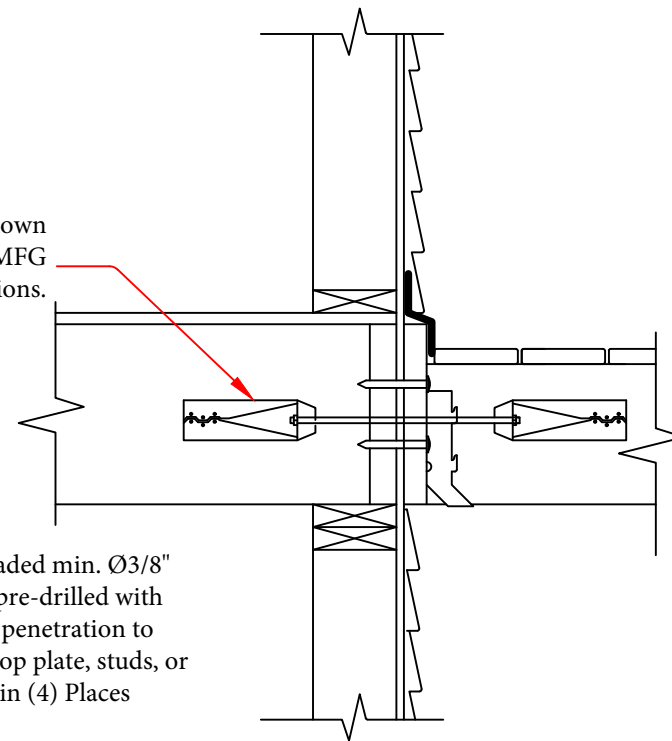
\*a = 2" Min.  
 \*b = 1-5/8" Min. & 5" Max.  
 \*c = 2" Min.

**Typical Cross Section at ledger board attachment**



**OPTION # 1**

Lateral load Device attachment  
**NOTE:** This method is only allowed when floor & deck joists run parallel.



**OPTION # 2**

Lateral load Device Attachment with sawn lumber interior joists

**Please Select Which Lateral Load Device Attachment method you intend to use.**

**Option #1**

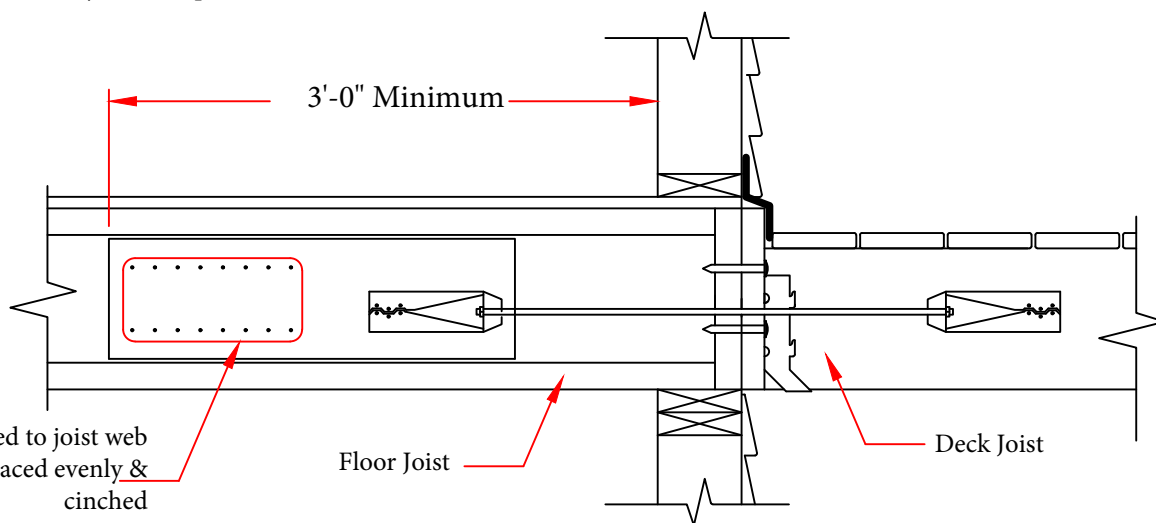
**Option #2**

**Option #3**

**The deck is free standing**

**OPTION # 3**  
 Lateral load device attachment with engineered I joists

Min. 2x6 x 3'-0" attached to joist web with (16) 10d nails, spaced evenly & cinched



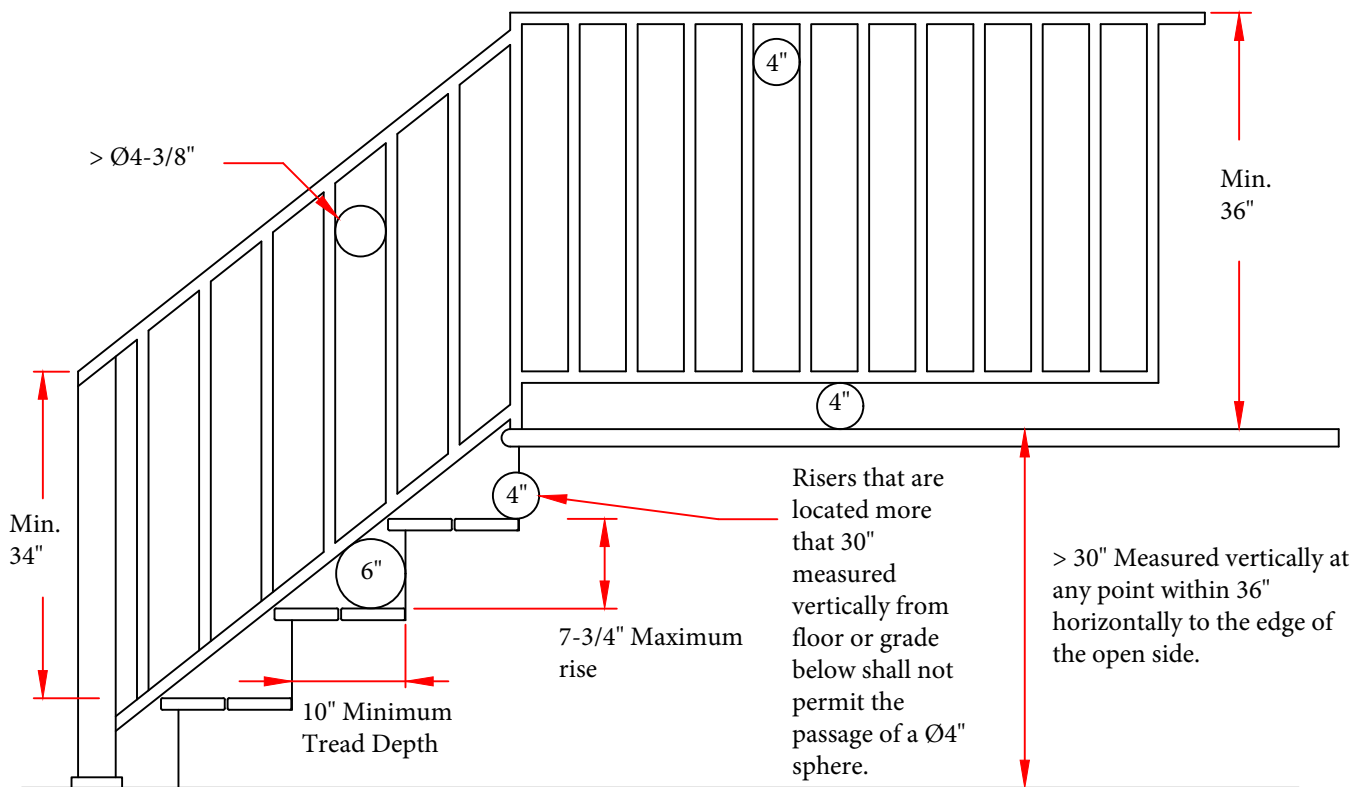
**Guardrails:** Guardrails are required at unenclosed floor openings & open sides of stairways, landings, ramps, porches, & decks which are more than 30" above grade or the floor below. Minimum guardrail height is 36". Intermediate rails shall be spaced so that a Ø4" sphere cannot pass through.

**Stairs:** Stairs shall have a maximum rise of 7 3/4", minimum net tread of 10", minimum width of 36" and a minimum headroom height of 6'-8".

**Open Risers:** Risers that are located more than 30" measured vertically from floor or grade below shall not permit the passage of a Ø4" sphere.

**Handrails:** Handrails are required on one side of any stairway having four or more risers. Handrails shall be 34"-38" above the nose of the tread, have a graspable shape with a cross section dimension of 1-1/4" minimum to 2-5/8" maximum & be **continuous** throughout the flight. Continuous meaning that the handrail will not be interrupted by a newell post or other obstruction for the entire flight of stairs.

**Please Indicate:** My deck will be  off of the grade/level below, and  will require guardrails.  will not

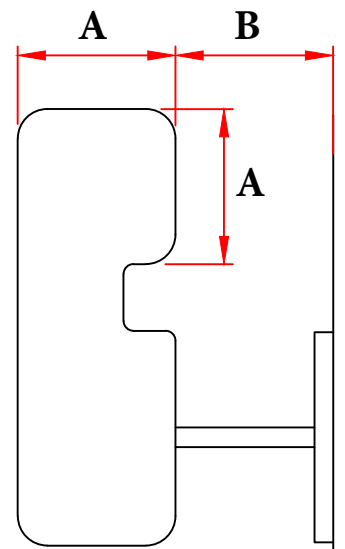
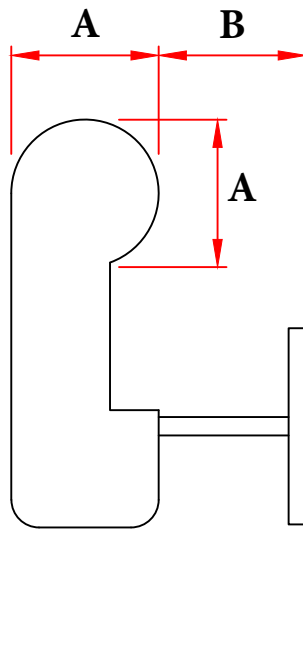
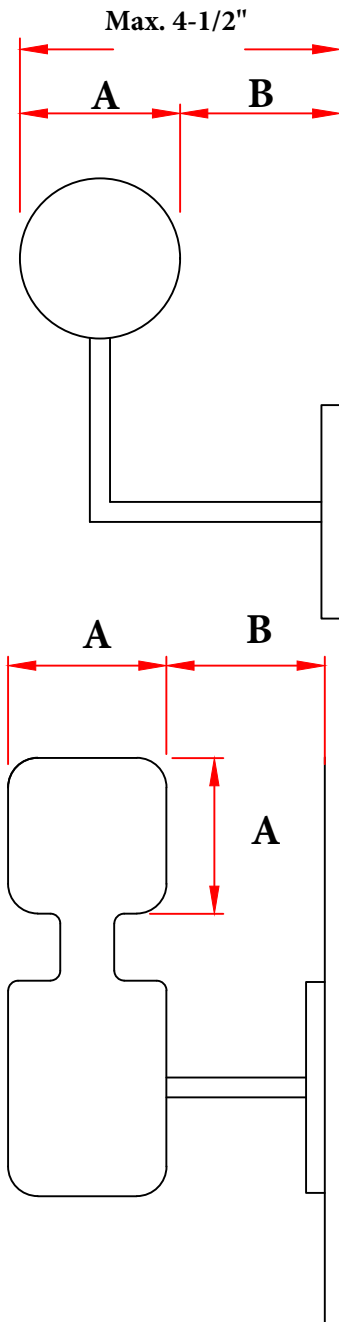


**Handrails:** Residential stairs with (4) or more risers are required to have a handrail on one side. The handrail must be of an approved shape for grasping while walking up or down the stairs. Handrails must be continuous, and not interrupted by a newel post or any other obstructions.

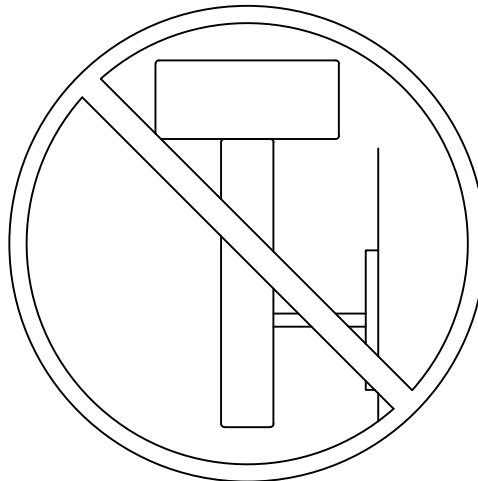
**Handrail Mounting Height is 34" to 38" Measured Vertically from the nose of the tread to the top of rail.**

**A = 1-1/4" to 2 5/8"**

**B = 1 -1/2" Minimum**



**2x4 lumber flat is not a code approved railing**



**2x6 lumber on edge is not a code approved railing**

