



CITY OF OCEANSIDE

Building Division
300 N Coast Highway
Oceanside, CA 92054
760-435-3950
www.ci.oceanside.ca.us

I.B. 112

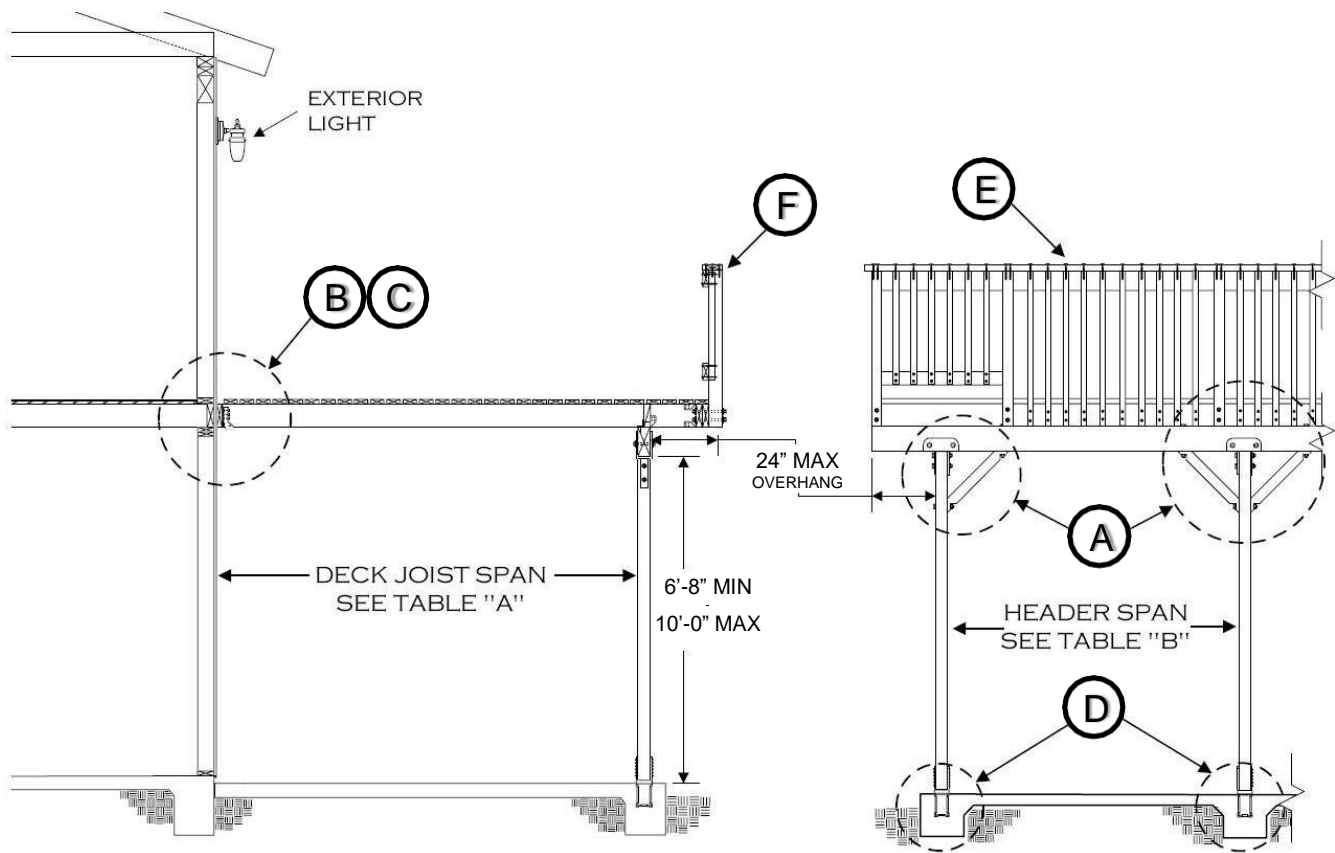
2022 California Residential Code

1/1/2023 - 12/31/2025

Effective Date

Residential Deck with Stairs

Informational Bulletin





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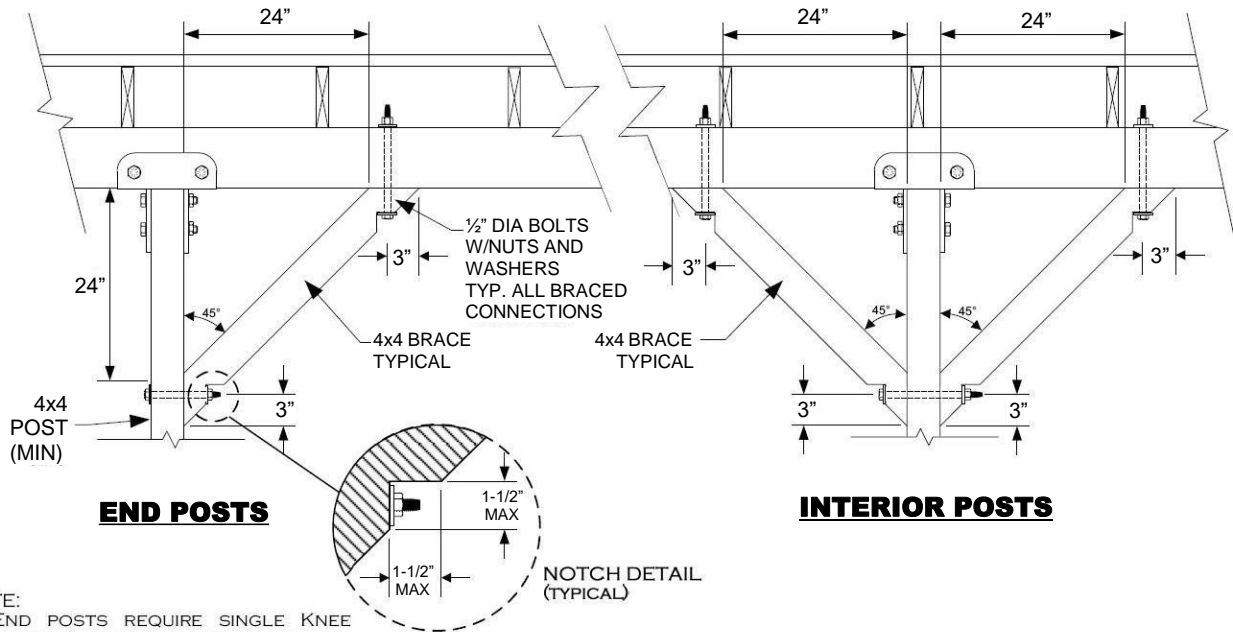
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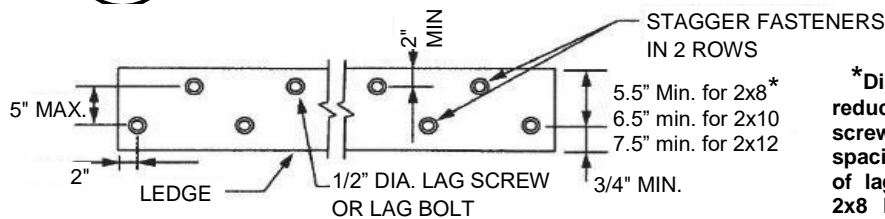
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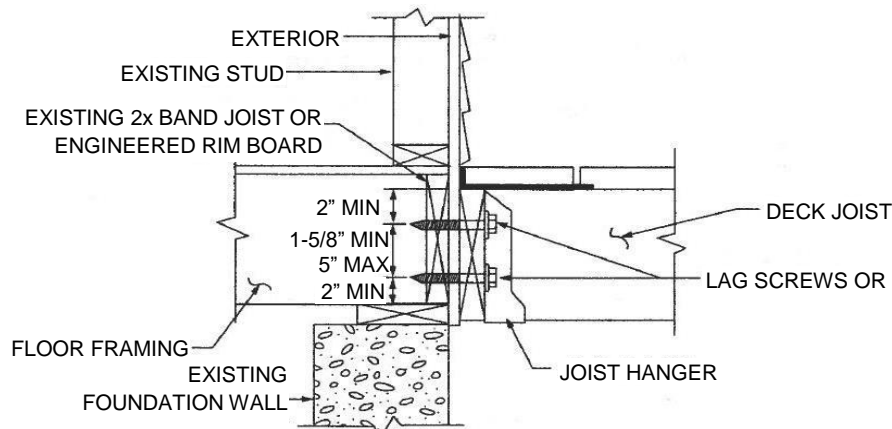


A Knee Brace Detail



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

Placement of Lag Screws and Bolts in Ledgers



Placement of Lag Screws and Bolts in Band Joists



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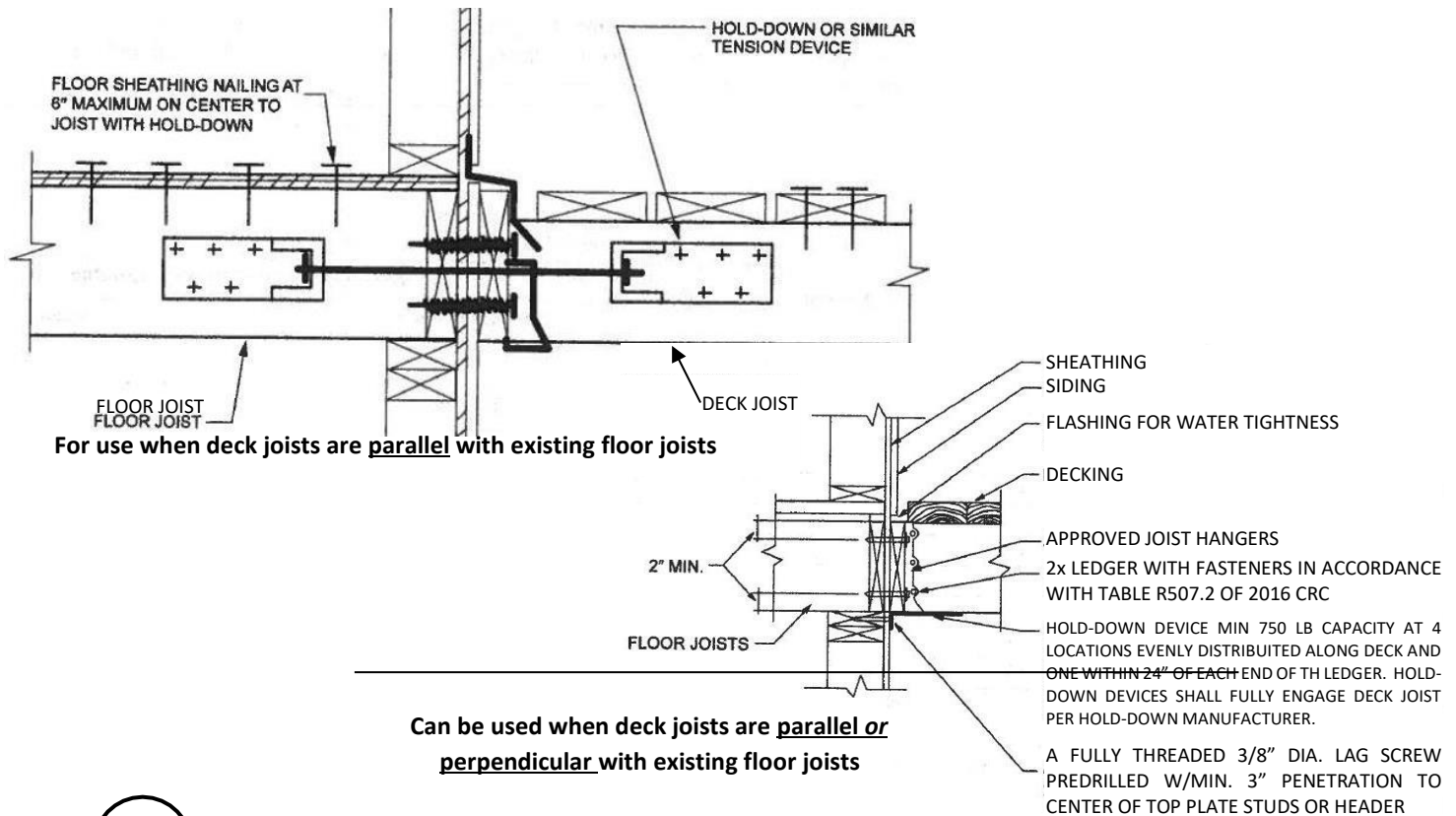
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TABLE R507.2
DECK LEDGER CONNECTION TO BAND JOIST ^{a, b}
 (Deck Live Load = 40 psf, Deck Dead Load = 10 psf, Snow Load < 40 psf)

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'
	On-Center Spacing of Fasteners in Inches						
1/2-inch Dia. Lag Screw (w/ 1/2-inch max. sht'g) ^{c, d}	30	23	18	15	13	11	10
1/2-inch Dia. Lag Bolt (w/ 1/2-inch max. sht'g) ^d	36	36	34	29	24	21	19
1/2-inch Dia. Lag Screw (w/ 1-inch max. sht'g) ^e	36	36	29	24	21	18	16

- Ledgers shall be flashed in accordance with Section R703.4 to prevent water from contacting the house band joist.
- Snow load shall not be assumed to act concurrently with live load.
- The tip of the lag screw shall fully extend beyond the inside face of the band joist.
- Sheathing shall be wood structural panel or solid sawn lumber.
- Sheathing shall be permitted to be wood structural panel, gypsum board, fiberboard, or lumber or foam sheathing. Up to 1/2-inch thickness of stacked washers shall be permitted to substitute for up to 1/2 inch of allowable sheathing thickness where combined with wood structural panel or lumber sheathing.

B LEDGER DETAILS



C DECK ATTACHMENT DETAILS (for lateral loads)



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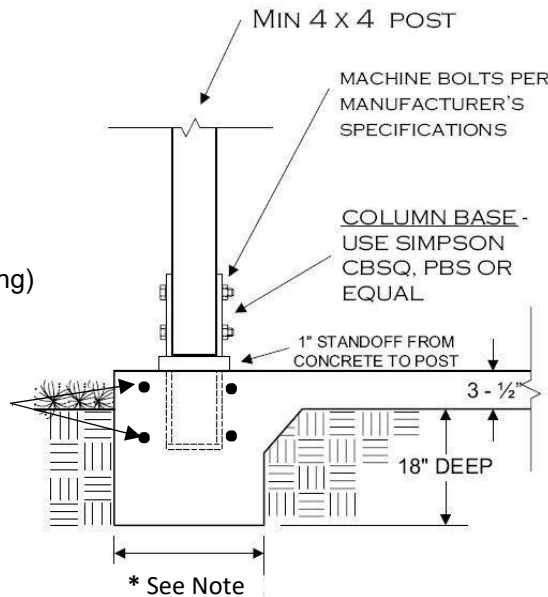
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*** Note:**

24" sq. footing (up to 8' spacing)
 30" sq. footing (greater than 8' spacing)

(4) #4 Bars Each Way
 (2) Top, (2) Bottom
 Min 3" from edges



D FOOTING DETAIL

**TABLE A
 DECK JOIST SPANS for Douglas Fir Larch #2**

DECK JOIST SIZE	SPACING OF DECK JOISTS		CANTILEVER LENGTH FOR DECK JOISTS	
	12"	16"	12"	16"
2 x 6	6'-9"	6'-2"	1'-0"	0'-10"
2 x 8	8'-10"	7'-10"	1'-7"	1'-6"
2 x 10	11'-2"	9'-7"	2'-5"	2'-2"
2 x 12	12-9"	11'-2"	3'-2"	2'-10"

- Live Load = 60psf, Dead load = 10psf, L/240

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**TABLE B
DECK BEAM LENGTHS for Douglas Fir Larch #2**

DECK BEAM SIZE	DECK JOIST SPAN less than or equal to:						
	6'	8'	10'	12'	14'	16'	18'
4 x 6	4'-6"	3'-10"	3'-5"	3'-3"	-	-	-
4 x 8	5'-11"	5'-2"	4'-7"	4'-3"	3'-10"	3'-9"	3'-5"
4 x 10	7'-0"	6'-2"	5'-4"	4'-10"	4'-6"	4'-3"	3'-10"
4 x 12	8'-2"	7'-1"	6'-4"	5'-8"	5'-3"	4'-10"	4'-7"

Disclaimers and General Requirements

- Use of this bulletin is at the user's risk, and carries no implied or inferred guarantee against failure or defects.
- Live Load = 60psf, Dead Load = 10psf, L/360 at main span
- Post shall be minimum 4x4
- All fasteners, hangers, plates, and nails shall be stainless steel, hot-dipped galvanized, or of corrosive resistant protective coating. All steel shall conform to ASTM A36 (fy=36ksi) minimum.
- Footing concrete mix shall have a minimum compressive strength of 2,500 psi.
- Deck design not applicable for spa-on-deck application.
- The following conditions are considered to be beyond the scope of this bulletin and will require additional design from a licensed professional:
 - Decks with walking surfaces more than ten feet above grade.
 - Deck ledgers attached to house overhang, bay window, brick, concrete block, stone, any veneer or hollow block.
 - Decks supporting large concentrated or distributed loads such as hot tubs or spas.



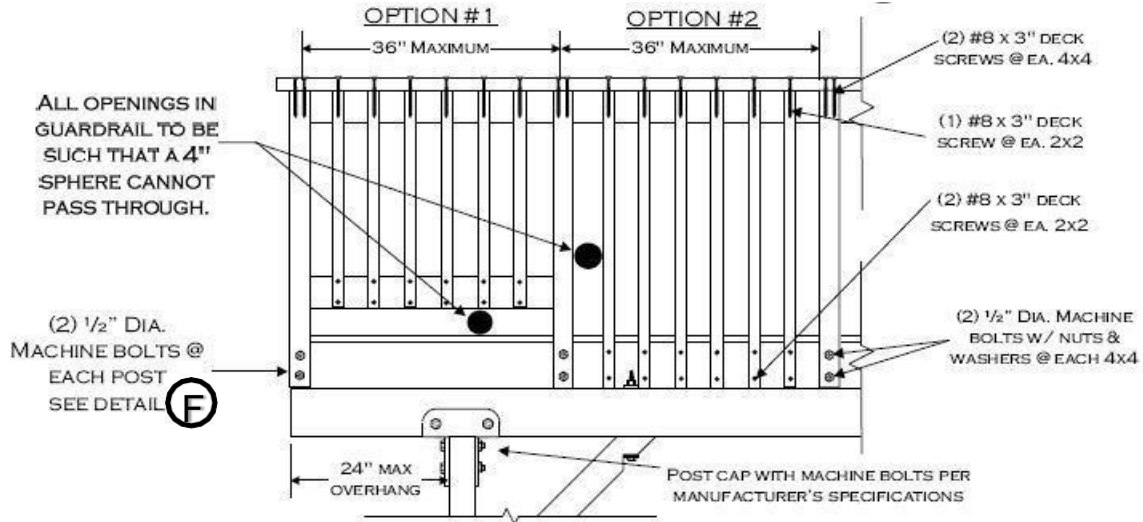
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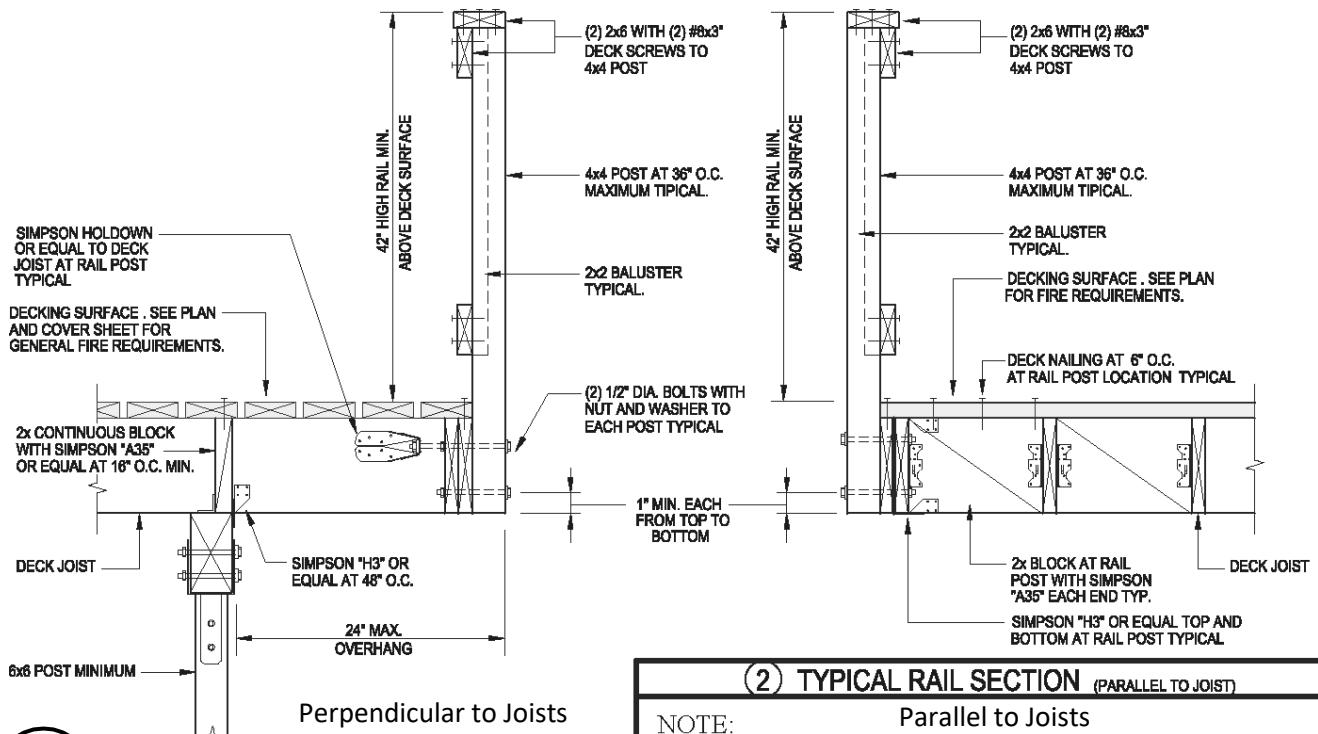
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E

RAILING DETAIL - Required for decks over 30 inches above finished grade



F

RAILING SECTIONS



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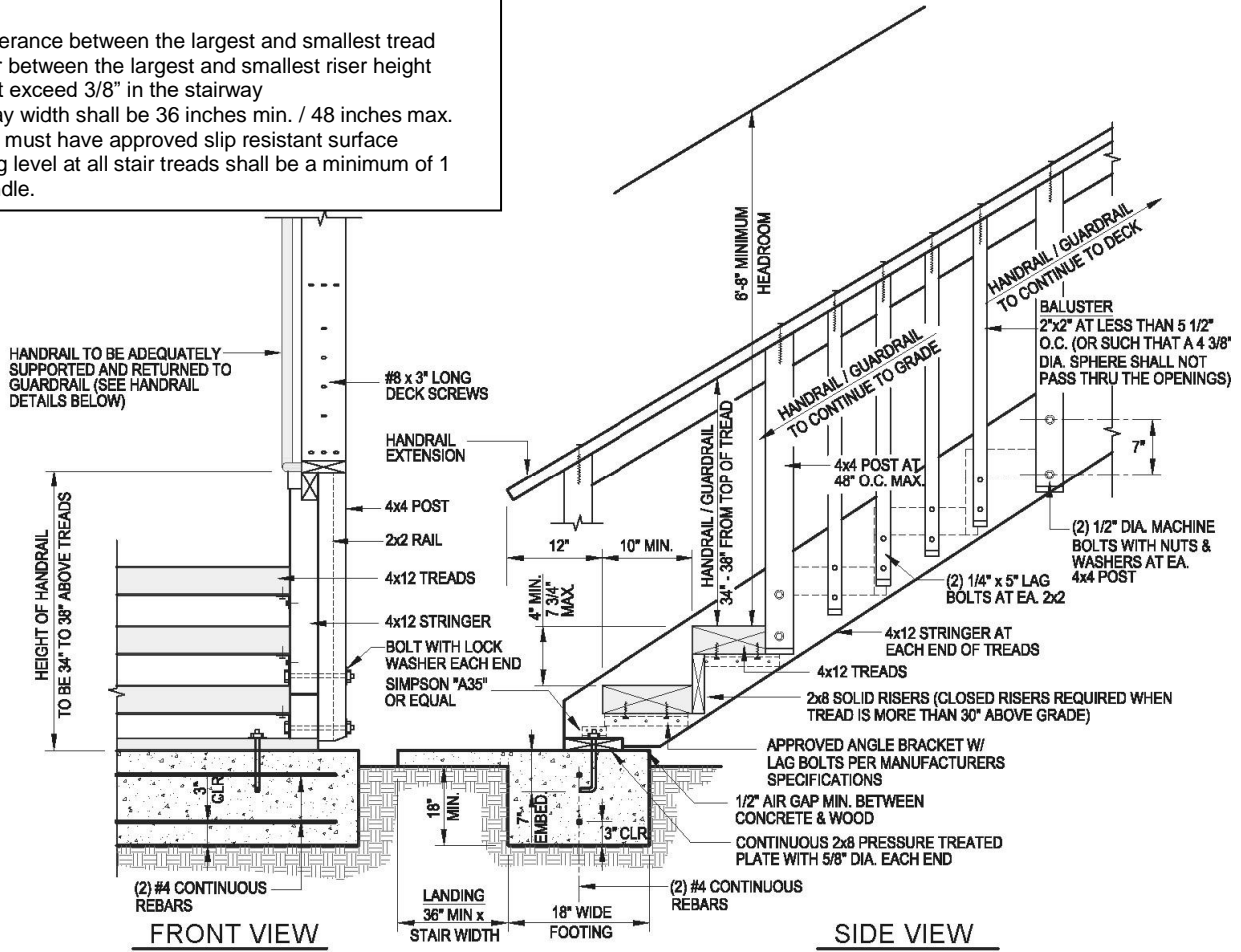
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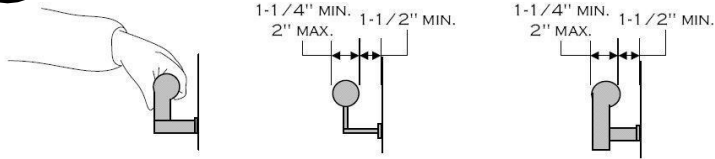
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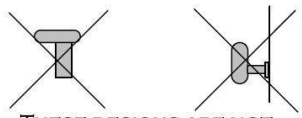
1. The tolerance between the largest and smallest tread depth or between the largest and smallest riser height shall not exceed 3/8" in the stairway
2. Stairway width shall be 36 inches min. / 48 inches max.
3. Treads must have approved slip resistant surface
4. Lighting level at all stair treads shall be a minimum of 1 foot-candle.



G STAIR DETAILS



NOTE: OTHER SHAPES MAY BE ACCEPTABLE IF THEY PROVIDE AN EQUIVALENT GRIPPING SURFACE.



THESE DESIGNS ARE NOT ACCEPTABLE

H HANDRAIL DETAILS