

PRESCRIPTIVE DECK

READY-BUILD PLAN PROGRAM

EFFECTIVE
APRIL, 2025

REVISIONS
NO. DATE

General Notes

S01

GENERAL NOTES

SCOPE

SINGLE LEVEL EXTERIOR DECKS ATTACHED TO THE EXTERIOR WALL OF A ONE- OR TWO-FAMILY DWELLING.

APPLICABLE BUILDING CODE

2021 SC RESIDENTIAL BUILDING CODE (ORSC).

LIMITATIONS OF USE

USE OF AND ANY MODIFICATIONS TO THESE READY-BUILD PLANS IS SUBJECT TO REVIEW AND APPROVAL BY THE BUILDING DEPARTMENT HAVING JURISDICTION.

- A. ULTIMATE WIND SPEED: 105-135MPH
- B. WIND EXPOSURE CATEGORY: B, C, ORD
- C. SEISMIC DESIGN CATEGORY: C
- D. GROUND SNOW LOAD: ≤ 40 PSF

DECKS SUPPORTING LARGE CONCENTRATED LOADS SUCH AS HOT TUBS ARE BEYOND THE SCOPE OF THIS DOCUMENT.

APPLICANT SHALL USE THE CODE PRESCRIBED TABLES CONTAINED HEREIN AND RECORD THEIR PROJECT SPECIFIC DESIGN PARAMETERS (X) ON SHEET S13 PRIOR TO PERMIT APPLICATION.

FOUNDATION

FOOTINGS SHALL BEAR ON NATIVE, INORGANIC, UNDISTURBED SOIL BELOW EXISTING GRADE. CONCRETE STRENGTH SHALL BE 3,000 PSI IN MODERATE WEATHERING REGIONS AND 3,500 PSI IN SEVERE WEATHERING REGIONS (SEE DETAIL 1/S11) [R301.2 AND R402.2].

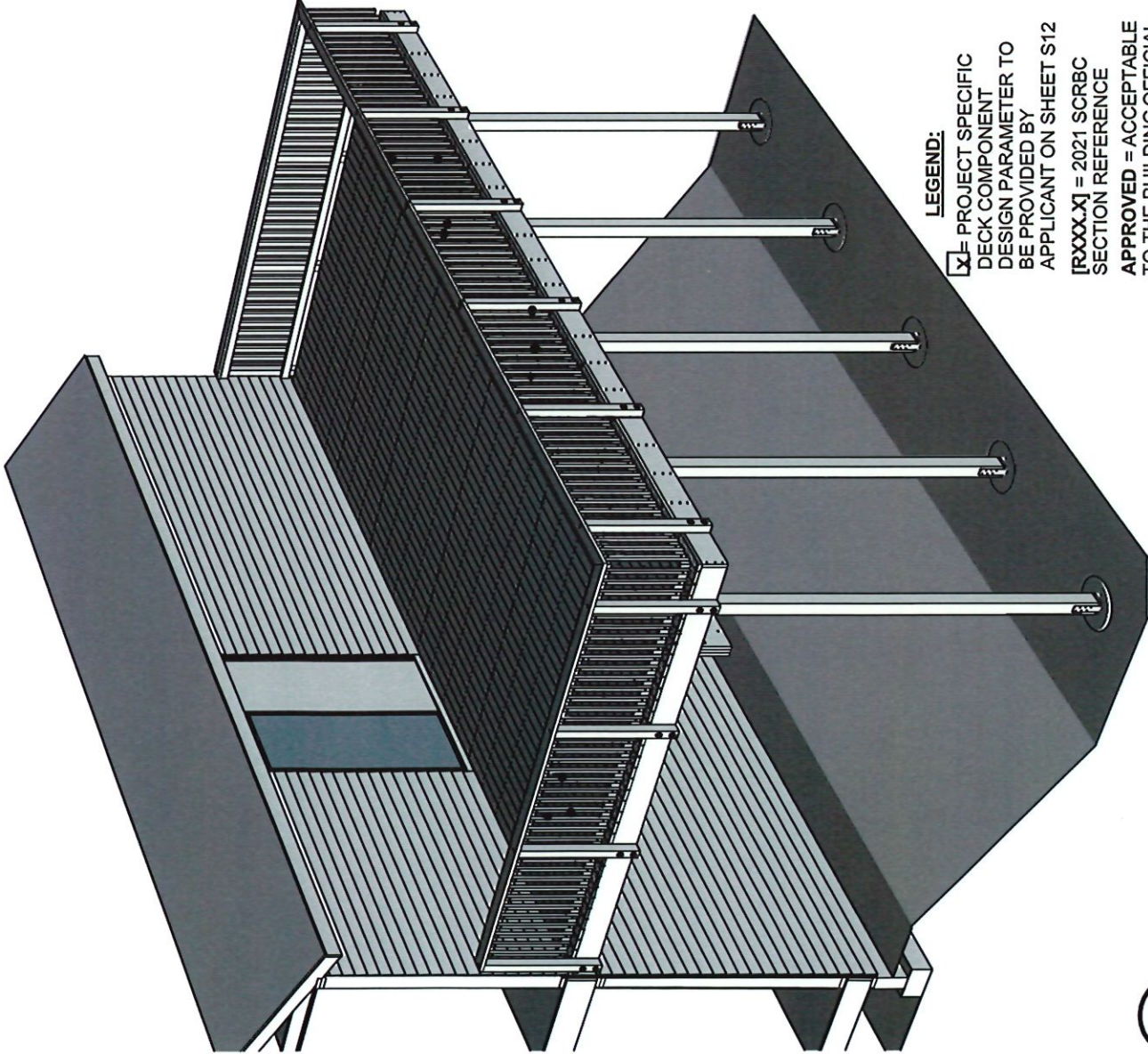
WOOD FRAMING

ALL WOOD SHALL BE APPROVED NATURALLY DURABLE OR PRESSURE-PRESERVATIVE-TREATED (R317.1). ALL WOOD IN CONTACT WITH THE GROUND, OR EMBEDDED IN CONCRETE SHALL BE APPROVED PRESERVE-PRESERVATIVE-TREATED WOOD SUITABLE FOR GROUND CONTACT USE (R317.1.2). ALL CUTS SHALL BE FIELD TREATED WITH COPPER NAPHTHENATE (2% COPPER) [R402.1.2].

FASTENERS, ANCHORS, AND CONNECTORS FASTENERS SHALL BE HOT-DIPPED GALVANIZED, STAINLESS STEEL, OR APPROVED FOR USE WITH PRESERVATIVE-TREATED LUMBER. COATING TYPES FOR FRAMING ANCHORS SHALL BE IN ACCORDANCE WITH MFR'S RECOMMENDATIONS (SHALL BE PROVIDED WITH SUBMITTAL) [R317.3].

LEGEND:

- (X) PROJECT SPECIFIC DESIGN PARAMETER TO BE PROVIDED BY APPLICANT ON SHEET S12
- [RXXX.X] = 2021 SCRBC SECTION REFERENCE
- APPROVED = ACCEPTABLE TO THE BUILDING OFFICIAL [R202]



1 General Notes

NTS

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2021 SCRBC

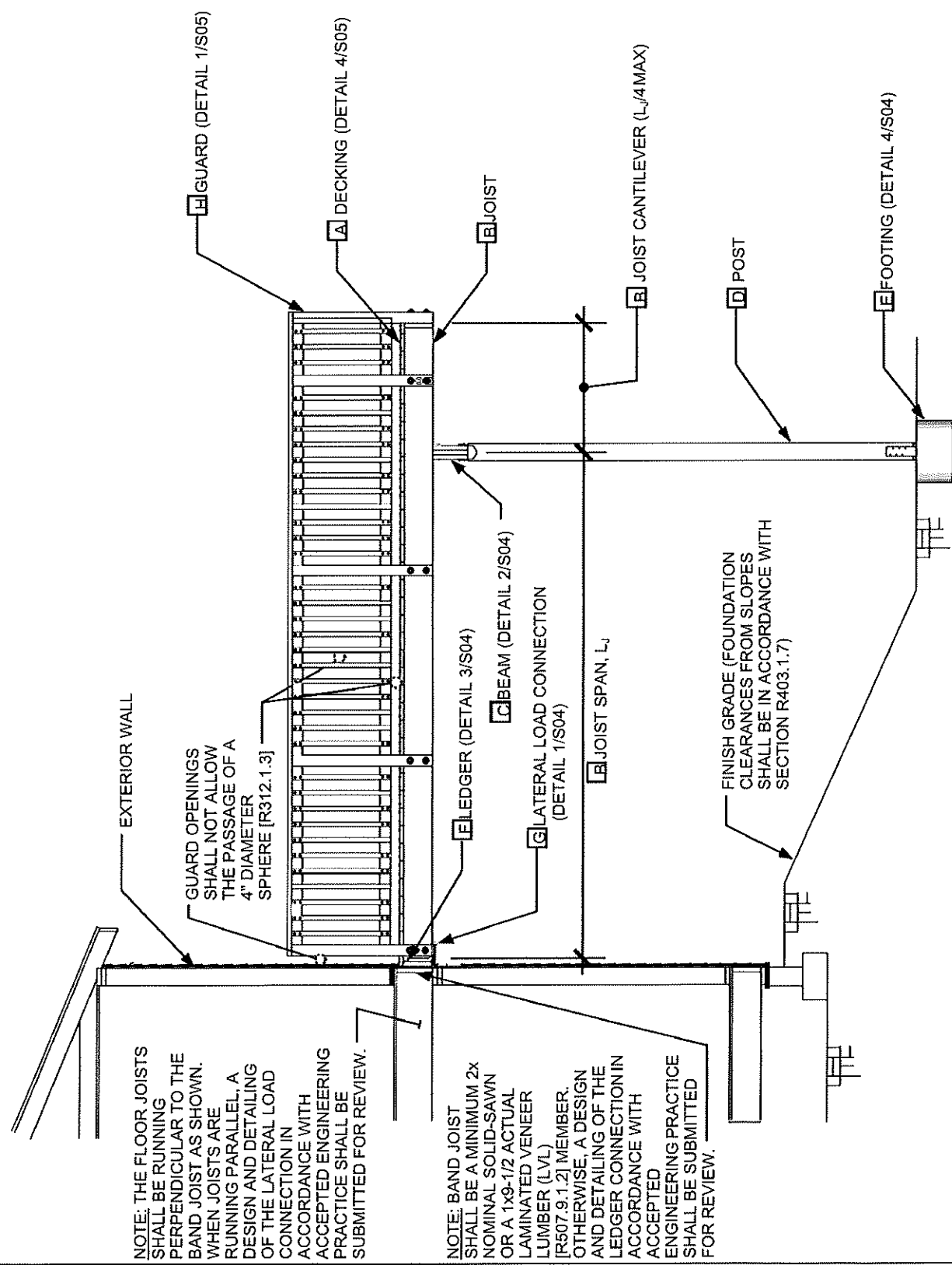
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Elevation

S02



NOTE: THE FLOOR JOISTS SHALL BE RUNNING PERPENDICULAR TO THE BAND JOIST AS SHOWN. WHEN JOISTS ARE RUNNING PARALLEL, A DESIGN AND DETAILING OF THE LATERAL LOAD CONNECTION IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE SHALL BE SUBMITTED FOR REVIEW.

NOTE: BAND JOIST SHALL BE A MINIMUM 2x NOMINAL SOLID-SAWN OR A 1x9-1/2 ACTUAL LAMINATED VENEER LUMBER (LVL) [R507.9.1.2] MEMBER. OTHERWISE, A DESIGN AND DETAILING OF THE LEDGER CONNECTION IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE SHALL BE SUBMITTED FOR REVIEW.

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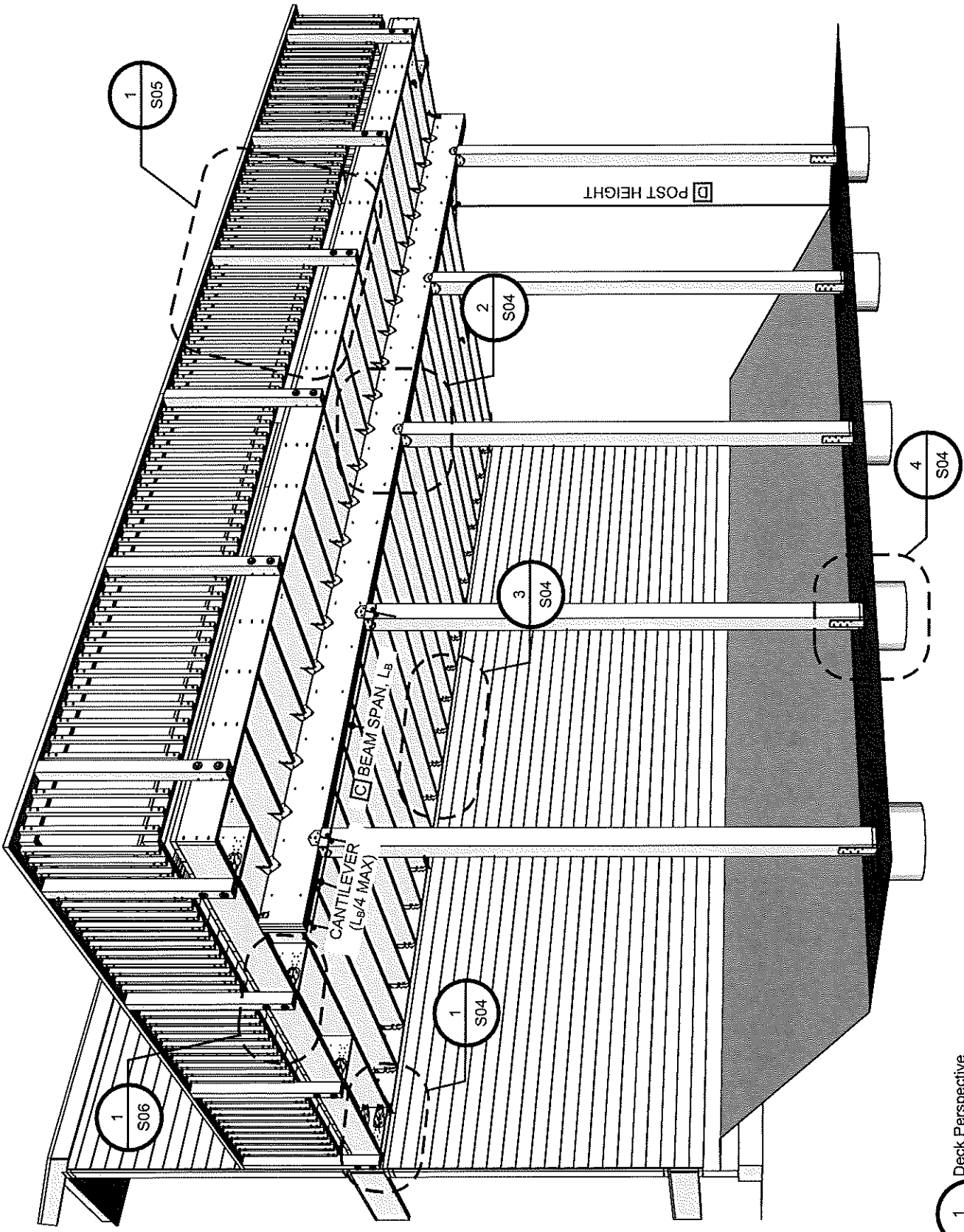
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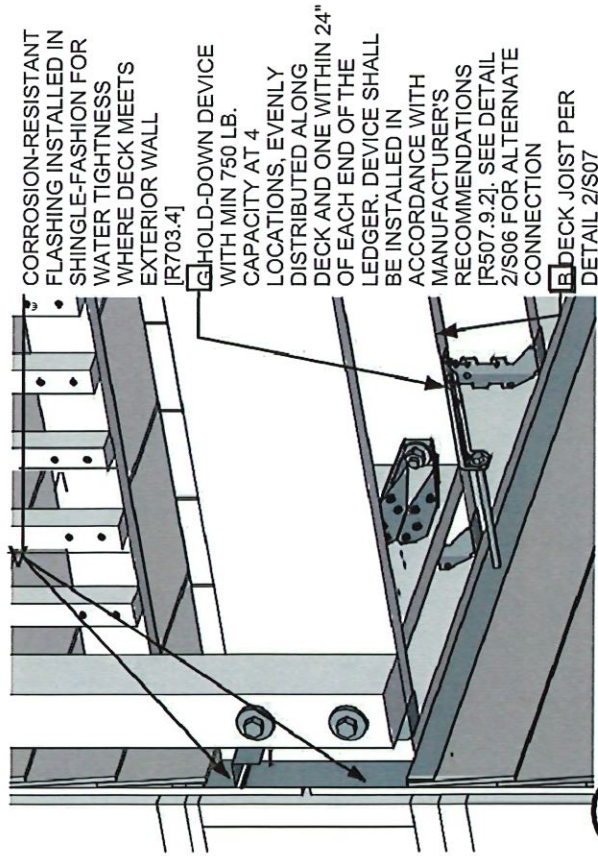
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Perspective

S03

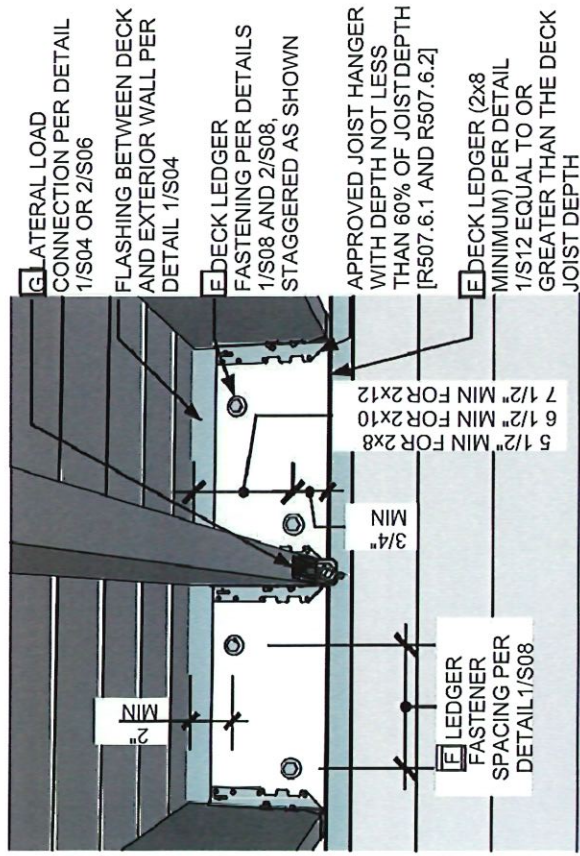


1 Deck Perspective
S03 NTS



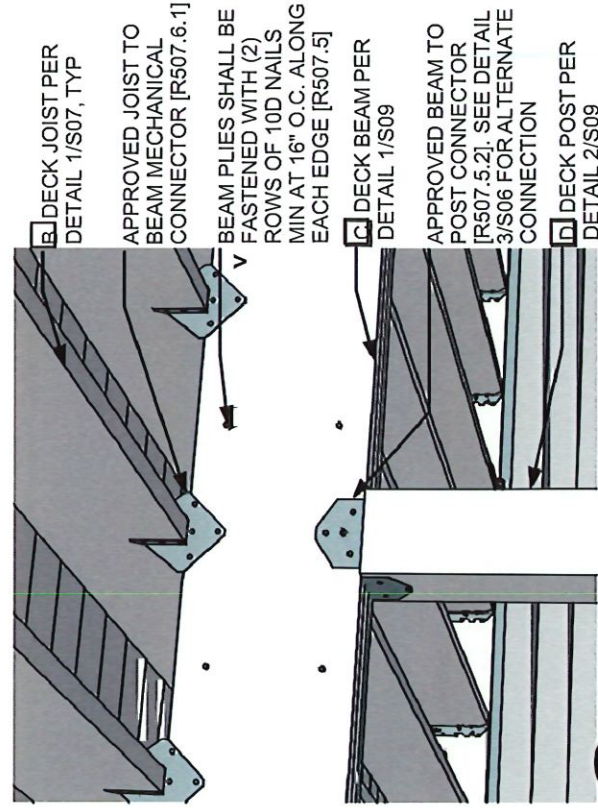
1 Lateral load connection

S04 NTS



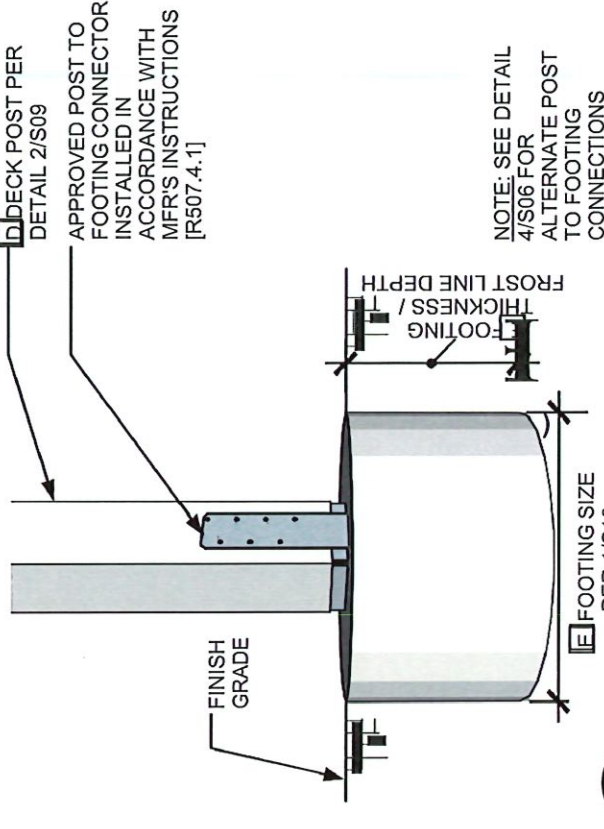
3 Ledger connection

S04 NTS



2 Joist to beam and beam to post connection

S04 NTS



4 Post to footing connection

S04 NTS

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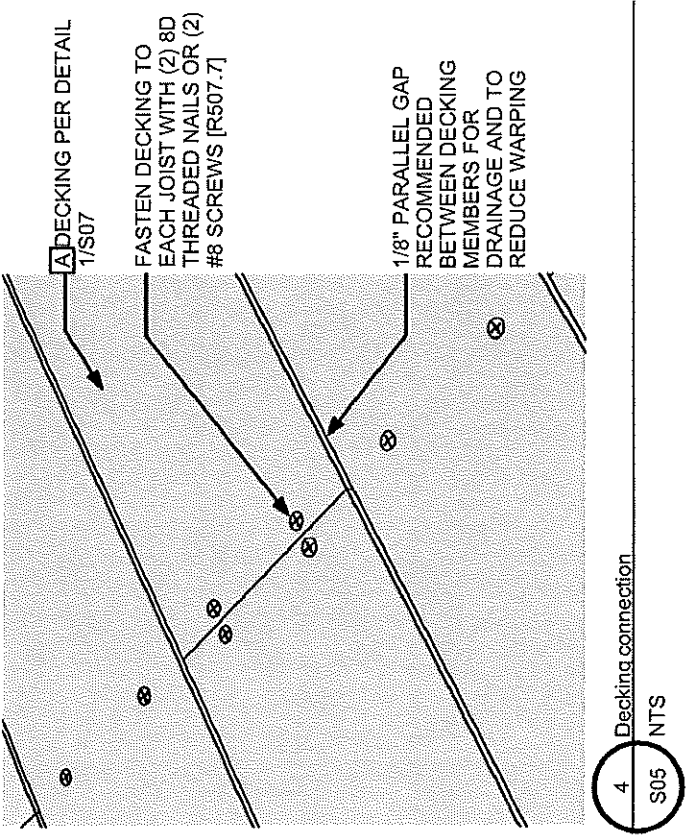
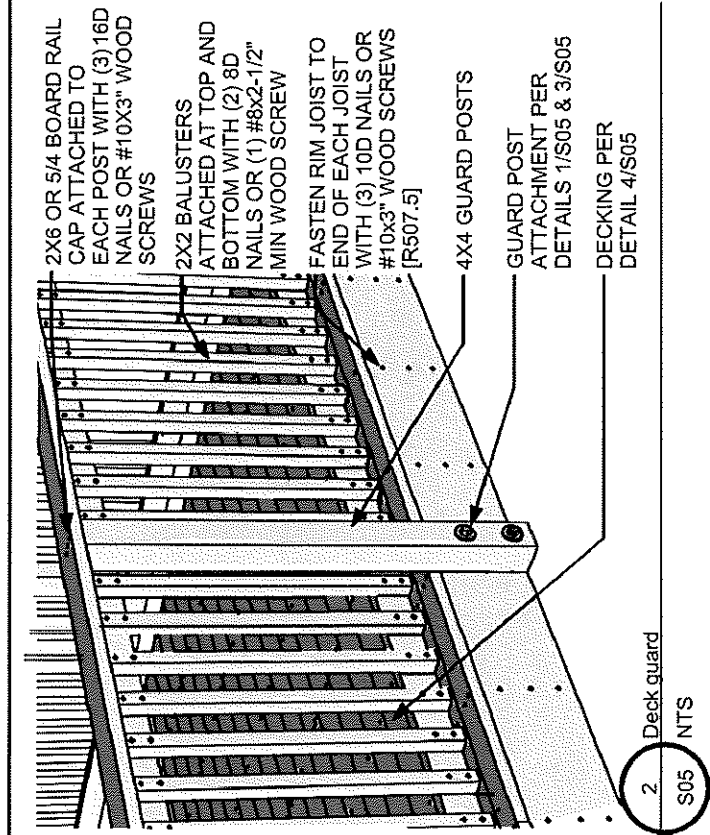
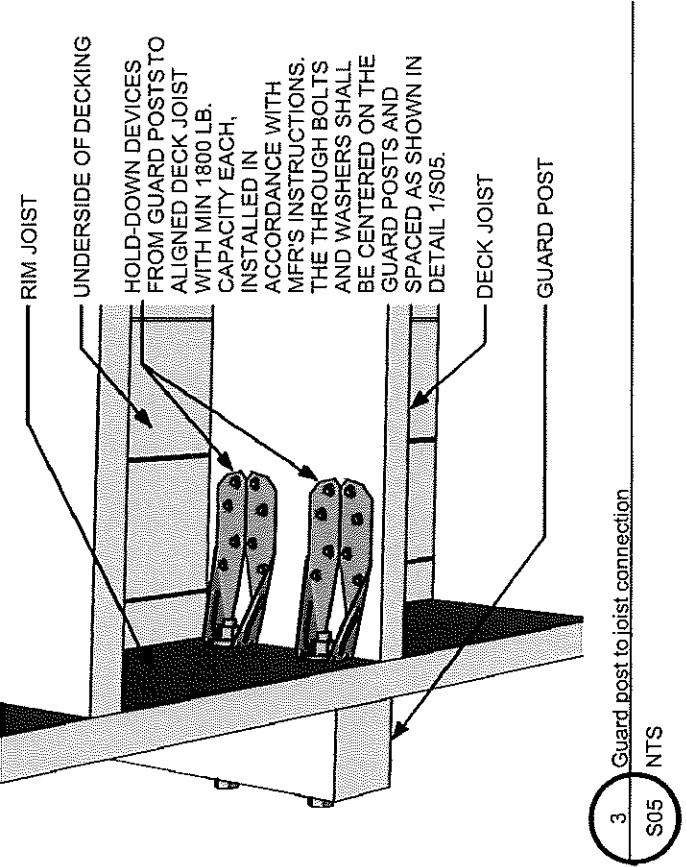
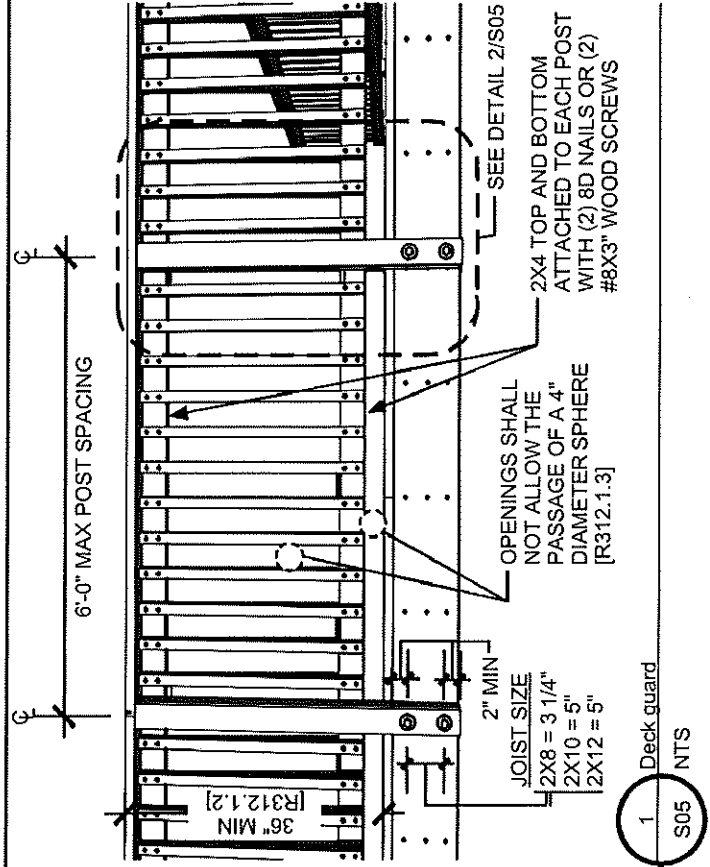
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Details

S04





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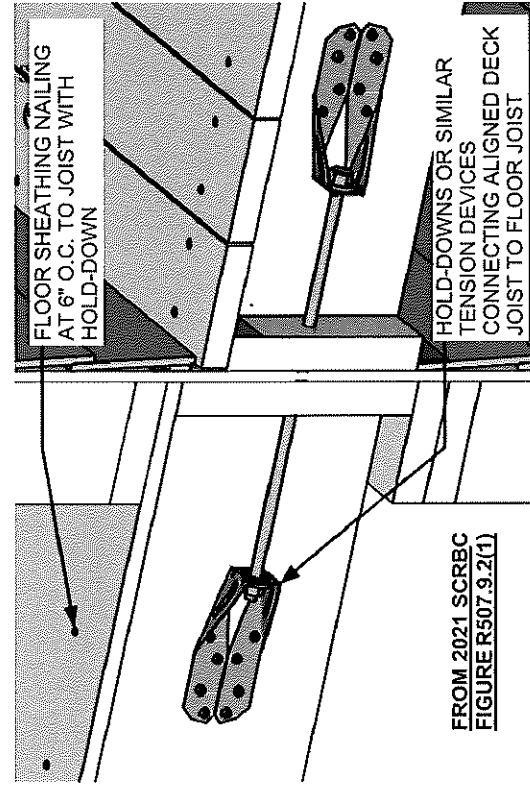
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Details

S06

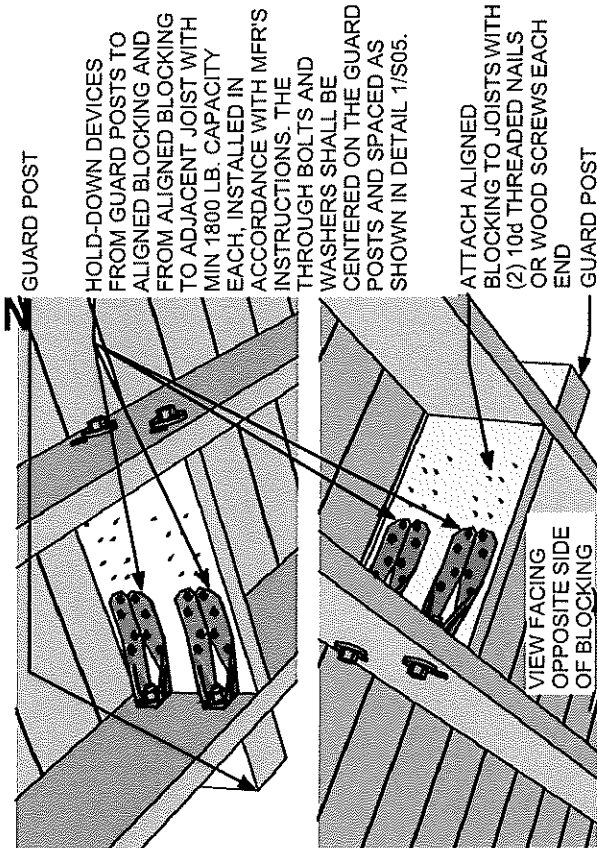


FROM 2021 SCRBC
FIGURE R507.9.2(1)

NOTE: HOLD-DOWN TENSION DEVICES PER THIS DETAIL SHALL HAVE 1,500 LB. MINIMUM CAPACITY, BE INSTALLED IN NOT LESS THAN TWO LOCATIONS, AND BE WITHIN 24 INCHES OF EACH END OF DECK.

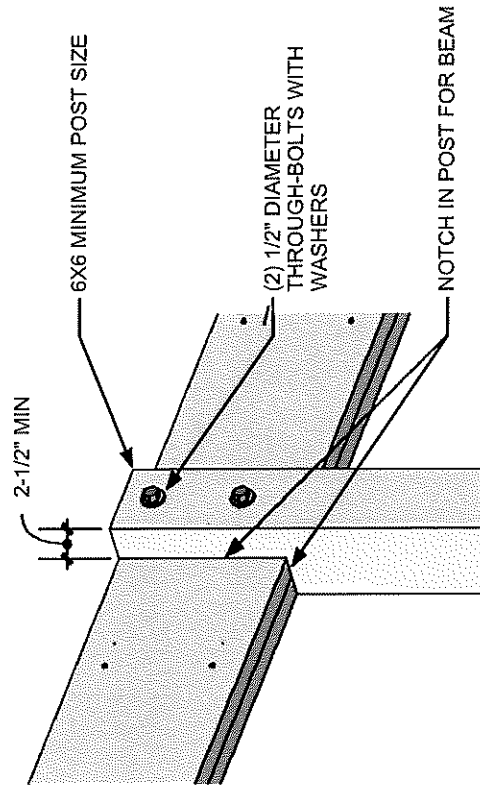
2 Alternate deck attachment for lateral loads

S06 NTS



1 Guard post to blocking connection

S06 NTS

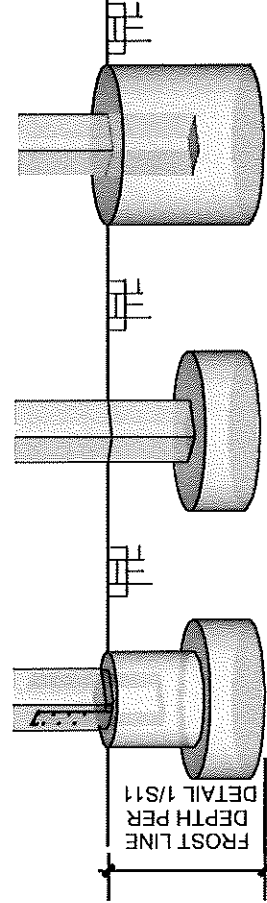


FROM 2021 SCRBC FIGURE R507.5.1(2)

NOTE: ALL BOLTS SHALL HAVE WASHERS UNDER THE HEAD AND NUT.

3 Alternate beam to post connection

S06 NTS



FROM 2021 SCRBC FIGURE R507.3

NOTE: POSTS SHALL BE RESTRAINED TO PREVENT LATERAL DISPLACEMENT AT THE BOTTOM OF SUPPORT. SUCH RESTRAINT SHALL BE PROVIDED BY MANUFACTURED CONNECTORS INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS OR A MINIMUM POST EMBEDMENT OF 12 INCHES IN SURROUNDING SOILS OR CONCRETE.

4 Alternate post to footing connections

S06 NTS

FROM 2021 SCRBC TABLE R507.7

JOIST SPACING

DECKING TYPE AND NOMINAL SIZE	MAXIMUM ON-CENTER JOIST SPACING (in.)	
	Perpendicular to joist	Diagonal to joist ^a
5/4-inch-thick wood	16	12
2-inch-thick wood	24	16
Plastic composite ^b	Per decking manufacturer	Per decking manufacturer

- a. Maximum angle of 45 degrees from perpendicular for wood deck boards.
b. Plastic composite deck materials shall comply with the requirements of ASTM D7032 and Section R507.2.2

1 Maximum Joist Spacing Table (from 2021 SCRBC Table R507.7)

NTS

JOIST SPECIES	JOIST SIZE	ALLOWABLE JOIST SPAN (feet-inches)	MAXIMUM CANTILEVER (feet-inches)										
			Joist back span (feet)										
			12	16	24	4	6	8	10	12	14	16	18
Southern Pine	2 x 6	8-3	7-6	6-5	1-0	1-6	1-5	NP	NP	NP	NP	NP	NP
	2 x 8	10-10	9-10	8-2	1-0	1-6	2-0	2-2	NP	NP	NP	NP	NP
	2 x 10	13-9	11-11	9-9	1-0	1-6	2-0	2-6	2-9	NP	NP	NP	NP
	2 x 12	16-2	14-0	11-5	1-0	1-6	2-0	2-6	3-0	3-5	NP	NP	NP
Douglas fir-larch Hem-fir Spruce-pine-fir	2 x 6	7-11	7-1	5-9	1-0	1-6	NP	NP	NP	NP	NP	NP	NP
	2 x 8	10-5	9-5	7-8	1-0	1-6	2-0	2-1	NP	NP	NP	NP	NP
	2 x 10	13-3	11-6	9-5	1-0	1-6	2-0	2-6	2-8	NP	NP	NP	NP
	2 x 12	15-5	13-4	10-11	1-0	1-6	2-0	2-6	3-0	3-3	NP	NP	NP
Redwood Western cedars Ponderosa pine Red pine	2 x 6	7-4	6-8	5-10	1-0	1-4	NP	NP	NP	NP	NP	NP	NP
	2 x 8	9-8	8-10	7-4	1-0	1-6	1-11	NP	NP	NP	NP	NP	NP
	2 x 10	12-4	11-0	9-0	1-0	1-6	2-0	2-6	2-6	NP	NP	NP	NP
	2 x 12	14-9	12-9	10-5	1-0	1-6	2-0	2-6	3-0	3-0	NP	NP	NP

NP = Not Permitted
No.2 Grade min.

2 Maximum Joist Spacing Table (from 2021 SCRBC Table R507.6)

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Tables

S07

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LEDGER CONNECTION TO BAND JOIST^{a,b}

CONNECTION DETAILS	JOIST SPAN (ft.), L _j						
	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.)						
1/2-inch diameter lag screw with 1/2-inch maximum sheathing ^{c,d}	30	23	18	15	13	11	10
1/2-inch diameter through bolt with 1/2-inch maximum sheathing ^d	36	36	34	29	24	21	19
1/2-inch diameter through bolt with 1-inch maximum sheathing ^e	36	36	29	24	21	18	16

- a. Ledger shall be flashed with approved corrosion-resistant flashing applied shingle-fashion in a manner to prevent entry of water into the wall cavity or penetration of water to the building structural framing components in accordance with Section R703.4.
- b. Snow load shall not be assumed to act concurrently with live load.
- c. The tip of the lag screw shall fully extend beyond the inside face of the bandjoist.
- d. Sheathing shall be wood structural panel or solid sawn lumber.
- e. Sheathing shall be permitted to be wood structural panel, gypsum board, fiberboard, 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.

Minimum Ledger Connection Table (from 2021 SCRBC Table R507.9.1.3(1))

STN

PLACEMENT OF LAG SCREWS AND THROUGH BOLTS IN LEDGERS AND BAND JOISTS

MINIMUM END AND EDGE DISTANCES AND SPACING BETWEEN ROWS (in.)				
	TOP EDGE	BOTTOM EDGE	CUT ENDS	ROW SPACING
LEDGER ^a	2 inches ^d	3/4 inch	2 inches ^b	1 5/8 inches ^b
BAND JOIST ^c	3/4 inch	2 inches	2 inches ^b	1 5/8 inches ^b

- a. Lag screws or bolts shall be staggered from the top to the bottom along the horizontal run of the deck ledger in accordance with detail 3/S04.
- b. Maximum of 5 inches.
- c. For engineered rim joists, the manufacturer's recommendations shall govern.
- d. The minimum distance from bottom row of lag screws or bolts to the top edge of the ledger shall be in accordance with detail 3/S04.

Ledger Fasteners Placement Table (from 2021 SCRBC Table R507.9.1.3(2))

NTS

BEAM SPANS^{a,d}, L (ft.-in.)

BEAM SPECIES	BEAM SIZE	DECK JOIST SPAN (ft.)									
		6	8	10	12	14	16	18	MAXIMUM DECK BEAM SPAN LENGTH (feet-inches)		
Southern Pine	1 - 2 X 6	4-7	4-0	3-7	3-3	3-0	2-10	2-8			
	1 - 2 X 8	5-11	5-1	4-7	4-2	3-10	3-7	3-5			
	1 - 2 X 10	7-0	6-0	5-5	4-11	4-7	4-3	4-0			
	1 - 2 X 12	8-3	7-1	6-4	5-10	5-5	5-0	4-9			
	2 - 2 X 6	6-11	5-11	5-4	4-10	4-6	4-3	4-0			
	2 - 2 X 8	8-9	7-7	6-9	6-2	5-9	5-4	5-0			
	2 - 2 X 10	10-4	9-0	8-0	-4	6-9	6-4	6-0			
	2 - 2 X 12	12-2	10-7	9-5	8-7	8-0	7-5	7-0			
	3 - 2 X 6	8-6	7-5	6-8	6-1	5-8	5-3	4-11			
	3 - 2 X 8	10-11	9-6	8-6	7-9	7-2	6-8	6-4			
	3 - 2 X 10	13-0	11-2	10-0	9-2	8-6	7-11	7-6			
	3 - 2 X 12	15-3	13-3	11-10	10-9	10-0	9-4	8-10			

a. Beams supporting deck joists from one side only (with optional joist cantilever).

b. No. 2 grade.

c. Beam depth shall be greater than or equal to depth of joists with a flush beam condition.

d. Beam cantilevers are limited to the adjacent beam's span divided by 4.

1 Maximum Beam Spans Table (from 2021 SCRBC Table R507.5)

S09 NTS

POST HEIGHT

POST SPECIES	POST SIZE	TRIBUTARY AREA (FT ²)									
		20	40	60	80	100	120	140	160		
		MAXIMUM DECK POST HEIGHT (feet-inches)									
Southern Pine	4 X 4	14-0	10-2	8-2	6-11	5-11	5-2	4-4	3-4		
	4 X 6	14-0	12-11	10-5	8-11	7-10	7-1	6-5	5-10		
	6 X 6	14-0	14-0	14-0	14-0	14-0	12-9	10-11	8-7		
	8 X 8	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0		

2 Maximum Post Height Table (from 2021 SRBCC Table R507.4)

S09 NTS

FOOTING DIMENSIONS^a

LIVE OR GROUND SNOW LOAD (psf)	TRIBUTARY AREA (ft ²)	LOAD BEARING VALUE OF SOILS (psf)					
		1,500			2,000		
		Side of a square footing (inches)	Diameter of a round footing (inches)	Thickness (inches)	Side of a square footing (inches)	Diameter of a round footing (inches)	Thickness (inches)
40	5	7	8	6	7	8	6
	20	10	12	6	9	9	6
	40	14	16	6	12	14	6
	60	17	19	6	15	17	6
	80	20	22	7	17	19	6
	100	22	25	8	19	21	6
	120	24	27	9	21	23	7
	140	26	29	10	22	25	8
	160	28	31	11	24	27	9

a. Assumes 1,500 psf soil bearing capacity per Section R401.4.1.
 b. In accordance with Section R403.1.4, footings shall be placed not less than 12 inches below the finished grade on undisturbed ground surface and shall extend below the frost line depth specified in Table R301.2(1). Coordinate footing thickness with post base manufacturer installation instructions.

[A] DECKING [R507.7]:

size: ☐ 2x ☐ five-quarter (5/4 deck material)
material: ☐ preservative-treated ☐ plastic composite ☐ naturally durable (e.g. cedar)
orientation: ☐ perpendicular to joists ☐ diagonal to joists

[B] JOISTS [R507.6]:

size: ☐ 2x6 ☐ 2x8 ☐ 2x10 ☐ 2x12
spacing: ☐ 12 in. ☐ 16 in. ☐ 24 in.
span, L_j : ____ ft. - ____ in.
cantilever: ____ ft. - ____ in. ($L_j/4$ MAX)
rim joist: ☐ 2x6 ☐ 2x8 ☐ 2x10 ☐ 2x12 ☐ not applicable

[C] BEAMS [R507.5]:

plies: ☐ 1 ☐ 2 ☐ 3
size: ☐ 2x6 ☐ 2x8 ☐ 2x10 ☐ 2x12 ☐ 4x6 ☐ 4x8 ☐ 4x10 ☐ 4x12 ☐ ____ x ____
span, L_b : ____ ft. - ____ in.
cantilever: ____ ft. - ____ in. ($L_b/4$ MAX)

[D] POSTS [R507.4]:

size: ☐ 4x4 ☐ 4x6 ☐ 6x6 ☐ ____ x ____
height: ____ ft. - ____ in.

[E] FOOTINGS [R507.3]:

size: ____ in. ☐ square ☐ round
thickness: ____ in.

[F] LEDGER [R507.9.1.3(1)]:

size: ☐ 2x8 ☐ 2x10 ☐ 2x12
fastener: ☐ 1/2" through-bolt ☐ 1/2" lag screw ☐ code-compliant alternate (attach report)
fastener spacing: ____ in. on-center

[G] LATERAL LOAD CONNECTION [R507.9.2]:

☐ (4) 750 pound hold-down tension devices (detail 1/S04)
☐ (2) 1,500 pound hold-down tension devices (detail 2/S06)
☐ code-compliant alternate (attach report)

[H] GUARDRAIL POST ATTACHMENT [R301.5]:

☐ details 1-3/S05 & 1/S06
☐ code-compliant alternate (attach detail).

Site plan showing proposed location and all side and rear setbacks required to be submitted with application for permit

1 Project Specific Information

S12 NTS



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Project Specific
Information

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