

HUMBOLDT COUNTY BUILDING DEPARTMENT
CITY OF WINNEMUCCA BUILDING DEPARTMENT
2018 International Residential Code

DECK HANDOUT FOR DECKS LESS THAN 14' IN HEIGHT

Complete this Building Guide by filling in the blanks using the attached table.

Submit a Site plan. Indicate the location of the deck, distance to other buildings, and distances to property lines (contact the Planning Dept. at 623-6392 for setback requirements)

Deck size_____

Type of foundation_____

- A. Min. 18"x18"x24" footings or 22" diameter x 24" deep sonatube
- B. Specify type of post base
- C. If deck is free standing footings to frost depth are not required.

Post: Post shall be pressure treated if in contact with the earth or concrete; or less than 8" above exposed ground. Pressure treated wood cuts to be field treated.

Size of Posts_____

Distance between posts_____

Deck Beams:

Size of deck beams_____

Spacing of deck beams_____

Floor Joists:

Floor joist span_____

Floor joist size_____

Floor joist spacing_____

Ledgers (see attached table) Ledger may not be installed over siding, stucco or manufactured home wall. It must be fastened directly to the rim joist, stud or sheathing (i.e. remove stucco and siding behind the ledger). For manufactured home installation the ledger shall be installed directly to the foundation or must be free standing.

Ledger size (min. 2x8 and shall be pressure treated)_____

Size of bolts_____

Spacing of bolts_____

Hold down tension device (required in condition shown in Figure 507.2.3)_____

**Deck Post Height
Measured to the Underside of the Beam**

Deck Post Size	Maximum Height
4x4	8'
4x6	8'
6x6 or 8x8	14'

Decks with post higher than 14' shall be engineered by a State of Nevada design professional

Maximum Joist Spacing

Material Type and Nominal Size	Maximum On-Center Joist Spacing	
	Perpendicular to joist	Diagonal to joist(a)
1 ¼" thick wood	16 inches	12 inches
2" thick wood	24 inches	16 inches
Plastic composite	In accordance with Section R507.2	In accordance with Section R507.2

a. Maximum angle of 45 degrees from perpendicular for wood deck boards

Deck Joist Spans

	Size	Spacing of Deck Joists with No Cantilever			Spacing of Joist with Cantilevers		
		12"	16"	24"	12"	16"	24"
Douglas Fir #2	2x6	9-6	8-8	7-2	6-3	6-3	6-3
	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

Cantilever spans not exceeding the nominal depth of the joist are permitted.

Deck Beam Span Lengths –Doug Fir #2

Size	Deck Joist Span Less than or Equal To:						
	6'	8'	10'	12'	14'	16'	18'
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

Fastener Spacing for Deck Ledger
(Deck Live Load = 40 psf, deck load = 10 sf)

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"
Connection Detail	On-Center Spacing of Fasteners (d,e)						
½" diameter lag screw with 15/32" max. sheathing	30	23	18	15	13	11	10
½" diameter bolt with 15/32" max. sheathing	36	36	34	29	24	21	19
½" diameter bolt with 15/32" max. sheathing & ½" stacked washers (b,h)	36	36	29	24	21	18	16

- The tip of the lag screw shall fully extend beyond the inside face of the band joist.
- The maximum gap between the face of the ledger board and the face of the wall sheathing shall be ½".
- Ledgers shall be flashed to prevent water from contacting the house band joist.
- Lag screws and bolts shall be staggered in accordance with Section R507.2.1.
- Deck ledger shall be minimum 2x8 pressure preservative treated No. 2 grade lumber or other approved materials as established by standard engineering.
- When solid-sawn pressure preservative treated deck ledgers are attached to a minimum 1" thick engineered wood product (structural composite lumber, laminated veneer lumber or wood structural panel band joist) the ledger attachment shall be designed in accordance with accepted engineered practices.
- A minimum 1"x9 ½" Douglas Fir laminated veneer lumber rimboard shall be permitted in lieu of the 2" nominal band joist.
- Wood structural panel sheathing or foam sheathing not exceeding 1" in thickness shall be permitted. The maximum distance between the face of the ledger board and the face of the band joist shall be 1".

Table R507.2.1
Placement of Lag Screws and Bolts in Deck Ledgers and Band Joists

Minimum End and Edge Distances and Spacing Between Rows				
	Top Edge	Bottom Edge	Ends	Row Spacing
Ledger(a)	2"(d)	¼"	2"(b)	1 5/8"(b)
Band Joist(c)	¾"	2"	2"(b)	1 5/8"(b)

- Lag screws or bolts shall be staggered from the top to the bottom along the horizontal run of the deck ledger in accordance with Figure R507.2(1)
- Maximum 5"
- For engineered rim joists, the manufacturer's recommendations shall govern.
- The minimum distance from the bottom row of lag screws or bolts to the top edge of the ledger shall be in accordance with Figure R507.2(1).

