



Boulder County
Land Use Department
Publications

Residential Deck Plan Requirements

Land Use Department
Courthouse Annex Building
2045 13th Street
PO Box 471
Boulder, CO 80302

Building Safety &
Inspection Services:
Phone: 303-441-3926

Email: building_official@bouldercounty.org
Website: www.bouldercounty.org/lu

Office Hours:

8 a.m.-4:30 p.m. Mon., Wed., Thurs., Fri.
10 a.m.-4:30 p.m. Tuesday

Building Permits can be applied for
and issued until 4 p.m.

Residential Deck Plan Requirements

Based on the 2015 International Residential Code (IRC).

Residential Deck Structures

The 2015 Boulder County Building Code requires a building permit for all deck structures*.

Work Exempt From Permit

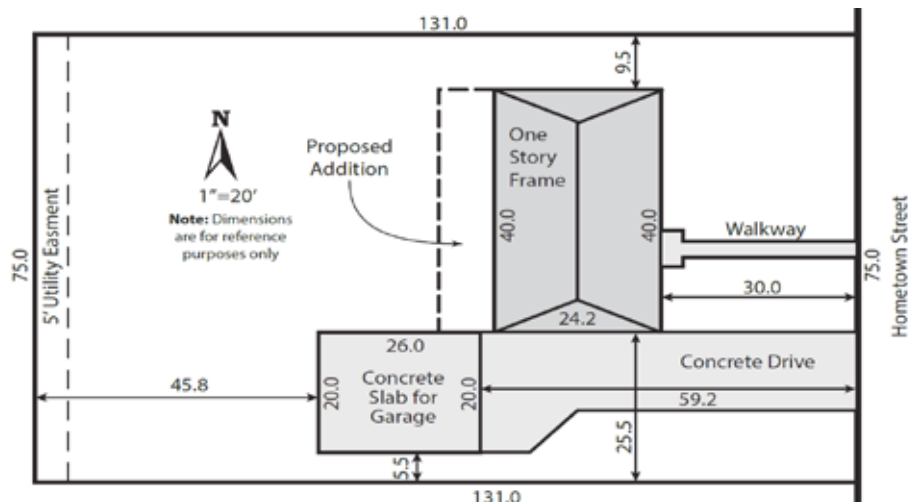
*Decks accessory to one- and two-family dwellings and townhouses not exceeding 200 square feet in area, that are not more than 30 inches above grade at any point, are not attached to a dwelling and do not serve the exit door required by IRC Section 311.2.

Requirements

Providing the following details will assist in a timely approval of your deck plans. Deck plans should include a site plan, a ¼-inch scale minimum floor plan (view looking down), and a section view. Elevation views of sections are helpful during plans examination for compliance.

1. Provide a site plan that shows:

- Location of the deck,
- Distance from the deck to the property lines
- Distance from the deck to other structures on the lot.



Example Site Plan

2. Provide a dimensioned deck plan (minimum ¼-inch scaled plans, view looking down) that shows all of the following elements:

- a. The size of the deck and the locations and spacing of the columns/piers.*
- b. Label the beam size and type of material (include lumber species and grade).*

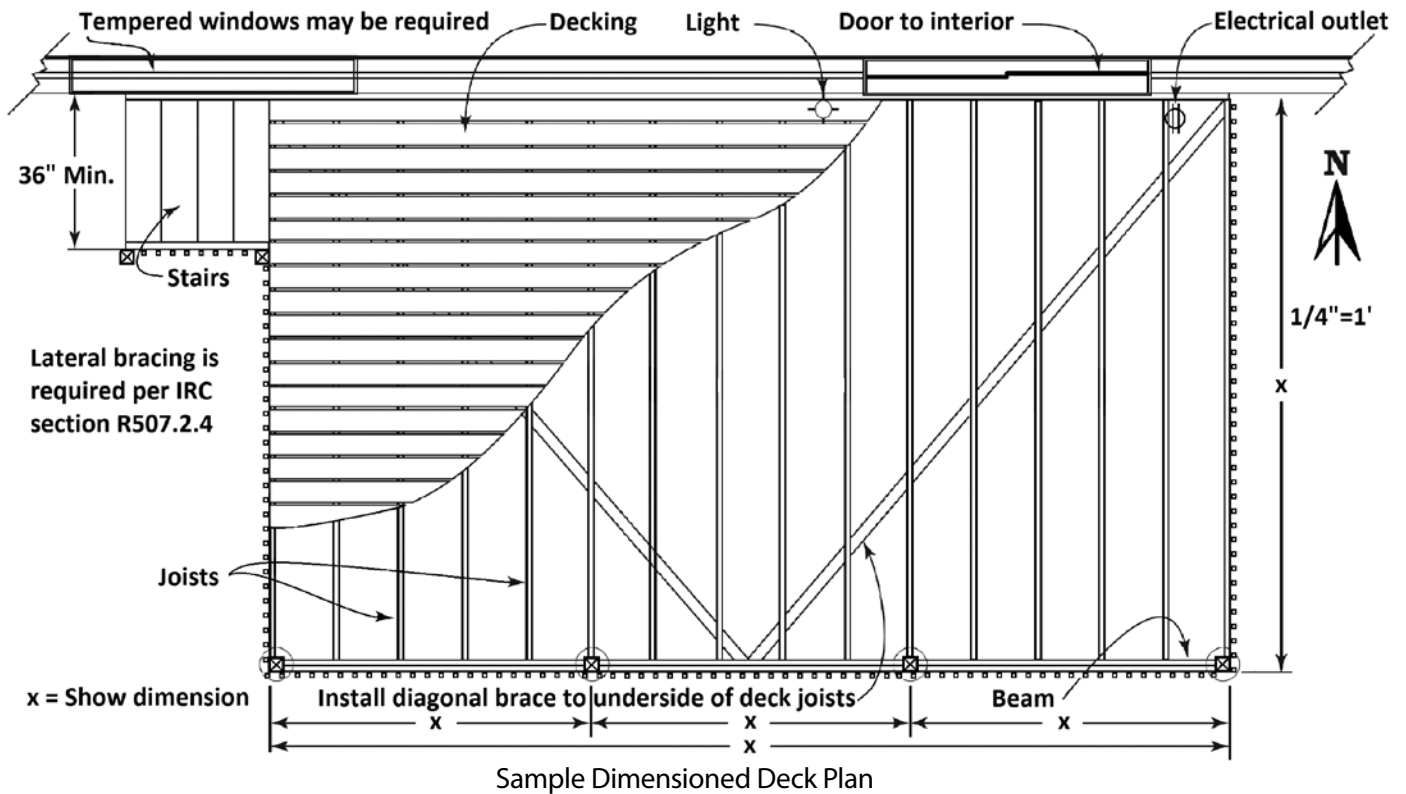
Note: If the beam is flush, the joists must bear on joist hangers or a ledger. If the beam is dropped with joists resting on top of the beam, solid blocking is required in the joist cavity above the beam bearing.

- c. Show the deck joists size, type of material (include lumber species and grade), joist spacing, and the direction that the joists run.*
- d. Indicate the method of connecting the deck joists to the building (ledger, joist hangers, etc.). If a ledger is used, note the fastener size and spacing. Complete detail to meet 2015 IRC Section R507, or an engineered design is

required. (The wind and snow loads are important considerations for construction of the deck. Decks constructed in areas where the wind load or snow load exceeds the tabular allowance for prescriptive decks in 2015 IRC, an engineered design is required. Prescriptive tables for beams within the IRC Section 507 are not designed for center bearing beams.)

Note: Conditions such as attachments to cantilevers or veneers may require an engineer's design.

- e. Show the material to be used for the deck walking surface. Indicate if the deck material is running perpendicular to the joists or at an angle. If the decking is a wood thermoplastic composite lumber material, please provide the manufacturers name and material listing.*
- f. Show door and window locations:



Sample Dimensioned Deck Plan

3. Provide a scaled section drawing showing the following elements:

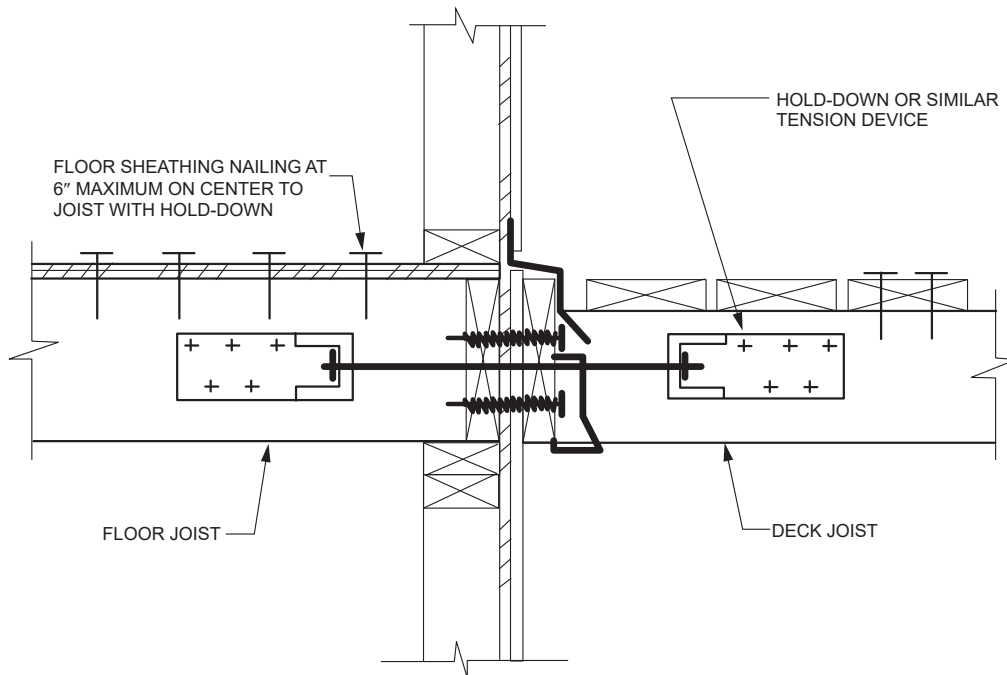
- a. The height or elevation above grade.
- b. Footing size, width, depth (minimum 30-inch), and any reinforcement.
- c. The column size and type of material (include lumber species and grade).*
- d. The method of connecting the columns to the footings and connecting the columns to the beams must be indicated on the plans.
- e. Show the method of Ledger Board attachment (refer to figures R507.2.1(1) and R507.2.1(2) on page 3)
- f. Show the method of Lateral Load connection compliant with R507.2.4 (See Deck Attachment for Lateral Loads on page 3)
- g. Show where the flashing is placed along the exterior wall. Corrosion resistant flashing is required where porches, decks or stairs attach to a wall or floor assembly (R703.4).

Show the method of Ledger Board attachment (refer to figures R507.2.1(1) and R507.2.1(2) on page 3)

- 4. Provide a detail for the deck guard (guardrail) that includes the height (minimum 36-inch high) and member spacing (spacing shall prevent the passage of a 4" sphere).
- 5. Provide a stairway detail that includes the rise, run, handrails, guardrail height, and member spacing.*

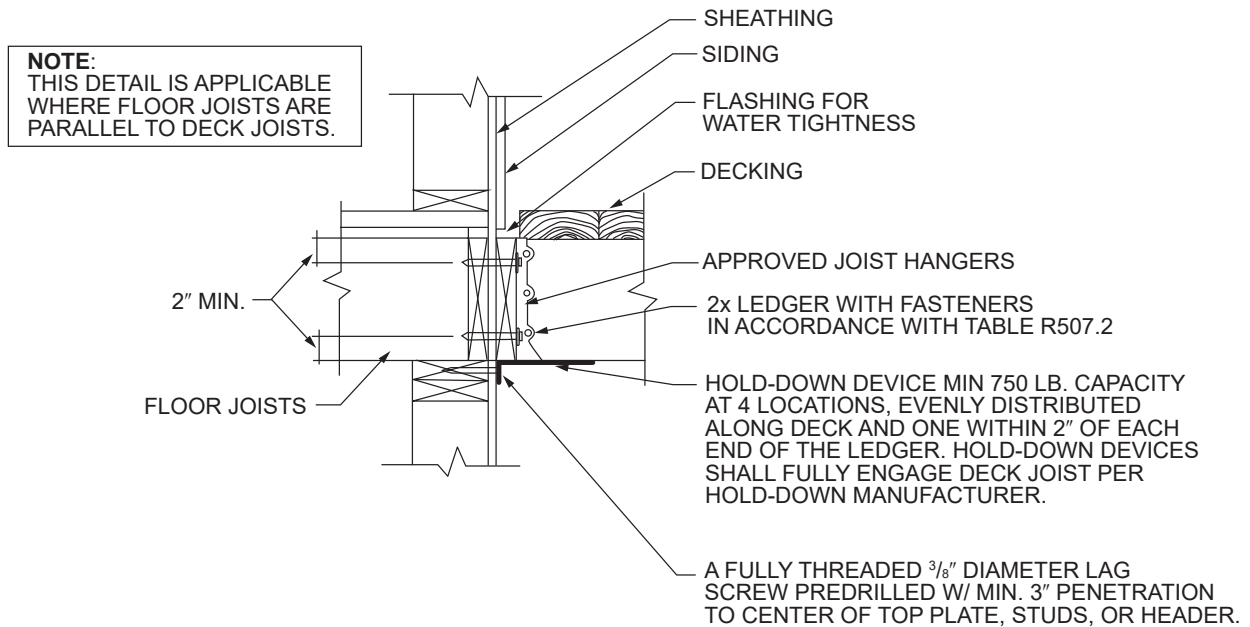
Note: Landings are required at the top and bottom of stairways. Refer to B/32 Residential Stairways Handrails Ramps and Guards at www.bouldercounty.org/

6. Ignition-Resistant Construction is required when constructing a deck in Boulder County Wildfire Zone 1. See publication **B37 Ignition-Resistant Construction** at bouldercounty.org for complete information.



For SI: 1 inch = 25.4 mm.

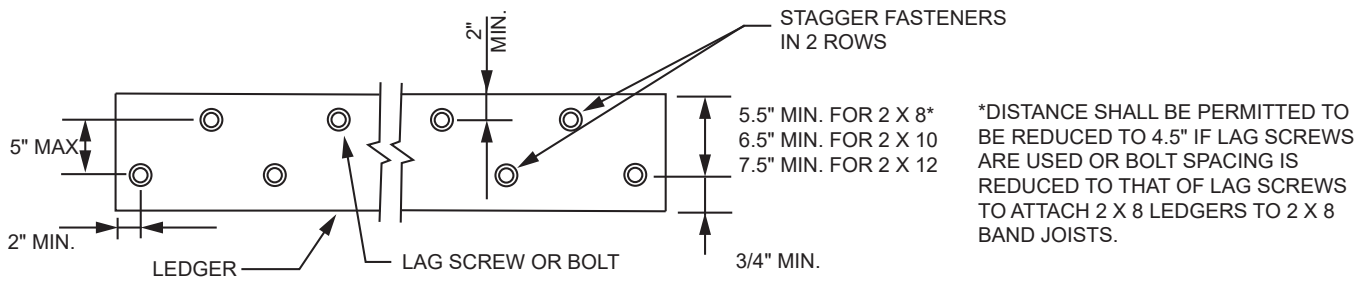
**FIGURE 507.2.3(1)
DECK ATTACHMENT FOR LATERAL LOADS**



For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

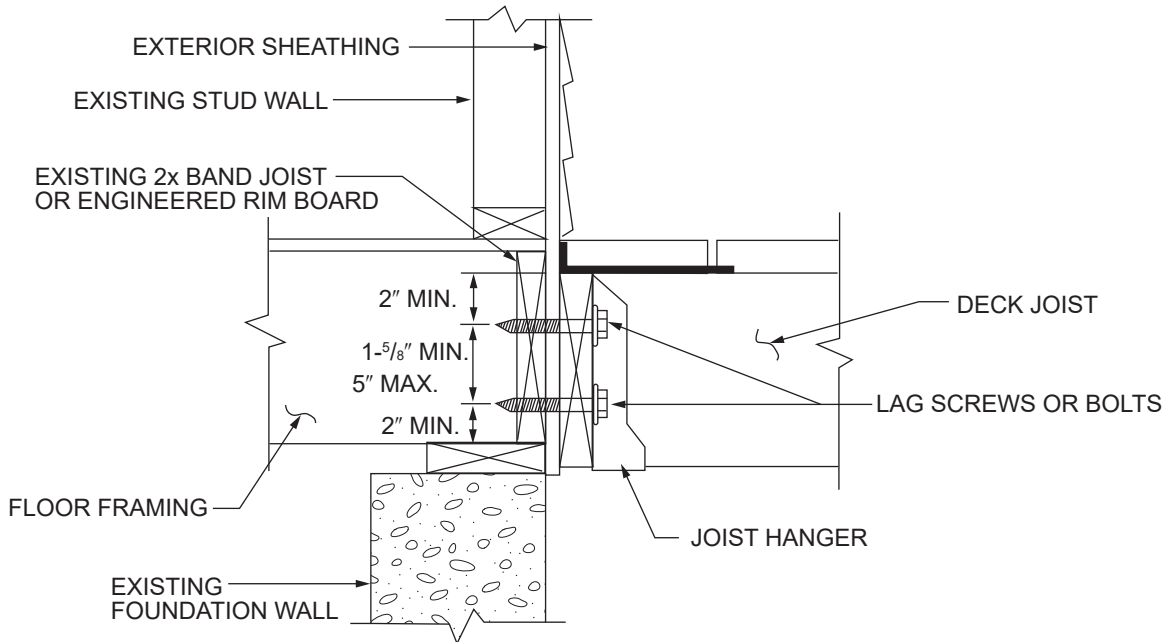
**FIGURE R507.2.3(2)
DECK ATTACHMENT FOR LATERAL LOADS**

Deck Attachment for Lateral Loads



For SI: 1 inch = 25.4 mm.

**FIGURE R507.2.1(1)
PLACEMENT OF LAG SCREWS AND BOLTS IN LEDGERS**



For SI: 1 inch = 25.4 mm.

**FIGURE R507.2.1(2)
PLACEMENT OF LAG SCREWS AND BOLTS IN BAND JOISTS**

Placement of Lag Screws

Additional resources for deck construction may be found at:

- American Wood Council's Deck Guide DCA6: <http://www.awc.org/codes-standards/publications/dca6>
- Colorado Chapter of ICC, Documents, Publications, Decks (2015) or <https://s3-us-west-2.amazonaws.com/coloradochaptericc.org/uploads/2017/07/2015-Uncovered-Decks-Fillable-CCICC.pdf>
- The public access website for the International Code Council (ICC).