

INFORMATION  
BULLETIN

211

August 2022

## Residential Decks

This Information Bulletin describes the minimum requirements for obtaining a building permit for an attached or detached deck accessory to a single-family dwelling or a duplex. The information bulletin cannot be used for decks located closer than 5 feet from a property line or when heavy concentrated loads such as equipment or a hot tub are placed on the deck. The information and sample drawings provided herein are suitable as a guide and cannot be used for construction. Project specific construction plans must be drawn and provided for review.

Decks containing unusual design features and framing irregularities must be designed by a registered design professional (licensed architect or civil engineer).

### I. When is a Permit Required?

A building permit is required for any residential deck that exceeds 200 square feet in area, when located more than 30 inches above grade at any point, when attached to a dwelling, or when it serves as the main exit door of the dwelling.

### II. Submittal Requirements

#### A. Forms

1. Project Contacts Information Form (DS-345)
2. Owner-Builder Verification Form  
This form is required if the property owner is acting as the general contractor. If you are not a licensed contractor and intend on performing the work yourself or hiring licensed subcontractors, an Owner-Builder Verification form (DS-3042) must be completed and submitted with your project documents.
3. Water Meter Data Card  
A Water Meter Data Card (DS-16) must be completed if new plumbing fixtures are being added. This form is not required when replacing or relocating existing fixtures.

#### B. Plans

Plans must be drawn to scale and be of sufficient clarity to indicate the location, nature and extent of the proposed work. Existing and proposed construction should be clearly shown. Plans must show that all work conforms to the provisions of the current edition of the California Residential Code (CRC), the San Diego Municipal Code, and all other relevant laws, ordinances and regulations applicable in the City of San Diego.

1. Site plan and vicinity map (See Figure 1)  
See Information Bulletin 122 for detailed information. See Figure 2 for the required setback when deck is located on a sloping site.
2. Plans for decks shall be in accordance to one of the following:
  - a. Project-specific construction plans and framing system determined in accordance with this Information Bulletin. To facilitate plan review also mark on the bulletin the selected structural framing sizes such as decking, joists, beams, posts, foundation, etc.
  - b. Engineered framed deck plans and design calculations. The plans should include deck framing plan, foundation plan, elevations, cross sections, connection details, etc.
3. Overall plan  
When the deck is proposed to be attached or located directly adjacent to an existing dwelling, include a floor plan of the deck and the existing dwelling and show the following information:
  - a. The use and dimensions for all rooms in the building opening onto the deck.
  - b. The location and size of all windows and doors opening onto the deck from those rooms.
  - c. The location of main exit door to the dwelling.

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- 4. Deck framing (See Figure 3)
  - a. Framing members
    - Decking and nailing (See Table F)
    - Size of joists and beams (See Table A, B and C)
    - Joist connection over beams (See Table F)
    - Joist hung from ledgers (See Figure 8, Case 1)
    - Size of posts based on the maximum heights (See Table D)
    - Post footing and connection (See Table E, Figure 6)
  - b. Lateral bracing
    - Conventional diagonal bracing member and connection to beam and post, or decorative-diagonal bracings with an equal of the net area and (See Figure 4 and 10)
    - Hold-downs at end of attached deck to existing dwelling (See Figure 11)
    - Additional diagonal bracing for detached deck parallel to exterior wall of existing dwelling (See Figure 8, Case 2)
  - c. Stair handrails
 

Handrail is required at least on one side of stairs with four or more risers. The required handrail shall be one of the following types:

    - Handrails with a circular cross section shall have an outside diameter of at least 1.25 inches and not greater than 2 inches.
    - If the handrail is not circular it shall have a perimeter dimension of at least 4 inches and not greater than 6.25 inches with a maximum cross section dimension of 2.25 inches. Edges shall have a minimum radius of 0.01 inch.
  - d. Guards
 

Guards shall be provided along the open side of a deck or stairs that are located more than 30 inches above the grade below. Guards shall be not less than 42" high, and openings in guards shall not allow passage of a sphere 4 inches in diameter. (see Figure 5, 9 and 10).

**III. Additional Regulations**

**A. Smoke and Carbon Monoxide Alarms**

When a deck is attached to a house or when the exterior wall of the dwelling is modified, smoke alarms and carbon monoxide alarms shall be installed within the dwelling as required per Section R314 and R315 of the California Residential Code (CRC).

**B. Very High Fire Hazard Severity Zone (VHFHSZ)**

When a deck is attached to an existing dwelling that is located on a lot within the VHFHSZ and if the building permit application for the existing house was deemed complete on or after 8/27/2009, or any detached deck located in a VHFHSZ ([map](#) per San Diego Municipal Code (SDMC) Section 55.9401), the material and method of construction used for the deck shall comply with CRC Section R337, as amended by.

**C. Brush Management Zone**

When a deck located within a Brush Management Zone, it shall comply with the City of San Diego’s Landscape Regulations, SDMC Section 142.0412.

**D. Zoning and Planning Regulations**

The following regulations typically apply to residential deck additions. Please consult the City of San Diego’s Land Development Code for all zoning regulations that may apply to your project.

<u>Regulations</u>	<u>SDMC Section</u>
o Residential Base Zones.....	<a href="#">131.0401</a>
o Planed Districts.....	<a href="#">151.0101</a>

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- Brush Management ..... [142.0412](#)
- Landscape ..... [142.0401](#)
- Environmentally Sensitive Lands..... [143.0101](#)
- Parking..... [142.0501](#)
- Overlay Zones ..... [132.0120](#)

**E. Historical Review**

1. Designated Historic

If the project involves any parcel containing designated historical resource, or is located within the boundaries of an adopted historic district, plans will be required and shall be submitted for Historical Review. Please refer to Information Bulletin 581, Designated Historical Resource Review for additional Historic Review information.

2. Potential Historic Resource

If the site contains buildings or structures 45 years old or older, and the scope includes any exterior work (except in-kind roof repair and replacement), plans and other information will be required and shall be submitted for Historical Review. For other potential historic review exemptions, see Municipal Code Section 143.0212.

**IV. Options for Review Process**

Plans for residential decks where requires a building permit must be submitted electronically through the online [portal](#), selecting Building Permit.

**V. Project Fees**

The following fees are required to be paid prior to review unless otherwise indicated below. For your convenience, DSD offers online payments. Payment may also be made in person by cash, check, debit card, Visa or MasterCard credit cards. Checks shall be in the exact amount, drawn on US banks, and made payable to the “City Treasurer.”

Refer to Information Bulletin 501, Fee Schedule, Construction Permits - Structures for all applicable fees.

Please note that plan check fees and other administrative fees are non-refundable. See Refund Policy noted within Refund Application Form [DS-721](#) for additional refund information.

**VI. Inspection**

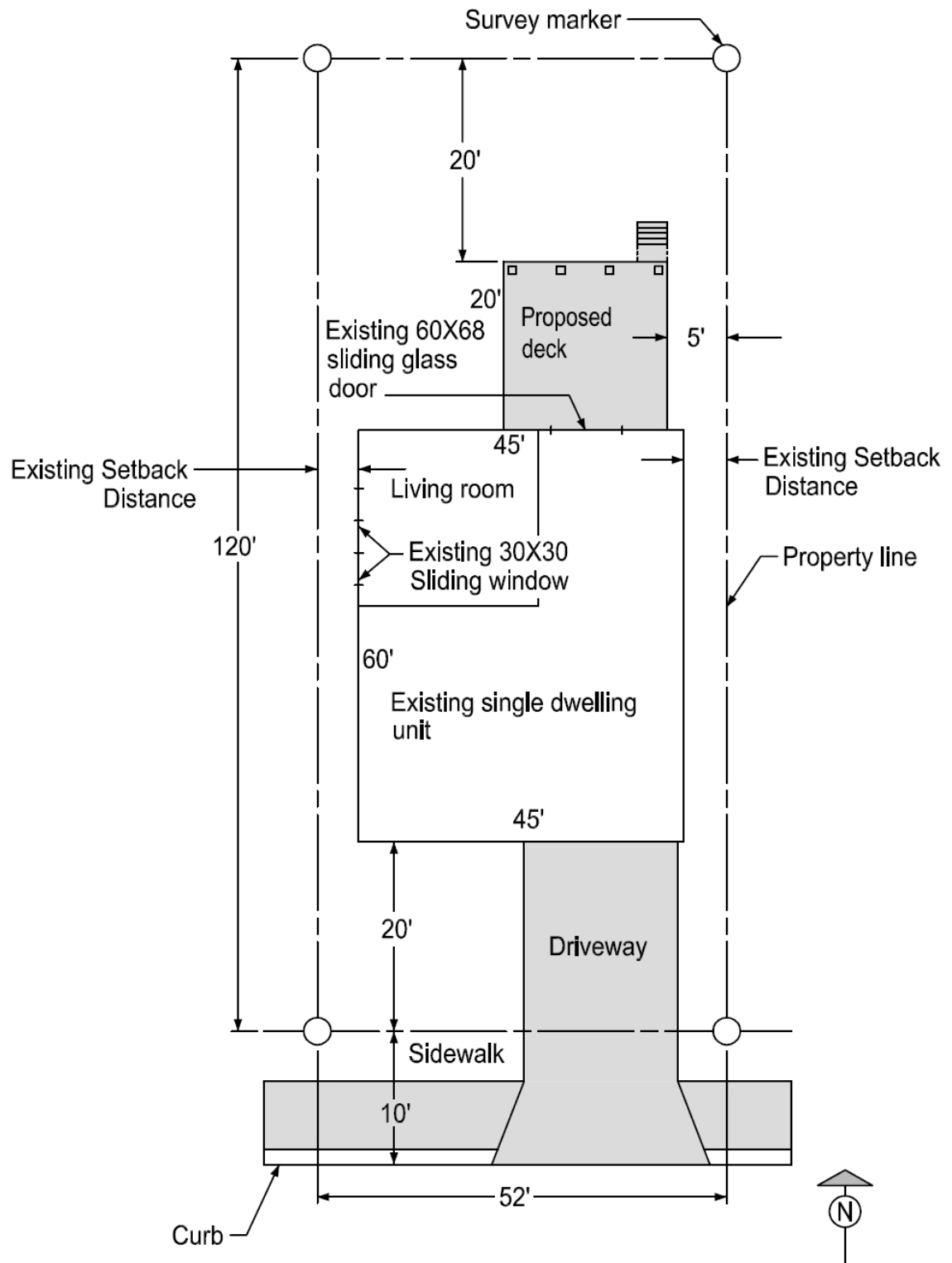
For inspection requirements, refer to Information Bulletin 120.

Reference Table
<ul style="list-style-type: none"> <li>▪ 2019 California Residential Code (CRC)</li> <li>▪ <a href="#">San Diego Municipal Code</a>, (SDMC)</li> <li>▪ <a href="#">Project Submittal Manual, Section 2A</a></li> <li>▪ <a href="#">Information Bulletin 501</a> , Fee Schedule Construction Permits - Structures</li> <li>▪ <a href="#">Information Bulletin 580</a> , Potential Historical Resource Review</li> <li>▪ <a href="#">Information Bulletin 581</a> , Designated Historical Resource Review</li> <li>▪ Water Meter Data Card, <a href="#">DS-16</a></li> <li>▪ Project Contact Information Form, <a href="#">DS-345</a></li> <li>▪ Inspection Record Card, <a href="#">DS-1798</a></li> <li>▪ Owner-Builder Verification, <a href="#">DS-3042</a></li> </ul>

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Figure 1 – Sample Deck Site Plan



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Figure 2 – Structures on or Adjacent to Slope

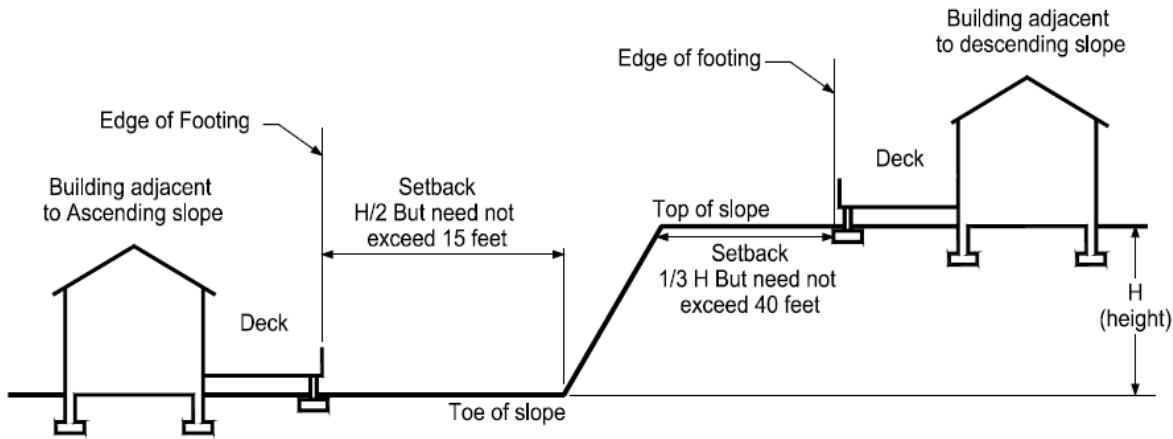
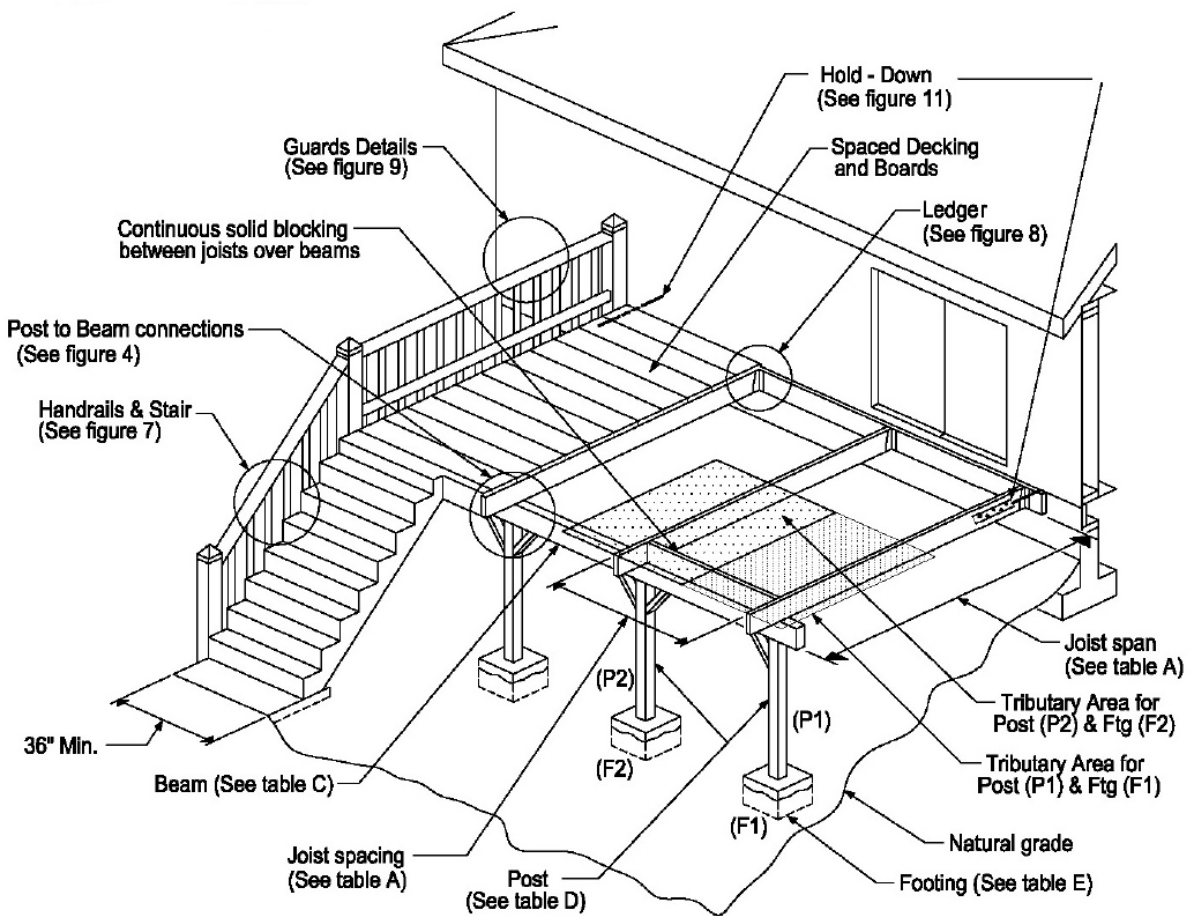


Figure 3 – Typical Deck



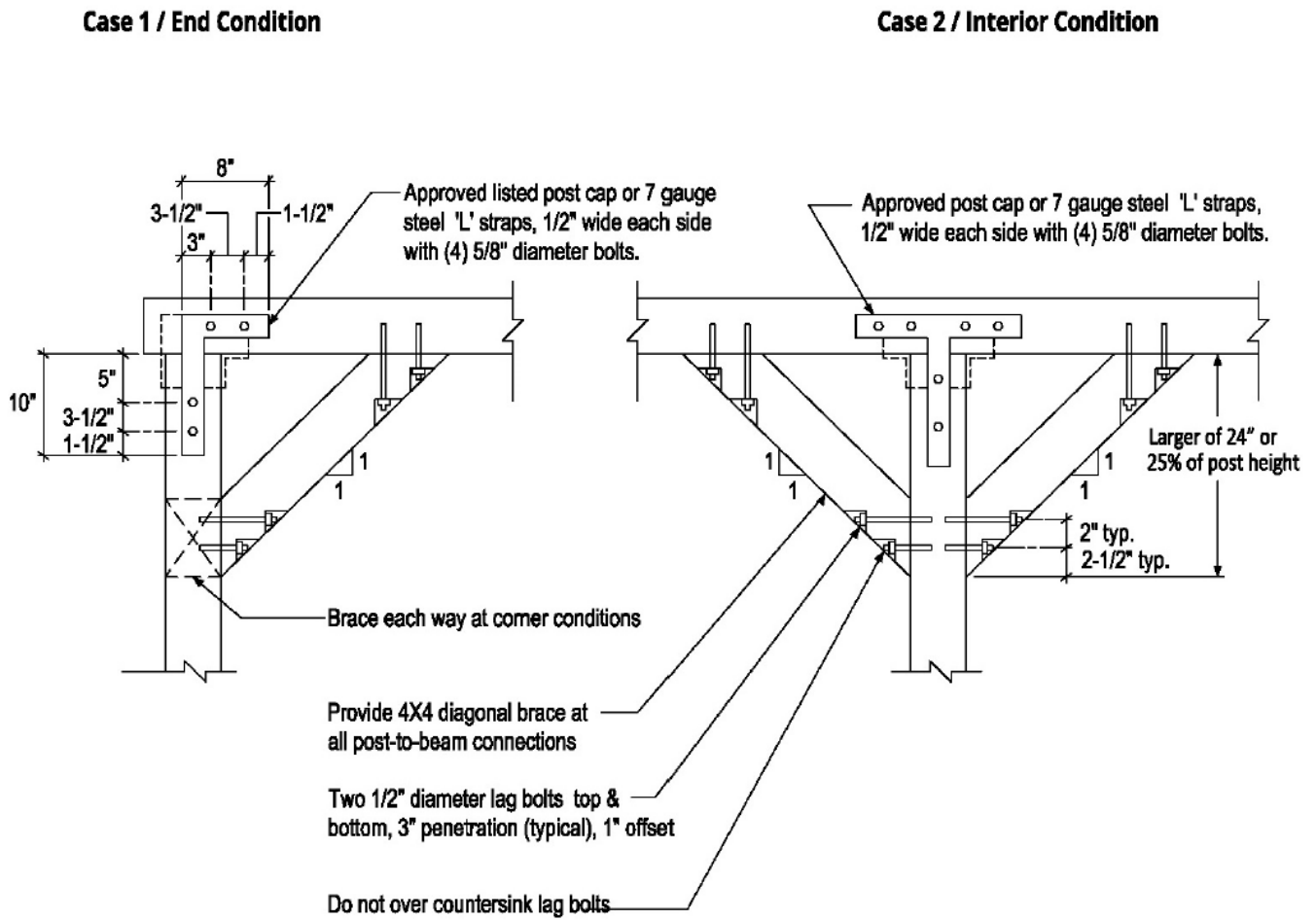
WOOD DECKS IN AREAS WITHIN VERY HIGH FIRE HAZARD SEVERITY ZONES OR CITY OF SAN DIEGO BRUSH MANAGEMENT ZONES MAY BE SUBJECT TO ADDITIONAL REQUIREMENTS

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Figure 4 – Post-to-Girder Connection

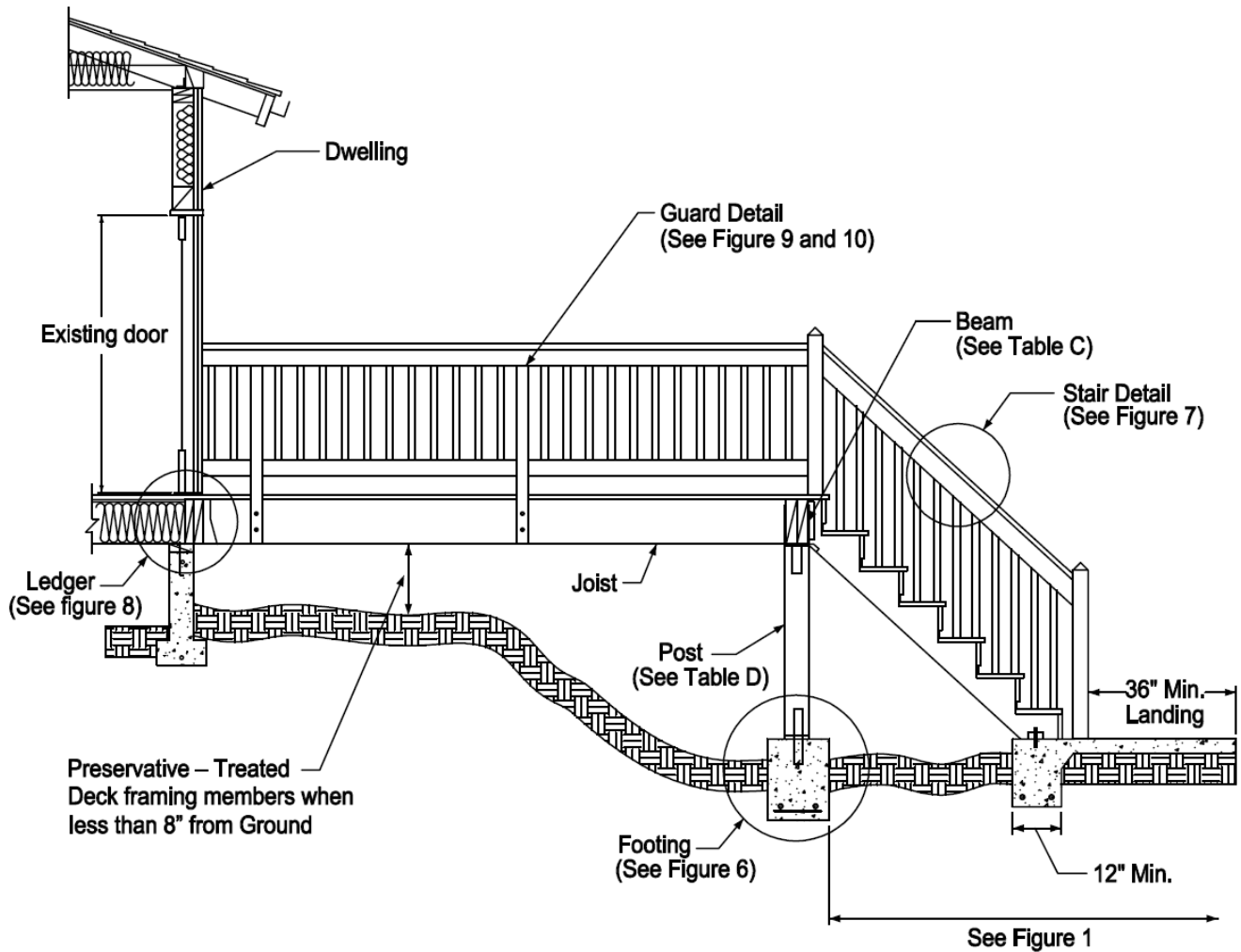


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Figure 5 – Typical Deck Elevation, Parallel to Rear of Dwelling



**WOOD DECKS IN AREAS WITHIN VERY HIGH FIRE HAZARD SEVERITY ZONES OR CITY OF SAN DIEGO BRUSH MANAGEMENT ZONES MAY BE SUBJECT TO ADDITIONAL REQUIREMENTS**

Figure 6 – Typical Footing Detail

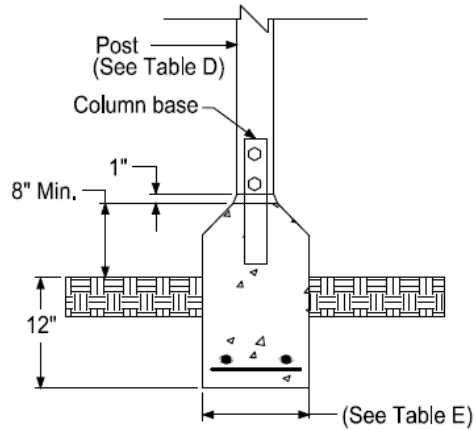
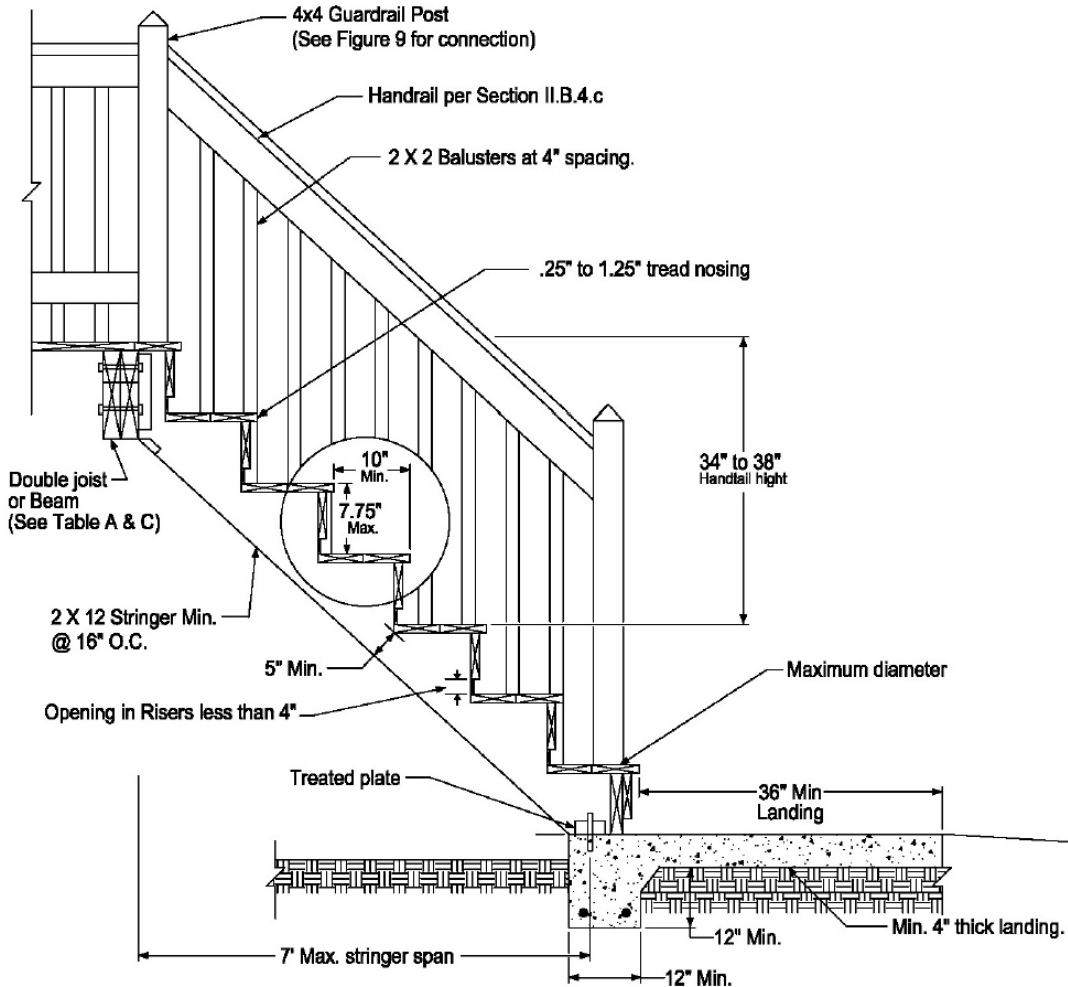


Figure 7 – Typical Stair Detail



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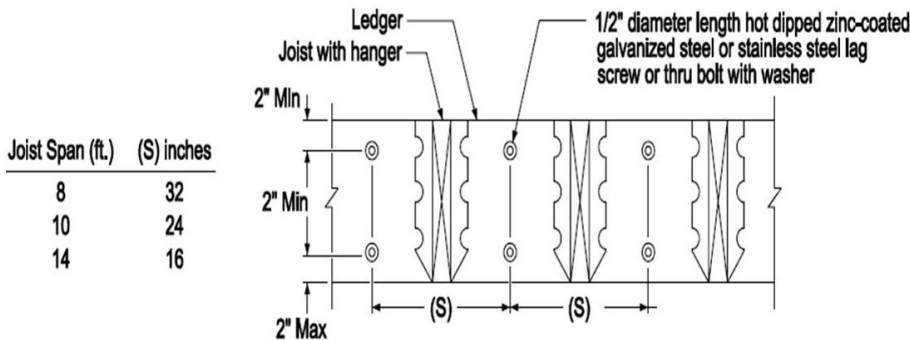
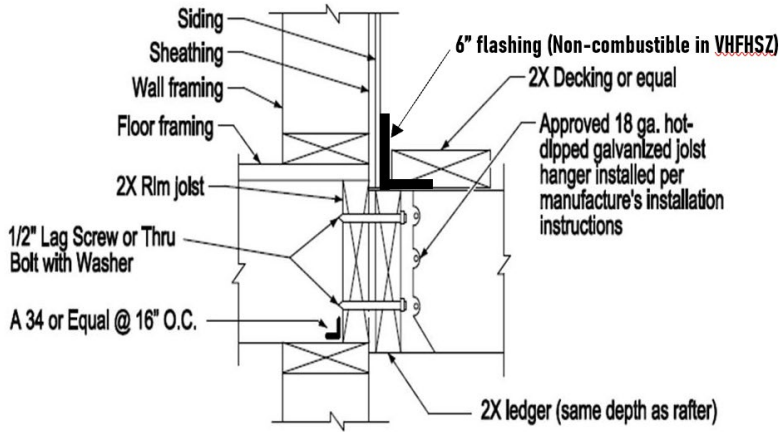
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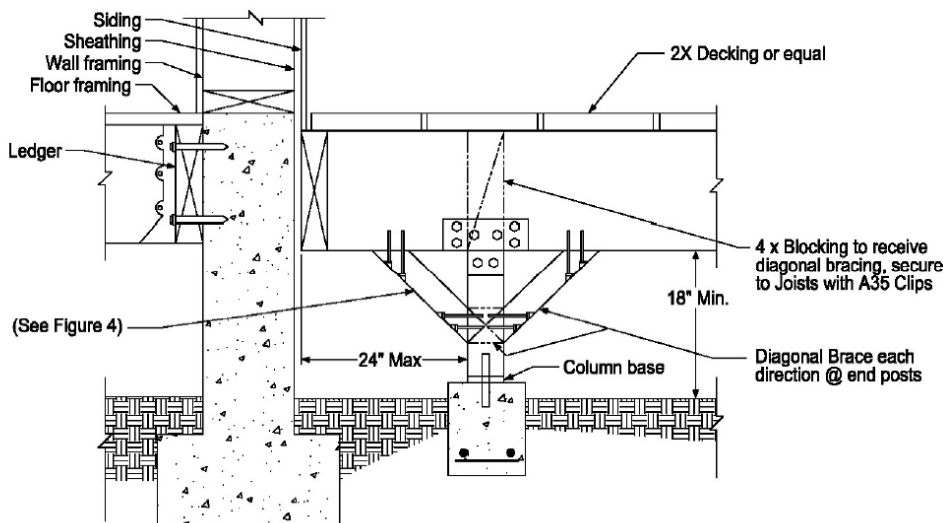
### Figure 8 – Typical Ledger Detail

#### Case 1 – Ledger to Rim Joist Connection (Attached Deck)

For additional lateral connection, see Figure 11



#### Case 2 – Rim Joist/Blocking at Stem Wall Connection (Detached Deck)



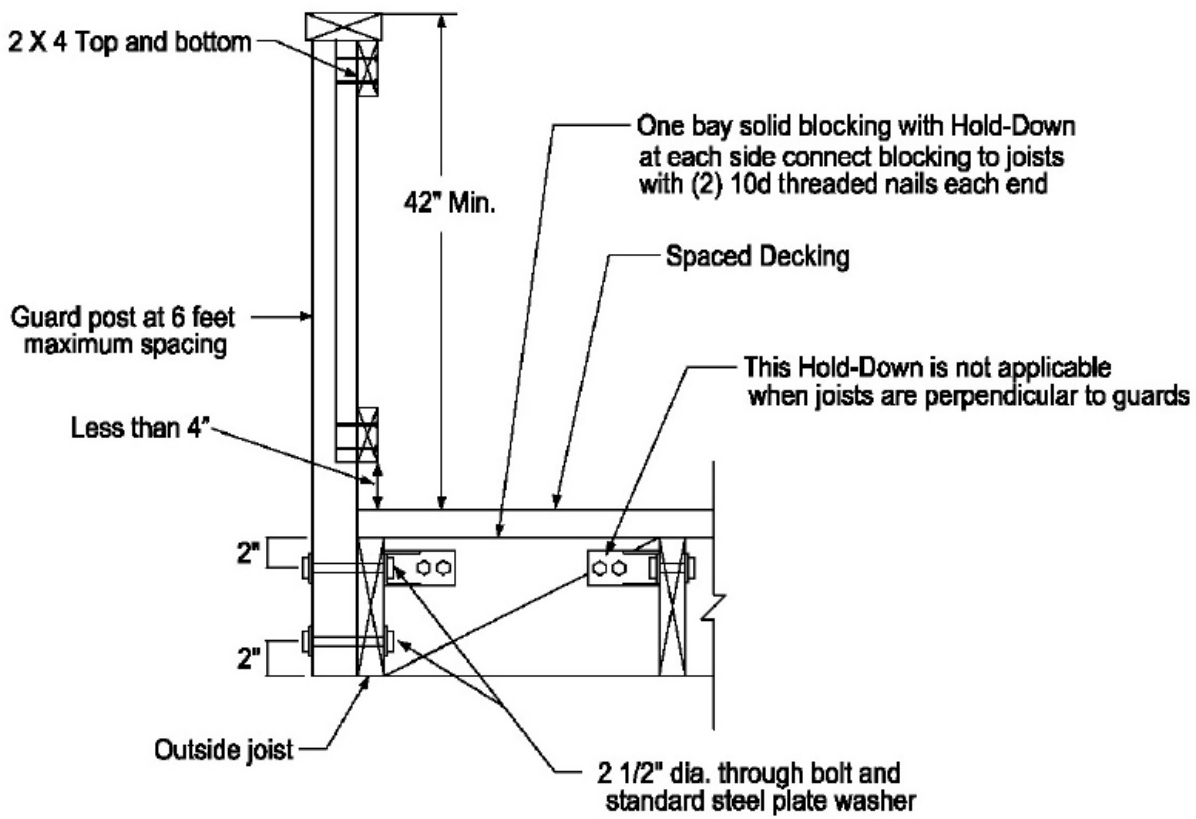
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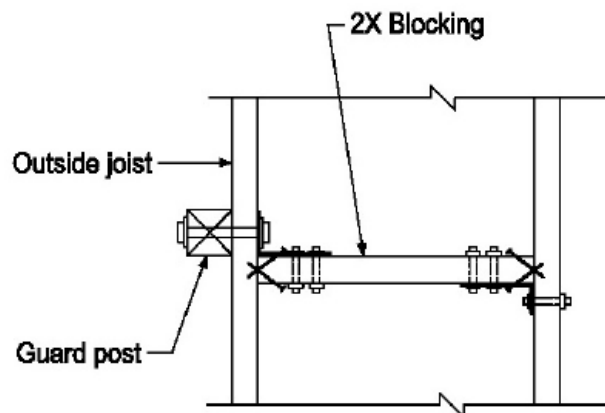
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Figure 9 – Typical Guard Detail



**SECTION**



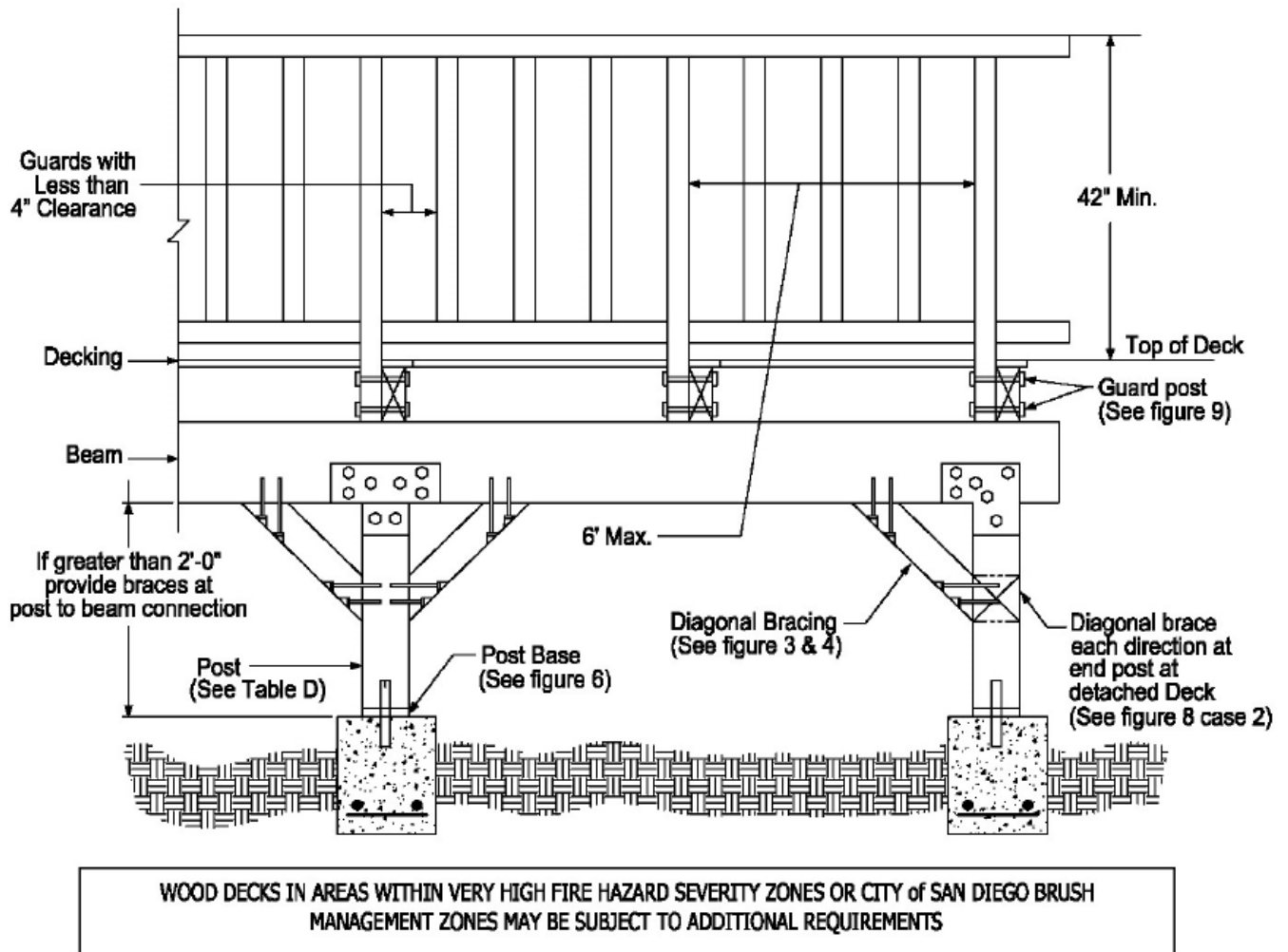
**PLAN VIEW**

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Figure 10 – Typical Deck Elevation

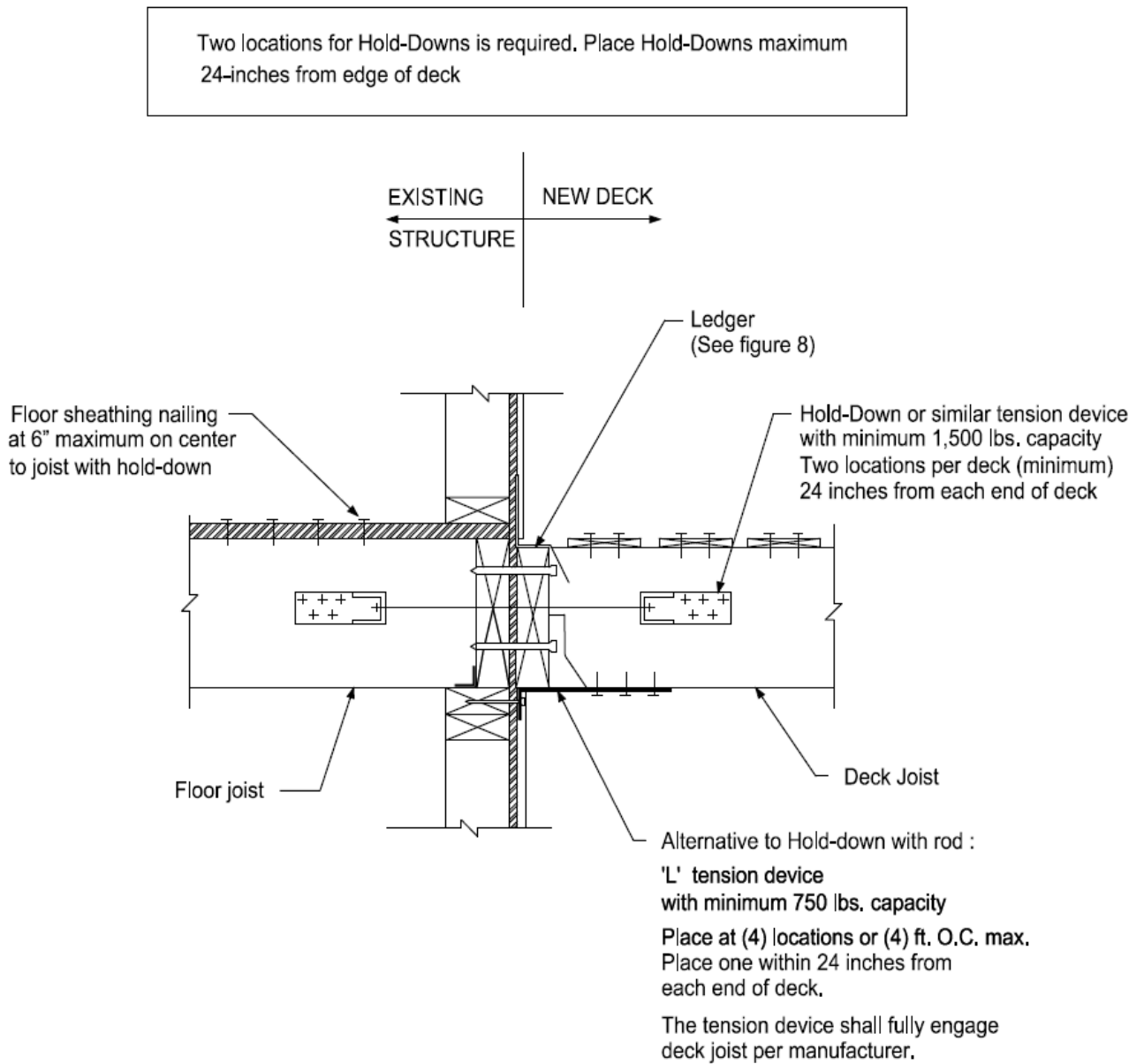


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**Figure 11 – Deck Attachment for Lateral Loads**



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**Table A - Allowable Span for Deck Joists (ft. - in.)** <sup>1, 2, 3</sup>

Species	Size	Spacing of Joists (inches)		
		12	16	24
Douglas fir – larch #2 or Redwood #1	2 x 6	6-9	6-2	5-1
	2 x 8	8-10	7-10	6-6
	2 x 10	11-2	9-7	7-10
	2 x 12	12-9	11-2	9-1

1. Live load = 60 psf, Dead load = 10 psf,  $L/\Delta = 360$ .
2. If Joists within 8" inches of grade, use Pressure - Treated Douglas Fir - Larch or foundation - Grade Redwood.
3. Include incising factor ( $C_i = 0.8$ )

**Table B – Cantilever Length for Deck Joists (ft. – in)** <sup>1,2,5</sup>

Size	Spacing (inches) <sup>3, 4</sup>		
	12	16	24
2x6	1-0	0-10	0-9
2x8	1-7	1-6	1-5
2x10	2-5	2-2	2-0
2x12	3-2	2-10	2-3

1. Live load = 60 psf, Dead load = 10 psf,  $L/\Delta = 240$
2. The maximum cantilever length shall also be limited to one-fourth of the joist span.
3. Joist spacing for diagonal decking shall not exceed 16 inches.
4. Cantilever span includes 220 lbs. point load applied to end.
5. Solid blocking shall be provided between joists over the support.

**Table C – Deck Beams**

**Beam span lengths (ft.- in.)<sup>1, 2, 3, 4, 6, 7</sup>**

Species	Size <sup>5</sup>	Joist span less than or equal to: <sup>8</sup>						
		6 ft.	8 ft.	10 ft.	12 ft.	14 ft.	16 ft.	18 ft.
Douglas Fir – Larch #2  Redwood #1	3 x 6 or 2 - 2 x 6	3-9	3-3	3-0	-	-	-	-
	3 x 8 or 2 - 2 x 8	4-9	4-3	3-9	3-5	3-2	-	-
	3 x 10 or 2 - 2 x 10	5-10	5-2	4-7	4-3	3-10	3-7	3-4
	3 x 12 or 2 - 2 x 12	6-10	5-11	5-3	4-10	4-6	4-3	4-0
	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
	3 - 2 x 6	5-3	4-9	4-3	3-10	3-7	3-4	3-2
	3 - 2 x 8	6-9	6-0	5-3	5-0	4-7	4-3	4-0
3 - 2 x 10	8-6	7-5	6-7	5-8	6-0	5-3	5-0	
3 - 2 x 12	9-10	8-6	7-8	7-0	6-5	6-0	5-8	

1. Live load = 60 psf, Dead load = 10 psf, L/Δ = 360 at main span.
2. Beams supporting deck joists from one side only. See footnote (8) below for beams supporting cantilevered joists.
3. Beam depth shall be greater than or equal to depth of joists with a flush beam condition.
4. Beams within 8" of grade shall be Pressure-Treated Douglas Fir-Larch or Foundation – Grade Redwood.
5. Beams plies shall be fastened with two rows of 10d threaded nails or #10d nails at 16" on center along the edges.
6. Beams are permitted to cantilever not more than one-fourth of the span.
7. Include incising factor (Ci = 0.8)
8. Beams supporting cantilevered joists:  
 To select a joist span from Table, use span length equal to joist span length + 125% of cantilevered length.  
 (Example: Joist with 12 ft. span & 3 ft. cantilevered length, calculated joist span = 12'+125% X (3') = 15.75' therefore, beam allowable span shall be based on 16' joist span).

**Table D – Deck Posts<sup>1,2</sup>**

<b>Post Size</b>	<b>Maximum Height <sup>3</sup></b>
4 x 4	4'-10" <sup>4</sup>
4 x 6	7'-0"
6 x 6	10'-0"
8 x 8	14'-0"

1. Deck loads: Live load = 60 psf, Dead load = 10 psf
2. Species: Douglas Fir-Larch #1, or Redwood #1
3. Measured to the underside of the beam.
4. Maximum permitted height is 5'-8" when supporting one and two-ply beams.

**Table E – Square Footing at Posts (Inches)<sup>1</sup>**

<b>Footing Dimensions</b>	<b>Tributary Area (sq. ft.)<sup>5</sup></b>							
	20	40	60	80	100	120	140	160
<b>Width (in.)</b>	12	18	21	25	28	30	33	35
<b>Depth (in.)</b>	8	8	10	10	12	12	14	16

1. Footings shall have #4 @ 12" each way at bottom.
2. Concrete strength minimum 2,500 PSI.
3. Footing sizes are based on 1,500 PSF allowable soil bearing pressure.
4. Footings shall be placed not less than 12 inches below the undisturbed ground surface.
5. Area of deck surface supported by a post and a footing.

**Table F – Nailing Schedule for Decks <sup>1,3</sup>**

<b>Connection</b>	<b>Nails or Screws (Box or Common)</b>
Joist to Girder	3-8d common nails
2 inches nominal thickness spaced decking boards approximately 1/8" apart <sup>2</sup>	2-8d threaded nails or 2 #8 screws

1. Decking within 8 inches of grade shall be Pressure-Preservative treated lumber or foundation- Grade redwood.
2. Decking placement may range from an angle perpendicular to Joists to an angle of 45 degrees to the joists. Each segment of decking must bear on minimum of 3 Joists.
3. All fasteners and connectors shall be hot-dipped galvanized or stainless steel.