New Deck Code Quiz part 1 of 2

Instructions

1. Print these pages. **Fee $50**
2. Answer the **Simple questions** that follow the mini sections of the code language.
3. Circle the correct answers and transfer the answers to the answer sheets (see last pages).
4. After answering the simple questions you will become familiar with the new code changes.
5. Page down to the last page for the verification form, answer sheets and mailing instructions.

6 hour course for: **Course # 17588**

1. Dwelling Contractor Qualifier Certification.
2. UDC Construction Inspector.

Questions call Trisha at 920-381-6714 or email tmklinka@hotmail.com

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SPS 321.225 Decks. Decks attached to dwellings and detached decks which serve an exit shall comply with the applicable provisions of this chapter, including but not limited to:
(1) Excavation requirements of s. SPS 321.14
(2) Footing requirements of s. SPS 321.15 (2) (f)
(3) Frost penetration requirements of s. SPS 321.16
(4) Load requirements of s. SPS 321.02
(5) Stair, handrail and guardrail requirements of s. SPS 321.04
(6) Decay protection requirements of s. SPS 321.10

1. Handrails for decks must comply with SPS_____.
    a. 321.02
    b. 321.04
    c. 321.10
2. Decay protection for treated lumber must comply with SPS_____.
    a. 321.02
    b. 321.04
    c. 321.10
3. Load of deck floors must comply with SPS_____.
    a. 321.02
    b. 321.04
    c. 321.10
4. Pier depth below the frost line must comply with SPS_____.
    a. 321.14
    b. 321.15(2)(f)
    c. 321.16
5. Size of footing must comply with SPS_____.
    a. 321.14
    b. 321.15(2)(f)
    c. 321.16
6. Site excavation must comply with SPS_____.
    a. 321.14
    b. 321.15(2)(f)
    c. 321.16

New amendments to the deck code

SPS 321.225 Decks. (1) Decks attached to dwellings and any detached decks which serves deck that serves an exit shall comply with the applicable provisions of this chapter subchs. II to X, including but not limited to all of the following:

SECTION 2. SPS 321.225 (2) is created to read:

SPS 321.225 (2) A deck that complies with the standards in Appendix B, and Appendix C if applicable, shall be considered as complying with sub. (1).

SECTION 3. SPS 321.24 (3) (d) 8. and (Note) are created to read:

SPS 321.24 (3) (d) 8. Along the bottom of door openings that are elevated above-grade.
Note: Flashing placed along the bottom of a door opening that is elevated above-grade can subsequently accommodate adding a deck outside the door.

7. A deck that complies with the standards in Appendix ____, and Appendix C if applicable, shall be considered as complying with sub. (1).
    a. A
    b. B
    c. C
    d. all of the above
8. A deck that complies with the standards in Appendix B, and Appendix C_____, shall be considered as complying with sub. (1).
    a. is required
    b. is mandatory
    c. if applicable
    d. none of the above
9. Flashing placed along the bottom of a door opening that is elevated _____-grade can subsequently accommodate adding a deck outside the door.
    a. at
    b. below
    c. above
    d. none of the above
10. Sections 2 and 3 above were _____ to read.
    a. amended
    b. revised
    c. created
    d. deleted

Prescriptive Deck Standards

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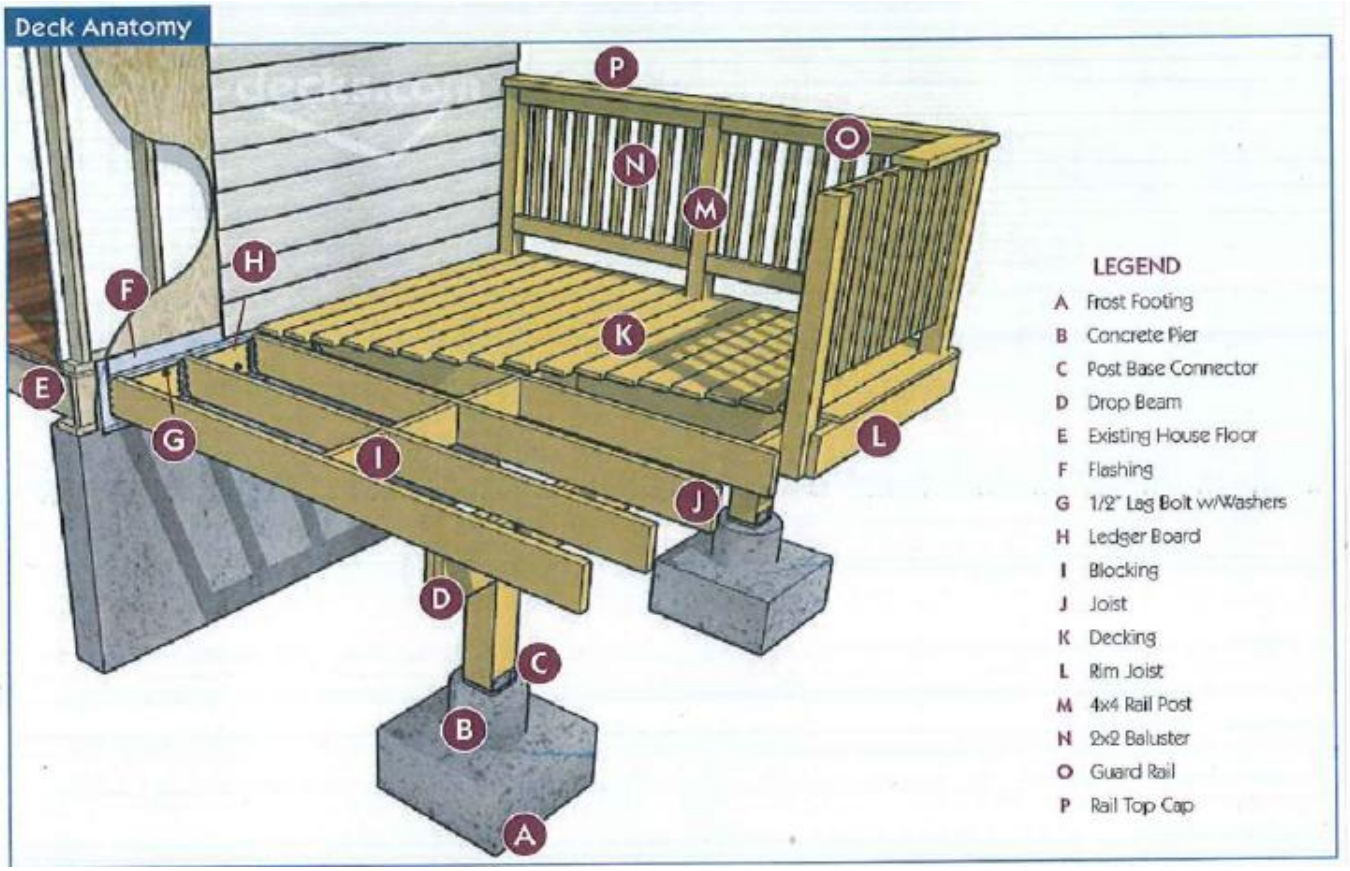

11. Referencing the deck diagram above the letter M represents _____.
    a. 4x4 rail post
    b. 2x2 baluster
    c. guard rail
    d. rail top cap
12. Referencing the deck diagram above the letter N represents _____.
    a. 4x4 rail post
    b. 2x2 baluster
    c. guard rail

d. rail top cap

13. Referencing the deck diagram above the letter O represents _____.
    a. 4x4 rail post
    b. 2x2 baluster
    c. guard rail
    d. rail top cap
14. Referencing the deck diagram above the letter P represents _____.
    a. 4x4 rail post
    b. 2x2 baluster
    c. guard rail
    d. rail top cap
15. Referencing the deck diagram above the letter I represents _____.
    a. blocking
    b. joist
    c. decking
    d. rim joist
16. Referencing the deck diagram above the letter J represents _____.
    a. blocking
    b. joist
    c. decking
    d. rim joist
17. Referencing the deck diagram above the letter K represents _____.
    a. blocking
    b. joist
    c. decking
    d. rim joist
18. Referencing the deck diagram above the letter L represents _____.
    a. blocking
    b. joist
    c. decking
    d. rim joist
19. Referencing the deck diagram above the letter E represents _____.
    a. existing house floor
    b. flashing
    c. ½" lag bolt with washer
    d. ledger board
20. Referencing the deck diagram above the letter F represents _____.
    a. existing house floor
    b. flashing
    c. ½" lag bolt with washer
    d. ledger board
21. Referencing the deck diagram above the letter G represents _____.
    a. existing house floor
    b. flashing
    c. ½" lag bolt with washer
    d. ledger board
22. Referencing the deck diagram above the letter H represents _____.
    a. existing house floor
    b. flashing
    c. ½" lag bolt with washer

d. ledger board

23. Referencing the deck diagram above the letter A represents _____.
    a. frost footing
    b. concrete pier
    c. post base connector
    d. drop beam
24. Referencing the deck diagram above the letter B represents _____.
    a. frost footing
    b. concrete pier
    c. post base connector
    d. drop beam
25. Referencing the deck diagram above the letter C represents _____.
    a. frost footing
    b. concrete pier
    c. post base connector
    d. drop beam
26. Referencing the deck diagram above the letter D represents _____.
    a. frost footing
    b. concrete pier
    c. post base connector
    d. drop beam

SECTION 1: GENERAL REQUIREMENTS

1. All lumber, including for decking, must be pressure-preservative-treated and must be either douglas fir/larch, hemlock/fir, spruce/pine/fir (SPF), or southern pine, of grade #2 or better – unless a naturally durable species such as a western red cedar is used. Lumber in contact with the ground must be rated as "ground-contact." The lumber must be identified by the grade mark of, or certificate of inspection issued by, a professional lumber-grading or inspection bureau or agency (www.alsc.org).
Note: Not all treated lumber is rated for ground contact. See Table C-1 in Appendix C for further information.
2. Wood-plastic composites must bear a label indicating their performance criteria and compliance with ASTM D7032.
Note: Wood-plastic composites are materials composed of wood fibers or powder that is bound with plastic and used typically as decking and elements of a guardrail or handrail.
Note: When using a wood-plastic composite, exercise caution as some composite members do not have the same capabilities as their equivalent wood sizes.
3. Nails must be threaded, which includes ring-shanked (annular-grooved) and spiral-grooved.
Note: A ⅛-inch pilot hole is recommended for all toe-nailing locations.
4. All fasteners must be galvanized steel, stainless steel, or approved for use with preservative-treated lumber.
5. Throughout this document, ½-inch-diameter bolts and lag screws are specified for various connections. Edge distance and spacing requirements are based on ½-inch-diameter fasteners. If larger (or smaller) fasteners are specified, edge distance and spacing need to be adjusted.
6. Carriage-bolts may be substituted where through-bolts are specified, if carriage-bolt washers are installed at the bolt head.
Note: Carriage-bolt washers have square holes.

27. Wood-plastic composites must bear a label indicating their performance criteria and compliance with_____.
    a. ASTM A123

b. ASTM D7032
c. ASTM F1667
d. ASTM B18.2.1

28. All treated lumber is rated for ground contact. See Table C-1 in Appendix C for further information.
a. true
b. false

29. All lumber, including for decking, must be pressure-preservative-treated and must be either douglas fir/larch, hemlock/fir, spruce/pine/fir (SPF), or southern pine, of grade #____ or better – unless a naturally durable species such as a western red cedar is used
a. 1
b. 2
c. 3
d. all of the above

30. Lumber in contact with the ground must be rated as "_____."
a. underground-contact
b. ground-contact
c. below-contact
d. none of the above

31. A ___-inch pilot hole is recommended for all toe-nailing locations.
a. 1/16
b. 1/8
c. 1/4
d. 3/16

32. Carriage-bolts may be substituted where through-bolts are specified, if carriage-bolt _____are installed at the bolt head.
a. lock washers
b. washers
c. spacers
d. none of the above

33. Carriage-bolt washers have _____ holes.
a. round
b. rectangular
c. square
d. all of the above

34. Throughout this document, __-inch-diameter bolts and lag screws are specified for various connections. Edge distance and spacing requirements are based on ½-inch-diameter fasteners.
a. ¼
b. 3/8
c. 7/16
d. 1/2

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7. Hardware, including joist hangers or post anchors, must be galvanized steel with 1.85 ounces of zinc per square foot (G-185 coating), or stainless steel. All fasteners that are used with any hardware must be the same material as the hardware. All hardware must be installed in accordance with any instructions from the manufacturer.

Note: For galvanized steel, look for product lines such as "Zmax," "Triple Zinc," or "Gold Coat."

Note: Galvanized steel is not compatible with stainless steel, which can result in rapid corrosion and structural failure.

Note: Hardware and fasteners that are beneath a hot tub which uses salt-water disinfection should be stainless steel, grade 304 or 316.

8. Every deck must have an electrical outlet along the perimeter of the deck and within 6.5 feet of the floor. See chapter SPS 316 of the Wisconsin Administrative Code for requirements about installing electrical wiring.
9. A deck constructed in accordance with these standards is not approved for concentrated loads that exceed 40 pounds per square foot (psf), such as from privacy screens, planters, built-in seating, hot tubs, stairs for multiple-level decks, or from snow-drift loads or sliding-snow loads. Engineering analysis is needed for these loads.
Note: Publication *DCA 6* from the American Wood Council is considered equivalent to these standards and can be used to obtain a permit in Wisconsin. Go to awc.org to learn more or to download *DCA 6.*
Note: See Appendix C for features of a deck which are somewhat uncommon or which have more complexity than is addressed in this Appendix – such as design values for joists consisting of western cedar or red pine, framing details around chimneys and bay windows, or ledger boards for metal-plate-connected wood floor trusses. Appendix C also includes reference material, such as more-detailed specifications for fasteners.
10. Specifications for fasteners and hardware**.** All nails must meet the requirements of ASTM F1667. Wood screws must meet the requirements of ANSI/ASME B18.6.1. Bolts and lag screws must meet the requirements of ANSI/ASME B18.2.1.
Fasteners to be hot-dipped galvanized must meet the requirements of ASTM A153, *Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware,* Class D for fasteners 3/8" diameter and smaller or Class C for fasteners with diameters over 3/8".
Fasteners other than nails and timber rivets may consist of mechanically deposited zinc-coated steel with coating weights in accordance with ASTM B695, Class 55, minimum.
Hardware to be hot-dipped prior to fabrication must meet ASTM A653, *Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process,* G-185 coating. Hardware to be hot-dipped galvanized after fabrication must meet ASTM A123, *Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.*
11. Safety glazing at decks shall be in accordance with the safety glazing requirements of the UDC.

35. For galvanized steel, look for product lines such as "_____."
    a. Zmax
    b. Triple Zinc
    c. Gold Coat
    d. all of the above
36. Hardware and fasteners that are beneath a hot tub which uses salt-water disinfection should be stainless steel, grade _____.
    a. 304
    b. 316
    c. 314
    d. both a & b
37. Hardware, including _____, must be galvanized steel with 1.85 ounces of zinc per square foot (G-185 coating), or stainless steel.
    a. joist hangers
    b. post anchors
    c. none of the above
    d. both a & b
38. All fasteners that are used with any hardware must be the_____ material as the hardware.
    a. similar
    b. coated
    c. same
    d. all of the above

39. All hardware must be installed in accordance with _____.
    a. inspector's recommendations
    b. inspector's guidance
    c. ASTM 2215
    d. any instructions from the manufacturer
40. Every deck must have an electrical outlet along the perimeter of the deck and within ____ feet of the floor. See chapter SPS 316 of the Wisconsin Administrative Code for requirements about installing electrical wiring.
    a. 5
    b. 5.5
    c. 6
    d. 6.5
41. A deck constructed in accordance with these standards is not approved for concentrated loads that exceed 40 pounds per square foot (psf), such as from ____. Engineering analysis is needed for these loads.
    a. privacy screens or planters
    b. built-in seating or hot tubs
    c. stairs for multiple-level decks, or from snow-drift loads or sliding-snow loads
    d. all of the above
42. See Appendix ____ for features of a deck which are somewhat uncommon or which have more complexity than is addressed in this Appendix – such as design values for joists consisting of western cedar or red pine, framing details around chimneys and bay windows, or ledger boards for metal-plate-connected wood floor trusses.
    a. A
    b. B
    c. C
    d. D
43. Specifications for fasteners and hardware**.** All nails must meet the requirements of _____.
    a. ASTM F1667
    b. ANSI/ASME B18.6.1
    c. ANSI/ASME B18.2.1
    d. all of the above
44. Wood screws must meet the requirements of _____.
    a. ASTM F1667
    b. ANSI/ASME B18.6.1
    c. ANSI/ASME B18.2.1
    d. all of the above
45. Bolts and lag screws must meet the requirements of _____.
    a. ASTM F1667
    b. ANSI/ASME B18.6.1
    c. ANSI/ASME B18.2.1
    d. all of the above
46. Fasteners to be hot-dipped galvanized must meet the requirements of ASTM A153. Class __ for fasteners 3/8" diameter and smaller.
    a. A
    b. B
    c. C
    d. D
47. Fasteners to be hot-dipped galvanized must meet the requirements of ASTM A153. Class __ for fasteners with diameters over 3/8"
    a. A

b. B
c. C
d. D

48. Fasteners other than nails and timber rivets may consist of mechanically deposited zinc-coated steel with coating weights in accordance with _____, Class 55, minimum.
a. ASTM F1667
b. ANSI/ASME B18.6.1
c. ASTM B695
d. all of the above

49. Hardware to be hot-dipped prior to fabrication must meet _____.
a. ASTM A653
b. ASTM A123
c. none of the above
d. both a & b

50. Hardware to be hot-dipped galvanized after fabrication must meet
a. ASTM A653
b. ASTM A123
c. none of the above
d. both a & b

51. Safety glazing at decks shall be in accordance with the safety glazing requirements of the _____.
a. IRC
b. IBC
c. UDC
d. none of the above

SECTION 2: FOOTINGS, AND POST CONNECTIONS

Footings must comply with all of the following:
1. Concrete must be used and must have a minimum compressive strength of 3,000 pounds per square inch.
2. Footing size and thickness must be in accordance with Table 1. (See sections 4 and 5 for determining post spacing and joist length.)
3. Post attachments must be in accordance with Figure 1 except expansion anchors are also permitted – and any instructions from the manufacturer of the anchor must be followed.
4. Post anchors must include a 1-inch-minimum base plate. Steel plates are not required.
5. Each post must bear directly over the middle one-third of a footing.
6. Footings must bear on solid ground below the frost penetration level or at least 48 inches below finished grade, whichever is deeper. Bearing onto unprepared fill material, organic soil, alluvial soil, or mud is prohibited. The bearing capacity of the soil is presumed to be at least 2000 pounds per square inch (psi), and must be verified by a building inspector prior to placement of concrete.
7. If the edge of a deck footing is closer than 5 feet to an existing house wall, the footing must bear at the same elevation as the existing footing for that wall.
8. Construction of footings over utility lines or any service pipe is prohibited.
Note: Call the utility provider before digging.

52. If the edge of a deck footing is closer than ___ feet to an existing house wall, the footing must bear at the same elevation as the existing footing for that wall.
a. 1
b. 2
c. 4
d. 5

53. Construction of footings over utility lines or any service pipe is _____.
    a. allow with proper separation
    b. allowed
    c. prohibited
    d. all of the above
54. Footings must bear on solid ground _____ the frost penetration level.
    a. at
    b. even
    c. above
    d. below
55. Footings must bear on at least ____ inches below finished grade.
    a. 36
    b. 42
    c. 48
    d. 54
56. Bearing onto unprepared fill material, organic soil, alluvial soil, or mud is _____.
    a. allow with proper separation
    b. allowed
    c. prohibited
    d. all of the above
57. The bearing capacity of the soil is presumed to be at least _____ pounds per square inch (psi), and must be verified by a building inspector prior to placement of concrete.
    a. 1000
    b. 1500
    c. 2000
    d. 3000
58. Each post must bear directly over the middle _____ of a footing.
    a. one-quarter
    b. one-fifth
    c. one-half
    d. none of the above
59. Post anchors must include a ___-inch-minimum base plate.
    a. 1
    b. 1.5
    c. 2
    d. 3
60. Post anchors must be steel plates.
    a. true
    b. false
61. Post attachments must be in accordance with Figure 1 except expansion anchors are also_____.
    a. prohibited
    b. permitted
    c. allowed by variance
    d. none of the above
62. Post attachments instructions from the manufacturer of the anchor _____ be followed.
    a. could
    b. should
    c. must
    d. all of the above
63. Footing size and thickness must be in accordance with Table ____.

a. 1
b. 2
c. 3
d. all of the above

64. See sections ____ for determining post spacing and joist length.
a. 4
b. 5
c. none of the above
d. both a & b

65. Concrete must be used and must have a minimum compressive strength of _____ pounds per square inch.
a. 1000
b. 2000
c. 3000
d. both a & b

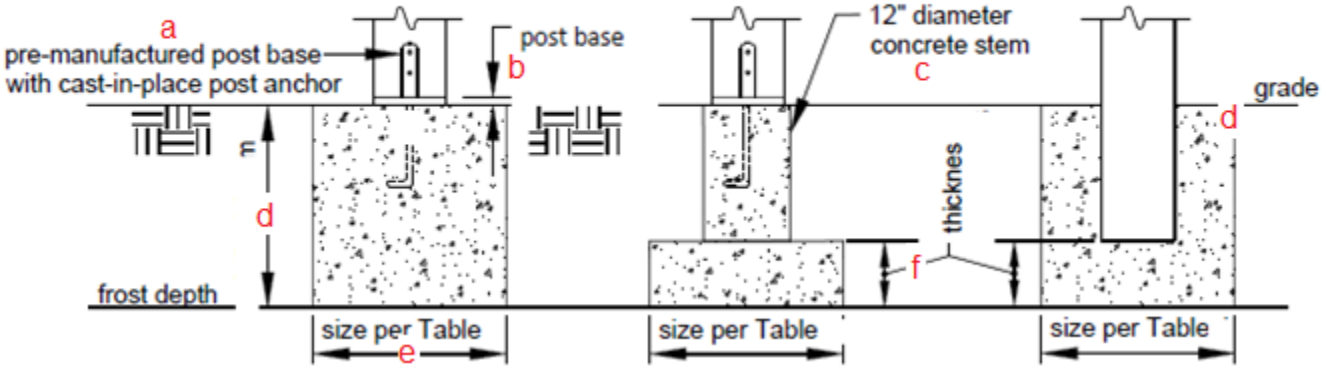
Table 1
FOOTING SIZE (In Inches)[1,2,3]

Joist Length		Post Spacing (Measured Center to Center)										
		4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'
6'	Corner Footing	8	9	10	11	11	12	12	13	14	14	15
	Intermediate Footing	10	11	12	13	14	15	15	16	17	17	18
	Footing Thickness	6	6	6	6	6	6	6	6	6	6	8
7'	Corner Footing	9	10	11	11	12	13	13	14	15	15	16
	Intermediate Footing	11	12	13	14	15	16	17	17	18	19	19
	Footing Thickness	6	6	6	6	6	6	6	6	8	8	8
8'	Corner Footing	10	10	11	12	13	14	14	15	15	16	17
	Intermediate Footing	12	13	14	15	16	17	18	19	19	20	21
	Footing Thickness	6	6	6	6	6	6	8	8	8	8	8
9'	Corner Footing	10	11	12	13	14	14	15	16	16	17	18
	Intermediate Footing	12	14	15	16	17	18	19	20	20	21	22
	Footing Thickness	6	6	6	6	6	8	8	8	8	8	8
10'	Corner Footing	10	12	12	13	14	15	16	16	17	18	18
	Intermediate Footing	13	14	15	17	18	19	20	21	21	22	23
	Footing Thickness	6	6	6	6	8	8	8	8	8	8	10
11'	Corner Footing	11	12	13	14	15	16	16	17	18	19	19
	Intermediate Footing	13	15	16	17	19	20	21	22	22	23	24
	Footing Thickness	6	6	6	6	8	8	8	8	8	10	10
12'	Corner Footing	11	12	14	15	15	16	17	18	19	19	20
	Intermediate Footing	14	15	17	18	19	20	21	22	23	24	25
	Footing Thickness	6	6	6	8	8	8	8	8	10	10	10
13'	Corner Footing	12	13	14	15	16	17	18	19	19	20	21
	Intermediate Footing	14	16	17	19	20	21	22	23	24	25	26
	Footing Thickness	6	6	6	8	8	8	8	10	10	10	10
14'	Corner Footing	12	13	15	16	17	18	18	19	20	21	22
	Intermediate Footing	15	17	18	19	21	22	23	24	25	26	27
	Footing Thickness	6	6	8	8	8	8	10	10	10	10	10
15'	Corner Footing	12	14	15	16	17	18	19	20	21	22	22
	Intermediate Footing	15	17	19	20	21	23	24	25	26	27	28
	Footing Thickness	6	6	8	8	8	10	10	10	10	10	12
16'	Corner Footing	13	14	15	17	18	19	20	20	21	22	23
	Intermediate Footing	16	18	19	21	22	23	25	26	27	28	29
	Footing Thickness	6	8	8	8	8	10	10	10	10	12	12

1. All footing sizes are base diameters[2].
2. For square footings, insert the diameter (d) into the following formula: $\sqrt{((d/2)^2 \times \pi)}$. This number will give you the square dimension and must be rounded up to the nearest inch.
3. Joist length is the joist span plus any overhang beyond a beam. See section 5.4.

66. Post spacing is measured _____.
    a. end to center
    b. inside to inside
    c. center to center
    d. edge to edge
67. Using the table 1 above, a 12’ joist with a corner footing and post spacing of 8’ would require an ____ inch diameter footing or larger.
    a. 19
    b. 15
    c. 16
    d. 17
68. Using the table 1 above, a 12’ joist with a corner footing and post spacing of 10’ would require a ____ inch diameter footing or larger.
    a. 19
    b. 15
    c. 16
    d. 17
69. Using the table 1 above, a 12’ joist with an intermediate footing and post spacing of 8’ would require a ____ inch diameter footing or larger.
    a. 19
    b. 15
    c. 16
    d. 17
70. Using the table 1 above, a 12’ joist with a corner footing and post spacing of 10’ would require a ____ inch footing thickness or larger.
    a. 6
    b. 8
    c. 10
    d. 12
71. Using the table 1 above, a 12’ joist with an intermediate footing and post spacing of 8’ would require an ____ inch footing thickness or larger.
    a. 6
    b. 8
    c. 10
    d. 12
72. All footing sizes are based on _____.
    a. diameters^2
    b. diameters^2 x π
    c. square shapes
    d. rectangular shapes
73. For _____ footings, insert the diameter (d) into the following formula: $\sqrt{((d/2)^2 \times \pi)}$. This number will give you the square dimension and must be rounded up to the nearest inch.
    a. square
    b. rectangle
    c. round
    d. all of the above
74. Joist length is the joist span ____ overhang beyond a beam.
    a. plus half the
    b. plus 1/3 the
    c. plus any
    d. none of the above

Figure 1
FOOTINGS



75. Concrete stem is represented by letter ___?
    a. a
    b. b
    c. c
76. Post base thin plate just above the footing is represented by letter ___.
    a. a
    b. b
    c. c
77. Post anchor is represented by letter ___.
    a. a
    b. b
    c. c
78. Frost depth is represented by letter ___.
    a. d
    b. e
    c. f
79. Footing size per table is represented by letter ___.
    a. d
    b. e
    c. f
80. Footing thickness is represented by letter ___.
    a. d
    b. e
    c. f

SECTION 3: POSTS AND POST-TO-BEAM CONNECTIONS

Posts must comply with all of the following:

1. The post height, measured from the top of the footing to the underside of the beam, must be in accordance with Table 2.

Table 2
MAXIMUM POST HEIGHT

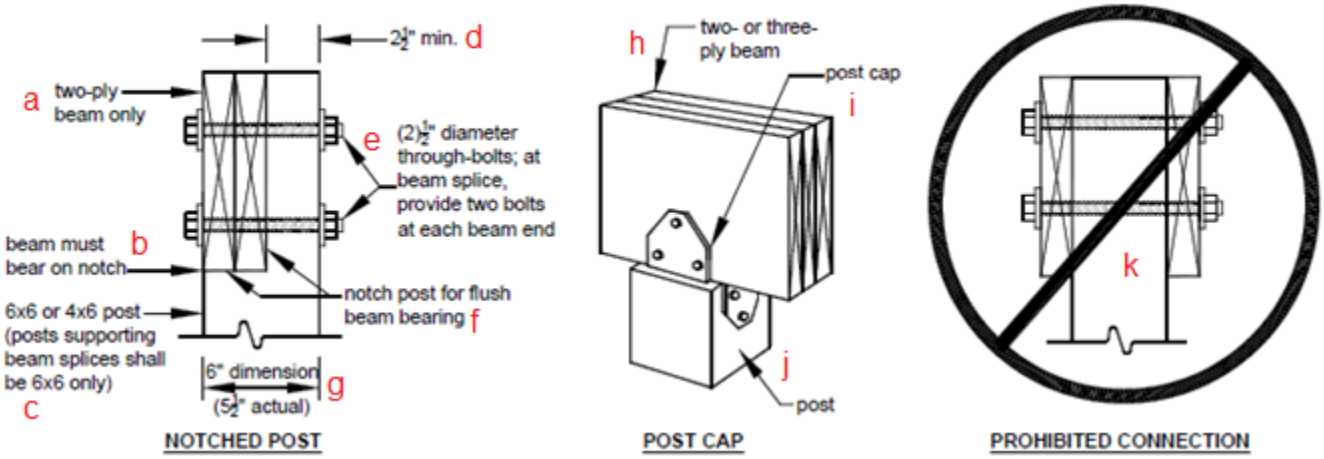
Post Size	Maximum Height
4x4	6'
4x6	8'
6x6	14'

2. Any post supporting a beam splice must be 6 x 6 only.
3. Beams must be attached to posts by the appropriate methods shown in Figure 2 below. Toe-nailing of beams to posts is prohibited.
4. Post caps, as shown in Figure 2, must be specifically designed for 2- or 3-ply beams and the post size used. Attachment must be in accordance with the manufacturer's instructions.
5. It is recommended that cut-ends of posts should be field-treated with a wood preservative. These preservatives can be found in the paint department of most hardware or home-center stores.

81. The post height, measured from the _____.
    a. top of the footing to the top of the beam
    b. top of the footing to the beam center
    c. top of the footing to the underside of the beam
    d. none of the above
82. Any post supporting a beam splice must be _____ only.
    a. 4 x 4
    b. 4 x 6
    c. 6 x 6
    d. all of the above
83. Beams must be attached to posts by the appropriate methods shown in Figure ____.
    a. 1
    b. 2
    c. 3
    d. 4
84. Only just toe-nailing of beams to posts is prohibited.
    a. true
    b. false
85. Post caps, as shown in Figure 2, must be specifically designed for ___-ply beams and the post size used.
    a. 1
    b. 2
    c. 3
    d. both b & c
86. It is _____ that cut-ends of posts should be field-treated with a wood preservative.
    a. required
    b recommended
    c. mandated
    d. all of the above
87. Maximum post height for a 4 x 6 would be ____.
    a. 6'

b. 8’
c. 14’
d. all of the above

Figure 2
POST-TO-BEAM CONNECTIONS



88. 2 ½” top of post is represented by letter ___.
    a. a
    b. b
    c. c
    d. d
89. 6 x 6 for 4 x 6 is represented by letter ___.
    a. a
    b. b
    c. c
    d. d
90. Beam must bear on notch is represented by letter ___.
    a. a
    b. b
    c. c
    d. d
91. Two ply beam only is represented by letter ___.
    a. a
    b. b
    c. c
    d. d
92. Two ½” diameter bolts is represented by letter ___.
    a. e
    b. f
    c. g
    d. h
93. At beam splice provide two bolts at each beam end is represented by letter ___.
    a. e
    b. f
    c. g
    d. h
94. Post notching is represented by letter ___.
    a. e

b. f
c. g
d. h

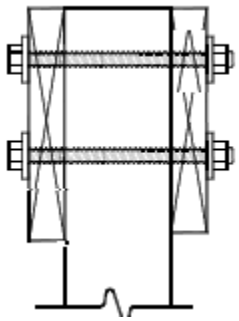
95. Post width is represented by letter ___.
a. e
b. f
c. g
d. h

96. 2 or 3 ply beam is represented by letter ___.
a. e
b. f
c. g
d. h

97. Post cap is represented by letter ___.
a. i
b. j
c. k

98. The post is represented by letter ___.
a. i
b. j
c. k

99. Prohibited connection is represented by letter ___.
a. i
b. j
c. k



100. According to **Figure 2** (above) Post-To-Beam Connections above, this image directly above here would be a code compliant Post-To-Beam connection.
a. true
b. false

SECTION 4: BEAMS

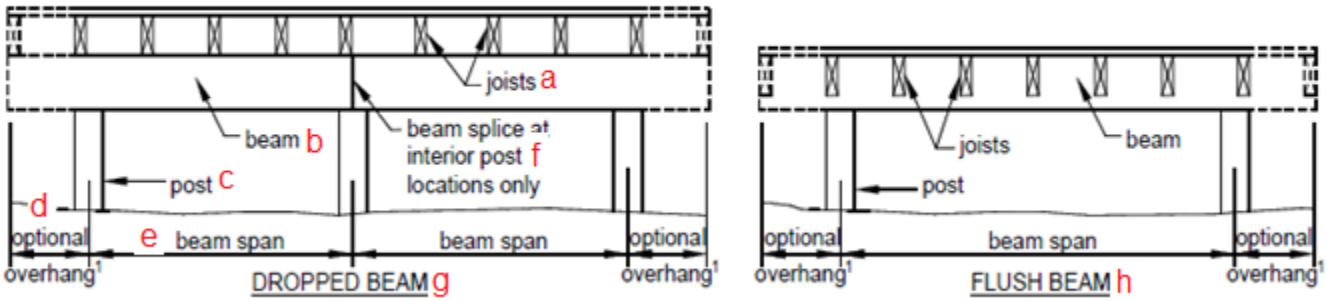
Beams must comply with all of the following:

1. As shown in Figure 3, the beam-span length is measured between the centerlines of two adjacent posts and does not include the overhangs.
2. Beam size is determined using Table 3A or 3B. The depth of flush beams must be greater than or equal to the joist depth.
3. Beams may overhang past the center of the post up to one-fourth of the actual beam span, as shown in Figure 3.
4. Where multiple 2x members are used to assemble a beam, the plies of the beam must be fastened in accordance with Figure 4.

5. Pressure-preservative-treated glulam beams are permissible for spans longer than those shown in Table 3. However, a design and plan submission is required during the permit application process.

101. Where multiple 2x members are used to assemble a beam, the plies of the beam must be fastened in accordance with Figure ___.
    a. 1
    b. 2
    c. 3
    d. 4
102. Pressure-preservative-treated glulam beams are permissible for spans longer than those shown in Table ___.
    a. 1
    b. 2
    c. 3
    d. 4
103. Beams may overhang past the center of the post up to _____of the actual beam span
    a. 1/3
    b. 1/4
    c. 1/2
    d. 1/5
104. Beam size is determined using Table ____.
    a. 3A
    b. 3B
    c. 3C
    d. both a & b
105. The depth of flush beams must be _____ the joist depth.
    a. less than or equal
    b. greater than
    c. equal to
    d. both b & c
106. As shown in Figure 3, the beam-span _____ include the overhangs.
    a. does not
    b. does
    c. sometimes
    d. none of the above
107. As shown in Figure 3, the beam-span length is measured _____.
    a. between the inside edge of two adjacent posts
    b. between the outside edge of two adjacent posts
    c. between the centerlines of two adjacent posts
    d. none of the above

Figure 3
BEAM TYPES



[1]The maximum length of the overhang is equal to one-fourth of the actual beam span length (0.25 x beam span).

108. The beam is represented by letter ___.
    a. a
    b. b
    c. c
    d. d
109. The post is represented by letter ___.
    a. a
    b. b
    c. c
    d. d
110. The optional overhang is represented by letter ___.
    a. a
    b. b
    c. c
    d. d
111. The joist is represented by letter ___.
    a. a
    b. b
    c. c
    d. d
112. The beam spam is represented by letter ___.
    a. e
    b. f
    c. g
    d. h
113. the beam splice at interior post is represented by letter ___.
    a. e
    b. f
    c. g
    d. h
114. The drop beam is represented by letter ___.
    a. e
    b. f
    c. g
    d. h
115. The flush beam is represented by letter ___.
    a. e

b. f
c. g
d. h

Table 3A
MAXIMUM BEAM-SPAN LENGTH[1] FOR DOUGLAS FIR/LARCH[3], HEM/FIR[3], SPRUCE/PINE/FIR (SPF)[3], WESTERN CEDAR, PONDEROSA PINE[4], AND RED PINE[4]

Joist Span	(Number of Plies) Beam Size[2] – Inches											
	3x6 (2)2x6	3x8 (2)2x8	3x10 (2)2x10	3x12 (2)2x12	4x6	4x8	4x10	4x12	(3)2x6	(2)2x8	(2)2x10	(2)2x12
≤ 6'	5'-5"	6'-10"	8'-4"	9'-8"	6'-5"	8'-5"	9'-11"	11'-5"	7'-4"	9'-8"	12'-0"	13'-11"
≤ 8'	4'-8"	5'-11"	7'-3"	8'-5"	5'-6"	7'-3"	8'-7"	9'-11"	6'-8"	8'-6"	10'-5"	12'-1"
≤ 10'	4'-2"	5'-4"	6'-6"	7'-6"	4'-11"	6'-6"	7'-8"	8'-10"	6'-0"	7'-7"	9'-4"	10'-9"
≤ 12'	3'-10"	4'-10"	5'-11"	6'-10"	4'-6"	5'-11"	7'-0"	8'-1"	5'-6"	6'-11"	8'-6"	9'-10"
≤ 14'	3'-6"	4'-6"	5'-6"	6'-4"	4'-2"	5'-6"	6'-6"	7'-6"	5'-1"	6'-5"	7'-10"	9'-1"
≤ 16'	3'-1"	4'-1"	5'-1"	5'-11"	3'-11"	5'-2"	6'-1"	7'-0"	4'-9"	6'-0"	7'-4"	8'-6"
≤ 18'	2'-9"	3'-8"	4'-8"	5'-7"	3'-8"	4'-10"	5'-8"	6'-7"	4'-6"	5'-8"	6'-11"	8'-1"

1. Spans are based on 40 psf live load, 10 psf dead load, normal loading duration, wet service conditions, and deflections of Δ=L/360 for main span and L/180 for overhang with a 220 lb. point load.
2. Beam depth must be equal to or greater than joist depth if joist hangers are used (see Figure 8, Option 3).
3. Incising is assumed.
4. Design values based on northern species with no incising assumed.

116. Footnote 4. Design values based on northern species with no incising assumed is for _____
    a. Red Pine
    b. Ponderosa Pine
    c. Western Cedar
    d. both a & b
117. Footnote 3 Incising is assumed of for _____.
    a. SPF
    b. Hem/Fir
    c. Douglas Fir/Larch
    d. all of the above
118. Beam depth must be equal to or greater than joist depth if _____.
    a. end nailed
    b. toe nailed
    c. joist hangers are used
    d. all of the above
119. Spans are based on ____ psf live load normal loading duration.
    a. 10
    b. 20
    c. 30
    d. 40
120. Spans are based on ___ psf dead load normal loading duration.
    a. 10
    b. 20
    c. 30
    d. 40

121. Spans are based on ____ service conditions
    a. damp
    b. dry
    c. wet
    d. none of the above

122 Spans are based on deflections of Δ=L/_____ for main span.
    a. 180
    b. 220
    c. 360
    d. 480

123. Spans are based on L/___ for overhang
    a. 180
    b. 220
    c. 360
    d. 480

124. Spans are based on with a ___ lb. point load.
    a. 180
    b. 220
    c. 360
    d. 480

Table 3B
MAXIMUM BEAM-SPAN LENGTH FOR SOUTHERN PINE[1]

Joist Span	(Number of Plies) Beam Size[2] – Inches							
	(2) 2x6	(2) 2x8	(2) 2x10	(2) 2x12	(3) 2x6	(3) 2x8	(3) 2x10	(3) 2x12
≤ 6'	6'-11"	8'-9"	10'-4"	12'-2"	8'-2"	10'-10"	13'-0"	15'-3"
≤ 8'	5'-11"	7'-7"	9'-0"	10'-7"	7'-5"	9'-6"	11'-3"	13'-3"
≤ 10'	5'-4"	6'-9"	8'-0"	9'-5"	6'-8"	8'-6"	10'-0"	11'-10"
≤ 12'	4'-10"	6'-2"	7'-4"	8'-7"	6'-1"	7'-9"	9'-2"	10'-9"
≤ 14'	4'-6"	5'-9"	6'-9"	8'-0"	5'-8"	7'-2"	8'-6"	10'-0"
≤ 16'	4'-3"	5'-4"	6'-4"	7'-6"	5'-3"	6'-8"	7'-11"	9'-4"
≤ 18'	4'-0"	5'-0"	6'-0"	7'-0"	5'-0"	6'-4"	7'-6"	8'-10"

1. Spans are based on 40 psf live load, 10 psf dead load, normal loading duration, wet service conditions, and deflections of Δ=L/360 for main span and L/180 for overhang with a 220 lb. point load.
2. Beam depth must be equal to or greater than joist depth if joist hangers are used (see Figure 8, Option 3).

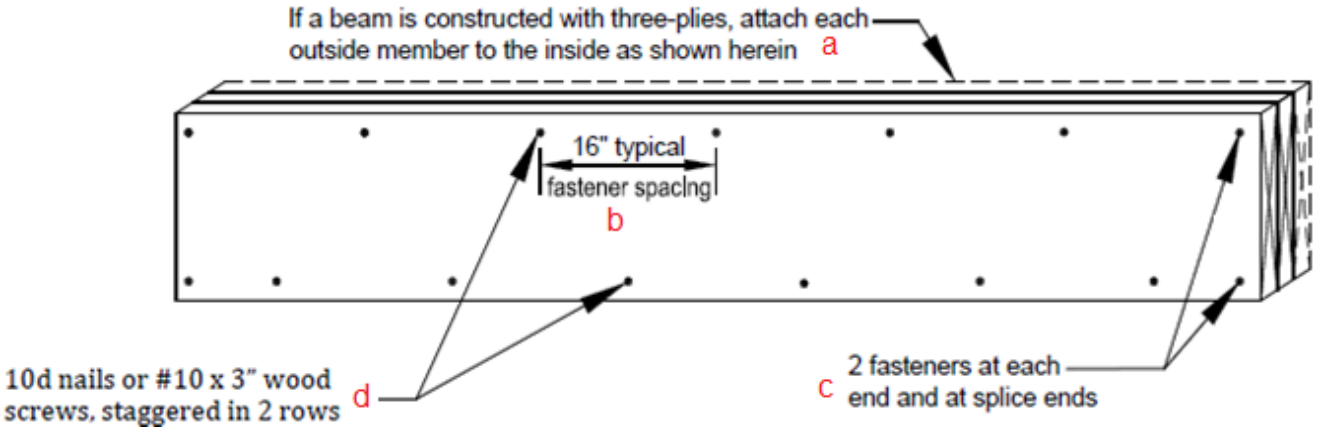
125. The above table is for _____.
    a. a. Red Pine
    b. Ponderosa Pine
    c. Western Cedar
    d. Southern Pine

126. Using the above table, 3 plies, 2 x 10 beam, < 12', the maximum beam spam length would be ___.
    a. 10'
    b. 9'-2"
    c. 7"-9"
    d. 7"-2"

127. Using the above table, 3 plies, 2 x 8 beam, < 12', the maximum beam spam length would be ___.
    a. 10'

b. 9’-2”
c. 7”-9”
d. 7”-2”

Figure 4
BEAM ASSEMBLY



128. 2 fasteners at each end are represented by letter ___.
a. a
b. b
c. c
d. d

129. 2 fasteners at splice ends are represented by letter ___.
a. a
b. b
c. c
d. d

130. 10 d nails staggered in 2 rows is represented by letter ___.
a. a
b. b
c. c
d. d

131. #10 x 3” wood screws staggered in 2 rows is represented by letter ___.
a. a
b. b
c. c
d. d

132. If beam is constructed with 3 plies, attach each outside member to the inside member is represented by letter ___.
a. a
b. b
c. c
d. d

133. 16” typical fastener spacing is represented by letter ___.
a. a
b. b
c. c
d. d

SECTION 5: JOISTS

Joists must comply with all of the following:
1. The joist-span length is measured between the centerline of bearing at each joist-span end and does not include the overhangs. Use Table 4 to determine the joist size based on span length and joist spacing. See section 12.4 for limits on joist spacing if the decking consists of a wood-plastic composite.
2. See Figures 5 through 7 for joist-span types.
3. Joists must bear at least 3 inches nominal onto beams, unless joist hangers are used in accordance with section 7.
4. Joists may overhang past the center of the beam up to one-fourth of the actual joist span.
5. Provide full-depth 2x blocking or bridging for 2x10 or deeper joists at intervals not exceeding 8 feet – except the blocking can be reduced to 60% of the height if placed above a beam, for drainage purposes. Attach the blocking or bridging with (3)10d toe-nails at each end.
6. Attach a continuous rim joist as shown in Figures 5 and 7 unless blocking or bridging is provided for each joist at the beam where a joist overhang begins. Attach the rim joist to the end of each joist with (3)10d nails or (3)#10 by 3-inch wood screws.

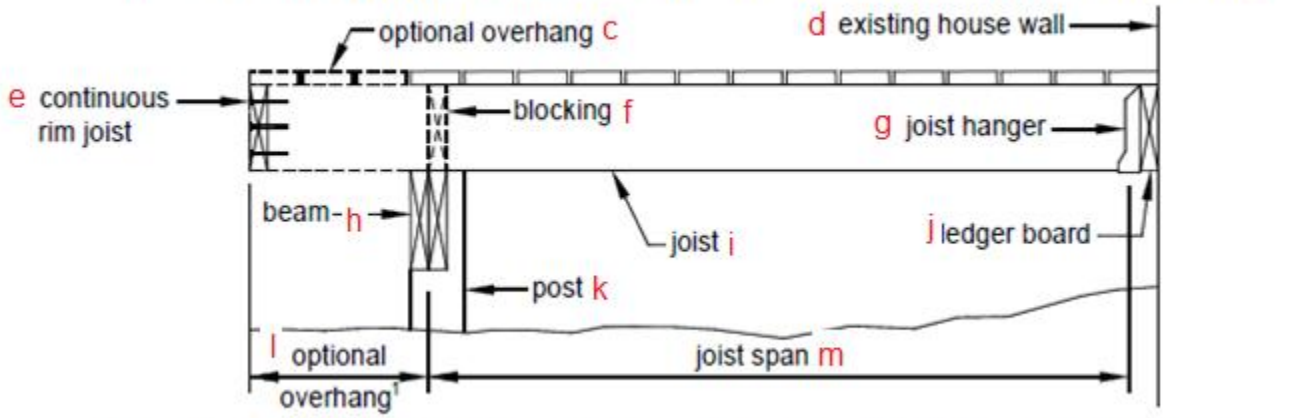
134. Provide full-depth 2x blocking or bridging for ____ or deeper joists.
    a. 2 x 6
    b. 2 x 8
    c. 2 x 10
    d. all of the above
135. Except the blocking can be reduced to ___ of the height if placed above a beam, for drainage purposes.
    a. 50%
    b. 60%
    c. 70%
    d. none of the above
136. Attach the _____ with (3)10d toe-nails at each end.
    a. blocking
    b. bridging
    c. both a & b
    d. none of the above
137. Provide full-depth 2x blocking or bridging at intervals not exceeding __ feet.
    a. 6
    b. 7
    c. 8
    d. none of the above
138. The joist-span length is measured between the _____ of bearing at each joist-span end
    a. outside edge
    b. inside edge
    c. centerline
    d. all of the above
139. The joist-span length does not include the overhangs.
    a. true
    b. false
140. Joists must bear at least ___" nominal onto beams, unless joist hangers are used in accordance with section 7.
    a. 1
    b. 2
    c. 3
    d. 4
141. Joists may overhang past the center of the beam up to one-_____ of the actual joist span

a. eighth
b. fourth
c. third
d. half

142. Attach a continuous rim joist to the end of each joist with _____.
a. (3) 10d nails
b. (3) #10 by 3-inch wood screws
c. both a or b
d. none of the above

Figure 5

a JOISTS WITH DROPPED BEAM – DECK ATTACHED AT HOUSE b



[1]The maximum length of the overhang is equal to one-fourth of the actual joist span length (0.25 x joist span).

143. Joist with drop beam is represented by letter ___.
a. a
b. b
c. c
d. d

144. Optional overhang is represented by letter ___.
a. a
b. b
c. c
d. d

145. Deck attached to house is represented by letter ___.
a. a
b. b
c. c
d. d

146. Existing house wall is represented by letter ___.
a. a
b. b
c. c
d. d

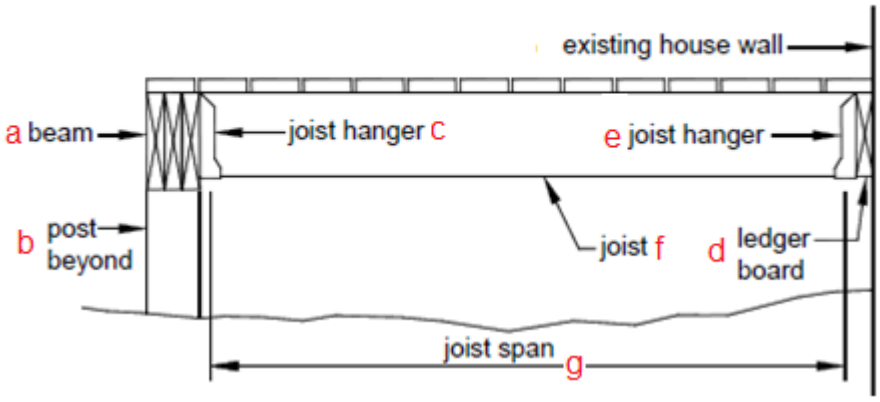
147. Continuous rim joist is represented by letter ___.
a. e
b. f
c. g
d. h

148. Beam is represented by letter ___.
    a. e
    b. f
    c. g
    d. h
149. Joist hanger is represented by letter ___.
    a. e
    b. f
    c. g
    d. h
150. Blocking is represented by letter ___.
    a. e
    b. f
    c. g
    d. h
151. Joist is represented by letter ___.
    a. i
    b. j
    c. k
    d. m
152. Ledger board is represented by letter ___.
    a. i
    b. j
    c. k
    d. m
153. Joist span is represented by letter ___.
    a. i
    b. j
    c. k
    d. m

154. Post is represented by letter ___.
    a. i
    b. j
    c. k
    d. m

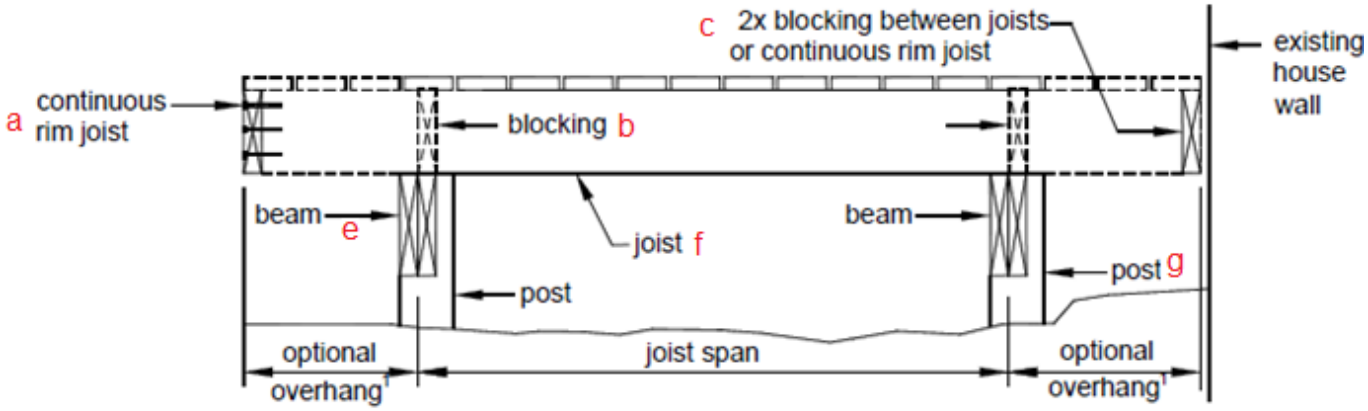
Figure 6

JOISTS WITH FLUSH BEAM – DECK ATTACHED AT HOUSE



155. Beam is represented by letter ___.
    a. a
    b. b
    c. c
    d. d
156. Joist hanger is represented by letter ___.
    a. a
    b. b
    c. c
    d. d
157. Post beyond is represented by letter ___.
    a. a
    b. b
    c. c
    d. d
158. Ledger board is represented by letter ___.
    a. a
    b. b
    c. c
    d. d

Figure 7
JOISTS WITH TWO DROPPED BEAMS/FREE-STANDING DECK d
(See section 10 for more information.)



[1]The maximum length of the overhang is equal to one-fourth of the actual joist span length (0.25 x joist span).

159. Blocking is represented by letter ___.
    a. a
    b. b
    c. c
    d. d
160. Continuous rim joist is represented by letter ___.
    a. a
    b. b
    c. c
    d. d
161. Free standing deck is represented by letter ___.

a. a
b. b
c. c
d. d

162. 2 x blocking between joists or continuous rim joist is represented by letter ___.
a. a
b. b
c. c
d. d

Table 4
MAXIMUM JOIST-SPAN LENGTH[1]

Joist Spacing (on center)	Joist Size	Douglas Fir/Larch, Hem/Fir, SPF[2]		Southern Pine	
		Without Overhang	With Overhangs	Without Overhang	With Overhangs
12"	2x6	9'-1"	8'-1"	9'-6"	8'-7"
	2x8	12'-6"	9'-5"	13'-1"	10'-1"
	2x10	15'-8"	13'-7"	16'-2"	14'-6"
	2x12	18'-0"	18'-0"	18'-0"	18'-0"
16"	2x6	8'-3"	8'-0"	8'-7"	8'-7"
	2x8	11'-1"	9'-5"	11'-10"	10'-1"
	2x10	13'-7"	13'-7"	14'-0"	14'-0"
	2x12	15'-9"	15'-9"	16'-6"	16'-6"
24"	2x6	6'-9"	6'-9"	7'-6"	7'-6"
	2x8	9'-1"	9'-1"	9'-8"	9'-8"
	2x10	11'-1"	11'-1"	11'-5"	11'-5"
	2x12	12'-10"	12'-10"	13'-6"	13'-6"

[1]Spans are based on 40 psf live load, 10 psf dead load, normal loading duration, wet service conditions and deflections of Δ=L/360 for main span and L/180 for overhang with a 220 lbs. point load.

[2]Incising is assumed.

163. Spans are based on ____ psf live load normal loading duration.
a. 10
b. 20
c. 30
d. 40

164. Spans are based on ___ psf dead load normal loading duration.
a. 10
b. 20
c. 30
d. 40

165. Spans are based on ____ service conditions
a. damp
b. dry
c. wet
d. none of the above

166. Spans are based on deflections of Δ=L/_____ for main span.

a. 180
b. 220
c. 360
d. 480

167. Spans are based on L/___ for overhang
a. 180
b. 220
c. 360
d. 480

168. Spans are based on with a ___ lb. point load.
a. 180
b. 220
c. 360
d. 480

169. Joist spacing 16”, joist size 2 x 10, Southern Pine with overhang can span a maximum of _____.
a. 10’ 1”
b. 11’ 10”
c. 16’ 6”
d. 14’

170. Joist spacing 16”, joist size 2 x 10, SPF with overhang can span a maximum of _____.
a. 10’ 1”
b. 11’ 10”
c. 13’ 7”
d. 14’

171. Joist spacing 16”, joist size 2 x 10, Southern Pine without overhang can span a maximum of _____.
a. 10’ 1”
b. 11’ 10”
c. 16’ 6”
d. 14’

172. Incising is _____.
a. prohibited
b. assumed
c. both a & b
d. none of the above

SECTION 6: JOIST-TO-BEAM CONNECTIONS

Joists must be attached to beams in accordance with Figure 8 and all of the following:
1. Use Options 1 or 2 if joists bear on a dropped beam.
2. Use Option 3 if joists bear at a flush beam; see section 7 for hanger requirements.
3. Mechanical fasteners or hurricane clips must have a minimum capacity of 100 pounds in both uplift and lateral directions. Installation must be in accordance with the manufacturer's instructions.

173. JOIST-TO-BEAM CONNECTIONS. Use _____ if joists bear on a dropped beam.
a. Option 1
b. Option 2
c. both a & b
d. Option 3

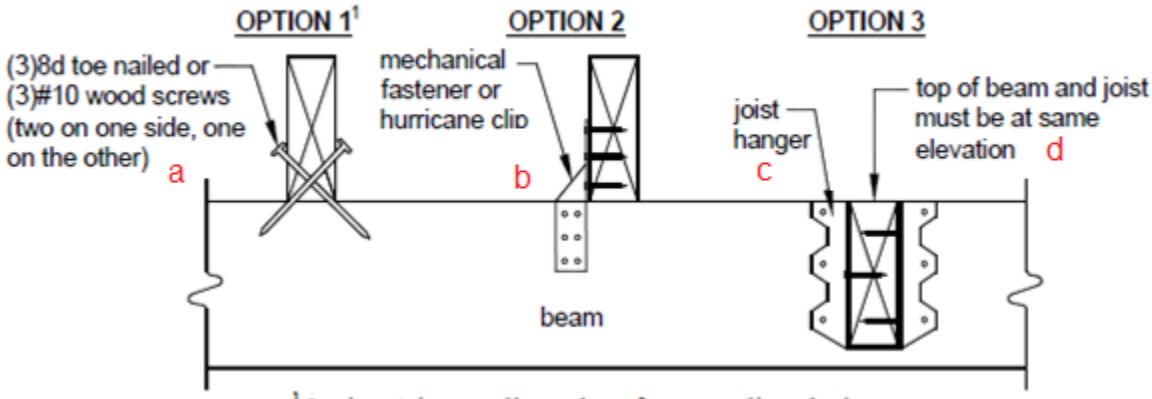
174. JOIST-TO-BEAM CONNECTIONS. Use _____ if joists bear at a flush beam.
a. Option 1
b. Option 2

c. both a & b
d. Option 3

175. JOIST-TO-BEAM CONNECTIONS. Mechanical fasteners or hurricane clips must have a minimum capacity of 100 pounds in _____ direction.
a. uplift
b. lateral
c. both a & b
d. none of the above

176. JOIST-TO-BEAM CONNECTIONS. Installation must be in accordance with the ____ instructions.
a. inspector's
b. lumber supplier's
c. manufacturer's
d. all of the above

Figure 8
JOIST-TO-BEAM CONNECTIONS



[1]Option 1 is not allowed on free-standing decks.

177. Mechanical fastener or hurricane clip is represented by letter ___.
a. a
b. b
c. c
d. d

178. Joist hanger is represented by letter ___.
a. a
b. b
c. c
d. d

179. Top of beam and joist must be the same elevation is represented by letter ___.
a. a
b. b
c. c
d. d

180. Toe nailing or wood screws are represented by letter ___.
a. a
b. b
c. c
d. d

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Instructor Signature_____

New Deck Code Quiz part 1 of 2

1	a	b	c	d	41	a	b	c	d	81	a	b	c	d
2	a	b	c	d	42	a	b	c	d	82	a	b	c	d
3	a	b	c	d	43	a	b	c	d	83	a	b	c	d
4	a	b	c	d	44	a	b	c	d	84	a	b	c	d
5	a	b	c	d	45	a	b	c	d	85	a	b	c	d
6	a	b	c	d	46	a	b	c	d	86	a	b	c	d
7	a	b	c	d	47	a	b	c	d	87	a	b	c	d
8	a	b	c	d	48	a	b	c	d	88	a	b	c	d
9	a	b	c	d	49	a	b	c	d	89	a	b	c	d
10	a	b	c	d	50	a	b	c	d	90	a	b	c	d
11	a	b	c	d	51	a	b	c	d	91	a	b	c	d
12	a	b	c	d	52	a	b	c	d	92	a	b	c	d
13	a	b	c	d	53	a	b	c	d	93	a	b	c	d
14	a	b	c	d	54	a	b	c	d	94	a	b	c	d
15	a	b	c	d	55	a	b	c	d	95	a	b	c	d
16	a	b	c	d	56	a	b	c	d	96	a	b	c	d
17	a	b	c	d	57	a	b	c	d	97	a	b	c	d
18	a	b	c	d	58	a	b	c	d	98	a	b	c	d
19	a	b	c	d	59	a	b	c	d	99	a	b	c	d
20	a	b	c	d	60	a	b	c	d	100	a	b	c	d
21	a	b	c	d	61	a	b	c	d	101	a	b	c	d
22	a	b	c	d	62	a	b	c	d	102	a	b	c	d
23	a	b	c	d	63	a	b	c	d	103	a	b	c	d
24	a	b	c	d	64	a	b	c	d	104	a	b	c	d
25	a	b	c	d	65	a	b	c	d	105	a	b	c	d
26	a	b	c	d	66	a	b	c	d	106	a	b	c	d
27	a	b	c	d	67	a	b	c	d	107	a	b	c	d
28	a	b	c	d	68	a	b	c	d	108	a	b	c	d
29	a	b	c	d	69	a	b	c	d	109	a	b	c	d
30	a	b	c	d	70	a	b	c	d	110	a	b	c	d
31	a	b	c	d	71	a	b	c	d	111	a	b	c	d
32	a	b	c	d	72	a	b	c	d	112	a	b	c	d
33	a	b	c	d	73	a	b	c	d	113	a	b	c	d
34	a	b	c	d	74	a	b	c	d	114	a	b	c	d
35	a	b	c	d	75	a	b	c	d	115	a	b	c	d
36	a	b	c	d	76	a	b	c	d	116	a	b	c	d
37	a	b	c	d	77	a	b	c	d	117	a	b	c	d
38	a	b	c	d	78	a	b	c	d	118	a	b	c	d
39	a	b	c	d	79	a	b	c	d	119	a	b	c	d
40	a	b	c	d	80	a	b	c	d	120	a	b	c	d

New Deck Code Quiz part 1 of 2

121	a	b	c	d	141	a	b	c	d	161	a	b	c	d
122	a	b	c	d	142	a	b	c	d	162	a	b	c	d
123	a	b	c	d	143	a	b	c	d	163	a	b	c	d
124	a	b	c	d	144	a	b	c	d	164	a	b	c	d
125	a	b	c	d	145	a	b	c	d	165	a	b	c	d
126	a	b	c	d	146	a	b	c	d	166	a	b	c	d
127	a	b	c	d	147	a	b	c	d	167	a	b	c	d
128	a	b	c	d	148	a	b	c	d	168	a	b	c	d
129	a	b	c	d	149	a	b	c	d	169	a	b	c	d
130	a	b	c	d	150	a	b	c	d	170	a	b	c	d
131	a	b	c	d	151	a	b	c	d	171	a	b	c	d
132	a	b	c	d	152	a	b	c	d	172	a	b	c	d
133	a	b	c	d	153	a	b	c	d	173	a	b	c	d
134	a	b	c	d	154	a	b	c	d	174	a	b	c	d
135	a	b	c	d	155	a	b	c	d	175	a	b	c	d
136	a	b	c	d	156	a	b	c	d	176	a	b	c	d
137	a	b	c	d	157	a	b	c	d	177	a	b	c	d
138	a	b	c	d	158	a	b	c	d	178	a	b	c	d
139	a	b	c	d	159	a	b	c	d	179	a	b	c	d
140	a	b	c	d	160	a	b	c	d	180	a	b	c	d