

## WOOD FRAME PRESCRIPTIVE PROVISIONS ONE STORY RESIDENTIAL CONSTRUCTION ONLY

The wood frame prescriptive provisions are for one and two family dwellings and townhouses of wood frame construction, not exceeding one story in height. This Information Bulletin is for information and reference only and is not a substitute for accurate drawings prepared for each proposed construction project.

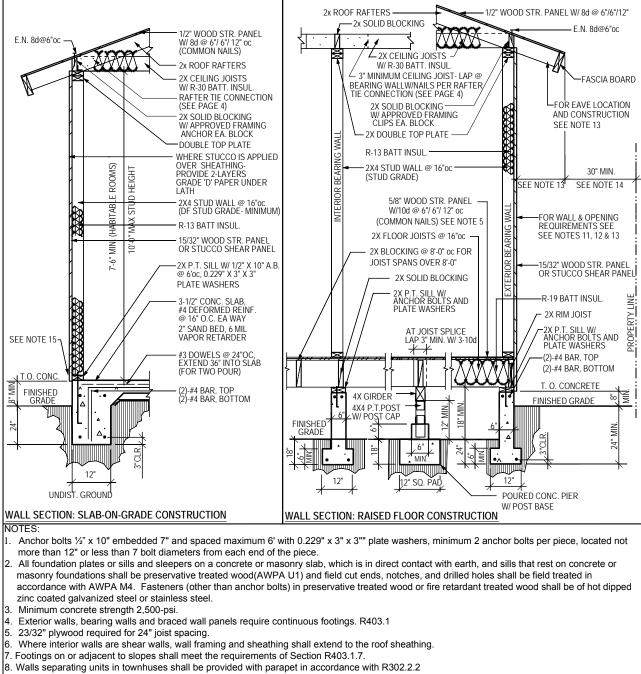
LARC refers to the Los Angeles City Residential Code. The number following R references the code section within the Los Angeles City Residential Code.

## FOOTINGS ON EXPANSIVE SOILS

Footing systems on expansive soil shall be constructed in a manner that will minimize damage to the structure from movement of the soil. All soil in the City of Los Angeles is considered expansive unless proven otherwise by an approved soils report.

- 1. Depth of footings below the natural and finished grades shall not be less than 24 inches for exterior and 18 inches for interior footings.
- 2. Exterior walls and interior bearing walls shall be supported on continuous footings.
- 3. Footings shall be reinforced with four ½-inch diameter deformed reinforcing bars. Two bars shall be placed 4 inches from the bottom of the footing and two bars within 4 inches from the top of the footing. Reinforcement shall have minimum 3-inch concrete cover for concrete cast against earth and reinforcement not exceeding 5/8-inch shall have minimum 1-1/2-inch concrete cover when not cast against earth.
- 4. Concrete floor slabs on grade shall be placed on a 4-inch fill of coarse aggregate or on a 2-inch sand bed covered with a minimum 6 mil moisture barrier membrane. The slabs shall be at least 3-1/2 inches thick and shall be reinforced with ½" diameter deformed reinforcing bars. Reinforcing bars shall be spaced at intervals not exceeding 16 inches each way.
- 5. The soil below an interior concrete slab shall be saturated with moisture to a depth of 18 inches prior to placing the concrete.
- 6. All drainage adjacent to footings shall be conducted away from the structure by a 3-ft wide sloped apron draining into an approved non-erosive device.

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9. Projects located in the Very High Fire Hazard Severity Zone (VHFHSZ) must also incorporate the requirements of Section R327 into the design.

10. Exterior walls of dwellings and accessory structures closer than 5-ft. (non-sprinklered) / 3-ft. (sprinklered) to the property line shall be 1-hr fire-resistance rated construction.

11. No openings other than approved foundation vents shall be permitted in the exterior walls of dwellings and accessory buildings where the exterior wall is less than 3-ft. to the property line.

- 12. The area of exterior wall openings of non-sprinklered dwellings and accessory buildings located = 3-ft. and < 5-ft. to the property line shall be limited to 25% of the wall area. Exterior wall openings are unlimited when exterior walls are located = 5-ft. for non-sprinklered buildings and = 3-ft. for sprinklered buildings.
- 13. Eaves shall be of 1-hr fire-resistive construction on the underside when located between 2-ft. and 5-ft. from the property line for non-sprinklered buildings and between 2-ft. and 3-ft. from the property line for sprinklered buildings. Detached garages within 2-ft of a property line may have a maximum 4-inch eave, provided the eave does not extend over the property line and is allowed by the Zoning Code.

14. Eaves shall not project more than 4" for each one foot of required side yard, and shall provide a minimum 30" clear space between the eave and the property line (LAMC 12.22C20(b)).

15. Exterior plaster (stucco) walls shall be provided with a corrosion resistant weep screed complying with Section R707.6.2.1

			ALLOWABLE SPANS FOR DF #2 CEILING			ALLOWABLE SPANS FOR DF #2 FLOOR			
-	ALLOWABLE SPANS FOR DF #2 ROOF RAFTERS (DF-LARCH)			JOISTS (DF-LARCH)			JOISTS (DF-LARCH)		
Light Dead Load: up to 15 psf (Total including			Dead Load: 10 psf			Light Dead Load: 10 psf			
roofing)	0 1 1 1			d: 20 psf		Live Load			
	and: 6 not (Aanha	lt Chingles)	$L/\Delta = 240$		(T-R802.4(2))	$L/\Delta = 360$		(T-R502.3(2))	
	oad: 6 psf (Aspha		$L/\Delta = 240$	J	(1-R002.4(2))	$L/\Delta = 300$		(1-R502.5(2))	
Live Load: 20 p		(T-R802.5.1(2))	10107	00000		10107	000000		
RAFTER	SPACING	ALLOWABLE	JOIST	SPACING	ALLOWABLE	JOIST	SPACING	ALLOWABLE	
SIZE		SPAN	SIZE		SPAN	SIZE		SPAN	
	24"	10'-9"		24"	7'-2"		24"	8'-1"	
2x6	16"	13'-0"	2x4	16"	8'-9"	2x6	16"	9'-9"	
	12"	14'-9"		12"	9'-10"		12"	10'-9"	
	24"	13'-6"		24"	10'-6"		24"	10'-3"	
2x8	16"	16'-7"	2x6	16"	12'-10"	2x8	16"	12'-7"	
	12"	18'-11"		12"	14'-10"		12"	14'-2"	
	24"	16'-6"		24"	13'-3"		24"	12'-7"	
2x10	16"	20'-3"	2x8	16"	16'-3"	2x10	16"	15'-5"	
	12"	23'-5"		12"	18'-9"		12"	17'-9"	
	24"	19'-2"		24"	16'-3"		24"	14'-7"	
2x12	16"	23'-6"	2x10	16"	19'-10"	2x12	16"	17'-10"	
	12"	25'-10"		12"	22'-11"		12"	20'-7"	

ALLOWAB	ALLOWABLE SPANS FOR DF #2 HEADERS FOR EXTERIOR BEARING WALLS								ALLOWABLE SPANS FOR DF #2 HEADERS FOR EXTERIOR BEARING WALLS				
	Max. Roof/Ceiling Dead Load: 25 psf Max Live Load 20 psf (T-R502.5(1))							Max. Roof/Ceiling Dead Load: 25 psf Max Live Load 40 psf (Roof/Limited Storage Attic) (T-R502.5(1))				2.5(1))	
SIZE	20-ft Building Width	NJ	28-ft Building Width	NJ	36-ft Building Width	NJ	20-ft Building Width	NJ	28-ft Building Width	NJ	36-ft Building Width	NJ	
2-2x6	5'- 5"	1	4'- 8"	1	4'- 2"	1	4 – 6"	1	4'- 0"	1	3'- 7"	2	
2-2x8	6'- 10"	1	5'- 11"	2	5'- 4"	2	5'- 9"	2	5'- 0"	2	4'- 6"	2	
2-2x10	8'- 5"	2	7'- 3"	2	6'- 6"	2	7'- 0"	2	6'- 2"	2	5'- 6"	2	
2-2x12	9'- 9"	2	8'- 5"	2	7'- 6"	2	8'- 1"	2	7'- 1"	2	6'- 5"	2	
3-2x8	8'- 4"	1	7'- 5"	1	6'- 8"	1	7'- 2"	1	6'- 3"	2	5'- 8"	2	
3-2x10	10'- 6"	1	9'- 1"	2	8'-2"	2	8'- 9"	2	7'- 8"	2	6'-11"	2	
3-2x12	12'- 2"	2	10'-7"	2	9- 5"	2	10'- 2"	2	8'- 11"	2	8'- 0"	2	

a. Building width is perpendicular to ridge measured to exterior walls.

b. NJ – Number of Jack Studs required to support each end of header.

ALLOWAE	LE SPANS F	OR DF	#2 HEADERS	FOR IN	TERIOR BEAF	RING	ALLOWABLE SPANS FOR DF #2 HEADERS FOR INTERIOR						
	WALLS								BEARING WALLS				
	Max. Roof/Ceiling Dead Load: 25 psf								. Roof/Ceiling I	Dead Loa	d: 25 psf		
	Max L	ive Loa	d 20 psf (T-F	8502.5(2)	)		Max Live	Load 40	psf (Roof/Limi	ted Stora	ge Attic) (T-R50	02.5(2))	
SIZE	20-ft Building Width	NJ	28-ft Building Width	NJ	36-ft Building Width	NJ	20-ft Building Width	NJ	28-ft Building Width	NJ	36-ft Building Width	NJ	
2-2x6	4'- 6"	1	3'- 11"	1	3'- 6"	1	3 – 2"	2	2'- 9"	2	2'- 5"	2	
2-2x8	5'- 9"	1	5'- 0"	2	4'- 5"	2	4'- 1"	2	3'- 6"	2	3'- 2"	2	
2-2x10	7'- 0"	2	6'- 1"	2	5'- 5"	2	4'- 11"	2	4'- 3"	2	3'- 10"	3	
2-2x12	8'- 1"	2	7'- 0"	2	6'- 3"	2	5'- 9"	2	5'- 0"	3	4'- 5"	3	
3-2x8	7'- 2"	2	6'- 3"	2	5'- 7"	2	5'- 1"	2	4'- 5"	2	3'- 11"	2	
3-2x10	8'- 9"	2	7'- 7"	2	6'-9"	2	6'- 2"	2	5'- 4"	2	4'- 10"	2	
3-2x12	10'- 2"	2	8'-10"	2	7-10"	2	7'- 2"	2	6'- 3"	2	5'- 7"	3	

a. Building width is perpendicular to ridge measured to exterior walls.

b. NJ – Number of Jack Studs required to support each end of header.

ALLOWABLE SPANS FOR DF #2 FLOOR GIRDERS SUPPORTING ONE FLOOR ONLY Max. Floor Dead Load: 15 psf <sup>1,2</sup> (T-R502.5(2))								
SIZE	20-ft Building Width	28-ft Building Width	36-ft Building Width					
2-2x6	4'- 6"	3'- 11"	3'- 6"					
2-2x8	5'- 9"	5'- 0"	4'- 5"					
2-2x10	7'- 0"	6'- 1"	5'- 5"					
2-2x12	8'- 1"	7'- 0"	6'- 3"					
3-2x8	7'- 2"	6'- 3"	5'- 7"					
3-2x10	8'- 9"	7'- 7"	6'-9"					
3-2x12	10'- 2"	8'-10"	7-10" <sup>3</sup>					

1. Building width is perpendicular to ridge measured to exterior walls.

2. Minimum 4x post

3. Minimum 4x6 post for 36' building width and 3-2x12 member.

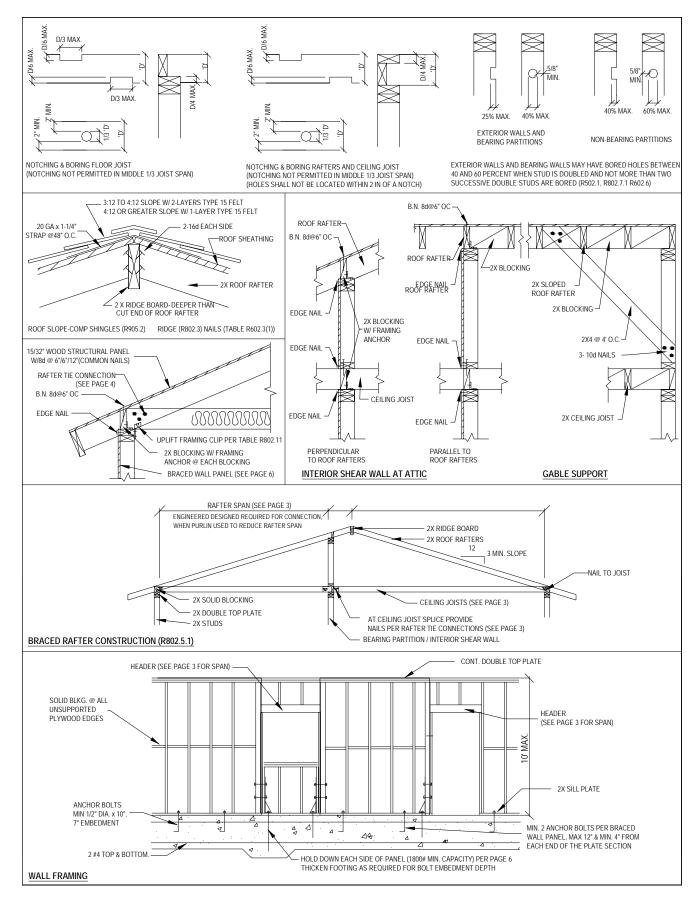
RAFTER TIE CONNECTION									
RAFTER TIE CONNECTION ROOF LIVE LOAD 20-psf [Table R802.5.1(9)]									
	Minimum number of 16d common nails at rafter tie connection.								
Rafter	Tie Roof Span (ft)								
Slope	Spacing (in)	12	20	28	36				
3:12	16	5	8	10	13				
5.12	24	7	11	15	19				
4:12	16	4	6	8	10				
4.12	24	5	8	12	15				
5:12	16	3	5	6	8				
5.12	24	4	7	9	12				

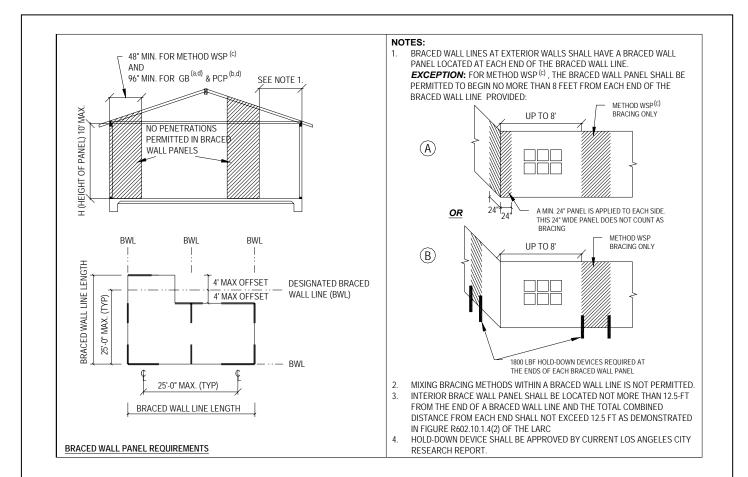
1. When nails are clinched, nailing may be reduced 25percent.

2. Roof span is measured between exterior walls or between exterior wall and roof purlin when interior bearing wall is used

SHEATHING	GRADES		ROOF	FLOOR			
PANEL SPAN RATING	MINIMUM	MAXIMUM S	PAN (INCHES)	LOADS	(PSF)	MAX. SPAN (INCHES	
Roof/Floor Span	PANEL THICKNESS (INCHES)	EDGE SUPPORT	NO EDGE SUPPORT	TOTAL LOAD	LIVE LOAD	Panel edges with tongue and groove	
24/0	3/8	24	20	40	30	joints or with blocking	
24/16	7/16	24	24	50	40	16	
32/16	15/32, 1/2	32	28	40	30	16	
40/20	19/32, 5/8	40	32	40	30	20	
48/24	23/32, 3/4	48	36	45	35	24	
	CONNECTION		FASTENIN	G	R	REMARKS	
			Roof				
Blocking between joists o	or rafters to top plate		3-8d (2-1/2" x 0.113")	) Т	oe nail		
Ceiling joist to plate	•••		3-8d (2-1/2" x 0.113")	) Т	oe nail		
Ceiling Joist not attached	I to parallel rafter, laps o	over partitions	3-10d (3" x 0.128")	Т	oe nail		
Collar tie rafter, face nail			3-10d (3" x 0.128")				
Rafter to plate			2-16d (3-1/2" x 0.135	") T	oe nail		
Roof rafters to ridge, valle Foe nail Face nail	ey or hip rafters:		4-16d (3-1/1" x 0.135" 3-16d (3-1/2 "x 0.135" Wall				
Built-up corner studs			10d (3" x 0.128")	2	4" o.c.		
Built-up header two piece	es with 1/2" spacer		16d (3-1/1" x 0.135")	1	16" o.c. along each edge		
Continued Header two pi	eces		16d (3-1/1" x 0.135")	1	16" o.c. along each edge		
Continuous header to stu	ıd		4-8d (2-1/2" x 0.113")		Toe nail		
Double Studs			10d (3" x 0.128")	2	24" o.c.		
Double top plates			10d (3" x 0.128")		24" o.c. face nail		
Double top plates, minim lapped area	um 24-inch offset of end	d joints, face nail in	8-16d (3-1/1" x 0.135"	') F	Face nail		
Sole plate to joist or block	kina		16d (3-1/1" x 0.135")	1	16" o.c. Face nail		
Sole plate to joist or block		els	3-16d (3-1/1" x 0.135"		16" o.c.		
Stud to sole plate	<u>, , , , , , , , , , , , , , , , , , , </u>		3-8d (2-1/2" x 0.113") or 2-16d (3-1/2 "x 0.135")		Toe nail		
Top or sole plate to stud			2-16d (3-1/2 "x 0.135"		End nail		
Top plates, lap at corners	s and intersections		2-10d (3" x 0.128")	/	Face nail		
			Floor	•			
Joist to sill or girder			3-8d (2-1/2" x 0.113")	) Гт	oenail		
Rim Joist to top plate (roo	of application also)		8d (2-1/2" x 0.113")		6" o.c.		
Built-up girders and bean		10d (3" x 0.128")	Nail each layer as follows: 32 and bottoms and staggered. ends and at each splice		staggered. Two nails a		
Ledger strip supporting jo	hists or rafters		3-16d (3-1/2 "x 0.135"	') A	At each joist or rafter		

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## BRACING REQUIREMENTS BASED ON SEISMIC DESIGN CATEGORY

Roof/Ceiling Dead Load = Wall Height = 10-ft Floor Dead Load = 10-psf Braced Wall Line Spacing			Minimum Total Length of Braced Wall Panels Required Along each Braced Wall Line (ft)			
Seismic Design Category (SDC)	Story Location	Braced Wall Line Length	Methods GB <sup>a,d</sup> and PCP <sup>b,d</sup>	Method WSP <sup>c</sup>		
	$\widehat{\Box}$	<u>10</u>	<u>8</u>	<u>4</u>		
		<u>20</u>	<u>16</u>	<u>5</u>		
$\underline{SDC D_2}$		<u>30</u>	<u>24</u>	<u>7.5</u>		
		<u>40</u>	<u>32</u>	<u>10</u>		
		<u>50</u>	<u>40</u>	<u>12.5</u>		

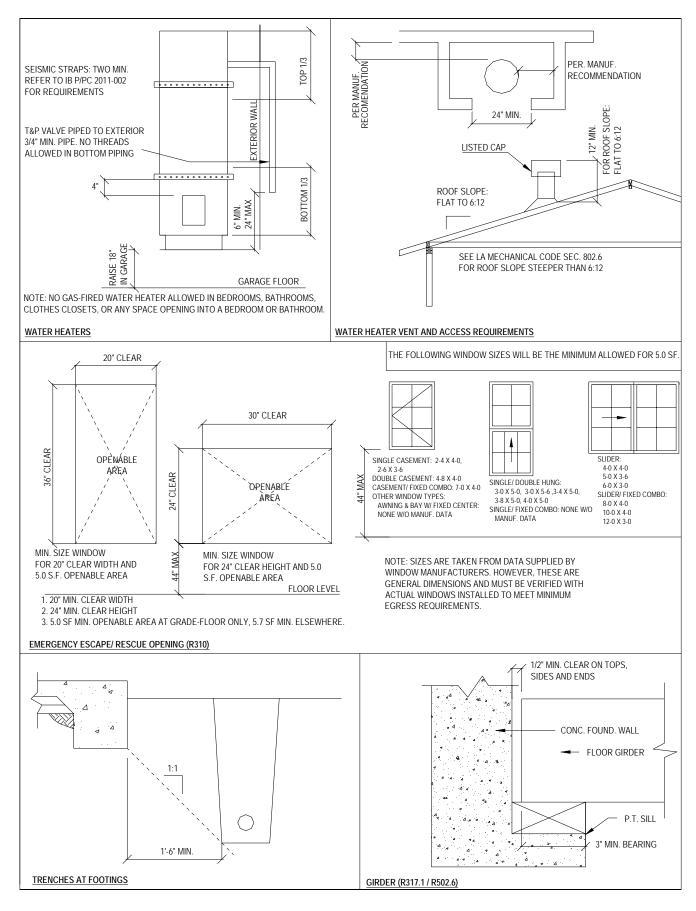
(a). Method GB (Gypsum Board) = ½-in. minimum thickness gypsum board with 1-1/2-in. galvanized roofing nail, or 1-1/4-in. screws, Type W or S. for exterior sheathing, or 5d cooler nail, 0.086-in. diameter, 1-5/8-in. long, 15/64-in head for interior gypsum board. Maximum fastener spacing shall be 7-in. o.c. at panel edges, including top and bottom plates, and along intermediate supports. When method GB panels are applied to only one face of a braced wall panel, the minimum total length in the table shall be doubled.

(b). Method PCP (Portland Cement Plaster) = 7/8-in. minimum thickness Portland cement plaster with 1-1/2-in., 11-gage, 7/16-in. head nails at 6-in. spacing (16-in stud spacing required). ½-in. minimum gypsum wallboard shall be installed on the side of the wall opposite the bracing material, except when the minimum total length of braced wall panel in the Table is multiplied by a factor of 1.5.

(c). Method WSP (Wood Structural Panel) = 15/32-in. minimum thickness wood structural panel with 8d common (2-1/2-in x 0.131-in.) nails at 6-in. spacing along panel edges, 12-in. spacing at intermediate supports, and 3/8-in. distance to panel edge. ½-in. minimum thickness gypsum wall board shall be installed on the side of the wall opposite the bracing material, except when the minimum total length of braced wall panel in the Table is multiplied by a factor of 1.5.

(d). Method GB and PCP braced wall panel height to width ratio (h/w) shall not exceed 1:1.

(e). Multiply required braced wall panel lengths specified in the table by 1.32 when combined Roof Ceiling Dead load is between 15 psf and 25 psf.



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