Development Services

Residential Addition/Remodel

INFORMATION BULLETIN

140

January 2025

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This information bulletin describes the submittal requirements and permitting process for additions and remodels to single family dwelling and duplexes, not exceeding one story in height above grade or above crawl space. The information and sample drawings provided herein are suitable as a guide and cannot be used for construction. Project specific construction plans must be submitted for review.

Submittal Requirements

I. **Forms**

1. Project Contacts Information Form

   The Project Contacts Information Form (DS-345 PDF) must be submitted with all projects.

2. Owner-Builder Verification Form

   The Owner-Builder Verification Form (DS-3042 PDF) 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 must be completed and submitted with your project documents.

3. Water Meter Data Card

   A Water Meter Data Card (DS-16 PDF) must be completed if new plumbing fixtures are being added. This form is not required when replacing or relocating existing fixtures.

4. Stormwater Requirements Applicability Checklist

   Form DS-560 PDF will be used to determine the storm water requirements for the project and is required for every plan submittal.

II. **Plans and Specifications**

Plans must be drawn to scale and be of sufficient clarity to indicate the location and extent of the proposed work. Existing and proposed construction and alterations to the existing home impacted by the addition 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. Provide and show the following items, as applicable.

1. **Site Plan and Vicinity Map**

   See Information Bulletin 122 for detailed information.

2. **Foundation (See Figure 1 & 5-9)**

   A. *Foundation Plan and Details (See Figure 1 & 5-9)*

      1. Size, depth, and location of footings.
      2. Rebar size and spacing.
      3. Concrete compressive strength (minimum 2500 psi).
      4. Concrete slab thickness (min. 3.5 inches).

   B. . *Raised Floor Construction*

      1. Location of continuous foundations and pier footings.
      2. Size and depth of footings.
      3. Dimension of stem.
      4. Size and spacing of cantilevered joists (see Table 5).
      5. Size and spacing of floor joists (see Table 3).
      6. Location and size of crawl space access openings and vents (CRC R408).

3. **Floor Plan (See Figure 2)**

   A. Identify use and dimensions of all existing and proposed rooms.
   B. Size and types of windows and doors.
   C. Location and type of all plumbing fixtures.
   D. Location and energy output (BTUs) of all heating equipment.
   E. Location and type of bathroom exhaust fan(s).
   F. Location and type of smoke and carbon monoxide alarms (see Figure 13).
   G. Attic access location.

4. **Roof Framing Plan (See Figure 3)**
   A. Size, spacing and span between supports for the existing roof framing impacted by the area of alteration.
   B. Size and spacing of all new rafters and ceiling joists (see Tables 1 and 2).
   C. Size of headers above wall openings and number of trimmer studs (see Table 4).
   D. Special framing around roof openings such as skylights and chimneys.
   E. Size and number of nails for rafter tie connection (see Table 6).
   F. Wall bracing, shear panels or other means of obtaining required lateral bracing (see Figure 11).

5. **Exterior Elevation Views (See Figure 4)**
   A. Each exterior wall shown from the outside of the building and exterior finish of the walls and roof.
   B. Doors, windows and other openings.
   C. Pre-existing and finished grade and building height to the most restrictive grade.

   Note: Roof covering must be minimum Class “A”. Refer to Information Bulletin 123 for requirements concerning renewal of roof covering.

6. **Connection Details**

   Sufficient details must be shown to clearly explain the method of construction and means of connection. Details should be referred on framing and foundation plans.

   A. Refer to Figures 5 through 8 for cross-section through addition.
   B. Refer to Figure 9 for exterior and interior load-bearing walls and foundation.
   C. Refer to Figures 10 and 11 for framing details.
   D. Refer to Figure 12 for emergency escape windows in bedrooms, and seismic straps for water heaters.
   E. Refer to Figures 14 and 15 for shear transfers and miscellaneous details.

7. **Truss Calculations**

   If prefabricated trusses are included as part of the roof framing system, truss calculations stamped by a professional architect or registered civil engineer, licensed in the State of California must be provided. The truss calculations identification number must identify each truss type on the roof framing plan.

8. **Site Soils Condition**

   A geotechnical investigation report must be provided for foundations placed on fill material or when placed on expansive soil. Add the following notes on plan when foundations are placed on undisturbed native soil:

   A. “The structure(s) will be located entirely on undisturbed native soil." Signature________________________________ Owner/Licensed Engineer or Architect.
   B. "If the Building Inspector suspects fill, expansive soils or any geologic instability based upon observation of the foundation excavation, a soils or geological report, and resubmittal of plans to plan check to verify that report recommendations have been incorporated, may be required."

9. **Statement of Special Inspection**

   Specify on plans that special inspection is required when epoxy or expansion anchors are used. When special inspection is required, add the following notes on the statement of special inspection:

   A. NOTICE TO THE AGENT/ARCHITECT or ENGINEER OF RECORD: By using this permitted construction drawings for construction/installation of the work specified herein, you agree to comply with the requirements of City of San Diego for special inspections, structural observations, construction material testing and off-site fabrication of building components, contained in the statement of special inspections and, as required by the California construction codes.
   B. NOTICE TO THE CONTRACTOR/BUILDER/INSTALLER/SUB-CONTRACTOR/OWNER-BUILDER: By using this permitted construction drawings for construction/installation of the work specified herein, you acknowledge and are aware of, the requirements contained in the statement of special inspections. You agree to comply with the requirements of City of San Diego for special inspections, structural observations, construction material testing and off-site fabrication of building components, contained in the statement of special inspections and, as required by the California construction codes.
   C. The special inspector must be registered by the City of San Diego Development Services Department, in the category of work required to have special inspection.
   D. The special inspections identified on plans are, in addition to, and not a substitute for, those inspections required to be performed by a City's building inspector.

Additional Regulations

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

When the addition and or alteration to an existing building is in a VHFHSZ and the building permit application for the existing building was deemed complete on or after 8/27/2009, the material and method of construction used for the addition and remodel shall comply with the requirements specified in CRC, Section R337, as amended by San Diego Municipal Code (SDMC) Section 55.9401 PDF.

B. **Brush Management Zone**

When the addition is encroaching or located within Brush Management Zones, it shall comply with the City of San Diego's Landscape Regulations, SDMC Section 142.0412. PDF

C. **Storm Water Requirements & Best Management Practices (BMP's)**

The project shall comply with all requirements of the State MS4 permit; California Regional Water Quality Control Board (San Diego), the City of San Diego Land Development Code, and the City's Storm Water Standards Manual.

1. Construction BMP general notes: BMP notes are required on every plan set with a proposed ground disturbance of less than 1,000 square feet. The current notes may be found in the City's Storm Water Standards Manual, Part 2, Appendix E.
2. Water pollution control plan (WPCP) requirements:
    A. A WPCP is required for any project which has a ground disturbance that equals or exceeds 1,000 square feet but is less than 1 acre. A separate plan sheet must be included in the plan set which correlates to the WPCP.
    B. A Minor Water Pollution Control Plan (MWPCP), Form DS-570 PDF, may be utilized in lieu of a full WPCP for projects that create a ground disturbance of between 1,000 and 4,999 square feet and have less than a 5-foot elevation differential over the project area. If the project qualifies for an MWPCP, please fill out Form DS-570 and scan into the plan set along with Form DS-560 PDF.

D. **Energy Requirements**

1. Additions or Alterations

   All single dwelling units and duplex additions or alterations must comply with the California Energy Code (CEC), Title 24, Part 6. Several compliance methods are described in the Residential Manual and are available in the California Energy Commission website or call 1-800-772-3300.

2. Minimum Acceptable Requirements

   See Table 9 for the minimum acceptable requirements for the simplest method. In addition to the Mandatory Measures summary (MF-1R form PDF) mentioned in Section IV C of CEC, you may complete the required Certificate of Compliance (CF-1R form) using the information in this table. Forms must be shown on the plans and stapling is not permitted. Table 9 is based on Climate Zone 7. Some areas of San Diego are in Climate Zone 10.

3. Fenestrations

   Manufactured fenestration (glazing) products must be labeled with certified U-factor, SHGC and infiltration certification. The rough opening and U- factor of all windows and doors with glass must also be noted on the plans (2022 Residential Compliance Manual 3.5).

4. Luminaries

   All luminaries installed in residential construction must qualify as "high efficacy luminaires" which, apply to all indoor and outdoor lighting attached to single family buildings (2022 Energy Standards 6.1).

E. **Electrical**

Electrical drawings are not required for single family or duplex residential projects. The electrical system must be installed per the current edition of the California Electric Code and compliance will be verified at the time of inspection. See Figure 13 for location of smoke and carbon monoxide alarms and for exhaust fan requirements in bathrooms.

F. **Plumbing**

Plumbing fixtures shall be shown on the floor plan. Piping material must also be noted on the plans. All new plumbing fixtures must comply with the California Plumbing Code and the California Green Building Standards Code.

G. **Zoning and Planning**

The following regulations typically apply to residential additions and alterations.

Please consult the City of San Diego's Municipal Code for all zoning regulations that may apply to your project.

Regulations	SDMC Section
Residential Base Zones	131.0401
Planed Districts	151.0101
Brush Management	142.0403
Landscape	142.0401
Environmentally Sensitive Lands	143.0101
Parking	142.0501
Overlay Zones	132.0101

H. **Historic Review**

1. Historical Review - 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 PDF for additional Historic Review information.

2. Historical Review - 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). See Information Bulletin 580, Potential Historical Resource Review PDF for supplemental submittal requirements

I. **Fire Sprinklers**

For fire sprinkler requirements, refer to Information Bulletin 124, How to Obtain a Permit for Residential Fire Sprinklers.

Options for Service

Plans for residential addition/remodel requires a building permit and must be submitted electronically through the online portal by selecting Building Permit.

Project Fees

The plan check fees are required to be paid prior to review. 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 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.

Inspections

For inspection requirements, refer to Information Bulletin 120. PDF

References

- San Diego Municipal Code (SDMC)
- 2022 California Residential Code (CRC)
- Circuit Card, DS-1779 PDF
- Inspection Record Card, DS 1798 PDF
- "Minor" Water Pollution Control Plan (MWPCP), DS-570 PDF
- San Diego Standard Drawings

Tables & Figures

Table 1			Table 2			Table 3		
ALLOWABLE SPANS FOR DF #2 ROOF RAFTERS (DF-LARCH) Dead Load: up to 10/20 (Shingles/Tiles) psf Total (Including roofing) Live Load: 20 psf, L/Δ = 240, (T-R802.4.1(2))			ALLOWABLE SPANS FOR DF #2 CEILING JOIST (DF-LARCH) Dead Load: 10 psf Live Load: 20 psf (Light Storage) L/Δ = 240, (T-R802.5.1(2))			ALLOWABLE SPANS FOR DF #2 FLOOR JOIST (DF-LARCH) Dead Load: 10 psf Live Load: Floor 40 psf L/Δ = 360, (T-R502.3.1(2))		
RAFTER SIZE	**SPACING**	**ALLOWABLE SPAN (SHINGLES / TILES)**	**JOIST SIZE**	**SPACING**	**ALLOWABLE SPAN**	**JOIST SIZE**	**SPACING**	**ALLOWABLE SPAN**
2X6	24"	11'-11" / 10'-4"	2X4	24"	7'-3"	2X6	24"	8'-3"
	16"	14'-1" / 12'-7"		16"	8'-11"		16"	9'-9"
	12"	15'-6" / 14'-7"		12"	9'-10"		12"	10'-9

2X8	24″ 16″ 12″	15′-1″ / 13′-0″ 18′-5″ / 16′-0″ 20′-5″ / 18′-5″	2X6	24″ 16″ 12	10′-8″ 13′-0″ 15′-0″	2X8	24″ 16″ 12″	10′-5″ 12′-9″ 14′-2″
2X10	24″ 16″ 12″	18′-5″ / 15′-11″ 22′-6″ / 19′-6″ 26′-0″ / 22′-6″	2X8	24″ 16″ 12″	13′-6″ 16′-6″ 19′-1″	2X10	24″ 16″ 12″	12′-9″ 15′-7″ 18′-0″
2X12	24″ 16″ 12″	21′-4″ / 18′-6″ 26′-0″ / 22′-7″ 26′-0″ / 26′-0″	2X10	24″ 16″ 12″	16′-5″ 20′-2″ 23′-3″	2X12	24″ 16″ 12″	14′-9″ 18′-1″ 20′-11″

Table 4

ALLOWABLE SPANS (BRACED/UNBRACED[c]) FOR DF #2 ROOF BEAMS AND HEADERS FOR EXTERIOR & INTERIOR BEARING WALLS (DF-LARCH) Max. Dead Load: 20 psf, Max Live Load:20 psf, (T-R 602.7(1))

SIZE	12-ft Building Width[a,d]	NT[b]	24-ft Building Width[a,d]	NT[b]	36-ft Building Width[a,d]	NT[b]
2-2x6	6′-0″/ 4′-3″	1	4′-7″/ 3′-2″	1	3′-10″/ 2′-8″	1
2-2x8	7′-7″/ 5′-4″	1	5′-9″/ 4′-0″	2	4′-10″/ 3′-4″	2
2-2x10	9′-0″/ 6′-9″	1	6′-10″/ 4′-9″	2	5′-9″/ 4′-4″	2
2-2x12	10′-7″/ 7′-5″	2	8′-1″/ 5′-8″	2	6′-10″/ 4-9″	2
3-2x8	9′-5″/ 6′-7″	1	7′-3″/ 5′-1″	1	6′-1″/ 4′-3″	2
3-2x10	11′-3″/ 7′-10″	2	8′-7″/ 6′-2″	2	7′-3″/ 5′-1″	2
3-2x12	13′-2″/ 9′-3″	2	10′-8″/ 7′-1″	2	8′-6″/ 6′-0″	2
4-2x8	10′-11″/ 7′-8″	2	8′-4″/ 5′-10″	1	7′-0″/ 5′-0″	2
4-2x10	12′-11″/ 9′-0″	2	9′-11″/ 7′-0″	2	8′-4″/ 5′-10″	2
4-2x12	15′-3″/10′-8″	2	11′-8″/ 8′-2″	2	9′-10″/ 6′-9″	2

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

b. NT – Number of trimmer studs required to support each end of header.

c. Braced condition: Roof plywood sheathing or rafters must directly bear and be nailed to beam or header.

d. Allowable span of braced beam / Allowable span of unbraced beam.

Table 5

CANTILEVER SPANS FOR FLOOR JOISTS[a,b]
Max. deck dead load 10 psf, Live load 40 psf

SIZE (Douglas fir-larch #2)	SPACING	CANTILEVER SPAN	UPLIFT FORCE (lbs)[c]
2x8	12″	34″	165
2x8	16″	29″	180
2x10	12″	49″	201
2x10	16″	42″	220
2x10	24″	34″	255
2x12	16″	57″	268
2x12	24″	47″	330

a. Ratio of backspan to cantilever span shall be not less than 2:1.
b. A full-depth floor joist shall be provided at the cantilevered ends. Solid blocking shall be provided between joists over the support.
c. Connection angle capable of resisting the indicated uplift force shall be provided at the backspan support.

Table 6

RAFTER HEEL CONNECTION TO CEILING JOIST - ROOF LIVE LOAD 20 psf [Table R802.5.2(1)]
Minimum number of 16d common nails

Rafter Slope	Tie Spacing (in)	Roof Span (ft)			
		12	20	28	36
3:12	16	5	8	10	13
	24	7	11	15	19
4:12	16	4	6	8	10
	24	5	8	12	15
5:12	16	3	5	6	8
	24	4	7	9	12

1. When nails are clinched, nailing may be reduced by 25 percent.
2. Roof span is measured between exterior walls

Table 7

ALLOWABLE SPANS AND LOADS FOR WOOD STRUCTURAL PANEL, FLOOR & ROOF SHEAT-ING CONTINUOUS OVER TWO OR MORE SPANS WITH STRENGTH AXIS PERPENDICULAR TO SUPPORTS: APPLIES TO PANELS 24″ OR WIDER (T-R503.2.1.1(1))

SHEATING GRADE-STRUCT-1		**ROOF**				**FLOOR**
PANEL SPAN RATING Roof/Floor Span	MINIMUM PANEL THICKNESS (INCHES)	MAXIMUM SPAN (INCHES)		LOADS (PSF)		MAX. SPAN (INCHES) Panel edges with tongue and groove joints or with blocking
		EDGE SUPPORT	NO EDGE SUPPORT	TOTAL LOAD	LIVE LOAD	
24/0	3/8	24	20	40	30	
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

Table 8-Nailing Schedule

CONNECTION (T-R602.3(1))	FASTENING	REMARKS
	ROOF	
Blocking between joists or rafters to top plate	3-8d (2-1/2″ x 0.113″)	Toe nail
Ceiling joist to plate	3-8d (2-1/2″ x 0.113″)	Toe nail
Ceiling Joist not attached to parallel rafter, laps over partitions	4-10d (3″ x 0.128″)	Toe nail
Collar tie rafter, face nail or 20-gage ridge strap	3-10d (3″ x 0.128″)	Face nail
Rafter to plate	2-16d (3-1/2″ x 0.135″)	Toe nail
Roof rafters to ridge, valley or hip rafters: Toe nail Face nail	4-16d (3-1/1″ x 0.135″) 3-16d (3-1/2 ″x 0.135″)	Toe nail End nail
	WALL	

Built-up corner studs	10d (3” x 0.128”)	16” o.c.
Built-up header two pieces with ½” spacer	16d (3.5”x0.162”)	16” o.c. along each edge
Continued Header two pieces	16d (3.5”x0.162)	16” o.c. along each edge
Continuous header to stud	4-8d (2-1/2” x 0.113”)	Toe nail
Double Studs	16d (3.5”x0.128”)	12” o.c.
Double top plates	10d (3” x 0.128”)	12” o.c. Face nail
Double top plates, minimum 24-inch offset of end joints, face nail in lapped area	8-16d (3-1/1” x 0.135”)	Face nail
Sole plate to joist or blocking	16d (3-1/1” x 0.135”)	12” o.c. Face nail
Sole plate to joist or blocking at braced wall panels	3-16d (3-1/1” x 0.135”)	12” o.c. Face nail
Stud to sole plate	4-8d (2-1/2” x 0.113”) or 3-16d (3-1/2 ”x 0.135”)	Toe nail
Top or sole plate to stud	3-16d (3-1/2 ”x 0.135”)	End nail
Top plates, lap at corners and intersections	3-10d (3” x 0.128”)	Face nail
FLOOR		
Joist to sill or girder	4-8d (2-1/2” x 0.113”)	Toe nail
Rim joist to top plate (roof application also)	8d (2-1/2” x 0.131”)	6” o.c. Toe nail
Built-up girders and beams, 2-inch lumber layers	10d (3” x 0.128”)	Nail each layer as follows: 24” o.c. at top and bottoms and staggered. Two nails at ends and at each splice
Ledger strip supporting joists or rafters	4-16d (3-1/2 ”x 0.135”)	At each joist or rafter

Table 9-Title Energy Requirements-Prescriptive for Climate Zone 7 & 10

Insulation[1]:		
Ceiling	Climate Zone 7	R-30
	Climate Zone 10	R-38 for Option B, R-30 for Option C
Wall	Climate Zone 7 & 10	R-13 + R8 Cont.
Floor	Climate Zone 7 & 10	R-19
Roof	Climate Zone 7 & 10	Radiant barrier is required in new roof
Fenestration:		
Type	Dual Pane	
Maximum Sq.Ft.	20% of FA* total &	UF 0.30 or lower
	5% West Facing	SHGC 0.23 or lower
Doors:		
Type		
	No Glazing	UF .20 or lower
	Glazing Door	Treated as fenestration

1. All buildings shall comply with the Quality Insulation Installation (QII) requirements in TABLE 150.1-A or B.
**The area of any glass removed, as a direct result of the room addition, may be added to 20% total.*

Figure 1 - Typical Raised Foundation Plan

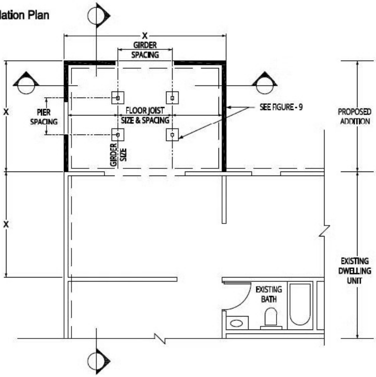
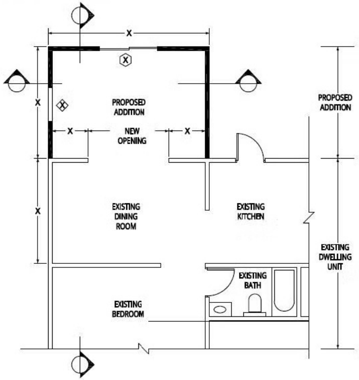

X
GIRDER SPACING
X
PIER SPACING
FLOOR JOIST SIZE & SPACING
GIRDER SIZE
SEE FIGURE - 9
PROPOSED ADDITION
X
EXISTING DWELLING UNIT
EXISTING BATH

Figure 2 - Floor Plan with Cross Referenced Section View


X
X
PROPOSED ADDITION
X
NEW OPENING
X
X
EXISTING DINING ROOM
EXISTING KITCHEN
EXISTING BATH
EXISTING BEDROOM
PROPOSED ADDITION
EXISTING DWELLING UNIT

WALL SCHEDULE	
▭	EXISTING WALLS
▬	NEW WALLS

DOOR SCHEDULE

DOOR #	DOOR SIZE & TYPE
Ⓧ	SIZE ___X___ , TEMPERED GLASS DOOR
Ⓧ	SIZE ___X___ , TEMPERED GLASS DOOR

WINDOW SCHEDULE

WIN. #	WINDOW SIZE & TYPE
◈	SIZE __X__, SLIDER, TEMPERED GLASS, DUAL GLAZE.
◈	SIZE __X__, SLIDER, TEMPERED GLASS, DUAL GLAZE.

DENOTES BUILDING SECTION
(PROVIDE ONE SECTION MINIMUM EACH DIRECTION)

Figure 3 - Typical Roof Framing Plan

BRACE WALL PANELS SCHEDULE

MARK	PANEL	NAIL	EN SPACING	BOLTS	HOLDOWN
A X'	BRACE WALL PANEL TYPE	NAIL SIZE	NAIL SPACING	ANCHOR BOLT SIZE AND SPACING	HOLDOWN SIZE AND LOCATION

B / 11 → Detail Number
→ Page Number

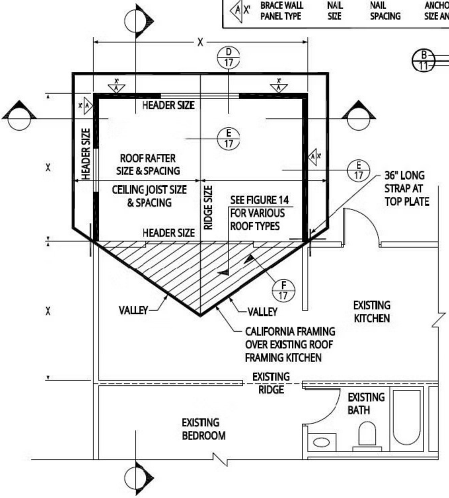

X
D/17
X' A
X' A
X' A
HEADER SIZE
E/17
A X'
HEADER SIZE
ROOF RAFTER SIZE & SPACING
CEILING JOIST SIZE & SPACING
RIDGE SIZE
SEE FIGURE 14 FOR VARIOUS ROOF TYPES
HEADER SIZE
E/17
36" LONG STRAP AT TOP PLATE
X
F/17
X
VALLEY
VALLEY
CALIFORNIA FRAMING OVER EXISTING ROOF FRAMING KITCHEN
EXISTING KITCHEN
EXISTING RIDGE
EXISTING BATH
EXISTING BEDROOM

Figure 4 - Typical Elevations

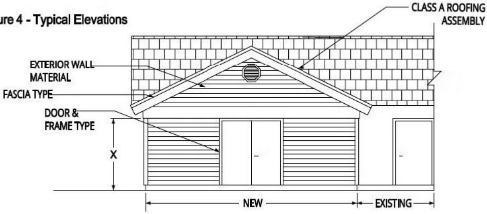

CLASS A ROOFING ASSEMBLY
EXTERIOR WALL MATERIAL
FASCIA TYPE
DOOR & FRAME TYPE
X
NEW
EXISTING

Figure 5 - Typical Cross Section View, Slab Floor with Ceiling Joist

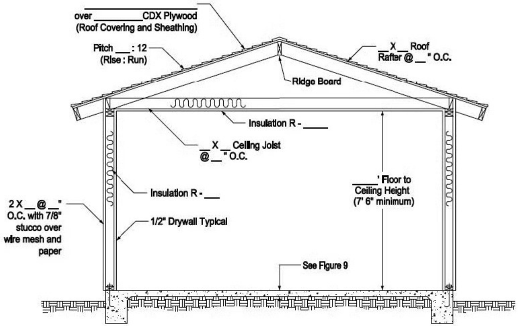

over ________ CDX Plywood
(Roof Covering and Sheathing)
Pitch ___ : 12
(Rise : Run)
__ X __ Roof
Rafter @ __ " O.C.
Ridge Board
Insulation R - ____
__ X __ Ceiling Joist
@ __ " O.C.
Insulation R - ___
____ ' Floor to
Ceiling Height
(7' 6" minimum)
2 X __ @ __ "
O.C. with 7/8"
stucco over
wire mesh and
paper
1/2" Drywall Typical
See Figure 9

Figure 6 - Typical Cross Section View, Slab Floor with Vaulted Ceiling

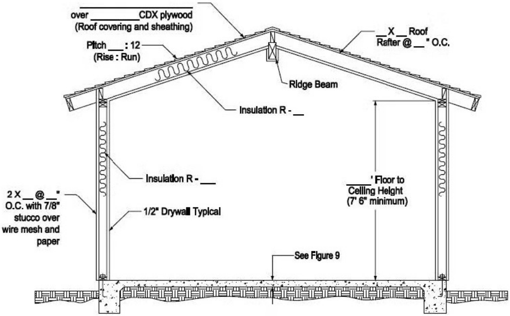

over __________ CDX plywood
(Roof covering and sheathing)
Pitch ___ : 12
(Rise : Run)
__ X __ Roof
Rafter @ __ " O.C.
Ridge Beam
Insulation R - __
Insulation R - ___
____ ' Floor to
Ceiling Height
(7' 6" minimum)
2 X __ @ __ "
O.C. with 7/8"
stucco over
wire mesh and
paper
1/2" Drywall Typical
See Figure 9

Figure 7 - Typical Cross Section View, Raised Floor with Ceiling Joist

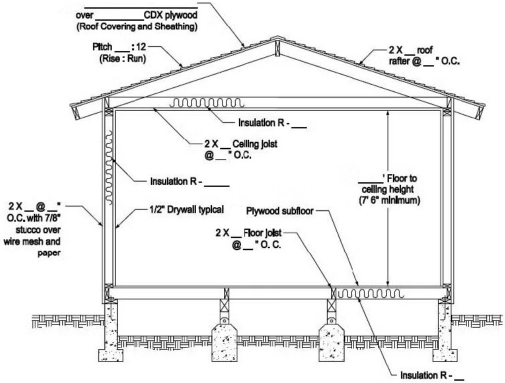

over ________CDX plywood
(Roof Covering and Sheathing)
Pitch ___: 12
(Rise : Run)
2 X __ roof
rafter @ __" O.C.
Insulation R - ___
2 X __ Ceiling joist
@ __" O.C.
Insulation R - _____
____' Floor to
ceiling height
(7' 6" minimum)
2 X __ @ __"
O.C. with 7/8"
stucco over
wire mesh and
paper
1/2" Drywall typical
Plywood subfloor
2 X __ Floor joist
@ __" O. C.
Insulation R - __

Figure 8 - Typical Cross Section View, Slab Floor with Shed Roof

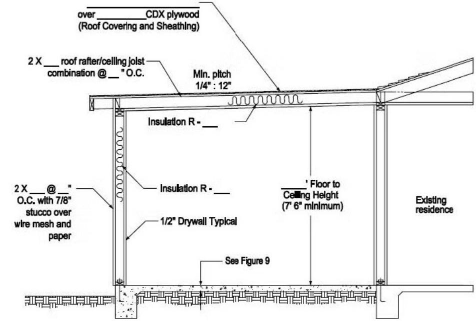
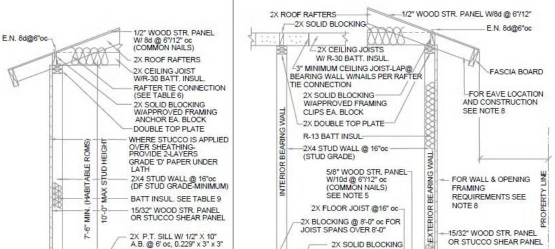

over ________CDX plywood
(Roof Covering and Sheathing)
2 X ___ roof rafter/ceiling joist
combination @ __ " O.C.
Min. pitch
1/4" : 12"
Insulation R - ___
2 X ___ @ __"
O.C. with 7/8"
stucco over
wire mesh and
paper
Insulation R - ___
1/2" Drywall Typical
____' Floor to
Ceiling Height
(7' 6" minimum)
Existing
residence
See Figure 9

Figure 9 - Wall Sections


E.N. 8d@6"oc
1/2" WOOD STR. PANEL
W/ 8d @ 6"/12" oc
(COMMON NAILS)
2X ROOF RAFTERS
2X CEILING JOIST
W/R-30 BATT. INSUL.
RAFTER TIE CONNECTION
(SEE TABLE 6)
2X SOLID BLOCKING
W/APPROVED FRAMING
ANCHOR EA. BLOCK
DOUBLE TOP PLATE
WHERE STUCCO IS APPLIED
OVER SHEATHING-
PROVIDE 2-LAYERS
GRADE 'D' PAPER UNDER
LATH
2X4 STUD WALL @ 16"oc
(DF STUD GRADE-MINIMUM)
BATT INSUL. SEE TABLE 9
15/32" WOOD STR. PANEL
OR STUCCO SHEAR PANEL
7'-6" MIN. (HABITABLE ROMS)
10'-0" MAX STUD HEIGHT
2X P.T. SILL W/ 1/2" X 10"
A.B. @ 6' oc, 0.229" x 3" x 3"
2X ROOF RAFTERS
1/2" WOOD STR. PANEL W/8d @ 6"/12"
2X SOLID BLOCKING
E.N. 8d@6"oc
2X CEILING JOISTS
W/ R-30 BATT. INSUL.
3" MINIMUM CEILING JOIST-LAP@
BEARING WALL W/NAILS PER RAFTER
TIE CONNECTION
FASCIA BOARD
2X SOLID BLOCKING
W/APPROVED FRAMING
CLIPS EA. BLOCK
FOR EAVE LOCATION
AND CONSTRUCTION
SEE NOTE 8
2X DOUBLE TOP PLATE
R-13 BATT INSUL.
2X4 STUD WALL @ 16"oc
(STUD GRADE)
INTERIOR BEARING WALL
5/8" WOOD STR. PANEL
W/10d @ 6"/12" oc
(COMMON NAILS)
SEE NOTE 5
EXTERIOR BEARING WALL
FOR WALL & OPENING
FRAMING
REQUIREMENTS SEE
NOTE 8
PROPERTY LINE
2X FLOOR JOIST @16" oc
2X BLOCKING @ 8'-0" oc FOR
JOIST SPANS OVER 8'-0"
15/32" WOOD STR. PANEL
OR STUCCO SHEAR PANEL
2X SOLID BLOCKING

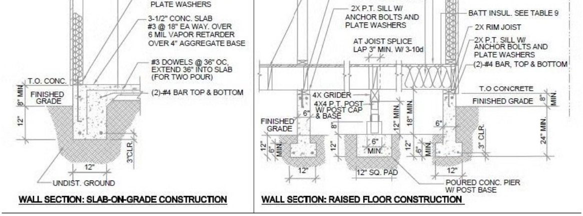


PLATE WASHERS
3-1/2" CONC. SLAB
#3 @ 18" EA WAY. OVER
6 MIL VAPOR RETARDER
OVER 4" AGGREGATE BASE
#3 DOWELS @ 36" OC,
EXTEND 36" INTO SLAB
(FOR TWO POUR)
T.O. CONC.
FINISHED GRADE
(2)-#4 BAR TOP & BOTTOM
8" MIN
12"
3"CLR.
12"
UNDIST. GROUND
2X P.T. SILL W/
ANCHOR BOLTS AND
PLATE WASHERS
AT JOIST SPLICE
LAP 3" MIN. W/ 3-10d
BATT INSUL. SEE TABLE 9
2X RIM JOIST
2X P.T. SILL W/
ANCHOR BOLTS AND
PLATE WASHERS
(2)-#4 BAR, TOP & BOTTOM
4X GRIDER
4X4 P.T. POST
W/ POST CAP
& BASE
6"
8"
FINISHED GRADE
12" MIN.
18" MIN.
6"
T.O CONCRETE
FINISHED GRADE
8" MIN.
24" MIN.
3" CLR.
12"
6" MIN.
12"
6" MIN.
12"
6" MIN.
12"
12" SQ. PAD
12"
POURED CONC. PIER
W/ POST BASE

WALL SECTION: SLAB-ON-GRADE CONSTRUCTION

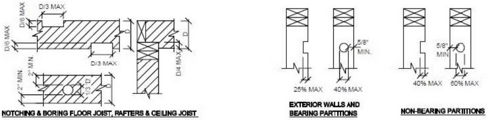
WALL SECTION: RAISED FLOOR CONSTRUCTION

NOTES

1. Anchor bolts ½" x 10" embedded 7" and spaced maximum 6' with 0.229" x 3" x 3" plate washers, minimum 2 anchor bolts per piece, located not more than 12" or less than 7 bolt diameters from each end of the piece.
2. (a) - All foundation plates or sills and sleepers on a concrete or masonry slab, which is in direct contact with earth, and sills that rest on concrete or masonry foundations shall be preservative treated wood (AWPA U1). All field cut ends, notches, and drilled holes shall be field treated in accordance with AWPA M4. Fasteners (other than anchor bolts) in preservative treated wood or fire retardant treated wood shall be of hot dipped zinc coated galvanized steel or stainless steel.

   (b) - Wood joist or decking where closer than 18-inches, and wood beam closer than 12-inches to exposed ground shall be preservative-treated.
3. Minimum concrete strength 2,500-psi.
4. Exterior walls, bearing walls and braced wall panels require continuous footings.
5. 23/32" plywood required for 24" joist spacing.
6. Where interior walls are shear walls, wall framing and sheathing shall extend to the roof sheathing.
7. Footings on or adjacent to slopes shall meet the requirements of CRC Section R403.1.7.
8. For allowable opening in exterior walls, roof eave construction, and fire-resistive rating of exterior walls refer to CRC R302.1

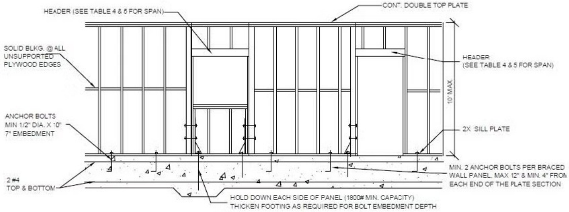
Figure 10 - Typical Details


D/3 MAX
D/6 MAX
D/6 MAX
D
D/3 MAX
2" MIN.
2" MIN.
1/3 D
D
D/4 MAX
D
NOTCHING & BORING FLOOR JOIST, RAFTERS & CEILING JOIST
5/8" MIN.
25% MAX
40% MAX
EXTERIOR WALLS AND BEARING PARTITIONS
5/8" MIN
40% MAX
60% MAX
NON-BEARING PARTITIONS

- NOTCHING NOT PERMITTED IN MIDDLE 1/3 JOIST SPAN
- NOTCHING & BOARING NOT PERMITTED WITHIN 24" OF JOIST END
- HOLES SHALL NOT BE LOCATED WITHIN 2" OF A NOTCH

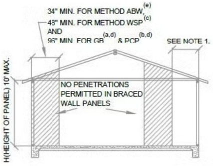
- EXTERIOR WALLS AND BEARING WALLS MAY HAVE BORED HOLES BETWEEN 40 AND 60 PERCENT WHEN STUD IS DOUBLED AND NOT MORE THAN TWO SUCCESSIVE DOUBLE STUDS ARE BORED (R802.7.1, R602.6)

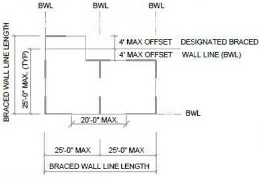
Ⓐ **Framing Member Notch and Cut**


HEADER (SEE TABLE 4 & 5 FOR SPAN)
CONT. DOUBLE TOP PLATE
SOLID BLKG. @ ALL UNSUPPORTED PLYWOOD EDGES
HEADER (SEE TABLE 4 & 5 FOR SPAN)
10' MAX
ANCHOR BOLTS MIN 1/2" DIA. X 10" 7" EMBEDMENT
2X SILL PLATE
MIN. 2 ANCHOR BOLTS PER BRACED WALL PANEL, MAX 12" & MIN. 4" FROM EACH END OF THE PLATE SECTION
2 #4 TOP & BOTTOM
HOLD DOWN EACH SIDE OF PANEL (1800# MIN. CAPACITY)
THICKEN FOOTING AS REQUIRED FOR BOLT EMBEDMENT DEPTH

Ⓑ **WALL FRAMING**

Figure 11 - Lateral Bracing Information

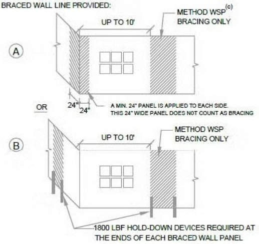

34" MIN. FOR METHOD ABW,(e)
43" MIN. FOR METHOD WSP(c)
AND
96" MIN. FOR GB(a,d) & PCP(b,d)
SEE NOTE 1.
NO PENETRATIONS PERMITTED IN BRACED WALL PANELS
H(HEIGHT OF PANEL) 10' MAX.


BWL
BWL
BWL
4' MAX OFFSET
4' MAX OFFSET
DESIGNATED BRACED WALL LINE (BWL)
BWL
BRACED WALL LINE LENGTH
25'-0" MAX. (TYP.)
20'-0" MAX.
25'-0" MAX
25'-0" MAX
BRACED WALL LINE LENGTH

BRACED WALL LINE LENGTH

NOTES:

1. BRACED WALL LINES AT EXTERIOR WALLS SHALL HAVE A BRACED WALL PANEL LOCATED AT EACH END OF THE BRACED WALL LINE.
   EXCEPTION: FOR METHOD WSP (c), THE BRACED WALL PANEL SHALL BE PERMITTED TO BEGIN NO MORE THAN 10 FEET FROM EACH END OF THE BRACED WALL LINE PROVIDED:


A
UP TO 10'
METHOD WSP(c) BRACING ONLY
24"
24"
A MIN. 24" PANEL IS APPLIED TO EACH SIDE. THIS 24" WIDE PANEL DOES NOT COUNT AS BRACING
OR
B
UP TO 10'
METHOD WSP BRACING ONLY
1800 LBF HOLD-DOWN DEVICES REQUIRED AT THE ENDS OF EACH BRACED WALL PANEL

2. MIXING BRACING METHODS WITHIN A BRACED WALL LINE IS NOT PERMITTED
3. BRACE WALL LINES GREATHER THAN 16FT SHALL HAVE A MINIMUM OF TWO BRACED WALL PANELS (T-R602.10.3(3))

WSP= WOOD STRUCTURAL PANEL
PCP= PORTLAND CEMENT PLASTER
GB= GYPSUM BOARD
ABW= ALTERNATE BRACED WALL

Roof/Ceiling Dead Load = 15 psf Wall Height = 10 ft Braced Wall Lines Spacing = 25 ft		Minimum Total Length of Braced Wall Panels Required Along each Braced Wall Line (ft)[f]		
Story Location	Braced Wall Line Length	Methods GB [a,d] and PCP [b,d]	Method WSP [c]	Method ABW [e]
	10	8	4	1(2'-10")
	20	16	5	2(2'-10")
	30	24	7.5	3(2'-10")
	40	32	10	4(2'-10")
	50	40	12.5	5(2'-10")

(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.

(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 sice 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

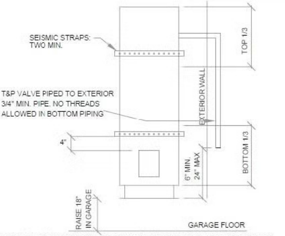
(c). Method WSP (Wood Structural Panel) = 3/8-in. minimum thickness wood structural panel with 8d common (2-1/2-in x 0.131-in.) nails at 6-in. spacing along panel edges, 12-in. spacing at intermediate supports, and 3/8-in. distance to panel edge. ½-in. minimum thickness gypsum wall board shall be installed 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). Method ABW (Alternate Braced Wall) = 3/8" min wood structural panel w/8d @6"/12", DBL Studs at end w/1800 # uplift capacity holdown. Minimum length of each ABW = 2'-10"

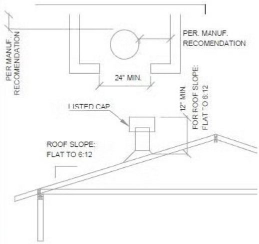
(f). Multiply required braced wall panel lengths specified in the table by 1.2 when combined Roof Ceiling Dead load is between 15 psf and 25 psf.

Figure 12 - TYPICAL INFORMATION

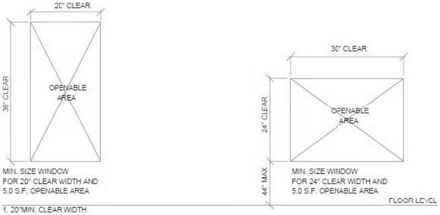

SEISMIC STRAPS: TWO MIN.
T&P VALVE PIPED TO EXTERIOR 3/4" MIN. PIPE. NO THREADS ALLOWED IN BOTTOM PIPING
EXTERIOR WALL
TOP 1/3
BOTTOM 1/3
4"
6" MIN. 24" MAX
RAISE 18" IN GARAGE
GARAGE FLOOR

NOTE: NO GAS-FIRED WATER HEATER ALLOWED IN BEDROOMS, BATHROOMS, CLOTHES CLOSETS, OR ANY SPACE OPENING INTO A BEDROOM OR BATHROOM.

Ⓐ **WATER HEATERS**

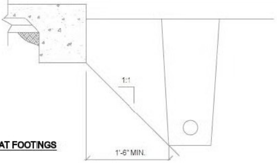

PER MANUF. RECOMENDATION
PER. MANUF. RECOMENDATION
24" MIN.
LISTED CAP
12" MIN.
FOR ROOF SLOPE: FLAT TO 6:12
ROOF SLOPE: FLAT TO 6:12

Ⓑ **WATER HEATERS VENT AND ACCESS REQUIREMENTS**


20" CLEAR
36" CLEAR
OPENABLE
AREA
MIN. SIZE WINDOW
FOR 20" CLEAR WIDTH AND
5.0 S.F. OPENABLE AREA
30" CLEAR
24" CLEAR
44" MAX
OPENABLE
AREA
MIN. SIZE WINDOW
FOR 24" CLEAR WIDTH AND
5.0 S.F. OPENABLE AREA
FLOOR LEVEL

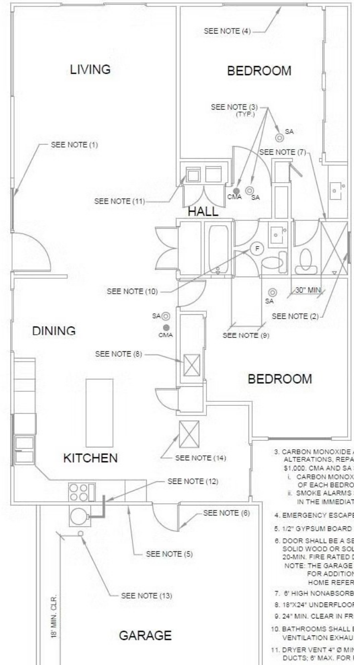
1. 20"MIN. CLEAR WIDTH
2. 24" MIN CLEAR HEIGHT
3. 5 SF MIN. OPENABLE AREA AT GRADE FLOOR ONLY, 5.7 SF. MIN. ELSEWHERE.

C EMERGENCY ESCAPE/RESCUE OPENING (R310)



D TRENCHES AT FOOTINGS

FIGURE 13 - TYPICAL INFORMATION


SEE NOTE (4)
LIVING
BEDROOM
SEE NOTE (3)
(TYP.)
SA
SEE NOTE (1)
SEE NOTE (7)
SEE NOTE (11)
CMA
SA
HALL
F
SEE NOTE (10)
30" MIN
SA
SA
CMA
SEE NOTE (2)
DINING
SEE NOTE (9)
SEE NOTE (8)
BEDROOM
KITCHEN
SEE NOTE (14)
SEE NOTE (12)
SEE NOTE (6)
SEE NOTE (5)
SEE NOTE (13)
18' MIN. CLR.
GARAGE

GENERAL NOTES:

MINIMUM ROOM DIMENSIONS: (R304 & R305)

A. AT LEASE ONE HABITABLE ROOM SHALL HAVE NOT LESS THAN 120 SF. AND OTHER HABITABLE ROOMS SHALL HAVE A FLOOR AREA OF NOT LESS 70 S.F.

B. HABITABLE ROOMS SHALL NOT BE LESS THAN 7FT. IN ANY HORIZONTAL DIMENSIONS.

C. HABITABLE SPACE AND HALLWAYS, BATHROOMS, TOILET ROOMS, AND LAUNDRY ROOMS SHALL HAVE CEILINGS HEIGHT OF NOT LESS THAN 6 FT 8 INCHES.

D. GARAGE FLOOR SURFACE SHALL BE OF APPROVED NON-COMBUSTIBLE MATERIAL (R309).

E. EVERY INTERIOR DOOR IN A DOORWAY THROUGH WHICH OCCUPANTS PASS SHALL HAVE A MINIMUM WIDTH OF 32".

F. ALL LAVATORY FAUCETS SHOULD HAVE A MAXIMUM FLOW OF 1.5 GALLONS PER MINUTE (GPM).

G. ALL SHOWERS SHOULD HAVE A MAXIMUM FLOW OF 2.0 GALLONS PER MINUTE (GPM).

H. PERMANENT VACUUM BREAKERS SHALL BE INCLUDED WITH ALL NEW HOSE BIBBS.

I. ALL TOILETS SHOULD BE "ULTRA LOW FLUSH TOILETS.

J. ALL KITCHEN FAUCETS SHOULD HAVE A MAXIMUM FLOW OF 1.8 GALLONS PER MINUTE (GPM).

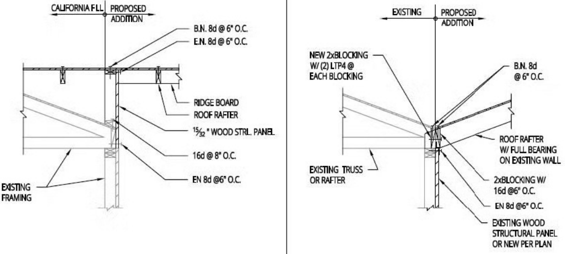
PLAN NOTES:

1. ALL WINDOWS WITHIN 24" OF DOORS SHALL BE TEMPERED.
2. IF LESS THAN 60" ABOVE STANDING SURFACE (R308.4), WINDOWS AT SHOWERS & TUBS SHALL BE TEMPERED.
3. CARBON MONOXIDE ALARMS (CMA) AND SMOKE ALARMS (SA) ARE REQUIRED FOR ALTERATIONS, REPAIRS OR ADDITIONS WHERE A PERMIT VALUATION EXCEEDS $1,000. CMA AND SA SHALL BE PROVIDED AT EACH LEVEL AND AT BASEMENTS:
    - i. CARBON MONOXIDE ALARMS SHALL BE PLACED OUTSIDE AT IMMEDIATE VICINITY OF EACH BEDROOM.
    - ii. SMOKE ALARMS SHALL BE INSTALLED IN EACH SLEEPING ROOM AND OUTSIDE IN THE IMMEDIATE VICINITY OF EACH BEDROOM(S).
4. EMERGENCY ESCAPE / RESCUE WINDOW IN BEDROOMS.
5. 1/2" GYPSUM BOARD TO ROOF OR FLOOR ABOVE.
6. DOOR SHALL BE A SELF-CLOSING & SELF-LATCHING 1-3/8" THICK SOLID WOOD OR SOLID OR HONEYCOMB CORE STEEL DOOR OR 20-MIN. FIRE RATED DOOR.
   NOTE: THE GARAGE SHALL NOT OPEN INTO A SLEEPING ROOM. FOR ADDITIONS & ALTERATIONS TO EXISTING SPRINKLERED HOME REFER TO INFORMATION BULLETIN 124.
7. 6' HIGH NONABSORBENT SURFACE @ SHOWER WALLS (R307.2)
8. 18"X24" UNDERFLOOR ACCESS.
9. 24" MIN. CLEAR IN FRONT OF TOILET.
10. BATHROOMS SHALL BE PROVIDED WITH 50 CFM INTERMITTENT VENTILATION EXHAUSTED DIRECTLY TO THE OUTSIDE.
11. DRYER VENT 4" Ø MIN.;14' MAX. W/ TWO 90° BENDS FOR METAL DUCTS; 6' MAX. FOR FLEX DUCT CONNECTOR

16' CLR. WIDTH

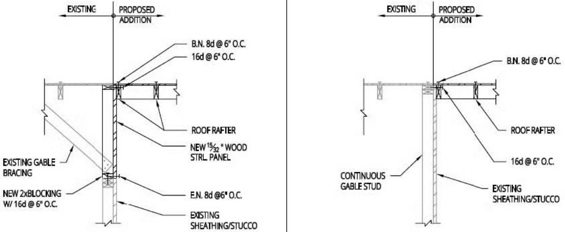
12. DUTS PENETRATING WALLS OR CEILINGS SEPARATING THE DWELLING FROM THE GARAGE SHALL BE CONSTRUCTED OF A MIN. 26 GAGE SHEET STEEL OR APPROVED MATERIAL.
13. PIPE BOLLARD OR OTHER PROTECTIVE MEASURE WHEN APPLIANCES ARE SUBJECT TO DAMAGE 3" MIN. DIA.
14. 22" X 30" ATTIC ACCESS, OR 30" X 30" IF FURNACE IS IN ATTIC. MIN HEADROOM OF 30".

Figure 14 - Shear Transfer for Various Roof Types


CALIFORNIA FILL
PROPOSED ADDITION
B.N. 8d @ 6" O.C.
E.N. 8d @ 6" O.C.
RIDGE BOARD
ROOF RAFTER
15/32" WOOD STRL. PANEL
16d @ 8" O.C.
EN 8d @6" O.C.
EXISTING FRAMING
EXISTING
PROPOSED ADDITION
NEW 2xBLOCKING W/ (2) LTP4 @ EACH BLOCKING
B.N. 8d @ 6" O.C.
ROOF RAFTER W/ FULL BEARING ON EXISTING WALL
EXISTING TRUSS OR RAFTER
2xBLOCKING W/ 16d @6" O.C.
EN 8d @6" O.C.
EXISTING WOOD STRUCTURAL PANEL OR NEW PER PLAN

(H) NEW GABLE ROOF AT EXISTING HIP ROOF

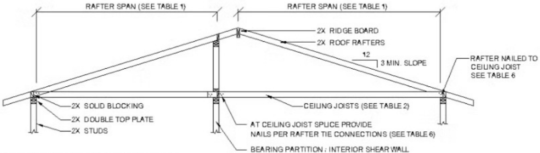
(J) NEW HIP ROOF AT EXISTING HIP ROOF


EXISTING
PROPOSED ADDITION
B.N. 8d @ 6" O.C.
16d @ 6" O.C.
ROOF RAFTER
NEW 15/32" WOOD STRL. PANEL
EXISTING GABLE BRACING
NEW 2xBLOCKING W/ 16d @ 6" O.C.
E.N. 8d @6" O.C.
EXISTING SHEATHING/STUCCO
EXISTING
PROPOSED ADDITION
B.N. 8d @ 6" O.C.
ROOF RAFTER
16d @ 6" O.C.
CONTINUOUS GABLE STUD
EXISTING SHEATHING/STUCCO

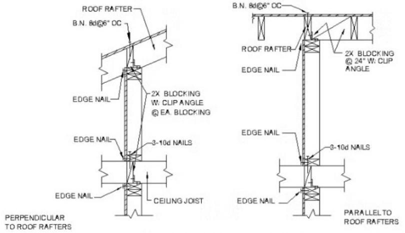
(K) NEW GABLE ROOF AT EXISTING GABLE ROOF WITH GABLE BRACING

(L) NEW GABLE ROOF AT EXISTING GABLE ROOF WITHOUT GABLE BRACING

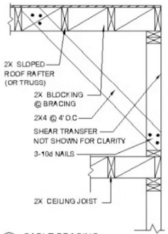
Figure 15 - SHEAR TRANSFERS AND MISC. Details


RAFTER SPAN (SEE TABLE 1)
RAFTER SPAN (SEE TABLE 1)
2X RIDGE BOARD
2X ROOF RAFTERS
12
3 MIN. SLOPE
RAFTER NAILED TO CEILING JOIST SEE TABLE 6
2X SOLID BLOCKING
2X DOUBLE TOP PLATE
2X STUDS
CEILING JOISTS (SEE TABLE 2)
AT CEILING JOIST SPLICE PROVIDE NAILS PER RAFTER TIE CONNECTIONS (SEE TABLE 6)
BEARING PARTITION / INTERIOR SHEAR WALL

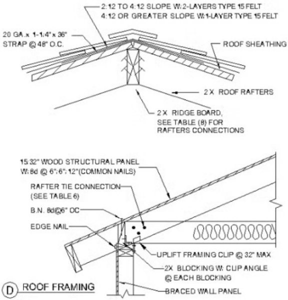
(A) RAFTER SUPPORT CONSTRUCTION (R802.5.1)


ROOF RAFTER
B.N. 8d@6" OC
EDGE NAIL
2X BLOCKING W/ CLIP ANGLE @ EA. BLOCKING
EDGE NAIL
3-10d NAILS
EDGE NAIL
CEILING JOIST
PERPENDICULAR TO ROOF RAFTERS
B.N. 8d@6" OC
ROOF RAFTER
2X BLOCKING @ 24" W/ CLIP ANGLE
EDGE NAIL
EDGE NAIL
3-10d NAILS
EDGE NAIL
PARALLEL TO ROOF RAFTERS

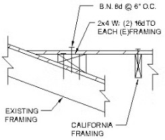
(B) INTERIOR SHEAR WALL AT ATTIC


2X SLOPED ROOF RAFTER (OR TRUSS)
2X BLOCKING @ BRACING
2X4 @ 4' O.C.
SHEAR TRANSFER NOT SHOWN FOR CLARITY
3-10d NAILS
2X CEILING JOIST

(C) GABLE BRACING


2:12 TO 4:12 SLOPE W/ 2-LAYERS TYPE 15 FELT
4:12 OR GREATER SLOPE W/ 1-LAYER TYPE 15 FELT
20 GA. x 1-1/4" x 36" STRAP @ 48" O.C.
ROOF SHEATHING
2 X ROOF RAFTERS
2 X RIDGE BOARD, SEE TABLE (6) FOR RAFTERS CONNECTIONS
15/32" WOOD STRUCTURAL PANEL W/ 8d @ 6"/6"/12" (COMMON NAILS)
RAFTER TIE CONNECTION (SEE TABLE 6)
B.N. 8d@6" OC
EDGE NAIL
UPLIFT FRAMING CLIP @ 32" MAX
2X BLOCKING W/ CLIP ANGLE @ EACH BLOCKING
BRACED WALL PANEL

(D) ROOF FRAMING


B.N. 8d @ 6" O.C.
2x4 W/ (2) 16d TO EACH (E)FRAMING
EXISTING FRAMING
CALIFORNIA FRAMING

(E) CALIFORNIA FRAMING

Previous Versions of this Information Bulletin

This section contains previous versions of this Information Bulletin by the last day they were effective.

- 2025-01-23|IB-140 "How To Obtain a Permit to Build a Residential Addition / Remodel" PDF