

BUILDING PERMIT REQUIREMENTS FOR:

**SOLID ROOF
PATIO COVER**

10 lb. live load – 10 lb. dead load

**INFORMATION
GUIDELINE**

8B

January 2014

CITY OF ESCONDIDO • BUILDING DIVISION • 201 N. BROADWAY, ESCONDIDO, CA 92025 • (760) 839-4647

PLEASE COMPLETE THE ITEMS BELOW AND READ THE GENERAL NOTES

Job Address _____ Owner _____

Patio Dimensions: Length _____ Width _____ Total Square Feet _____

Inspection Requests: (760)839-4646 (24-hr. recorder) Building Inspectors: (760)839-4647

Inspector's Phone Hours: 8:00-8:30 a.m. and 4:00-5:00 p.m., Mon.-Fri.

Upon permit issuance, this Guideline will serve as your approved plan.

Fire Severity Zone: Yes No (IF YES, ALL LUMBER SHALL BE FIRE-RETARDANT TREATED)

Permit Validation: _____ Roof Covering: _____

GENERAL NOTES

1. To expedite the permit process, please circle or highlight the appropriate rafter, beam and footing sizes on Tables I, II, III or IV.
2. Construction of a patio cover by any method other than those outlined herein, or an ICC-ES approved installation, is required to be designed and must be submitted for plan check.
3. A patio cover may be enclosed. Please refer to Information Guideline #12 for patio enclosures.
4. A patio cover is not a habitable room. If converted to a habitable room, major modifications may be required.

DESCRIPTION OF SOLID ROOF PATIO COVER

A patio cover is a one-story structure not more than 12 feet in height. It is open on one or more sides with a clear height, from the floor to the soffit of the supporting members, of not less than 6 ft. 8 in. and with a minimum height of 7 feet to the bottom of the rafters. The roof covering will consist of solid sheathing with an approved roofing material applied per manufacturer's specification or fiberglass panels. The cover is attached to and permitted as an accessory to a single-family dwelling, a single-family dwelling unit in a multi-dwelling unit building or to a residential garage. Patio covers shall not be used as a carport garage, storage or habitable room.

LOCATION

Except for allowed overhang, no patio cover may encroach into the required setbacks. Contact the Planning or Building Division for setback requirements.

CONSTRUCTION SPECIFICATIONS

Following are the minimum construction specifications for patio covers.

A. Footing/Foundation concrete shall consist of 1 part cement, 3 parts sand and 4 parts gravel, volumetric measure, with not more than 7-1/2 gallons of water per sack of cement (min. f'c 2,000 psi at 28 days).

B. Lumber shall be Douglas Fir/Larch No. 2 (DF/L) or better. All lumber shall be grade marked. If redwood or cedar are to be used in place of (DF/L), they must meet or exceed (DF/L) No. 2 specifications. Redwood and cedar lumber that does qualify may not be readily available in this area.

C. FOUNDATION/FOOTINGS:

1. Patio footings refer to Table III.
2. All footings to extend a minimum of 12 inches into undisturbed soil or a minimum of 90% compacted fill.

D. Post anchorage and bracing details contained in this guideline approved in the City of Escondido.

1. Posts shall be anchored at the lower end by any method shown in Details A through E, and at the upper end by any method shown in Details F through I. Decorative-type bracing may be substituted if the same resistance to lateral loading is provided

2. Post anchorage to slabs may be accomplished with a standard approved post base installed per manufacturer's instructions.

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Specifications (Continued)

Footings must be adequate for the applied loads. See Table III. When the load on supporting posts does not exceed 750 pounds per post, a minimum 3 ½ inch-thick concrete slab-on-grade may be substituted for the pad footings shown on the typical framing details.

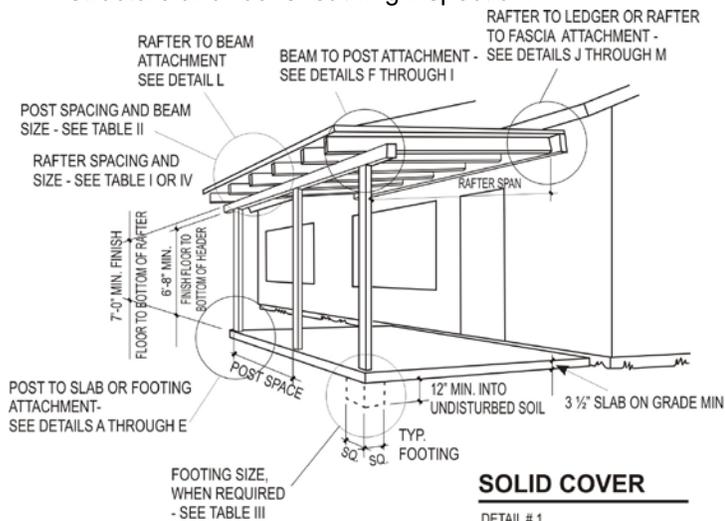
3. Specify roof covering refer to Chapter 9 CRC, (cap-sheet, shingles, etc.) when submitting plans. The minimum slope for a patio cover roof is 1/4 inch in 12 inches. Rafter, post spacing and beam sizes are determined by Tables I, II and IV. The roof covering shall consist of solid lumber of standard dimensions, plywood or OSB board applied perpendicular to the rafters with an approved covering applied per manufacturer's installation instructions. For roof sheathing spans refer to (Information Guideline No. 17 SPAN TABLES), for nominal 1-inch lumber and Table No. 2304.7(3), from the California Building Code, for plywood (Information Guideline No. 5). 1x nominal lumber solid sheathing may be used when the rafter spacing does not exceed 24" on center and the sheathing is placed perpendicular to the rafters.

E. When connecting and supporting one side of the patio cover directly to the dwelling/structure, the rafter spacing and beam sizes are determined by Tables I and II. However, the main beam on the side attached to the dwelling may be replaced with a ledger the same size as the rafters, fastened to the wall studs with staggered, ½" x 5" lag screws at 48" maximum on center, for up to a 10'-0" rafter span. Lag screws to be 32" maximum on center for rafter spans up to 20'-0". Attaching the rafters to the existing dwelling unit rafters is not recommended. If a ledger beam is not used, patio cover rafters shall be supported directly on the double top plates of the wall.

INSPECTIONS

Inspections are required at the following times:

1. When footings have been excavated but prior to placing concrete,
2. When ledger beams are attached to an existing structure and roof sheathing inspection.



3. When all work is complete and weather-protected a final inspection shall be requested and approved.
4. The approved plans and inspection card must be on the job for the inspector.

TABLES

The following assumptions pertaining to the tables in this Guideline are applicable:

Roof Live Load = 10 psf

Roof Dead Load = 10 psf (max)

All lumber is to be Douglas Fir-Larch No 2 or better:

Fb = 900 psi (Base Design Value)

Fv = 180 psi

E = 1,600,000 psi

Repetitive member use.

All posts minimum 4x4,

Soil bearing pressure is 1000 psf, minimum.

If the above information differs from proposed construction, values in the tables must be adjusted.

Additional Regulations

A. If patio cover posts are located less than 3'-0" from the property line (Zoning Regulations permitting), the patio cover must have a one-hour fire-resistive wall extending from the underside of the roof sheathing on the property line side to provide fire protection. A 30" high parapet may be required.

B. No fire protection is required for the common wall between the dwelling unit and the patio cover as they are considered the same occupancy.

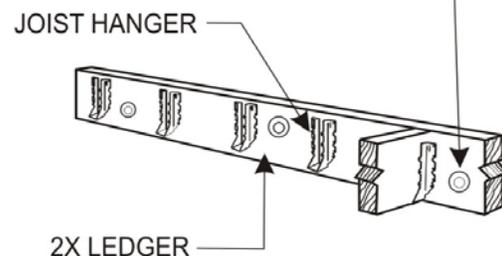
C. When openings required for light and/or ventilation within the dwelling unit open into a patio cover structure, there shall be a minimum openable area between the patio cover and adjoining room of not less than 10% of the floor area of the interior room but not less than 20 square feet. Refer to CRC Section R303.

D. All electrical wiring and equipment shall comply with regulations for exterior installations (WP and GFCI).

STAGGER ½" X 5" LAG BOLTS @ 48" O.C.

FOR RAFTER SPAN UP TO 10' - 32" O.C.

FOR RAFTER SPAN OVER 10'*



*LAG BOLTS TO BE PLACED WITHIN 12" OF ALL ENDS AND BREAKS IN LEDGER.

CONNECTION TO BUILDING

DETAIL #2

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TABLE 1 Minimum Rafter Sizes (Inches)

Rafter Span (Feet)	Rafter Spacing Center-to-Center (Inches)			
	12 (⁵ / ₁₆ " Plywood sheathing)	16 (³ / ₈ " Plywood sheathing)	24 (¹ / ₂ " Plywood sheathing)	32 (⁵ / ₈ " Plywood sheathing)
6	2x4	2x4	2x4	2x4
7	2x4	2x4	2x4	2x4
8	2x4	2x4	2x6	2x6
9	2x4*	2x6	2x6	2x6
10	2x6	2x6	2x6	2x6
11	2x6	2x6	2x6	2x6
12	2x6	2x6	2x6	2x8
13	2x6	2x6	2x8	2x8
14	2x6	2x6	2x8	2x8
15	2x6	2x8	2x8	2x10
16	2x8	2x8	2x8	2x10
17	2x8	2x8	2x10	2x10
18	2x8	2x8	2x10	2x10
19	2x8	2x10	2x10	2x12
20	2x8	2x10	2x10	2x12

Table II Minimum Beam Size (Inches)

Post Spacing (Feet)	Rafter Span (In Feet)							
	6	8	10	12	14	16	18	20
4	4x4	4x4	4x4	4x4	4x4	4x4	4x4	4x4
6	4x4	4x4	4x4	4x4	4x4	4x4	4x4	4x6
8	4x4	4x6						
10	4x6	4x6	4x6	4x6	4x6	4x8	4x8	4x8
12	4x6	4x6	4x8	4x8	4x8	4x8	4x8	4x10
14	4x8	4x8	4x8	4x8	4x10	4x10	4x10	4x10
16	4x8	4x8	4x10	4x10	4x10	4x12	4x12	4x14
18	4x8	4x10	4x10	4x10	4x12	4x12	4x14	4x14
20	4x10	4x10	4x12	4x12	4x14	4x14	6x12	6x14

Table III Minimum Square Footing Sizes (Inches)

Post Spacing (Feet)	Rafter Span (In Feet)							
	6	8	10	12	14	16	18	20
4	12	12	12	12	12	12	12	12
6	12	12	12	12	12	12	12	14
8	12	12	12	12	12	14	14	14
10	12	12	12	14	14	14	16	16
12	12	12	14	14	16	16	18	18
14	12	12	14	16	16	18	18	20
16	12	14	14	16	18	18	20	20
18	12	14	16	18	18	20	20	22
20	14	14	16	18	20	20	22	24

Table IV 4 x Rafters

Maximum Span (Feet)	Maximum Spacing Center to Center (Inches)	
	32	48
8	4x4	4x4
9	4x6	4x6
10	4x6	4x6
13	4x6	4x8
15	4x8	4x8
17	4x8	4x8
20	4x8	4x10

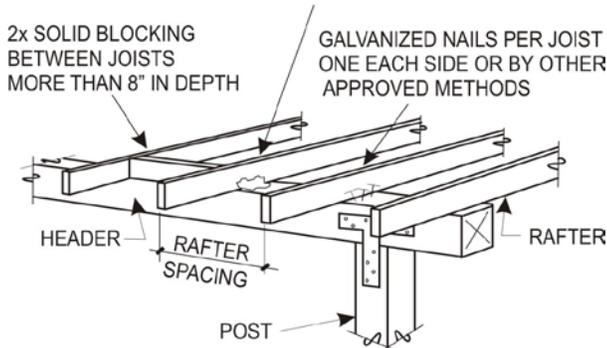
DIRECTIONS for TABLES I thru IV:

1. Footings to extend 12" minimum into undisturbed soil.
2. Please indicate appropriate rafter, beam, post spacing and footing size with a circle or by highlighting the appropriate spacing and span numbers on each chart.

GENERAL NOTES:

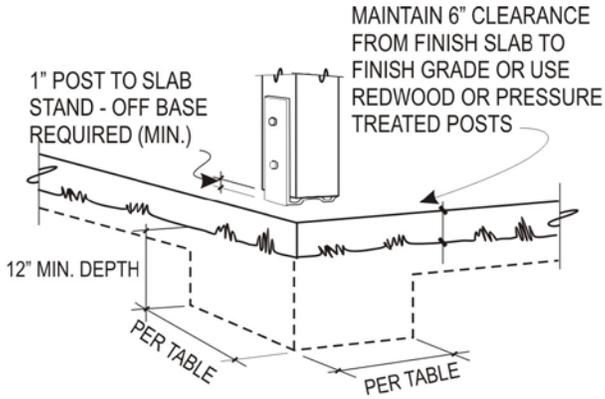
1. Maximum span for 1-inch nominal solid sheathing is 24 inches.
2. 2-inch nominal solid sheathing will span 48 inches.
3. Plywood or OSB sheathing shall comply with Table No. 503.2.1.1(2), CRC, for span index rating.
4. Use manufacturer's specified fasteners per listing.
5. All bases, caps and connectors are to be approved and listed products.
6. All bases, caps and connectors shall be galvanized or coated with a corrosion resistant paint.

TIE JOIST TO BEAM WITH APPROVED MECHANICAL CONNECTOR OR WITH 3-8D



RAFTER TO BEAM CONNECTIONS

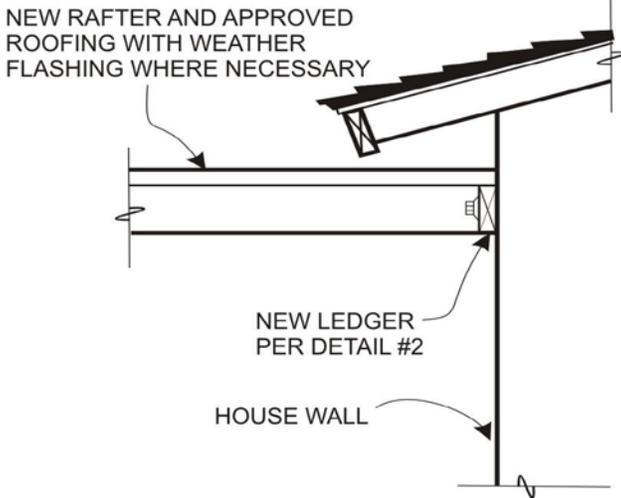
DETAIL # 3



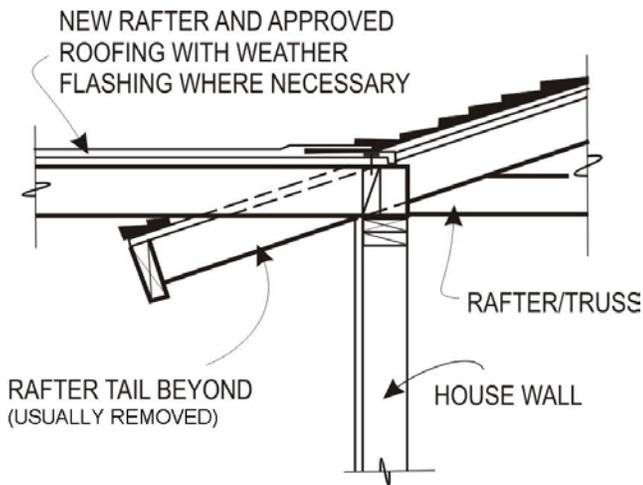
FOR ISOLATED POSTS (NOT PART OF A SLAB), A SEPARATION OF 8" MUST BE MAINTAINED BETWEEN WOOD AND EARTH OR USE RED WOOD OR PRESSURE TREATED POSTS

POST BASE CONNECTION

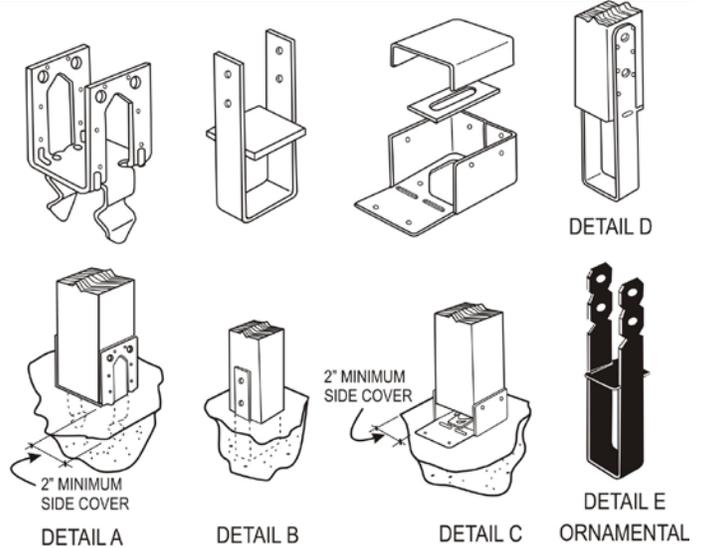
DETAIL #4



LEDGER ATTACHMENT

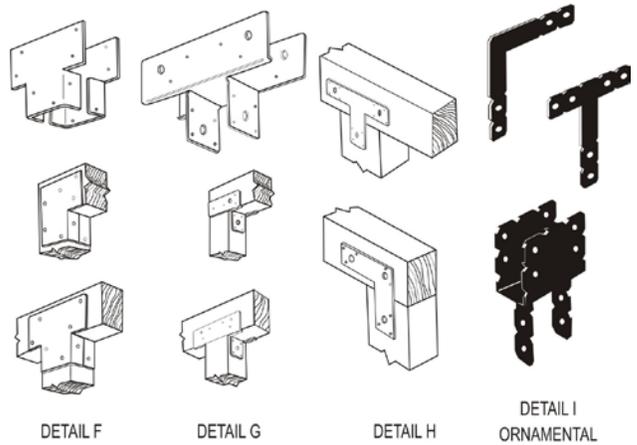


TOP PLATE ATTACHMENT



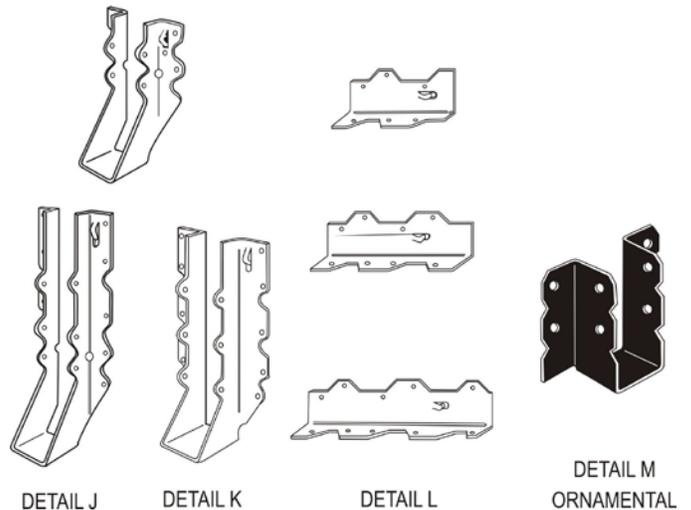
COLUMN / POST BASE DETAILS A-E

SCALE : 1/2" = 1'-0"



COLUMN / POST CAPS DETAILS F-I

SCALE : 1/2" = 1'-0"



RAFTER CONNECTION J-M