

Residential Construction Guide

For detached single story buildings and additions less than 800 square feet

Using this construction guide can replace several hand-drawn plans for your project when it is completely filled out.

This guide describes the prescriptive construction requirements of the International Residential Code and is not intended to relieve other requirements of the code.

A Permit Technician will discuss any additional information and/or requirements that must be submitted.

Fill out the worksheet on the following page.

Your submittal package should contain two copies of floor plans and elevations.

If you are adding to an existing home you must show existing rooms adjoining new construction. Each room must be labeled regarding use and must show all doors, windows, etc.

Floor plans must be drawn to $\frac{1}{4}'' = 1'-0''$ scale.

Select construction details you plan to use from pages 3-10. Pages 11, 12 and 13 are drawing samples only.

Revised 4/8/09



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For an alternate format,
contact the Clark County
ADA Compliance Office.
Phone: (360) 397-2322
Relay: 711 or (800) 833-6384
E-mail: ADA@clark.wa.gov

Building Description

Owner name: _____ Permit number: _____

Address: _____

Home phone: _____ Work phone: _____

Describe building use(s): _____

Check the appropriate item for each category.

Building type

- Detached
- Attached

Total square feet of project: _____

Footing type - see page 3

- Monolithic
- Slab
- Other – provide detail

Maximum height of foundation: _____

Floor type – see pages 4 and 5

- Slab
- Post and beam
- Floor joist
- Other – provide detail, see example on page 11

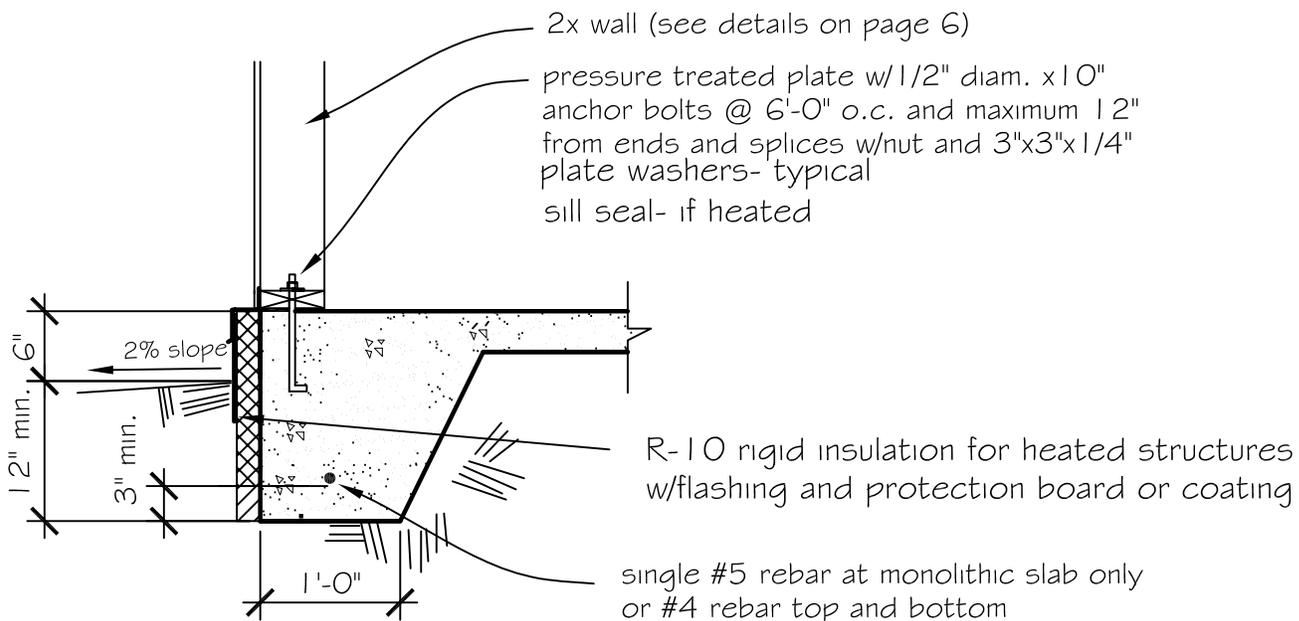
Wall type – see page 6

- Detail 1: 2x6 insulated with exterior sheathing (wall)
- Detail 2: 2x6 insulated with siding and sheathing (double wall)
- Detail 3: 2x4 or 2x6 unheated garage or shop

Roof type – see pages 7 through 10

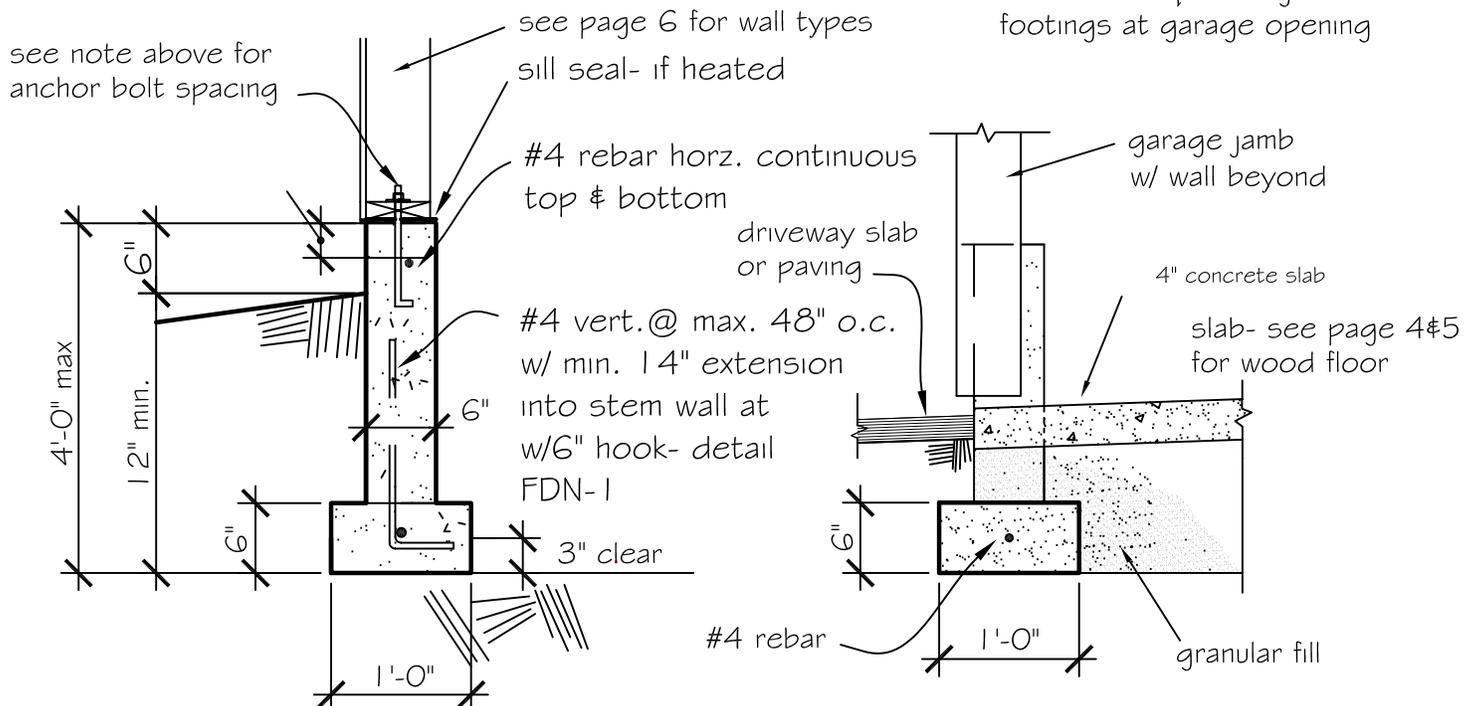
- Conventional roof framing – see detail 3, page 7 and 13
- Vaulted ceiling – see detail 4, page 8 and 13
- Engineered trusses – see page 9
- Shed roof – see page 10

FOOTINGS



1
3 Monolithic slab/footing

NOTE: 2' wide shear walls and portal frame will require larger continuous footings at garage opening

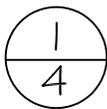
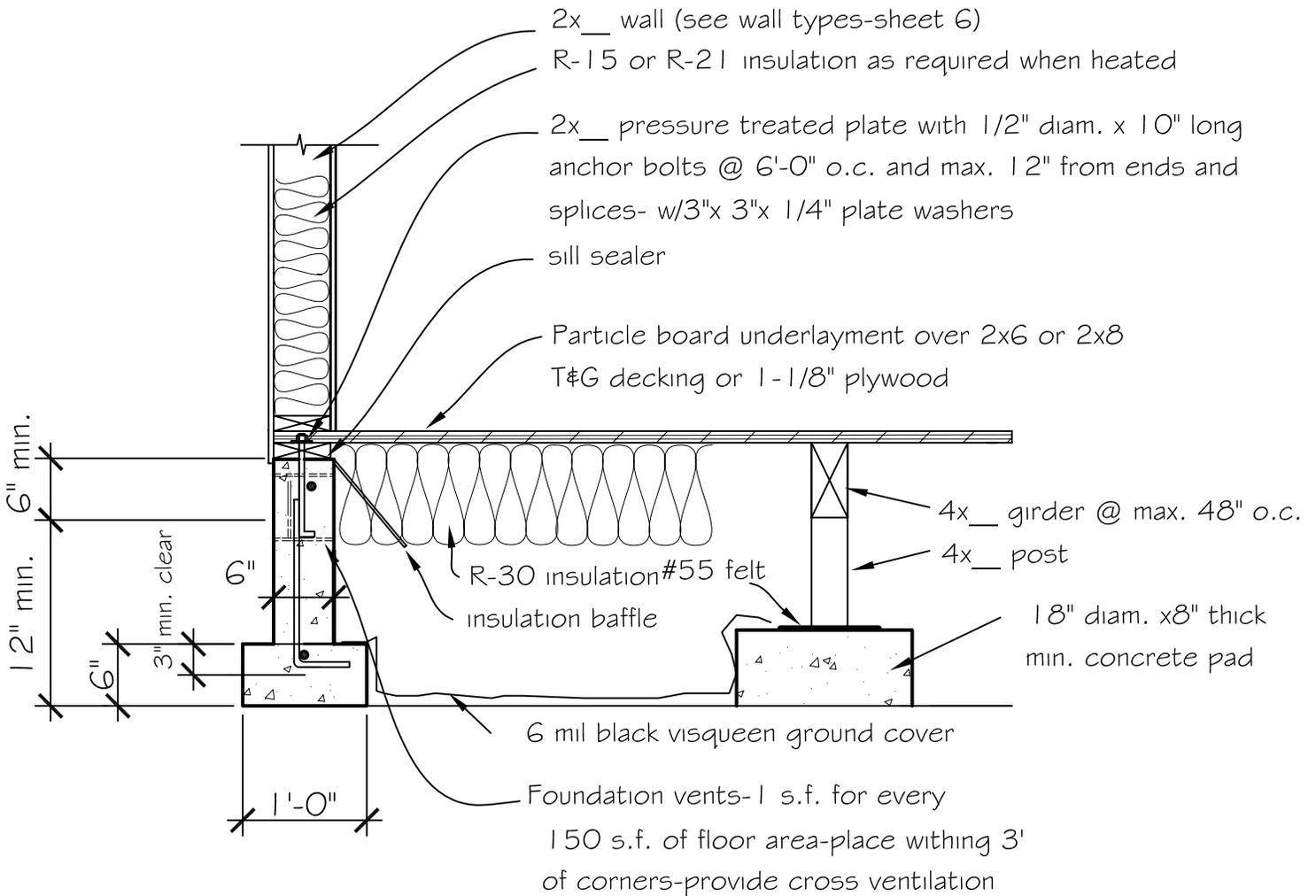


2
3 Footing with stem wall

3
3 Footing at door opening

NOTE: * Footings over 4'-0" high are required to be designed as retaining walls -see FDN-7 & FDN-8
* Minimum concrete strength 2500 p.s.i. Lap rebar min. 40 diameters at splices-secure with tie wire

FOOTING/FLOOR



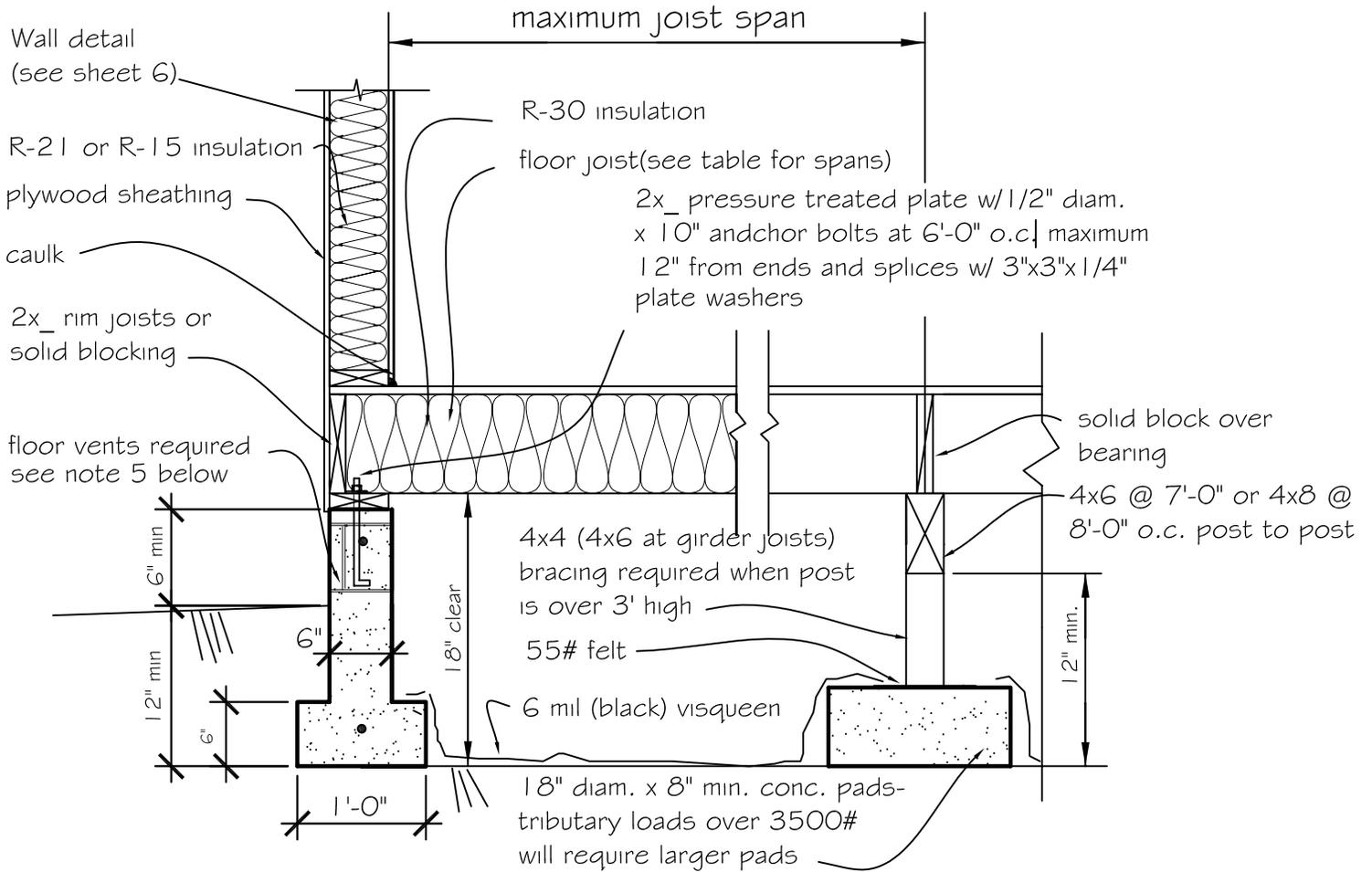
POST & BEAM

NOTES:

1. 4X6 D.F. #2 GIRDERS-MAXIMUM 7' SPAN. 4X8 MAXIMUM 8' SPAN.
2. 4X4 D.F. #2 POST. 4X6 REQUIRED AT GIRDER SPLICES.
3. DECKING MUST BE COVERED WITH 3/8" PLYWOOD OR TYPE OR TYPE 2M PARTICLE BOARD.
4. 4X POST OVER 3' HIGH MUST BE BRACED.
5. SEE PAGE 6 FOR REBAR REQUIREMENT IN FOOTING
6. SUPPORT INSULATION AT 12" O.C. TO HOLD TIGHT TO UNDERSIDE OF FLOOR DECK- DO NOT COMPRESS

* Minimum concrete strength 2500 p.s.f. Lap rebar min. 40 diameters at splices-secure with tie wire

FLOOR TYPES



1
5

FLOOR JOISTS

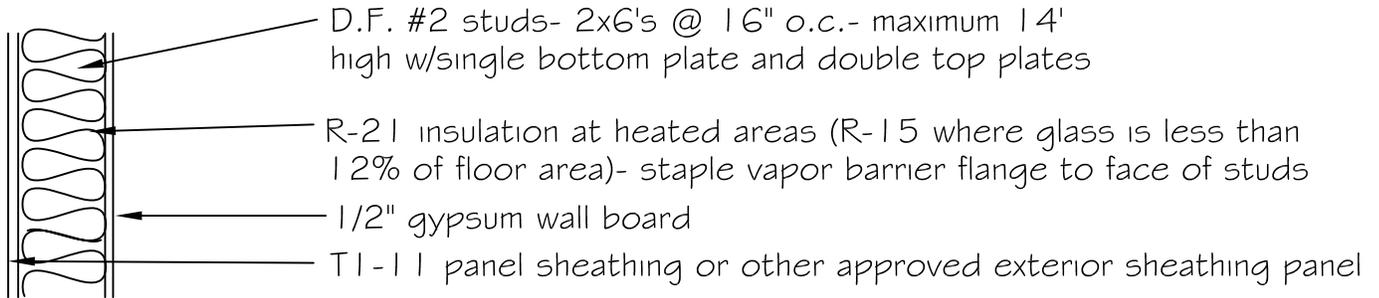
scale- 3/4" = 1'-0"

FLOOR JOISTS	12" O.C.	16" O.C.	24" O.C.
2x6	10'-9"	9'-9"	8'-1"
2x8	14'-9"	12'-7"	10'-3"
2x10	17'-9"	15'-5"	12'-7"
2x12	20'-7"	17'-10"	14'-7"

NOTES:

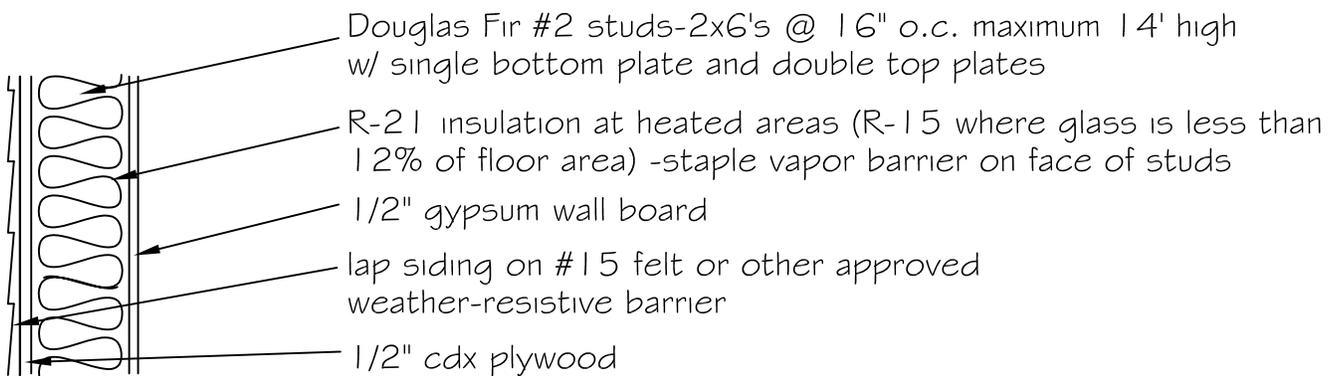
- FLOOR JOIST TO BE MINIMUM DOUGLAS FIR #2
- MINIMUM SPANS FOR SUBFLOOR-UNDERLAYMENT 16" O.C. 1/2" CDX, 24" O.C. 5/8" CDX GROUP 1 CCX PLUGGED OR APPROVED EQUAL WITH TONGUE AND GROVED JOINTS OR BLOCKED, UNLESS 1/4" UNDERLAYMENT IS INSTALLED.
- MINIMUM CONCRETE STRENGTH 2500 p.s.i.
- LAP REBAR MIN. 40 DIAMETERS AT SPLICES WITH TIE WIRE.
- FOUNDATION VENTS REQUIRED - 1 s.f. FOR EACH 150 s.f. OF UNDER-FLOOR AREA-DISTRIBUTE APPROXIMATELY EQUALLY ON AT LEAST TWO SIDES-RECOMMEND STARTING PLACEMENT WITHIN 3' OF CORNERS-SEE UBS 2306.7

WALL TYPES



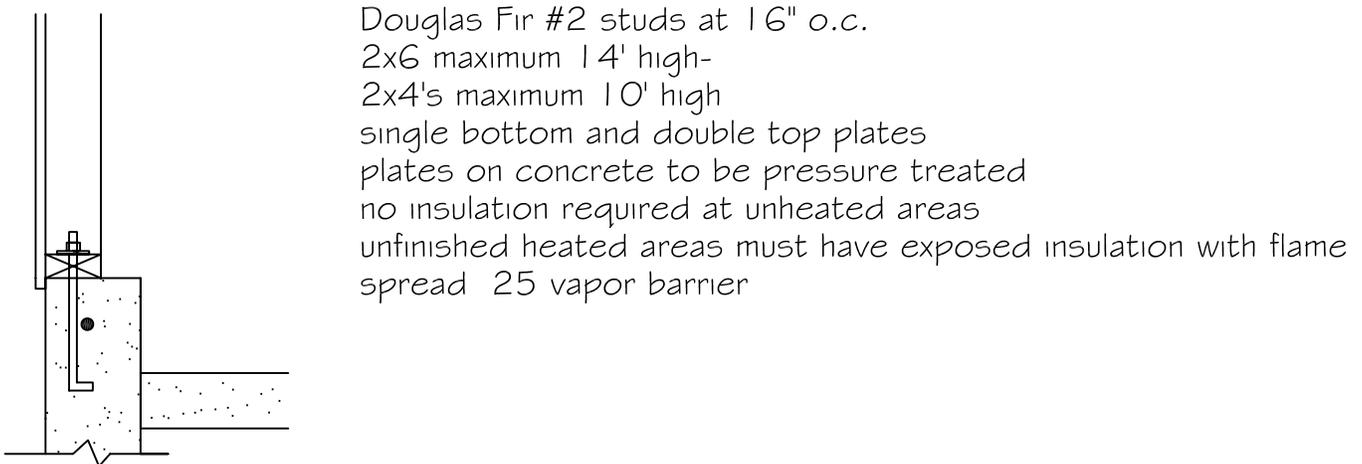
1 2 X 6 WALL WITH EXTERIOR SHEATHING

scale- 1" = 1'-0"



2 2 X 6 WALL WITH SIDING AND SHEATHING

scale- 1" = 1'-0"

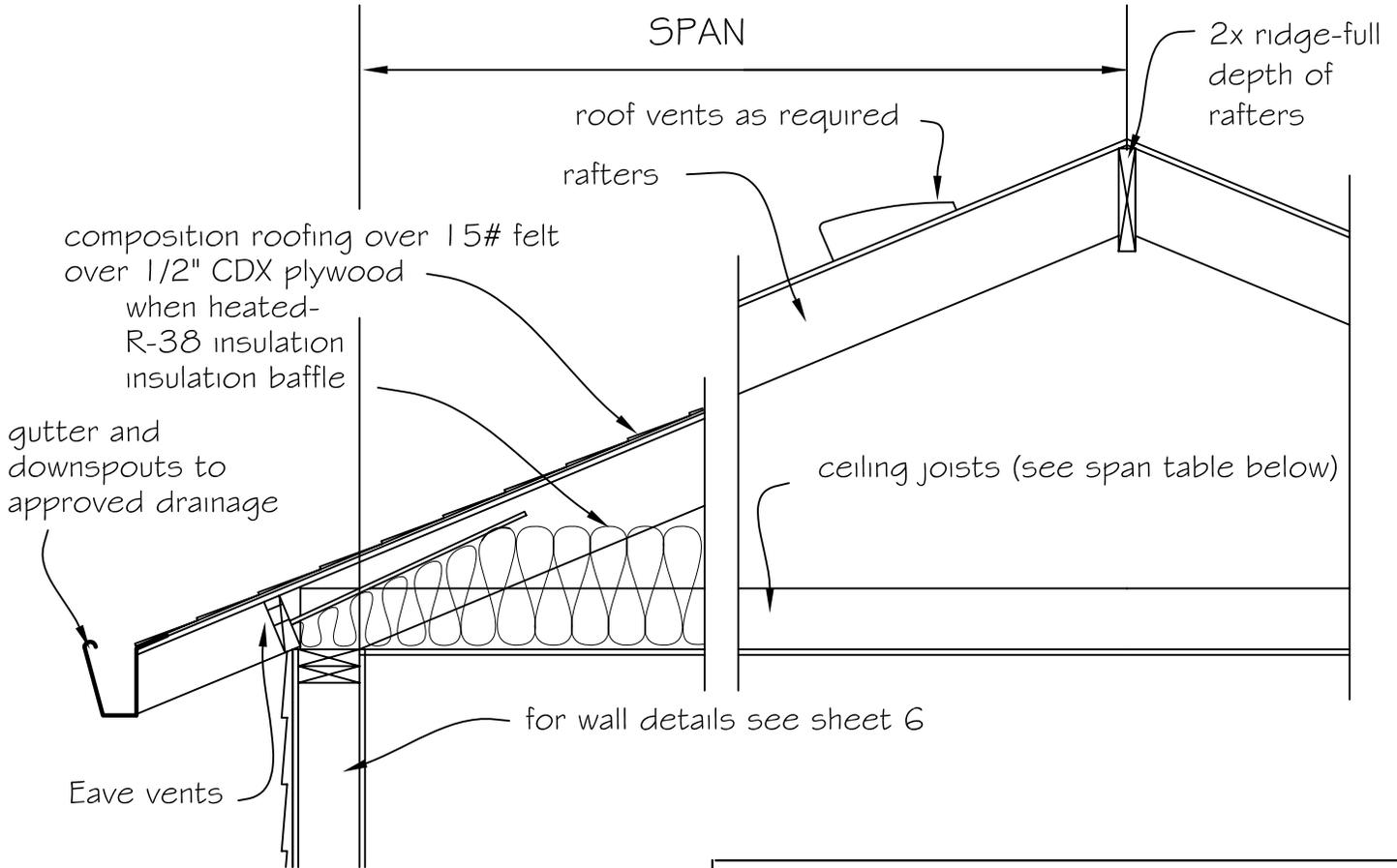


3 2 x 4 or 2 x 6 WALL - UN HEATED

scale- 1" = 1'-0"

ROOF TYPES

(Rafters with Ceiling Joists)



NOTES

1. Ceiling joists to be Douglas Fir #2 or better.
2. Rafters to be Douglas Fir or better. Roof slopes greater than 3 in 12 (see sheet 10 for slopes less than 3 in 12). Rafters are for light roof coverings only- 30# ground snow- 10# dead load.
3. Roof vent total net area to be 1/300 of roof area if 1/2 of required vents are 3'-0" above eave, otherwise 1/150 of roof area is required in roof vents.

CEILING JOISTS	12" O.C.	16" O.C.	24" O.C.
2X4	9'-10"	8'-9"	7'-2"
2X6	14'-10"	12'-10"	10'-6"
2X8	18'-9"	16'-3"	13'-3"
2X10	22'-11"	19'-10"	16'-3"
RAFTERS(SLOPE>3/12)	12"O.C.	16"O.C.	24"O.C.
2X4	8'-7"	7'-10"	6'-8"
2X6	13'-6"	11'-11"	9'-9"
2X8	17'-5"	15'-1"	12'-4"
2X10	21'-4"	18'-5"	15'-1"
2x12	24'-8"	21'-5"	17'-6"

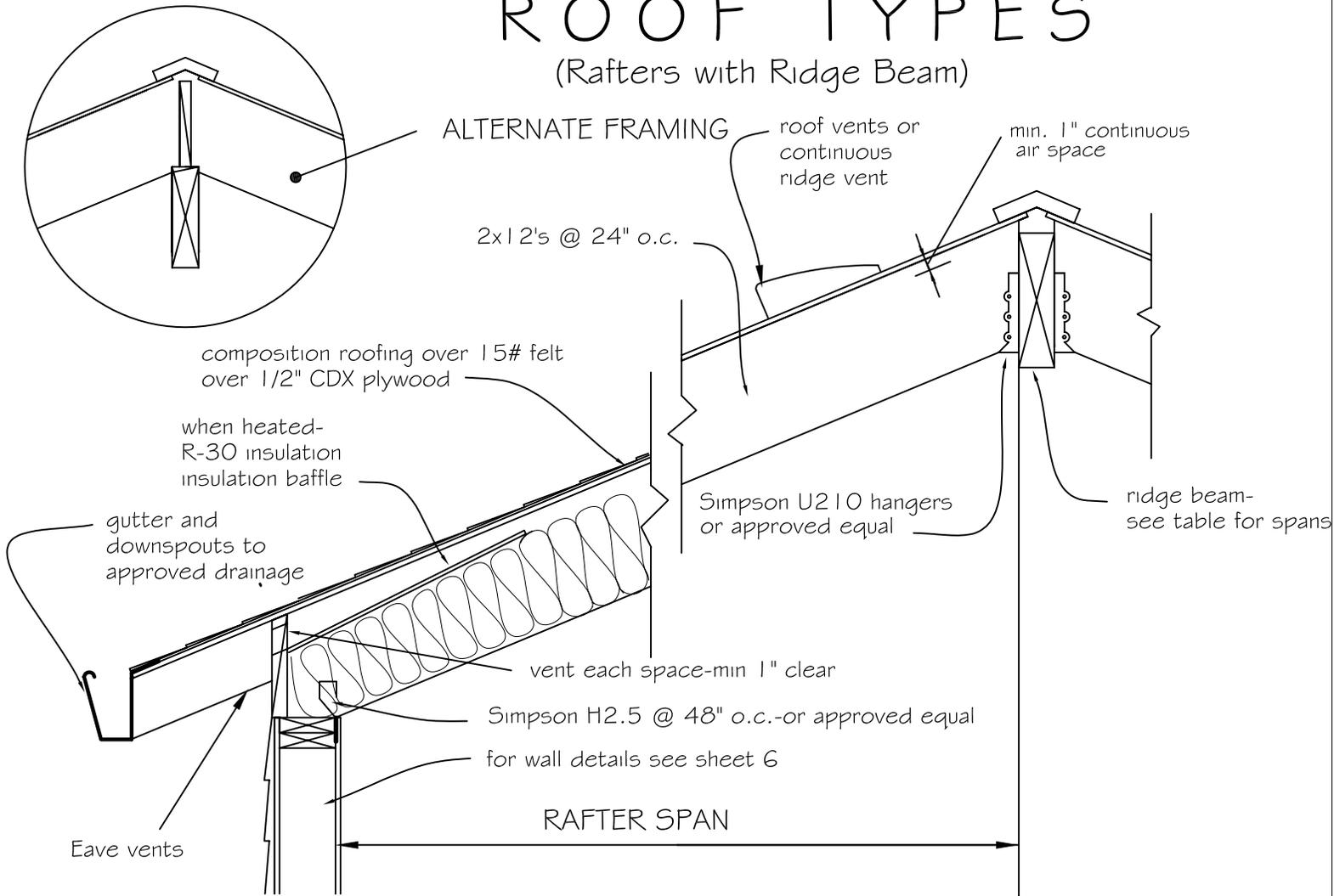


CONVENTIONAL FRAMING

scale- 1" = 1'-0"

ROOF TYPES

(Rafters with Ridge Beam)



Beam Span

	10'-0"	12'-0"	14'-0"	16'-0"	18'-0"	20'-0"	22'-0"	24'-0"
10'-0"	2-2x12	4x12 #1	6x12 4x16	6x14	3-1/8x12 6x16	3-1/8x13-1/2 5-1/8x12	5-1/8x13-1/2 3-1/8x15	3-1/8x16-1/2 5-1/8x13-1/2
12'-0"	2-2x12	6x12 4x12	6x12 #1 4x16 #1	3-1/8x12 5-1/8x10-1/2	3-1/8x13-1/2 5-1/8x12	3-1/8x15 5-1/8x12	3-1/8x16-1/2 5-1/8x13-1/2	3-1/8x18 5-1/8x15
14'-0"	4x14	4x14 #1 6x12 #1	3-1/8x12 6x14x #1	3-1/8x13-1/2 5-1/8x10-1/2	3-1/8x15 5-1/8x12	3-1/8x16-1/2 5-1/8x13-1/2	3-1/8x18 5-1/8x15	3-1/8x19-1/2 5-1/8x16-1/2
16'-0"	4x14	6x12 #1	3-1/8x12 6x14 #1	3-1/8x13-1/2	3-1/8x15 5-1/8x12	3-1/8x16-1/2 5-1/8x13-1/2	3-1/8x18 5-1/8x15	5-1/8x16-1/2
18'-0"	4x14 #1	6x12 #1	3-1/8x13-1/2 5-1/8x10-1/2	3-1/8x15 5-1/8x12	3-1/8x16-1/2 5-1/8x13-1/2	3-1/8x18 5-1/8x13-1/2	3-1/8x19-1/2 5-1/8x16-1/2	5-1/8x18

NOTE: 1. 3-1/8" & 5-1/8" glu-lam beams Fb = 2400 2. 2x, 4x and 6x Douglas Fir #2 Unless otherwise noted
3. Ridge beam to be supported by vertical wall or post to footings

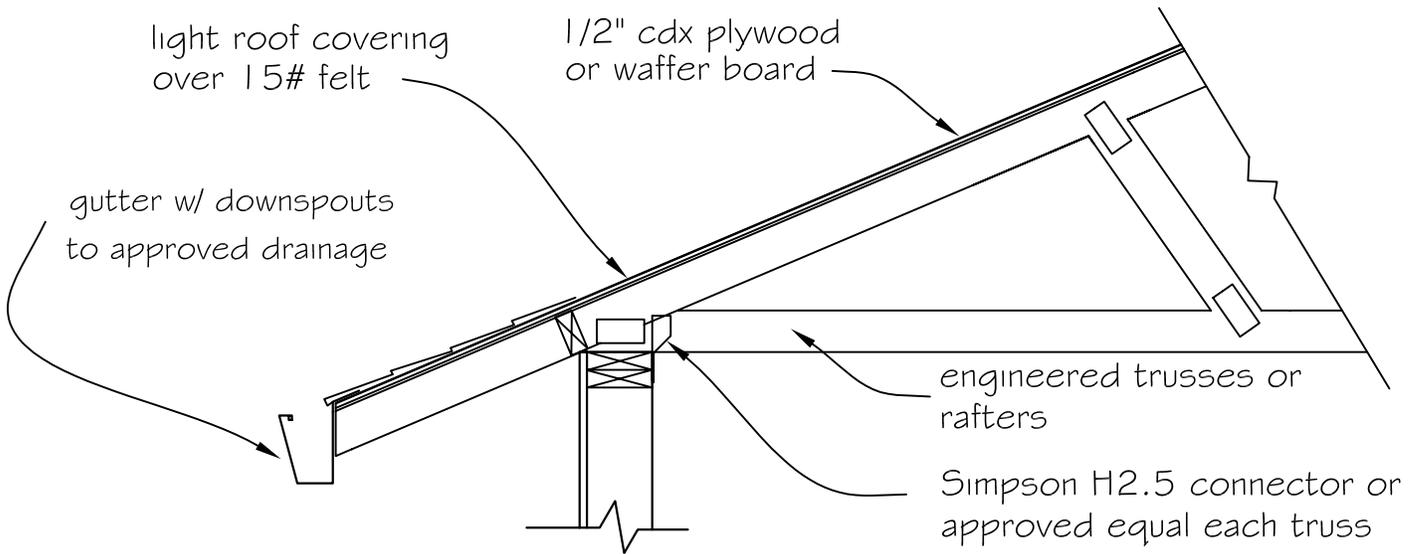
1
8

ROOF FRAMING (VAULTED)

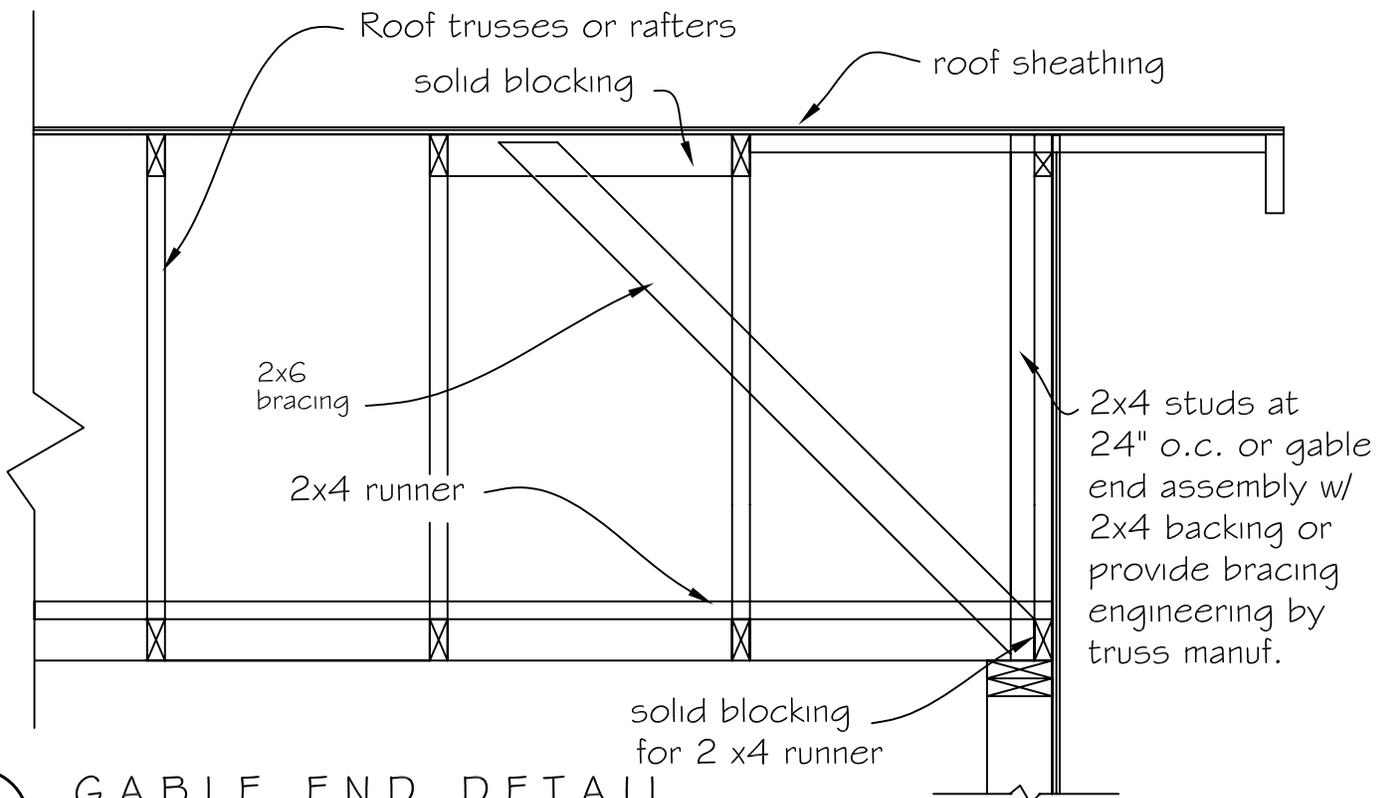
scale- 3/4" = 1'-0"

ROOF TYPES

(Manufactured Trusses)

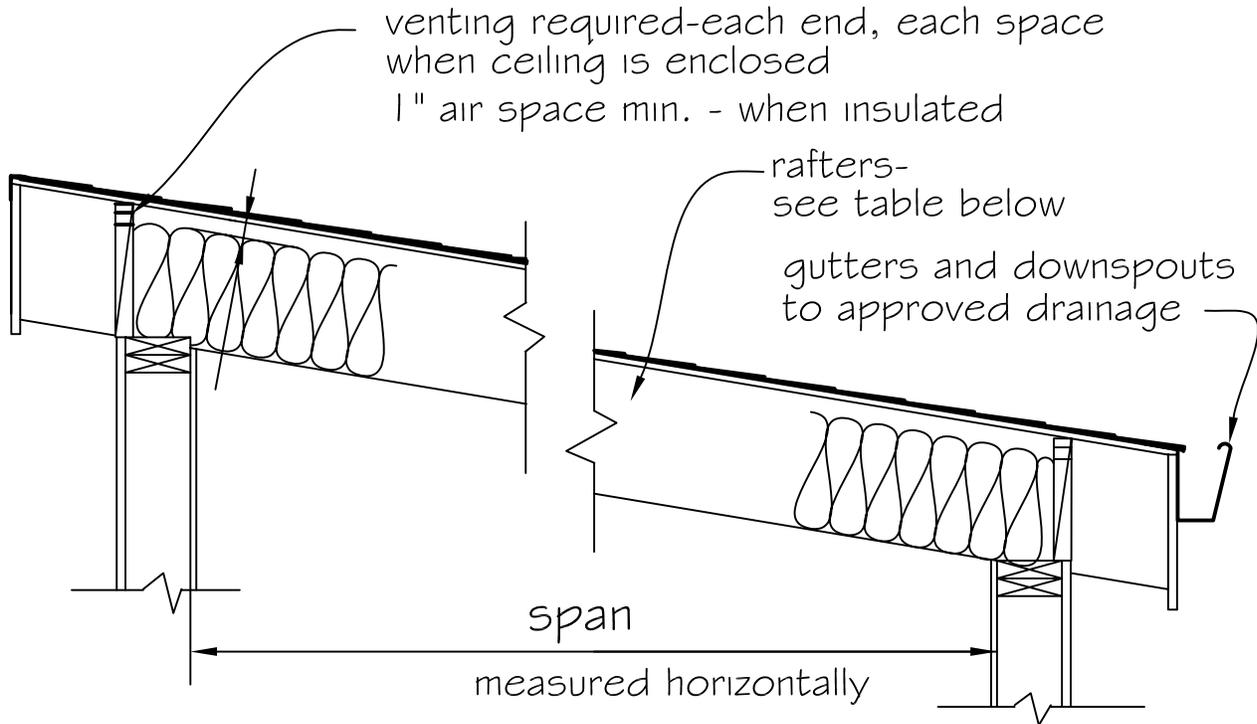


1
9 ROOF TRUSSES (MANUFACTURED)
scale- 3/4" = 1'-0"



2
9 GABLE END DETAIL
scale- 3/4" = 1'-0" (trusses shown- conventionally framed gable end bracing similar)

ROOF TYPES (shed)



1
10

ROOF FRAMING (shed)

scale- 3/4" = 1'-0"

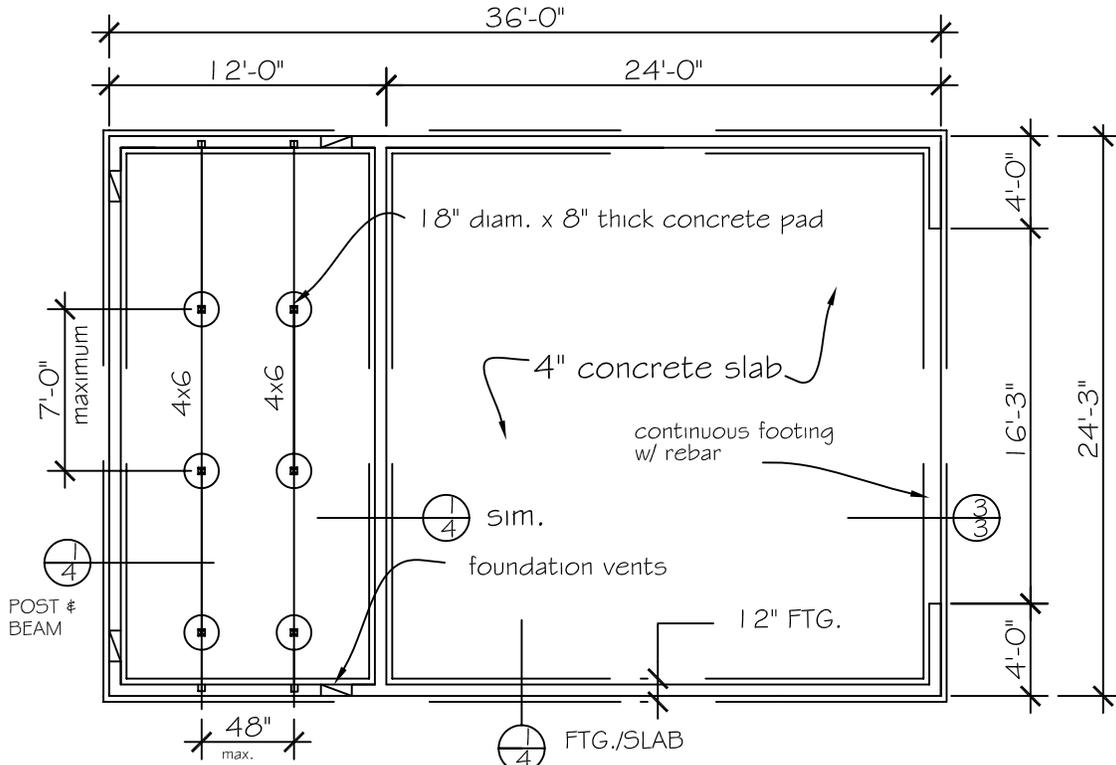
RAFTERS

	12" o.c.	16" o.c.	24" o.c.
2x4	8'-7"	7'-10"	6'-8"
2x6	13'-6"	11'-11"	9'-9"
2x8	17'-5"	15'-1"	12'-4"
2x10	21'-4"	18'-5"	15'-1"
2x12	24'-8"	21'-5"	17'-6"

NOTES:

- 2 in 12 slope min. for 3 tab composition roofing -for slopes 2 in 12 to 4 in 12, two layers of 15# felt required, applied shingle fashion.
- Pitches less than 2 in 12 are to be hot mop, metal, sheet metal, rolled roofing or other approved material, applied as directed in approved manufacture's instructions.
- When ceiling is applied, vent each rafter space continuously through top and bottom blocking.
When heated, insulate with R-30 insulation, using 2x12 rafters to allow one inch vent space.
- When attaching to existing building show ledger, size, and method of fastening joists and ledger. Show required flashing.
- Rafters are D.F. #2 per IRC Table R802.5.1(5)

EXAMPLE FOUNDATION & FLOOR PLAN

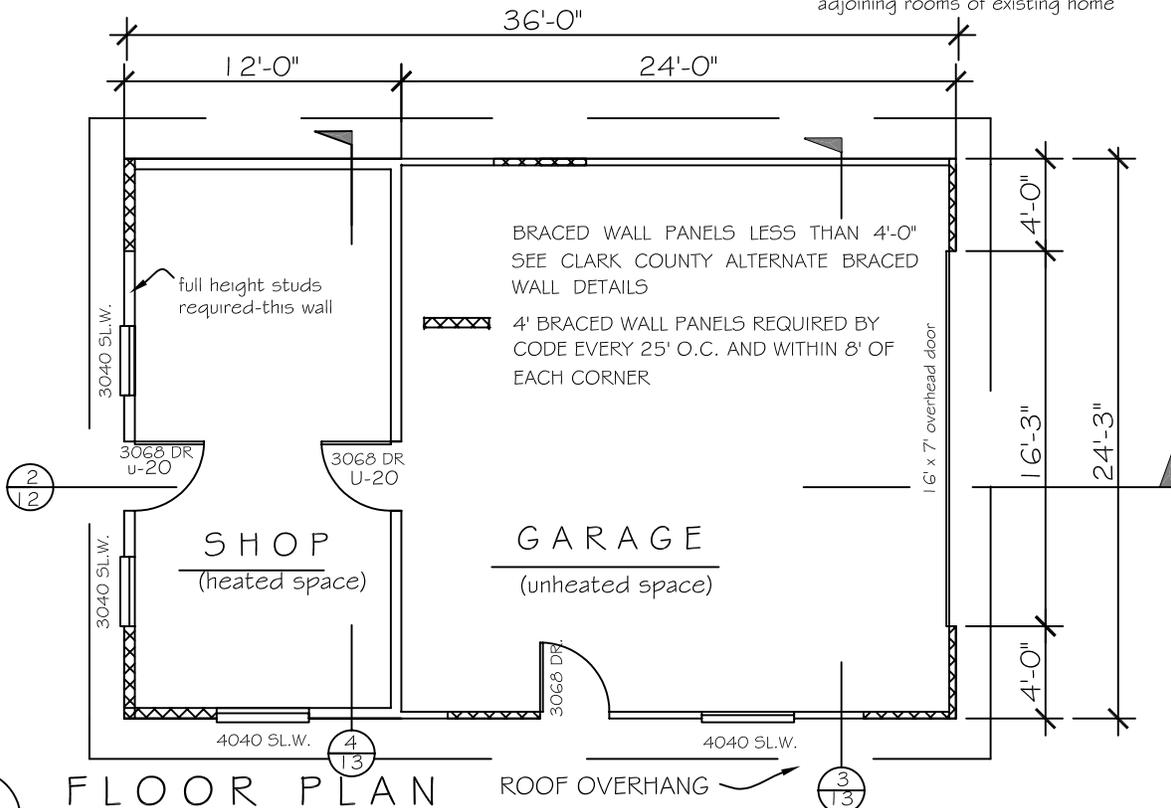


1
11

FOUNDATION/FLOOR FRAMING PLAN

scale- 1/4" = 1'-0" (REDUCED SCALE EXAMPLE)

NOTE: If attaching addition to an existing residence, show adjoining rooms of existing home

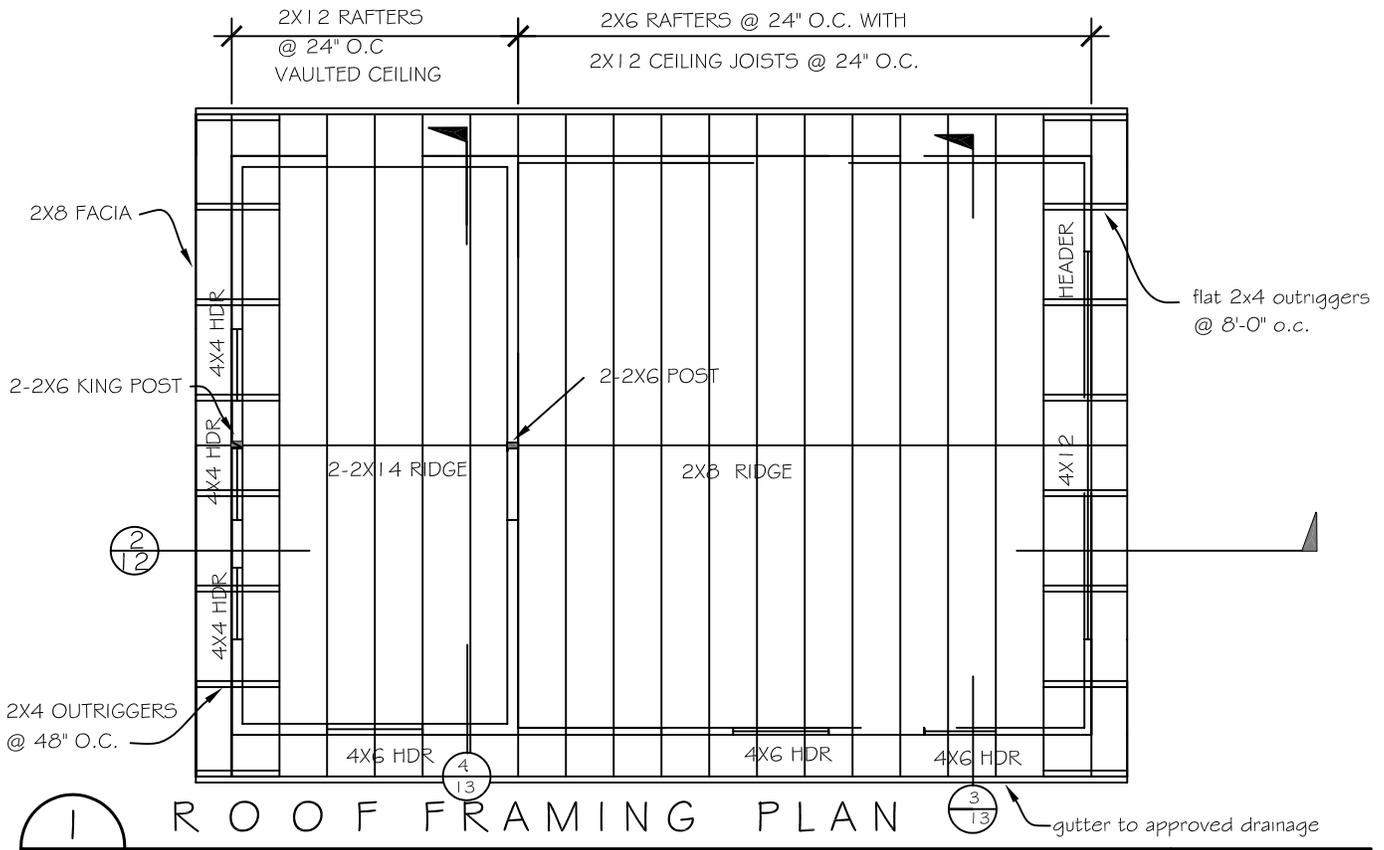


2
11

FLOOR PLAN

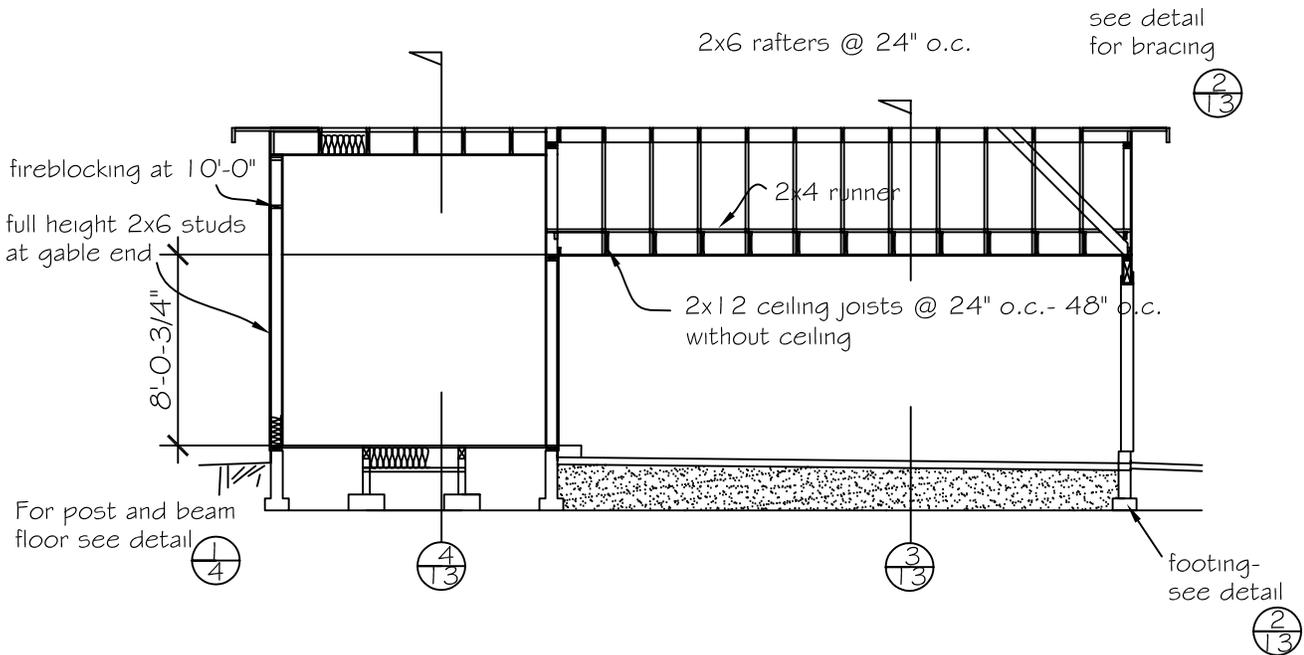
scale- 1/4" = 1'-0" (REDUCED EXAMPLE)

EXAMPLE FOUNDATION & FLOOR PLAN



scale- 1/4" = 1'-0" (REDUCE EXAMPLE)

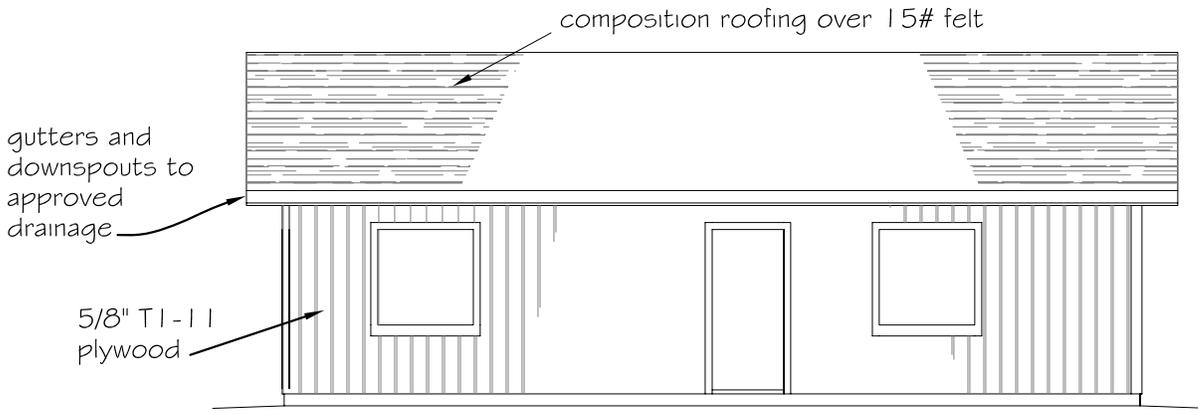
NOTE: If attaching to existing home- show attachment to existing and all structural modifications



SECTION

scale- 1/4" = 1'-0" (REDUCED EXAMPLE)

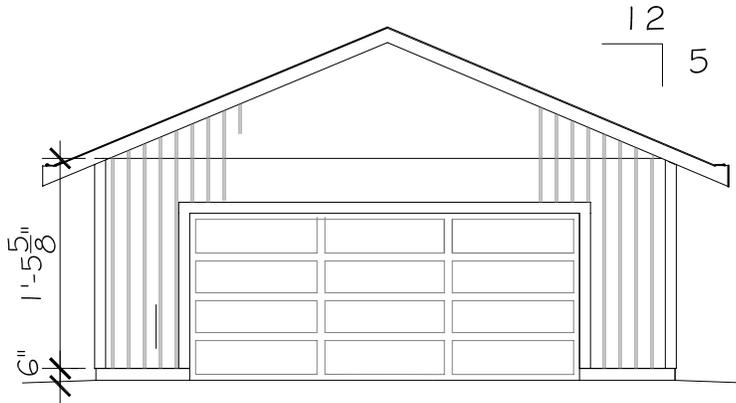
EXAMPLE ELEVATIONS & SECTIONS



1
13

SIDE ELEVATION

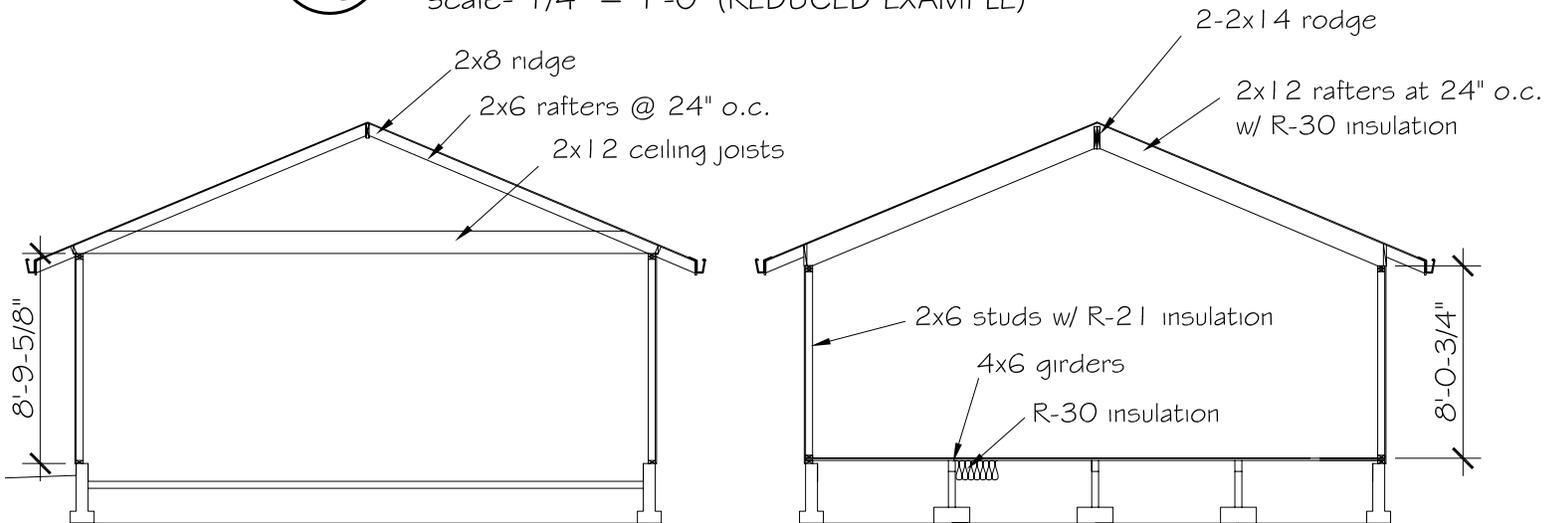
scale- 1/4" = 1'-0" (REDUCE EXAMPLE)



2
13

FRONT ELEVATION

scale- 1/4" = 1'-0" (REDUCED EXAMPLE)



3
13

SECTION (thru garage)

scale- 1/4" = 1'-0" (REDUCED EXAMPLE)

4
13

SECTION (thru shop)

scale- 1/4" = 1'-0" (REDUCED EXAMPLE)