[illegible]aximum allowable spacing for joists sup- [illegible] be in accordance with Table R507.4. [illegible] be attached to each supporting member [illegible] (2) 8d threaded nails or (2) No. 8 wood [illegible]

[illegible] Maximum allowable spans for wood deck [illegible] Figure R507.5, shall be in accordance with [illegible]ck joists shall be permitted to cantilever not [illegible]ourth of the actual, adjacent joist span.

R507.5.1 Lateral restraint at supports. Joist ends and bearing locations shall be provided with lateral restraint to prevent rotation. Where lateral restraint is provided by joist hangers or blocking between joists, their depth shall equal not less than 60 percent of the joist depth. Where lateral restraint is provided by rim joists, they shall be secured to the end of each joist with not less than (3) 10d (3-inch × 0.128-inch) nails or (3) No. 10 × 3-inch (76 mm) long wood screws.

TABLE R507.4
MAXIMUM JOIST SPACING

[illegible]E AND NOMINAL SIZE	MAXIMUM ON-CENTER JOIST SPACING	
	Perpendicular to joist	Diagonal to joist[a]
[illegible]wood	16 inches	12 inches
[illegible]	24 inches	16 inches
[illegible]	In accordance with Section R507.3	In accordance with Section R507.3

[illegible] mm, 1 foot = 304.8 mm, 1 degree = 0.01745 rad.
[illegible] of 45 degrees from perpendicular for wood deck boards

TABLE R507.5
DECK JOIST SPANS FOR COMMON LUMBER SPECIES[f] (ft. - in.)

[illegible]CIES[a]	SIZE	SPACING OF DECK JOISTS WITH NO CANTILEVER[b] (inches)			SPACING OF DECK JOISTS WITH CANTILEVERS[c] (inches)		
		12	16	24	12	16	24
[illegible] pine	2 × 6	9-11	9-0	7-7	6-8	6-8	6-8
	2 × 8	13-1	11-10	9-8	10-1	10-1	9-8
	2 × 10	16-2	14-0	11-5	14-6	14-0	11-5
	2 × 12	18-0	16-6	13-6	18-0	16-6	13-6
[illegible] fir-larch[d], [illegible]-fir[d]	2 × 6	9-6	8-8	7-2	6-3	6-3	6-3
	2 × 8	12-6	11-1	9-1	9-5	9-5	9-1
	2 × 10	15-8	13-7	11-1	13-7	13-7	11-1
	2 × 12	18-0	15-9	12-10	18-0	15-9	12-10
[illegible]wood, [illegible] cedars, [illegible]rosa pine[e], [illegible]	2 × 6	8-10	8-0	7-0	5-7	5-7	5-7
	2 × 8	11-8	10-7	8-8	8-6	8-6	8-6
	2 × 10	14-11	13-0	10-7	12-3	12-3	10-7
	2 × 12	17-5	15-1	12-4	16-5	15-1	12-4

[illegible] inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg.
[illegible] grade with wet service factor.
Ground snow load, live load = 40 psf, dead load = 10 psf, L/Δ = 360.
Ground snow load, live load = 40 psf, dead load = 10 psf, L/Δ = 360 at main span, L/Δ = 180 at cantilever with a 220-pound point load applied to end.
Includes incising factor.
Northern species with no incising factor
Cantilevered spans not exceeding the nominal depth of the joist are permitted.

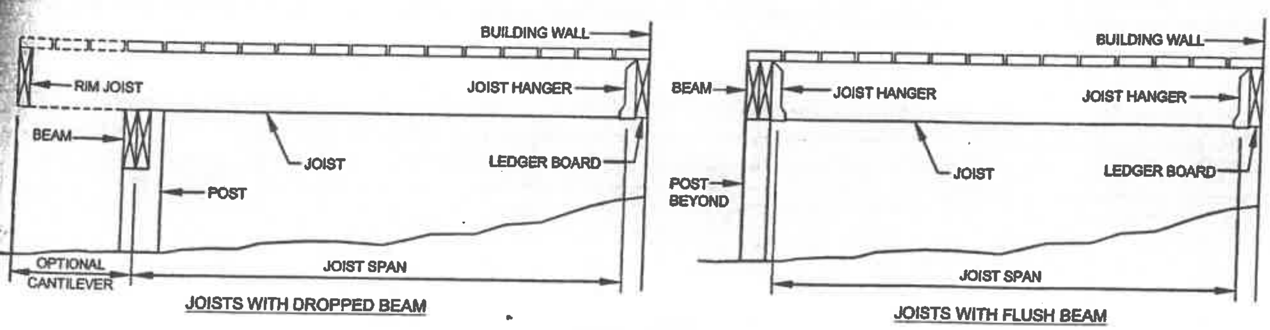


FIGURE R507.5
TYPICAL DECK JOIST SPANS

in accordance with ASTM D 7032. Plastic or composite handrails and guards, or their packaging, shall bear a label that indicates compliance to ASTM D 7032 and includes the maximum allowable span determined in accordance with ASTM D 7032.

R507.3.2 Flame spread index. Plastic composite deck boards, stair treads, guards, and handrails shall exhibit a flame spread index not exceeding 200 when tested in accordance with ASTM E 84 or UL 723 with the test specimen remaining in place during the test.

Exception: Plastic composites determined to be noncombustible.

R507.3.3 Decay resistance. Plastic composite deck boards, stair treads, guards and handrails containing wood, cellulosic or other biodegradable materials shall be decay resistant in accordance with ASTM D 7032.

R507.3.4 Termite resistance. Where required by Section 318, plastic composite deck boards, stair treads, guards and handrails containing wood, cellulosic or other biodegradable materials shall be termite resistant in accordance with ASTM D 7032.

507.3.5 Installation of plastic composites. Plastic composite deck boards, stair treads, guards and handrails shall be installed in accordance with this code and the manufacturer's instructions.

TABLE R507.2
DECK LEDGER CONNECTION TO BAND JOIST[a, b]
(Deck live load = 40 psf, deck dead load = 10 psf, snow load ≤ 40 psf)

CONNECTION DETAILS	JOIST SPAN						
	6′ and less	6′1″ to 8′	8′1″ to 10′	10′1″ to 12′	12′1″ to 14′	14′1″ to 16′	16′1″ to
	On-center spacing of fasteners						
$^1/_2$-inch diameter lag screw with $^1/_2$-inch maximum sheathing[c, d]	30	23	18	15	13	11	10
$^1/_2$-inch diameter bolt with $^1/_2$-inch maximum sheathing[d]	36	36	34	29	24	21	19
$^1/_2$-inch diameter bolt with 1-inch maximum sheathing[e]	36	36	29	24	21	18	17

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa.

a. Ledgers shall be flashed in accordance with Section R703.4 to prevent water from contacting the house band joist.

b. Snow load shall not be assumed to act concurrently with live load.

c. The tip of the lag screw shall fully extend beyond the inside face of the band joist.

d. Sheathing shall be wood structural panel or solid sawn lumber.

e. Sheathing shall be permitted to be wood structural panel, gypsum board, fiberboard, lumber or foam sheathing. Up to $^1/_2$-inch thickness of stacked shall be permitted to substitute for up to $^1/_2$ inch of allowable sheathing thickness where combined with wood structural panel or lumber sheathing.

TABLE R507.2.1
PLACEMENT OF LAG SCREWS AND BOLTS IN DECK LEDGERS AND BAND JOISTS

	MINIMUM END AND EDGE DISTANCES AND SPACING BETWEEN ROWS			
	TOP EDGE	BOTTOM EDGE	ENDS	ROW SPACING
Ledger[a]	2 inches[d]	$^3/_4$ inch	2 inches[b]	1½ inch
Band Joist[c]	$^3/_4$ inch	2 inches	2 inches[b]	1½ inch

For SI: 1 inch = 25.4 mm.

a. Lag screws or bolts shall be staggered from the top to the bottom along the horizontal run of the deck ledger in accordance with Figure R507.2.1(2).

b. Maximum 5 inches.

c. For engineered rim joists, the manufacturer's recommendations shall govern.

d. The minimum distance from bottom row of lag screws or bolts to the top edge of the ledger shall be in accordance with Figure R507.2.1(2).

...ck post to deck beam. Deck beams shall be ... deck posts in accordance with Figure R507.7.1 ... equivalent means capable to resist lateral dis... Manufactured post-to-beam connectors shall ... the post and beam sizes. All bolts shall have ... for the head and nut.

... Where deck beams bear directly on foot... accordance with Section R507.8.1.

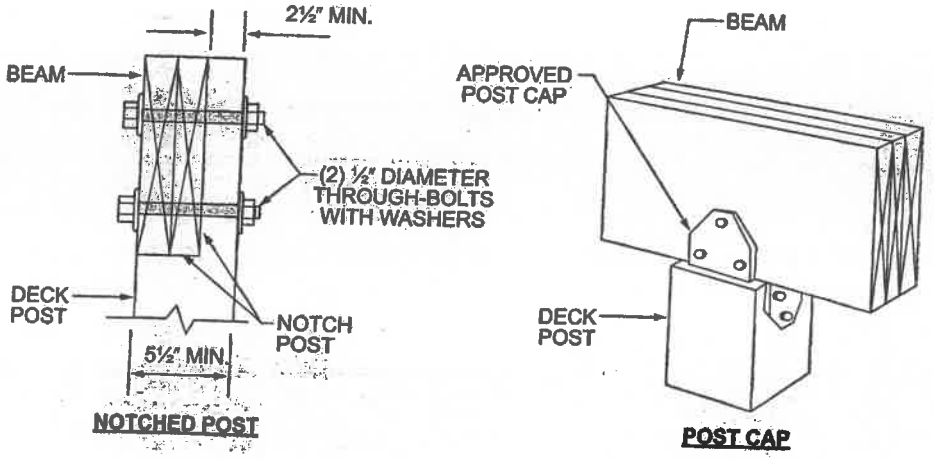
... posts. For single-level wood-framed decks ... in accordance with Table R507.6, deck post ... in accordance with Table R507.8.

TABLE R507.8
DECK POST HEIGHT[a]

DECK POST SIZE	MAXIMUM HEIGHT[a]
4 × 4	8'
4 × 6	8'
6 × 6	14'

... = 304.8 mm.
... to the underside of the beam.

R507.8.1 Deck post to deck footing. Posts shall bear on footings in accordance with Section R403 and Figure R507.8.1. Posts shall be restrained to prevent lateral displacement at the bottom support. Such lateral restraint shall be provided by manufactured connectors installed in accordance with Section R507 and the manufacturers' instructions or a minimum post embedment of 12 inches (305 mm) in surrounding soils or concrete piers.



...SI: 1 inch = 25.4 mm.

FIGURE R507.7.1
DECK BEAM TO DECK POST

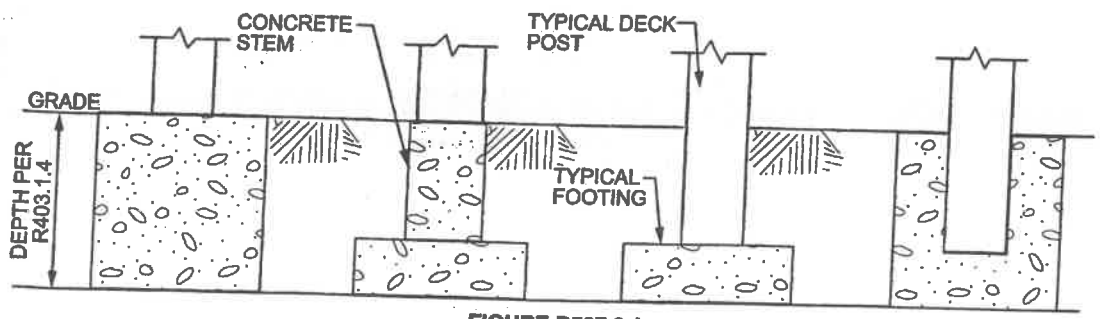


FIGURE R507.8.1
TYPICAL DECK POSTS TO DECK FOOTINGS

R507.6 Deck Beams. Maximum allowable spans for wood deck beams, as shown in Figure R507.6, shall be in accordance with Table R507.6. Beam plies shall be fastened with two rows of 10d (3-inch × 0.128-inch) nails minimum at 16 inches (406 mm) on center along each edge. Beams shall be permitted to cantilever at each end up to one-fourth of the actual beam span. Splices of multispan beams shall be located at interior post locations.

R507.7 Deck joist and deck beam bearing. The ends of each joist and beam shall have not less than 1½ inches (38 mm) of bearing on wood or metal and not less than 3 inches (76 mm) on concrete or masonry for the entire width of the beam. Joist framing into the side of a ledger board or beam shall be supported by approved joist hangers. Joists framing on a beam shall be connected to the beam to resist lateral displacement.

TABLE R507.6
DECK BEAM SPAN LENGTHS[a, b] (ft. - in.)

SPECIES[c]	SIZE[d]	DECK JOIST SPAN LESS THAN OR EQUAL TO: (feet)					
		6	8	10	12	14	16
Southern pine	2 – 2 × 6	6-11	5-11	5-4	4-10	4-6	4-3
	2 – 2 × 8	8-9	7-7	6-9	6-2	5-9	5-4
	2 – 2 × 10	10-4	9-0	8-0	7-4	6-9	6-4
	2 – 2 × 12	12-2	10-7	9-5	8-7	8-0	7-6
	3 – 2 × 6	8-2	7-5	6-8	6-1	5-8	5-3
	3 – 2 × 8	10-10	9-6	8-6	7-9	7-2	6-8
	3 – 2 × 10	13-0	11-3	10-0	9-2	8-6	7-11
	3 – 2 × 12	15-3	13-3	11-10	10-9	10-0	9-4
Douglas fir-larch[e], hem-fir[e], spruce-pine-fir[e], redwood, western cedars, ponderosa pine[f], red pine[f]	3 × 6 or 2 – 2 x 6	5-5	4-8	4-2	3-10	3-6	3-1
	3 × 8 or 2 – 2 × 8	6-10	5-11	5-4	4-10	4-6	4-1
	3 × 10 or 2 – 2 × 10	8-4	7-3	6-6	5-11	5-6	5-1
	3 × 12 or 2 – 2 × 12	9-8	8-5	7-6	6-10	6-4	5-11
	4 × 6	6-5	5-6	4-11	4-6	4-2	3-11
	4 × 8	8-5	7-3	6-6	5-11	5-6	5-2
	4 × 10	9-11	8-7	7-8	7-0	6-6	6-1
	4 × 12	11-5	9-11	8-10	8-1	7-6	7-0
	3 – 2 × 6	7-4	6-8	6-0	5-6	5-1	4-9
	3 – 2 × 8	9-8	8-6	7-7	6-11	6-5	6-0
	3 – 2 × 10	12-0	10-5	9-4	8-6	7-10	7-4
	3 – 2 × 12	13-11	12-1	10-9	9-10	9-1	8-6

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg.

a. Ground snow load, live load = 40 psf, dead load = 10 psf, L/Δ = 360 at main span, L/Δ = 180 at cantilever with a 220-pound point load applied at the end.

b. Beams supporting deck joists from one side only.

c. No. 2 grade, wet service factor.

d. Beam depth shall be greater than or equal to depth of joists with a flush beam condition.

e. Includes incising factor.

f. Northern species. Incising factor not included.

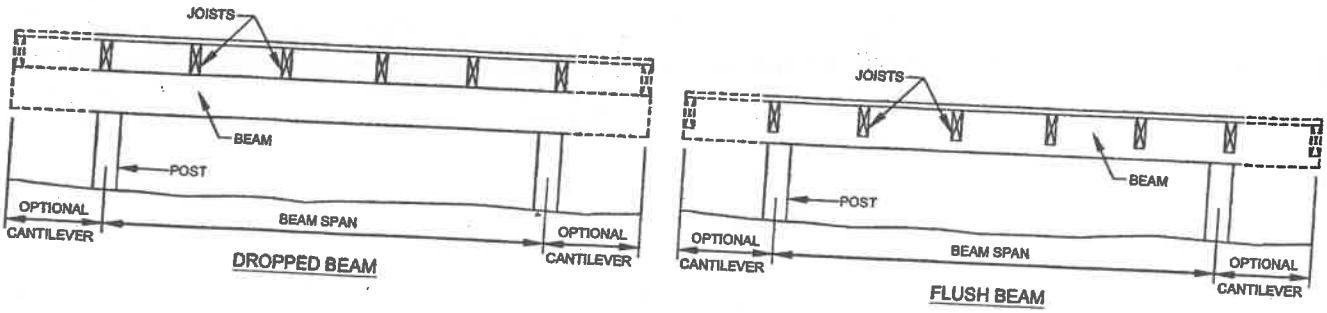
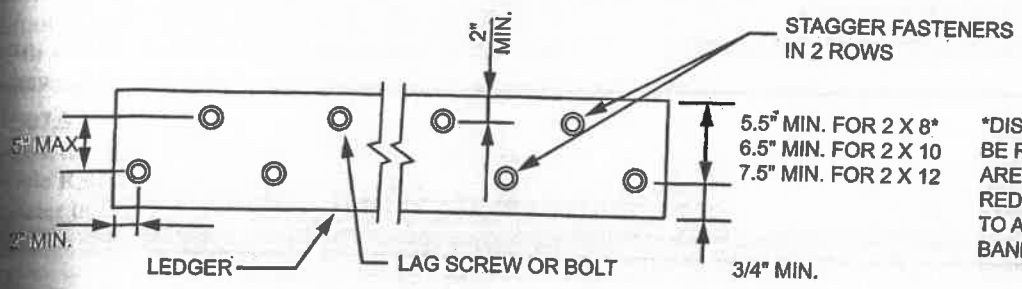
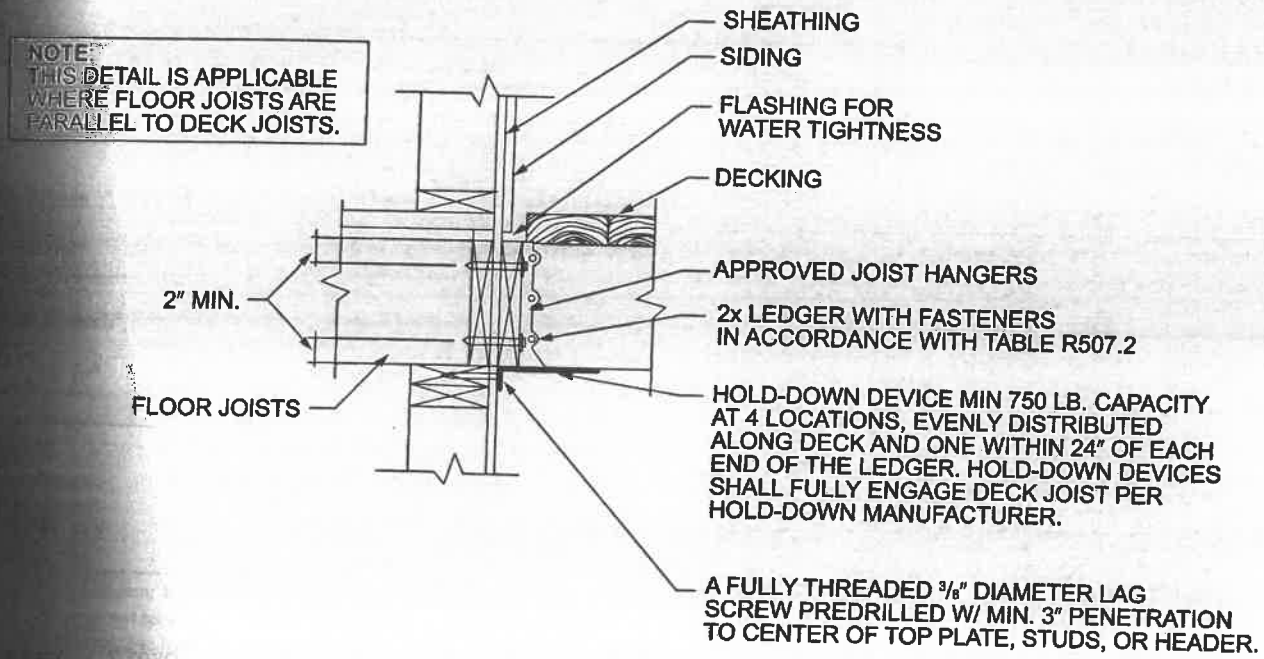


FIGURE R507.6
TYPICAL DECK BEAM SPANS



For SI: 1 inch = 25.4 mm.

FIGURE R507.2.1(1)
PLACEMENT OF LAG SCREWS AND BOLTS IN LEDGERS



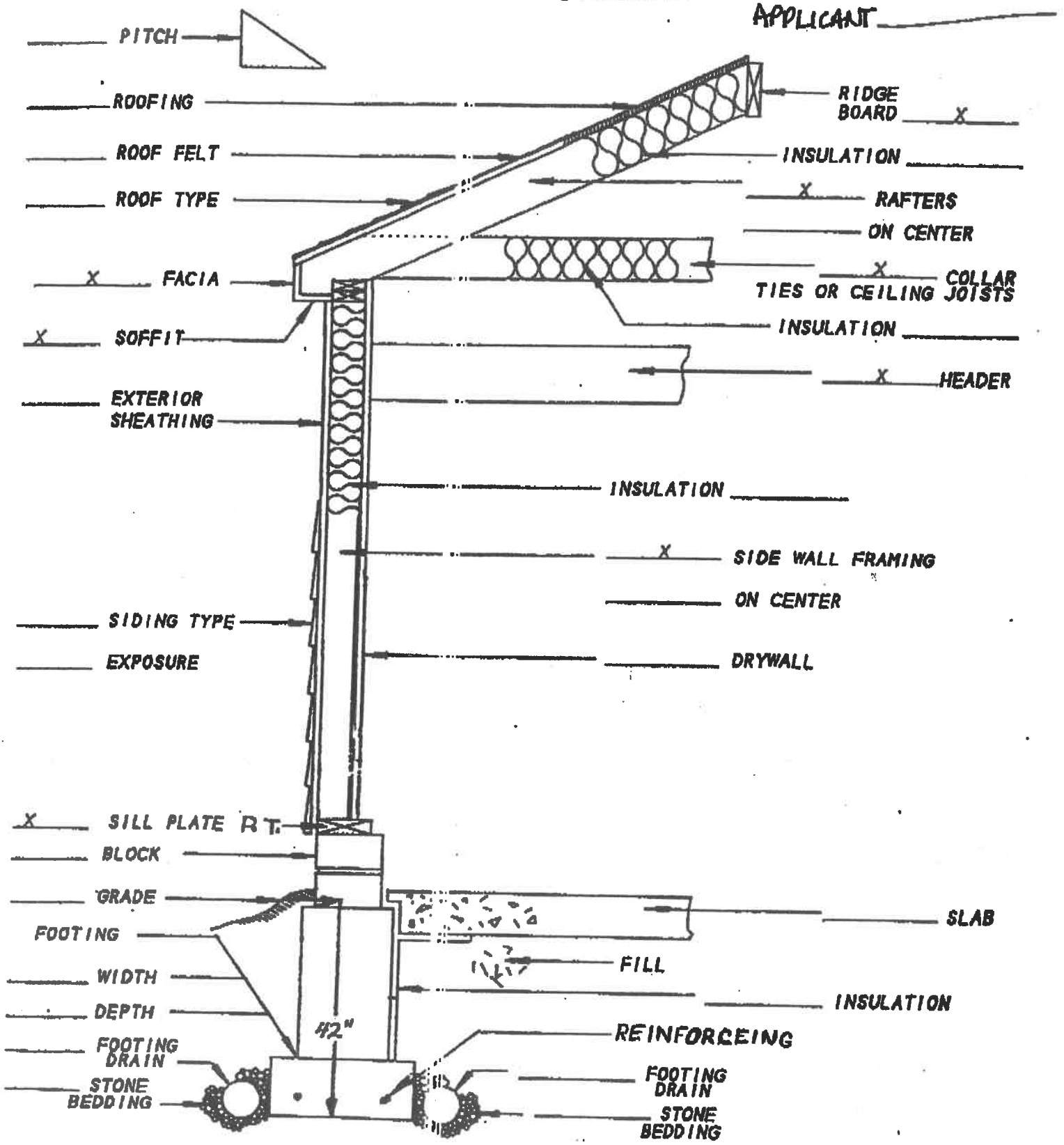
For SI: 1 inch = 25.4 mm.

FIGURE R507.2.1(2)
PLACEMENT OF LAG SCREWS AND BOLTS IN BAND JOISTS

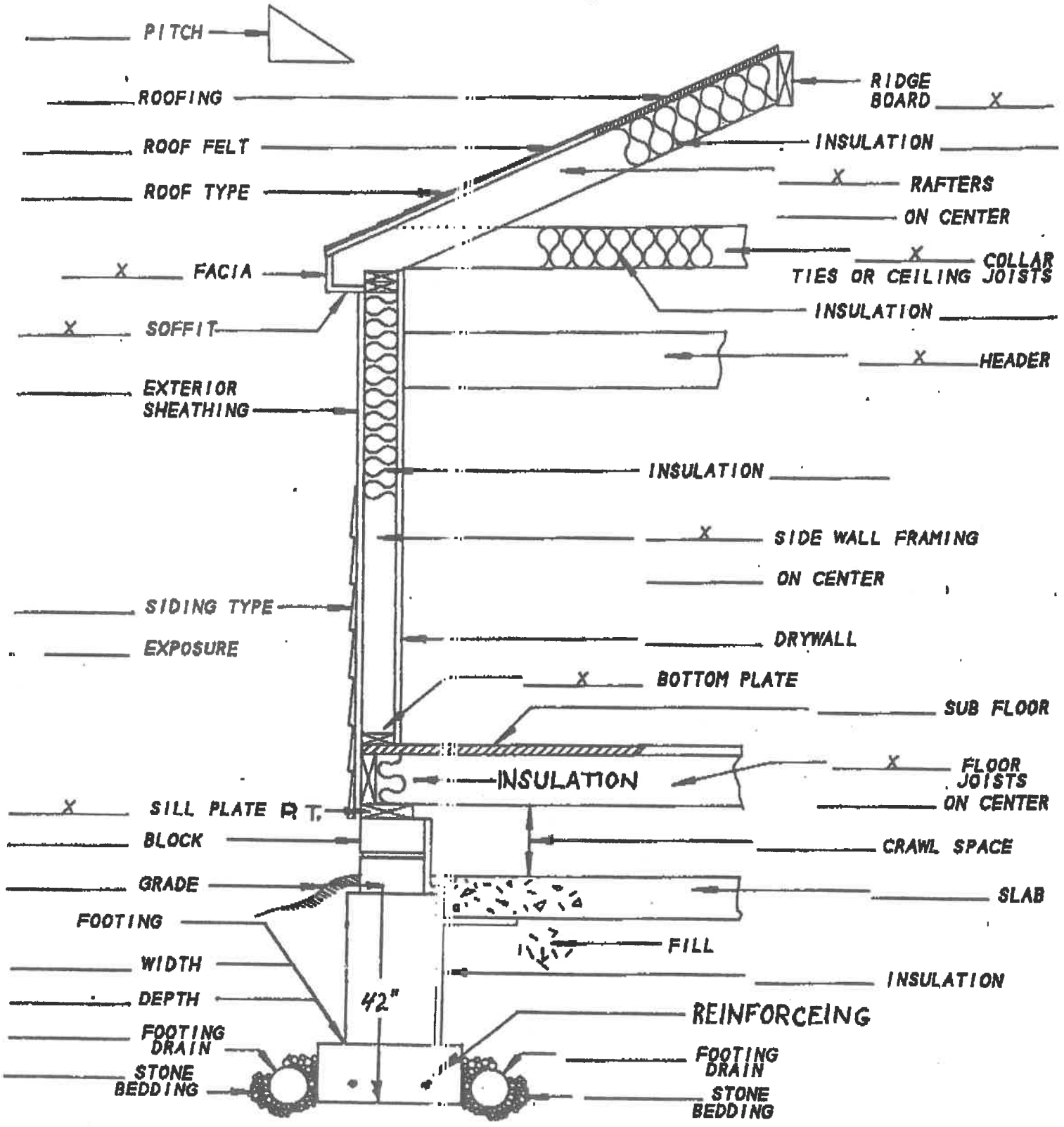
GARAGE

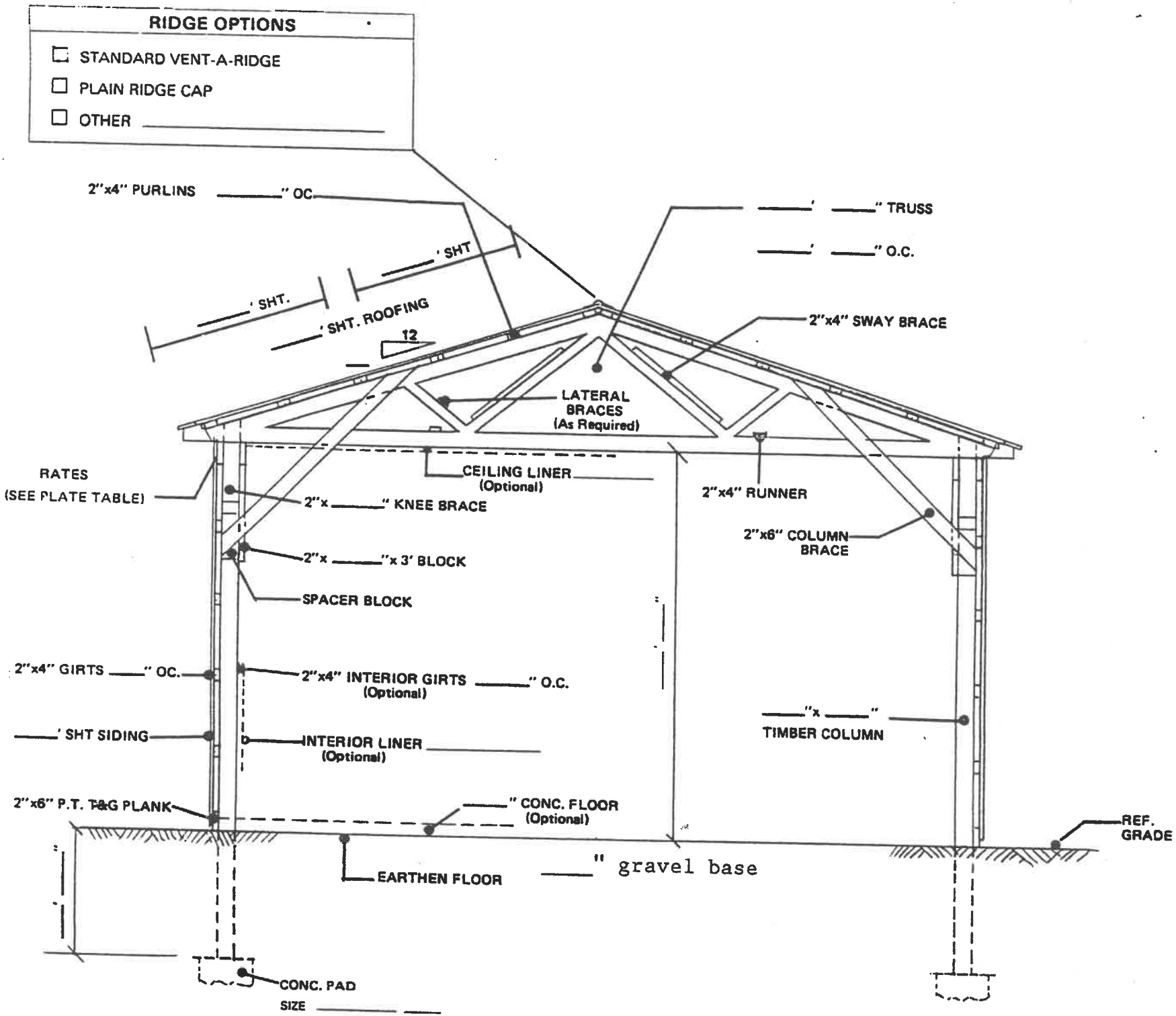
ADDRESS _____

APPLICANT _____



ADDITION


PITCH
ROOFING
ROOF FELT
ROOF TYPE
FACIA
SOFFIT
EXTERIOR SHEATHING
SIDING TYPE
EXPOSURE
SILL PLATE
BLOCK
GRADE
FOOTING
WIDTH
DEPTH
FOOTING DRAIN
STONE BEDDING
42"
RIDGE BOARD
INSULATION
RAFTERS
ON CENTER
COLLAR TIES OR CEILING JOISTS
INSULATION
HEADER
INSULATION
SIDE WALL FRAMING
ON CENTER
DRYWALL
BOTTOM PLATE
SUB FLOOR
INSULATION
FLOOR JOISTS
ON CENTER
CRAWL SPACE
SLAB
FILL
INSULATION
REINFORCEING
FOOTING DRAIN
STONE BEDDING


RIDGE OPTIONS
STANDARD VENT-A-RIDGE
PLAIN RIDGE CAP
OTHER
2"x4" PURLINS ____" OC
' SHT
' SHT.
' SHT. ROOFING
12
' TRUSS
' O.C.
2"x4" SWAY BRACE
LATERAL BRACES (As Required)
RATES (SEE PLATE TABLE)
CEILING LINER (Optional)
2"x4" RUNNER
2"x ____" KNEE BRACE
2"x6" COLUMN BRACE
2"x ____"x 3' BLOCK
SPACER BLOCK
2"x4" GIRTS ____" OC.
2"x4" INTERIOR GIRTS ____" O.C. (Optional)
____' SHT SIDING
INTERIOR LINER (Optional)
____"x ____" TIMBER COLUMN
2"x6" P.T. T&G PLANK
____" CONC. FLOOR (Optional)
REF. GRADE
EARTHEN FLOOR
____" gravel base
CONC. PAD
SIZE

F-80 (3) (REV. 6/85)