

Building Materials List for Behm Design Plan # 364-1

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~ Local building code approved substitutions may be made to this list ~

Variations in construction methods and materials can require modification of this list. Every attempt is made for greatest accuracy, but typographical or human error is possible. Quantities verification by the materials supplier is recommended before materials package is finalized and/or shipped.

Rough Framing
2 x 4 x 92'-1/2" HF/DF exterior "stud" wall framing ----- 84 pcs.
2 x 4 HF/DF No. 2 wall top plate material ----- 224 lf
2 x 4 x HF/DF No. 2 lookouts material ----- 10' lengths -- 2 pcs.
2 x 4 HF/DF No. 2 pressure-treated bottom plate ----- 80 lf
3-1/2 x 9-1/4 LVL Header 2950Fb 2.OE -----9'-9" length ---- 1 pc.
2 x 6 DF No. 1 Header ----- 8' length ---- 3 pcs.
2 x 3 HF/DF No. 2 Soffit Framing Material ----- 116 lf
2 x 6 HF/DF No. 2 rafters ----- 10' length ---- 40 pcs.
2 x 8 HF/DF No. 2 ceiling joists ----- 14' length ---- 21 pcs.
2 x 8 HF/DF No. 2 ridge board material----- 26 lf

Sheathing Materials
7/16" o.s.b. wall sheathing ----- 4 x 8 sheet----- 23 sheets
15/32" Roof 5-ply C-D APA Plywood, ext. glue P.I. 24/0 4 x 8 sheet-----20 sheets

Vapor Barrier
Roof 15# bituminous felt paper in 36" wide roll----- 205 lf
Wall 7# bituminous felt paper in 40" wide roll ----- 200 lf
Floor .006" black polyethylene membrane----- 364 sf

Siding Materials
8" textured o.s.b.siding boards with 1" lap ----- 602 sf siding area
Trim: 5/4 x 3 ----- 7' length -- 4 pcs.
Trim: 5/4 x 4 ----- 8' length -- 13 pcs.
Trim: 5/4 x 4 ----- 10' length -- 1 pc.
Soffit End Cap Material: 2 x 12 ----- 8 lf
Fascia: 1 x 6 ----- 56 lf
3/8" thk. soffit material ----- 4 x 8 sheet --- 5 sheets
Rakeboard: 2 x 6 ----- 12' length --- 4 pcs.

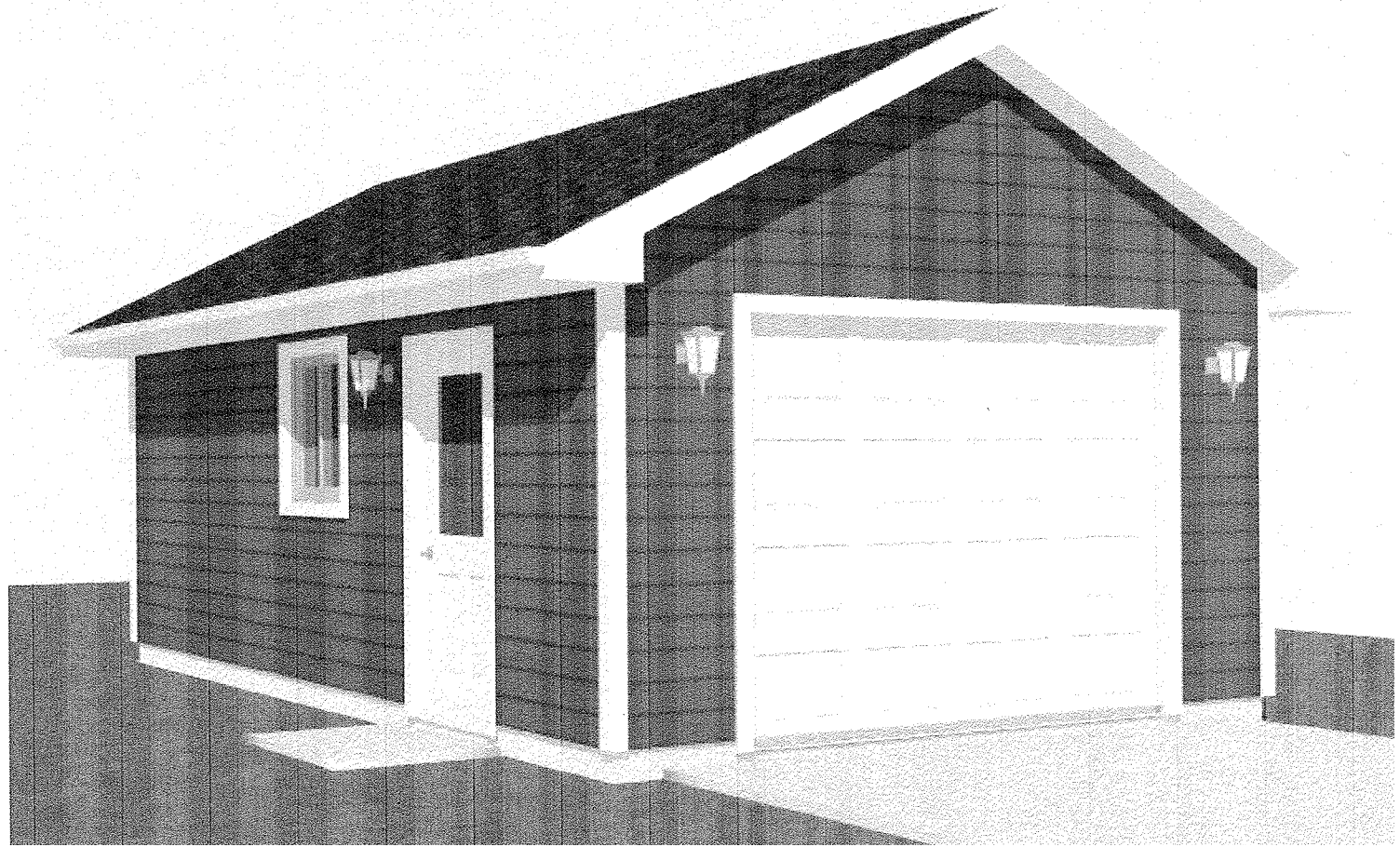
Roofing Materials
Composition Roofing Shingles----- 512 sf roof area
Ridgevent material----- 24 lf

Window and Door Assemblies
3030 sliding window(s)----- 2 ea.
9'-0" x 7'-0" sectional garage door----- 1 ea.
3068 exterior door----- 1 ea.

Metal Parts & Misc.
Anchor bolts: 1/2" dia. x 10" ASTM A-307 w/ hex nuts--- 17 pcs.
Flat washer for 1/2" dia: 2" square x 3/16" thick stl. pl.----- 17 pcs.
Simpson H2.5 connectors ----- 38 pcs.
Simpson STHD10 hold-down straps ----- 4 pcs.
16d sinker nails ----- 50 lbs.
8d common nails @ 145 nails / lb. ----- 30 lbs.
Drip flashing for window/door heads----- 18 lf
2" Soffit Vent Screen ----- 56 lf

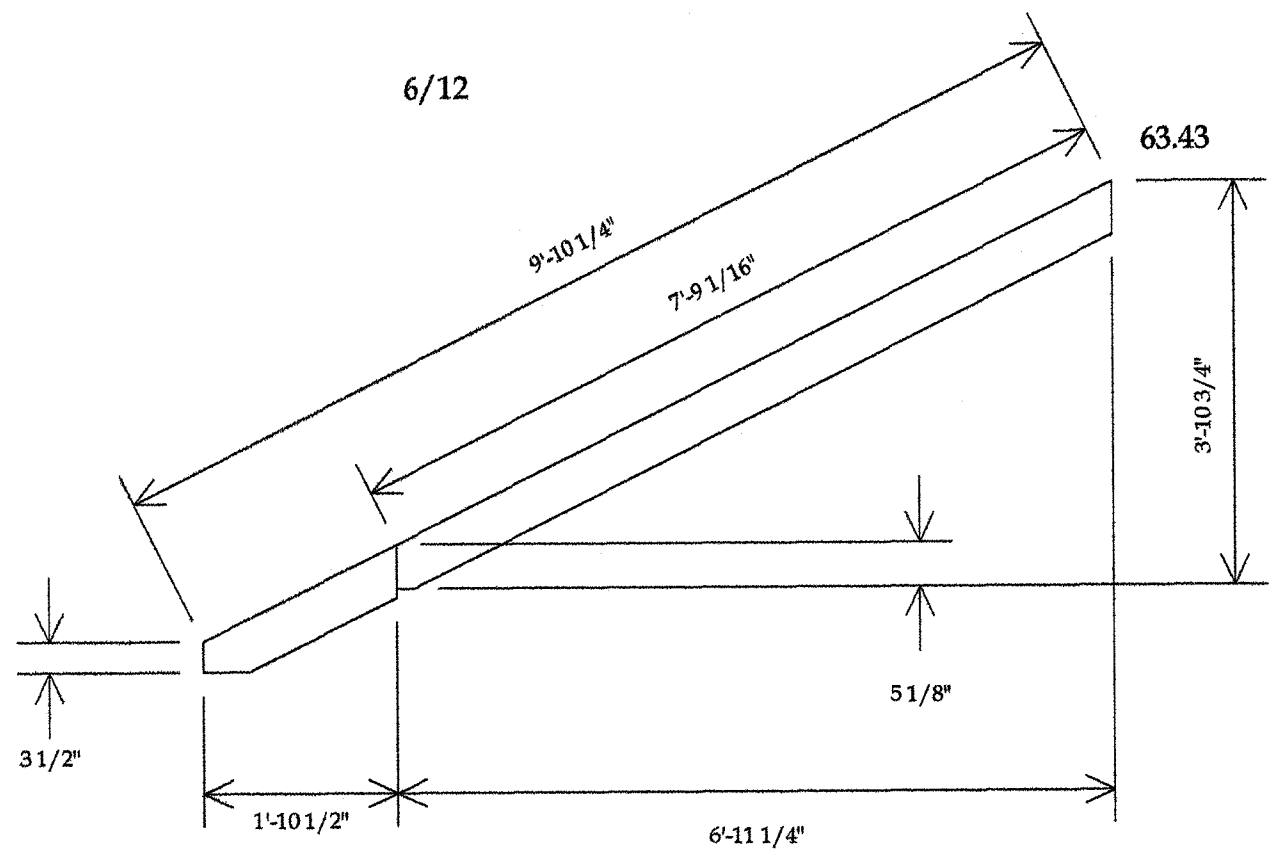
~ To advise corrections, call 1-800-210-6776 Thank you.~.

(note: electrical components and finishing materials not included in this list)



GARAGE PLAN #364-1

14' x 26'



Rafter Profile

Building Categories and Data

Occupancy Classification: "U"

Construction Type: "V"

Grade-To-Ridge Height: 13'-0"

Gross Building Area: 336 sf

Building Code Compliance

This planset was prepared to comply with the prescriptive requirements of the International Residential Code (IRC)

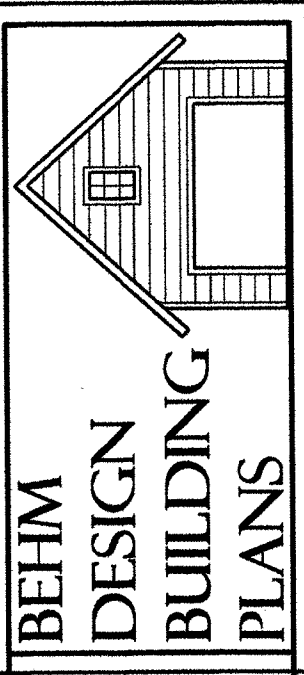
Parameters For Design

Wind Speed:
120 mph - 3 sec. gust

Wind Exposure: "B"

Seismic Category:
A, B and C

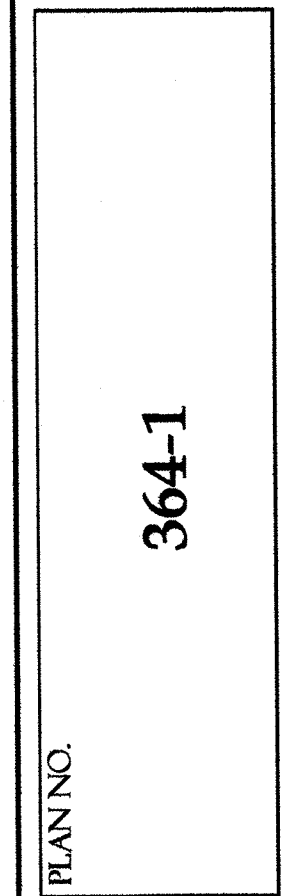
Snow Load: 30# / sq.ft.



QUESTIONS? CALL

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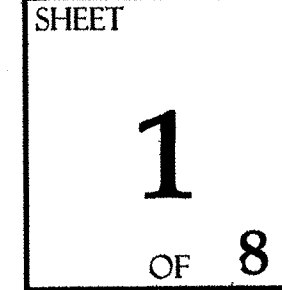
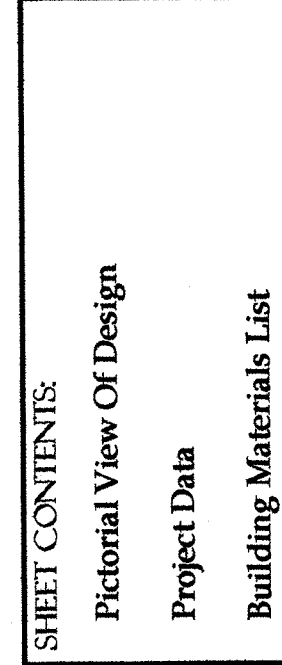


DESIGN BY:

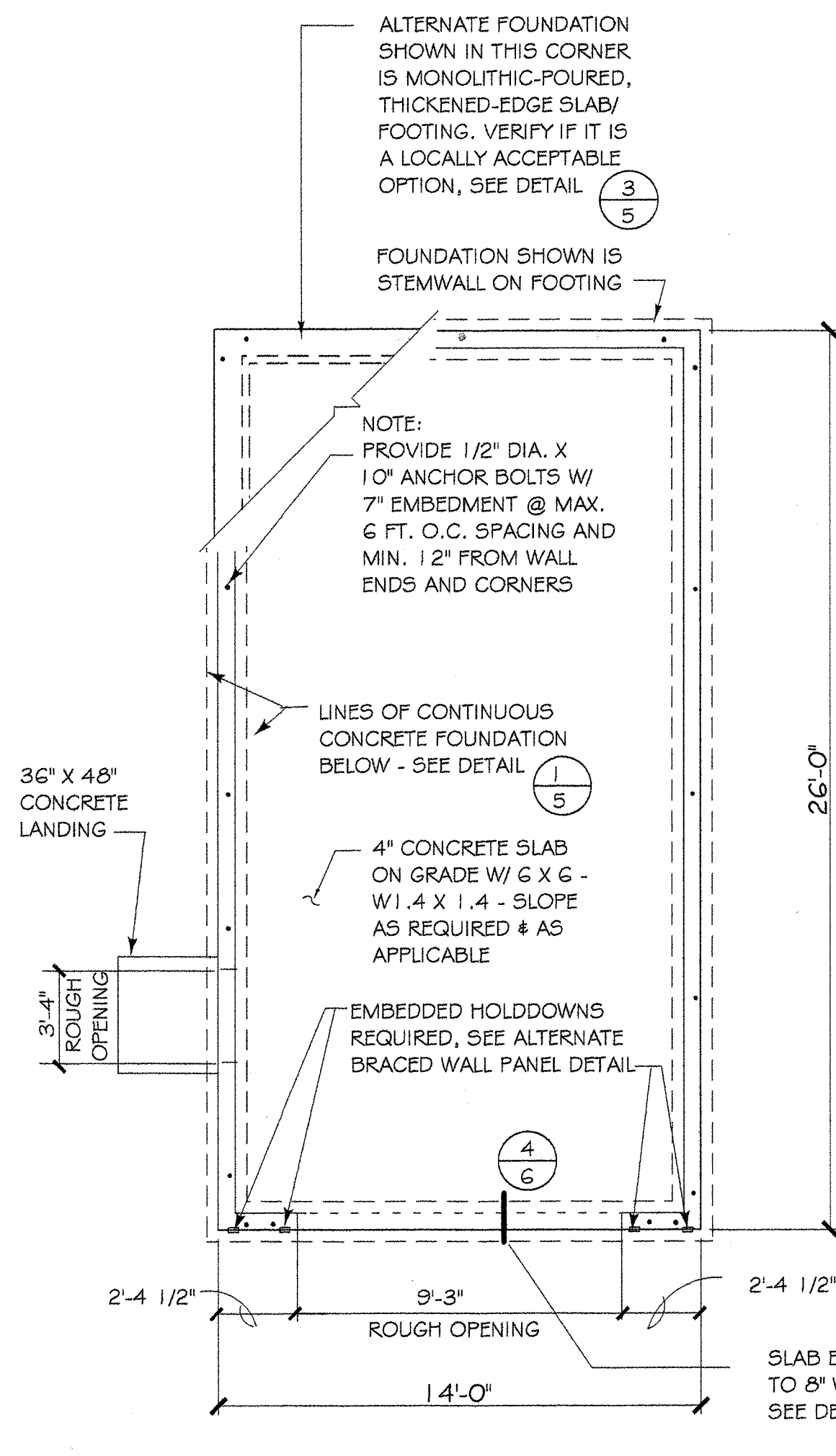
JJB

DATE:

updated
05/17



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FOUNDATION PLAN
SCALE: 1/4" = 1'-0"

BRACED WALLS AS PER IRC
R602.10, AS APPLICABLE
FOR LOCAL CODES
(SHOWN: - - - - -)

EXTERIOR BRACED WALLS (MIN. 48")
NAIL SIDING PANELS OR SHEATHING
W/ 8d @ 6" o.c., EDGES AND @ 12"
O.C.,
FIELD AND BLOCK AT HORIZ. PANEL
JOINTS.
PROVIDE ALTERNATE BRACED WALL
PANELS AS INDICATED.

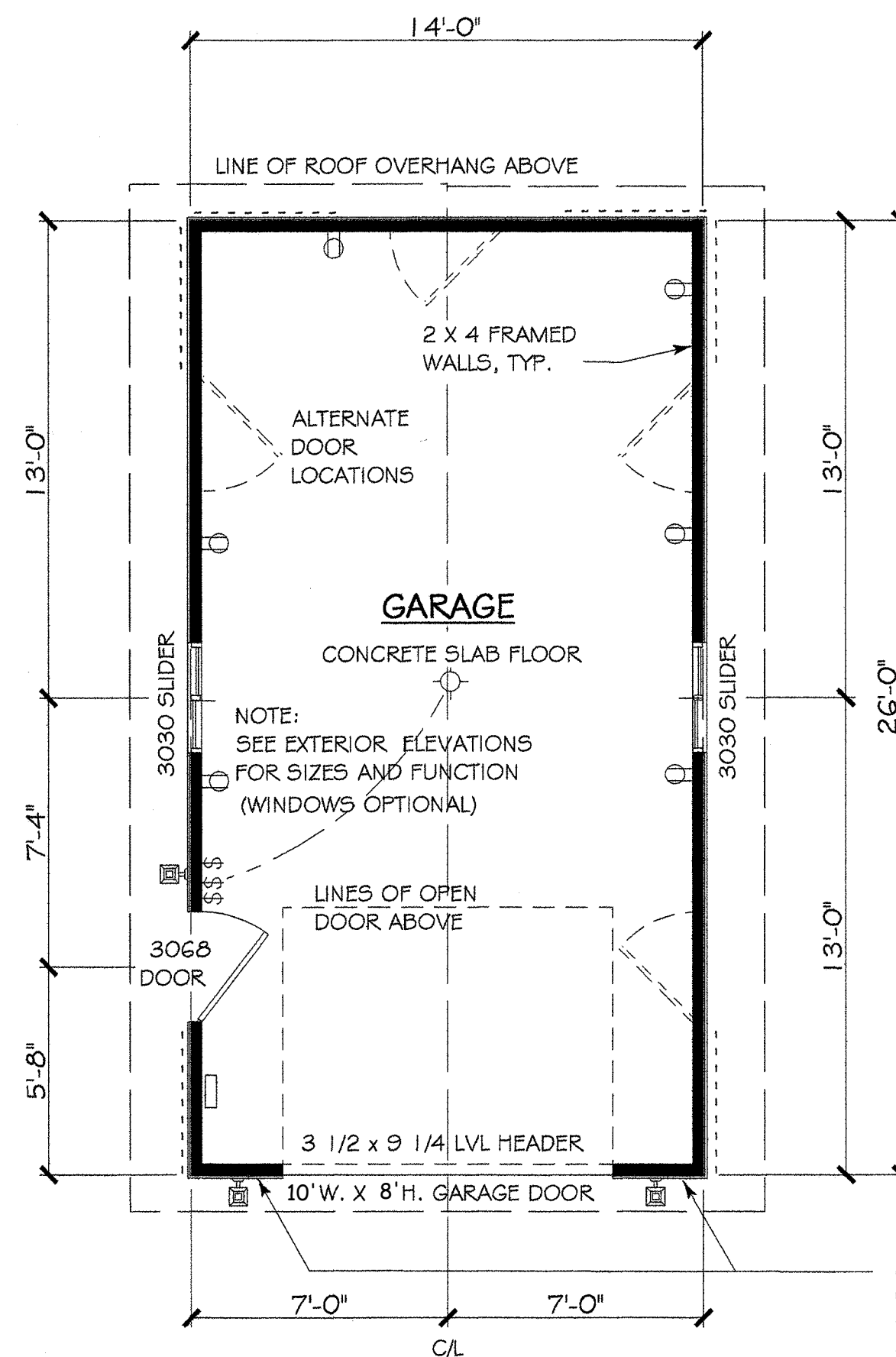
NOTE:
FLOOR PLAN DIMENSIONS
ARE TO FACE OF FRAMING
OR CENTERLINE OF BEARING,
TYP. AS SHOWN

NOTE:
DOOR AND WINDOW HEADERS
SHALL BE 2- 2 X 6 UNLESS
OTHERWISE NOTED

NOTE:
FOUNDATION PLAN DIMENSIONS
ARE TO FACE OF CONCRETE OR
CENTERLINE OF BEARING, AS SHOWN

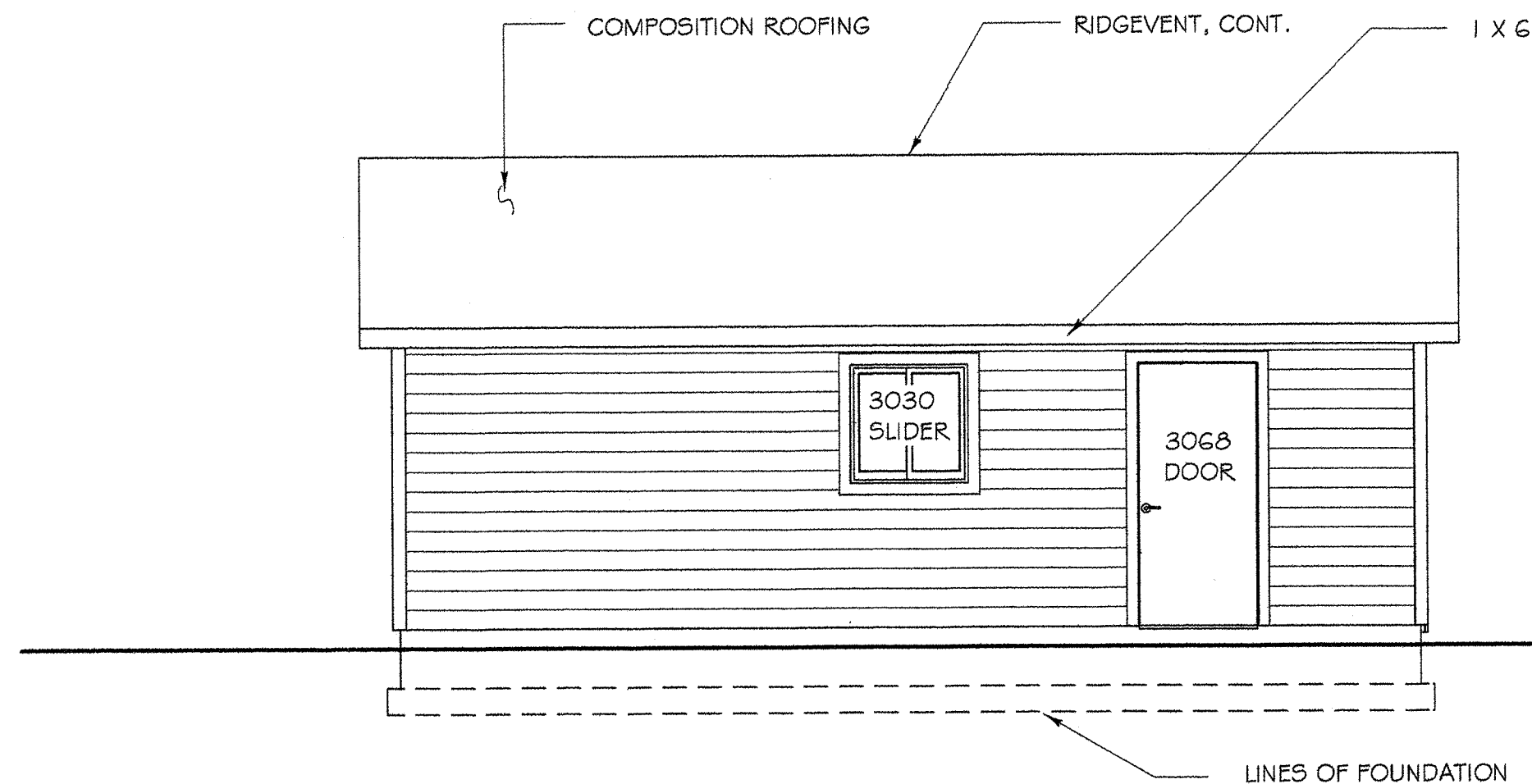
LEGEND

- ⌘ SWITCH LOCATION
- ⊙ CEILING MOUNTED LIGHT FIXTURE
- ⊕ 110 VOLT DUPLEX OUTLET
- ⊙ EXTERIOR WALL-MTD. LIGHT FIXTURE
- ⌘ ELECTRIC PANEL OR SUB-PANEL LOCATION, INSTALL PER LOCAL CODES



FLOOR PLAN
SCALE: 1/4" = 1'-0"

CONSTRUCT AS
"ALTERNATE BRACED
WALL PANEL - FRONT
PORTAL FRAME" - SEE
DETAIL (4/6)



LEFT SIDE WALL ELEVATION

SCALE: 1/4" = 1'-0"

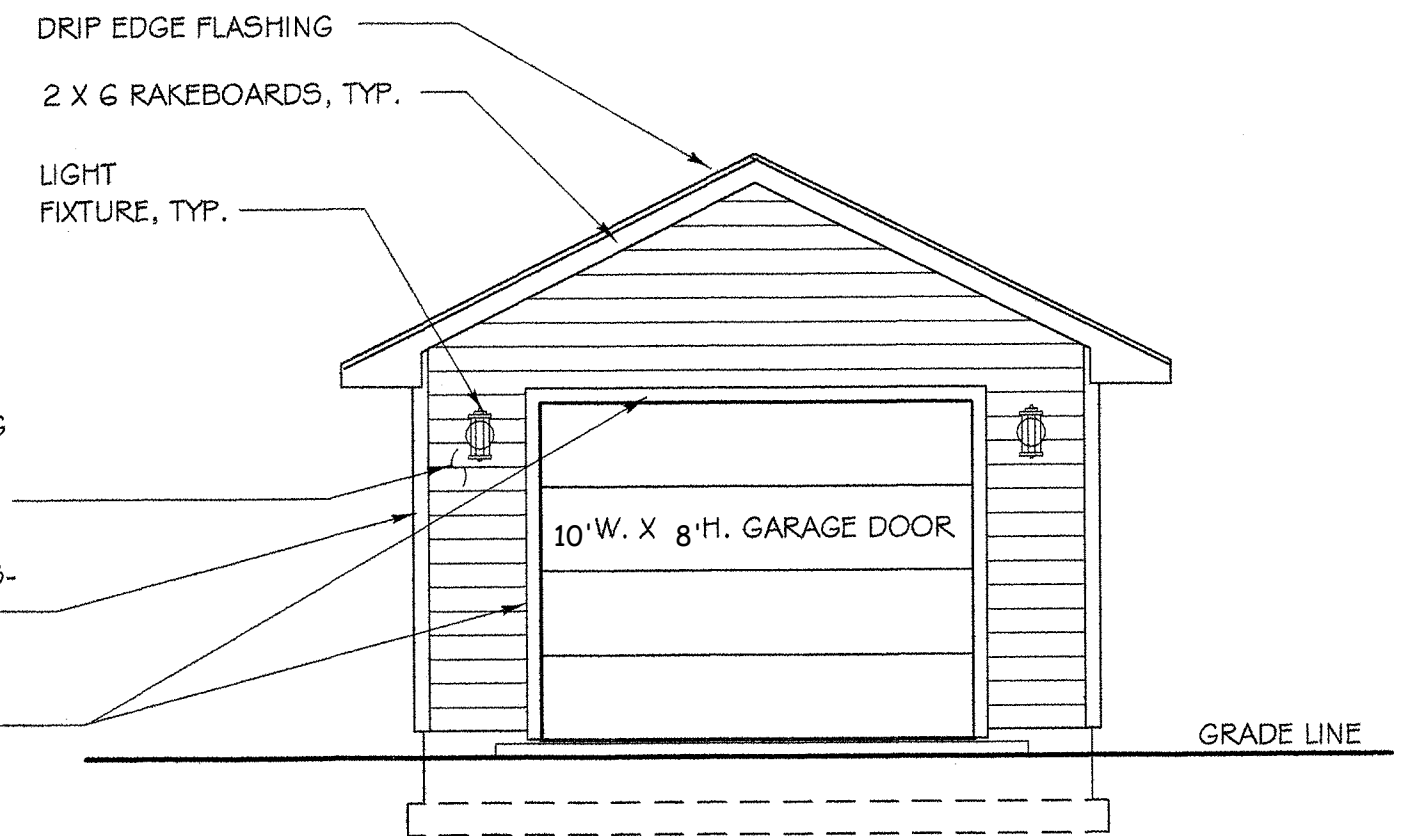
ALTERNATE SIDING:
7/16" TEXTURED O.S.B SIDING
(OR T1-11 PLYWOOD) PANELS
OVER 7# FELT VAPOR BARRIER

SIDING:
8" X 7/16" TEXTURED O.S.B.
SIDING BOARDS, OVER 7# FELT
VAPOR BARRIER, OVER SHEATHING
(APPROVED ALTERNATE SIDING
MATERIALS MAY BE SUBSTITUTED)

5/4 X 4 / 5/4 X 3 CORNER BOARDS-
BUTT SIDING

5/4 X 4 WRAP TRIM - BUTT SIDE
MEMBERS TO TOP AND BOTTOM

NOTE:
FOR ALTERNATIVE SIDING BOARDS
USE 1X TRIM BOARDS AND NAIL OVER
SIDING PANELS



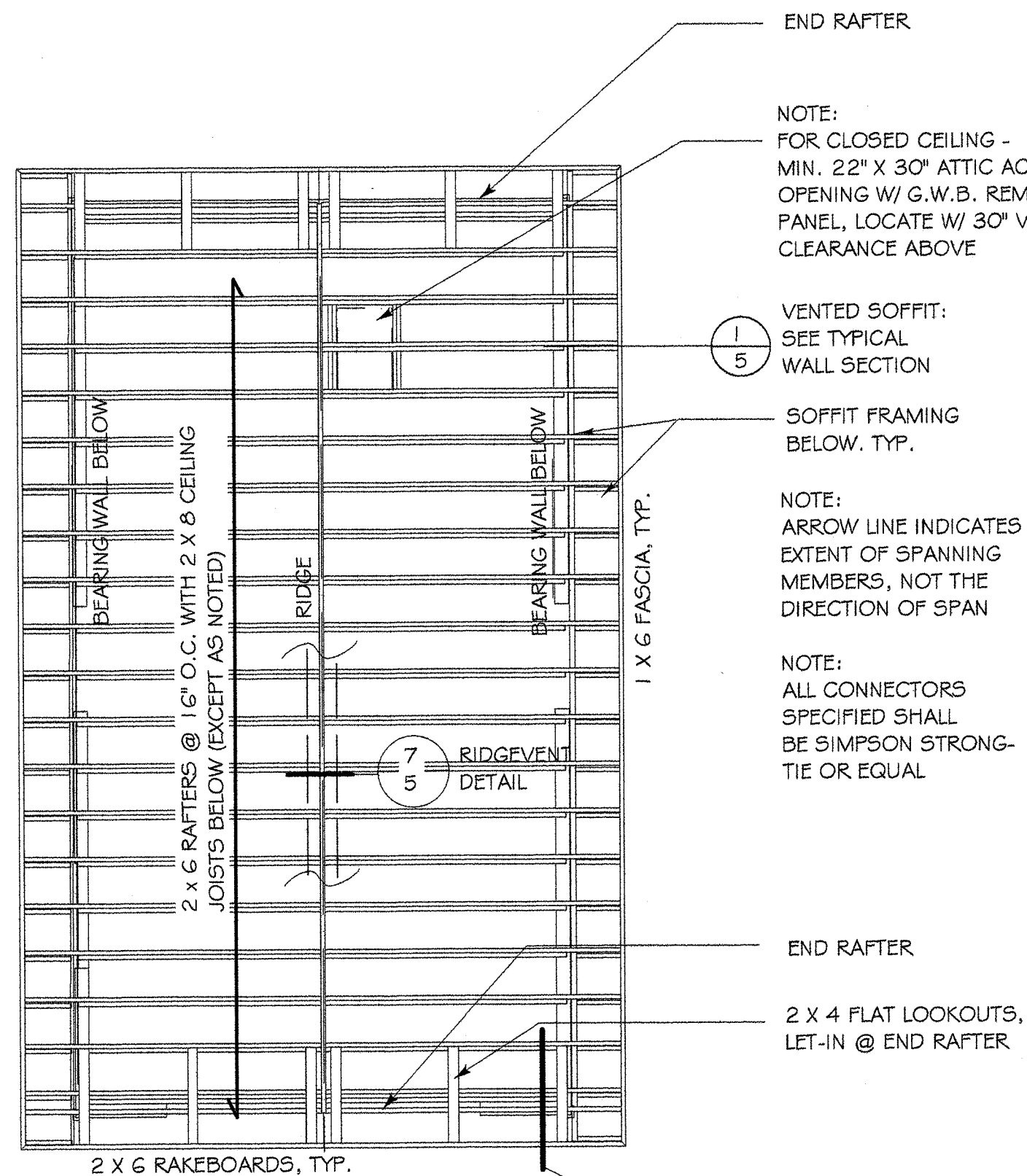
FRONT ELEVATION

SCALE: 1/4" = 1'-0"

NOTE:
NOMINAL WINDOW SIZES ARE
SHOWN: FEET/INCHES WIDE
X FEET/INCHES HIGH, TYP. -
VERIFY FRAMED OPENING
REQUIRED BY PRODUCT MFR.

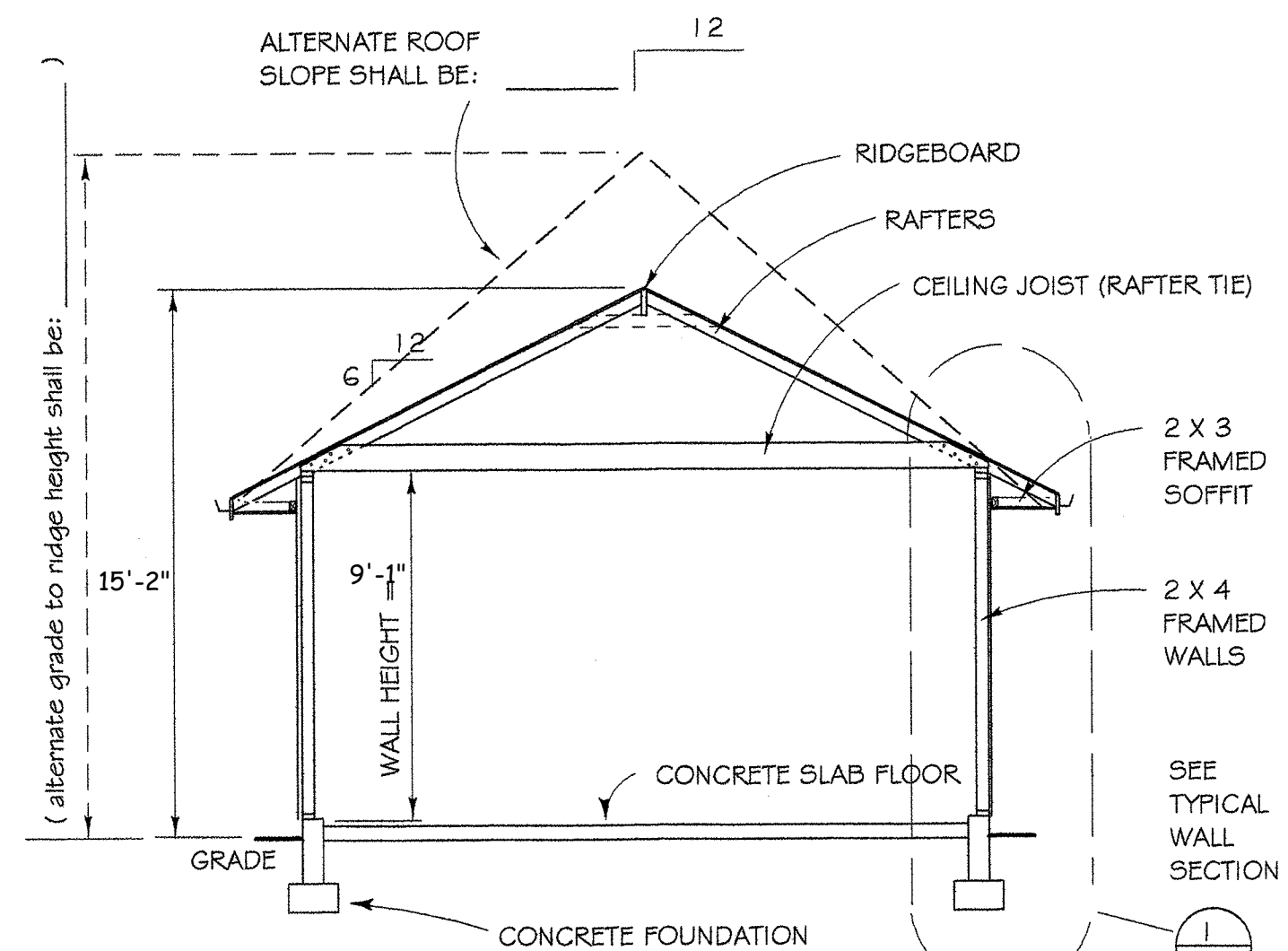
NOTE:
FLASH OPENINGS AND PROVIDE
WEATHERSTRIPPING AS REQUIRED
BY LOCAL CODES

NOTE:
NOTES AND MATERIALS INDICATED
IN THIS ELEVATION ARE TYPICAL
FOR ENTIRE BUILDING AS APPLIC.



ROOF FRAMING PLAN

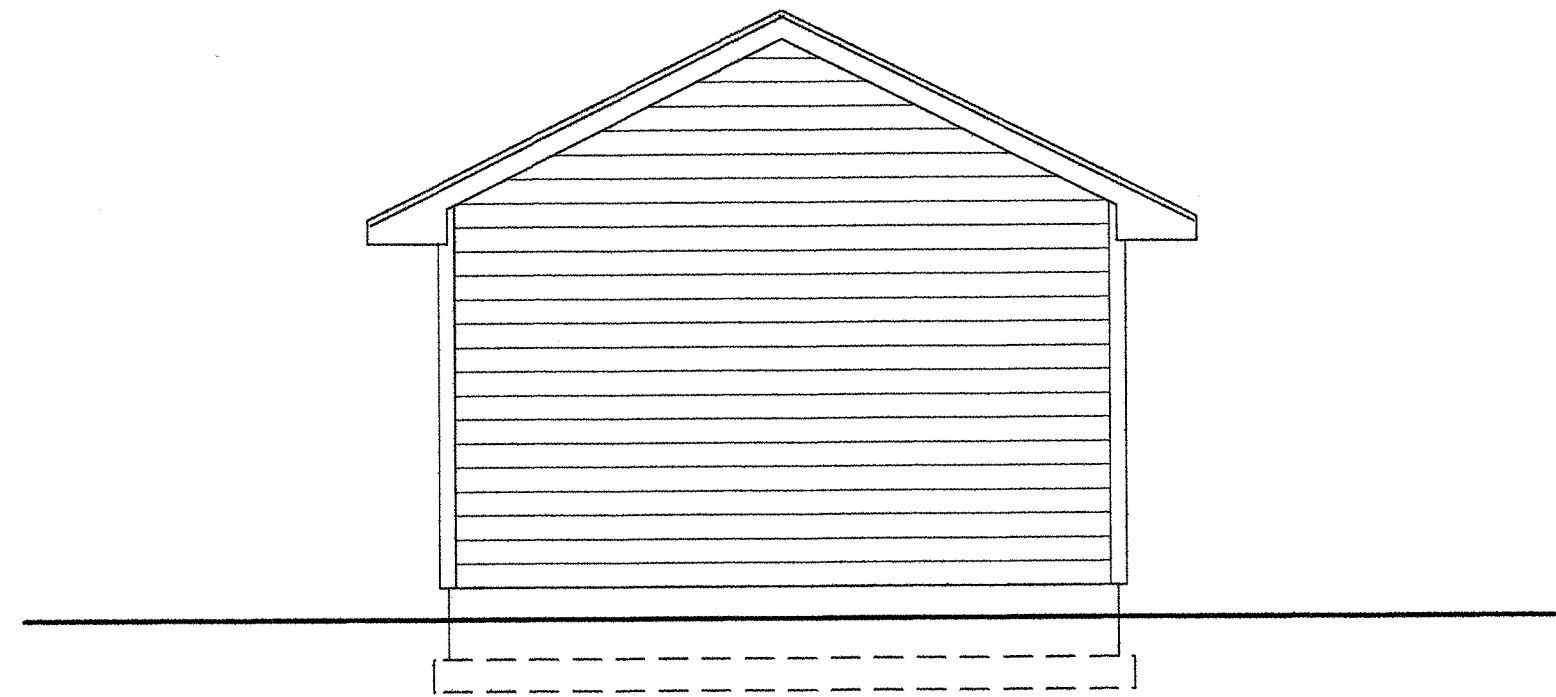
SCALE: 1/4" = 1'-0"



CROSS-SECTION

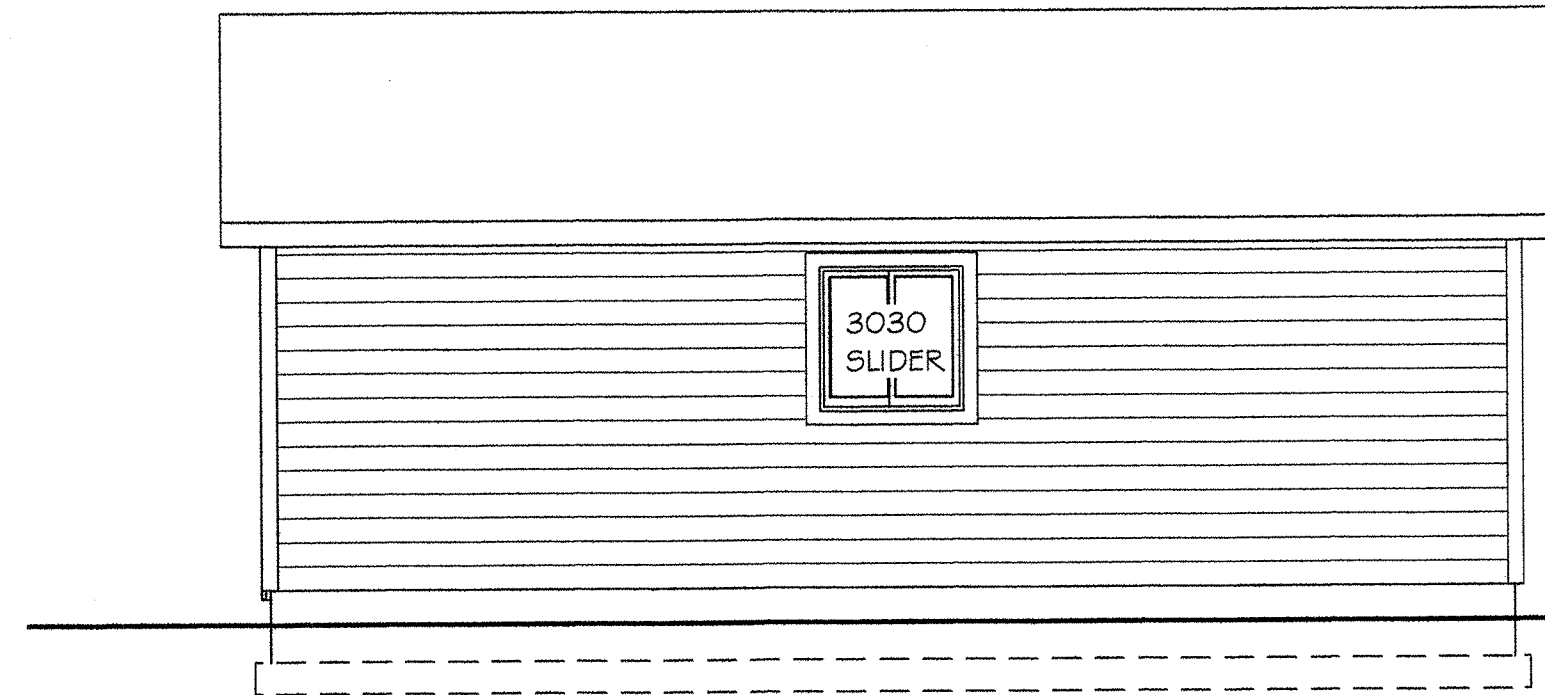
SCALE: 1/4" = 1'-0"

NOTE:
FOOTING/STEMWALL FOUNDATION
SHOWN. FOR ALTERNATIVE
THICKENED-EDGE FOUNDATION
SEE DETAIL



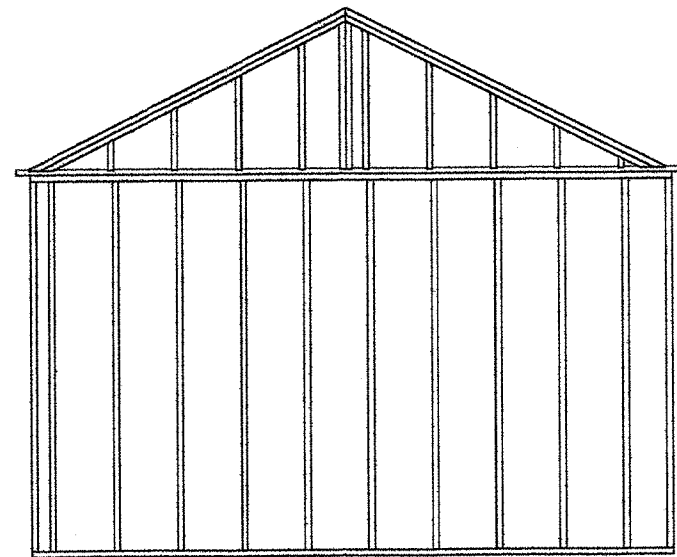
REAR ELEVATION

SCALE: 1/4" = 1'-0"



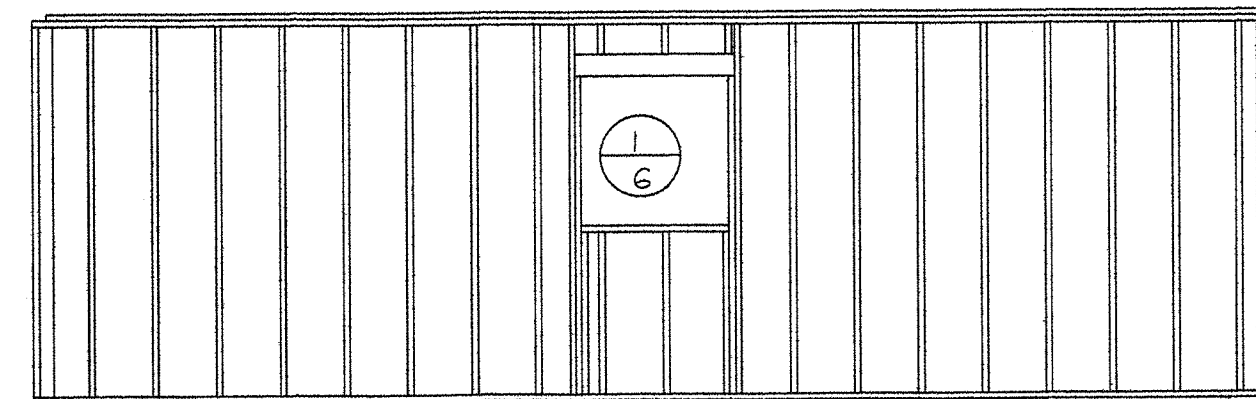
RIGHT SIDE ELEVATION

SCALE: 1/4" = 1'-0"



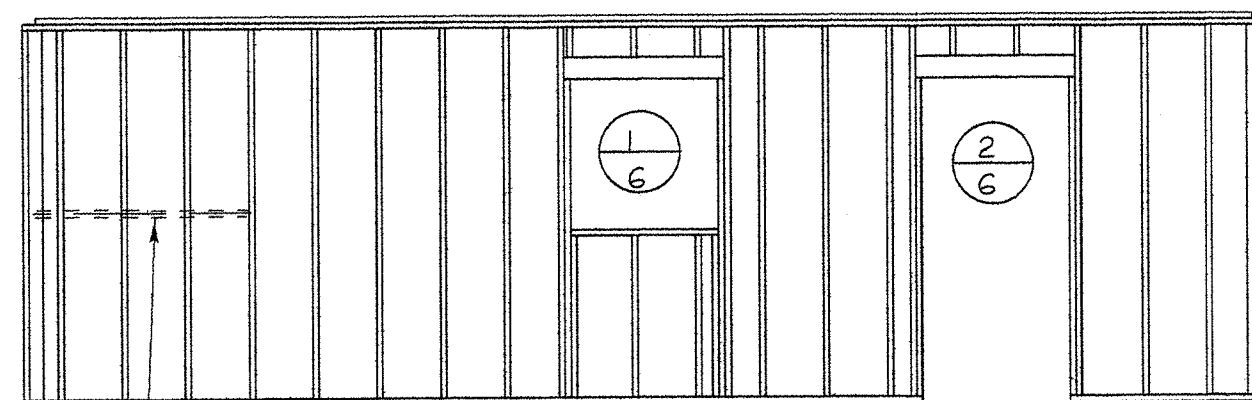
REAR WALL FRAMING ELEVATION

SCALE: 1/4" = 1'-0"



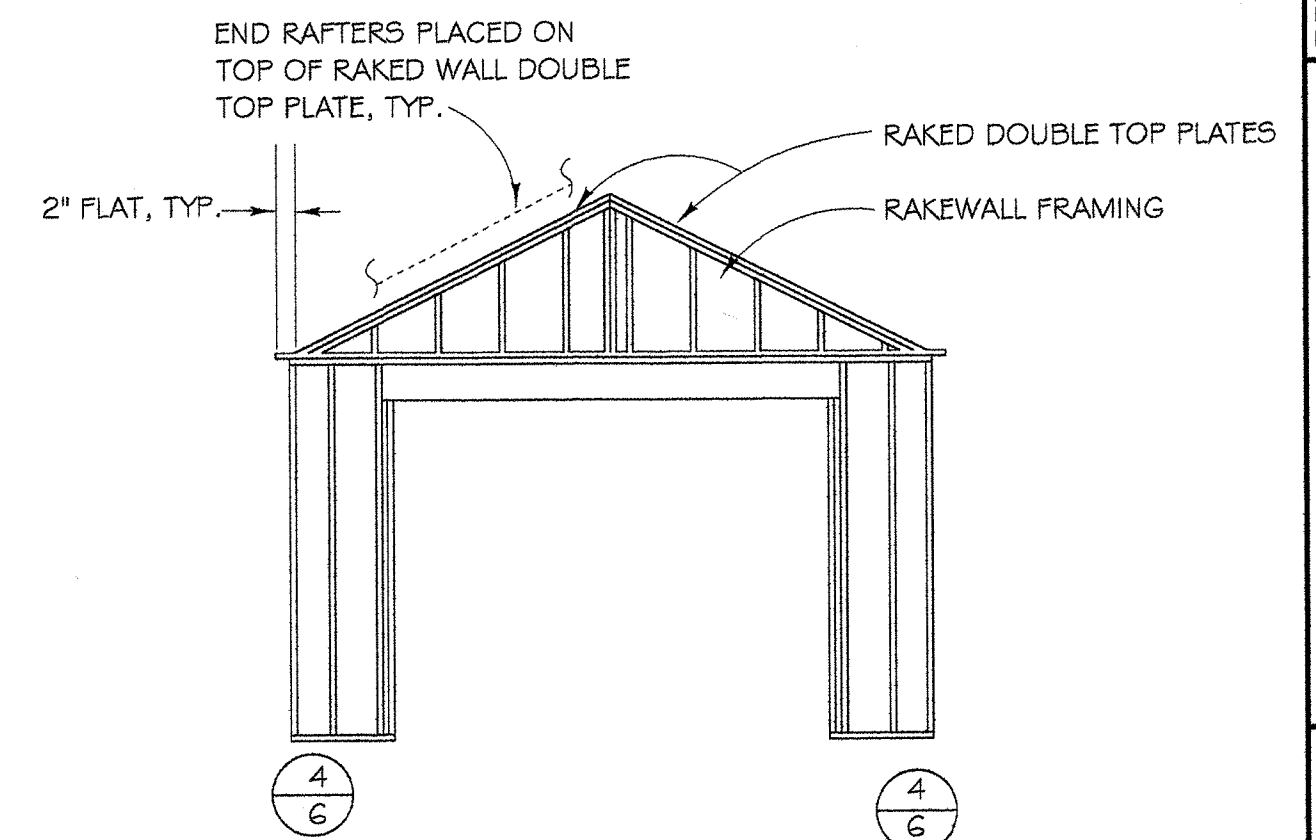
RIGHT SIDE WALL FRAMING ELEVATION

SCALE: 1/4" = 1'-0"

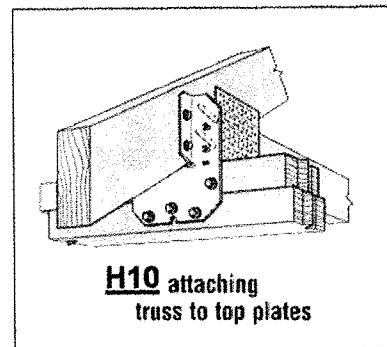


LEFT SIDE WALL FRAMING ELEVATION

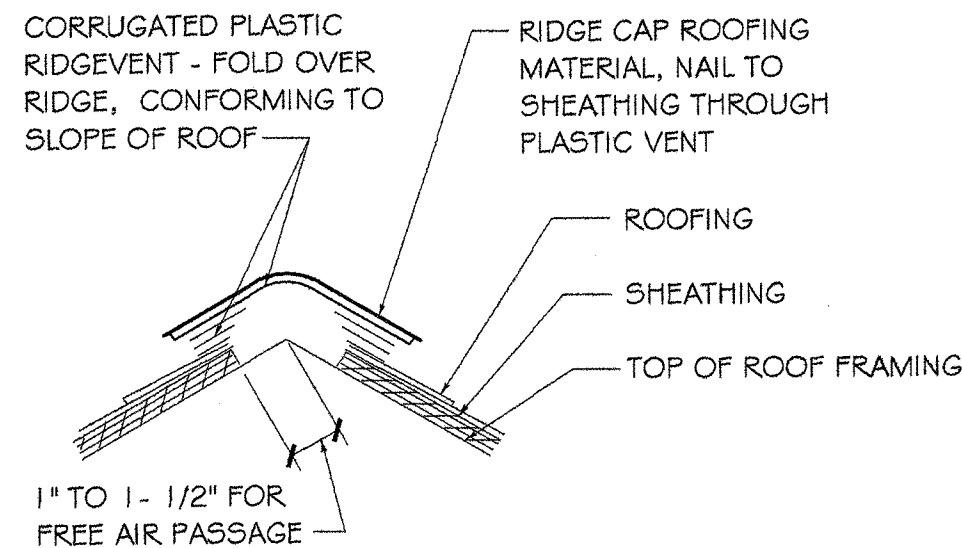
NOTE:
FOR HORIZONTALLY APPLIED WALL
SHEATHING PROVIDE 2 X 4 HORIZONTAL
BLOCKING BETWEEN STUDS FOR PANEL
EDGE NAILING AT BRACED WALLS



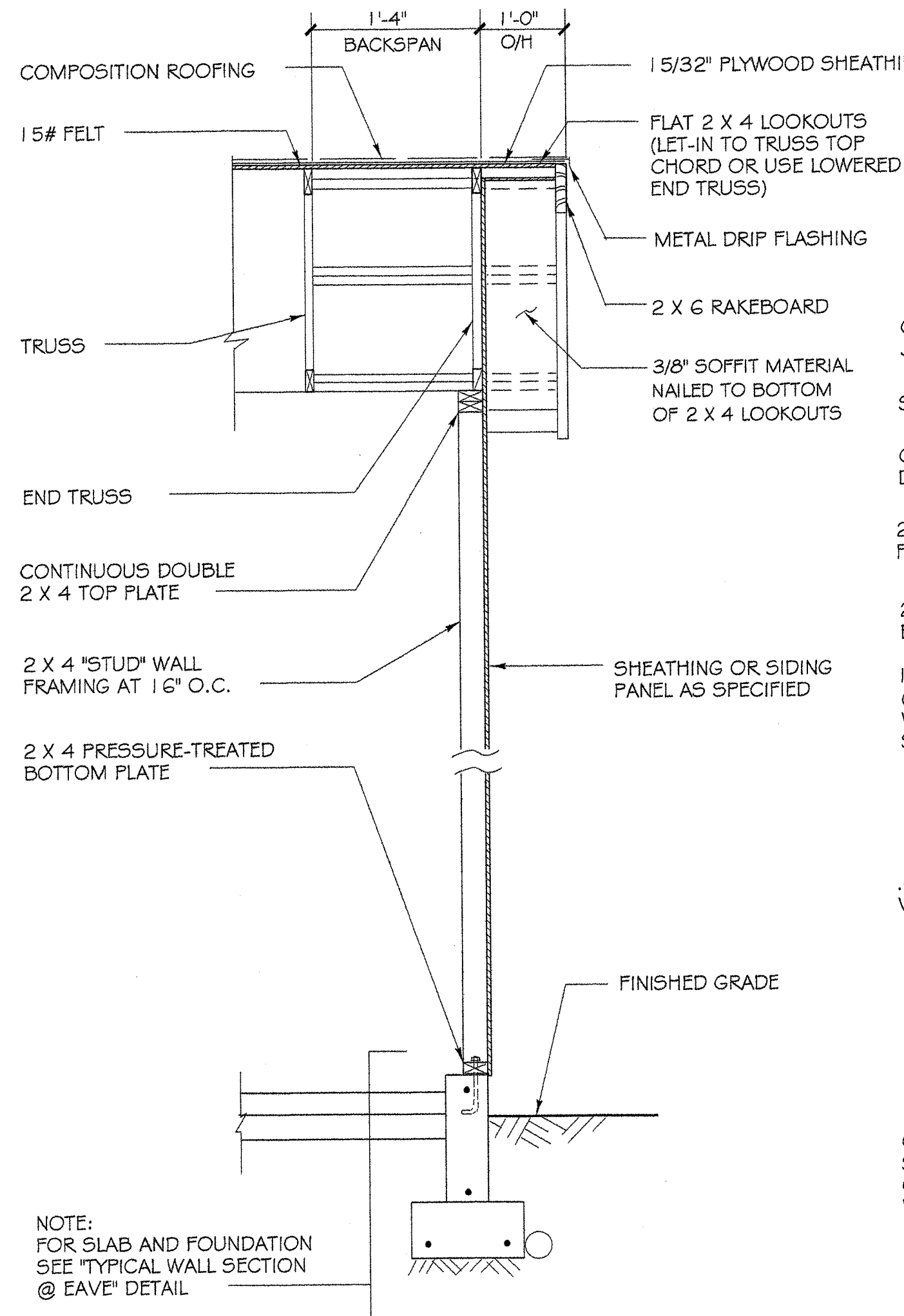
FRONT WALL FRAMING ELEVATION



SIMPSON CONNECTORS

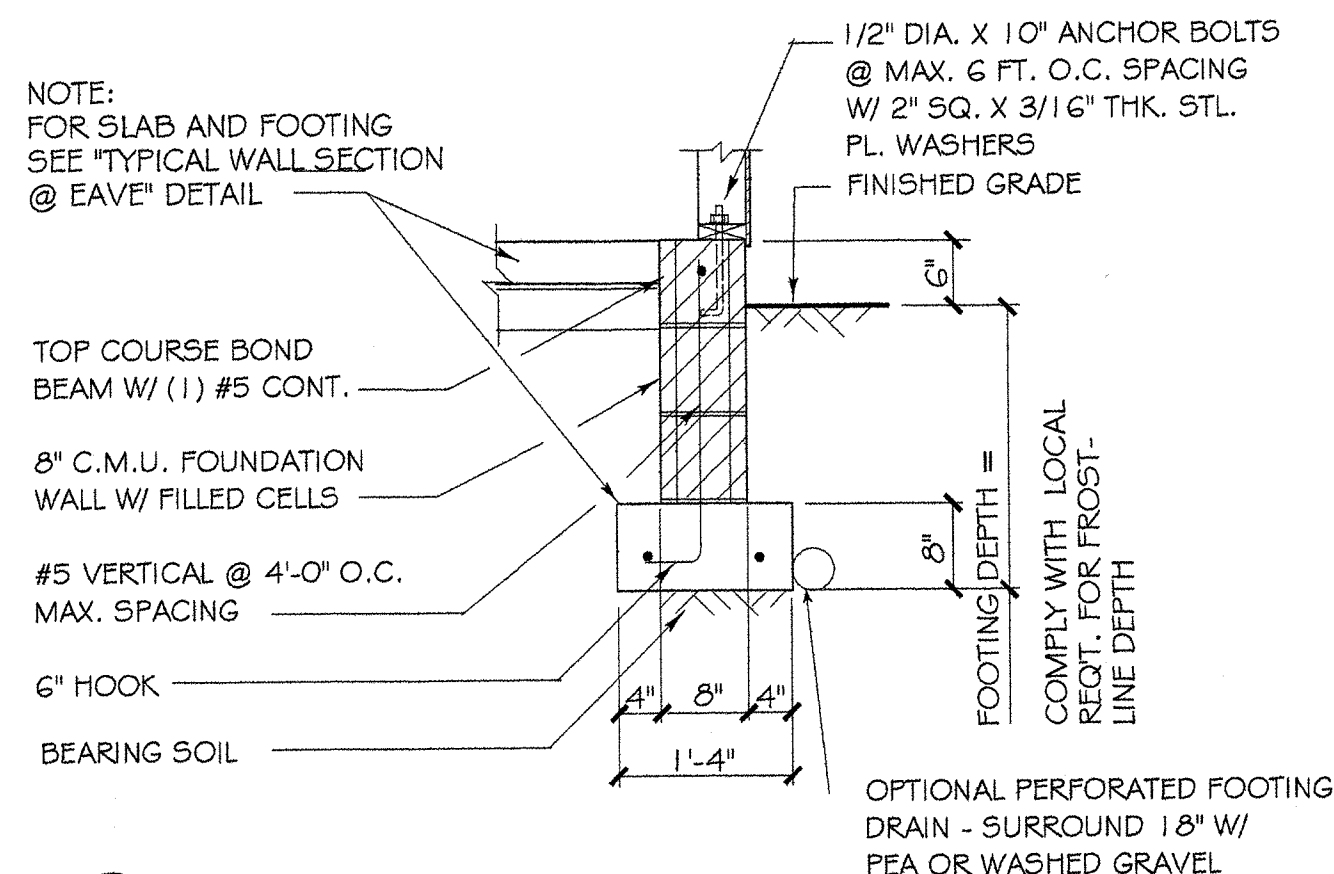


7 RIDGEVENT DETAIL



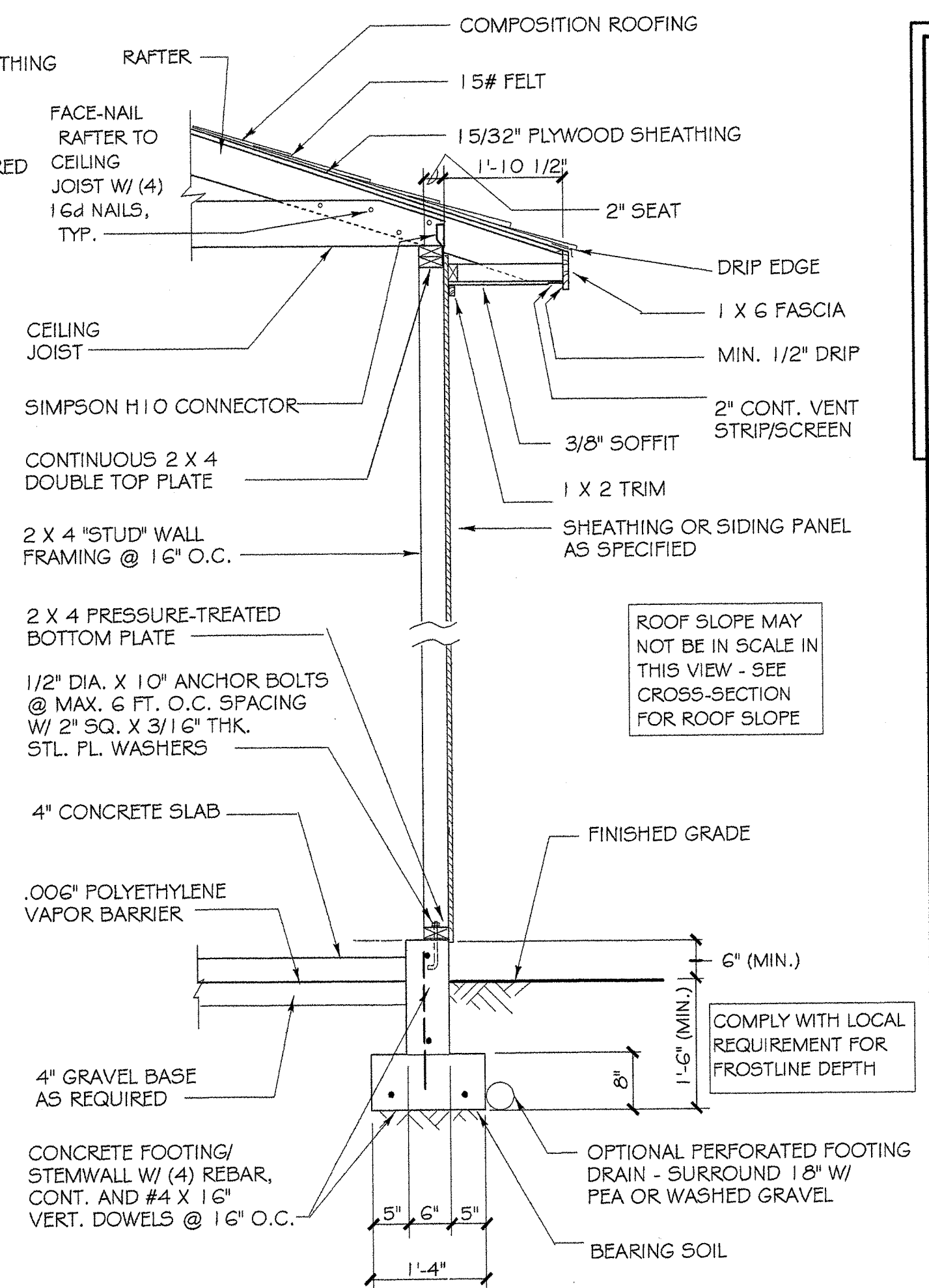
2 TYPICAL WALL SECTION @ GABLE

SCALE: 3/4" = 1'-0"



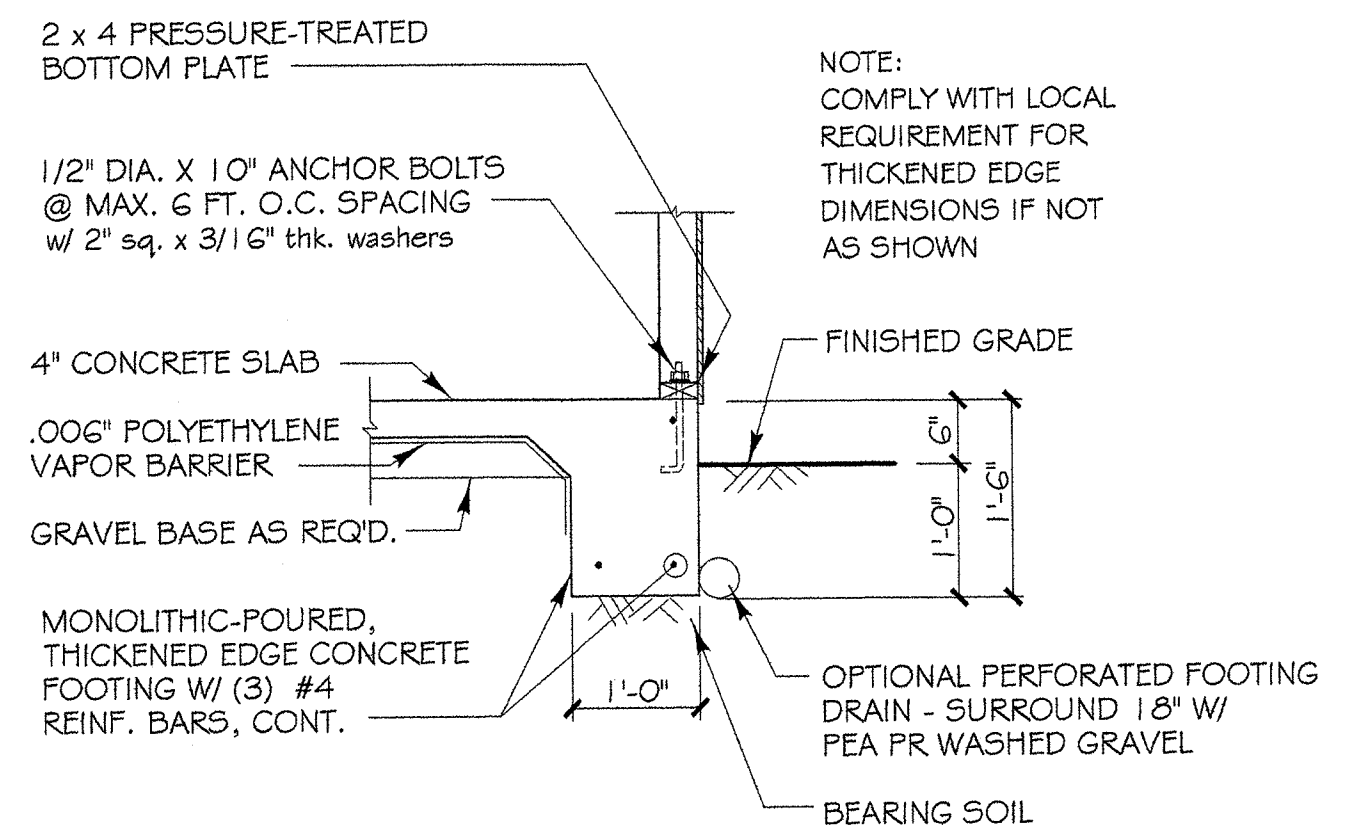
4 BLOCK FOUNDATION WALL DETAIL

SCALE: 3/4" = 1'-0"



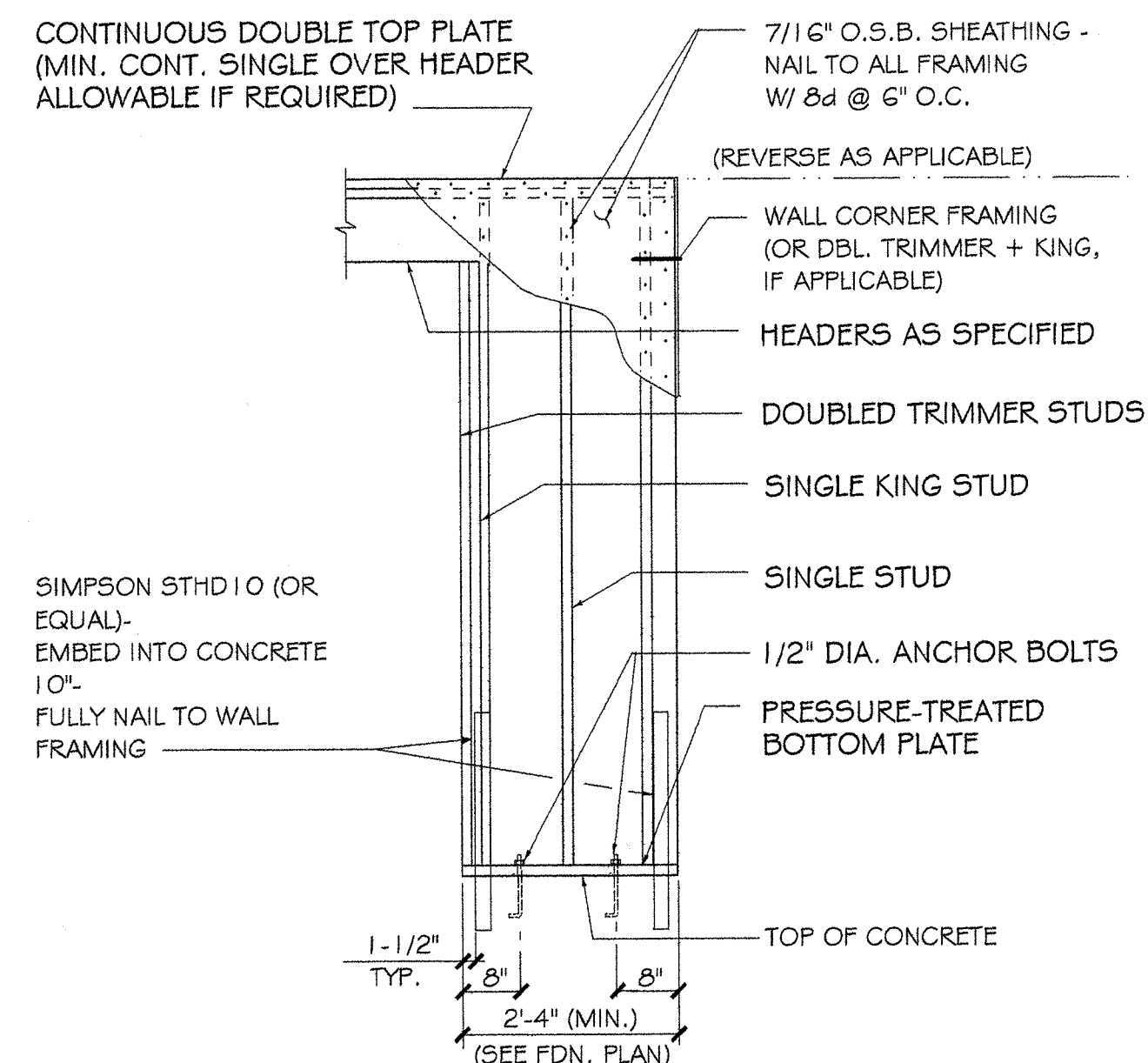
1 TYPICAL WALL SECTION @ SOFFIT

SCALE: 3/4" = 1'-0"

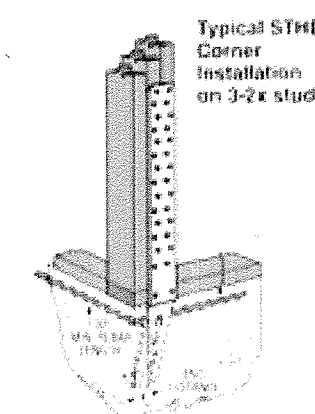


3 MONOLITHIC FOOTING DETAIL

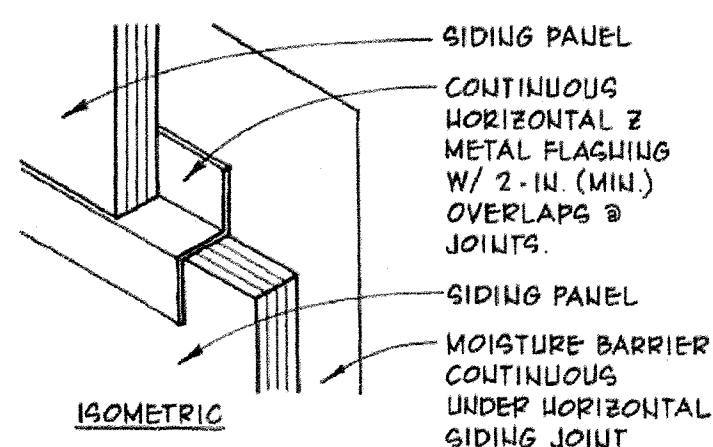
SCALE: 3/4" = 1'-0"



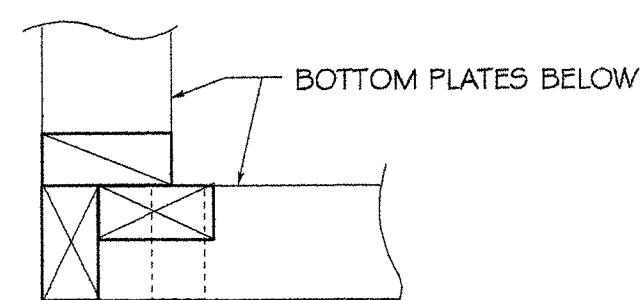
**4 ALTERNATE BRACED WALL
PANEL DETAIL**
SCALE: 3/4" = 1'-
0"



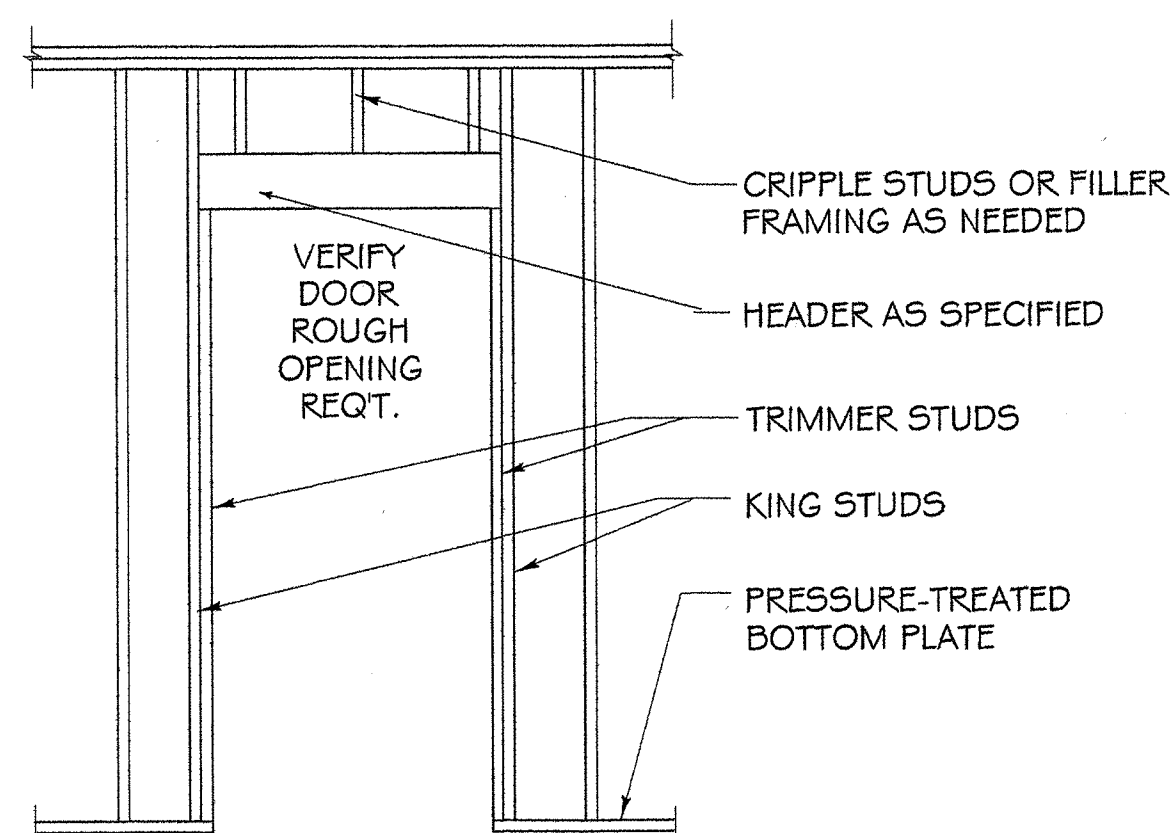
STHD10 HOLDDOWN



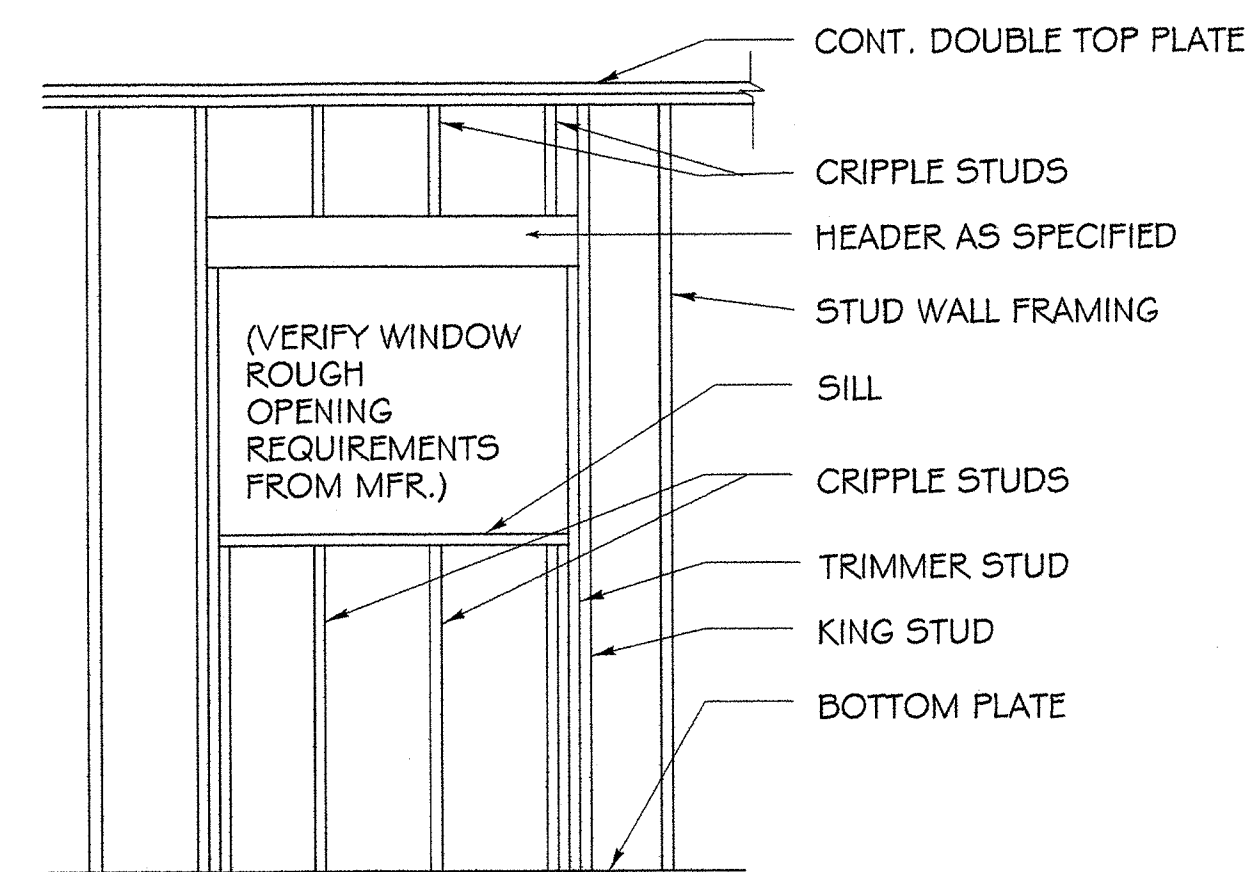
**5 FLASHING DETAIL
(ALTERNATE PANEL SIDING ONLY)**



**STUDS @ CORNER
(PLAN VIEW)**



2 DOOR OPENING DETAIL



1 WINDOW OPENING DETAIL

STRUCTURAL/GENERAL NOTES & SPECIFICATIONS

A. General

The following notes shall clarify and supplement the working drawings.

B. Codes & Standards

International Residential Code (IRC) -
ACI-318; ACI SP-15 / M.B.M.A Manual
(and comply with all local applicable codes as required by Building Official)

C. Live Loads

Roof.....30 lbs/sf
Floors.....40 lbs/sf
Stairs & Exist 100 lbs/sf
Wind.....100 mph
Seismic zone.....A, B, C
Earth Pressure30lbs/cf equiv. Fluid pressure

D. Soil & Foundation Data

- Soil bearing data not available. Assumed soil bearing capacity = 1500 lbs/sf
- Extend all footings down to undisturbed soil of the specified strength with a minimum depth of 1'-6" below adjacent grade, or as required by local building official, based on local frost line depth.
- Center all footings on columns and walls unless specifically dimensioned otherwise.
- Compacted fill to be well graded and granular with not more than 5% passing a 200 sieve. Place in 8-inch loose lifts and compact to 95% modified AASHO density at optimum moisture.

E. Cast-In-Place Concrete and Reinforcing Steel

- Concrete of the following 28-day strength: 5 sack cement/cy (min. 2500 psi); max. 6 gal water/sack for all structural concrete, including foundations and slabs on grade. Maximum sized aggregate ¾". Maximum slump 4". Add Master Builders Pozzolith per manufacturer's recommendations to all concrete except footings. Concrete for exterior walks to be air entrained (5% air).
- Reinforcing steel ASTM A-615 grade 40/60. Use grade 40 for temperature steel, stirrups and dowels. Detail, fabricate and place in accordance with the latest edition of A.C.I. "Manual Of Standard Practice".
- Concrete cover on reinforcing steel (clear dimensions):
Suspended slabs.....¾"
Beams & columns (to ties).....1 ½"
Non-exposed vertical faces.....1"
Vertical faces exposed to earth or weather..2"
Bottom of footings.....3
Slabs-on-grade (from top).....1 ½"
- Lap all field splices 24 diameters with minimum of 12". Bend outer wall footing bars 12 inches or use corner bars at all corners and wall intersections.
- Provide min. one continuous #4 bar at top and bottom of foundation walls w/ #4 at 12" o.c. where wall height exceed two feet. Provide min. two continuous #4 bars in footings. Dowel foundation walls to footings w/ #4 x 1'-6" long @ 16" o.c. Embedded 6" into footing. (No shear keys required)
- Reinforce around wall and slab openings, with sides of 12" or greater, with two #5 bars extending 24" beyond corners on all four sides. Provide one extra #5 diagonal bar, 4'-0" long, at each corner.
- Slabs-on-grade: Roll sub grade and moisten before pour. Saw cut crack control joints within 24 hours of pour or install Zip-Strip, with maximum of 12'-0" for 4" non-reinforced slabs and 40'-0" for reinforced slabs. (min. reinforcing: w6 x 6 - w1.4 x 1.4, supported)
- Vibrate all concrete. Segregation of materials to be prevented. Test cylinders not required.
- Place no fill against foundation or basement walls until floors are in place or walls have been adequately shored to resist lateral earth pressures.

F. Masonry (as applicable)

- Hollow masonry units: F'M=1350 (half & half c.m.u.)
Mortar type S: 1 pc, ½ lime putty, 4 sand
Grout: 2000 psi pea gravel concrete (7 sack)
- Reinforcing steel: ASTM A-615, grade 40.
- Place grout in lifts no greater than 4'-0" height.
- Wall reinforcing:
.....6" walls: #4 vertical @ 48" o.c. w/ #9 wire horiz. Joint reinf. @ 8" o.c.
.....8" walls: #5 vertical @ 48" o.c. w/ 3/16" dia. wire horiz. Joint reinf. @ 8" o.c.
Install two bars in corners, wall intersections, wall endings and around openings. Lap all bars 20 inches and joint reinforcing, 12 inches. Use corner bars for outer bars in bond beams and at intersecting walls.
- Anchor brick veneer to wood framed wall as detailed with 22 ga. X 7/8" x 7" galvanized corrugated wall ties @ 16" o.c. ea. Way with one Simpson n20a nail.

G. Timber and Wood Framing

- Substitution of wood species identified herein may be as approved by local Building Official and material strength and capacities shall equal or exceed that of the species identified herein.
- All lumber to be graded per book 16 of the West Coast Lumber Inspection Bureau:
HF/DF no. 2 for joists, rafters, light framing, plates and bracing
DF no. 1 for posts and beams
HF/DF "stud" for stud wall framing
- Joists and rafters (lumber) shall have 2" nominal thick solid blocking at supports.
- Comply with the latest edition of the NFPA "National Design Specification" as modified by the applicable code for all structural timber requirements.
- Spike laminated members together w/ 10d nails @ 12" o.c., staggered. Splice laminations at supports only.
- Provide cut washers for all bolts bearing on wood.
- All nails shall be common wire nails.
- Glue-laminated timbers, Douglas Fir, A.I.T.C. grading: combination 24F-V3 for simple spans; 24F-V8 for cantilevered spans. Dry conditions of use. Architectural appearance grade where exposed to view. Fabrication plant A.I.T.C. inspected./ Wrap individual members.
- Plywood: Roof sheathing to be 15/32" C-D int-apa plywood with exterior glue, P.I. 24/0 (use 5-ply for panelized roofs) Nailing 8d @ 6" o.c. at panel edges and 8d @ 12" o.c. at intermediate supports. Sub-flooring to be ¾" C-D-apa plywood with exterior glue, P.I. 32/16. Use T&G if no underlayment. Glue and nail with 10d @ 6" o.c. at panel edges and @ 10" at intermediate supports.
- Pre-fabricated trussed members to be designed by applicable state licensed engineer in accordance with requirements shown in the drawings. Contractor shall verify as-framed dimensions and conditions prior to truss fabrication and coordinate as required. All engineering data shall be made available for submittal to the Building Official as required.

H. Structural Steel

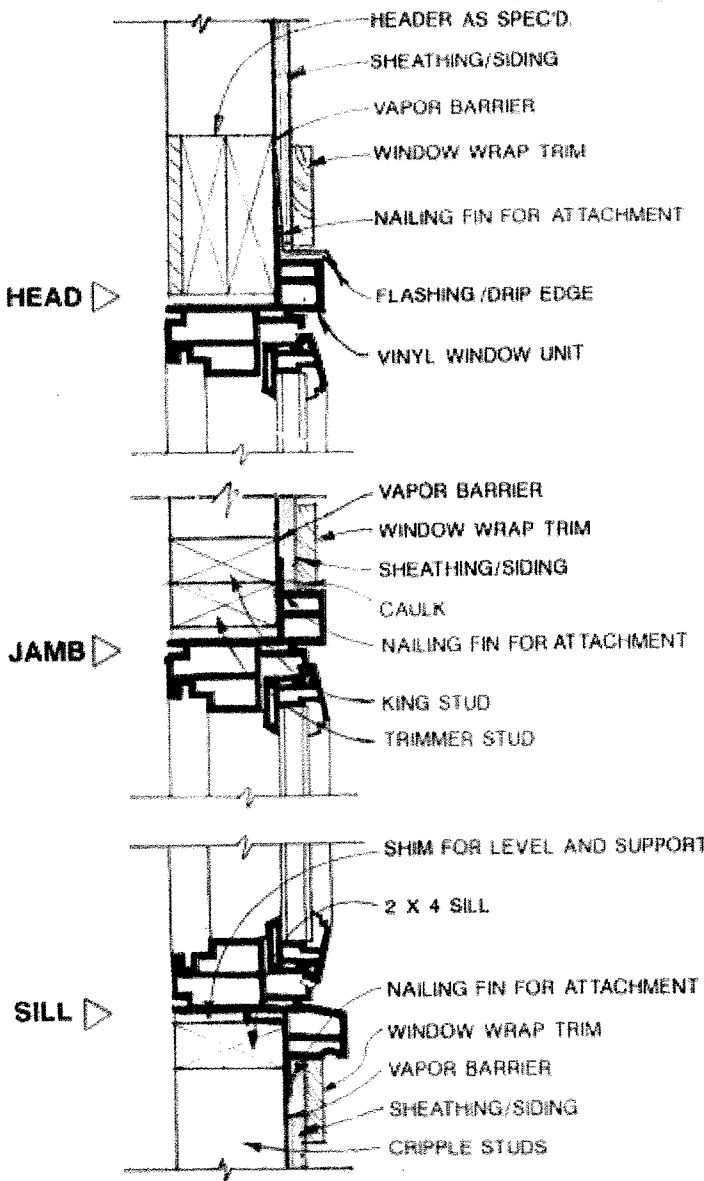
- All steel, except tubing: ASTM A-36. Pipe: ASTM A-53, Type E or S, grade B. Tubular section: ASTM A500, grade B. All bolts: ASTM A-307.
- All fabrication, erection and detailing shall be in accordance with the latest edition of the "Manual Of Steel Construction" of the American Institute Of Steel Construction.
- All welding by WABO certified welders in accordance with the "Welding Handbook" by the American Welding Society.
- All welds 3/16" min. continuous fillet welds using ASWA5, E70XX electrodes.
- Provide washers on all bolted connections.
- All steel not embedded in concrete or masonry shall receive one shop coat of an approved primer paint. Apply two coats of heavy asphaltic paint to all steel exposed to earth.
- Furnish complete shop drawings prior to fabrication.

I. Miscellaneous

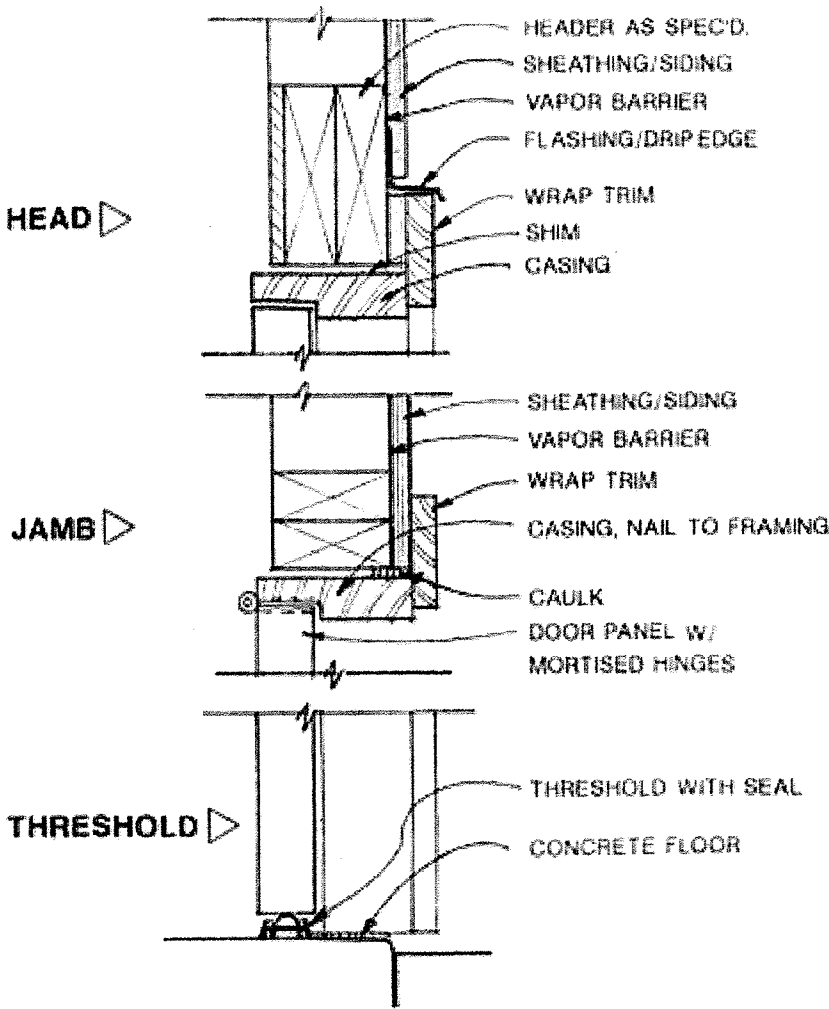
- Contractor shall verify all site conditions and dimensions in field.
- Provide temporary bracing as required until all permanent connections and stiffening have been installed.
- Verify size and locations of all openings in floor, roof and walls and coordinate with electrical and mechanical work.
- Pre-fabricated items shall be handled and installed in accordance with manufacturers' recommendations. Pre-fabricated

assemblies shall be coordinated with any as-built conditions by the contractor regarding dimensions, clearance and applicable building code requirements.

- All HVAV equipment shall be determined by owner and/or contractor specific to this project and comply with all applicable codes. Performance data and distribution layout shall be provided by mechanical subcontractor. Submittals shall be coordinated by the contractor as required by the Building Official.
- It is the intent of these drawings and specifications to comply with the requirements of the applicable Building Code and all other relevant codes and ordinances. Any discrepancies, omissions or errors shall be brought to the attention of the designer for clarification or correction before beginning the work. It is the responsibility of the general contractor to seek clarification or correction if needed.



WINDOW DETAILS
(NOT TO SCALE)



DOOR DETAILS
(NOT TO SCALE)

QUESTIONS? CALL
1-800-210-6776
WWW.BEHMDSIGN.COM

PLAN NO.
364-1

DESIGN BY:
JUB
DATE:

SHEET CONTENTS:
STRUCTURAL/GENERAL NOTES
WINDOW DETAILS
DOOR DETAILS

SHEET
7
OF **8**

- FASTENING REQUIREMENTS -

TABLE R602.3(3) REQUIREMENTS FOR WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST WIND PRESSURES ^{a,b,c}									
MINIMUM NAIL		MINIMUM WOOD STRUCTURAL PANEL SPAN RATING	MINIMUM NOMINAL PANEL THICKNESS (inches)	MAXIMUM WALL STUD SPACING (inches)	PANEL NAIL SPACING		MAXIMUM WIND SPEED (mph)		
Size	Penetration (inches)				Edges (inches o.c.)	Field (inches o.c.)	Wind exposure category		
							B	C	D
6d Common (2.0" x 0.113")	1.5	24/0	3/8	16	6	12	110	90	85
8d Common (2.5" x 0.131")	1.75	24/16	7/16	16	6	12	130	110	105
				24	6	12	110	90	85