

1 BATH TUB ROUGH-IN DETAIL
SCALE: 1/2" = 1'-0"

Electrical

Once the footing work is complete with all block-outs and conduits in place, the wall forms will be set in place. When the inside wall forms are connected and wall steel is tied to the forms, the electrician can begin.

The layout of the wall boxes should be done first, so any re-rod in the way can be relocated. When the areas are cleared you may attach boxes and sleeves to the wall. Boxes and forms should be drilled with a one quarter inch bit. Use a machine screw long enough to penetrate the box, form, plus $\frac{1}{4}$ ". Fasten connectors to the box, fill the box with paper or fiberglass insulation and attach box to the wall. (Nut on inside of house) After the conduit is secured you may layout the boxes for the ceiling and attach the conduit. (NO HOLES MAY BE DRILLED IN THE DOME) Conduit and boxes couplers are very tight and taped.

After the walls and dome are poured we will strip the forms and the process starts again.

Electrical Notes:

1. Ground all outlets.
2. No more than 12 feet apart.
3. 12" high center line of outlet to finished floor.
4. Switches- 48" centerline on switch (on knob side of door) to finished floor.
5. Outlets above sink 8" and 48" apart.

6. Put 8 outlets on one circuit.

7. Split kitchen circuits = 2

Dishwasher = #12 wire

Garbage disposal = #12 wire

Number of wires in conduits:

½" conduit: 4 - #14 wire

¾" Conduit: 5 - #14 wire

3 - #12 wire

4 - #12 wire

1 - #10 wire

2 - #10 wire

1 - #8 wire

1 - #8 wire

1 - #6 wire

1 - #6 wire

? - #16 or #18 wire

? - #16 or #18 wire

#12 wire = 20 amps = 24 - 100 watt bulbs

#14 wire = 15 amps = 18 - 100 watt bulbs

Color of wire:
Ground:

Color of Terminal or screw:

Hot, Neutral or

White

White or silver

Neutral

Black

Brass

Hot Wire

Red

Brass

Hot Wire

Green

Green

Ground Wire

Bare Wire

Electrical box ground

Ground Wire

ONE EXCEPTION TO THIS RULE OF THUMB IS:

IF THE POWER SOURCE GOES FIRST THROUGH THE LIGHT FIXTURE AND THEN TO THE SWITCH, YOU HAVE TO USE A "WHITE" WIRE AS A HOT BLACK WIRE, IN THIS CASE PUT BLACK TAPE ON WHITE WIRE ENDS TO IDENTIFY THAT THE WIRE IS HOT.

Three way wire:

White – Neutral

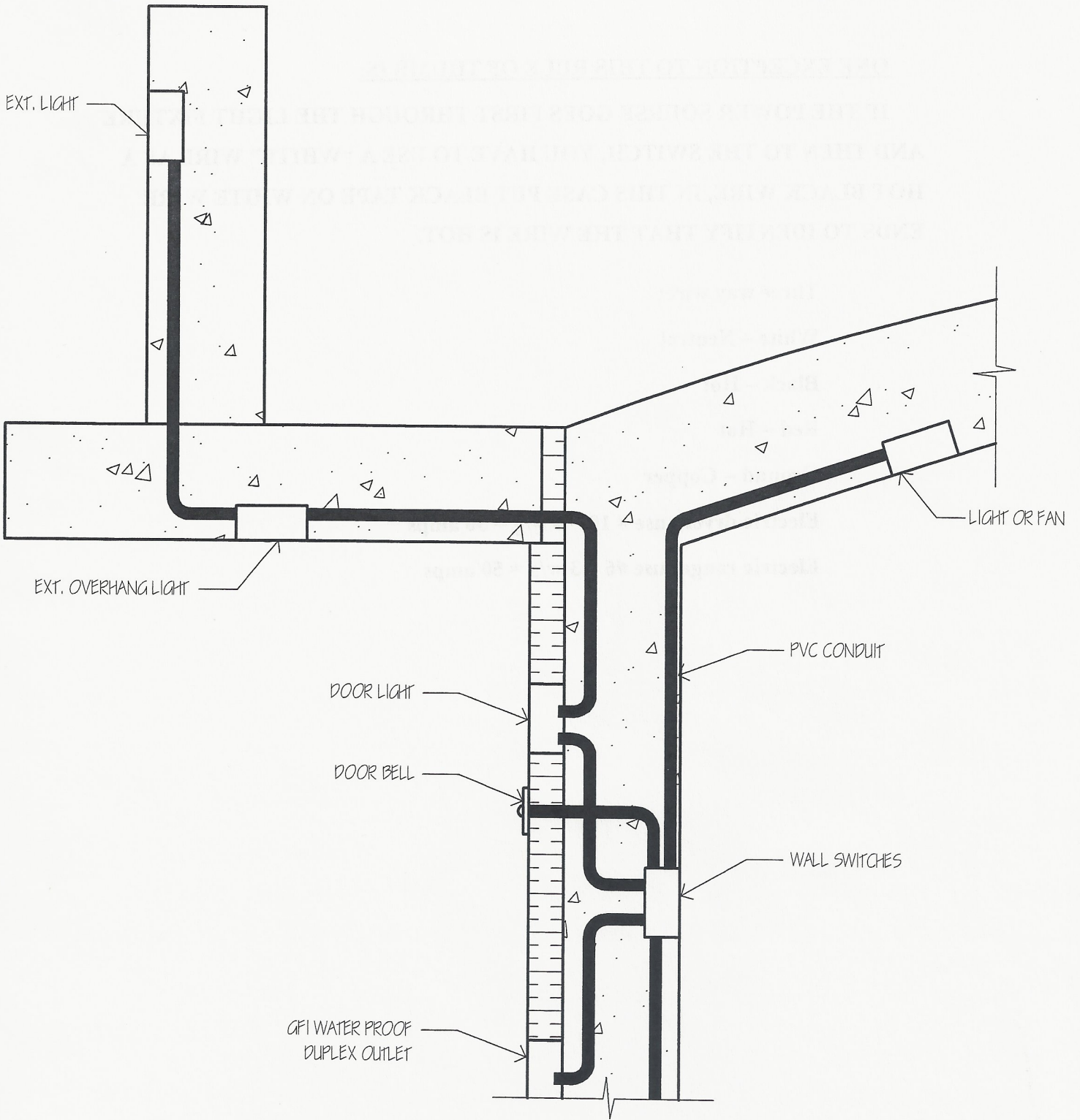
Black – Hot

Red – Hot

Ground – Copper

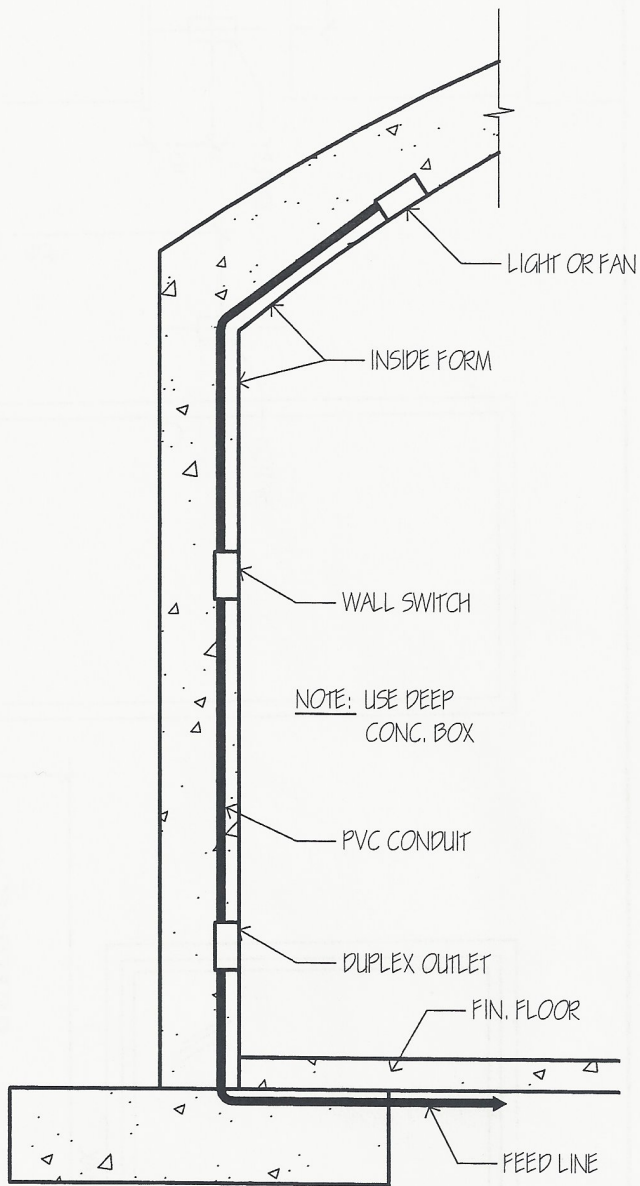
Electric dryers use # 10 – 3 w/g = 30 amps

Electric ranges use #6 – 3 w/g = 50 amps

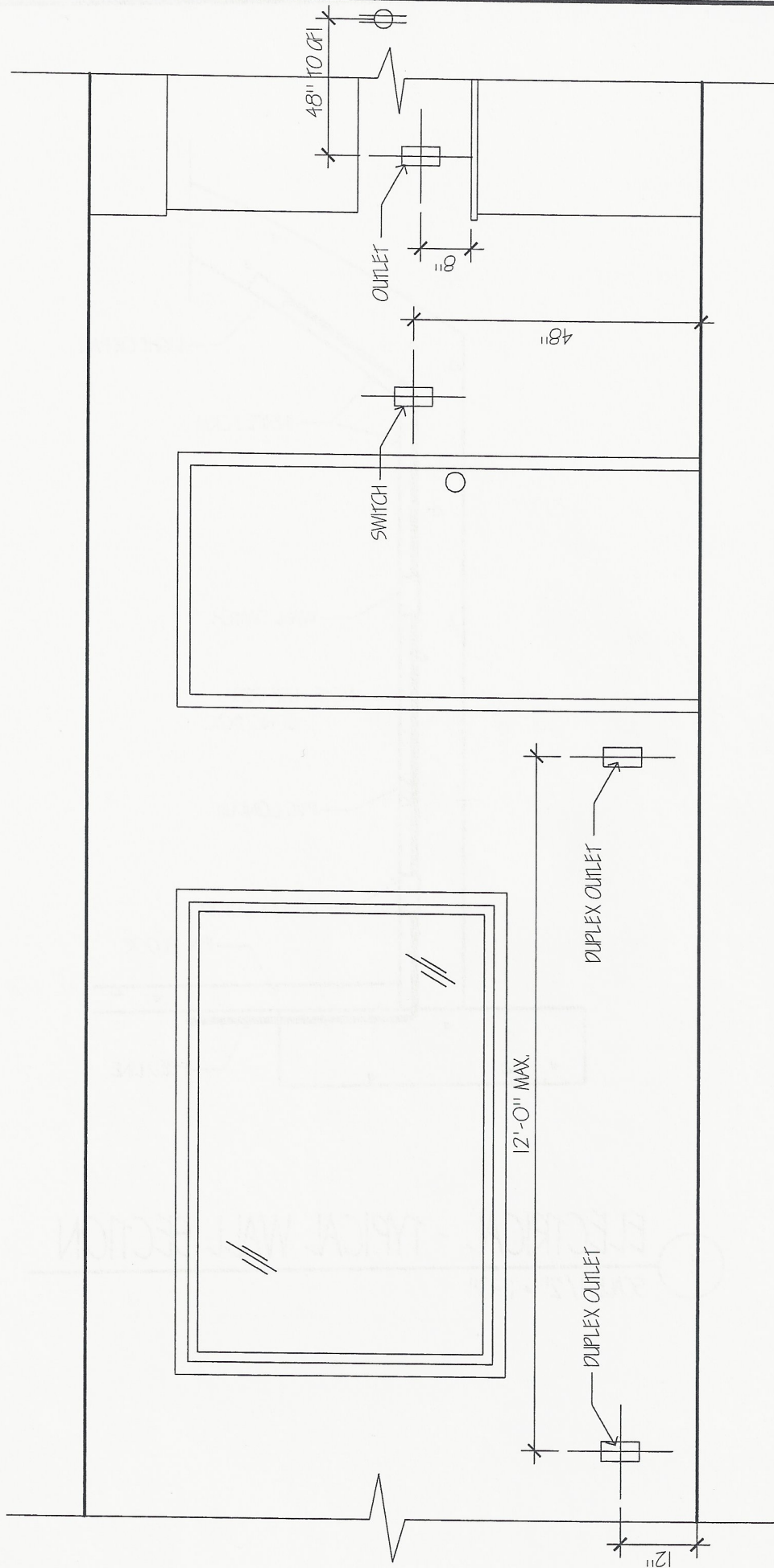


1
ELECTRICAL - OVERHANG/ PARAPET/ EXT. WALL
 SCALE: 1" = 1'-0"

E-1



① ELECTRICAL - TYPICAL WALL SECTION
 SCALE: 1/2" = 1'-0"



ELECTRICAL ELEVATION - TYPICAL

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

1

E-3

Carpentry

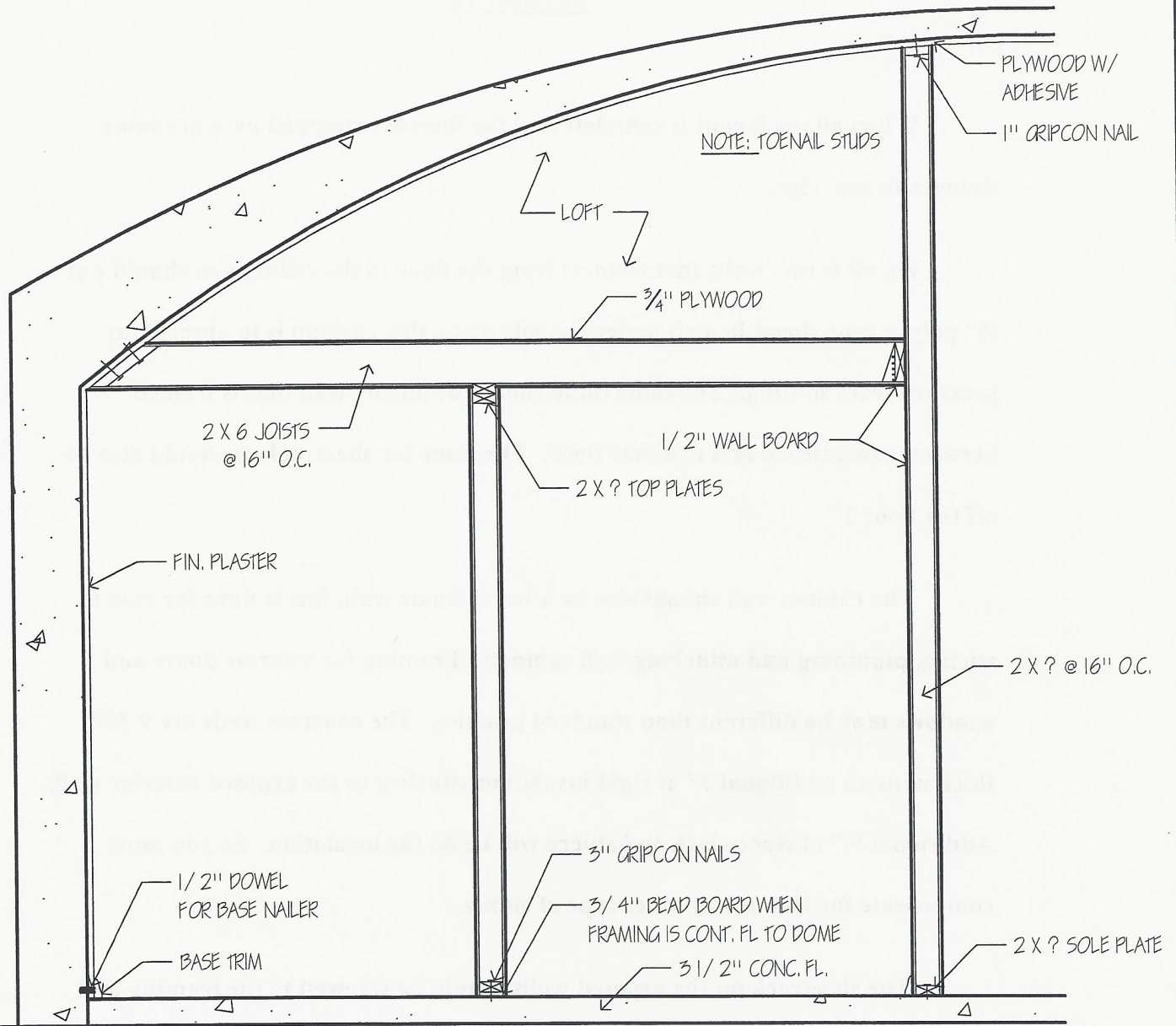
When all the layout is complete and the lines are snapped here are some changes to consider.

On all frame walls that connect from the floor to the ceiling you should put $\frac{3}{4}$ " polystyrene (bead-board) under the sole plate, this cushion is to absorb any pressure from settling. The same thing should be on any wall that is framed between concrete tip and concrete floor. The same for sheetrock, it should also be off the floor 1".

The cabinet wall should also be a wood frame wall, this is done for ease in wiring, plumbing and attaching wall cabinets. Framing for exterior doors and windows may be different than standard practice. The concrete walls are $9 \frac{5}{8}$ " thick with an additional 3" of rigid insulation attached to the exposed exterior walls. Additional $\frac{1}{2}$ " of stucco lath and stucco will be on the insulation. So you must compensate for this or any other type of siding.

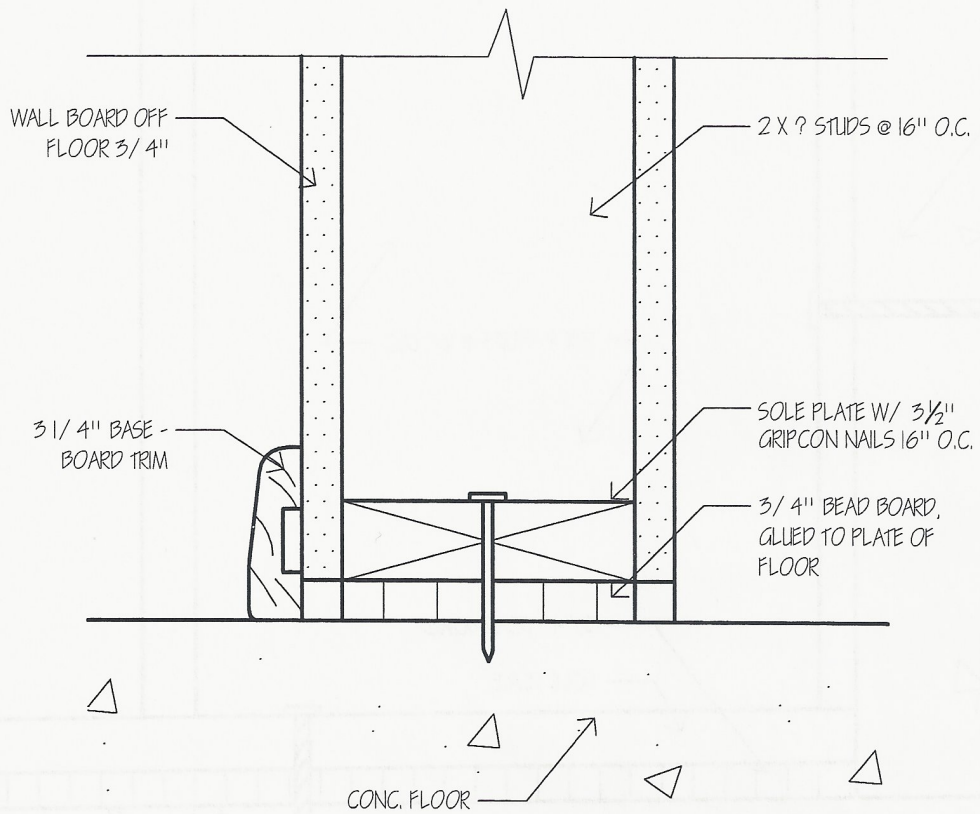
The sheetrock on the exposed walls should be screwed to the framing and glued to the concrete. Caution should be used so no joints stop at the junction of concrete and framing.

Base trim is best secured by drilling $\frac{1}{2}$ " hole in the concrete then glue a dowel and hammer it into the hole to its depth. Once the base is cut and fitted, use adhesive on the trim and nail into the dowel. This has proven to be the best method.



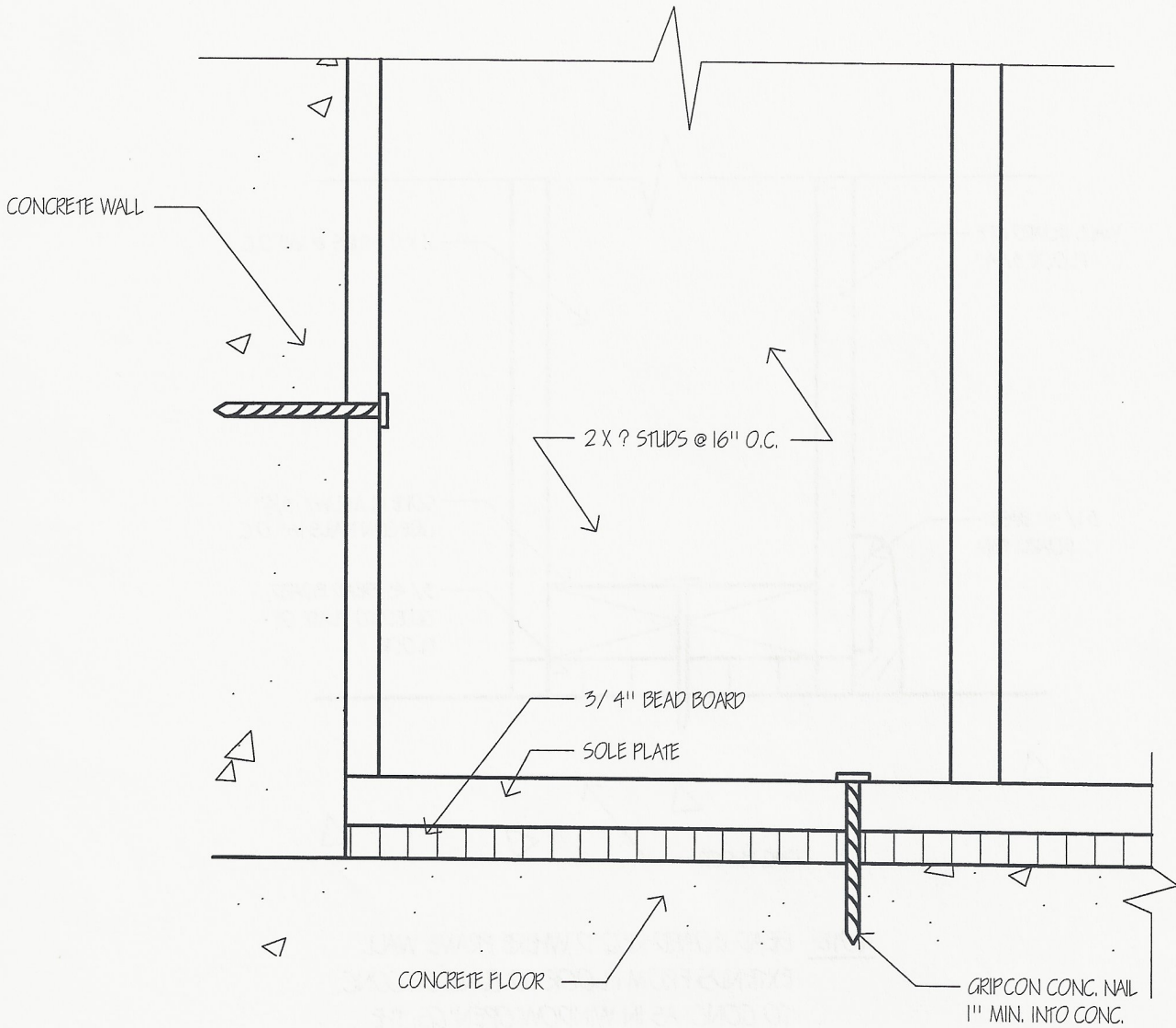
1
INTERIOR STUD WALL SECTION
 SCALE: 1/2" = 1'-0"

C-1



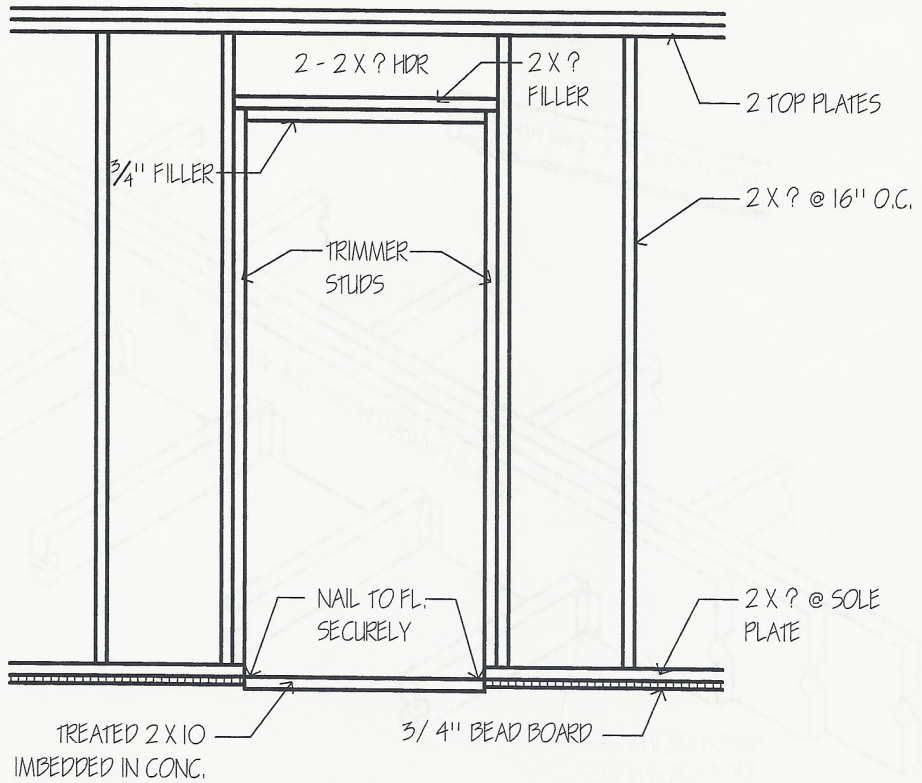
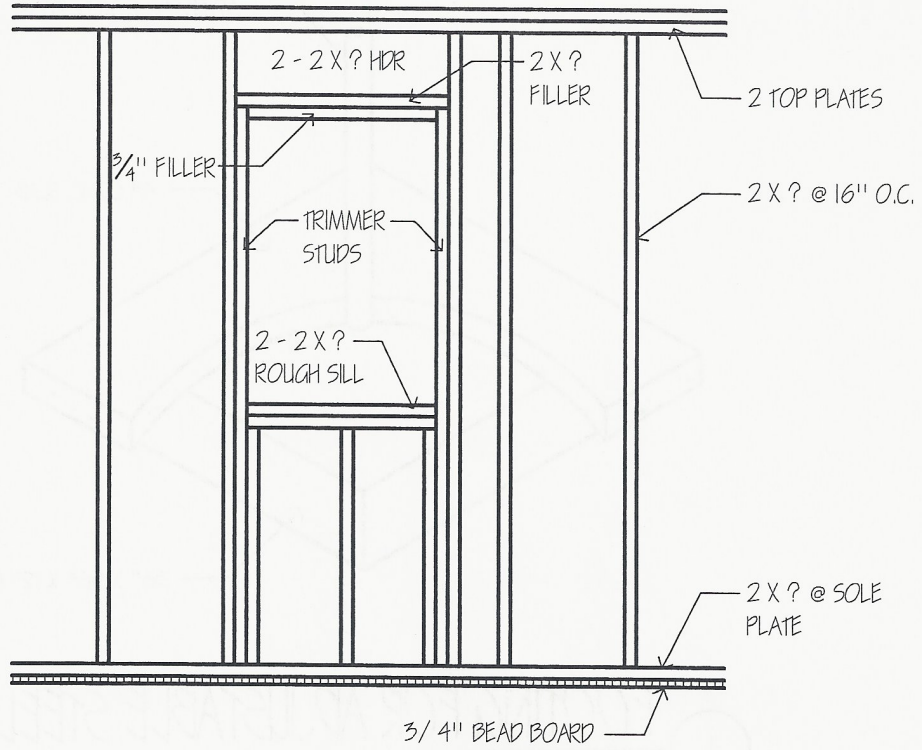
NOTE: BEAD BOARD REQ'D WHERE FRAME WALL EXTENDS FROM FLOOR TO CLNG OR CONC. TO CONC. AS IN WINDOW OPEN'GS; THE REASON IS THAT THE HSE MAY SETTLE.

1 CONG. TO CONG. STUD DETAIL
 SCALE: 3" = 1'-0"



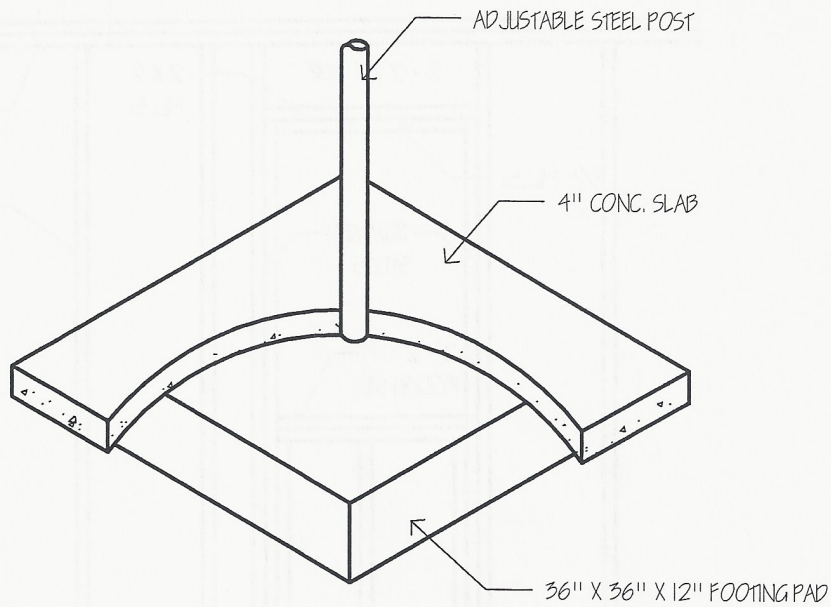
NOTE: USE 3 1/2" GRIPCON NAILS THROUGH WALL STUD & SOLE PLATE @ 16" ± O.C.

1 WALL STUD / SOLE PLATE ELEV
 SCALE: 3" = 1'-0"

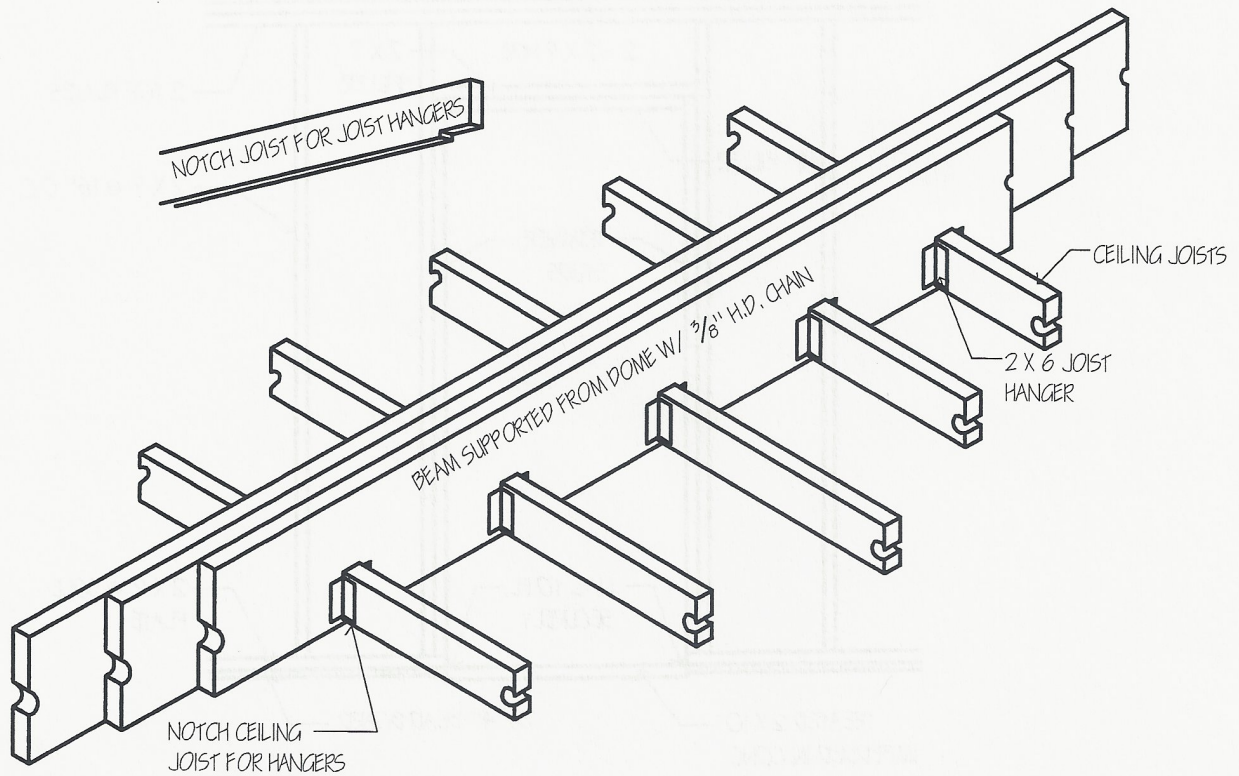


1 WDW & DOOR FRAMING
 SCALE: 1/2" = 1'-0"

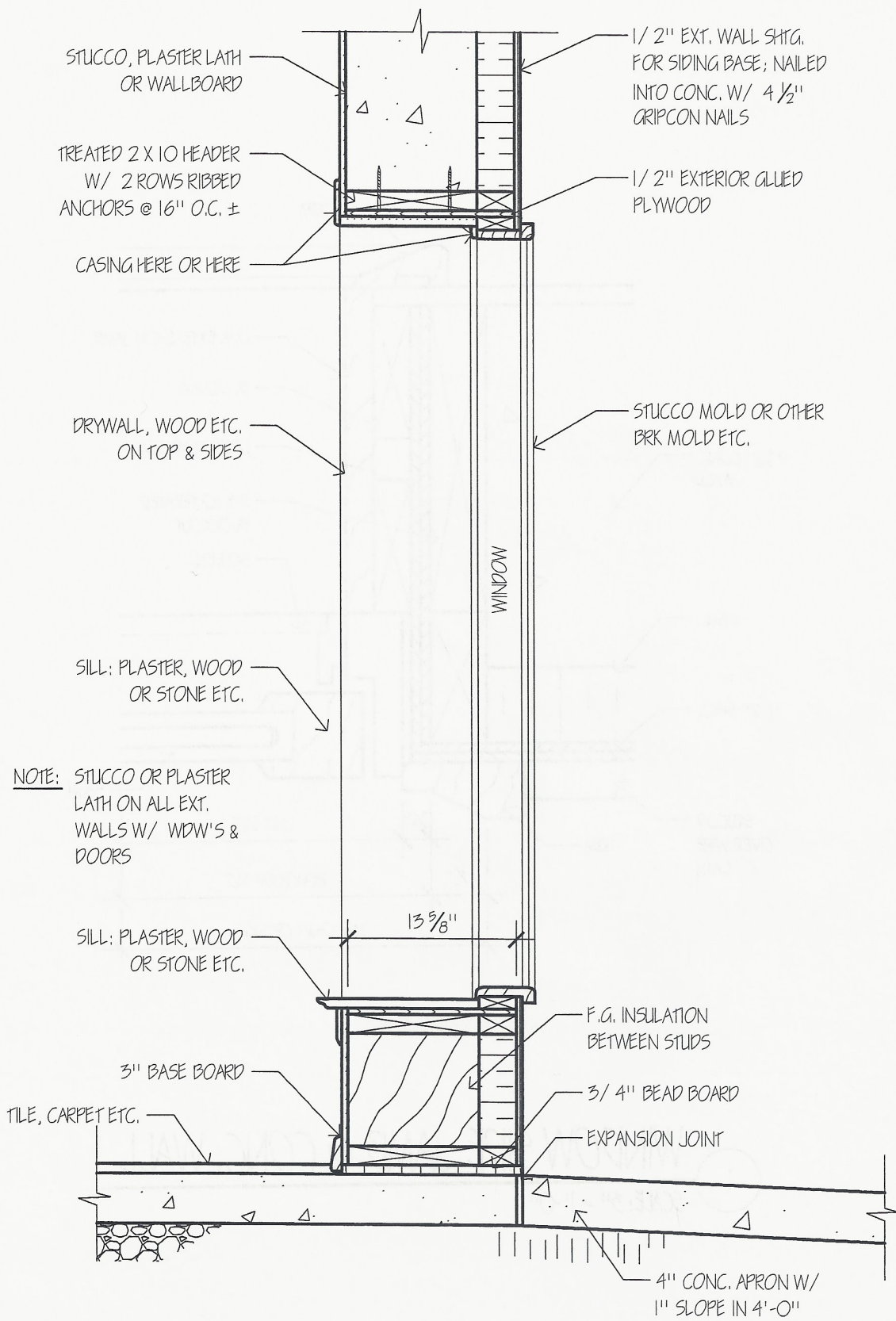
C-4



1 FOOTING FOR ADJUSTABLE STEEL POST
SCALE: 1/4" = 1'-0"



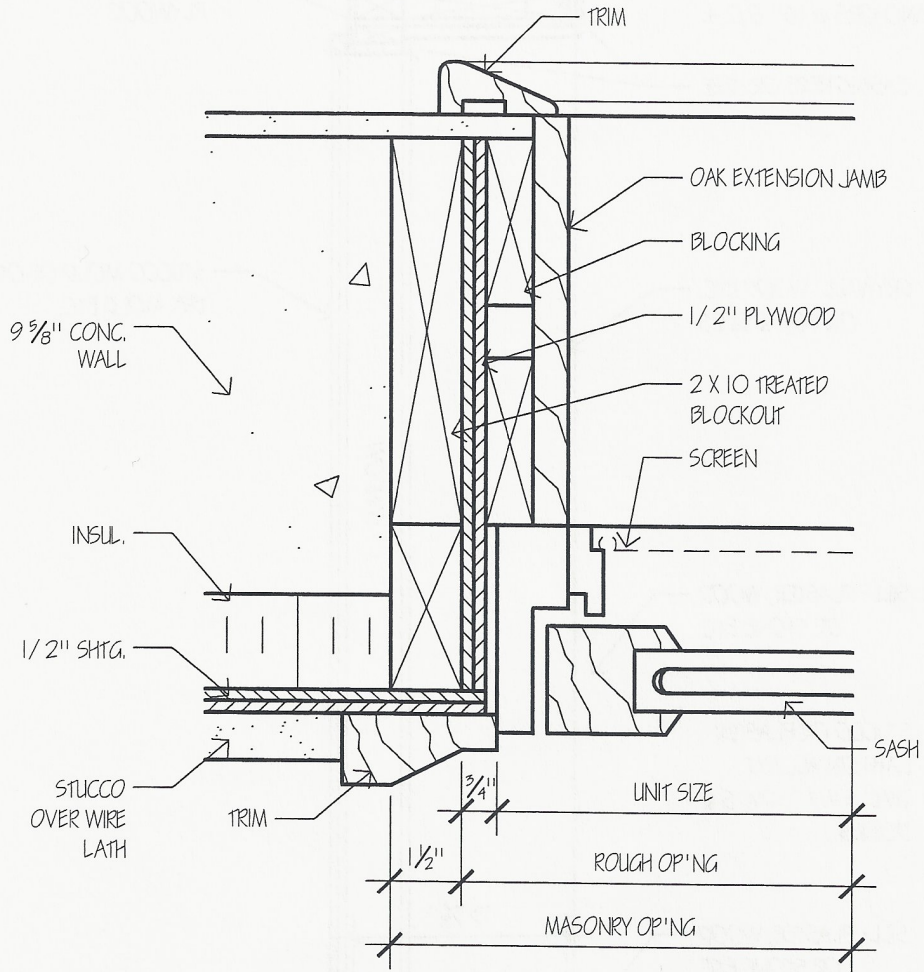
1 FLUSH HEADER DET.
SCALE: 1/4" = 1'-0"



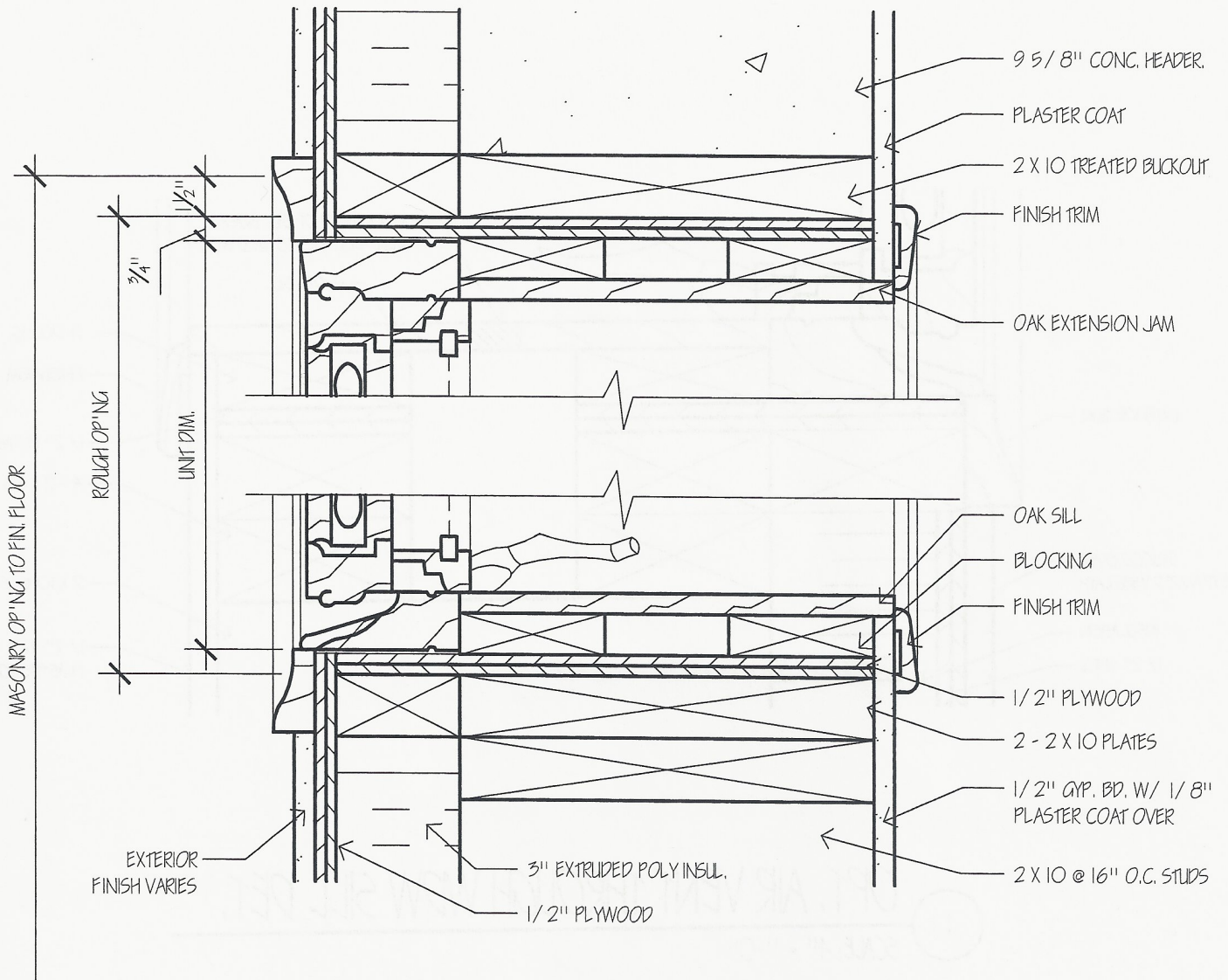
NOTE: STUCCO OR PLASTER LATH ON ALL EXT. WALLS W/ WDW'S & DOORS

1 WALL SECTION @ WDW
SCALE: 1" = 1'-0"

C-6



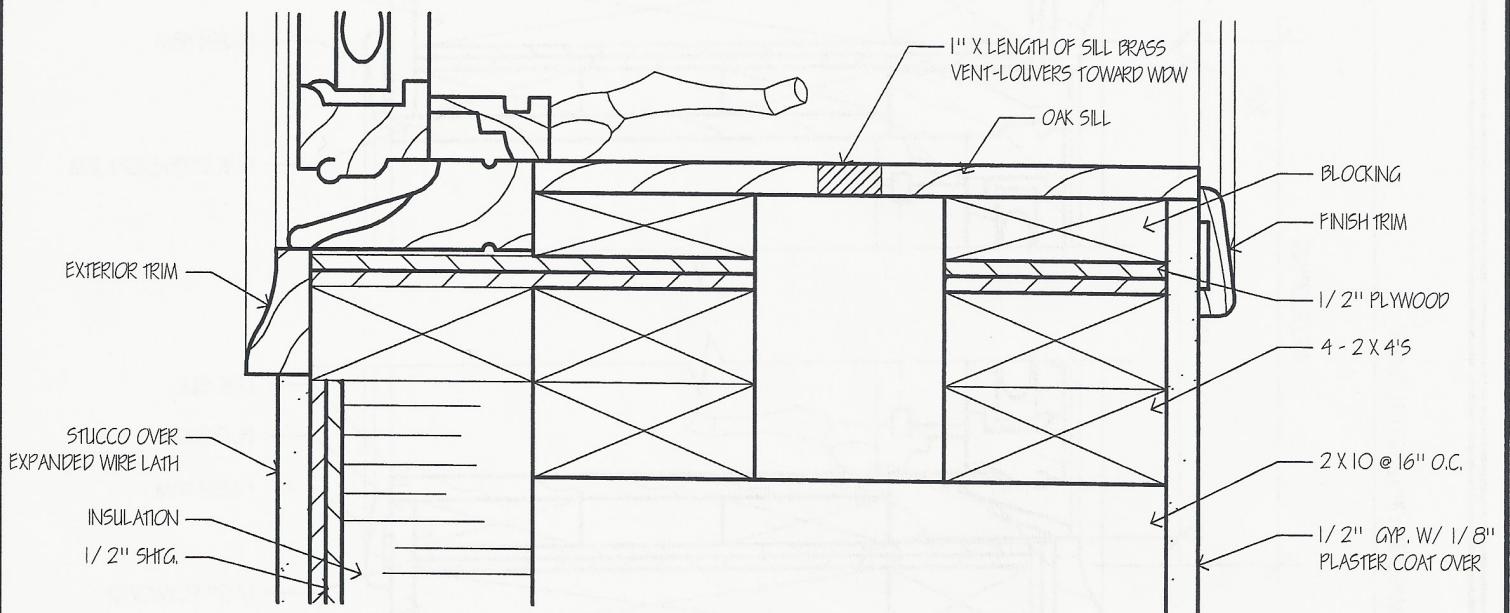
1 WINDOW SIDE JAMB @ CONC. WALL
 SCALE: 3" = 1'-0"



1 WDW HEAD JAMB & SILL SECTION W/ EXTENDED OAK JAMB

SCALE: 3" = 1'-0"

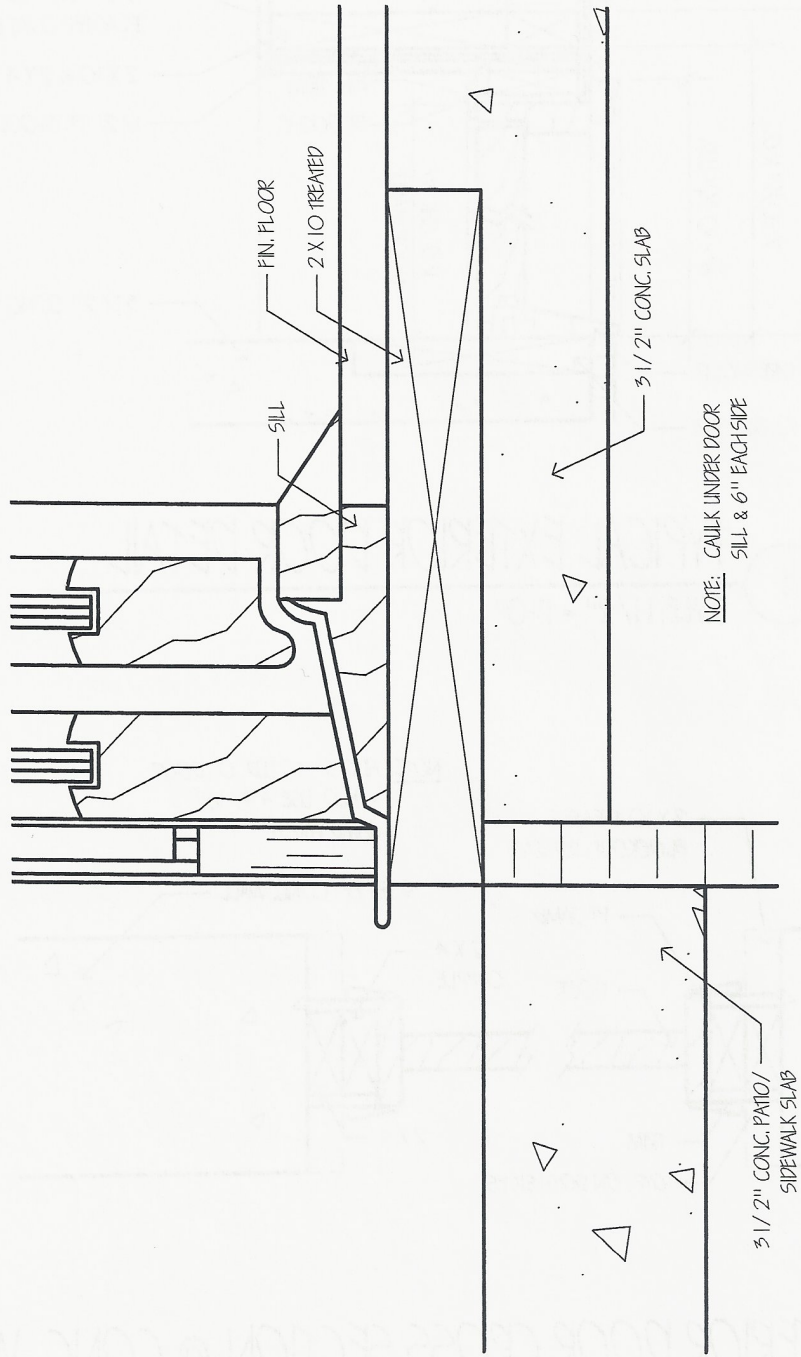
C-8



1 OPT. AIR VENT THROUGH WDW SILL DET.
 SCALE: 4" = 1'-0"

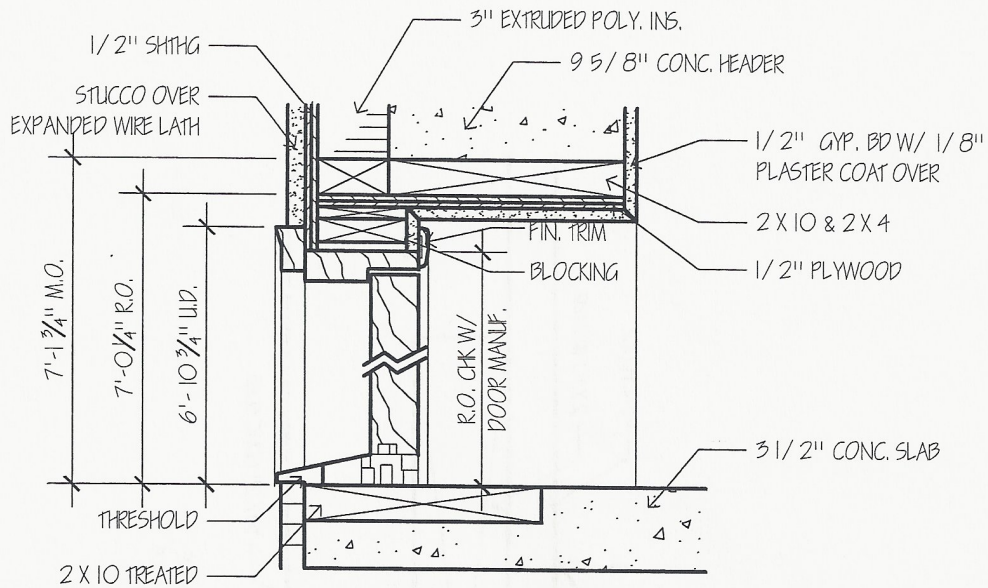
8-9

C-9

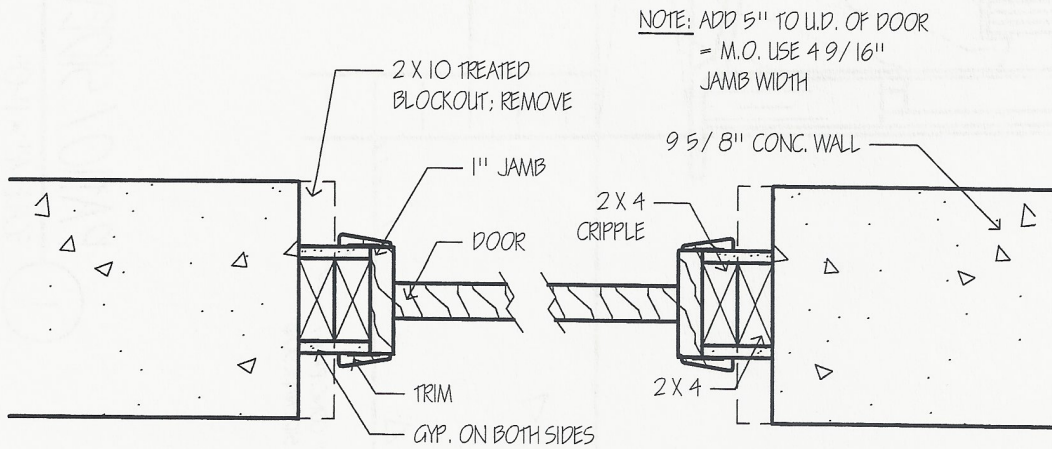


① PATIO / SIDEWALK @ SLIDING GLASS DOOR
SCALE: 4" = 1'-0"

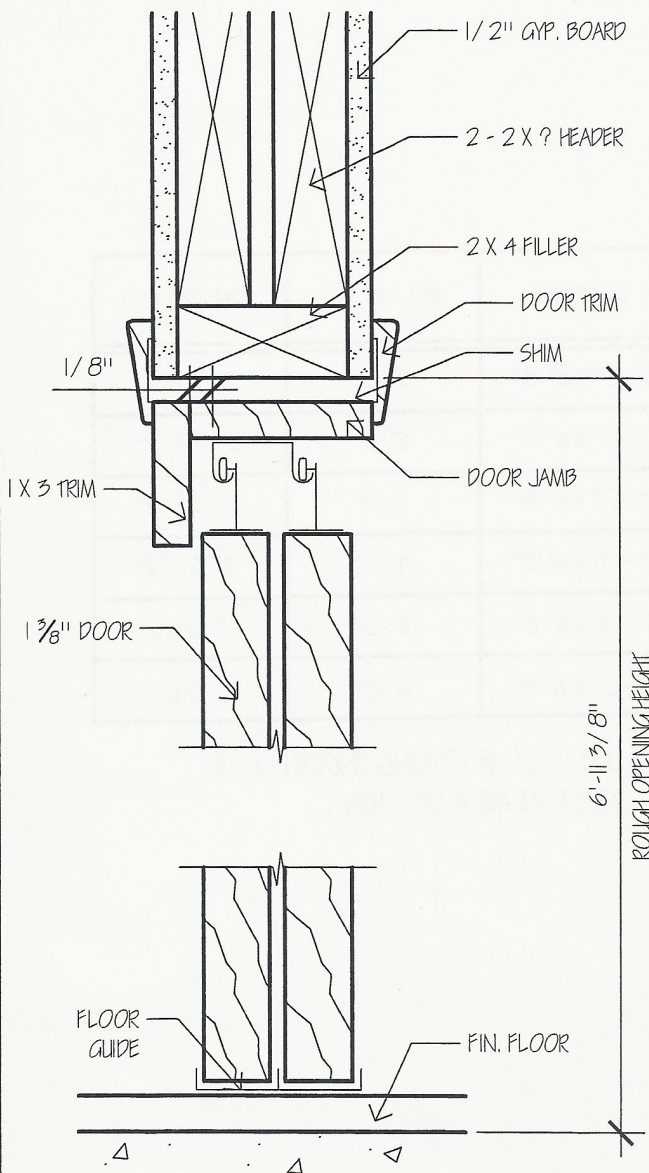
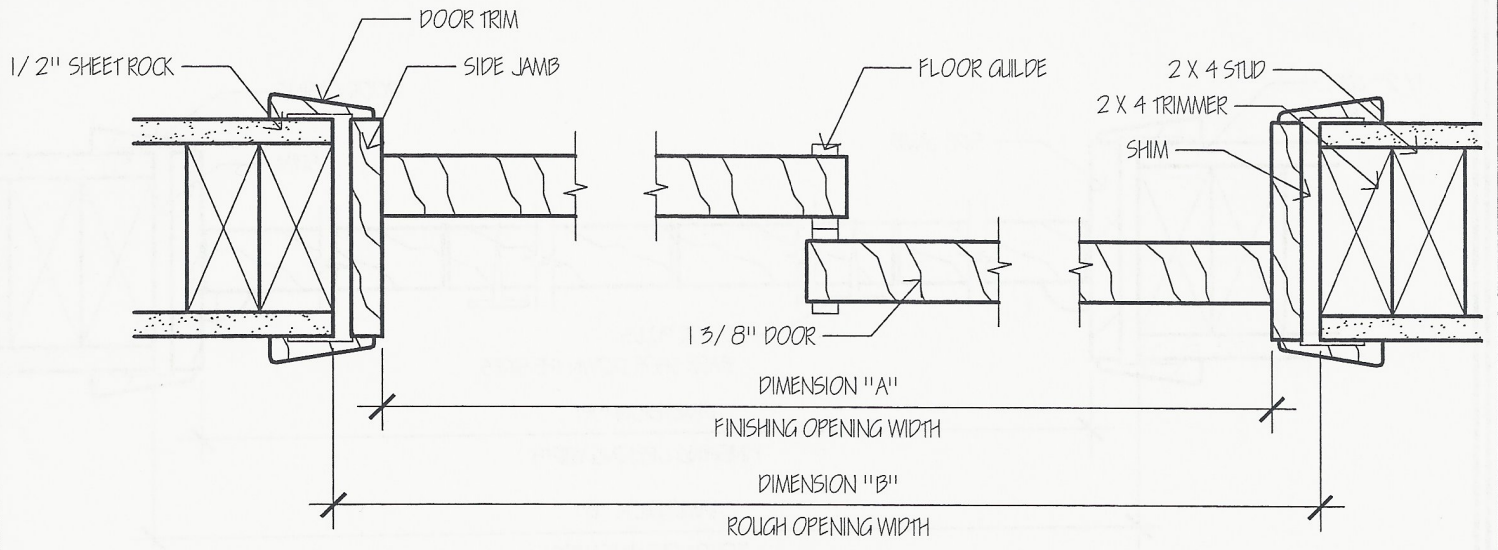
C-10



1 TYPICAL EXTERIOR DOOR DETAIL
 SCALE: 1 1/2" = 1'-0"



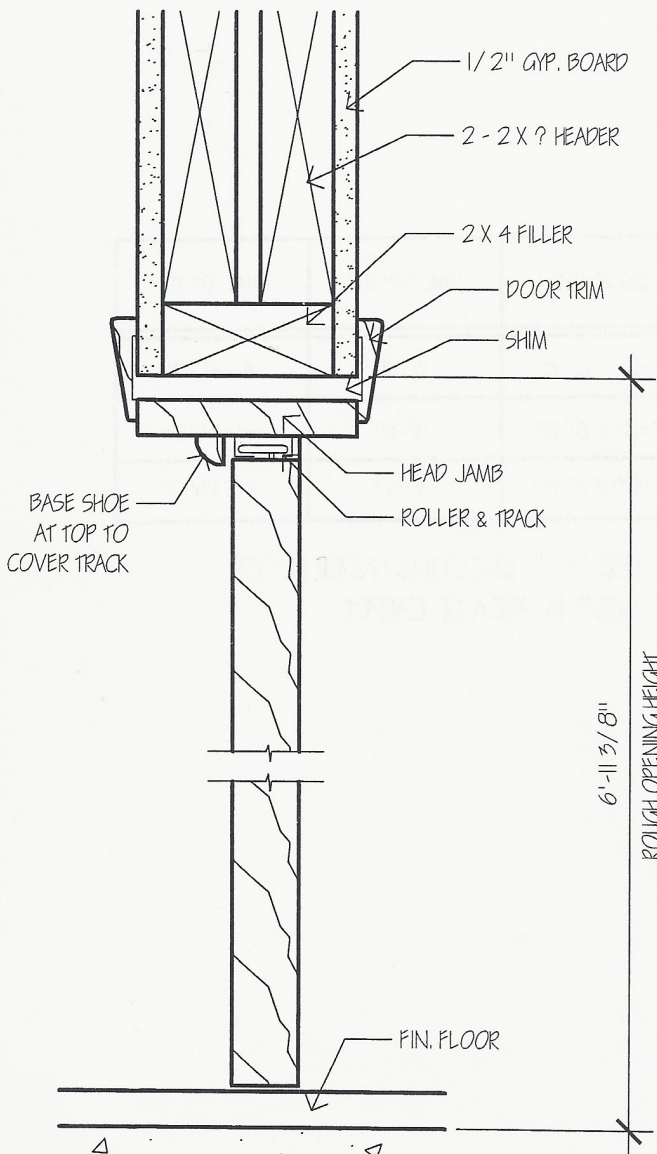
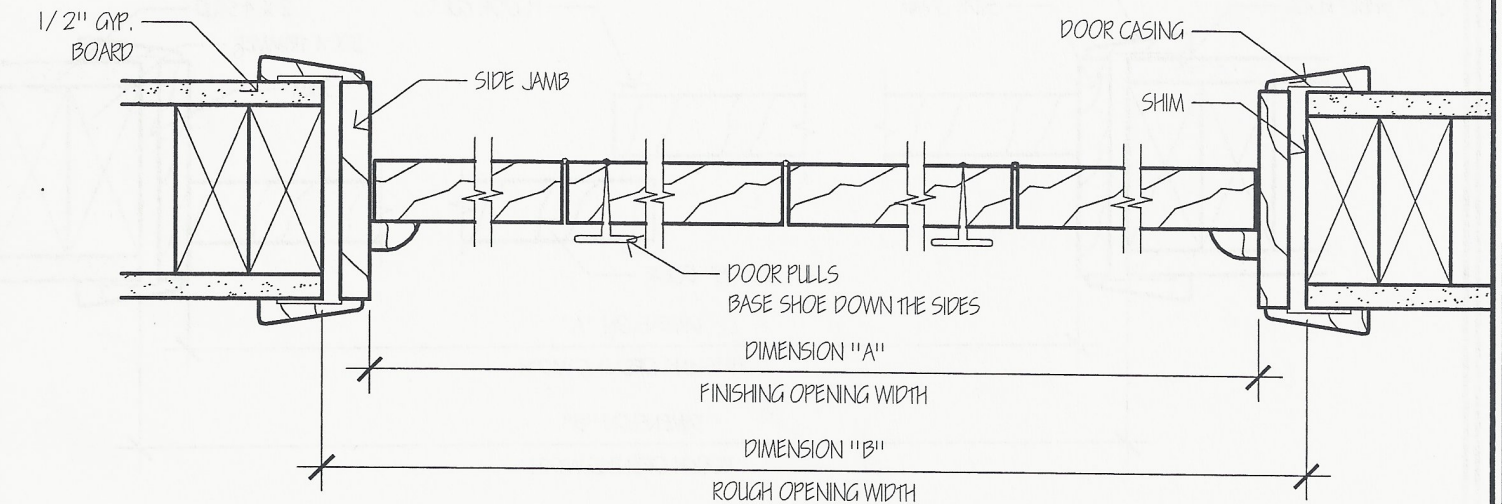
2 TYPICAL INTERIOR DOOR CROSS SECTION @ CONC. WALL
 SCALE: 1 1/2" = 1'-0"



DOOR SIZE	DIM. "A" R.O.	DIM. "B" R.O.
4'-0" X 6'-8"	3'-11"	4'-11/2"
5'-0" X 6'-8"	4'-11"	5'-11/2"
6'-0" X 6'-8"	5'-11"	6'-11/2"

USE 1/2" BLOCKING UNDER FLOOR GUIDE IN AREA OF CARPET

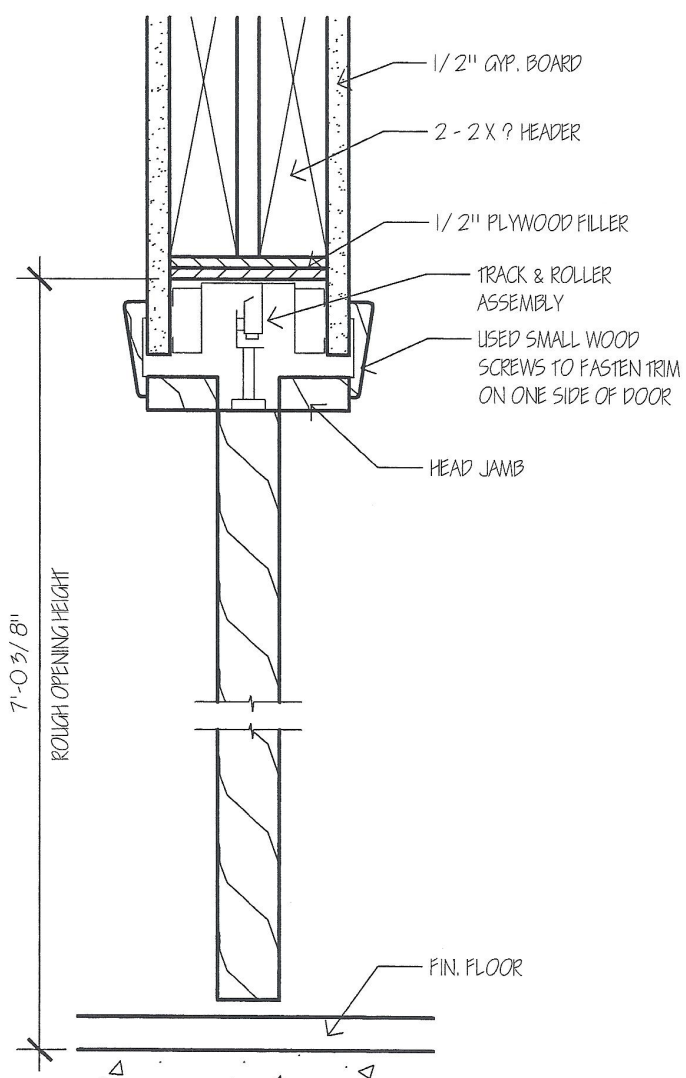
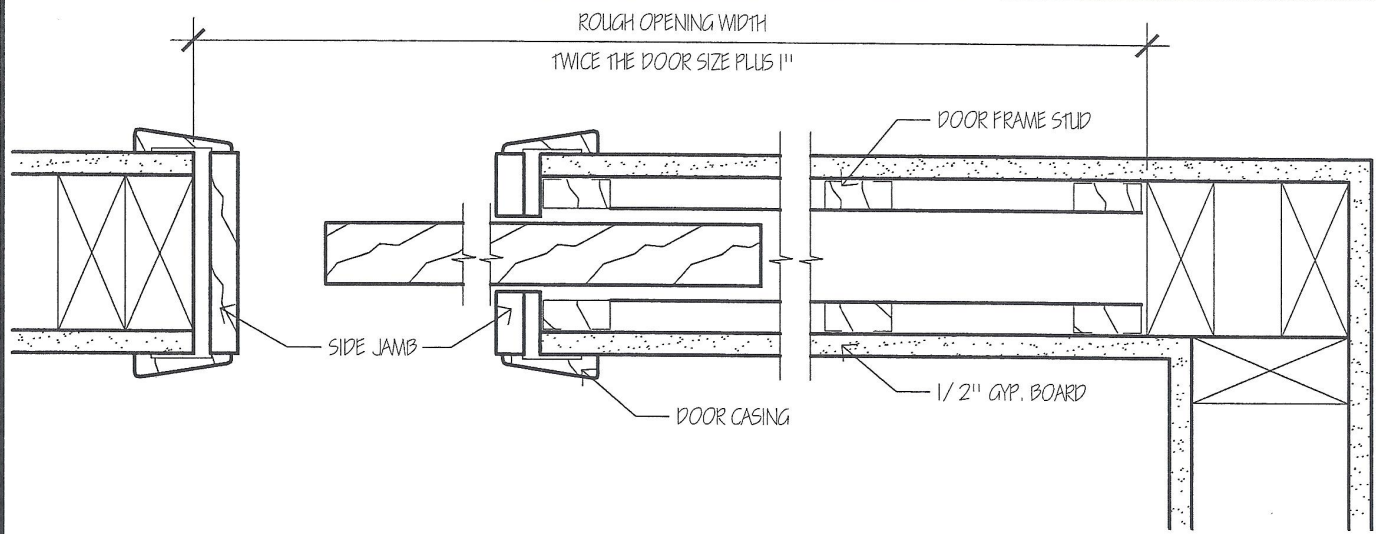
1 BY-PASS DOOR DETAIL
SCALE: 3" = 1'-0"



DOOR SIZE	DIM. "A" R.O.	DIM. "B" R.O.
2'-0" X 6'-8"	2'-0"	2'-2 1/2"
2'-6" X 6'-8"	2'-6"	2'-8 1/2"
3'-0" X 6'-8"	3'-0"	3'-2 1/2"
4'-0" X 6'-8"	4'-0"	4'-2 1/2"
5'-0" X 6'-8"	5'-0"	5'-2 1/2"
6'-0" X 6'-8"	6'-0"	6'-2 1/2"

USE 1/2" BLOCKING UNDER FLOOR GUIDE IN AREA OF CARPET

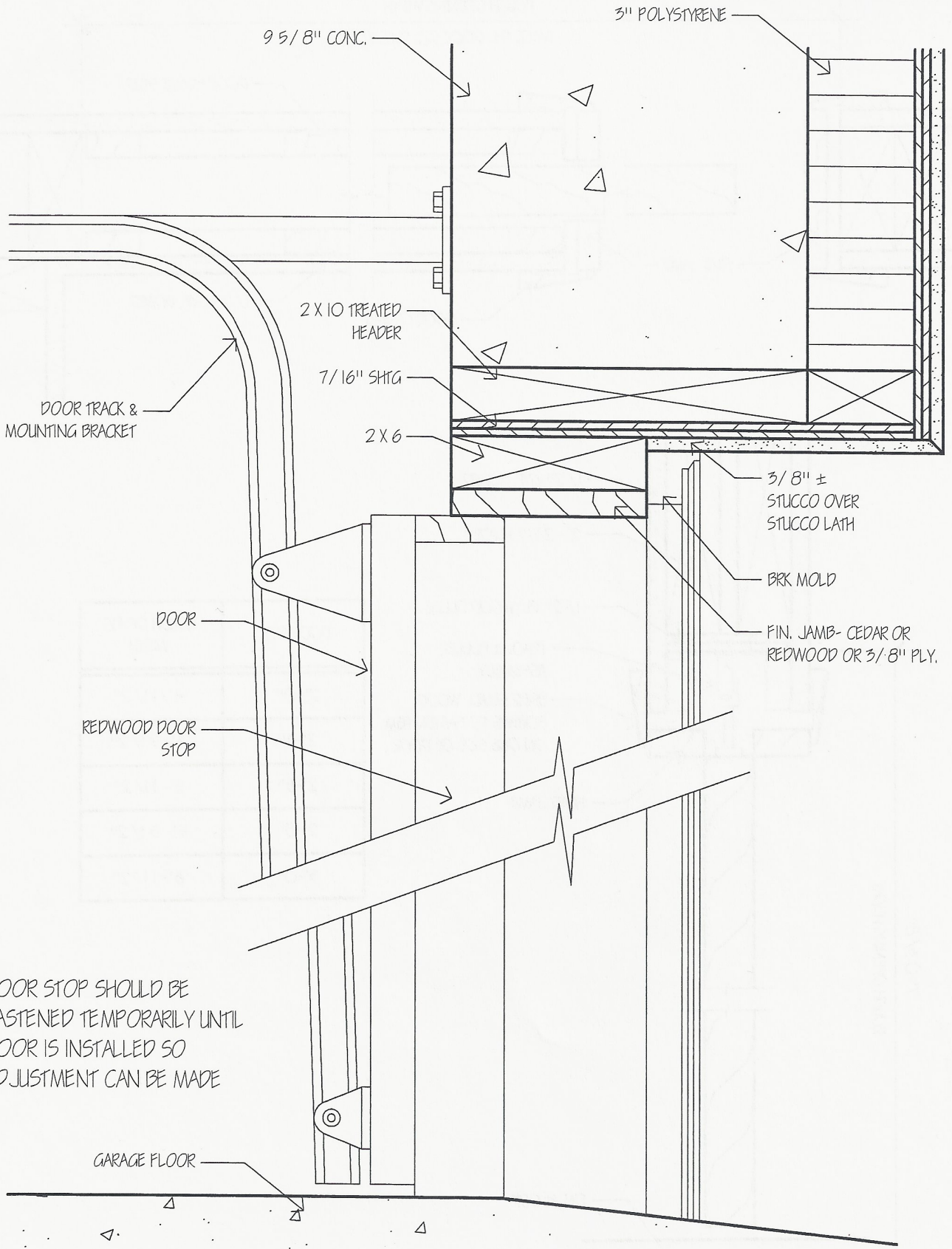
1 BI-FOLD DOOR DETAIL
SCALE: 3" = 1'-0"



DOOR SIZE	ROUGH OP'NG WIDTH
2'-0"	4'-11/2"
2'-4"	4'-9 1/2"
2'-6"	5'-11/2"
2'-8"	5'-5 1/2"
3'-0"	6'-11/2"

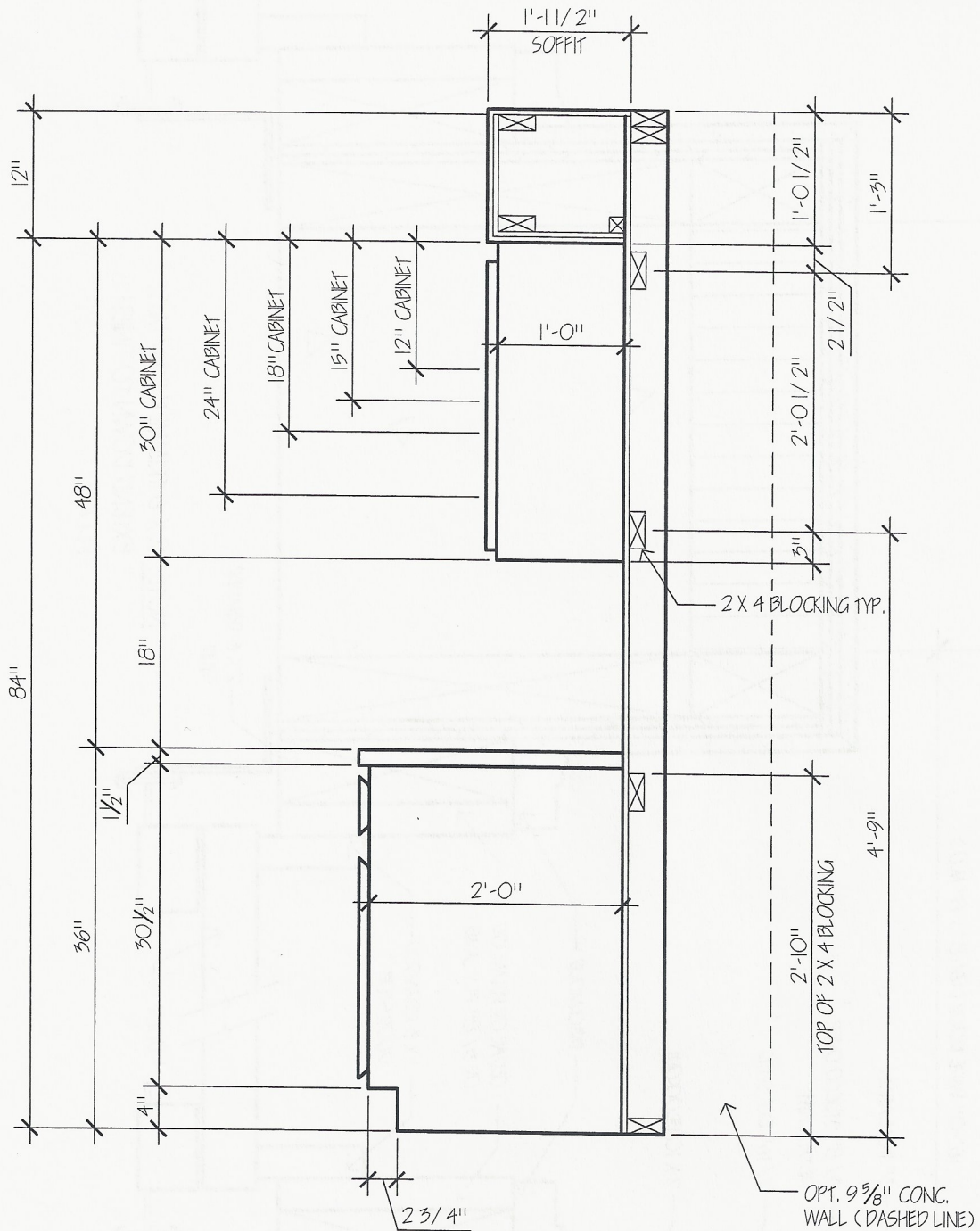
1 POCKET DOOR DETAIL
 SCALE: 3" = 1'-0"

C-14



1 OVERHEAD DOOR-HEAD & SILL SECTION
 SCALE: 3" = 1'-0"

C-15

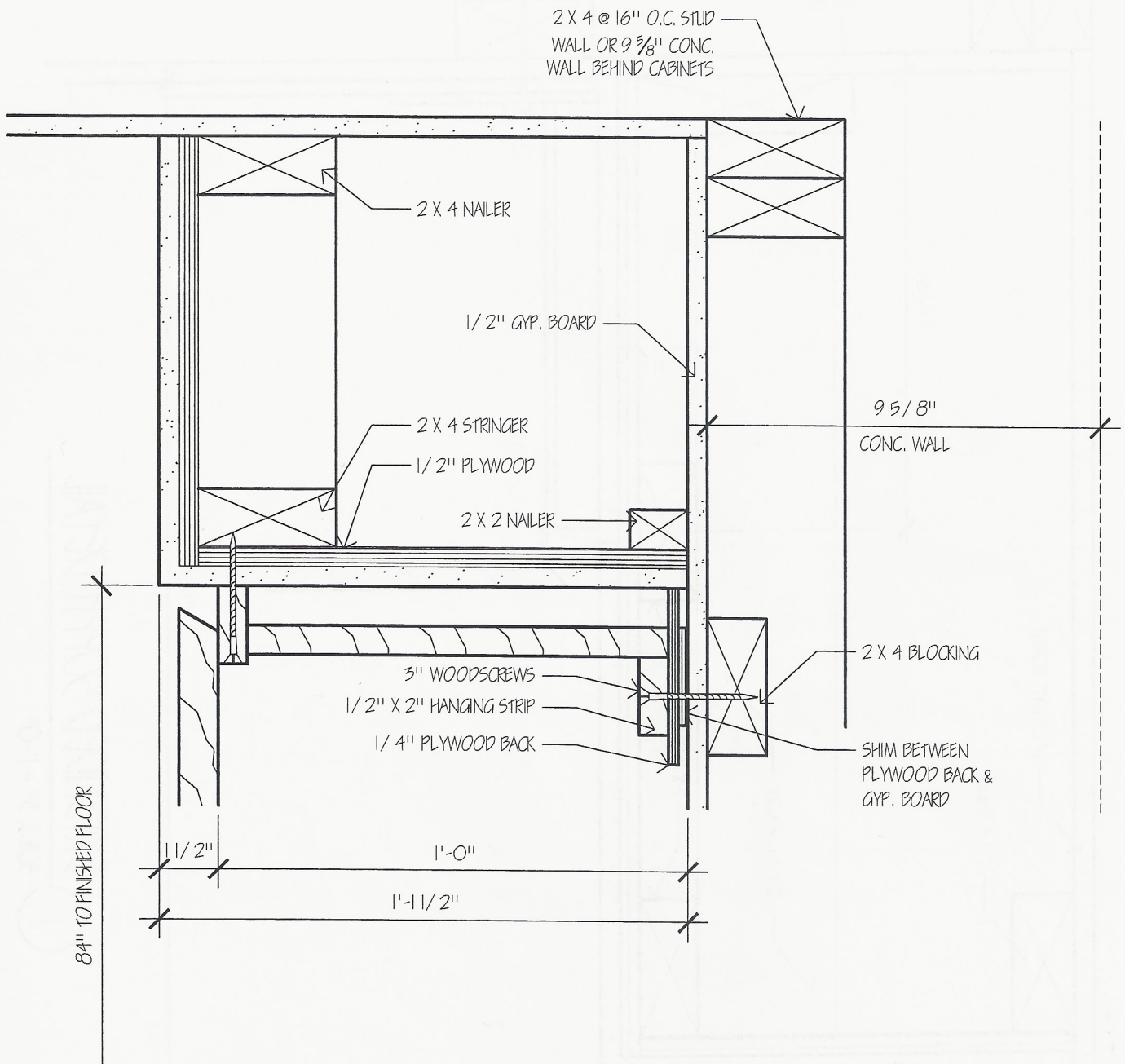


NOTES:

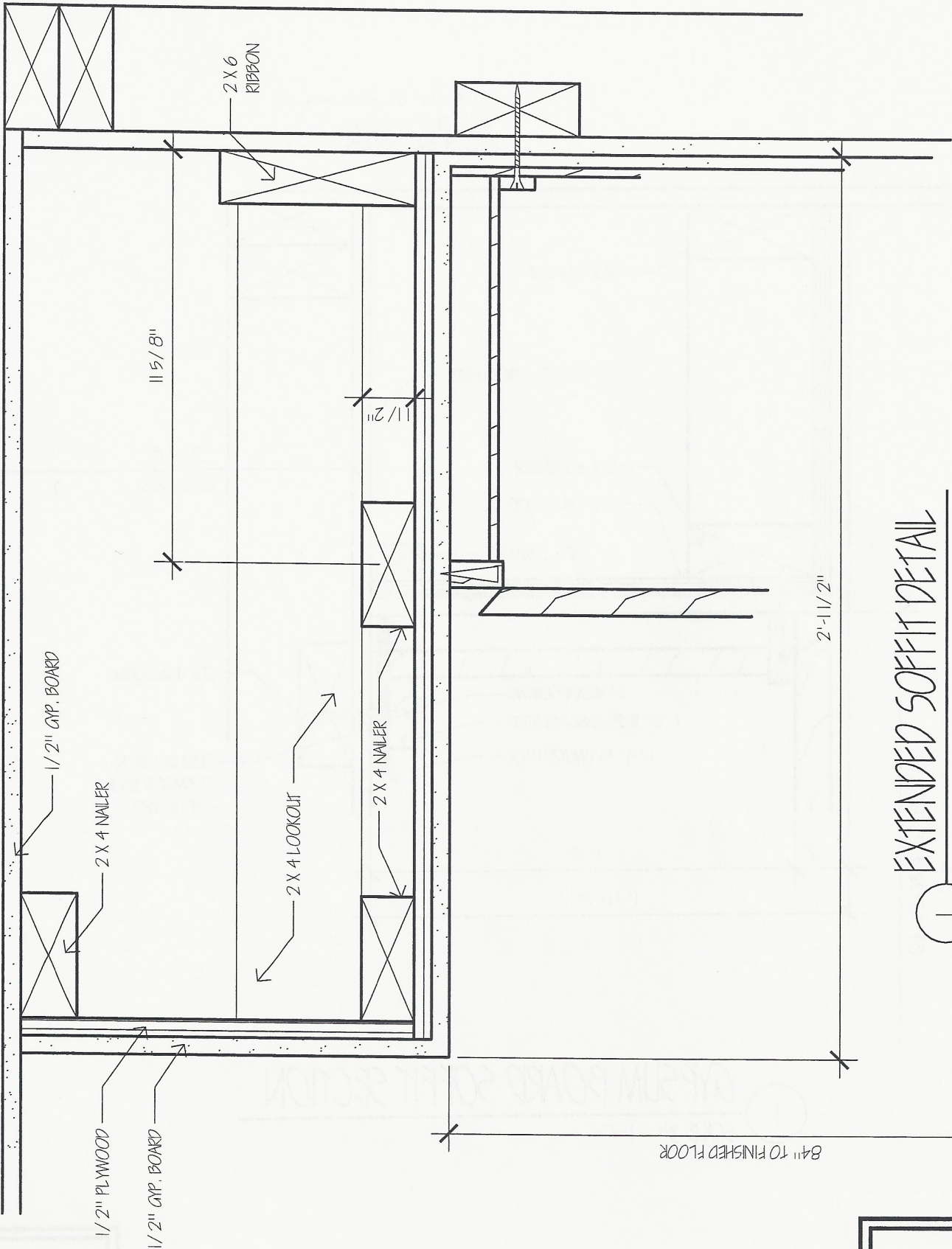
1. ADJOINING VERTICAL STILES ON ALL BASE & WALL CABINETS MUST BE FASTENED TOGETHER W/ A MIN. OF (2) - 3" WOOD SCREWS.
2. DO NOT USE NAILS TO INSTALL CABINETS.
3. VERIFY DIMENSIONS ON SITE.
4. PLACE THE 2 X 4 BLOCKING (TREATED) IN CONC. @ THE SAME DIMENSIONS IF CABINETS ARE PLACED AGAINST THE 9 5/8" CONC. WALL.

1 TYPICAL CABINET INSTALLATION
SCALE: 3/4" = 1'-0"

C-17



1
GYPSUM BOARD SOFFIT SECTION
 SCALE: 3" = 1'-0"

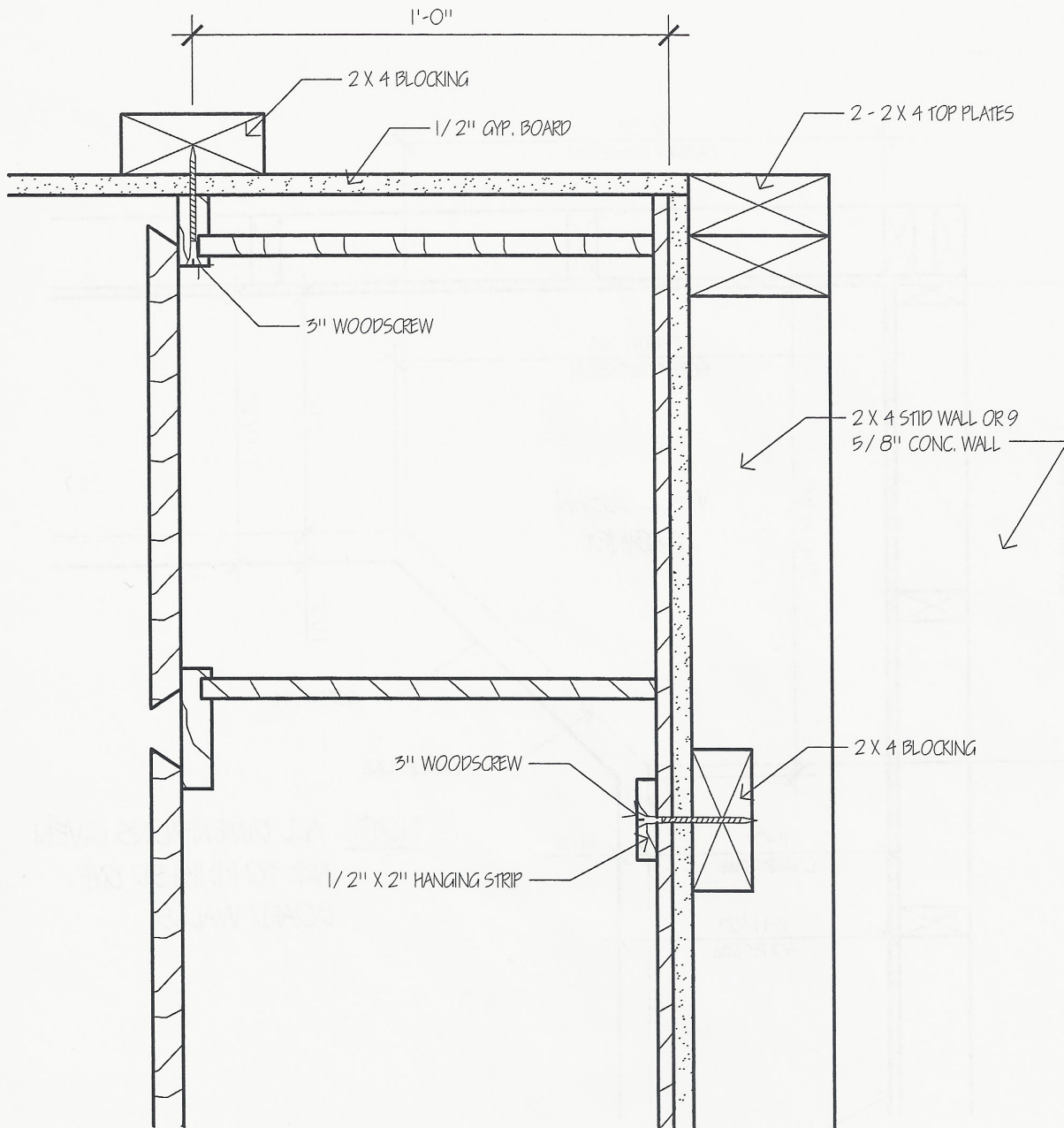


EXTENDED SOFFIT DETAIL

SCALE: 3/8" = 1'-0"

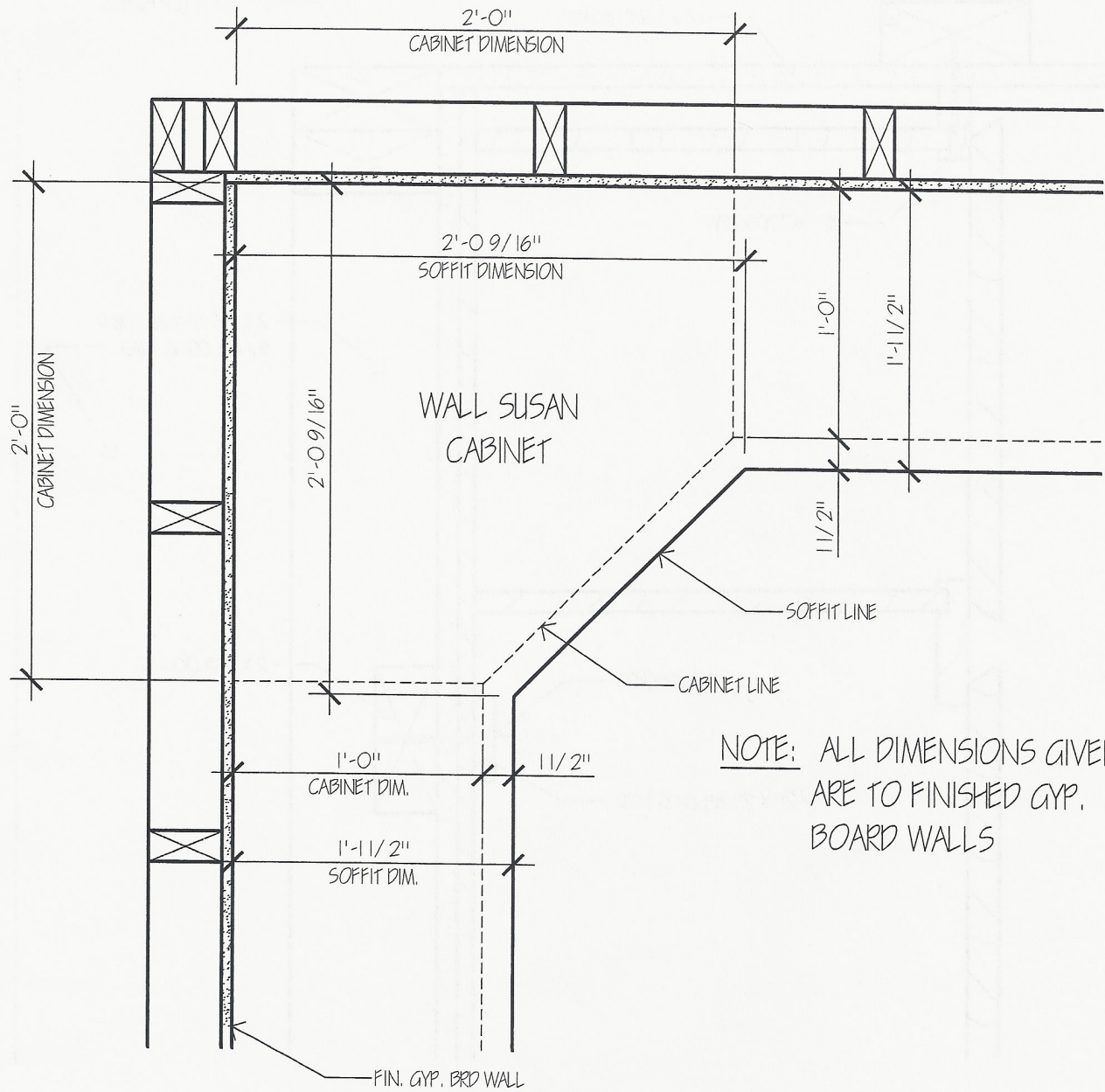
1

C-19

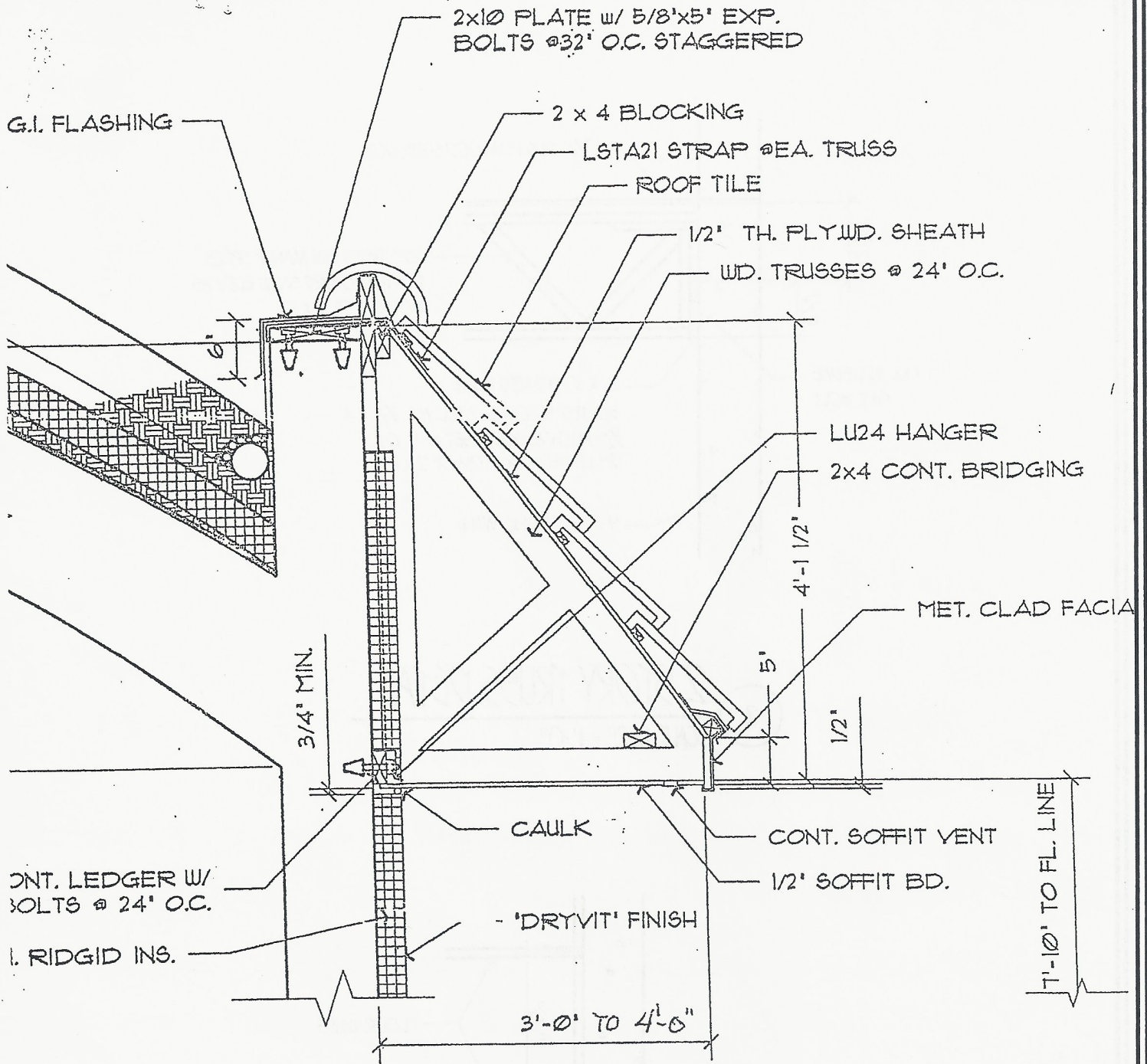


NOTE: IF CONC. WALL, PLACE 2 X 4 OR 2 X 2 STRIPS IN WALL @ 12" - 16" O.C.; POURED INTO WALL.

1 SOFFIT STORAGE DETAIL
 SCALE: 3" = 1'-0"



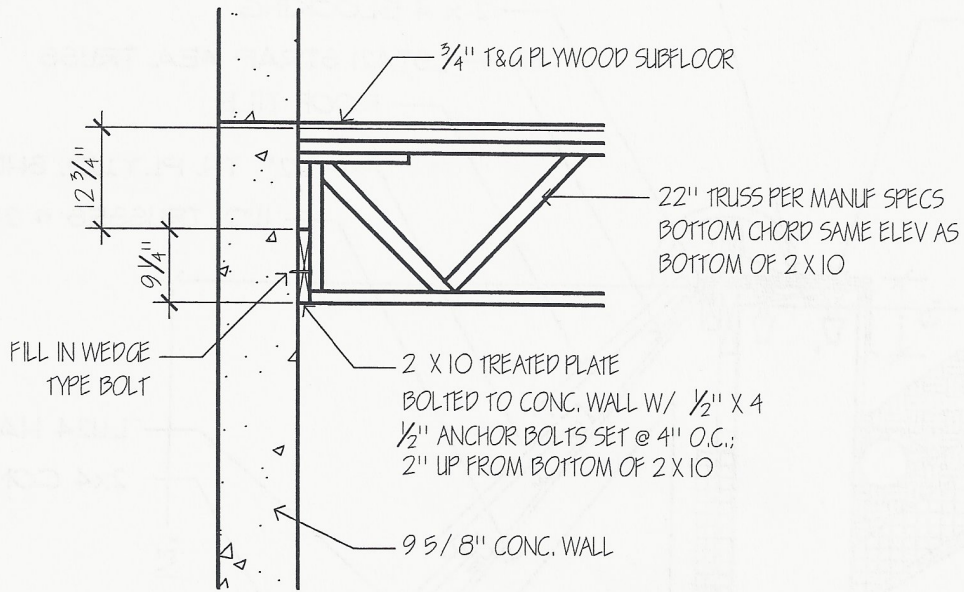
1 SOFFIT - WALL SUSAN DETAIL
 SCALE: 1 1/2" = 1'-0"



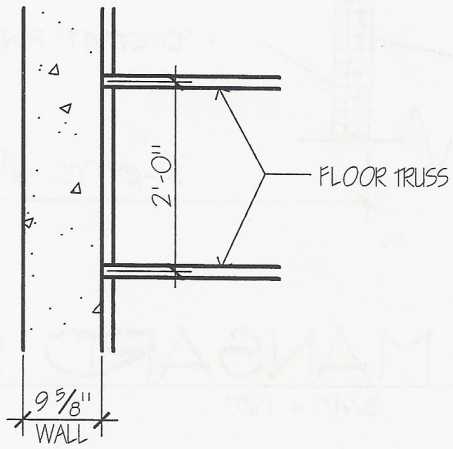
F
 A-3

MANSARD ROOF DETAIL
3/4" = 1'-0"

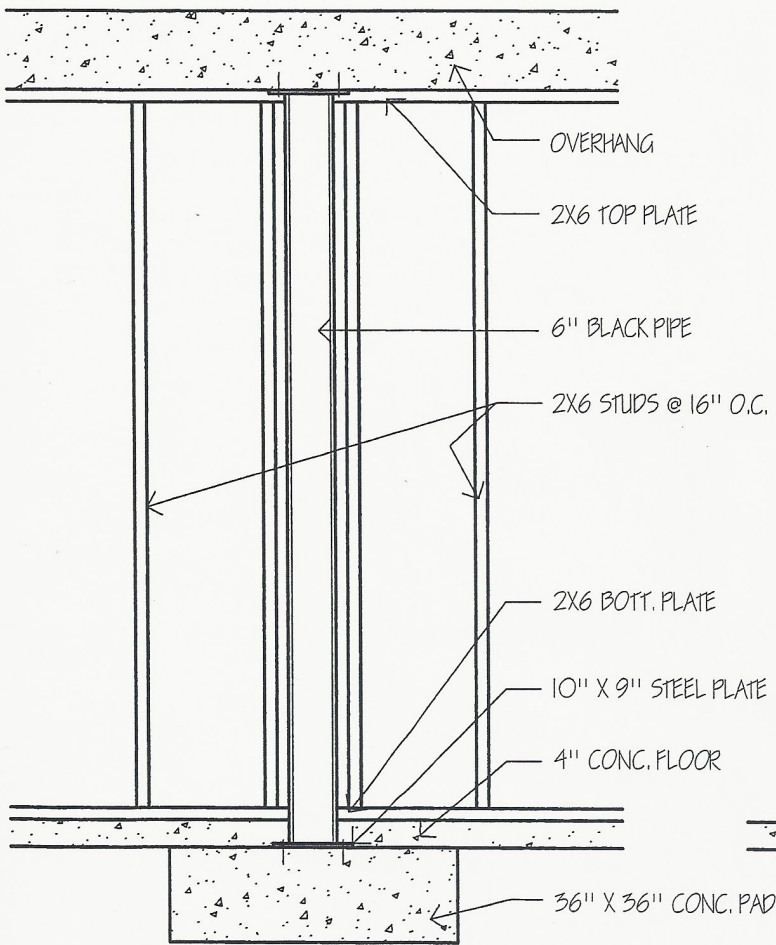
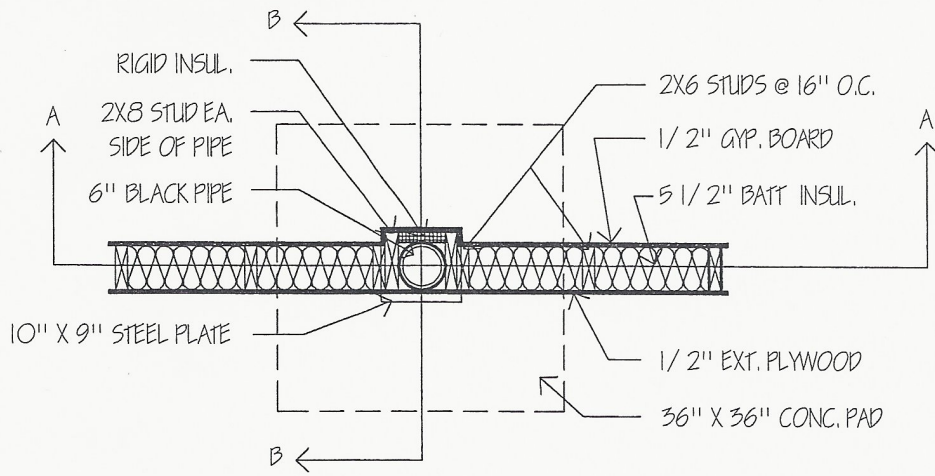
C-22



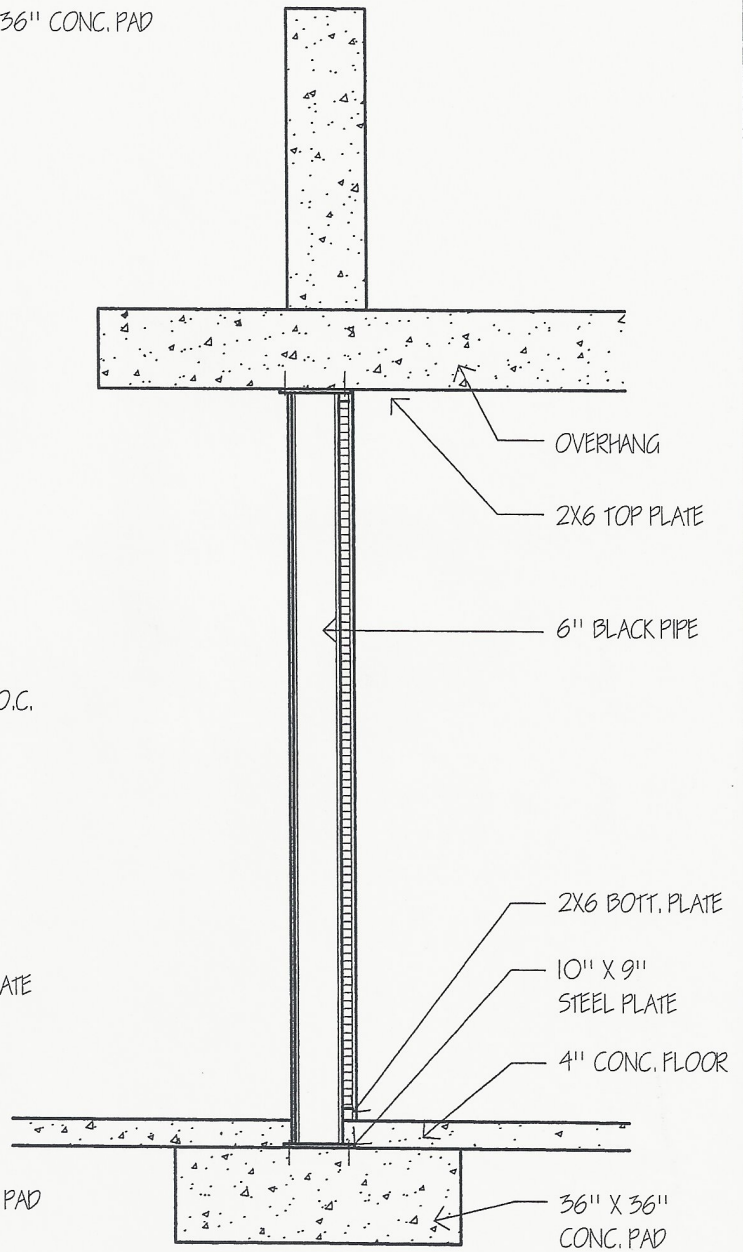
2
 2 STORY TRUSS DETAIL
 SCALE: $\frac{1}{2}$ " = 1'-0"



1
 2 STORY TRUSS PLAN DETAIL
 SCALE: $\frac{1}{2}$ " = 1'-0"



2 POST DETAIL 'A'
 SCALE: 1/2" = 1'-0"



1 POST DETAIL 'B'
 SCALE: 1/2" = 1'-0"

Stucco and Plaster

As a result of building these homes in several states we have discovered there is one proper way that works. That is to use stucco metal lath on all exterior surfaces. With the extreme weather, humidity and freeze/thaw problems we experience there seem to be few choices. Therefore, to figure this job and know it will last for decades, use galvanized metal lath. The mix of stucco contractors varies through the states, but this is a design mix that has worked in the past and is still working.

Brown and Scratch Coat at 900 square feet

24 bags type M mason cement

4 ½ tons of plaster sand

2 gallons Acryl 60.

Water

Ratio: 3 sand = 1 Mason = Acryl 60. = water to proper handling

Finish Coat at 900 square feet

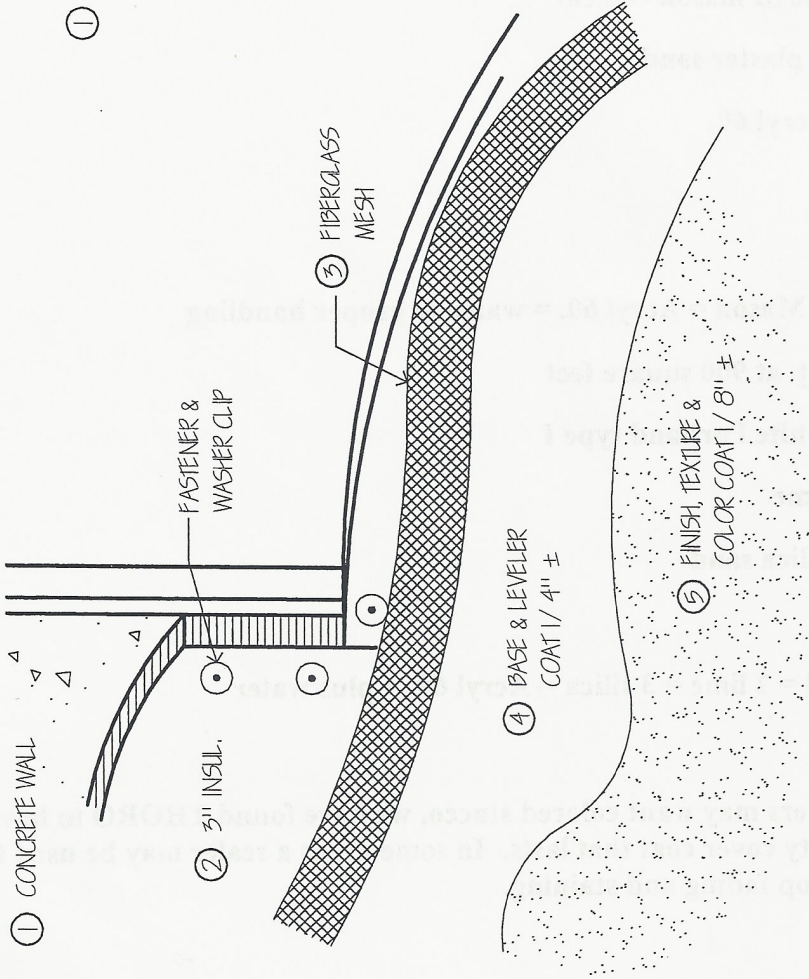
2 ½ bags white Portland type I

3 ½ bags lime

6 ½ bags silica sand

Ratio: 1 Portland = 2 lime = 3 silica = Acryl 60. = plus water

Home owners may want colored stucco, we have found THORO to have good quality cover coat that lasts. In some areas a sealer may be used to delay or stop fading and staining.

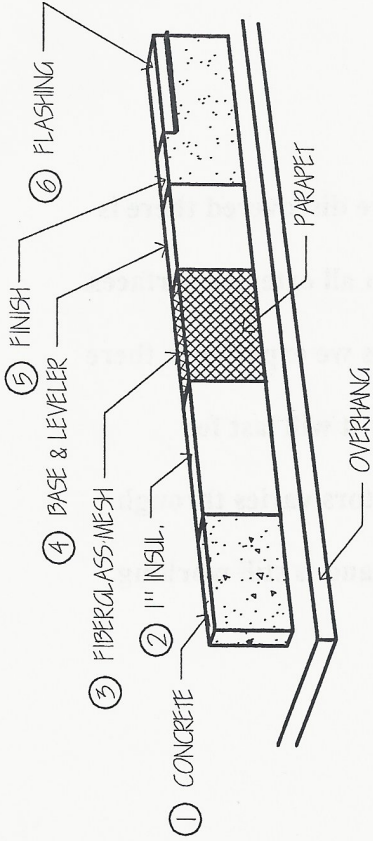


EXTERIOR WALL FINISH

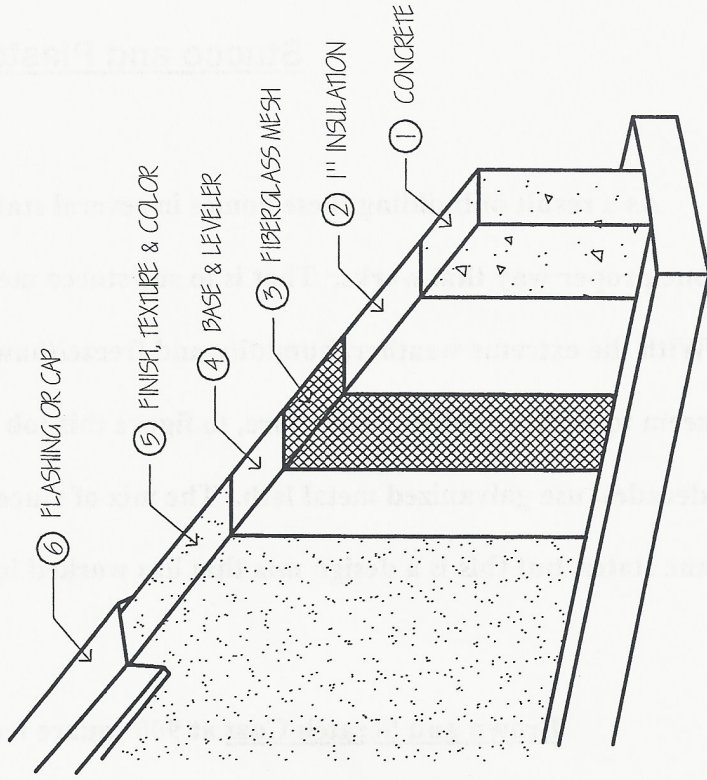
SYNTHETIC STUCCO

①

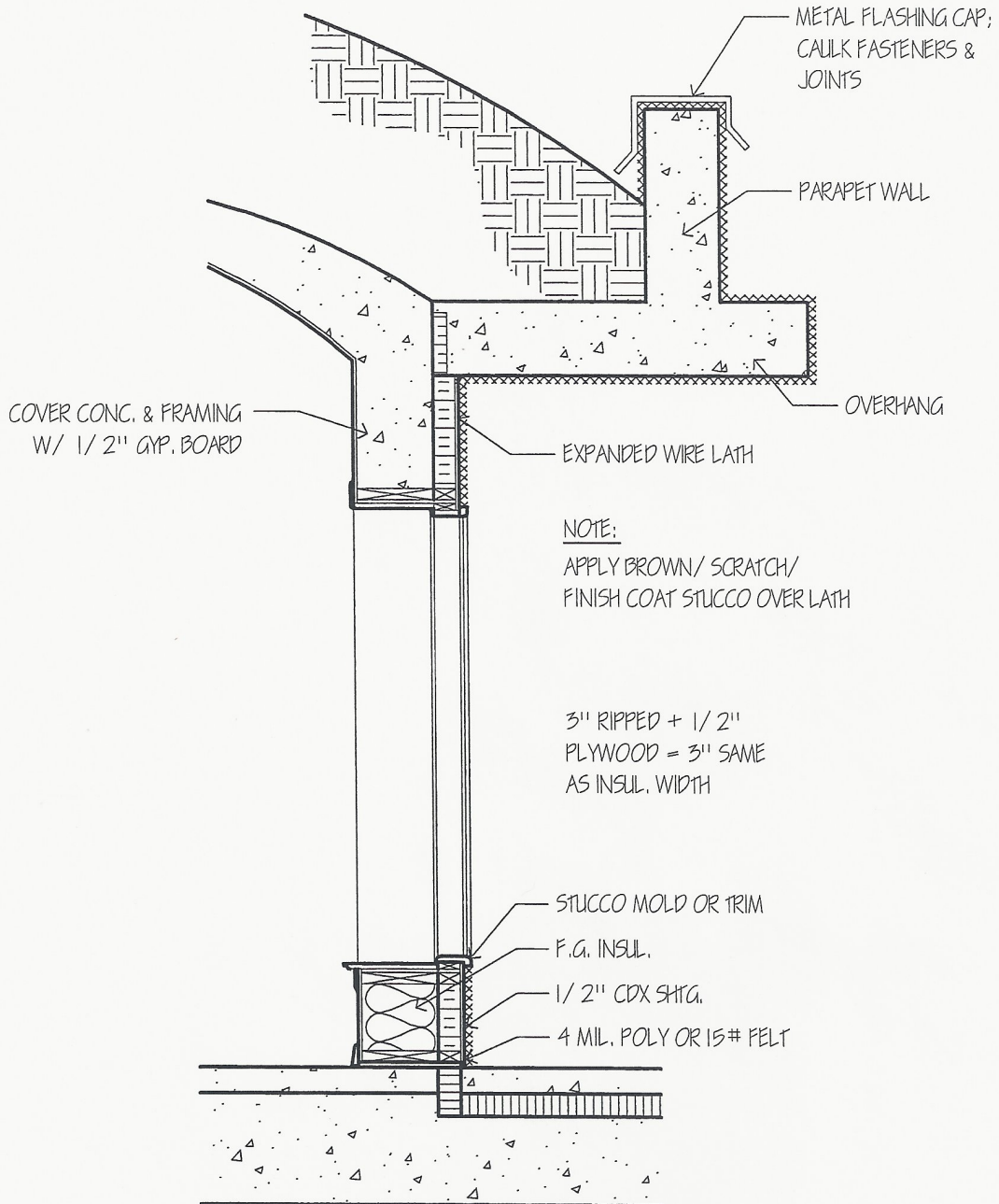
SCALE: 1/2" = 1'-0"



PARAPET WALL FINISH



RETAINING WALL FINISH

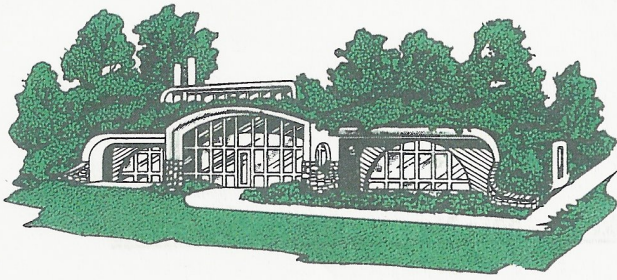


NOTE:
 APPLY BROWN/ SCRATCH/
 FINISH COAT STUCCO OVER LATH

3" RIPPED + 1/2"
 PLYWOOD = 3" SAME
 AS INSUL. WIDTH

- STUCCO MOLD OR TRIM
- F.G. INSUL.
- 1/2" CDX SHTG.
- 4 MIL. POLY OR 15# FELT

1 EXTERIOR STUCCO APPLICATION
 SCALE: 1/2" = 1'-0"



EARTH SHELTERED TECHNOLOGY, INC.

BOX 5142
MANKATO, MN 56001
507-345-7203 800-345-7203
FAX 507-345-8302



AWARD WINNING EARTH SHELTERED STRUCTURES

PLANNING YOUR HOME

<u>Windows</u>	<u>Style</u>	<u>Exterior Color</u>	<u>Screens</u>	<u>Jam Size</u>
<u>Andersen</u>				
<u>Marvin</u>				
<u>Pella</u>				
<u>Eagle</u>				
<u>Other</u>				

PLUMBING FIXTURES:

<u>Name</u>	<u>No.</u>	<u>Location</u>	<u>Make</u>	<u>Mfg No.</u>	<u>Size</u>	<u>Vent Size</u>
<u>Kitchen Sink</u>						
<u>Lav. Sink</u>						
<u>Bath Tub</u>						

PLUMBING FIXTURES (Continued):

<u>Name</u>	<u>No.</u>	<u>Location</u>	<u>Make</u>	<u>Mfg No.</u>	<u>Size</u>	<u>Vent Size</u>
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Tub & Shower						
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Toilet						
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Laundry Tray						
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Jacuzzi						
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Hot Tub						
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Sauna						
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Water Softener						
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Water Heater						
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Pressure Tank						
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Bathroom Fan/Light Exhaust						
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Other						
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FAUCETS:

Kitchen						
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Lav. Sink						
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Bath Tub						
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FAUCETS (Continued):

Tub & Shower

Shower Stall

Laundry Tray

Whirlpool

Hot Tub

ON ALL PLUMBING FIXTURES, PLEASE FURNISH A COPY OF DESCRIPTIVE LITERATURE WITH MOUNTING SPECIFICATIONS.

APPLIANCES:

<u>Name</u>	<u>No.</u>	<u>Location</u>	<u>Make</u>	<u>Mfg No.</u>	<u>Size</u>	<u>Vent Size</u>
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Dryer

Washer

Range

Jenn Aire

Refrigerator

Dishwasher

Hood Exhaust

Garbage Disposal

Central Vacuum

Other

CABINETS AND VANITIES:

Brand Name Mfg. Mfg. # Color Door Style Quantity

KITCHEN CABINET EXTRAS:

Lazy Susan-Upper Cabinet, Lower Cabinet

Appliance Garage-Straight, Corner Unit

Pantry Unit

Bread Board

Captain's Rail

Other

COUNTERTOPS:

Brand Name Mfg. Style Color Location

LIGHT FIXTURES:

Location Brand Name Mfg. # Quantity

LIGHT FIXTURES (Continued):

<u>Location</u>	<u>Brand Name</u>	<u>Mfg. #</u>	<u>Quantity</u>

Floor Outlets Required:

Service size and Location:

Doorbell Location:

Smoke Alarm Locations:

Exterior Lights and Outlets:

TV/Cable Jacks:

Ceiling Lights Required:

Special locations for outlets such as for computers etc.

220 Outlets Required:

Other:

DOORS:

<u>Interior:</u>	<u>Style</u>	<u>Size</u>	<u>Mfg. #</u>	<u>Color/Wood</u>	<u>Quantity</u>

DOORS (Continued):

Exterior: Style Size Mfg. # Color/Wood Quantity

INTERIOR TRIM:

Style Type Size Color/Wood

FLOOR COVERINGS:

Type Location Brand Name Grade Color

Carpet

Vinyl/Tile

FLOOR COVERINGS (Continued):

<u>Type</u>	<u>Location</u>	<u>Brand Name</u>	<u>Grade</u>	<u>Color</u>
Quarry Tile				
Ceramic Tile				
Other				

HEATING AND COOLING:

Furnace					
	Natural Gas	L.P.	Electric	Hot Water	Fuel Oil
Wood Stove					
Fireplace					
Air Conditioner					
Other					

ON ALL APPLIANCES AND HEATING/COOLING EQUIPMENT, PLEASE FURNISH A COPY OF THE DESCRIPTIVE LITERATURE WITH MOUNTING SPECIFICATIONS AND DIMENSIONS.

EXTERIOR FINISH:

Stucco,	Stone,	Cedar,	Brick,	Split Log,	Field Stone,
Quarry Stone,	and/or Other				

