

SITE PLAN NOTES

PROJECTS LOCATED IN THE FLOOD HAZARD AREA SHALL HAVE A FINISHED FLOOR ELEVATION OF NOT LESS THAN 1" ABOVE THE 100 YEAR FLOOD LEVEL.

NO ON-SITE WATER RETENTION OR DRAINAGE ONTO ADJACENT PROPERTIES SHALL BE PERMITTED.

FINISHED FLOOR ELEVATION SHALL BE A MINIMUM OF 8" ABOVE FINISHED GRADE

THE ENTIRE SITE SHALL HAVE A MINIMUM OF 0.5 PERCENT SLOPE FOR DRAINAGE. ALL WATER DRAINAGE SHALL BE TO THE STREET (OR OTHER APPROVED LOCATION).

PROVIDE A MINIMUM OF 6 INCHES OF SLOPE AWAY FROM ALL BUILDINGS FOR A DISTANCE OF AT LEAST TEN FEET. WHERE THIS REQUIREMENT CANNOT BE MET AN ALTERNATE METHOD SHALL BE REQUIRED THAT WILL PROVIDE ADEQUATE DRAINAGE. (C.R.C. 401.3) ALTERNATE DRAINAGE SHALL BE DONE USING LANDSCAPE DRAINS WITH INLETS NOT TO EXCEED 15' INTERVALS.

IMPERVIOUS SURFACES WITHIN 10' OF THE BUILDING FOUNDATION SHALL SLOPE A MINIMUM OF 2% AWAY FROM BUILDING.

ANY GRADE DIFFERENTIALS GREATER THAN ONE FOOT SHALL BE DONE WITH AN APPROVED RETAINING WALL.

ALL PIPES IN TRENCHES REQUIRE MIN. 18" COVERAGE

ANY HVAC EQUIPMENT LOCATED ON SITE SHALL NOT BE LOCATED WITHIN THE BUILDING SET-BACKS.

DRIVEWAYS TO RESIDENTIAL GARAGES SHALL HAVE A MAX. SLOPE OF 12 PERCENT FOR A MIN. OF 20'-0" FROM THE GARAGE. NO PORTION OF THE DRIVEWAY SHALL EXCEED A GRADE OF 18 PERCENT.

BUILDING SITE SHALL BE CLEARED AND ALL VEGETATION, TREE ROOTS OR OTHER FOREIGN MATTER SHALL BE REMOVED TO A MINIMUM DEPTH OF 12"

ANY SURVEY MONUMENTS WITHIN THE AREA OF CONSTRUCTION SHALL BE PRESERVED OR RESET BY A REGISTERED CIVIL ENGINEER OR LICENSED LAND SURVEYOR.

REPAIR ANY DAMAGED OFF-SITE CONCRETE IMPROVEMENTS AS DETERMINED BY THE CONSTRUCTION MANAGEMENT DIVISION PRIOR TO OCCUPANCY.

2 WORKING DAYS BEFORE COMMENCING EXCAVATION OPERATIONS WITHIN THE STREET RIGHT-OF-WAY AND/OR UTILITY EASEMENTS, ALL EXISTING UNDERGROUND FACILITIES SHALL HAVE BEEN LOCATED BY UNDERGROUND SERVICES ALERT (USA) CALL 1-800-642-2444

CONSTRUCT CONCRETE SIDEWALKS, CURBS, GUTTERS AND DRIVEWAY APPROACHES TO PUBLIC WORKS STANDARDS SPECIFICATIONS.

OVER EXCAVATE THE SITE AS NEEDED TO REMOVE DEBRIS, ORGANICS AND FILLS THAT MAY BE LEFT FROM A PREVIOUS DEMOLISHED HOME OR PLANT MATERIALS. REPLACE FILLS AS NECESSARY WITH 90% COMPACTION FOR ALL FILLS GREATER THAN 6 INCHES ABOVE THE EXISTING SURROUNDING GRADE. COMPACTION REPORT REQUIRED.

ALL EXTERIOR WALLS SHALL NOT BE LESS THAN 5 FEET FROM THE PROPERTY LINES

GENERAL NOTES

CONSTRUCTION SHALL COMPLY WITH THE 2019 CALIFORNIA RESIDENTIAL (C.R.C.), MECHANICAL (C.M.C.), PLUMBING (C.P.C.) AND ELECTRICAL (C.E.C.) CODES, AND THE 2019 CALIFORNIA ENERGY CODE AS AMENDED BY LOCAL ORDINANCES.

PLANS SHALL NOT BE SCALED. ALL WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS. ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN IN THESE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGNER.

DISCREPANCIES OR ERRORS SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGNER FOR CORRECTION BEFORE THE WORK AFFECTED THEREBY IS BIDD OR EXECUTED. ALL WORK SHALL COMPLY IN EVERY RESPECT WITH CURRENT GOVERNING LAWS, CALIFORNIA BUILDING CODE AND ALL APPLICABLE ORDINANCES.

PROPERTY OWNER SHALL BE RESPONSIBLE FOR LOCATING, VERIFYING AND STAKING OUT ALL DIMENSIONS, GRADES AND OTHER CONDITIONS AT JOB SITE PRIOR TO THE START OF ANY WORK. ACCEPTANCE OR APPROVAL BY THE DESIGNER SHALL NOT CONSTITUTE RELIEF OF THE PROPERTY OWNER'S RESPONSIBILITY OF ACCURACY.

IT IS THE RESPONSIBILITY OF THE PROPERTY OWNERS TO VERIFY ALL FIELD MEASUREMENTS AND CONDITIONS FOR THE CONFORMANCE OF THESE PLANS. SHOULD THERE BE ANY ERRORS, OMISSIONS AND/OR DISCREPANCIES IN THE PLANS, THEY SHOULD BE BROUGHT TO THE ATTENTION OF THE DESIGNER OR PROJECT ENGINEER FOR CORRECTION AND/OR CLARIFICATION. THE PROPERTY OWNER AND DESIGNER OR PROJECT ENGINEER SHALL RESOLVE ANY ERRORS, OMISSIONS AND/OR DISCREPANCIES PRIOR TO COMMENCING WITH THAT PORTION OF THE WORK AFFECTED. ANY CHANGES MADE TO THE PLANS SHALL REQUIRE THE APPROVAL OF THE OWNER, DESIGNER AND/OR THE PROJECT ENGINEER.

PROPERTY OWNERS SHALL OBTAIN AND PAY FOR ANY PERMITS, NOTICES, INSPECTIONS OR TESTS THAT ARE REQUIRED FOR THEIR PARTICULAR WORK. EACH SUB-CONTRACTOR SHALL VISIT THE SUBJECT PROPERTY AND INSPECT THE PREMISES AND SHALL VERIFY THE WORK TO BE DONE, THE EXISTING CONDITIONS AND SHALL NOTIFY THE PROPERTY OWNER OF ANY AND ALL DISCREPANCIES PRIOR TO SUBMITTING A BID AND/OR STARTING ANY WORK.

ALL MATERIALS, EQUIPMENT AND SYSTEMS SPECIFIED IN THE PLANS SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S LATEST SPECIFICATIONS.

PROVIDE STREET ADDRESS NUMERALS AT LEAST FOUR INCHES HIGH USING A 1/2" STROKE MOUNTED ON A CONTRASTING BACKGROUND AND LOCATED ON THE BUILDING AS TO BE CLEARLY VISIBLE FROM THE ALLEY PRIOR TO CALLING FOR THE FIRST INSPECTION. ALL REQUIRED ADDRESS SIGNS SHALL COMPLY WITH CITY ORDINANCES

CONCRETE COMPRESSION STRENGTH SHALL BE 2500 PSI MINIMUM IN 28 DAYS.

ALL REINFORCING STEEL SHALL BE INTERMEDIATE GRADE, DEFORMED BARS CONFORMING TO A.S.T.M. GRADE 40 (U.N.O.)

ALL LUMBER SHALL BE GRADE MARKED, DF STD. OR BETTER MIN. EXCEPT AS NOTED ON PLANS. ALL POSTS SHALL BE D.F. #2. PLYWOOD SHALL BE DOUGLAS FIR CONFORMING TO PSI-74 U.S. DEPT. OF COMMERCE, AND SHALL BE GRADE STAMPED 'D.F.P.A.'

ALL NAILING SHALL BE IN COMPLIANCE WITH C.R.C. TABLE R602.3(1) AND R602.3(2).

\*REGISTERED\* COPIES OF THE CF-3R AND CF-2R FORMS SHALL BE SUBMITTED PRIOR TO FINAL INSPECTION, SIGNED BY CERTIFIED INSTALLER FOR THE CF-3R FORM AND THE HERS RATER FOR FIELD VERIFICATION AND DIAGNOSTIC TESTING ON THE CF-2R FORM

WHEN FIELD VERIFICATION IS NEEDED TO SHOW COMPLIANCE, A HERS CERTIFICATE SHALL BE PROVIDED BEFORE THE BUILDING DEPARTMENT WILL APPROVE THE FINAL INSPECTION

COVER SHEET NOTES

THESE PLANS AND RELATED DOCUMENTS MUST BE AVAILABLE AT THE JOB SITE DURING ANY INSPECTION ACTIVITY.

CHANGES FROM THE APPROVED PLANS DURING THE COURSE OF CONSTRUCTION SHALL CAUSE CONSTRUCTION TO BE SUSPENDED UNTIL SUCH TIME AS THE PLANS CAN BE AMENDED BY THE DESIGNER AND SUBMITTED TO THE BUILDING DEPARTMENT FOR REVIEW AND APPROVAL.

SPECIAL NOTES

A SUB-CONTRACTORS LIST IS REQUIRED FOR OWNER/BUILDER PROJECTS AND SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT UPON APPLYING FOR A PERMIT.

A COMPACTION REPORT IS REQUIRED, AS AN OPTION, THE PROPERTY OWNER MAY PROVIDE A SOILS REPORT FOR THIS PROJECT FROM A LICENSED PROFESSIONAL.

PROVIDE A "WILL SERVE" LETTER FROM AN APPROVED CONSTRUCTION DEBRIS RECYCLING/WASTE HAULER FOR THIS PROJECT. THIS LETTER IS TO BE PROVIDED BY & SIGNED BY THE WASTE/RECYCLING HAULER PRIOR TO THE ISSUANCE OF ANY PERMIT. (2019 CAL. GREEN CODE 4.406)

IF FIRE SPRINKLERS ARE REQUIRED, OBTAIN FIRE SPRINKLER FINAL INSPECTION APPROVAL PRIOR TO BUILDING FINAL INSPECTION.

THIS PROJECT DOES NOT INCLUDE LANDSCAPING, BUT IT IS UNDERSTOOD THAT PRIOR TO LANDSCAPING BEING INSTALLED, IT SHALL COMPLY WITH THE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO) REQUIREMENTS PER TITLE 23 OF THE CALIFORNIA CODE OF REGULATIONS, DIVISION 2, CHAPTER 2.7 WHICH WILL REQUIRE PLANS, PERMITS AND INSPECTIONS.

ONE UNCOVERED PARKING SPACE MUST BE PROVIDED ON SITE, AND SHALL BE SHOWN ON THE PLOT PLAN FORM AT THE TIME OF PERMITS.

A CERTIFICATE OF ELEVATION IS TO BE PROVIDED ON ALL LOTS LOCATED IN A FLOOD ZONE. TWO ELEVATION CERTIFICATES ARE REQUIRED TO BE PROVIDED TO THE INSPECTOR. THE FIRST IS REQUIRED AT THE FOUNDATION INSPECTION AND THE SECOND IS REQUIRED AT THE BUILDING FINAL INSPECTION.

ALL OWNER/BUILDER PROJECTS REQUIRE A COMPLETED SUB-CONTRACTORS LIST PRIOR TO THE ISSUANCE OF THE BUILDING PERMIT.

DEFERRED SUBMITTALS

1. PHOTOVOLTAIC SYSTEM

- 1.1. PHOTOVOLTAIC SYSTEM DESIGN AND SPECIFICATIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL UNDER A SEPARATE PERMIT
- 1.2. A MINIMUM 2.03 KWDC PHOTOVOLTAIC SYSTEM IS REQUIRED PER THE ENERGY CODE COMPLIANCE DOCUMENTATION
- 1.3. PHOTOVOLTAIC SYSTEM SHALL BE INSTALLED AND APPROVED BY THE JURISDICTION HAVING AUTHORITY PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

IF THE PRIMARY EXISTING DWELLING IS PROVIDED WITH FIRE SPRINKLERS, THEN THIS ACCESSORY DWELLING UNIT IS REQUIRED TO INCLUDE FIRE SPRINKLER PLANS AND CALCULATIONS.

AREA SCHEDULE

RESIDENCE:	378 S.F.
PORCH:	60 S.F.
TOTAL COVERED AREA:	438 S.F.

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PROJECT DATA

STANDARD PLAN # CHOWCHILLA #2

PROPERTY ADDRESS

ZONE DISTRICT: R1

OCCUPANCY GROUP: R-3/U

TYPE OF CONSTRUCTION: VB

NO. OF STORIES: 1

ENERGY METHOD ENERGYPRO V 8.3

CODE EDITIONS: 2019 C.R.C,C.E.C,C.M.C,C.P.C,C.F.C  
2019 CAL. ENERGY CODE  
2019 CAL. GREEN CODE

CONSULTANTS

OWNER: CITY OF CHOWCHILLA  
130 S. 2nd STREET  
CHOWCHILLA, CA 93610  
(559) 665-8615

DESIGNER: CWB DESIGNS  
441 HERNDON AVE. #2245  
CLOVIS, CA 93612  
(559) 294-6534

STRUCTURAL ENGINEER ENGINEEREING DESIGNS  
5155 N. FIRST ST.  
FRESNO, CA 93710  
(559) 225-2525

TRUSS MANUFACTURER CENTRAL VALLEY TRUSS CO.  
10715 E. AMERICAN AVE.  
DEL RAY, CA 93616  
(559) 888-2160

ENERGY CONSULTANT ENERCAL SOLUTIONS  
244 S. OLYMPIC ST.  
KERMAN, CA 93630  
(559) 696-7922

ENGINEER'S SEAL AND SIGNATURE ON PLANS ARE LIMITED TO THE ITEMS ON THE PLANS ADDRESSED IN THE STRUCTURAL CALCULATIONS ONLY. NO OTHER APPROVAL, LIABILITY OR CONSENT FOR ANY OTHER ASPECT OR PHASE OF THIS STRUCTURE IS IMPLIED OR EXPRESSED.



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DATE: 06-17-2022

CWB DESIGNS

3838 N. CHICKADEE AVE.  
SANGER, CA 93657  
PHONE: 559.294.6534

STANDARD PLAN #2 FOR:

CITY OF CHOWCHILLA

130 S 2ND STREET  
CHOWCHILLA, CA 93610  
PHONE: 559-665-8615

COVER SHEET

SHEET

1 OF 19



FLOOR PLAN NOTES

CONSTRUCTION SHALL COMPLY WITH THE 2019 CALIFORNIA RESIDENTIAL (CRC), MECHANICAL (CMC), PLUMBING (PC) AND ELECTRICAL (CEC) CODES, AND THE 2019 CALIFORNIA ENERGY CODE AS AMENDED BY LOCAL ORDINANCES.

CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AT JOBSITE PRIOR TO THE START OF ANY WORK.

IF ERRORS ARE FOUND WITHIN THESE DRAWINGS, THE DESIGNER SHALL BE CONSULTED FOR CORRECTIONS PRIOR TO CONTINUANCE OF WORK AFFECTED.

ALL FRAMING LUMBER SHALL BE D.F. #2 OR BETTER UNLESS NOTED OTHERWISE. PROVIDE FIRE BLOCKING AT FLOORS, CEILING COVES AND SOFFITS AND AT 10'-0" INTERVALS.

PROVIDE FIRE-STOP AT ALL FURRED DOWN AREAS, INCLUDING ARCHED AREAS, AT MAX. 10'-0" O.C. HORIZONTAL AND VERTICAL, AND AT ALL FLOOR AND CEILING LEVELS.

PROVIDE FIRE-STOP AT ALL COLUMNS AT MAX. 10'-0" HIGH.

FINGER JOINTED STUDS MUST BE GRADE STAMPED BY AN APPROVED ICBO INSPECTION AGENCY, AND CLEARLY SPECIFIED ON PLANS. (NO FINGER JOINTED STUDS SHALL BE USED IN ANY SHEAR WALL.)

WINDOW SILL HEIGHT SHALL NOT EXCEED 44" FROM THE BOTTOM OF THE NET CLEAR OPENING TO THE FINISHED FLOOR IN ALL SLEEPING ROOMS.

FLOOR AND LANDINGS, ON EACH SIDE OF DOORWAYS SHALL CONFORM TO THE REQUIREMENTS OF CRC R311.3.

A. THE WIDTH OF EACH LANDING SHALL NOT BE LESS THAN THE DOOR SERVED AND SHALL EXTEND A MINIMUM DIMENSION OF 36 INCHES MEASURED IN THE DIRECTION OF TRAVEL.

B. LANDINGS SHALL BE NO MORE THAN 1 1/2" LOWER THAN THE TOP OF THE THRESHOLD.

C. LANDINGS MAY BE NO MORE THAN 1 3/4" BELOW THE TOP OF THE THRESHOLD PROVIDED THE DOOR DOES NOT SWING OVER THE LANDING OR FLOOR.

D. THE MINIMUM NET HEIGHT OF REQUIRED EGRESS DOORS SHALL BE NOT LESS THAN 78" MEASURED FROM THE TOP OF THE THRESHOLD TO THE BOTTOM OF THE DOOR STOP.

THE ATTIC ACCESS SHALL BE WEATHER-STRIPPED AND INSULATION EQUIVALENT TO THAT OF THE CEILING SHALL BE INSTALLED ON THE ACCESS PANEL.

FASTENERS AND CONNECTORS IN DIRECT CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE APPROVED SILICON BRONZE OR COPPER, STAINLESS STEEL OR HOT-DIPPED ZINC-COATED GALVANIZED STEEL PER CRC R311.3.1.

AFTER INSTALLING HVAC EQUIPMENT AND WATER HEATING SYSTEMS, THE INSTALLER SHALL SUBMIT TO THE BUILDING DEPARTMENT AND THE OWNER, REGISTERED COPIES OF THE CF-6R SIGNED BY THE INSTALLER, LISTING THE EQUIPMENT INSTALLED, AND THAT IT MEETS OR EXCEEDS THE REQUIREMENTS OF THE ENERGY DOCUMENTATION.

WATER CLOSET COMPARTMENTS MUST HAVE 30" WIDTH AND 24" CLEAR IN FRONT OF THE FIXTURE. THE WATER CLOSET SHALL NOT BE SET CLOSER THAN 15" FROM ITS CENTER TO ANY SIDE WALL OR OBSTRUCTION.

CEMENT, FIBER CEMENT OR GLASS MAT GYPSUM BACKERS SHALL BE USED AS A BASE FOR WALL TILES IN TUB AND SHOWER AREAS. WATER RESISTIVE GYP. BOARD IS NOT PERMITTED AT THESE LOCATIONS.

REGISTERED COPIES OF THE CF-4R FORM SHALL BE SUBMITTED PRIOR TO FINAL INSPECTION, SIGNED BY CERTIFIED HERS RATER, FOR FIELD VERIFICATION AND DIAGNOSTIC TESTING.

AFTER INSTALLING WALL, CEILING, OR FLOOR INSULATION, THE INSTALLER SHALL MAKE AVAILABLE TO THE ENFORCEMENT AGENCY OR POST IN A CONSPICUOUS LOCATION IN THE BUILDING A CERTIFICATE SIGNED BY THE INSTALLER STATING THAT THE INSTALLATION IS CONSISTENT WITH THE PLANS AND SPECIFICATIONS. THE CERTIFICATE SHALL ALSO STATE THE MANUFACTURER'S NAME AND MATERIAL IDENTIFICATION, THE INSTALLED R-VALUE, AND (IN APPLICATIONS OF LOOSE FILL INSULATION) THE MINIMUM INSTALLED HEIGHT PER SQUARE FOOT CONSISTENT WITH THE MANUFACTURER'S LABELED INSTALLED DESIGN DENSITY FOR THE DESIRED R-VALUE.

JOINTS AND OTHER OPENINGS IN THE BUILDING ENVELOPE THAT ARE POTENTIAL SOURCES OF AIR LEAKAGE SHALL BE CAULKED, EQUIPPED WITH GASKETS, WEATHER-STRIPPED, OR OTHERWISE SEALED TO LIMIT INTERNAL OR EXTERNAL AIR FILTRATION.

EVERY MANUFACTURED AND SITE-BUILT FENESTRATION PRODUCT OR FENESTRATION SYSTEM INSTALLED IN CONSTRUCTION SUBJECT TO TITLE 24, PART 6 SHALL HAVE ATTACHED TO IT A CLEARLY VISIBLE TEMPORARY LABEL OR HAVE AN ASSOCIATED LABEL CERTIFICATE THAT LISTS THE U-FACTOR, THE SOLAR HEAT GAIN COEFFICIENT (SHGC) OF THAT PRODUCT AND THE METHOD USED TO DERIVE THOSE VALUES, AND CERTIFIES COMPLIANCE WITH AIR LEAKAGE REQUIREMENTS OF THE CALIFORNIA ENERGY CODE, SECTION 110(A) 1. THE LABEL SHALL NOT BE REMOVED UNTIL APPROVED BY THE BUILDING INSPECTOR.

SHEET ROCK NAILING INSPECTION IS REQUIRED PER R109.1.4.2. NAILING SHALL BE IN ACCORDANCE WITH TABLE R102.3.5 (SEE SHEET 4).

VERTICAL CLEARANCE ABOVE THE COOKING SURFACE TO COMBUSTIBLES SHALL BE 30" UNPROTECTED, OR 24" PROTECTED, AND HORIZONTAL CLEARANCES SHALL BE PER THE PERMANENT MARKING LISTED ON THE UNIT.

BLOWN OR POURED TYPE INSULATION MATERIAL SHALL ONLY BE USED IN ATTIC SPACES WHERE THE SLOPE OF THE CEILING DOES NOT EXCEED MORE THAN 2.5:12 PITCH.

AREA SCHEDULE

RESIDENCE:	378 S.F.
PORCH:	60 S.F.
TOTAL COVERED AREA:	438 S.F.

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DATE: 06-17-2022

CWB DESIGNS

3838 N. CHICKADEE AVE.  
SANGER, CA 93657  
PHONE: 559.294.6534

STANDARD PLAN #2 FOR:

CITY OF CHOWCHILLA

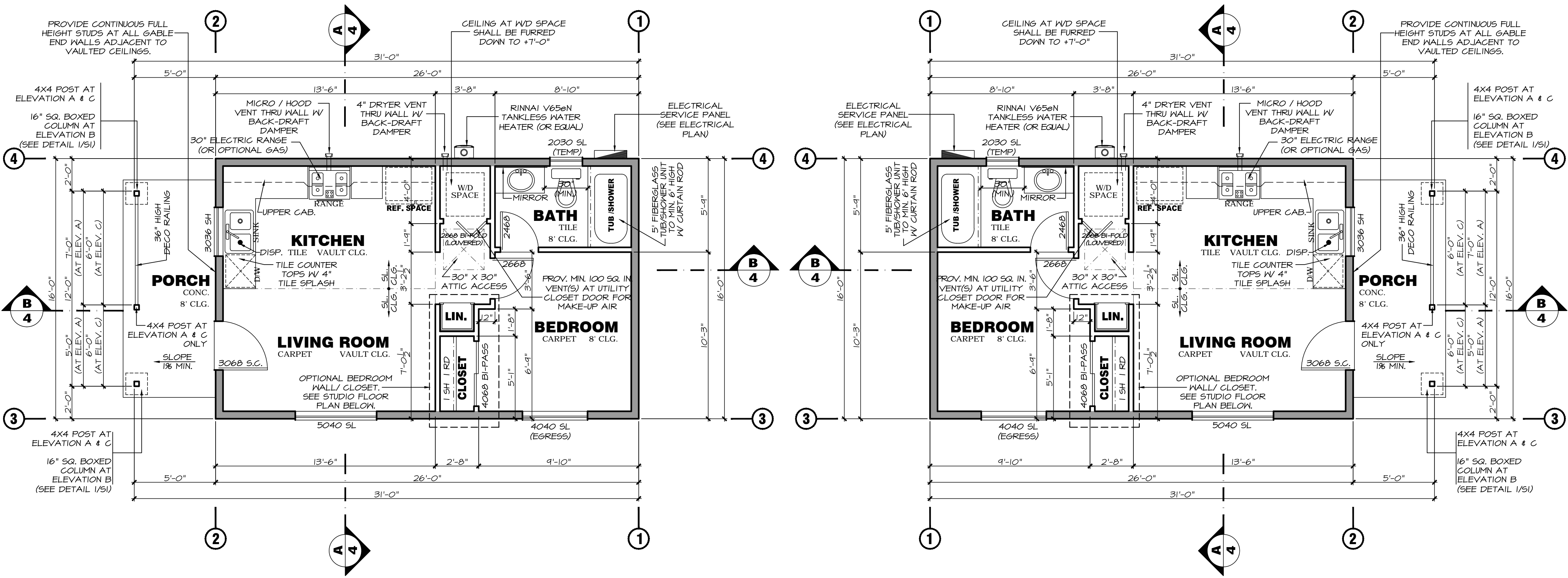
130 S 2ND STREET  
CHOWCHILLA, CA 93610  
PHONE: 559-665-8615

FLOOR PLAN

SHEET

2

OF 19



REVERSE FLOOR PLAN

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

1 BEDRM PLAN  
378 S.F.

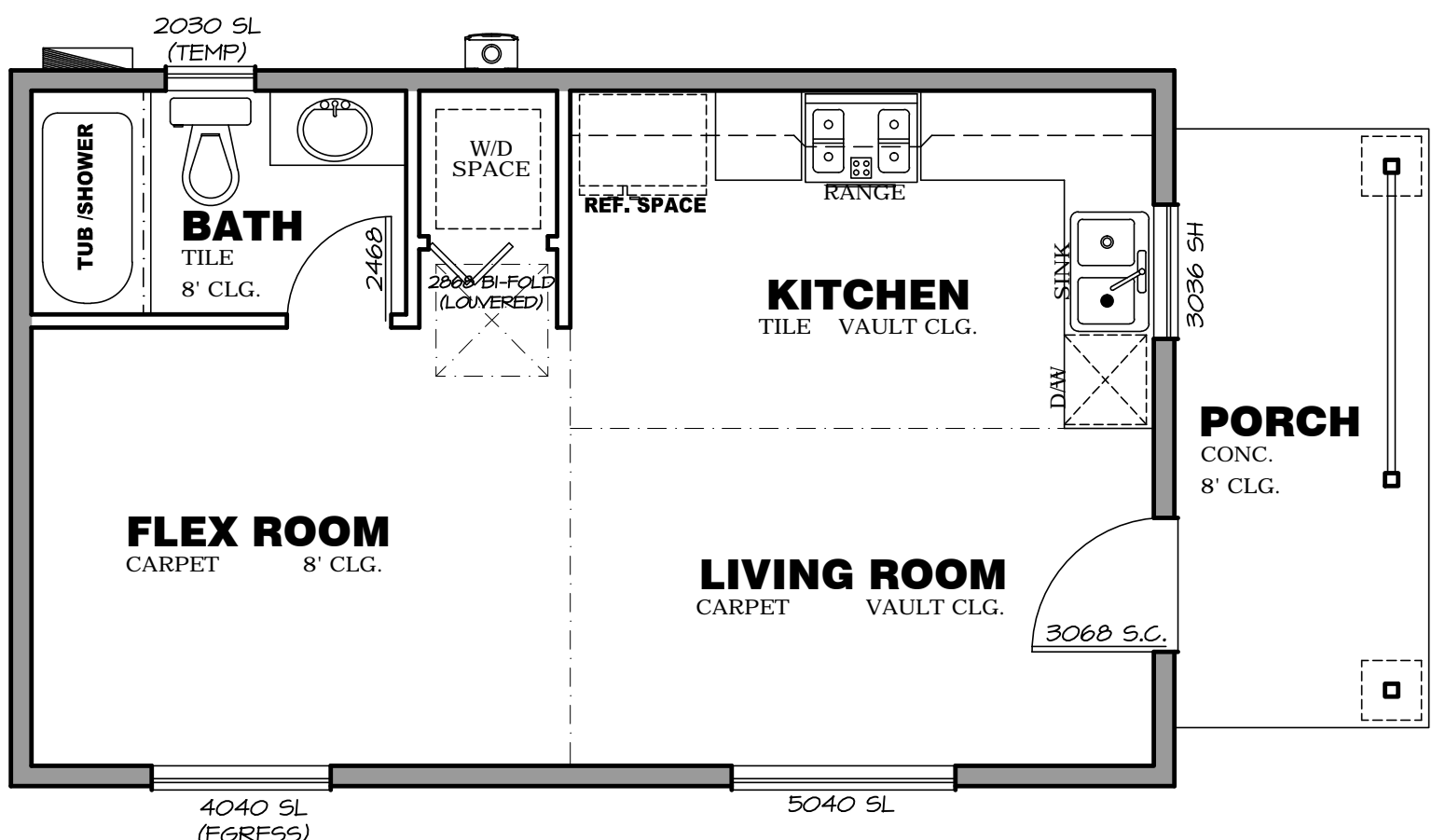
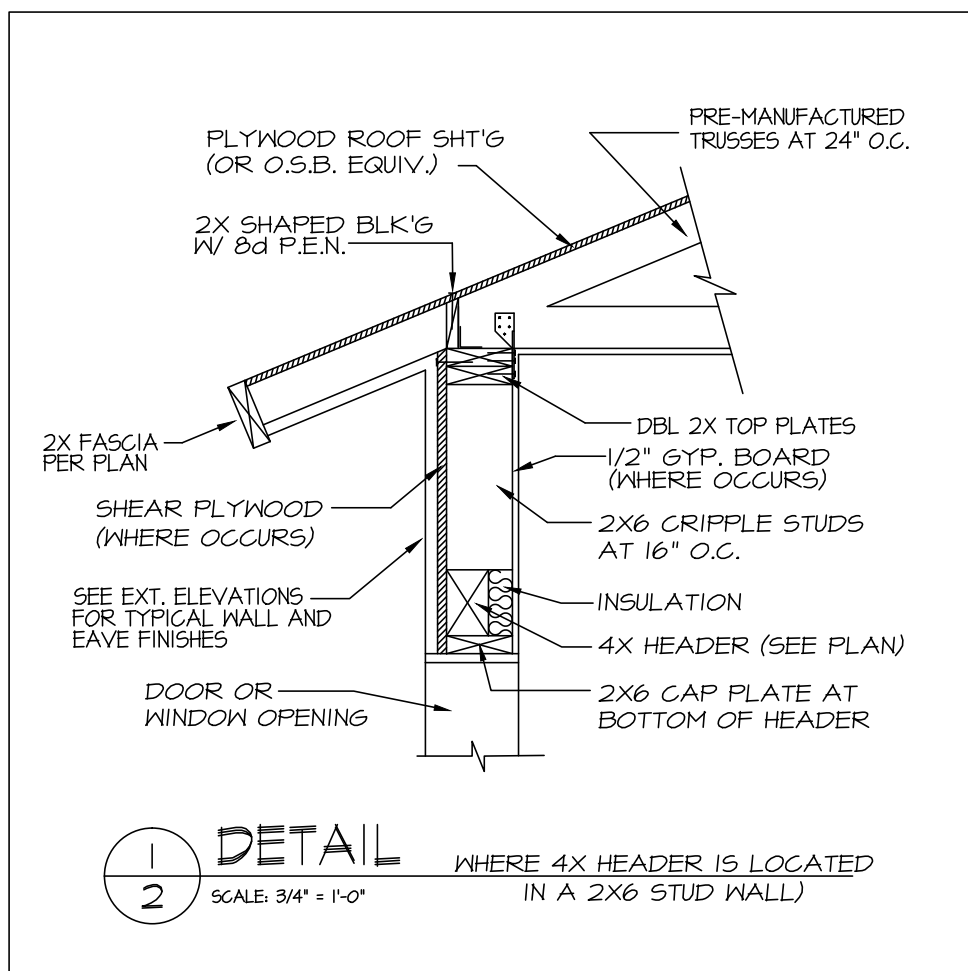
WALL LEGEND

- 2X4 STUDS AT 16" O.C.
- 2X6 D.F. #2 CONTINUOUS STUDS AT 16" O.C.

FLOOR PLAN

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

1 BEDRM PLAN  
378 S.F.



SEE 1 BEDROOM FLOOR PLAN FOR  
TYPICAL NOTES AND DIMENSIONS.

STUDIO FLOOR PLAN

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

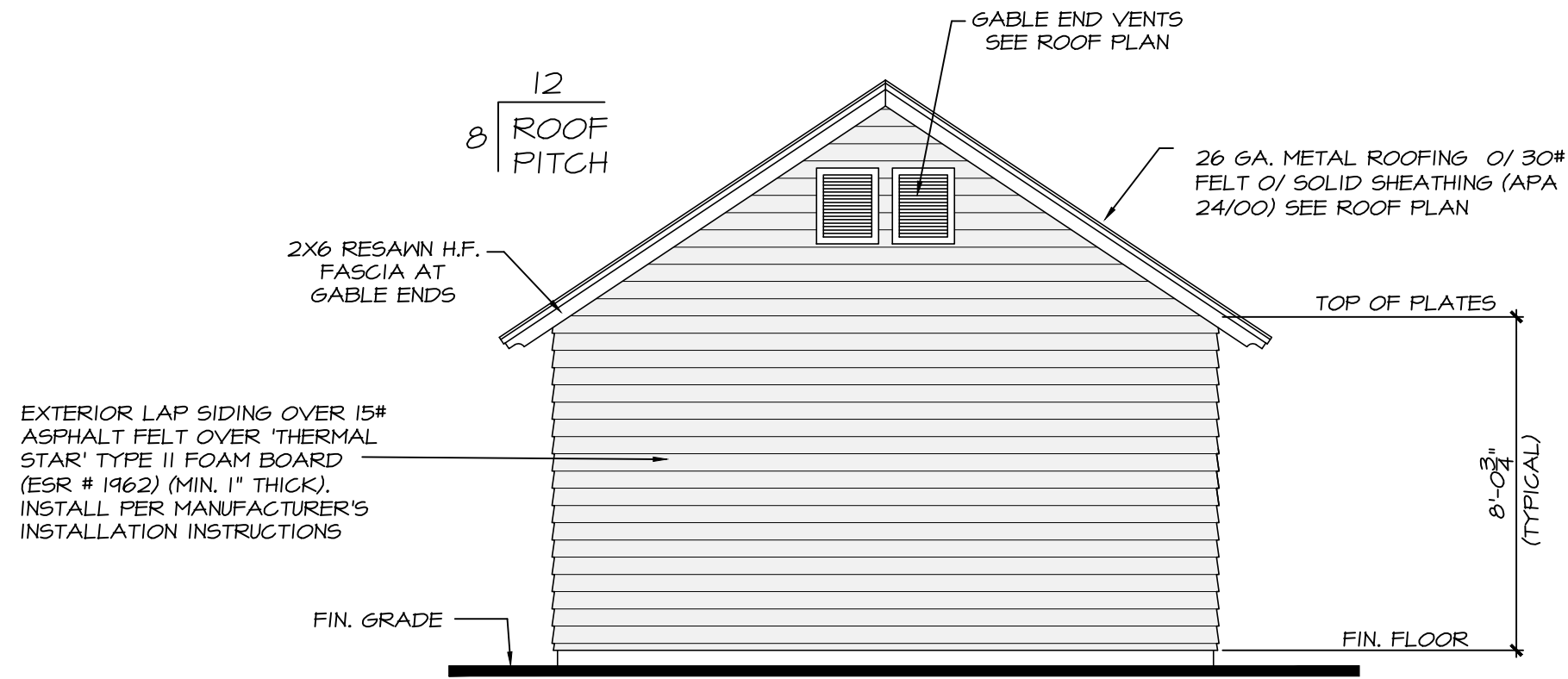
ELEVATION NOTES

ALL SIDING SHALL BE APPLIED OVER A WEATHER RESISTIVE BARRIER (TYPE 'D' BUILDING PAPER) PER CRC R703.2.

TWO LAYERS TYPE 'D' BUILDING PAPER UNDERLAYMENT IS REQUIRED WHERE LATH IS TO BE APPLIED OVER WOOD SHEATHING CRC R703.6.3

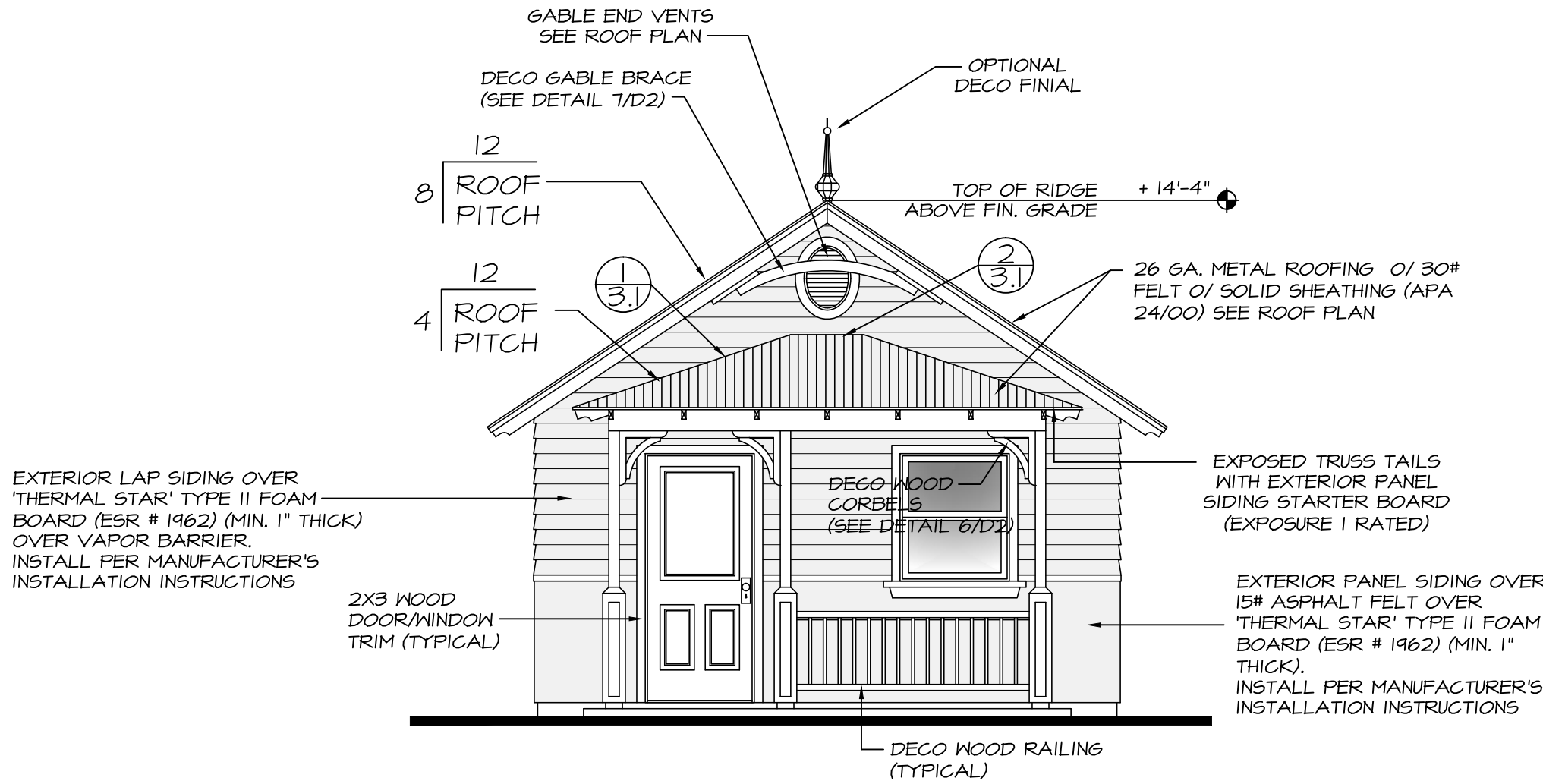
ALL DECORATIVE CORBELS, BRACES AND BRACKETS MAY BE CONSTRUCTED IN FIELD PER DETAILS PROVIDED, OR OWNER MAY PURCHASE PRE-ASSEMBLED PIECES, PROVIDED THEY MATCH AS CLOSELY AS POSSIBLE TO THE PIECES SHOWN IN THE DRAWINGS AND ARE APPLIED AS PER THE PRODUCTS INSTALLATION INSTRUCTIONS.

'THERMAL STAR' TYPE II FOAM BOARD INSTALLED AT A THICKNESS OF 1" PROVIDES R-4 THERMAL RESISTANCE PER ESR # 1462



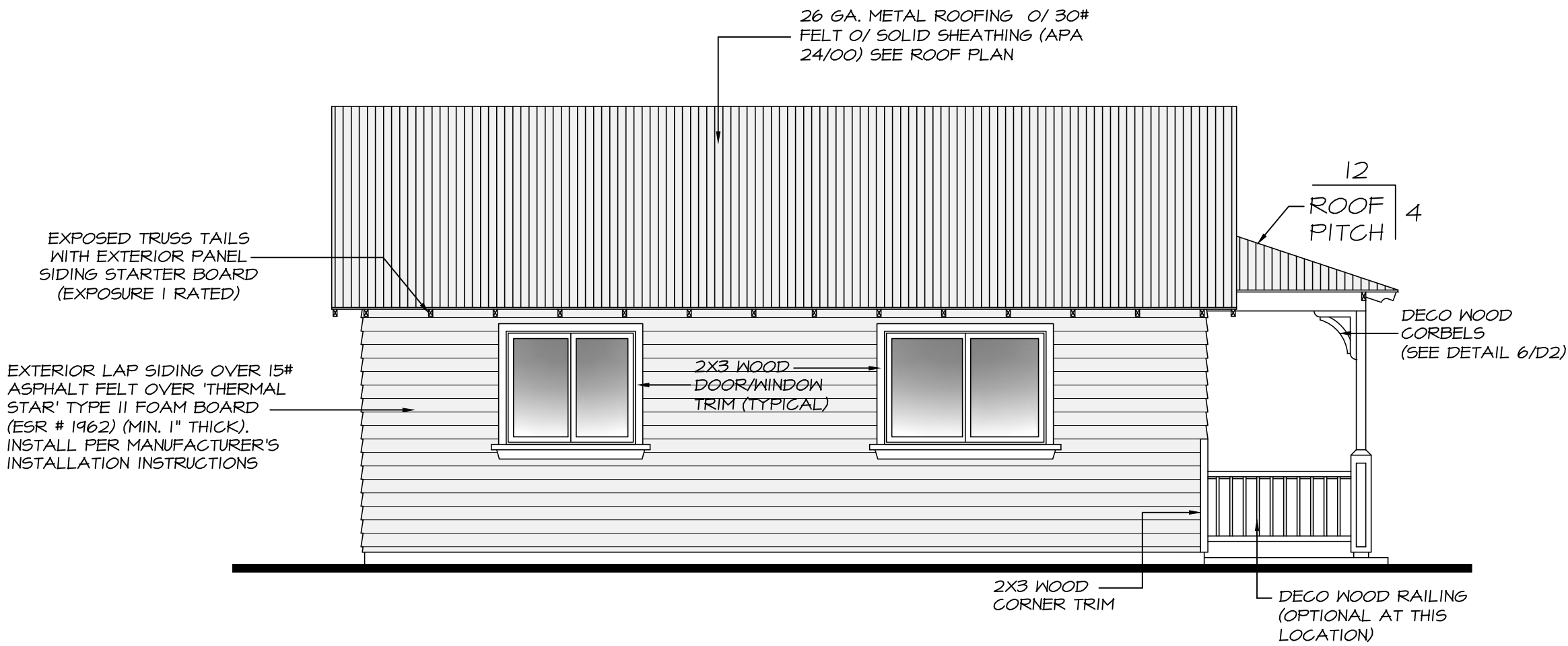
REAR ELEVATION - A

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



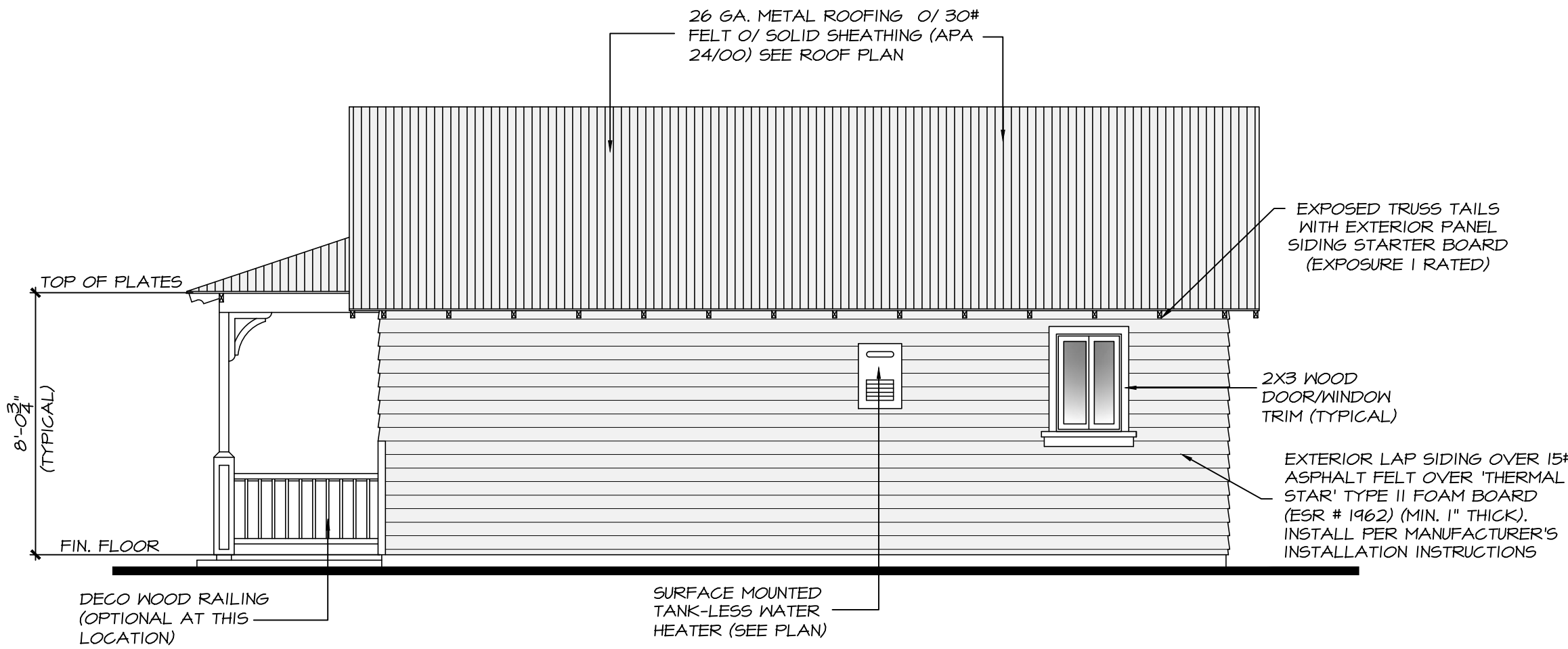
FRONT ELEVATION - A

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



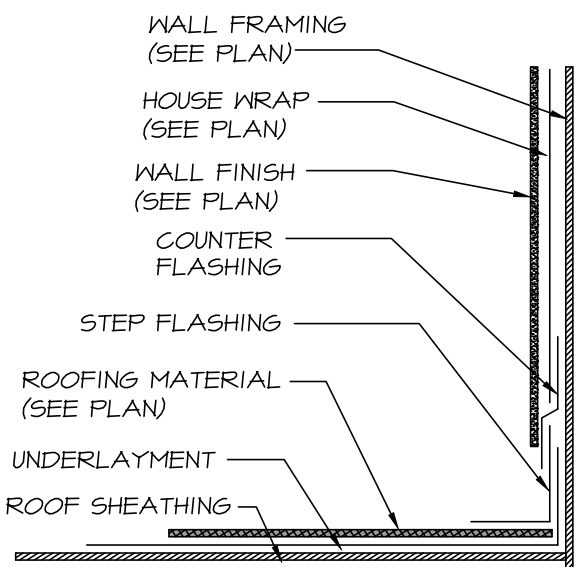
LEFT ELEVATION - A

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

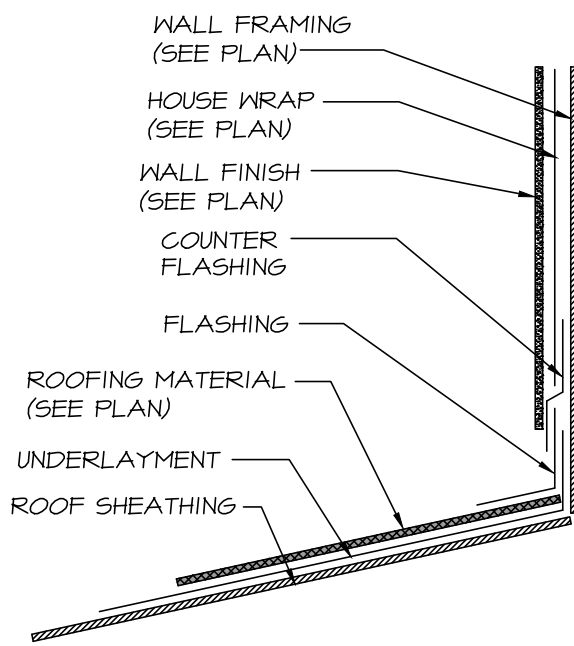


RIGHT ELEVATION - A

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



1 ROOF-TO-SIDEWALL FLASHING  
3.1 SCALE: NONE



2 ROOF-TO-HEADWALL FLASHING  
3.1 SCALE: NONE

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*C. N. B. DESIGNS*

DATE: 06-17-2022

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STANDARD PLAN #2 FOR:

CITY OF CHOWCHILLA

130 S 2ND STREET  
CHOWCHILLA, CA 93610  
PHONE: 559-665-8615

ELEVATION - A

3.1 OF 19

REV	DATE
NEW	05.09.22
ENG	05.25.22
SCB	06.17.22

DRAWING FILE  
F:\CHOWCHILLA  
PLAN 21.A3A

CWB

ELEVATION NOTES

ALL SIDING SHALL BE APPLIED OVER A WEATHER RESISTIVE BARRIER (TYPE 'D' BUILDING PAPER) PER CRC R703.2.

TWO LAYERS TYPE 'D' BUILDING PAPER UNDERLAYMENT IS REQUIRED WHERE LATH IS TO BE APPLIED OVER WOOD SHEATHING CRC R703.6.3

ALL DECORATIVE CORBELS, BRACES AND BRACKETS MAY BE CONSTRUCTED IN FIELD PER DETAILS PROVIDED, OR OWNER MAY PURCHASE PRE-ASSEMBLED PIECES, PROVIDED THEY MATCH AS CLOSELY AS POSSIBLE TO THE PIECES SHOWN IN THE DRAWINGS AND ARE APPLIED AS PER THE PRODUCTS INSTALLATION INSTRUCTIONS.

'THERMAL STAR' TYPE II FOAM BOARD INSTALLED AT A THICKNESS OF 1" PROVIDES R-4 THERMAL RESISTANCE PER ESR # 1462

REVISIONS  
REV. DATE  
NEW 05.09.22  
ENG 05.25.22  
SUB 06.17.22

DRAWING FILE  
F:\CHOWCHILLA  
PLAN 21.ASB

DATE: 06-17-2022

CWB DESIGNS

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SANGER, CA 93657  
PHONE: 559.294.6534

CWB

STANDARD PLAN #2 FOR:

CITY OF CHOWCHILLA

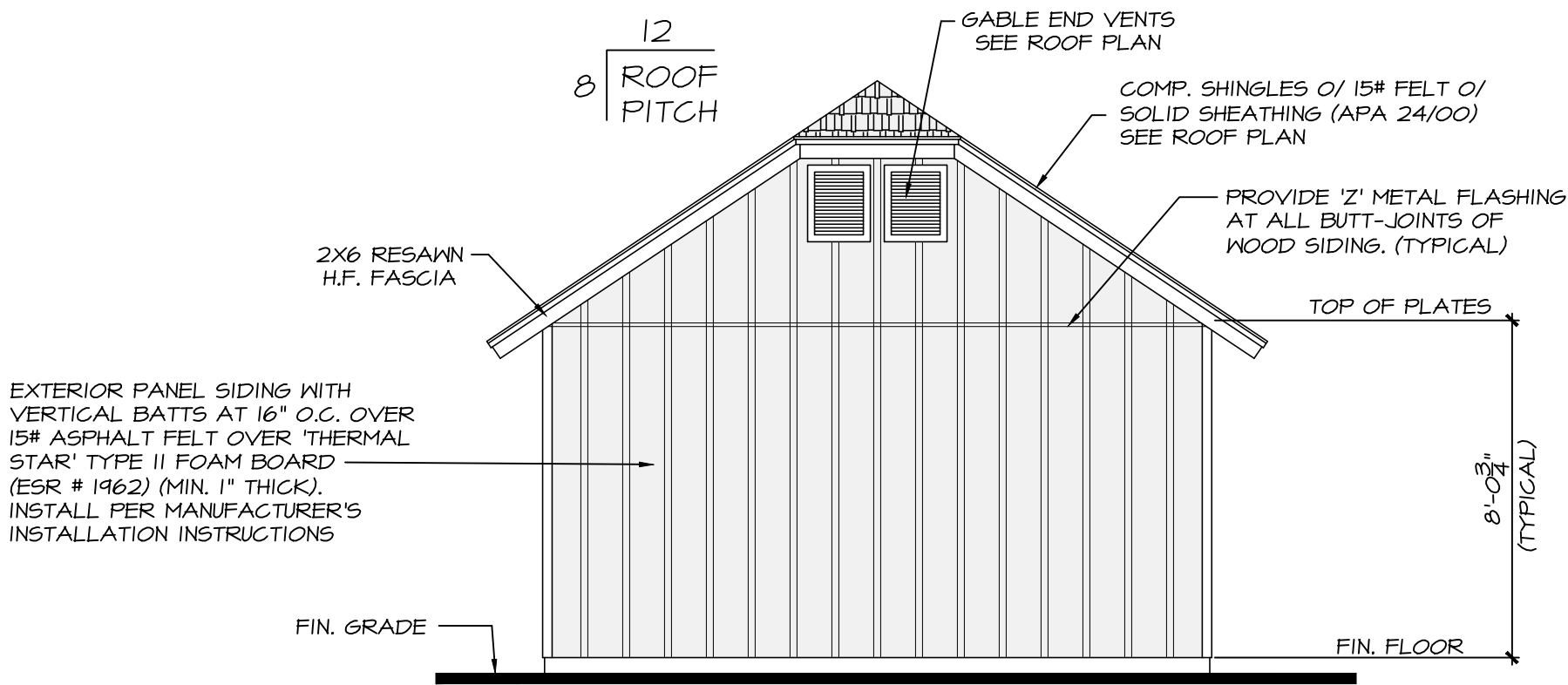
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ELEVATION - B

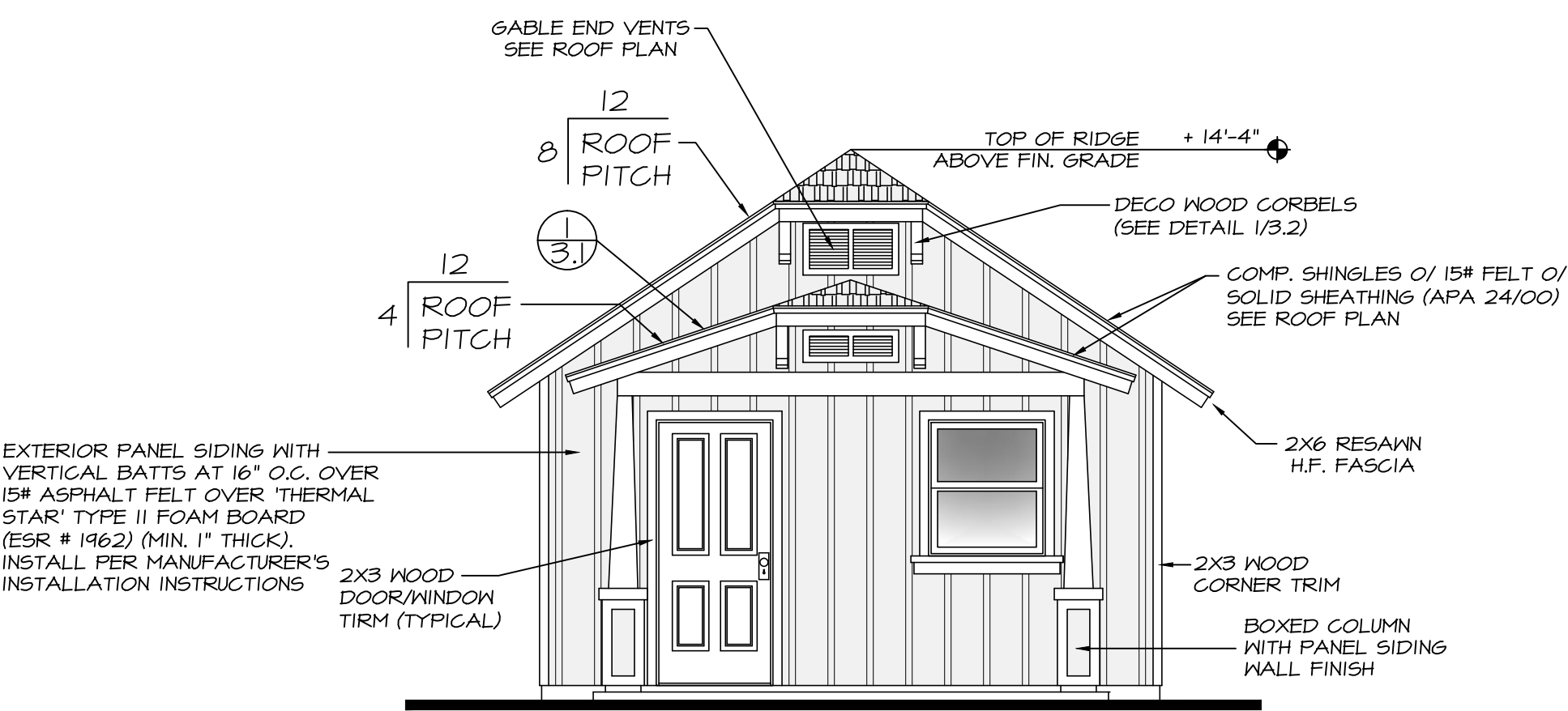
SHEET 3.2 OF 19

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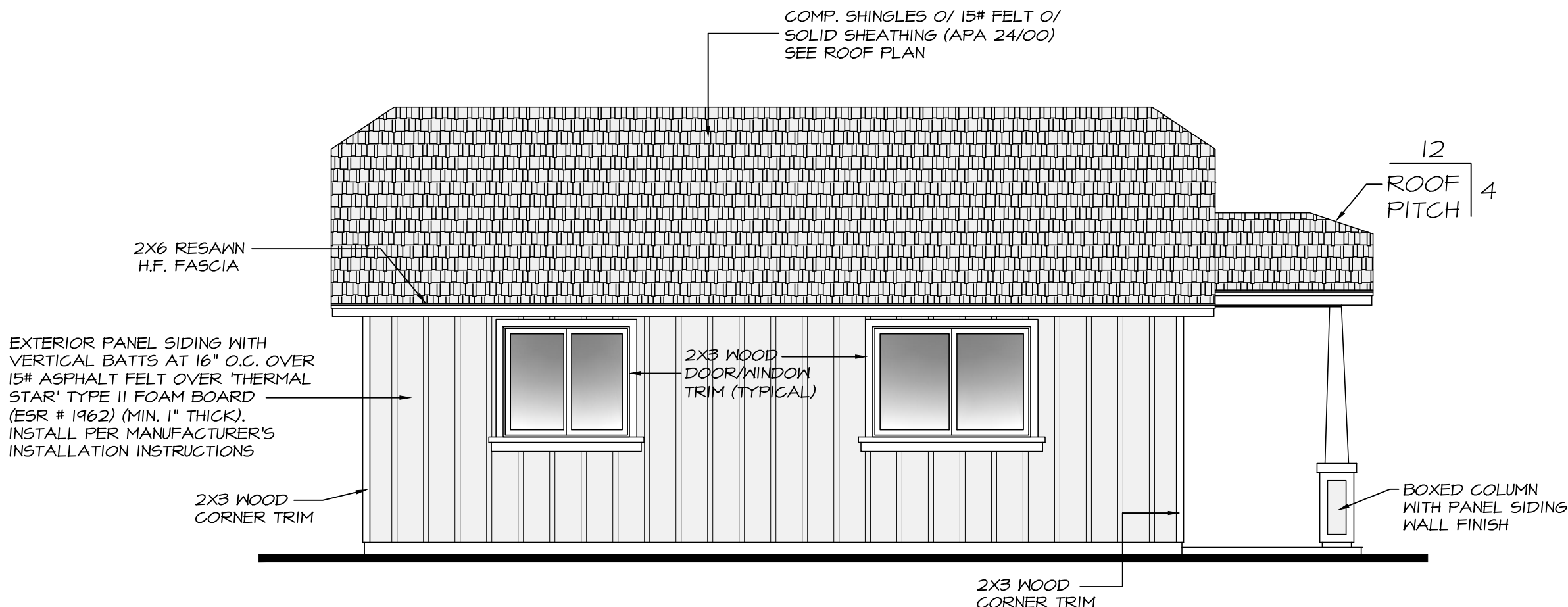
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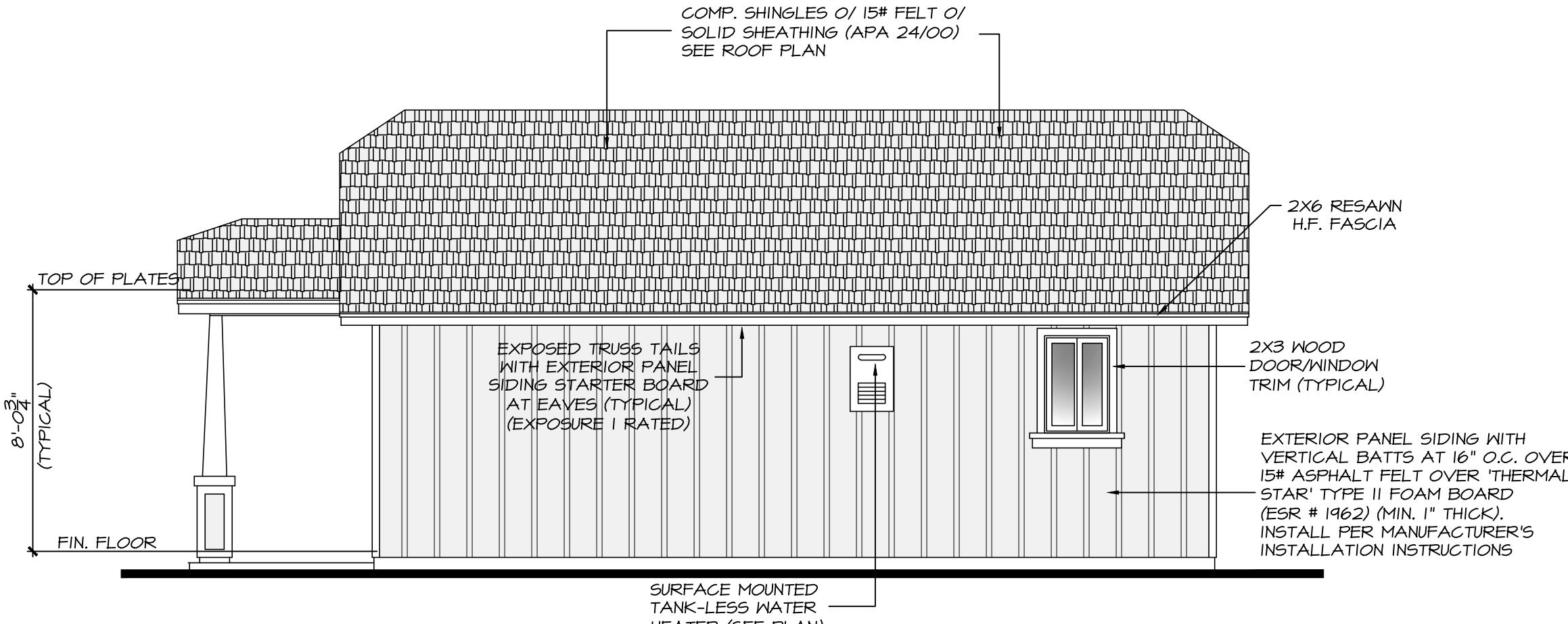
REAR ELEVATION - B  
SCALE: 1/4" = 1'-0"



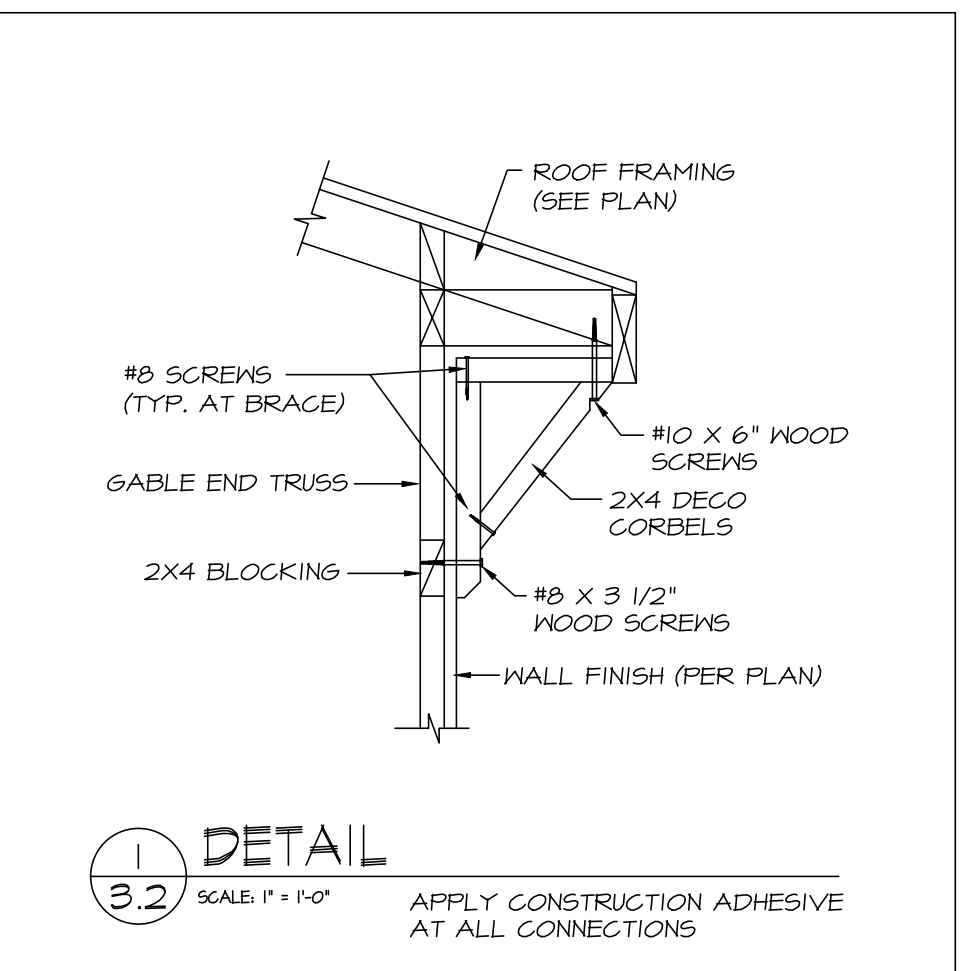
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SCALE: 1/4" = 1'-0"



LEFT ELEVATION - B  
SCALE: 1/4" = 1'-0"

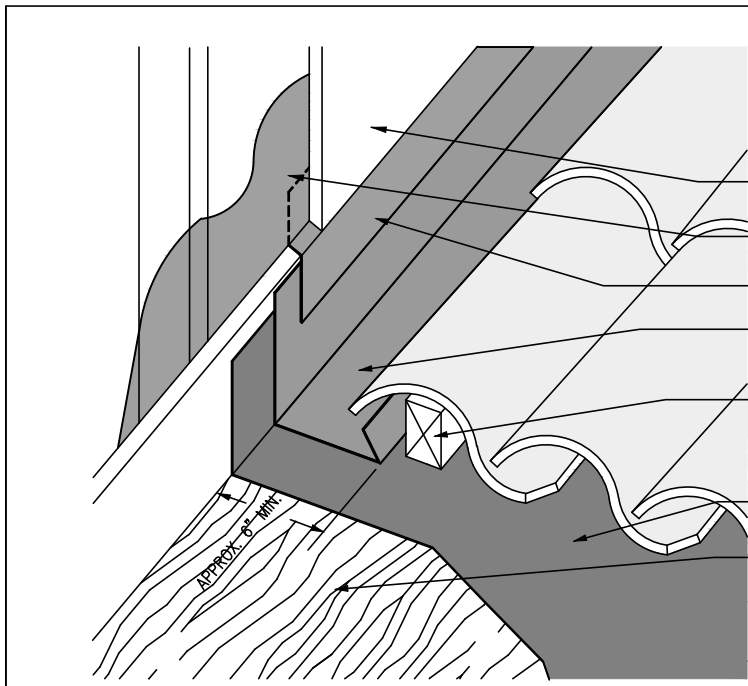


RIGHT ELEVATION - B  
SCALE: 1/4" = 1'-0"



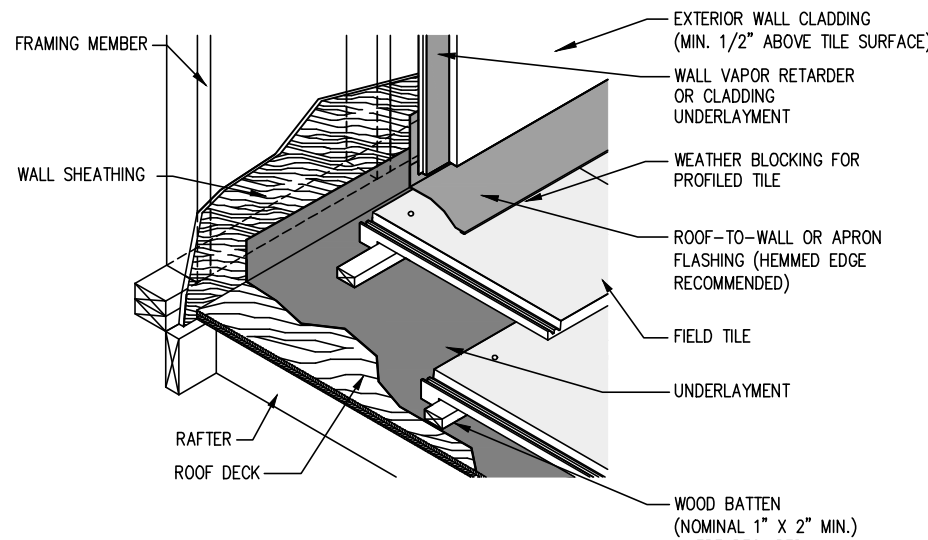
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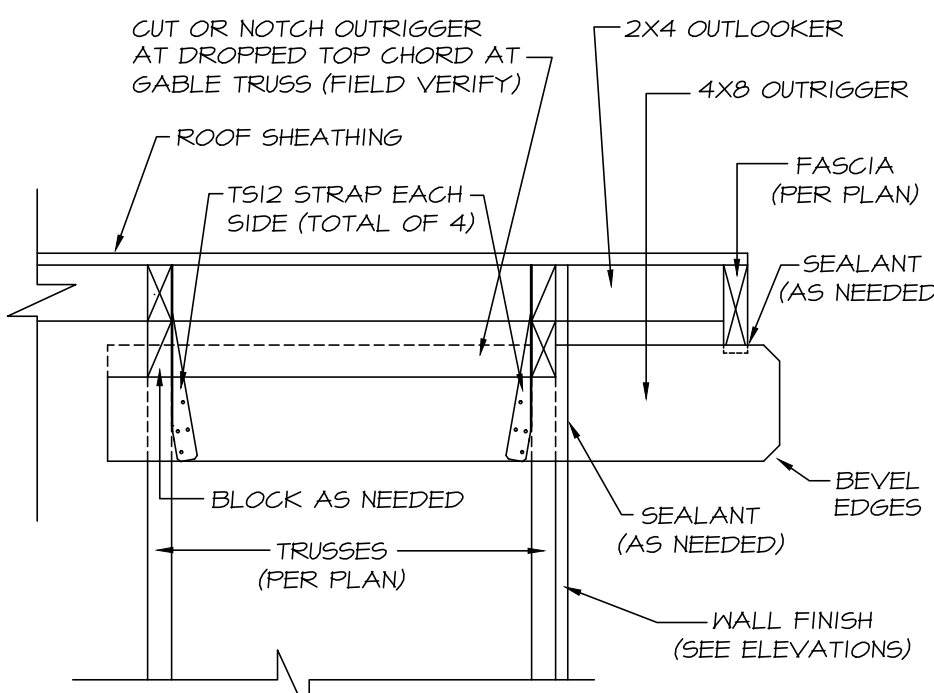


\*Note: Tiles to be installed in such a fashion as to prevent water diversion or leakage. Nail shall be of sufficient length to penetrate 3/8" into or through the roof sheathing, which ever is less.

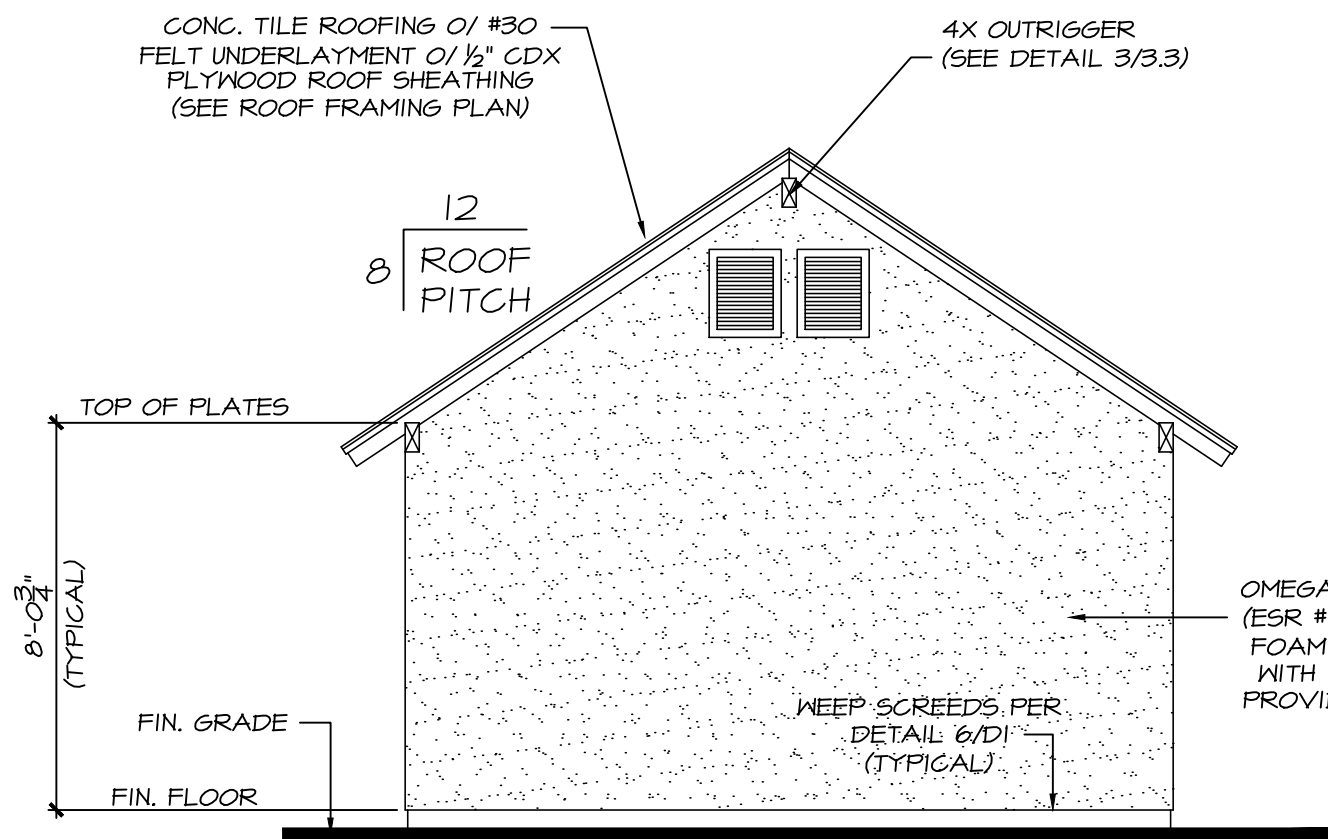
1 ROOF-TO-SIDEWALL  
3.3 SCALE: NONE



2 ROOF-TO-HEADWALL  
3.3 SCALE: NONE

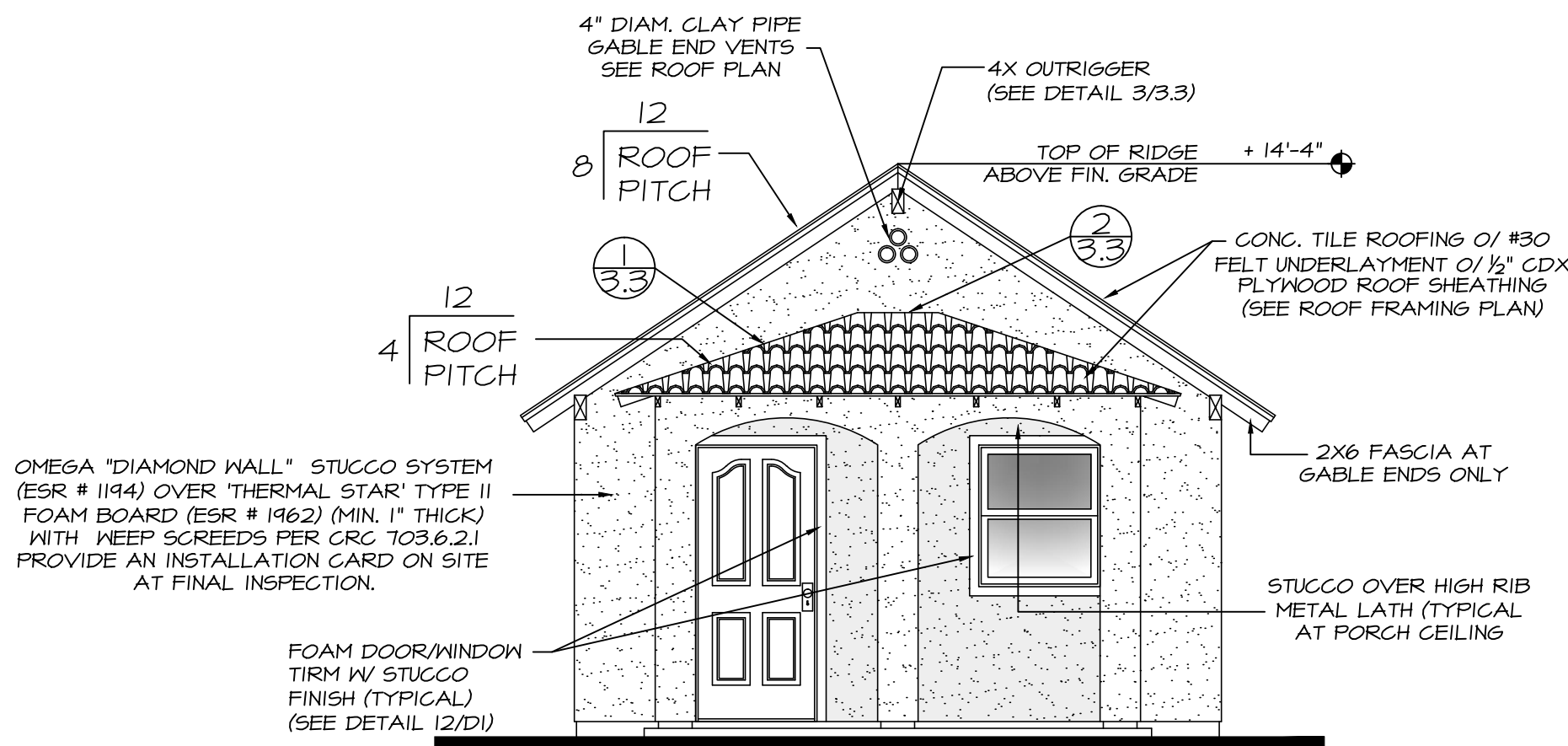


3 OUTRIGGER DETAIL  
3.3 SCALE: NONE



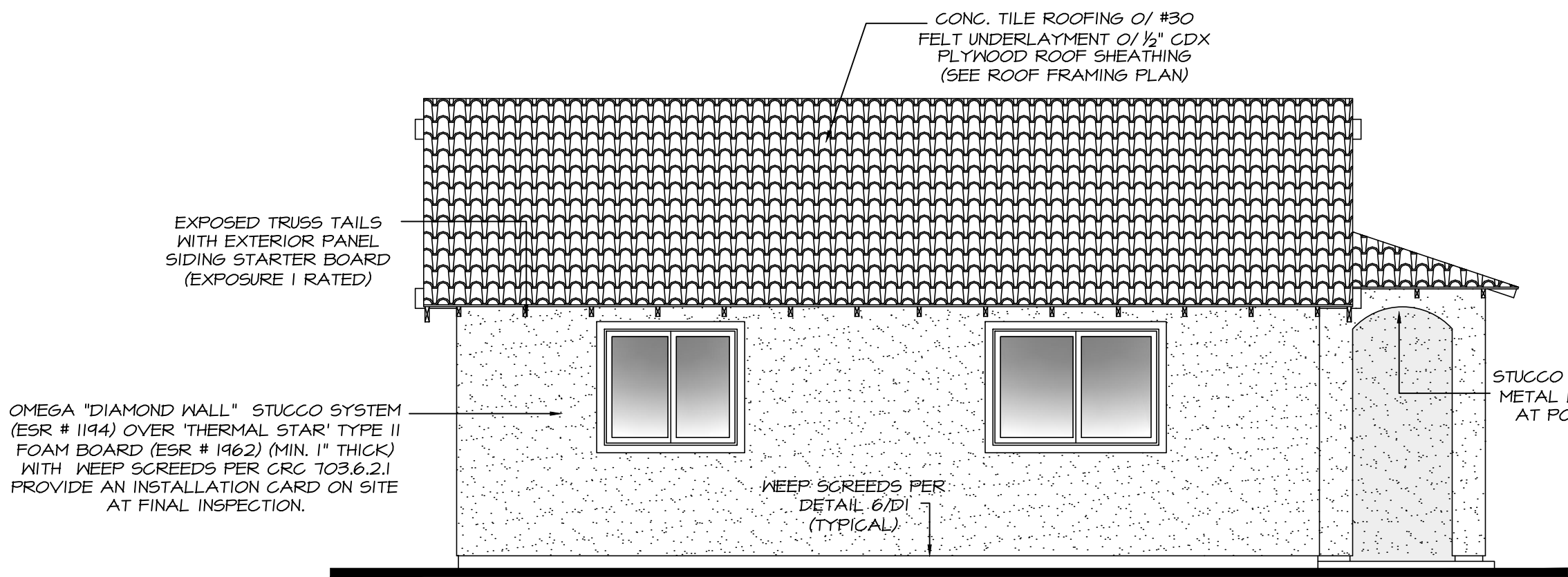
### REAR ELEVATION - C

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



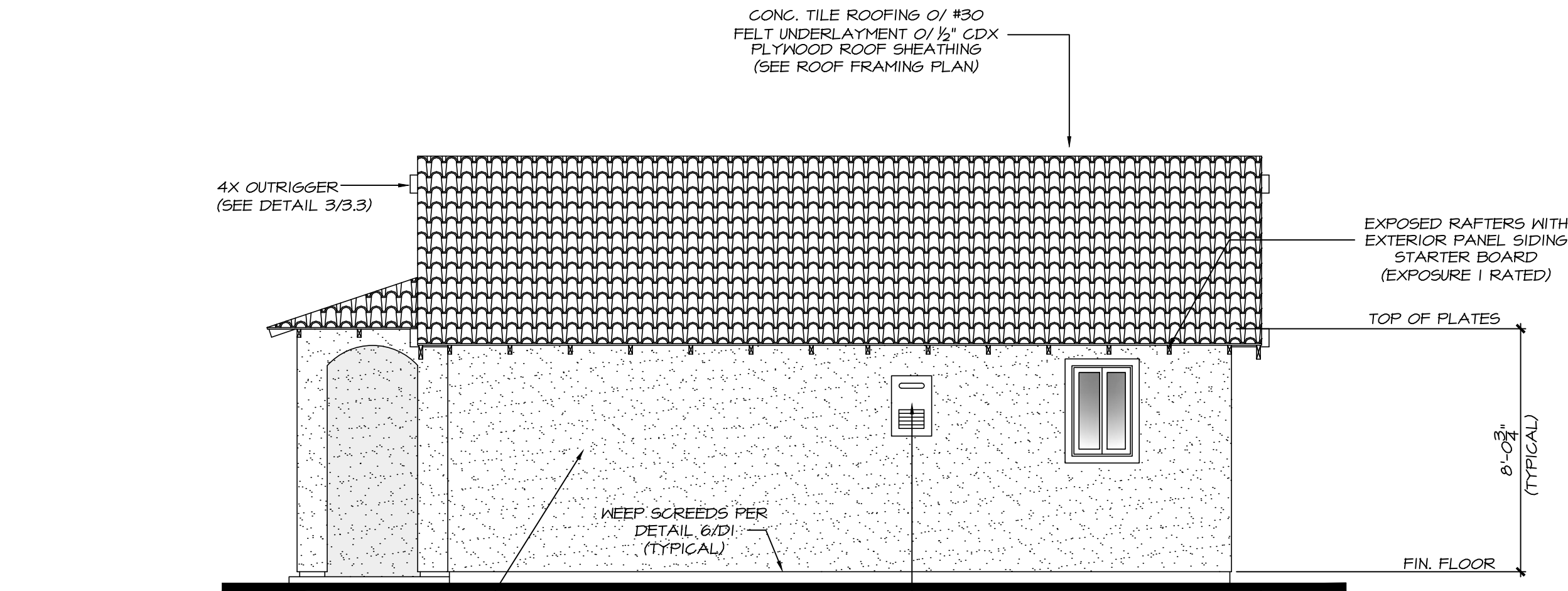
### FRONT ELEVATION - C

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



### LEFT ELEVATION - C

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



### RIGHT ELEVATION - C

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

## ELEVATION NOTES

ALL LATH AND PLASTER SHALL COMPLY WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND SHALL BE PROVIDED WITH WEEP SCREEDS PER CRC 103.6.2.1

ALL STUCCO LATH SHALL BE APPLIED OVER A WEATHER RESISTIVE BARRIER (TYPE 'D' BUILDING PAPER) PER CRC R103.2.

TWO LAYERS TYPE 'D' BUILDING PAPER UNDERLAYMENT IS REQUIRED WHERE LATH IS TO BE APPLIED OVER WOOD SHEATHING CRC R103.6.3

PER ICC REPORT ESR 1194, A SPECIAL INSPECTION IS REQUIRED FOR STUCCO;

1. LATH INSTALLATION, PRIOR TO COATING APPLICATION
2. FIELD BATCHING AND MIXING OF COMPONENTS.

ALL TILE ROOFING MUST HAVE AN ICC REPORT NUMBER. A COPY OF THE REPORT SHALL BE ON SITE DURING ROOFING INSPECTION.

ALL DECORATIVE CORBELS, BRACES AND BRACKETS MAY BE CONSTRUCTED IN FIELD PER DETAILS PROVIDED, OR OWNER MAY PURCHASE PRE-ASSEMBLED PIECES, PROVIDED THEY MATCH AS CLOSELY AS POSSIBLE TO THE PIECES SHOWN IN THE DRAWINGS AND ARE APPLIED AS PER THE PRODUCTS INSTALLATION INSTRUCTIONS.

'THERMAL STAR' TYPE II FOAM BOARD INSTALLED AT A THICKNESS OF 1" PROVIDES R-4 THERMAL RESISTANCE PER ESR # 1962

DATE: 06-17-2022

CWB DESIGNS

3838 N. CHICKADEE AVE.  
SANGER, CA 93657  
PHONE: 559.294.6534

STANDARD PLAN #2 FOR:

CITY OF CHOWCHILLA

130 S 2ND STREET  
CHOWCHILLA, CA 93610  
PHONE: 559-665-8615

SHEET

3.3

OF 19

ELEVATION - C

REV	DATE
NEW	05.09.22
ENG	05.25.22
STB	06.17.22

DRAWING FILE  
F:\CHOWCHILLA  
PLAN 21.ASC

CWB

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*[Signature]*

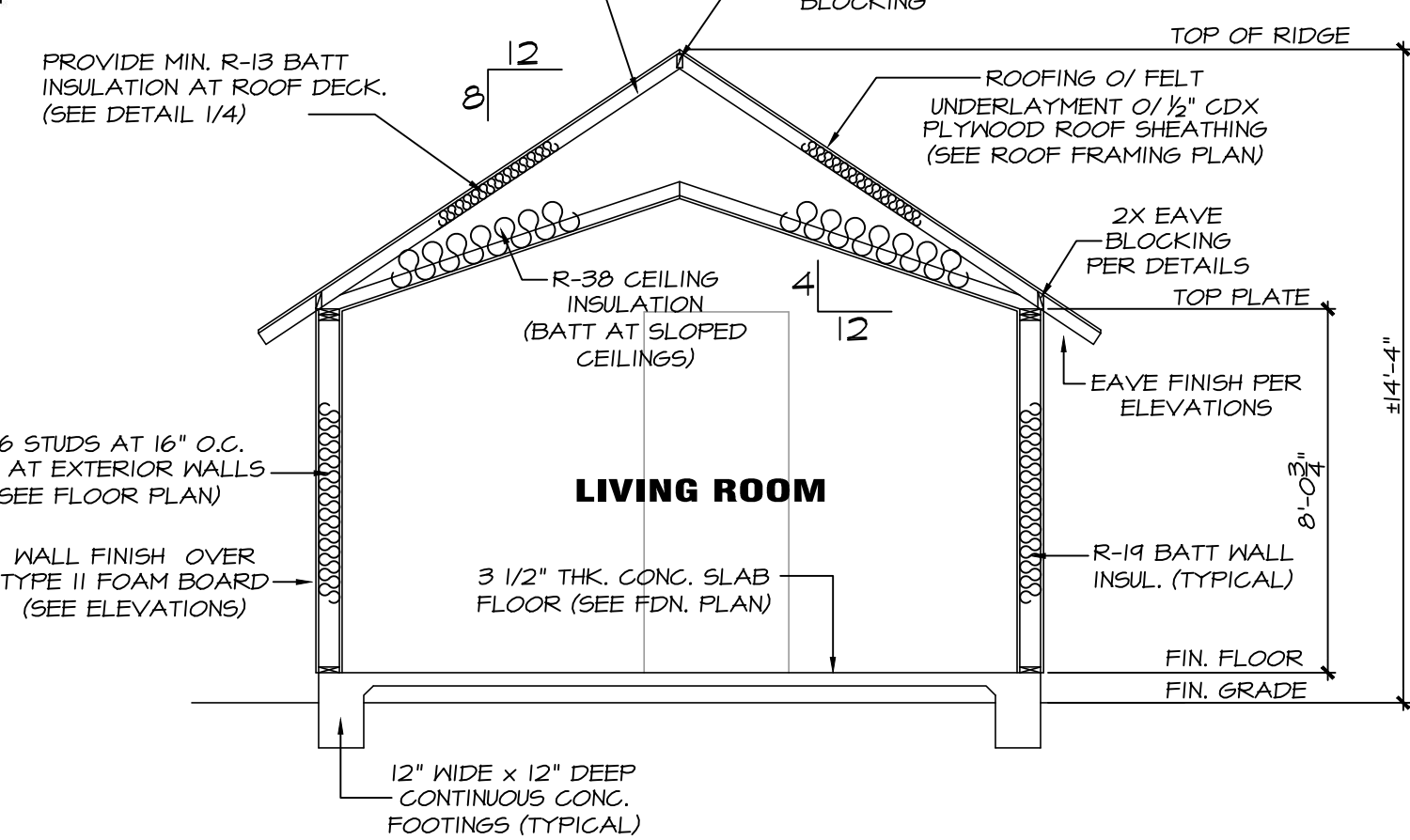
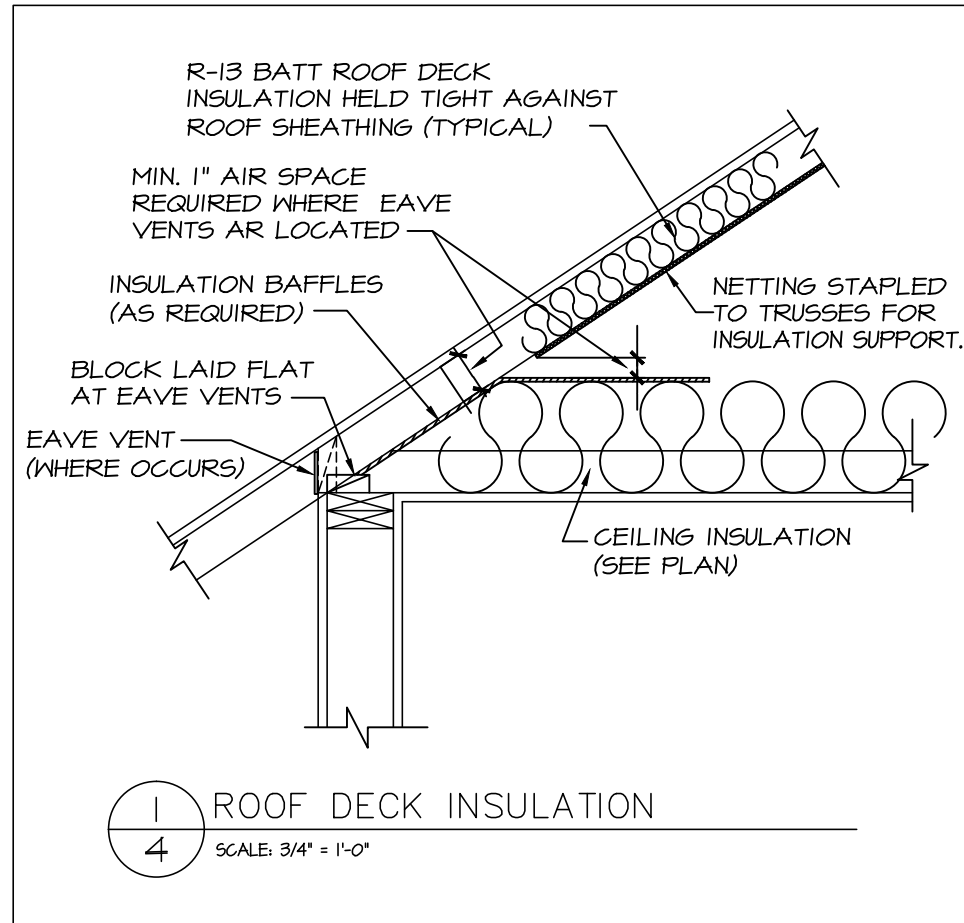


TABLE R602.3(1) FASTENING SCHEDULE			
ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER <sup>a,b,c</sup>	SPACING AND LOCATION
<b>Roof</b>			
1	Blocking between ceiling joists or rafters to top plate	4-8d box (2 <sup>1</sup> / <sub>2</sub> " × 0.113"); or 3-8d common (2 <sup>1</sup> / <sub>2</sub> " × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Toe nail
2	Ceiling joists to top plate	4-8d box (2 <sup>1</sup> / <sub>2</sub> " × 0.113"); or 3-8d common (2 <sup>1</sup> / <sub>2</sub> " × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Per joist, toe nail
3	Ceiling joist not attached to parallel rafter, laps over partitions (see Section R802.5.2 and Table R802.5.2)	4-10d box (3" × 0.128"); or 3-16d common (2 <sup>1</sup> / <sub>2</sub> " × 0.162"); or 4-3" × 0.131" nails	Face nail
4	Ceiling joist attached to parallel rafter (heel joint) (see Section R802.5.2 and Table R802.5.2)	Table R802.5.2	Face nail
5	Collar tie to rafter, face nail or 1 <sup>1</sup> / <sub>2</sub> " × 20 ga. ridge strap to rafter	4-10d box (3" × 0.128"); or 3-10d common (2" × 0.148"); or 4-3" × 0.131" nails	Face nail each rafter
6	Rafter or roof truss to plate	3-16d box nails (3 <sup>1</sup> / <sub>2</sub> " × 0.135"); or 3-10d common nails (3" × 0.148"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	2 toe nails on one side and 1 toe nail on opposite side of each rafter or truss <sup>d</sup>
7	Roof rafters to ridge, valley or hip rafters or roof rafter to minimum 2" ridge beam	4-16d (3 <sup>1</sup> / <sub>2</sub> " × 0.135"); or 3-10d common (3" × 0.148"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	Toe nail
<b>Wall</b>			
8	Stud to stud (not at braced wall panels)	3-16d box nails (3 <sup>1</sup> / <sub>2</sub> " × 0.135"); or 3-10d common (2" × 0.148"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	End nail
9	Stud to stud and abutting studs at intersecting wall corners (at braced wall panels)	1-6d common (3 <sup>1</sup> / <sub>2</sub> " × 0.162"); or 1-6d box (3 <sup>1</sup> / <sub>2</sub> " × 0.135"); or 3" × 0.131" nails	16" o.c. face nail
10	Built-up header (2" to 2" header with 1 <sup>1</sup> / <sub>2</sub> " spacer)	1-6d common (3 <sup>1</sup> / <sub>2</sub> " × 0.162"); or 1-6d box (3 <sup>1</sup> / <sub>2</sub> " × 0.135"); or 3" × 0.131" nails	16" o.c. each edge face nail
11	Continuous header to stud	5-8d box (2 <sup>1</sup> / <sub>2</sub> " × 0.113"); or 4-8d common (2 <sup>1</sup> / <sub>2</sub> " × 0.131"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	Toe nail
12	Top plate to top plate	1-6d common (3 <sup>1</sup> / <sub>2</sub> " × 0.162"); or 1-6d box (3" × 0.128"); or 3" × 0.131" nails	16" o.c. face nail
13	Double top plate splice	8-16d common (3 <sup>1</sup> / <sub>2</sub> " × 0.162"); or 12-16d box (3 <sup>1</sup> / <sub>2</sub> " × 0.135"); or 12-10d box (3" × 0.128"); or 12-3" × 0.131" nails	Face nail on each side of end joint (minimum 24" lap splice length each side of end joint)

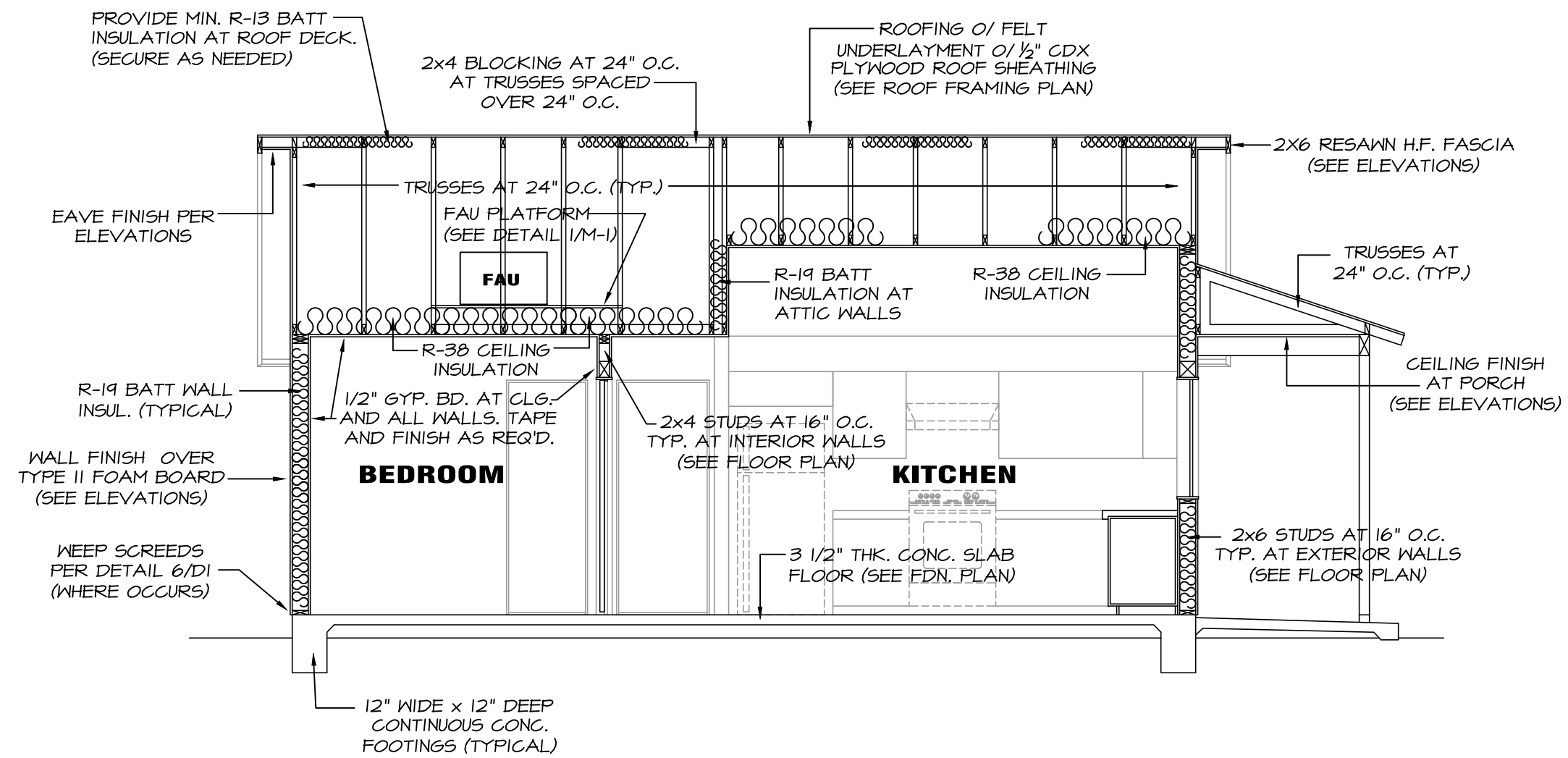
ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER <sup>a,b,c</sup>	SPACING AND LOCATION
14	Bottom plate to joist, rim joist, band joist or blocking (not at braced wall panels)	1-6d common (3 <sup>1</sup> / <sub>2</sub> " × 0.162"); or 1-6d box (3 <sup>1</sup> / <sub>2</sub> " × 0.135"); or 3" × 0.131" nails	16" o.c. face nail
15	Bottom plate to joist, rim joist, band joist or blocking (at braced wall panel)	3-16d box (3 <sup>1</sup> / <sub>2</sub> " × 0.135"); or 2-16d common (2 <sup>1</sup> / <sub>2</sub> " × 0.162"); or 4-3" × 0.131" nails	3 each 16" o.c. face nail 2 each 16" o.c. face nail 4 each 16" o.c. face nail
16	Top or bottom plate to stud	4-8d box (2 <sup>1</sup> / <sub>2</sub> " × 0.113"); or 3-16d box (3 <sup>1</sup> / <sub>2</sub> " × 0.135"); or 2-16d common (2 <sup>1</sup> / <sub>2</sub> " × 0.162"); or 3-10d box (3" × 0.128"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	Toe nail
17	Top plates, laps at corners and intersections	3-16d box (3 <sup>1</sup> / <sub>2</sub> " × 0.135"); or 2-16d common (2 <sup>1</sup> / <sub>2</sub> " × 0.162"); or 3-10d box (3" × 0.128"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	End nail
18	1" brace to each stud and plate	3-10d box (3" × 0.128"); or 2-16d common (2 <sup>1</sup> / <sub>2</sub> " × 0.162"); or 3" × 0.131" nails	Face nail
19	1" × 6" sheathing to each bearing	3-8d box (2 <sup>1</sup> / <sub>2</sub> " × 0.113"); or 2-8d common (2 <sup>1</sup> / <sub>2</sub> " × 0.131"); or 2-10d box (3" × 0.128"); or 2-staples 1 <sup>1</sup> / <sub>2</sub> "	Face nail
20	1" × 8" and wider sheathing to each bearing	3-8d box (2 <sup>1</sup> / <sub>2</sub> " × 0.113"); or 2-8d common (2 <sup>1</sup> / <sub>2</sub> " × 0.131"); or 2-10d box (3" × 0.128"); or 3-staples, 1" crown, 16 ga., 1 <sup>1</sup> / <sub>2</sub> " long	Face nail
<b>Floor</b>			
21	Joist to sill, top plate or girder	4-8d box (2 <sup>1</sup> / <sub>2</sub> " × 0.113"); or 3-8d common (2 <sup>1</sup> / <sub>2</sub> " × 0.131"); or 3-10d box (3" × 0.128"); or 3" × 0.131" nails	Toe nail
22	Rim joist, band joist or blocking to sill or top plate (roof applications also)	8d box (2 <sup>1</sup> / <sub>2</sub> " × 0.113") 8d common (2 <sup>1</sup> / <sub>2</sub> " × 0.131"); or 10d box (3" × 0.128"); or 3" × 0.131" nails	4" o.c. toe nail
23	1" × 6" subfloor or less to each joist	3-8d box (2 <sup>1</sup> / <sub>2</sub> " × 0.113"); or 2-8d common (2 <sup>1</sup> / <sub>2</sub> " × 0.131"); or 3-10d box (3" × 0.128"); or 2-staples, 1" crown, 16 ga., 1 <sup>1</sup> / <sub>2</sub> " long	6" o.c. toe nail

TABLE R602.3(1) FASTENING SCHEDULE—continued			
ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER <sup>a,b,c</sup>	SPACING AND LOCATION
<b>Floor</b>			
24	2" subfloor to joist or girder	3-16d box (3 <sup>1</sup> / <sub>2</sub> " × 0.135"); or 2-16d common (2 <sup>1</sup> / <sub>2</sub> " × 0.162")	Blind and face nail
25	2" planks (plank & beam—floor & roof)	3-16d box (3 <sup>1</sup> / <sub>2</sub> " × 0.135"); or 2-16d common (2 <sup>1</sup> / <sub>2</sub> " × 0.162")	At each bearing, face nail
26	Band or rim joist to joist	3-16d common (3 <sup>1</sup> / <sub>2</sub> " × 0.135"); or 4-10 box (3" × 0.128"); or 4-3" × 0.131" nails; or 4-3" × 14 ga. staples, 1 <sup>1</sup> / <sub>2</sub> " crown	End nail
27	Built-up girders and beams, 2-inch lumber layers	20d common (4" × 0.192"); or 10d box (3" × 0.128"); or 3" × 0.131" nails	Nail each layer as follows: 32" o.c. at top and bottom and staggered
28	Ledger strip supporting joists or rafters	4-16d box (3 <sup>1</sup> / <sub>2</sub> " × 0.135"); or 3-16d common (2 <sup>1</sup> / <sub>2</sub> " × 0.162"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	Face nail at ends and at each splice
29	Bridging or blocking to joist	2-10d box (3" × 0.128"); or 2-8d common (2 <sup>1</sup> / <sub>2</sub> " × 0.131")	At each joist or rafter, face nail
<b>SPACING OF FASTENERS</b>			
ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER <sup>a,b,c</sup>	SPACING OF FASTENERS
<b>Wood structural panels, subfloor, roof and interior wall sheathing to framing and particleboard wall sheathing to framing (see Table R602.3(2) for wood structural panel exterior wall sheathing to wall framing)</b>			
30	1 <sup>1</sup> / <sub>2</sub> "-1 <sup>1</sup> / <sub>2</sub> "	6d common (2" × 0.113") nail (subfloor, wall) 8d common (2 <sup>1</sup> / <sub>2</sub> " × 0.131") nail (roof); or RSRS-01 (2 <sup>1</sup> / <sub>2</sub> " × 0.113") nail (roof)	6
31	1 <sup>1</sup> / <sub>2</sub> "-1"	8d common nail (2 <sup>1</sup> / <sub>2</sub> " × 0.131"); or RSRS-01; (2 <sup>1</sup> / <sub>2</sub> " × 0.113") nail (roof)	6
32	1 <sup>1</sup> / <sub>2</sub> "-1 <sup>1</sup> / <sub>2</sub> "	10d common (3" × 0.148") nail; or 8d (2 <sup>1</sup> / <sub>2</sub> " × 0.131") deformed nail	6
<b>Other wall sheathing<sup>d</sup></b>			
33	1 <sup>1</sup> / <sub>2</sub> " structural cellulose fiberboard sheathing	1 <sup>1</sup> / <sub>2</sub> " galvanized roofing nail, 1 <sup>1</sup> / <sub>2</sub> " head diameter, or 1 <sup>1</sup> / <sub>2</sub> " long 16 ga. staple with 1 <sup>1</sup> / <sub>2</sub> " or 1" crown	3
34	1 <sup>1</sup> / <sub>2</sub> " structural cellulose fiberboard sheathing	1 <sup>1</sup> / <sub>2</sub> " galvanized roofing nail, 1 <sup>1</sup> / <sub>2</sub> " head diameter, or 1 <sup>1</sup> / <sub>2</sub> " long 16 ga. staple with 1 <sup>1</sup> / <sub>2</sub> " or 1" crown	3
35	1 <sup>1</sup> / <sub>2</sub> " gypsum sheathing <sup>d</sup>	1 <sup>1</sup> / <sub>2</sub> " galvanized roofing nail, staple galvanized, 1 <sup>1</sup> / <sub>2</sub> " long, 1 <sup>1</sup> / <sub>2</sub> " screws, Type W or S	7
36	1 <sup>1</sup> / <sub>2</sub> " gypsum sheathing <sup>d</sup>	1 <sup>1</sup> / <sub>2</sub> " galvanized roofing nail, staple galvanized, 1 <sup>1</sup> / <sub>2</sub> " long, 1 <sup>1</sup> / <sub>2</sub> " screws, Type W or S	7
<b>Wood structural panels, combination subfloor underlayment to framing</b>			
37	1 <sup>1</sup> / <sub>2</sub> " and less	6d deformed (2" × 0.120") nail; or 8d common (2 <sup>1</sup> / <sub>2</sub> " × 0.131") nail	6
38	1 <sup>1</sup> / <sub>2</sub> "-1"	8d common (2 <sup>1</sup> / <sub>2</sub> " × 0.131") nail; or 8d deformed (2 <sup>1</sup> / <sub>2</sub> " × 0.120") nail	6
39	1 <sup>1</sup> / <sub>2</sub> "-1 <sup>1</sup> / <sub>2</sub> "	10d common (3" × 0.148") nail; or 8d deformed (2 <sup>1</sup> / <sub>2</sub> " × 0.120") nail	6
<b>a. Nails are smooth common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections shall have minimum average bending yield strength as shown: 80 ksi for shank diameter of 0.192 inch (20d common), 90 ksi for shank diameter larger than 0.142 inch but not larger than 0.177 inch, and 100 ksi for shank diameter of 0.142 inch or less.</b>			
<b>b. Staples are 16 gauge wirehead have a minimum 1<sup>1</sup>/<sub>2</sub>" incl. on diameter crown width.</b>			
<b>c. Nails shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater.</b>			
<b>d. Four feet for 8 foot or 4 foot by 8 foot panels shall be applied vertically.</b>			
<b>e. Spacing of fasteners not included in this table shall be based on Table R602.3(2).</b>			
<b>f. For wood structural panel roof sheathing attached to gable end roof framing and to intermediate supports within 48 inches of roof edges and ridges, nails shall be spaced at 5 inches on center where the ultimate design wind speed is less than 130 mph and shall be spaced 4 inches on center where the ultimate design wind speed is 130 mph or greater but less than 140 mph.</b>			
<b>g. Gypsum sheathing shall conform to ASTM C1396 and shall be installed in accordance with GA 253. Fiberboard sheathing shall conform to ASTM C208.</b>			
<b>h. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members not required blocking and at floor perimeter only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking.</b>			
<b>i. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule, provide two toe nails on one side of the rafter and toe nails from the ceiling joist to top plate in accordance with this schedule. The toe nail on the opposite side of the rafter shall not be required.</b>			
<b>j. RSRS-01 is a Roof Sheathing Ring Shank nail meeting the specifications in ASTM F1667.</b>			

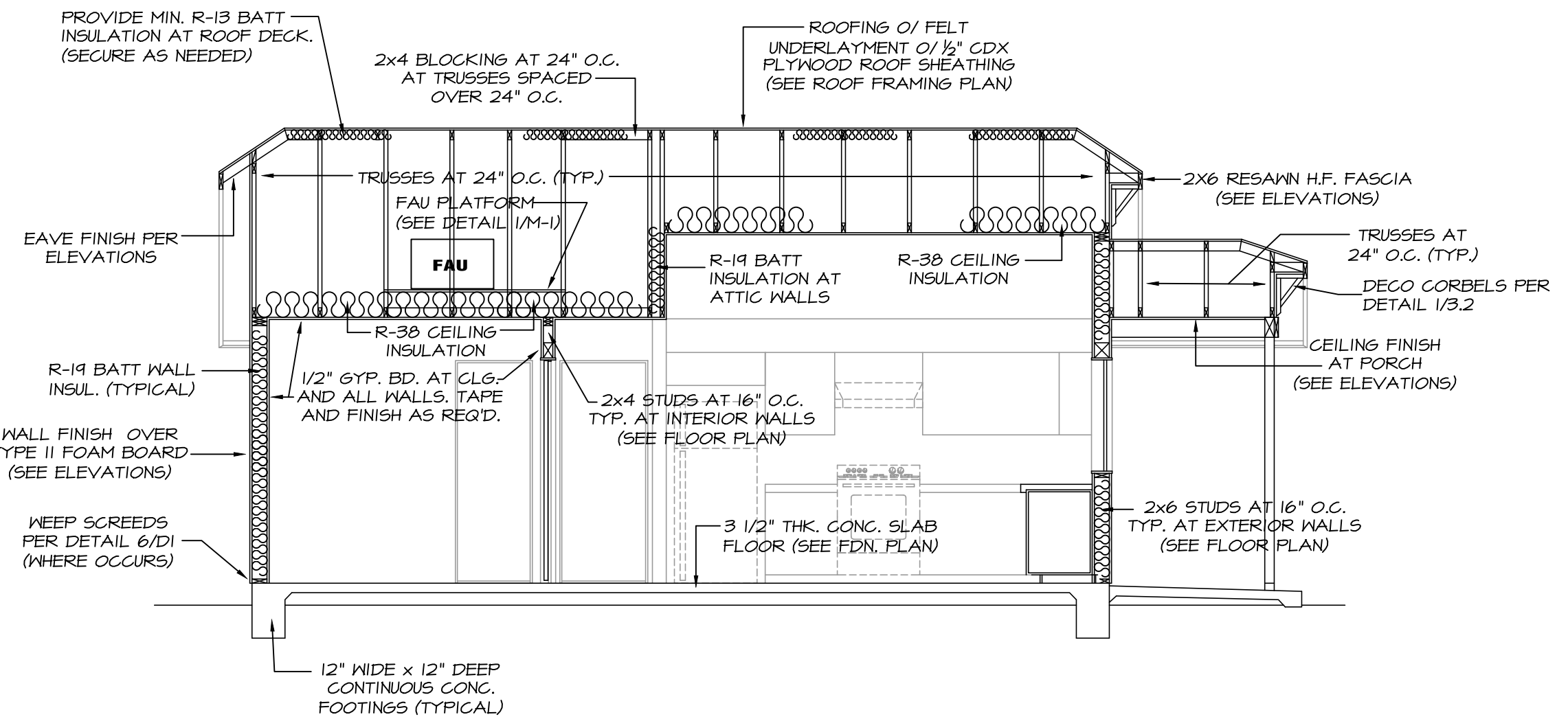
TABLE R602.3(2) ALTERNATE ATTACHMENTS TO TABLE R602.3(1)			
NOMINAL MATERIAL THICKNESS (inches)	DESCRIPTION <sup>a</sup> OF FASTENER AND LENGTH (inches)	SPACING OF FASTENERS	
		Edges (inches)	Intermediate supports (inches)
Wood structural panels subfloor, roof and wall sheathing to framing and particleboard wall sheathing to framing <sup>b</sup>			
Up to 1/2	Staple 15 ga. 1 1/2	3	8
	0.097 - 0.099 Nail 2 1/2	3	6
1/2 and 3/4	Staple 16 ga. 1 1/2	3	6
	0.113 Nail 2	3	6
3/4 and 7/8	Staple 15 and 16 ga. 2	4	8
	0.097 - 0.099 Nail 2 1/2	4	8
7/8 and 1	Staple 14 ga. 2	4	8
	Staple 15 ga. 1 1/2	3	6
1	0.097 - 0.099 Nail 2 1/2	4	8
	Staple 16 ga. 2	4	8
1	Staple 14 ga. 2 1/2	4	8
	0.113 Nail 2 1/2	3	6
1	Staple 15 ga. 2 1/2	4	8
	0.097 - 0.099 Nail 2 1/2	4	8
SPACING OF FASTENERS			
NOMINAL MATERIAL THICKNESS (inches)	DESCRIPTION <sup>a</sup> OF FASTENER AND LENGTH (inches)	Edges (inches)	Body of panel <sup>c</sup> (inches)
Floor underlayment; plywood hardboard particleboard fiber-cement <sup>d</sup>			
1/4	Fiber-cement 3d, corrosion-resistant, ring shank nails (finished flooring other than tile)	3	6
	Staple 18 ga., 1/4 long, 1/4 crown (finished flooring other than tile)	3	6
1/4 and 3/8	1 1/2 long x 121 shank x 375 head diameter corrosion-resistant (galvanized or stainless steel) roofing nails (for tile finish)	8	8
	1 1/2 long, No. 8 x 375 head diameter, ribbed wafer-head screws (for tile finish)	8	8
Plywood			
1/4 and 3/8	1 1/2 ring or screw shank nail—minimum 12 1/2 ga. (0.099") shank diameter	3	6
	Staple 18 ga., 1/4 crown width	2	5
3/8, 1/2, 5/8, 3/4 and 1/2	1 1/2 ring or screw shank nail—minimum 12 1/2 ga. (0.099") shank diameter	6	8
	1 1/2 ring or screw shank nail—minimum 12 1/2 ga. (0.099") shank diameter	6	8
1/2, 5/8, 3/4 and 1/2	Staple 16 ga. 1 1/2	6	8
	Hardboard <sup>e</sup> 1 1/2 long ring-grooved underlayment nail	6	6
0.200	4d cement-coated sinker nail	6	6
	Staple 18 ga., 1/4 long (plastic coated)	3	6
Particleboard			
1/4	4d ring-grooved underlayment nail	3	6
	Staple 18 ga., 1/4 long, 1/4 crown	3	6
3/8	6d ring-grooved underlayment nail	6	10
	Staple 16 ga., 1 1/2 long, 1/4 crown	3	6
1/2, 3/4	6d ring-grooved underlayment nail	6	10
	Staple 16 ga., 1 1/2 long, 1/4 crown	3	6
a. Nail is a general description and shall be permitted to be T-head, modified round head or round head.			
b. Staples shall have a minimum crown width of 1/4 inch on diameter except as noted.			
c. Nails or staples shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater. Nails or staples shall be spaced at not more than 12 inches on center at intermediate supports for floors.			
d. Fasteners shall be placed in a grid pattern throughout the body of the panel.			
e. For 5-ply panels, intermediate nails shall be spaced not more than 12 inches on center each way.			
f. Hardboard underlayment shall conform to CPAN/AISI A135.4			
g. Specified alternate attachments for roof sheathing shall be permitted where the ultimate design wind speed is less than 130 mph. Fasteners attaching wood structural panel roof sheathing to gable end wall framing shall be installed using the spacing listed for panel edges.			
h. Fiber-cement underlayment shall conform to ASTM C1288 or ISO 8336, Category C.			



**SECTION A-A**  
SCALE: 1/4" = 1'-0"



**SECTION B-B**  
SCALE: 1/4" = 1'-0" AT ELEV. A&C



**SECTION C-C**  
SCALE: 1/4" = 1'-0" AT ELEV. B

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STANDARD PLAN #2 FOR:

CITY OF CHOWCHILLA

130 S 2ND STREET  
CHOWCHILLA, CA 93610  
PHONE: 559-665-8615

SECTIONS

4 OF 19

CWB DESIGNS

3838 N. CHICKADEE AVE.  
SANGER, CA 93657  
PHONE: 559.294.6534











ALL VENTS SHALL HAVE CORROSION RESISTANT  
SCREENS WITH OPENINGS AT LEAST  $\frac{1}{16}$ ", AND NOT MORE  
THAN  $\frac{1}{4}$ " MAXIMUM.

BEAM DESIGN NO. AS REFERENCED IN ENGINEER'S CALCULATIONS  
ALL LUMBER SHALL BE GRADE MARKED, DF STD. OR BETTER, U.N.O.  
GLUE-LAMINATED WOOD TO BE 24F-V4 DF/DF, U.N.O.  
ALL BEAMS SHALL HAVE SOLID SUPPORT TO FOUNDATION.  
UNLESS NOTED OTHERWISE, PROVIDE MIN (1) 2X TRIMMER AT EACH END.

PROVIDE MIN. 4'-0" LONG BAFFLES AT EAVE VENTS WHERE LOOSE FILLED INSULATION IS USED IN THE ATTIC ADJACENT TO THE VENTS.

ALL ATTIC ACCESS OPENINGS SHALL BE GASKETED TO PREVENT AIR LOSS.



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*John W. Brown*



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**VENTILATION CALCULATIONS:  
(AT PORCH)**

TOTAL ATTIC AREA: 60 SQ. FT.  
60 SQ. FT. X 1/150 = 0.4 S.F. REQ'D  
0.4 SQ. FT. X 144 = 58 SQ. IN. REQ'D.

(2) 3 1/2" X 22 3/8" EAVE VENTS 94 S.I.

TOTAL VENTILATION PROVIDED: 94 S.I.

ALL VENTS SHALL HAVE CORROSION RESISTANT  
SCREENS WITH OPENINGS AT LEAST 1/8", AND NOT MORE  
THAN 1/4" MAXIMUM.

**HEADER & BEAM SCHEDULE**

MARK	BEAM SIZE	GRADE	REMARKS
B1	4X6	D.F. #2	
B2	4X8	D.F. #2	
B3	4X12	D.F. #2	

**NOTES:**

BEAM DESIGN NO. AS REFERENCED IN ENGINEER'S CALCULATIONS.

ALL LUMBER SHALL BE GRADE MARKED, DF STD. OR BETTER, UN.G.

GLUE-LAMINATED WOOD TO BE 24F-V4 DF/DF, UN.G.

ALL BEAMS SHALL HAVE SOLID SUPPORT TO FOUNDATION,  
UNLESS NOTED OTHERWISE, PROVIDE MIN (1) 2X TRIMMER AT EACH END.

**VENTILATION CALCULATIONS:  
(AT ELEVATION C)**

TOTAL ATTIC AREA: 416 SQ. FT.  
416 SQ. FT. X 1/150 = 2.78 S.F. REQ'D  
2.78 SQ. FT. X 144 = 400 SQ. IN. REQ'D.  
COMBUSTION AIR:  
(80K / 4K) = 20 S.I. ADDITIONAL REQ'D

(5) 3 1/2" X 22 3/8" EAVE VENTS 235 S.I.

(2) 14" X 18" GABLE END VENTS 236 S.I.

(1) 3- 4" DIAM. CLAY PIPE VENTS 25 S.I.

TOTAL VENTILATION PROVIDED: 496 S.I.

ALL VENTS SHALL HAVE CORROSION RESISTANT  
SCREENS WITH OPENINGS AT LEAST 1/8", AND NOT MORE  
THAN 1/4" MAXIMUM.

PROVIDE MIN. 4'-0" LONG BAFFLES AT EAVE VENTS  
WHERE LOOSE FILLED INSULATION IS USED IN THE ATTIC  
ADJACENT TO THE VENTS.

**ROOF FRAMING NOTES:**

USE PRE-MANUFACTURED TRUSSES AT 24" O.C. UNLESS NOTED OTHERWISE IN  
DRAWINGS. TRUSS DRAWINGS SHALL BE SUBMITTED TO AND APPROVED BY THE  
BUILDING DEPARTMENT PRIOR TO FABRICATION OF ANY TRUSSES.

SEE TYPICAL TRUSS AND ROOF FRAMING NOTES AT SHEET N-1

APPROVED TRUSS DRAWINGS SHALL BE ON SITE FOR INSPECTION PURPOSES

SEE TRUSS DRAWINGS FOR WEB BRACING REQUIREMENTS AND/OR ANY  
ADDITIONAL REQUIREMENTS.

ALL FRAMING LUMBER TO BE D.F. #2 OR BETTER UNLESS NOTED OTHERWISE IN  
DRAWINGS.

ALL FASCIA TO BE 2X8 RESAWN HEM FIR

ROOF COVERING TO BE "EAGLE" (ESR 1900) CLASS "A", CONCRETE TILE OVER  
30 # FELT OVER 1/2" CDX RATED 24/00 PLYWOOD ROOF SHEATHING (OR 1/16"  
OSB RATED 24/16) WITH BD AT 6" O.C. AT EDGE AND BOUNDARY NAILING AND  
BD AT 12" O.C. AT FIELD NAILING. THE ENTIRE PERIMETER SHALL BE BLOCKED  
AND EDGE NAILED.

AN ANTI-PONDING DEVICE IS REQUIRED AT THE BOTTOM COURSE OF ALL TILE  
ROOFS WHERE A RAISED FASCIA IS USED.

NAILING OF PLYWOOD SHEAR WALLS OR PLYWOOD DIAPHRAGMS SHALL BE  
DONE WITH COMMON WIRE NAILS, UN.G. SHOULD THE CONTRACTOR DESIRE TO  
USE ANY OTHER FASTENERS, HE SHALL OBTAIN WRITTEN APPROVAL FROM THE  
ENGINEER AND/OR DESIGNER PRIOR TO THE USE OF SUCH FASTENERS IN THE  
FIELD.

ENTIRE PERIMETER OF ROOF SHALL BE BLOCKED AND EDGE NAILED

PROVIDE 1/8" GAP AT ALL PLYWOOD PANEL EDGES.

PLYWOOD ROOF DIAPHRAGM SHALL BE CONTINUOUS BELOW ALL CALIFORNIA  
FILL FRAMING. PROVIDE 22" X 30" OPENING FOR ACCESS AND VENTILATION.  
BLOCK ALL EDGES OF OPENING.

ALL PLYWOOD ROOF SHEATHING SHALL BE LAID PERPENDICULAR TO RAFTERS  
WITH STAGGERED END JOINT PATTERNS.

ALL PLYWOOD EXPOSED TO THE WEATHER SHALL BE "EXPOSURE ONE" RATED.

PROVIDE STEPPED FLASHING AT ALL ROOF JUNCTIONS TO VERTICAL  
SURFACES. (WALLS, SKYLIGHTS AND FIREPLACES)

ANY EXTERIOR TOP PLATE THAT CANNOT LAP DUE TO CHANGES IN PLATE  
HEIGHT OR AT CORNERS WHERE RAKED WALLS INTERSECT LEVEL WALLS, SHALL  
USE 28" LONG "CS16" STRAPS TO TIE THEM TOGETHER. (SEE DETAIL 14/D1)

ALL WOOD SHEAR WALLS AND DIAPHRAGMS SHALL CONFORM TO THE  
FOLLOWING:

A) SHEETS USED IN THE CONSTRUCTION OF DIAPHRAGMS AND SHEAR WALLS  
SHALL NOT BE LESS THEN 4' X 8' IN SIZE

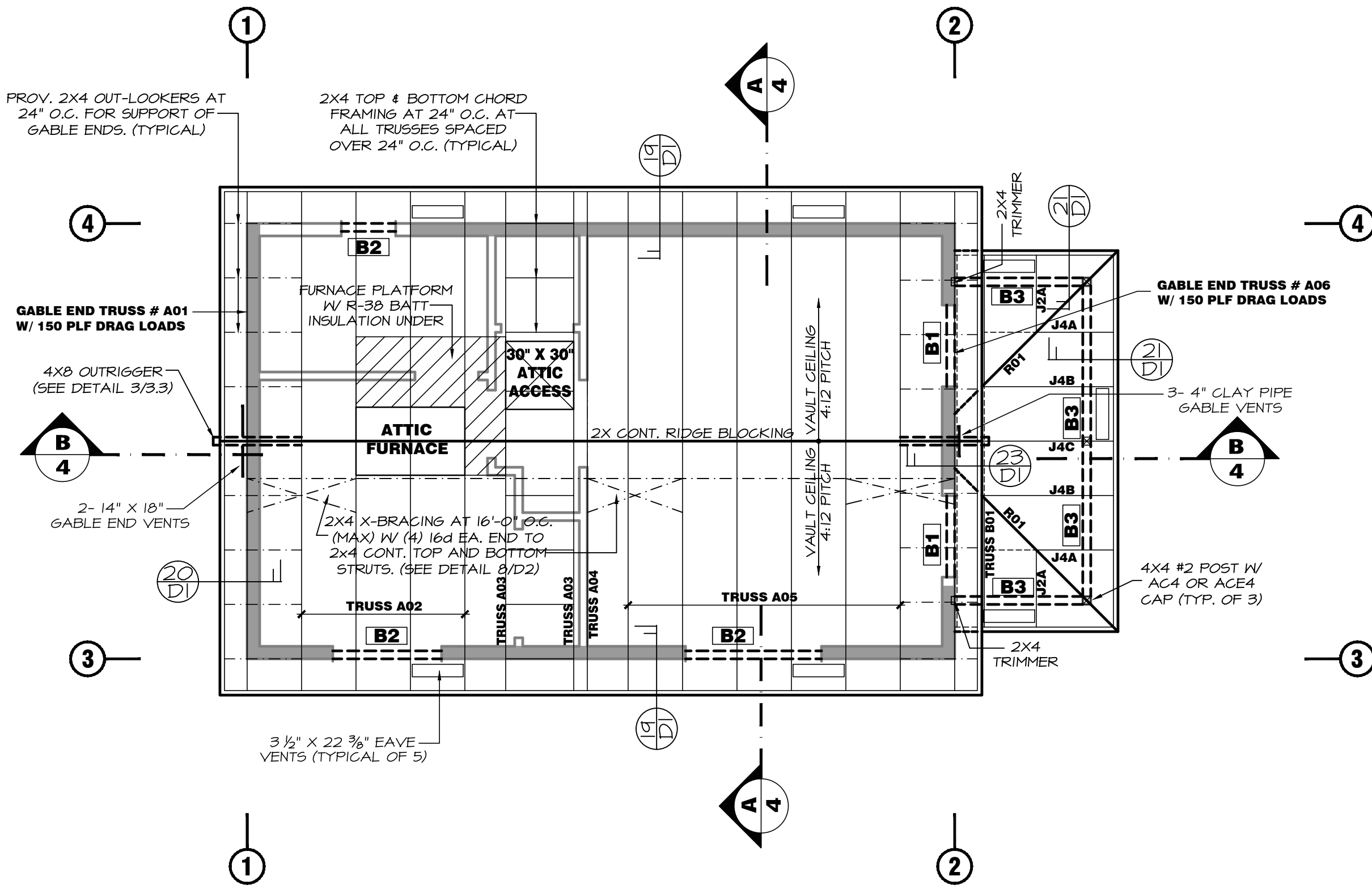
B) MINIMUM SIZE SHEET AT BOUNDARIES AND CHANGES IN FRAMING SHALL BE  
24" UNLESS ALL EDGES ARE BLOCKED AND NAILED.

C) PROVIDE FRAMING MEMBERS OR BLOCKING AT ALL PANEL EDGES IN  
SHEAR WALLS

ALL ELEVATIONS ARE GIVEN FROM TOP OF FLOOR SLAB.

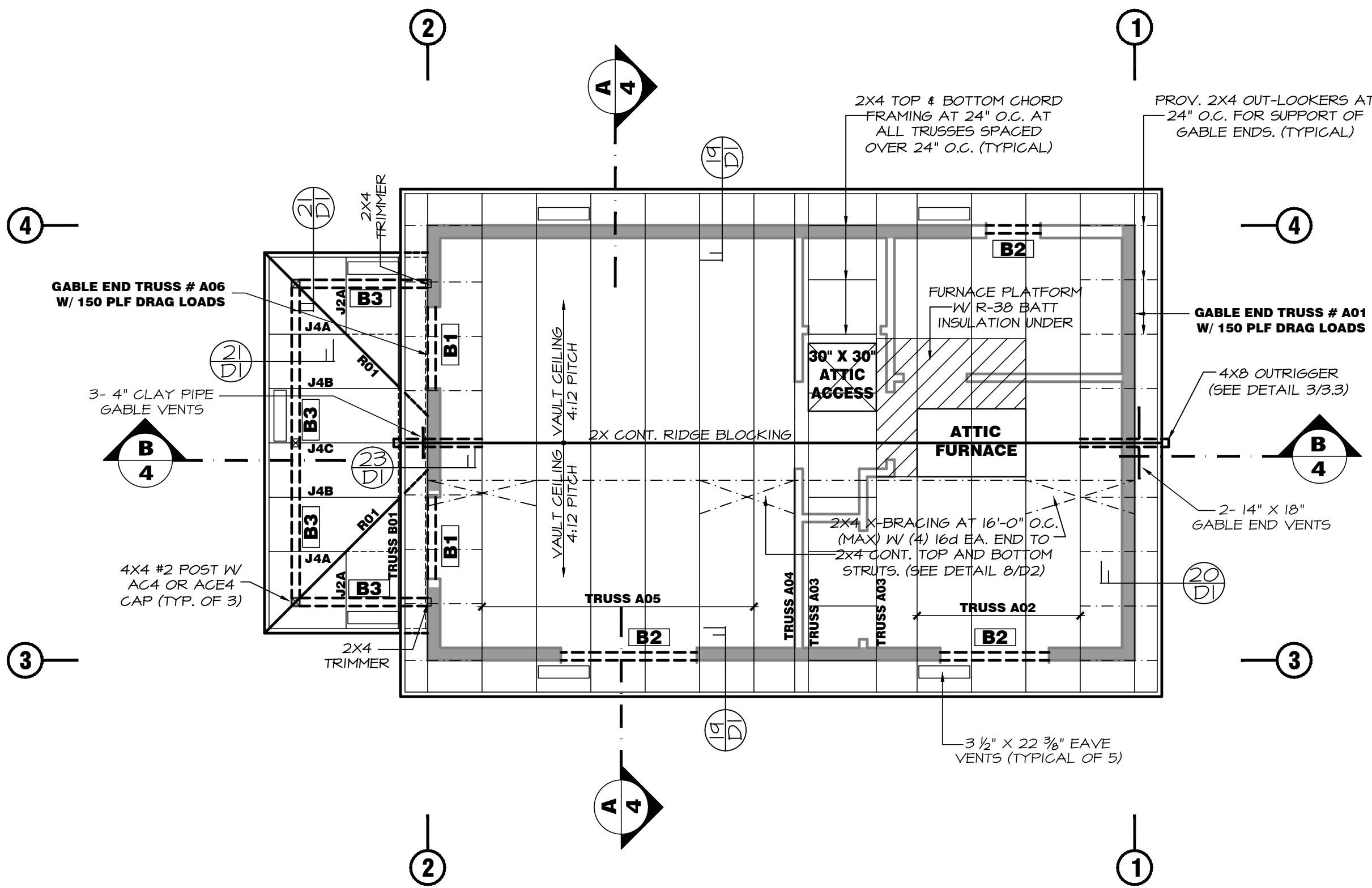
SEE DETAIL 13/D2 FOR TYPICAL BEAM CONNECTION DETAILS

ALL ATTIC ACCESS OPENINGS SHALL BE GASKETED TO PREVENT AIR LOSS.



**ROOF FRAMING PLAN**

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



**REVERSE ROOF FRAMING PLAN**

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

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STANDARD PLAN #2 FOR:

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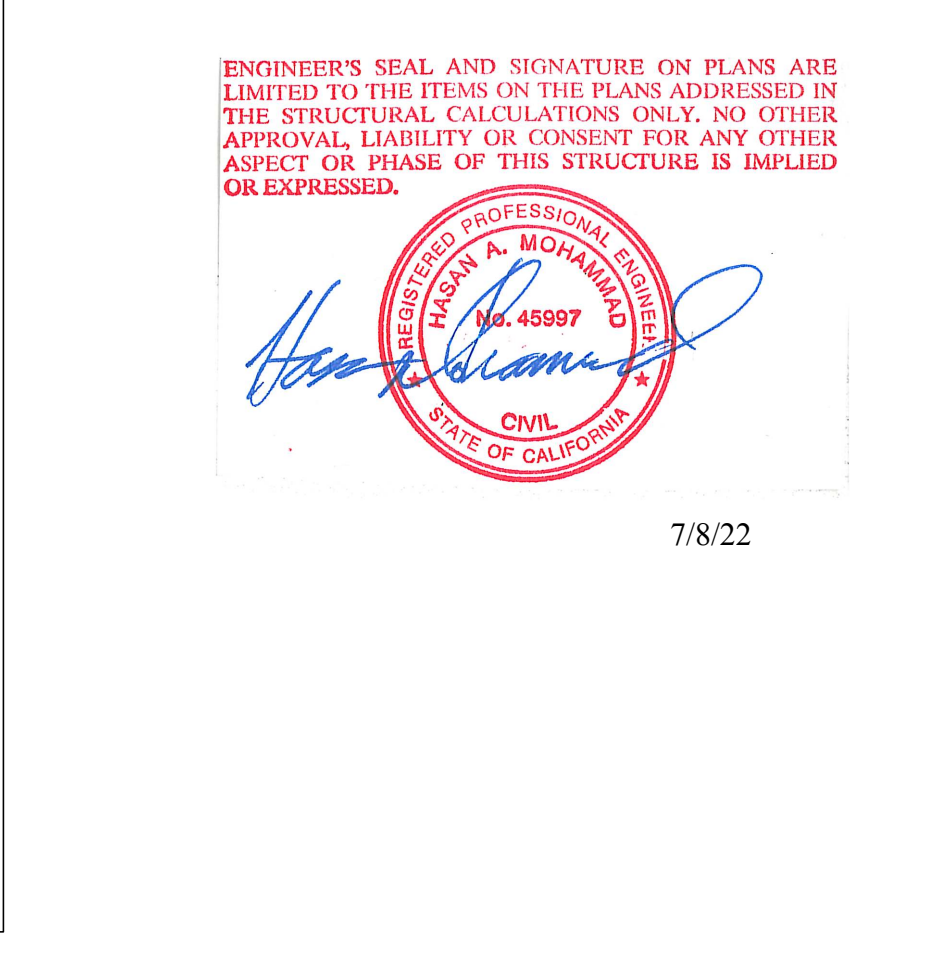
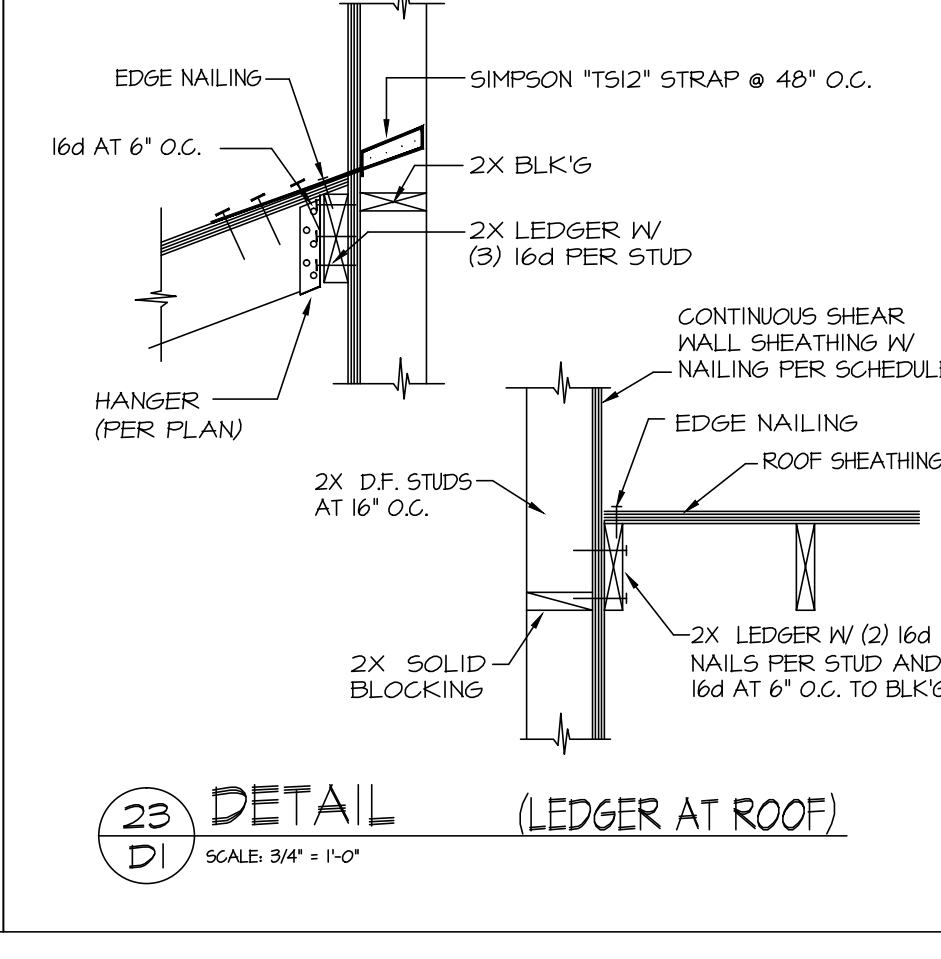
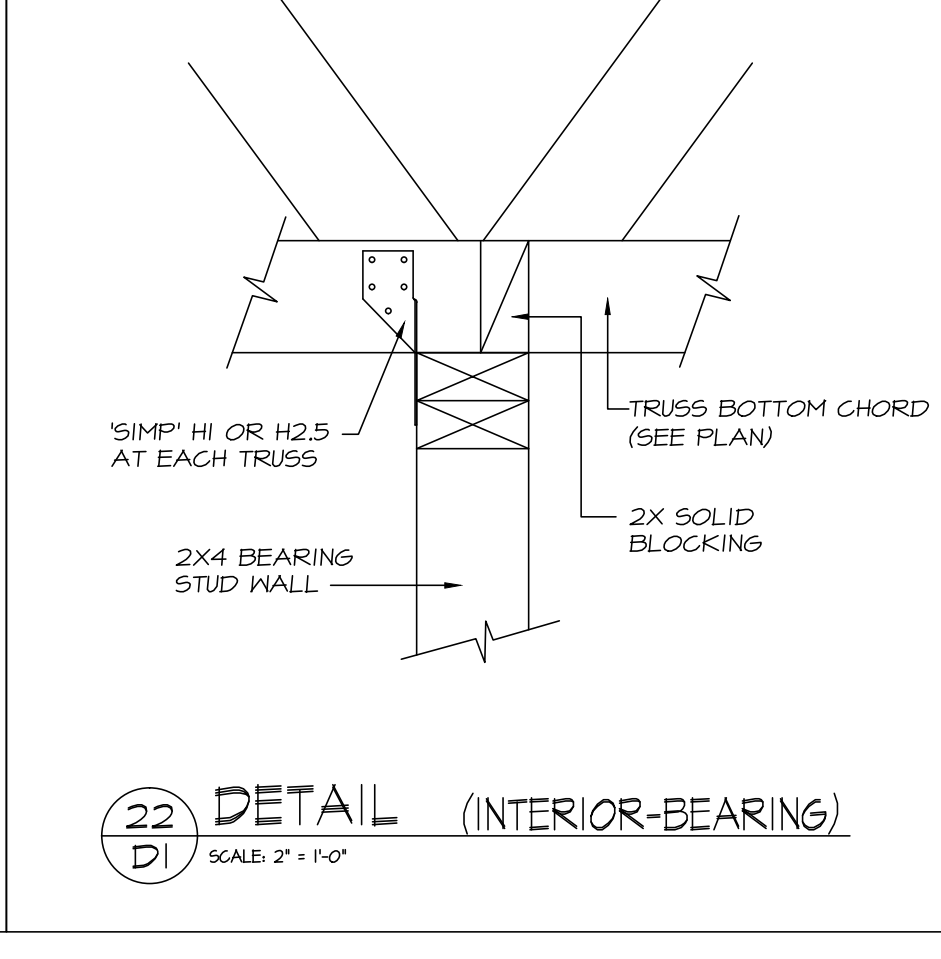
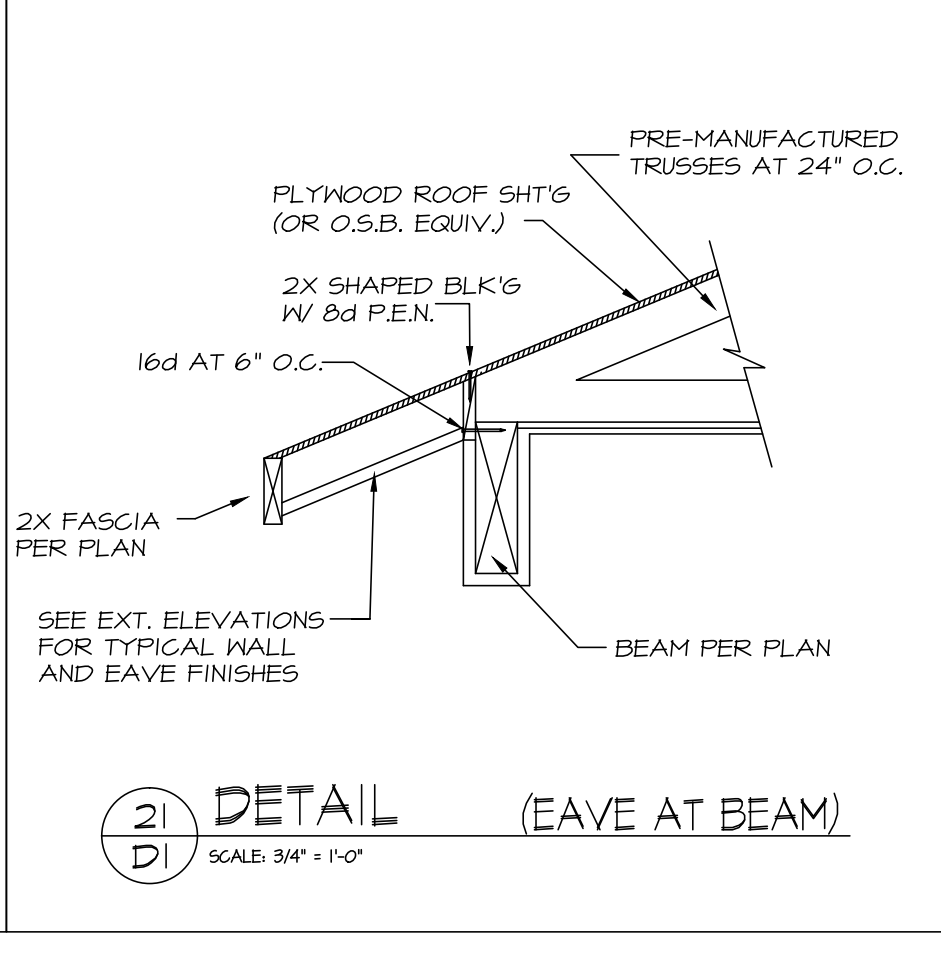
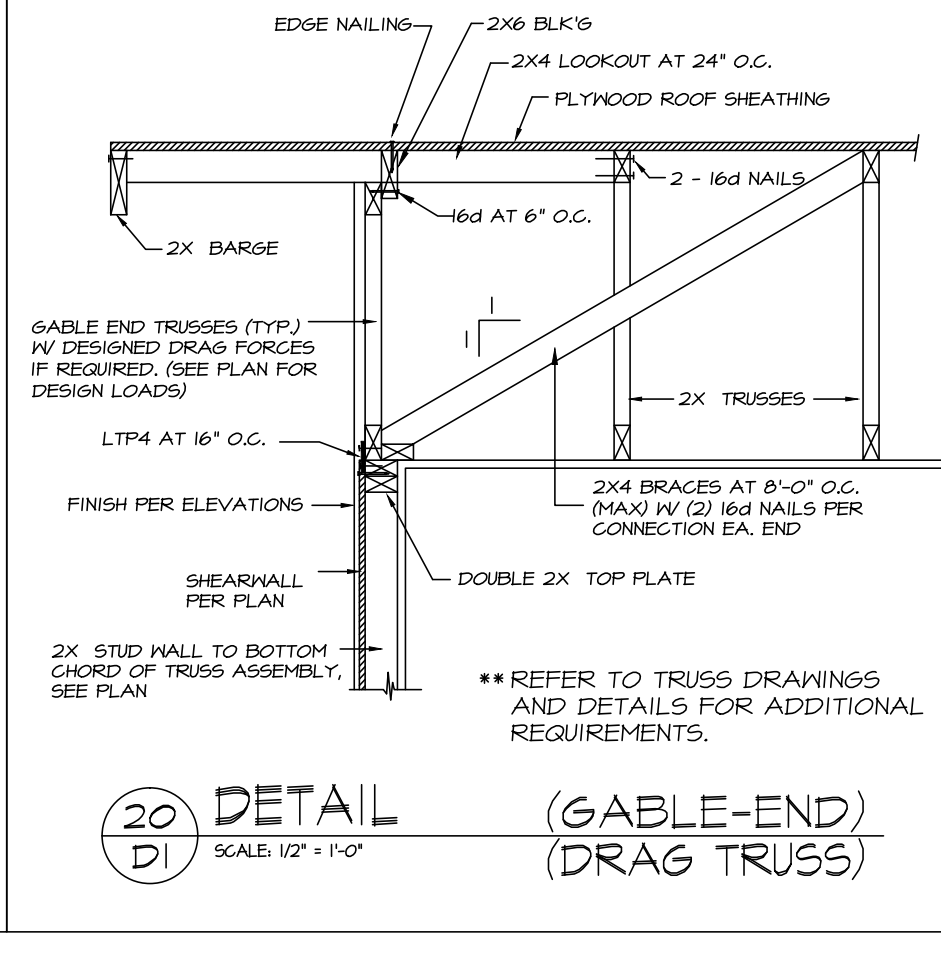
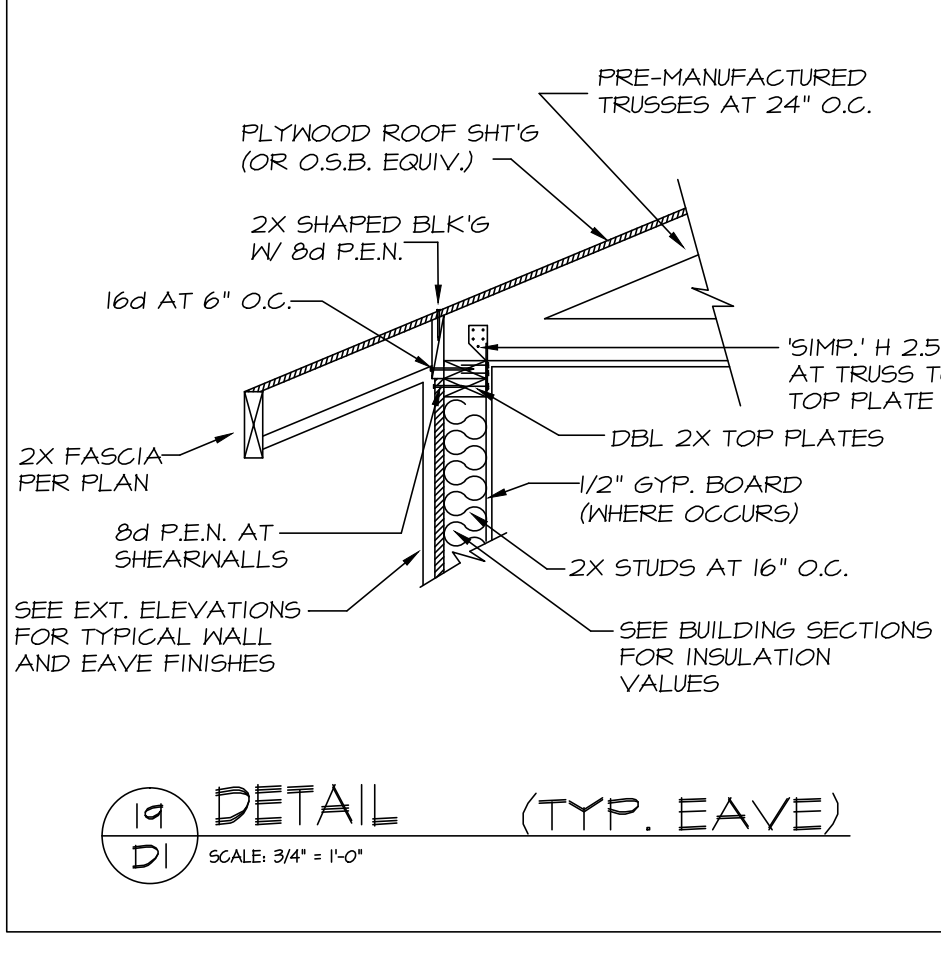
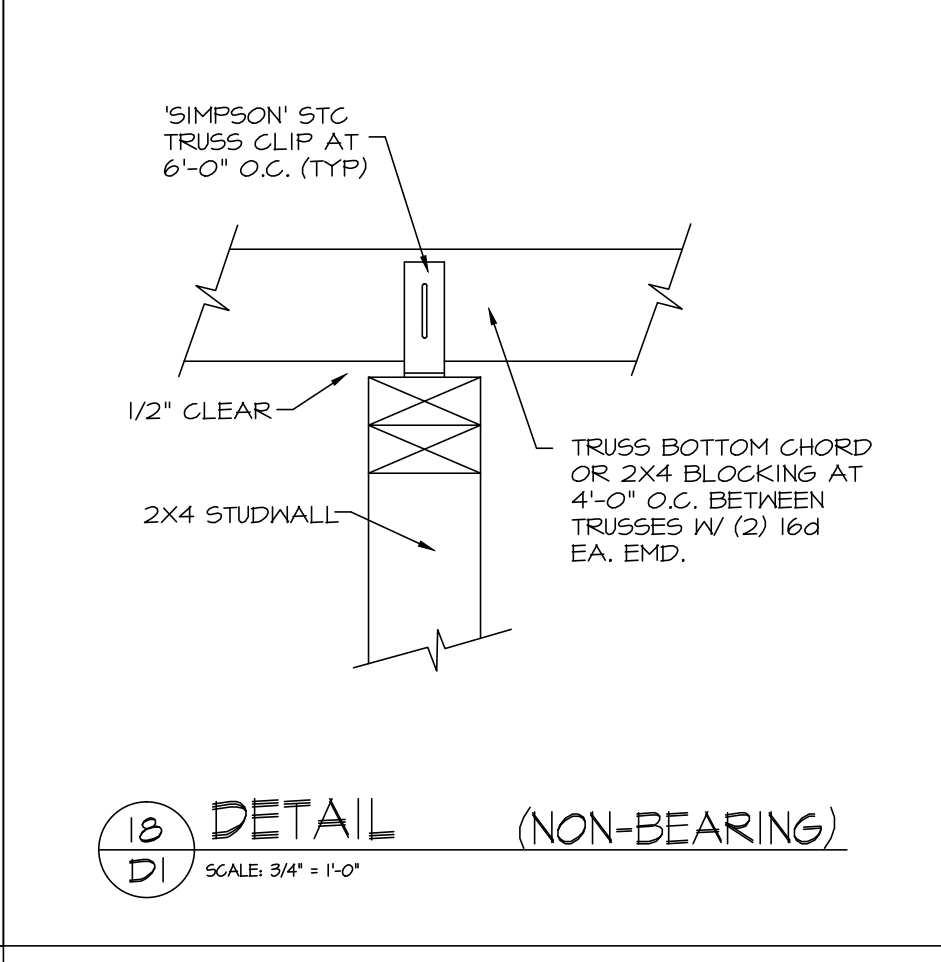
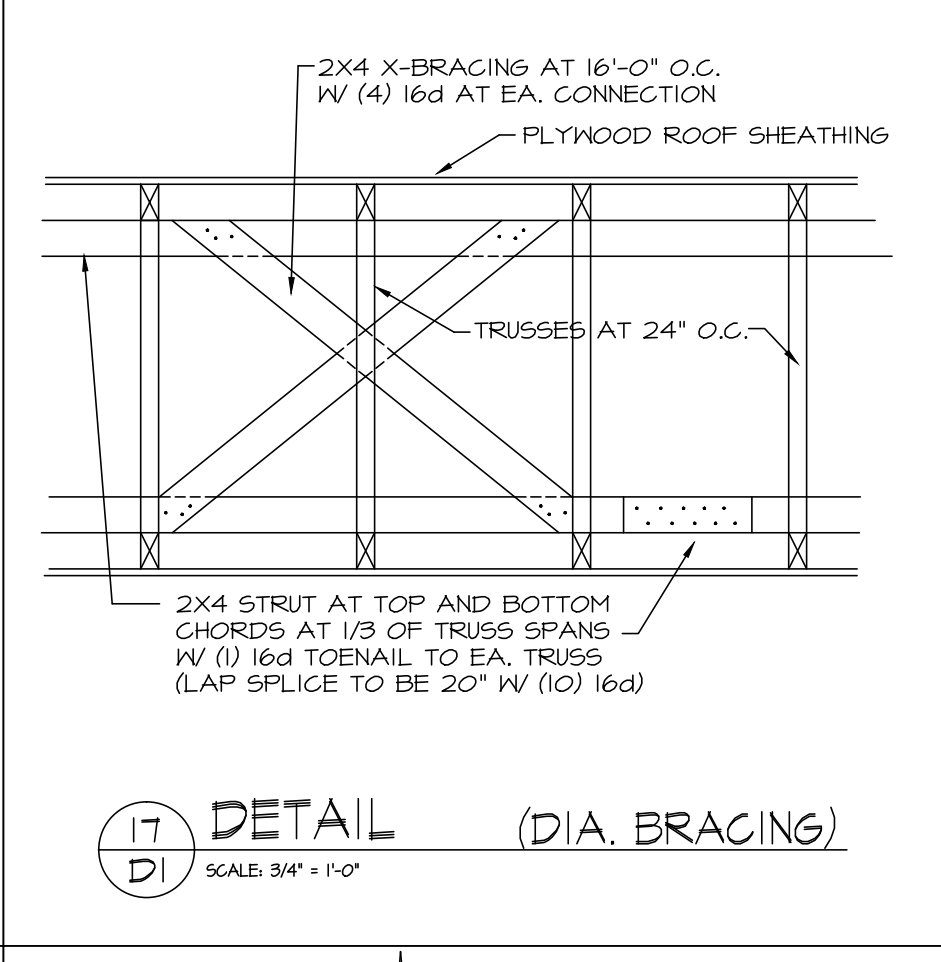
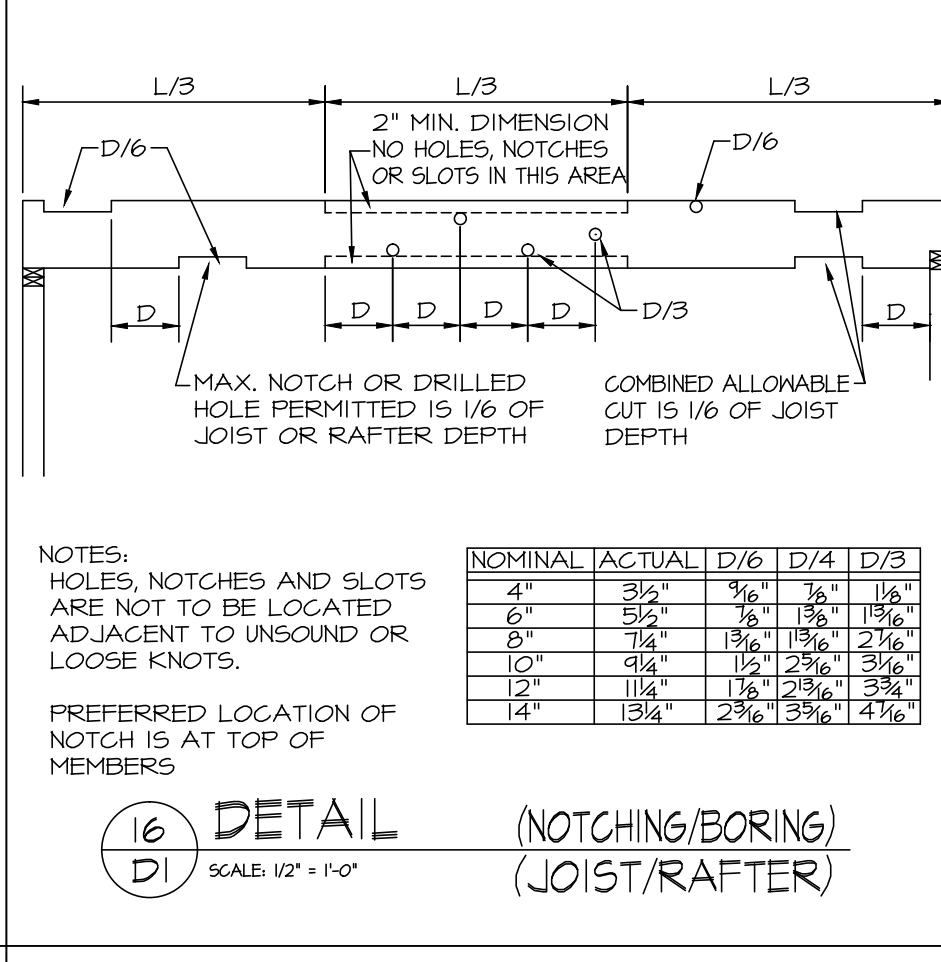
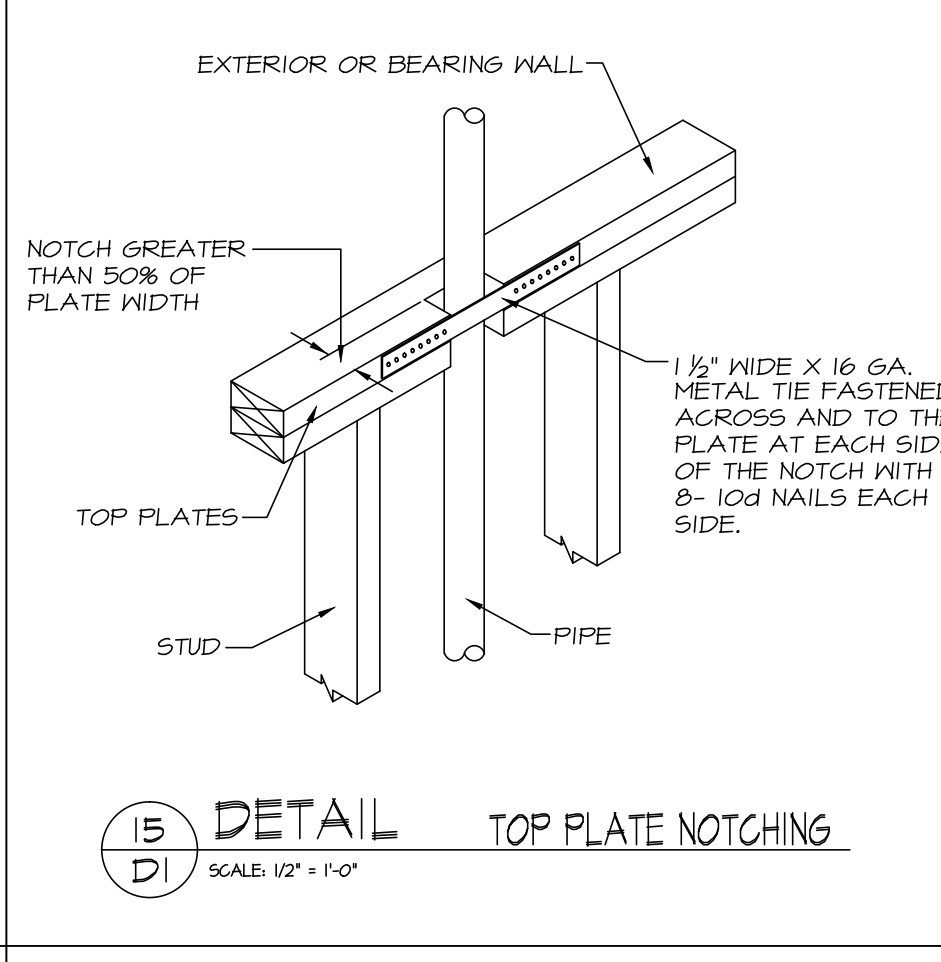
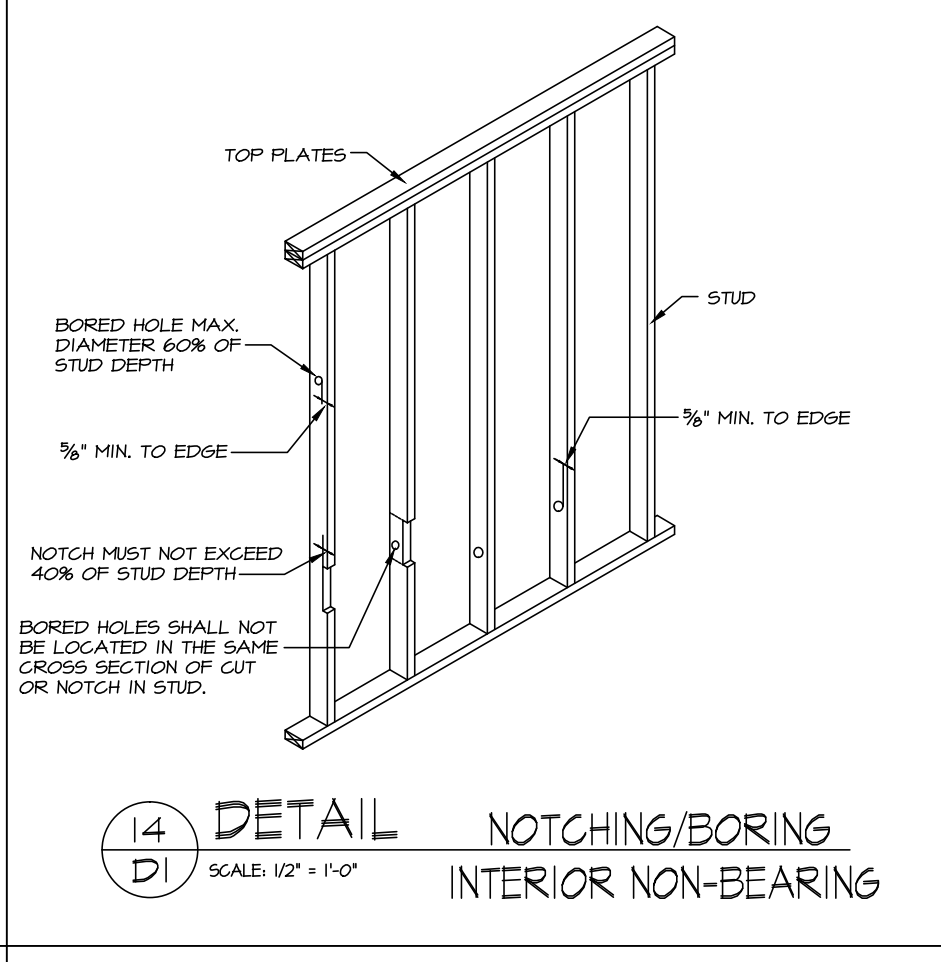
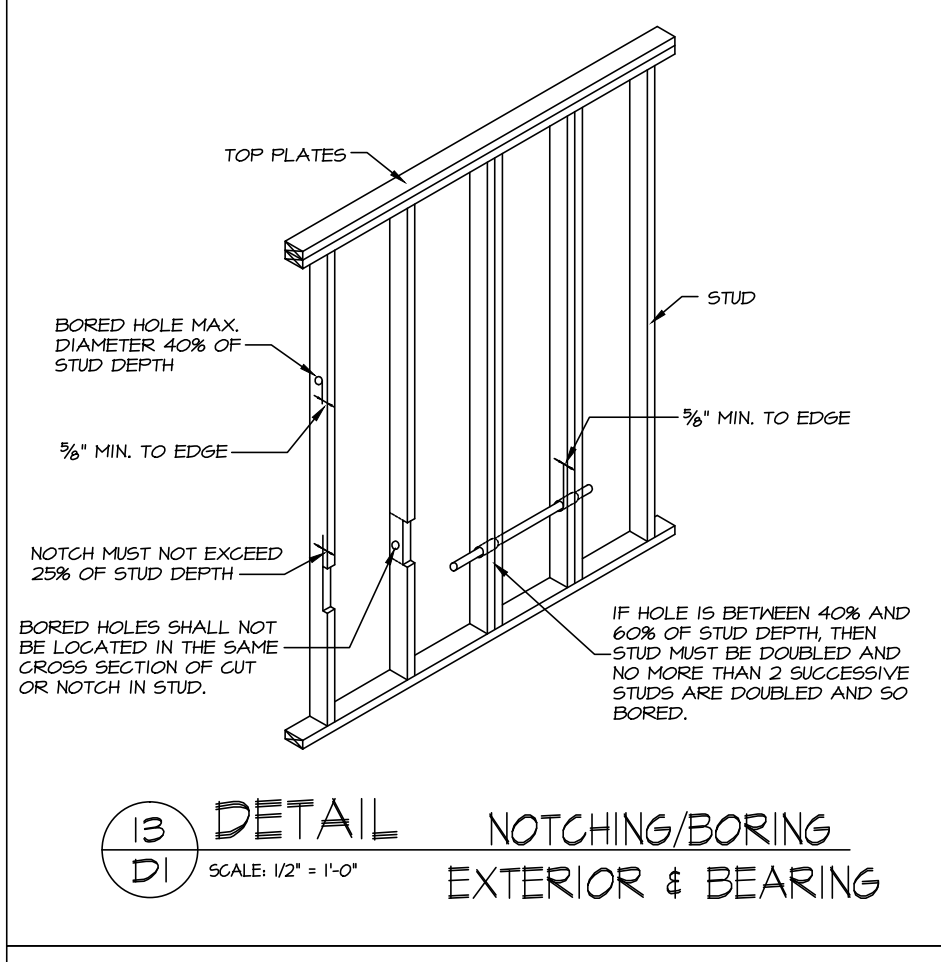
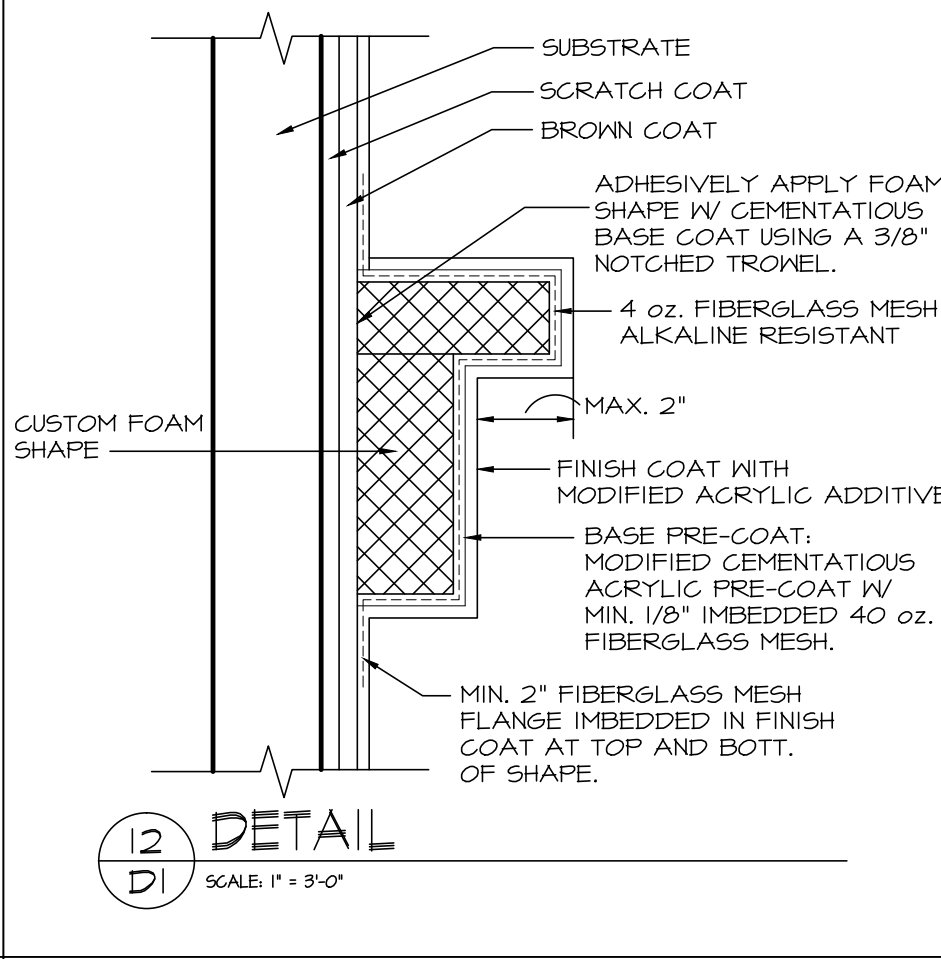
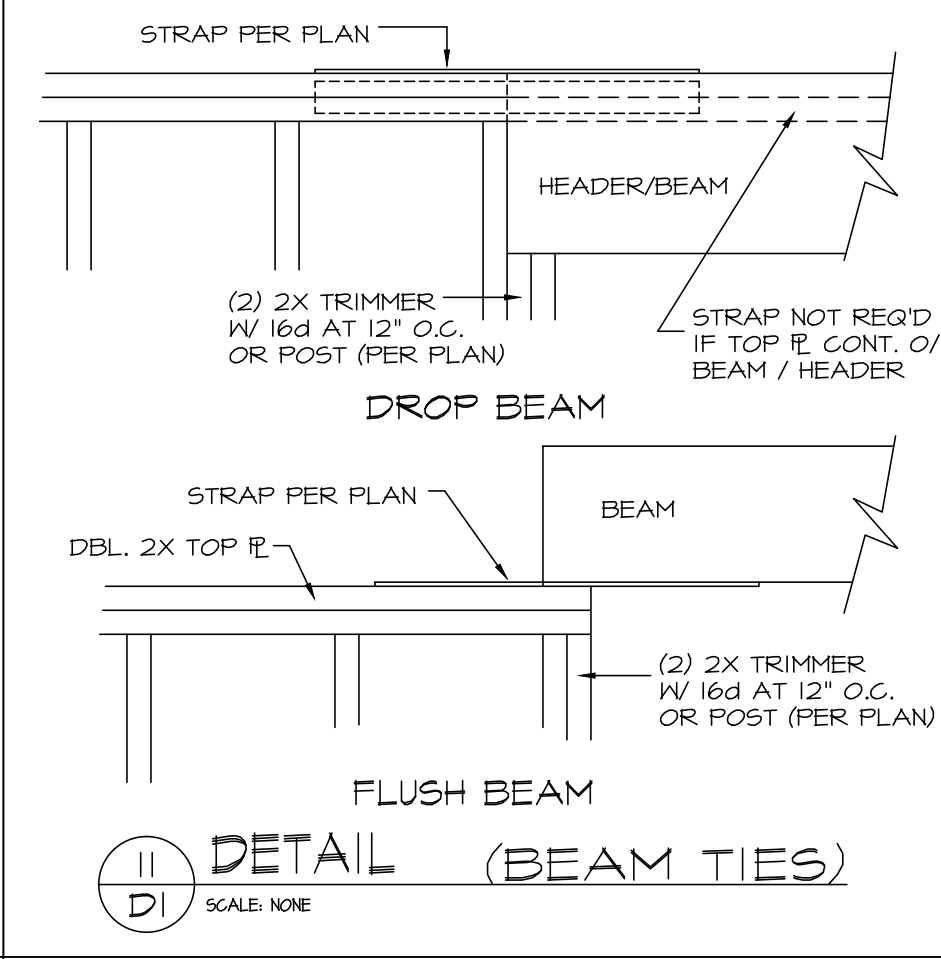
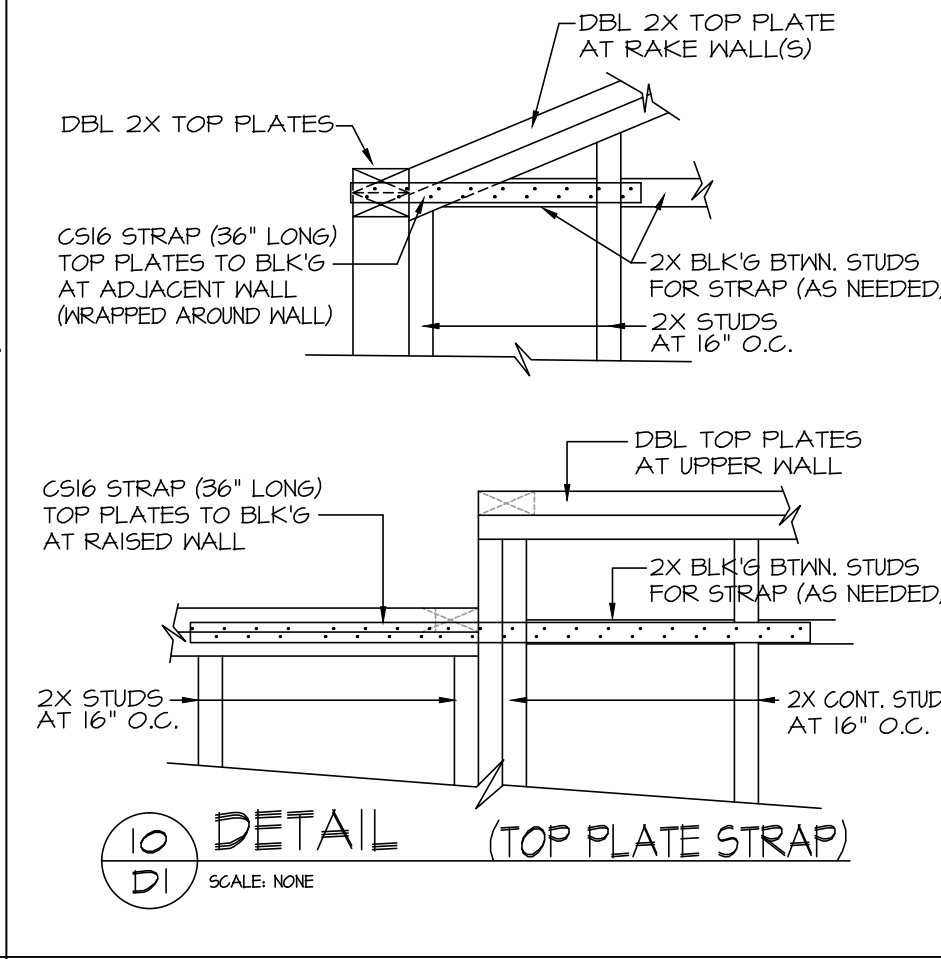
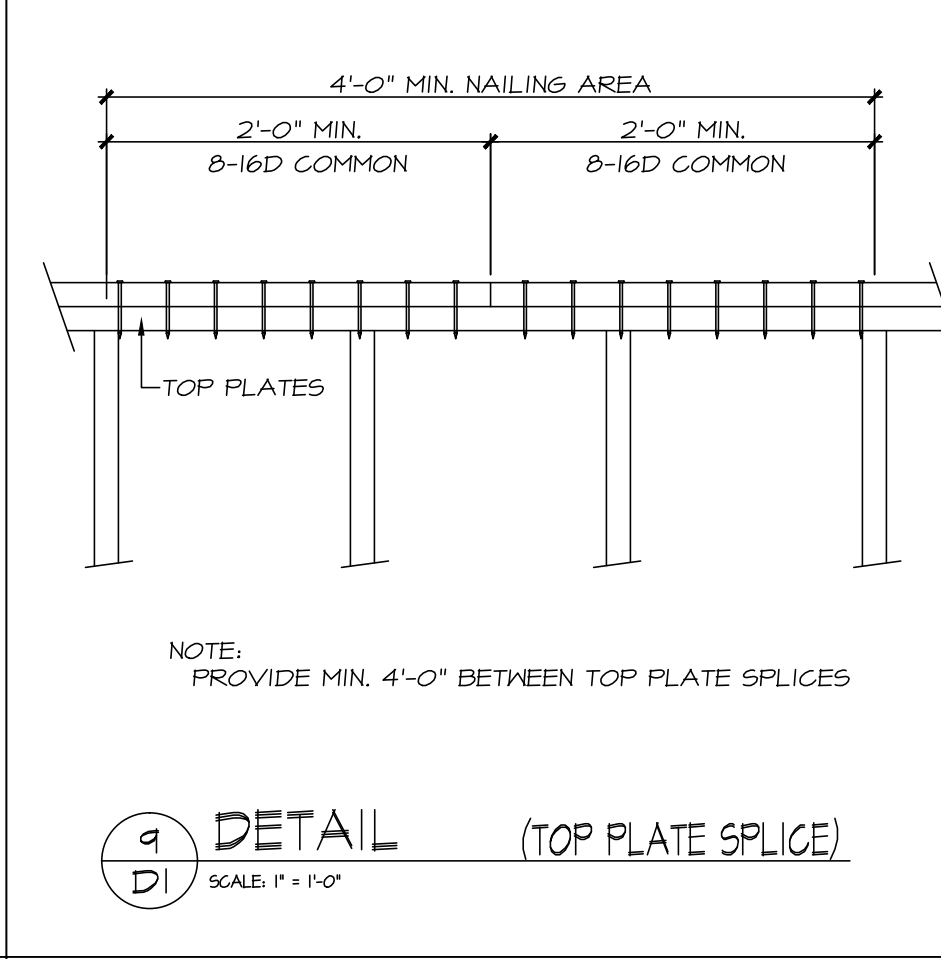
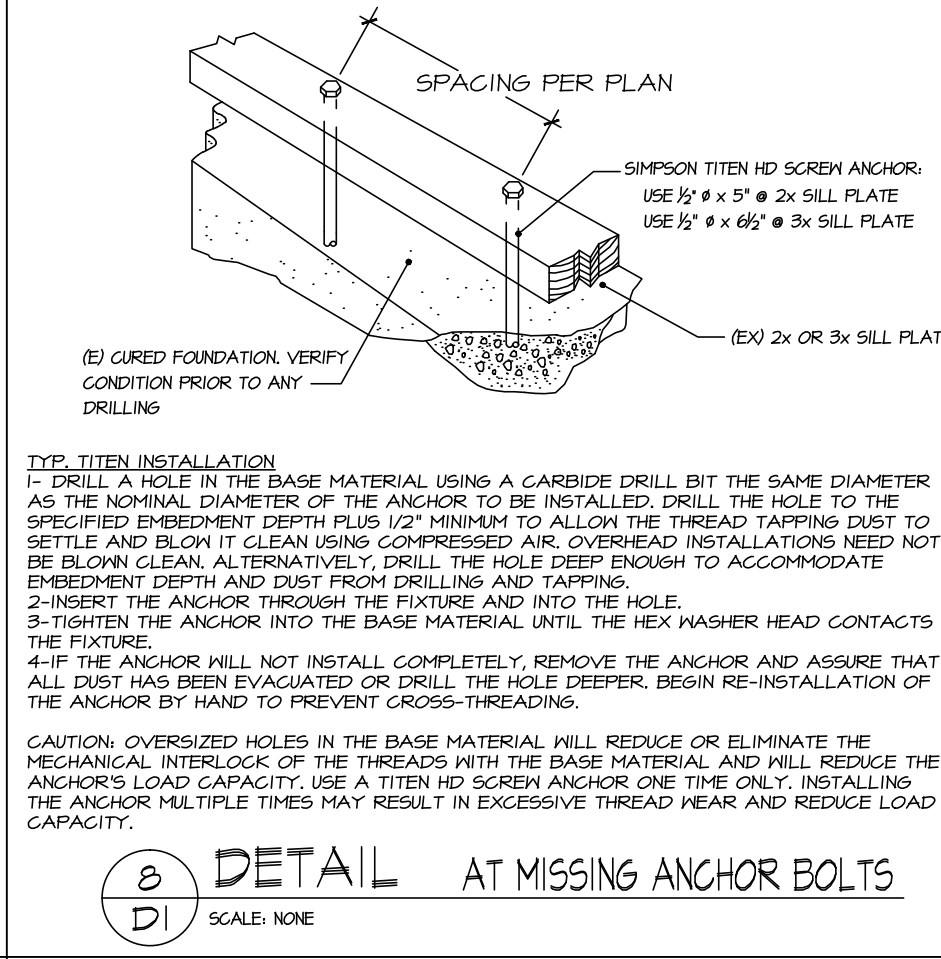
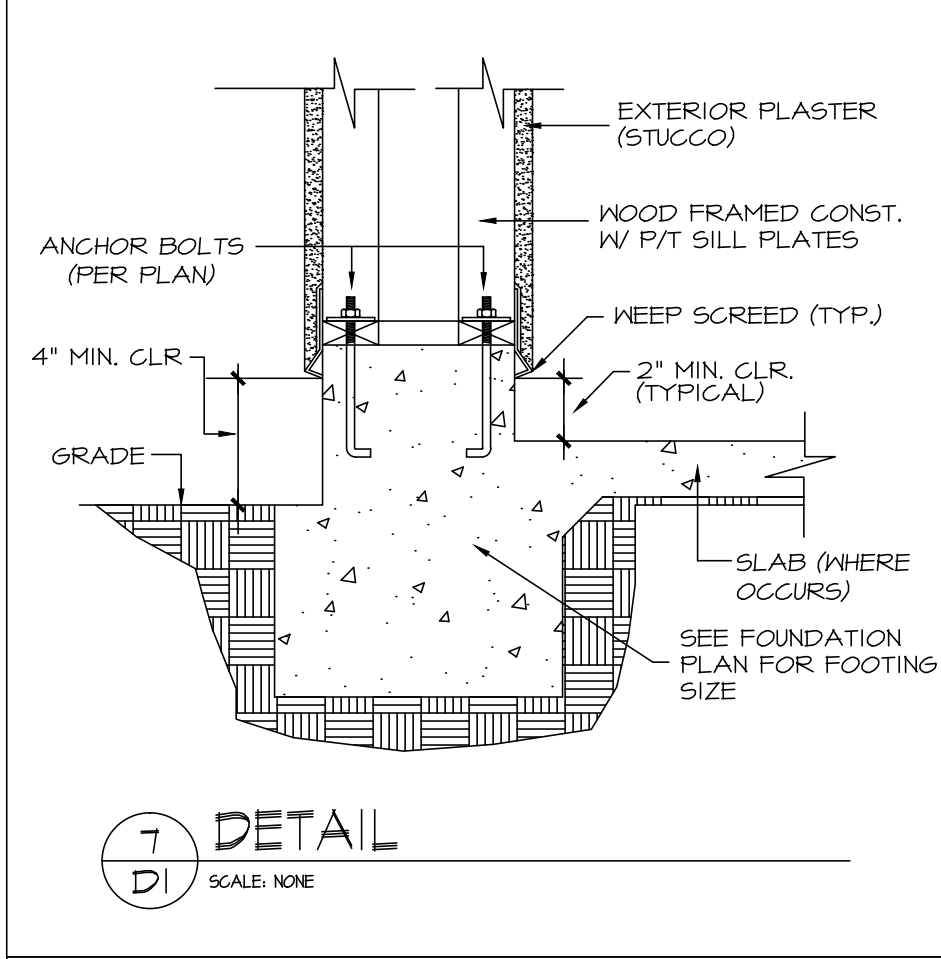
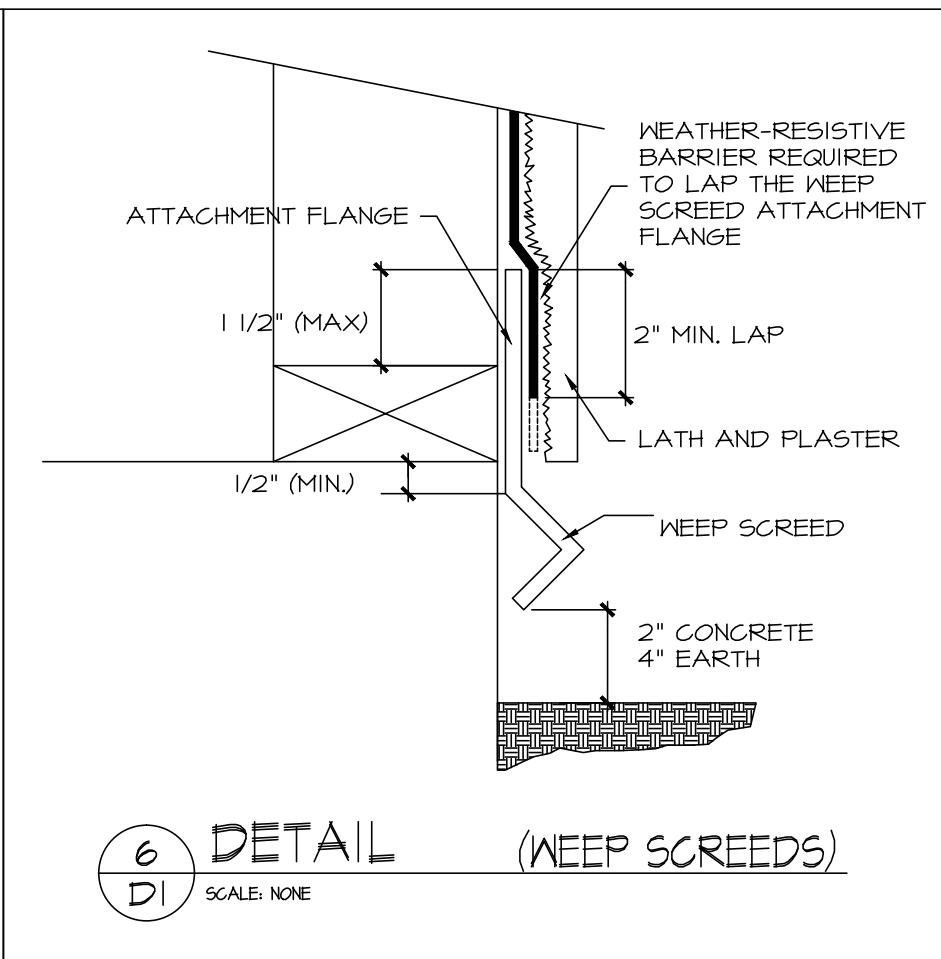
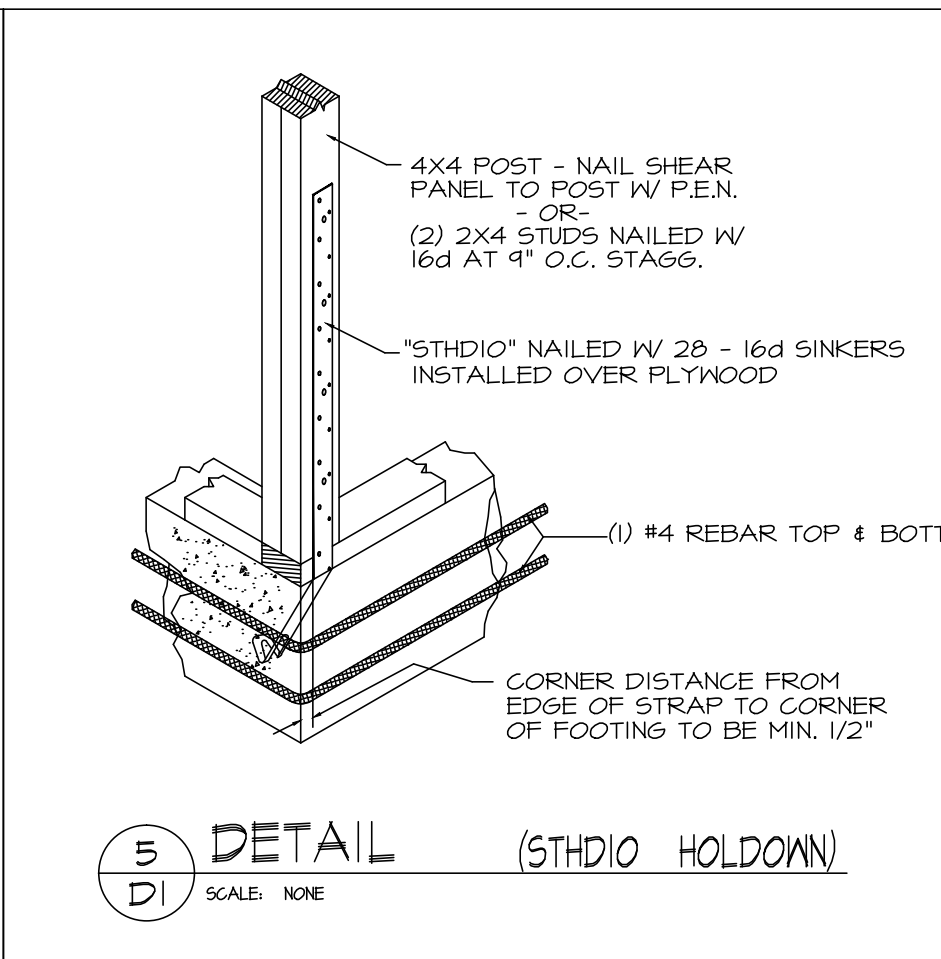
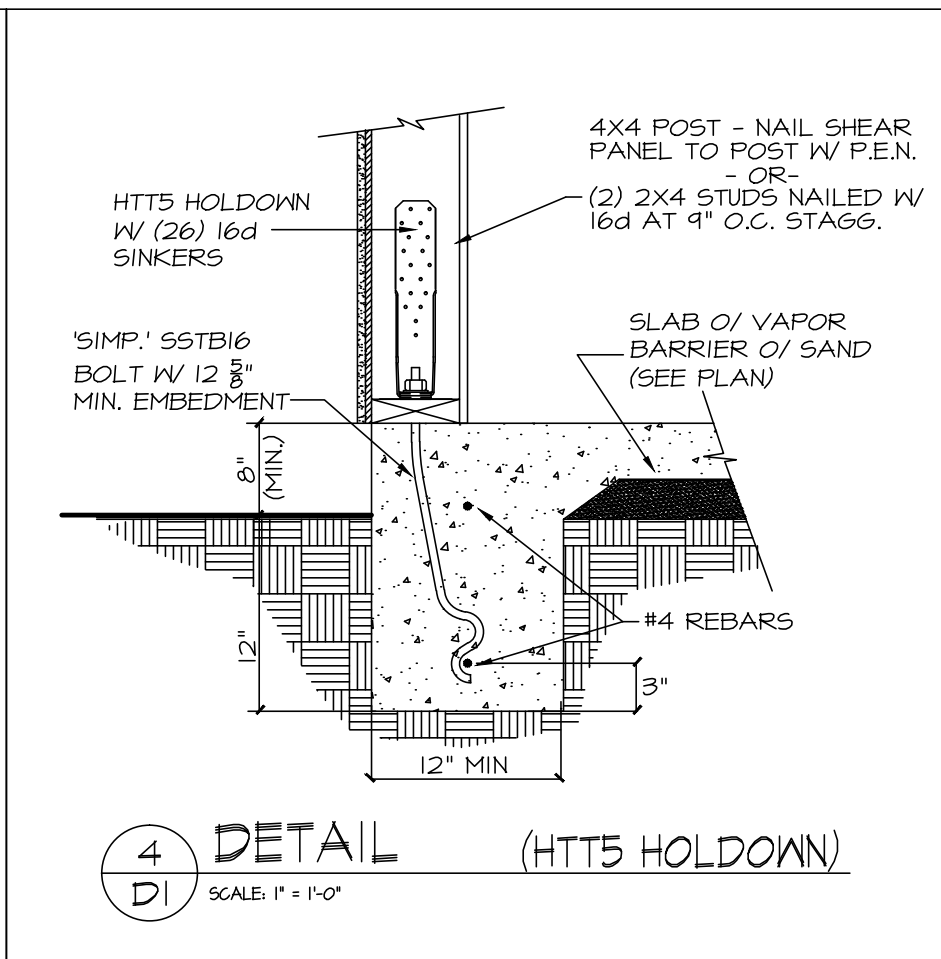
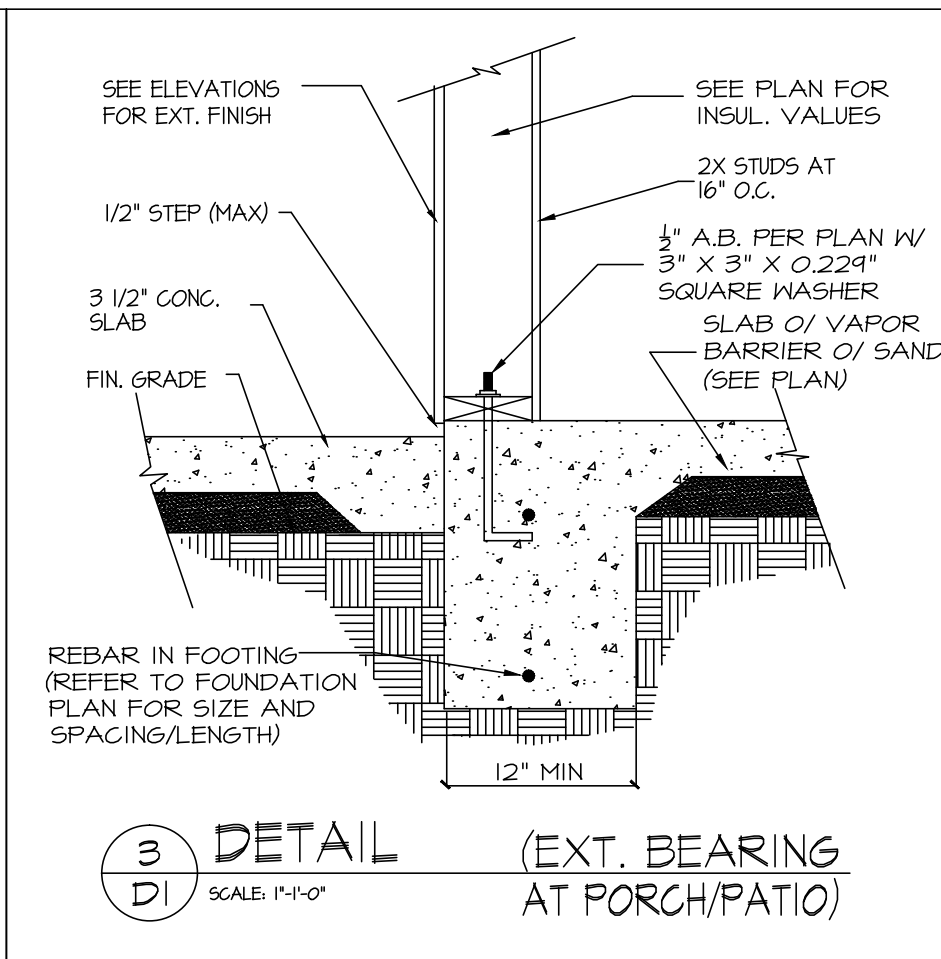
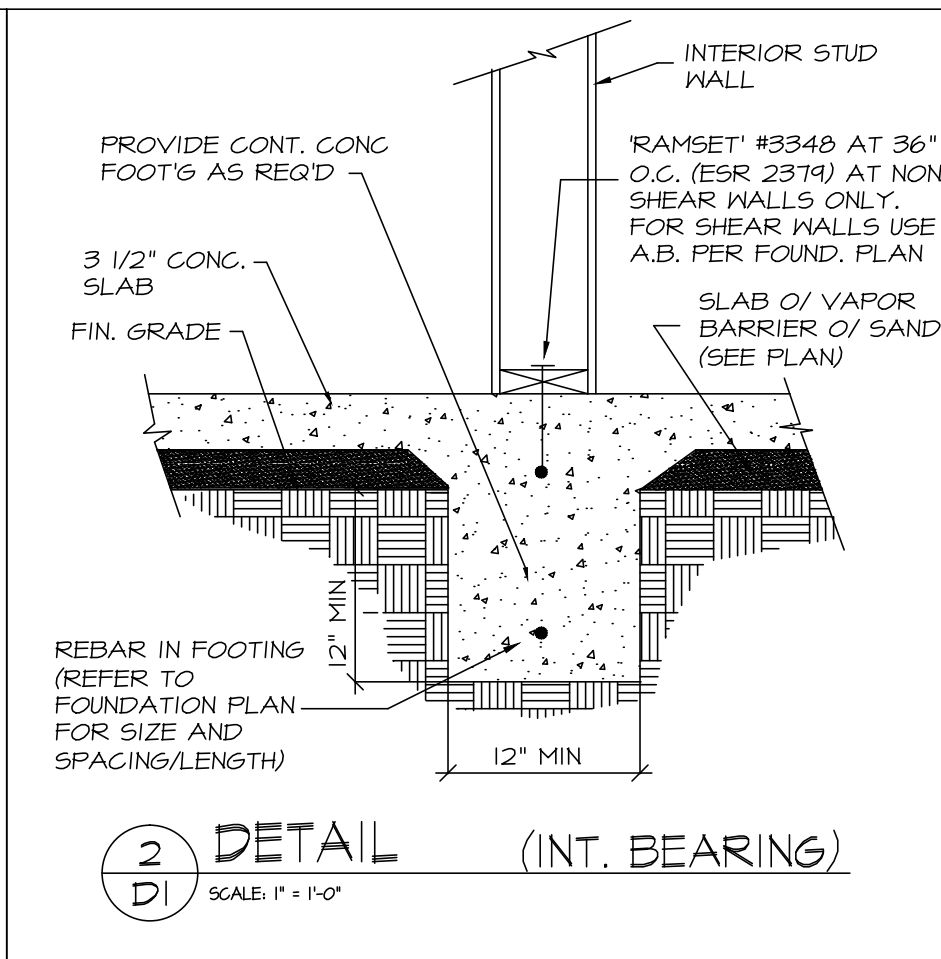
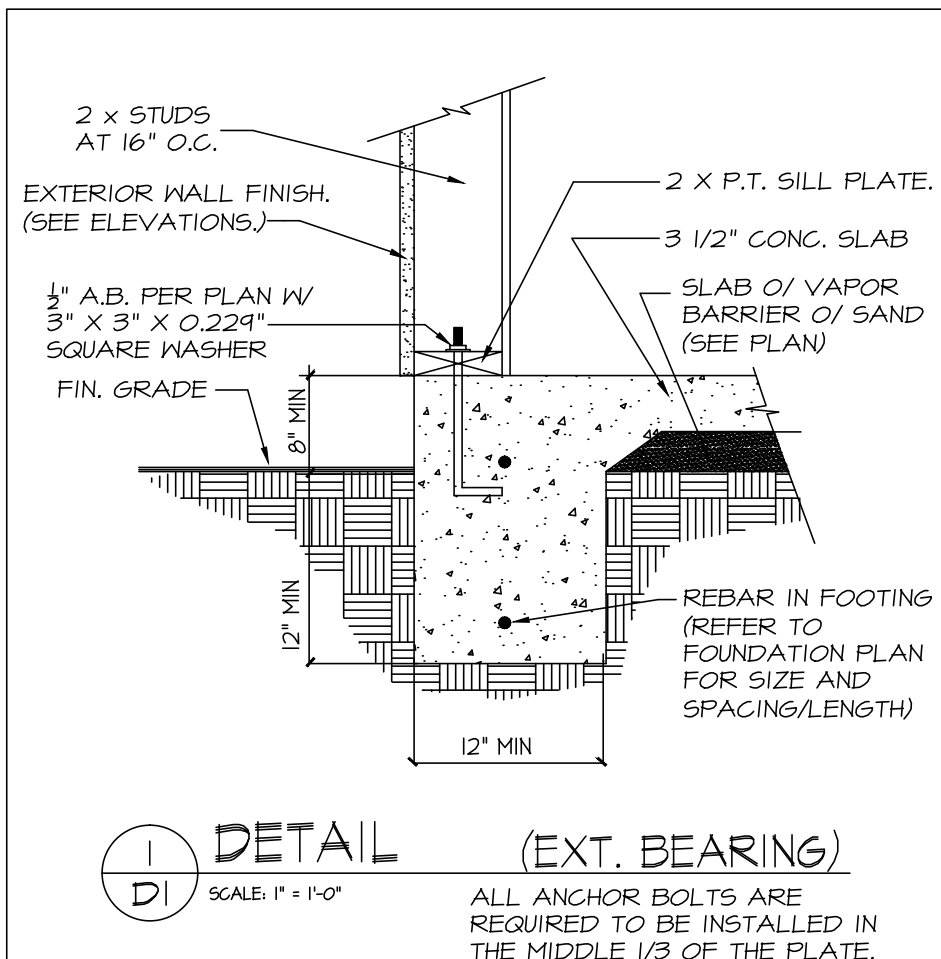
ROOF PLAN - C

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CHOWCHILLA, CA 93610  
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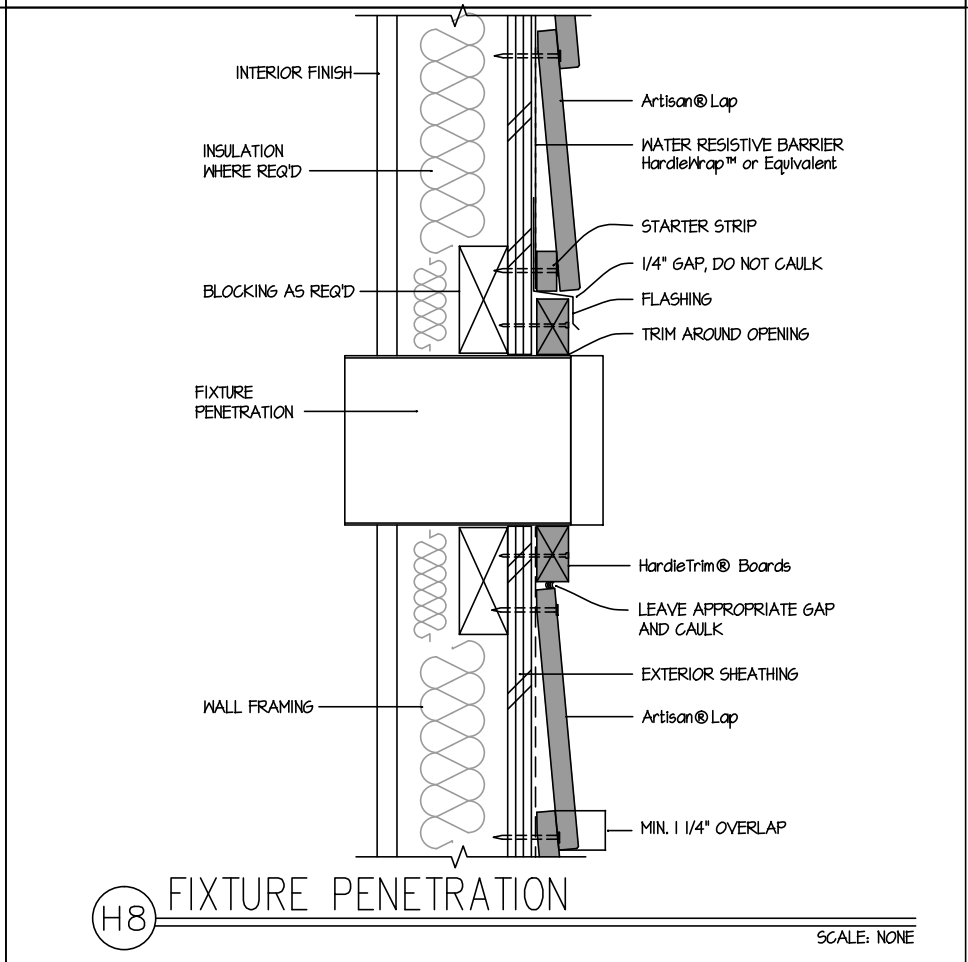
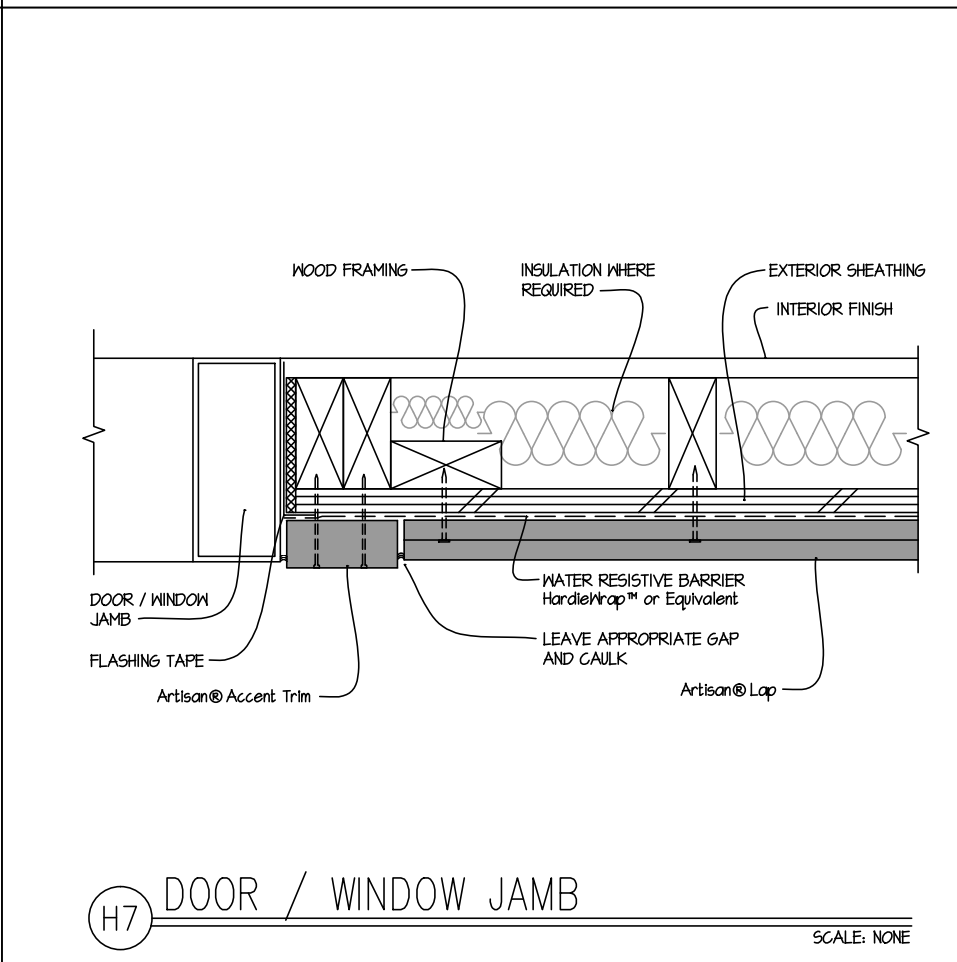
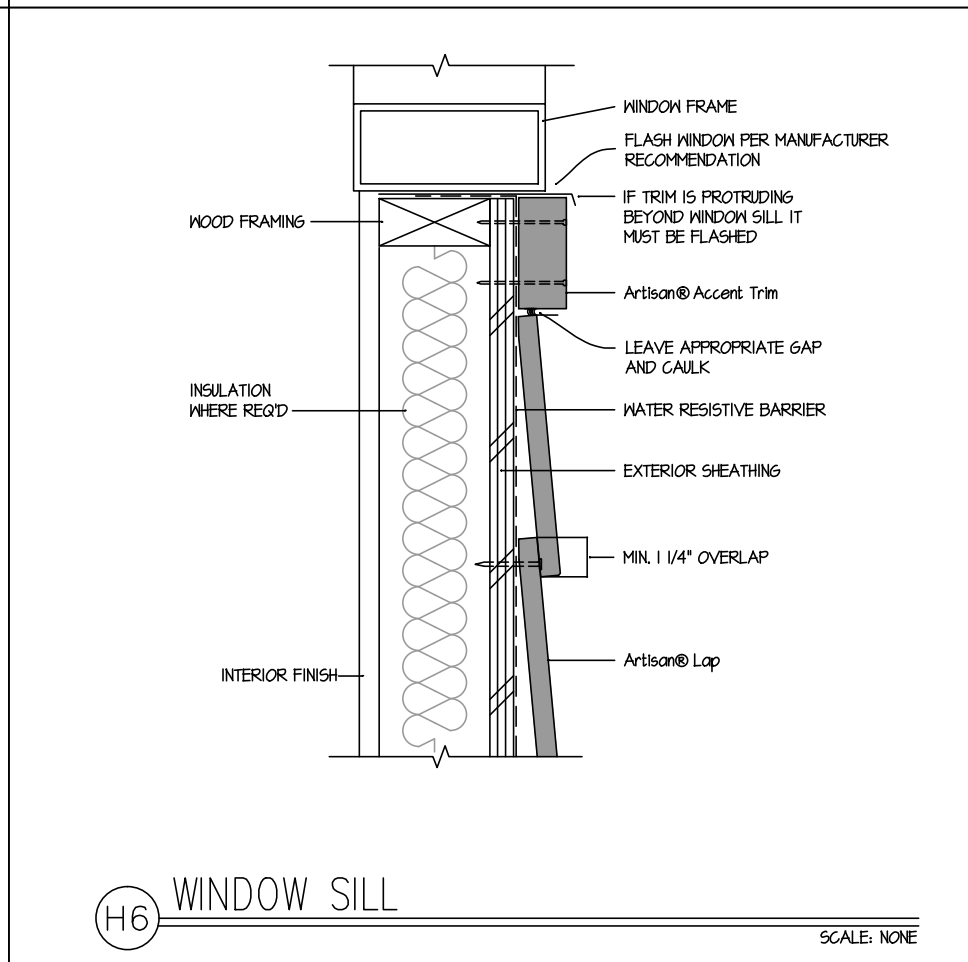
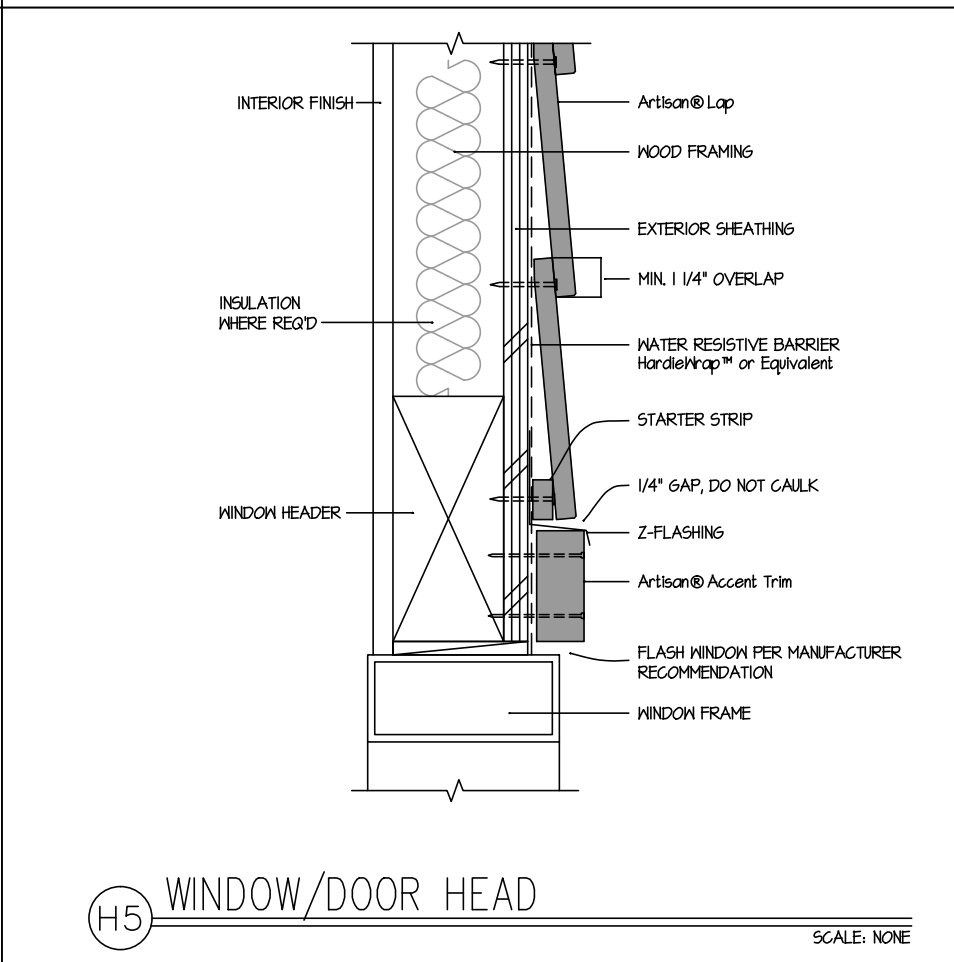
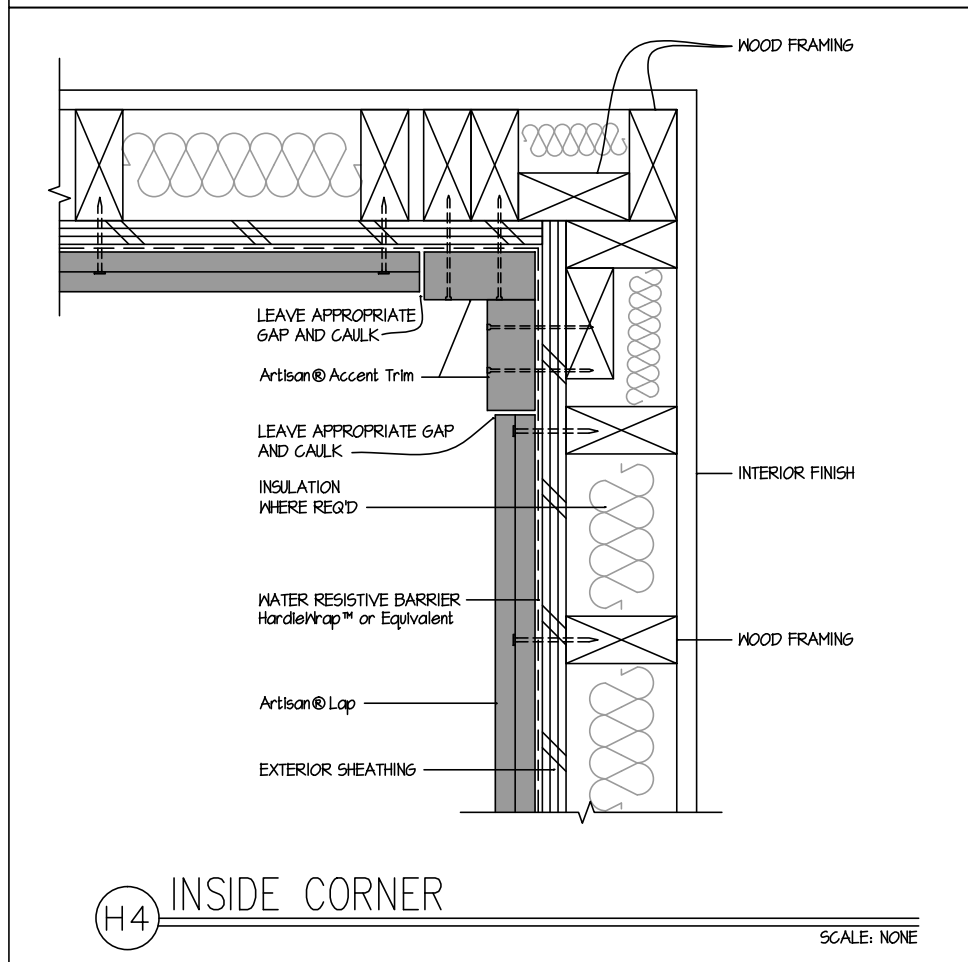
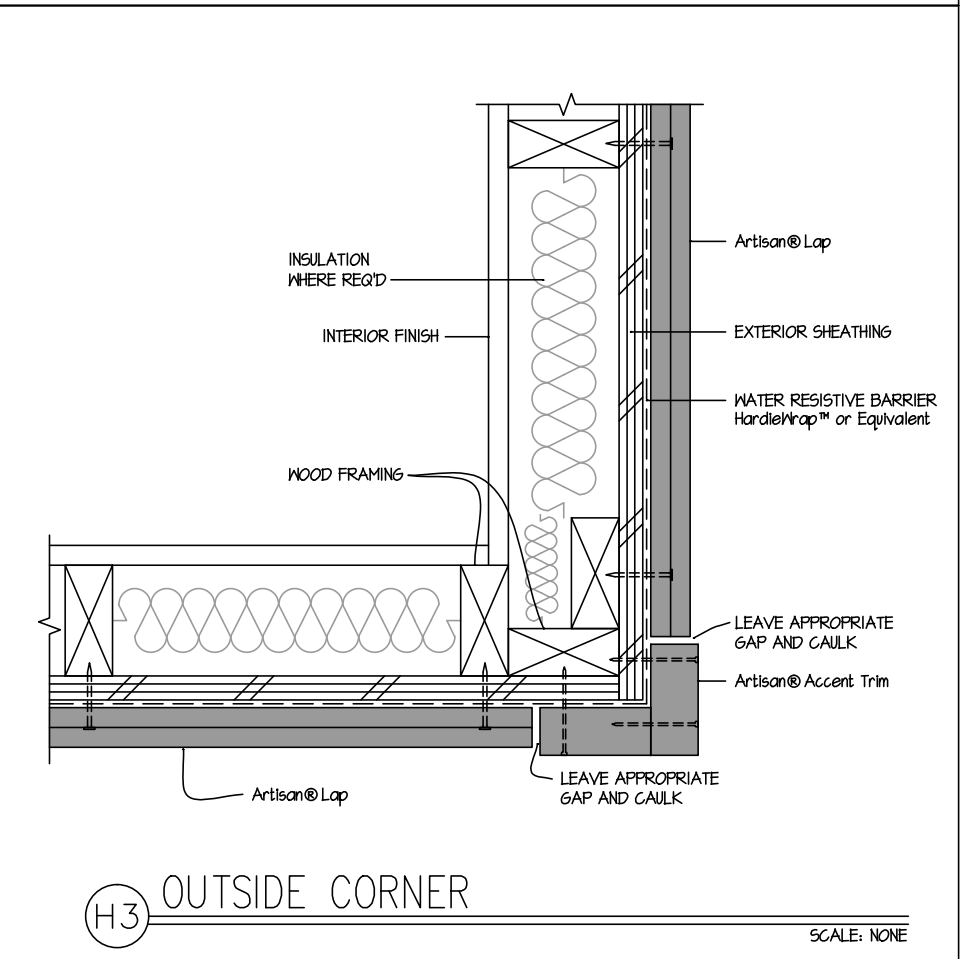
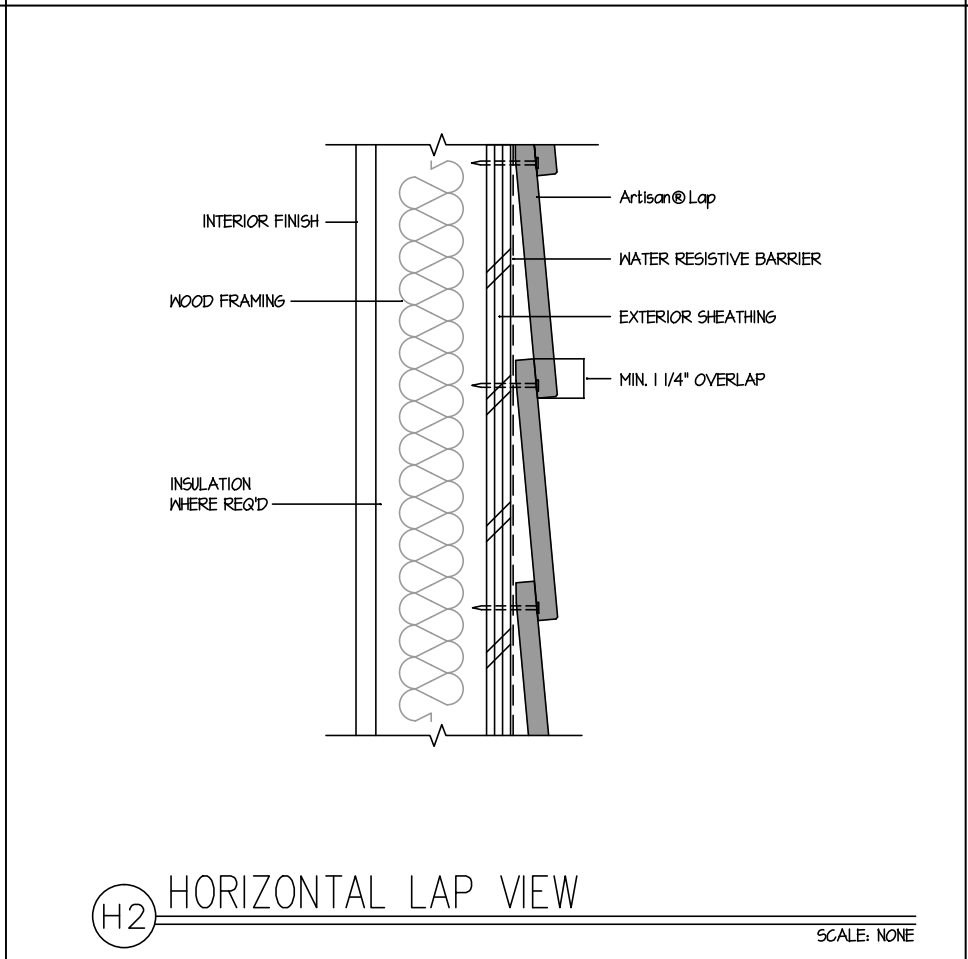
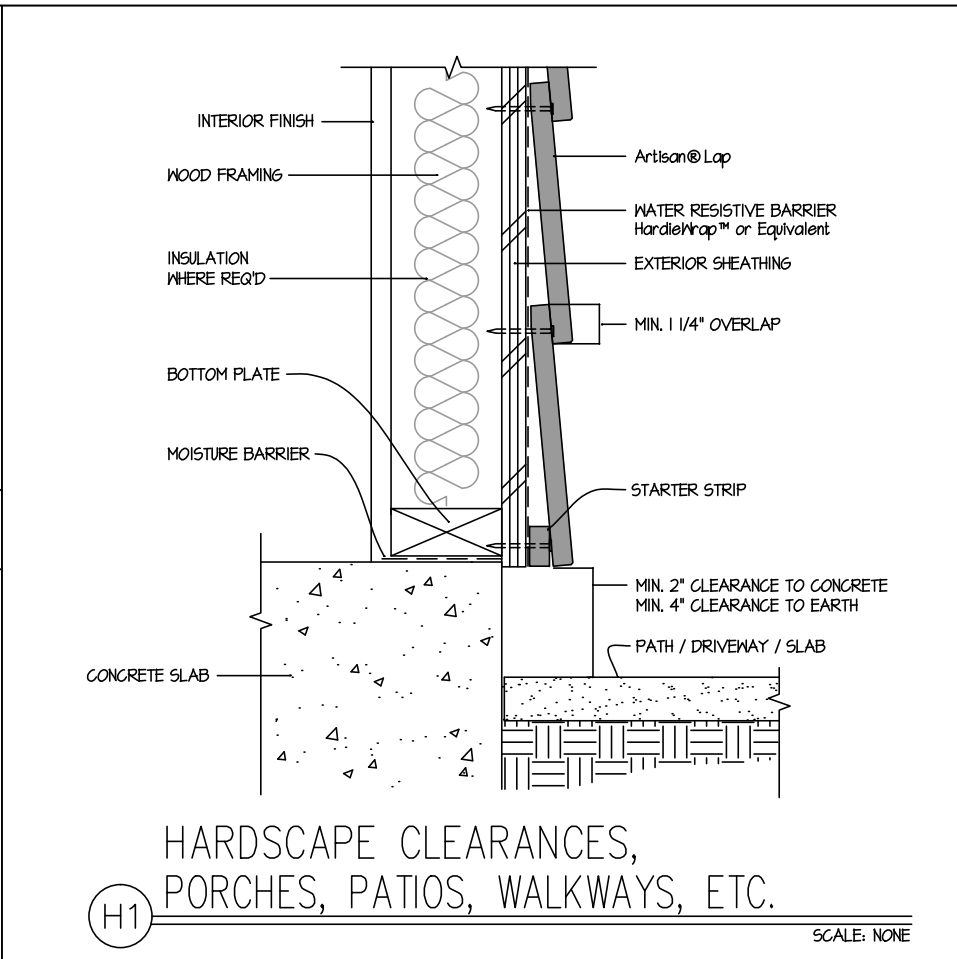
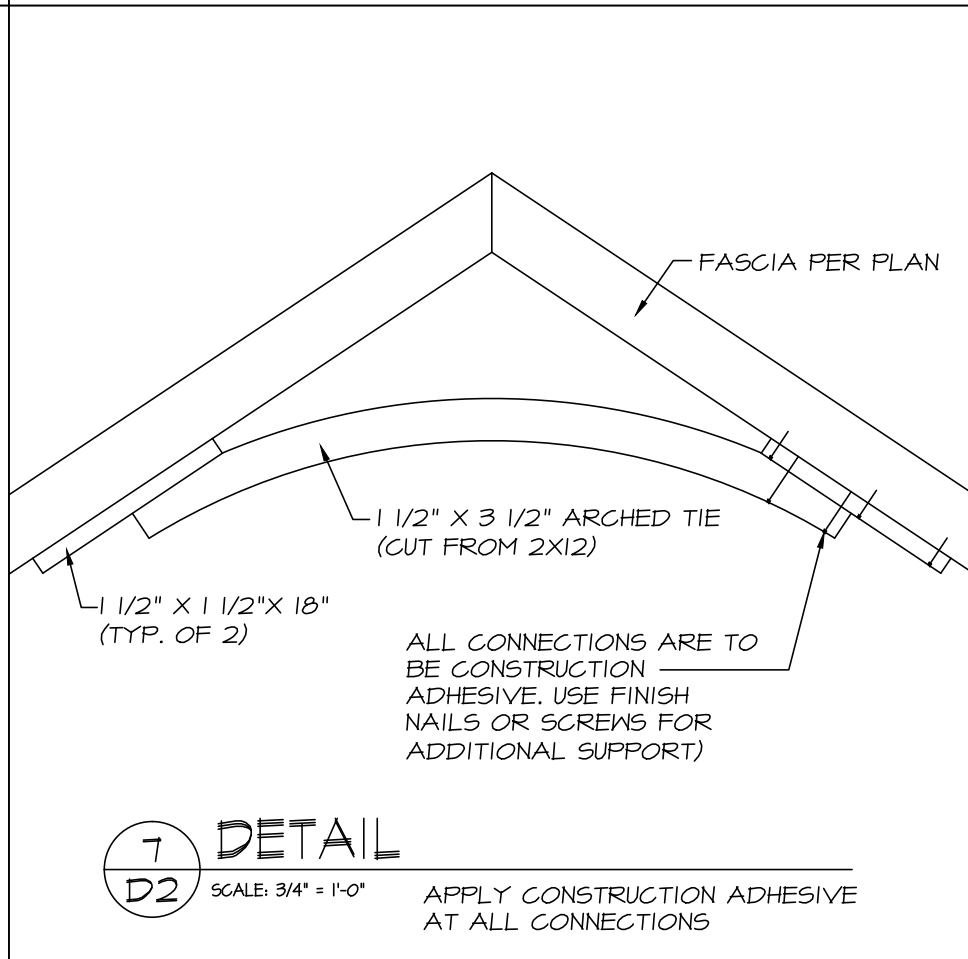
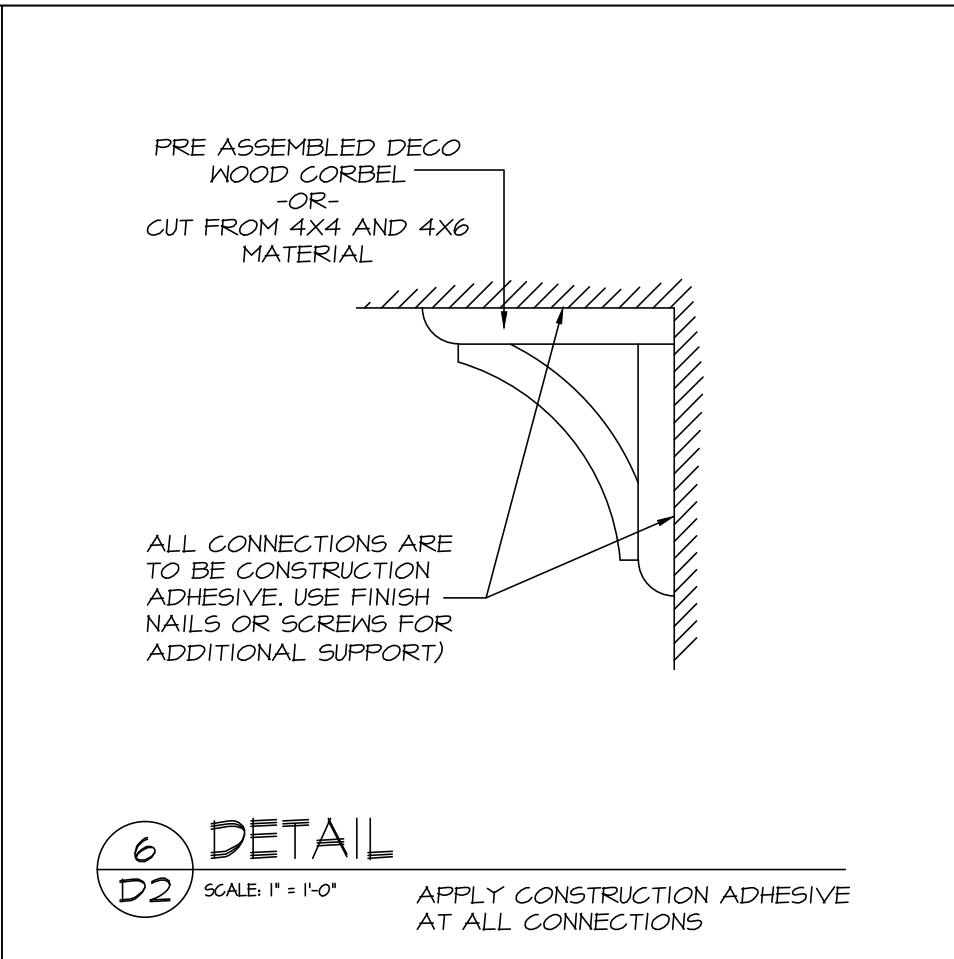
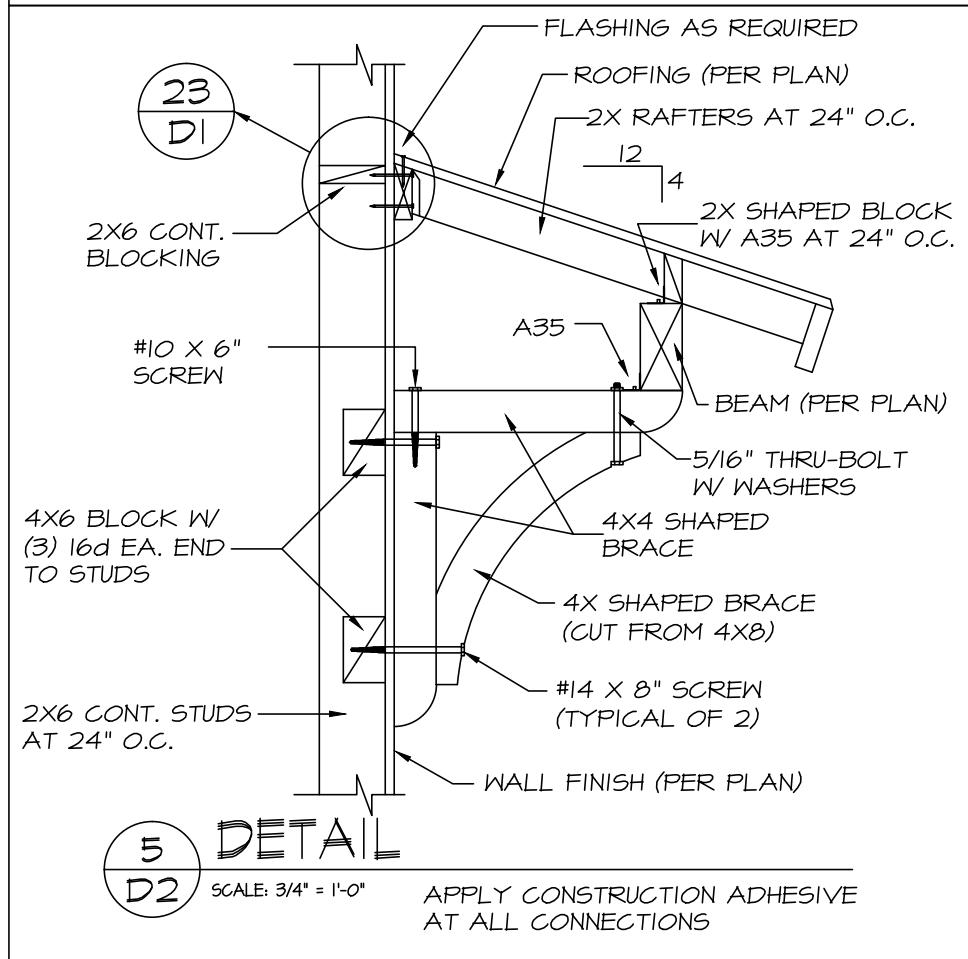
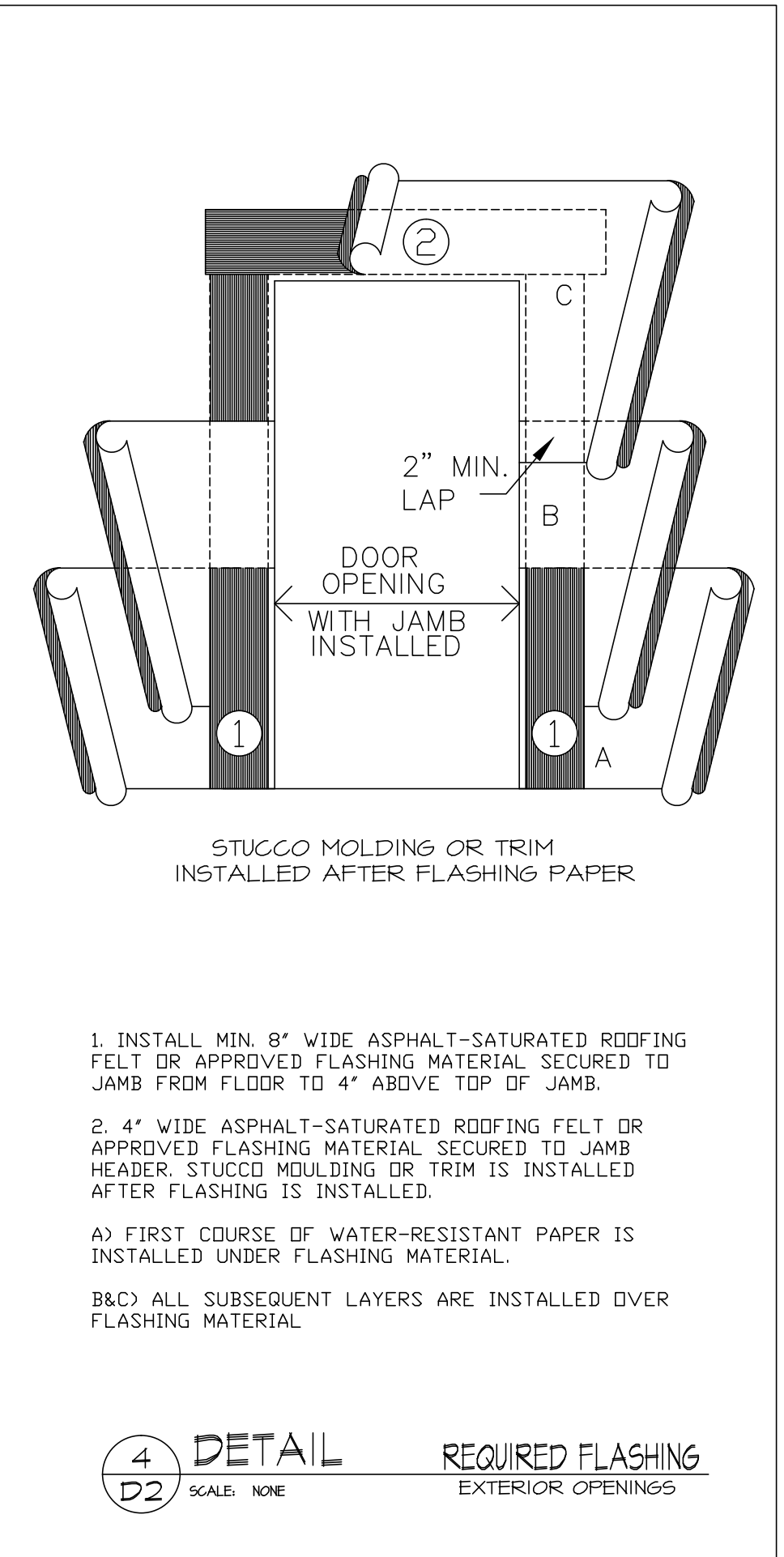
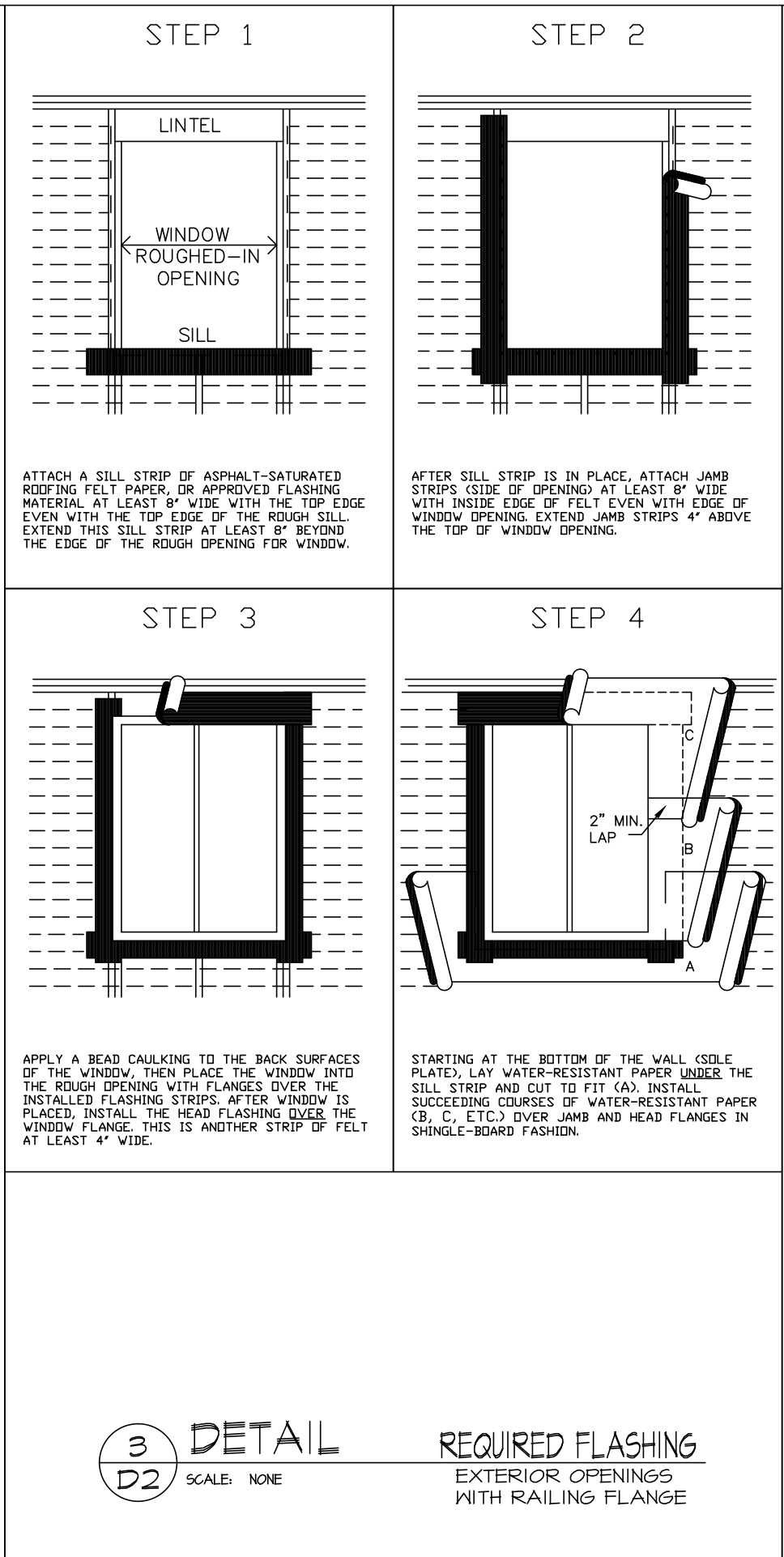
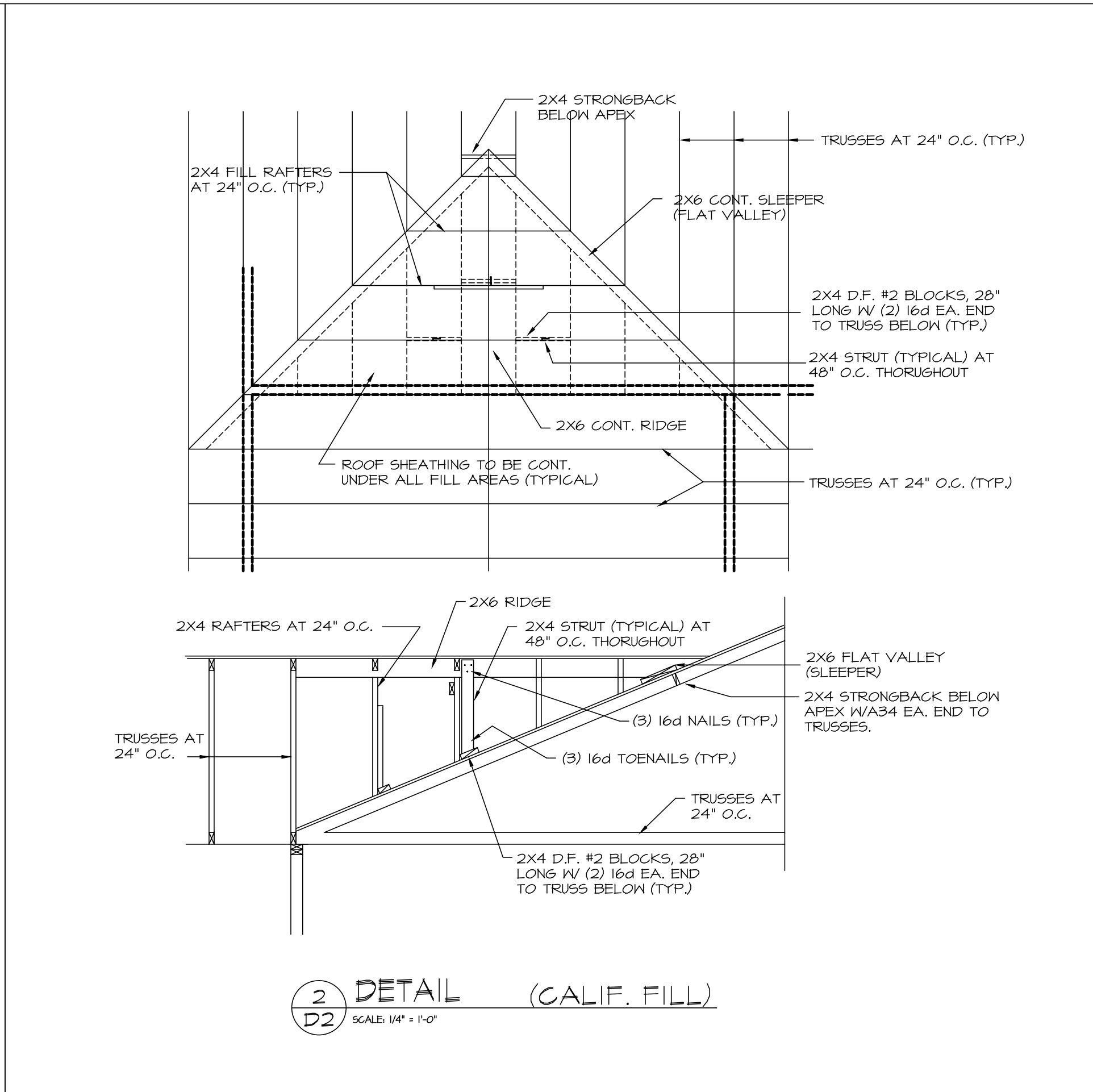
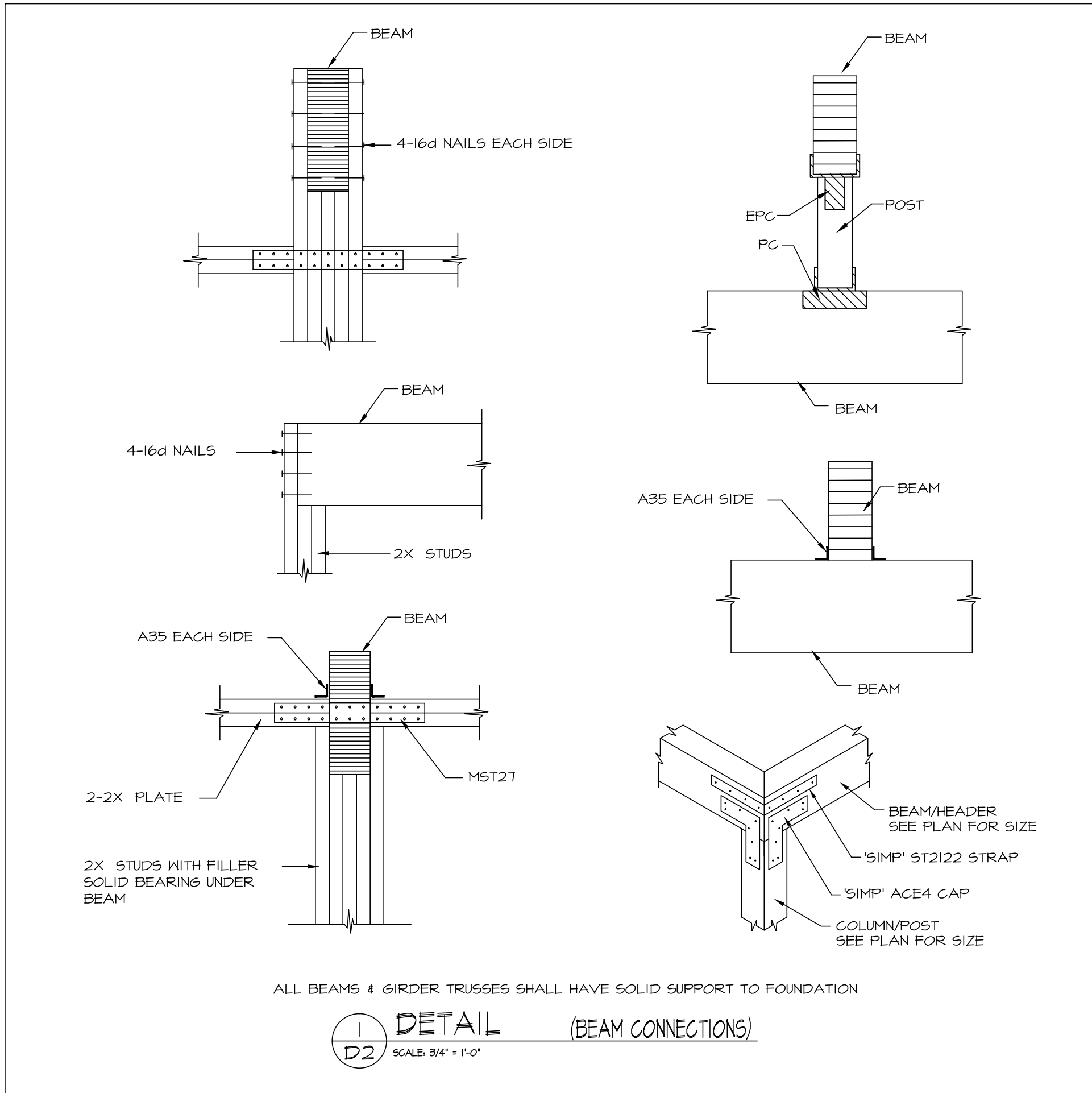
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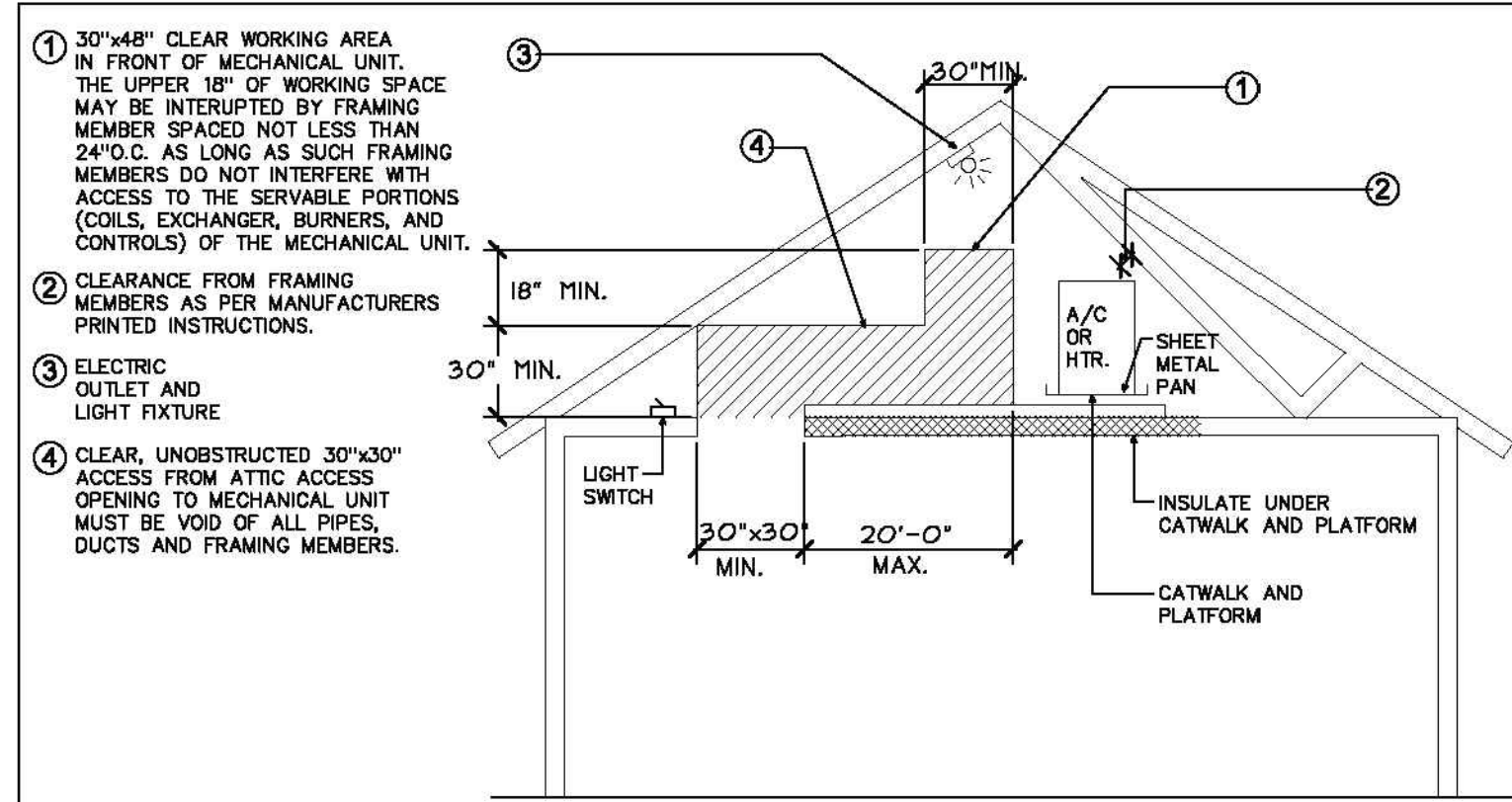
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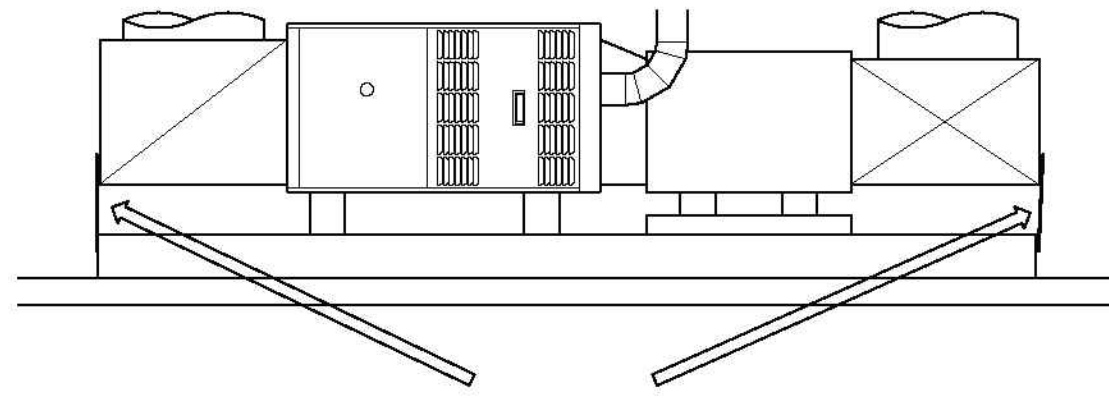




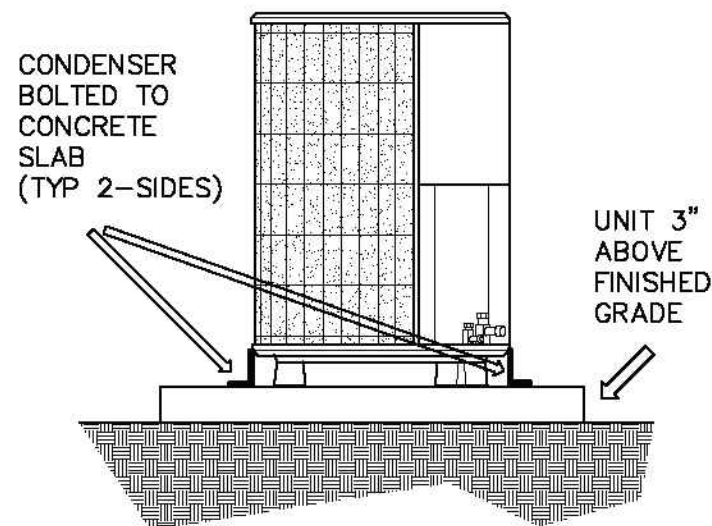




1 NO SCALE ATTIC A/C OR HEATER ACCESS REQUIREMENT  
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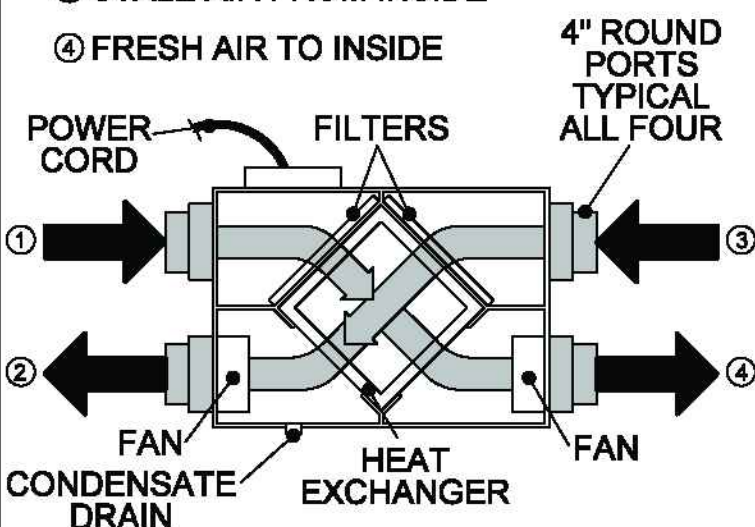
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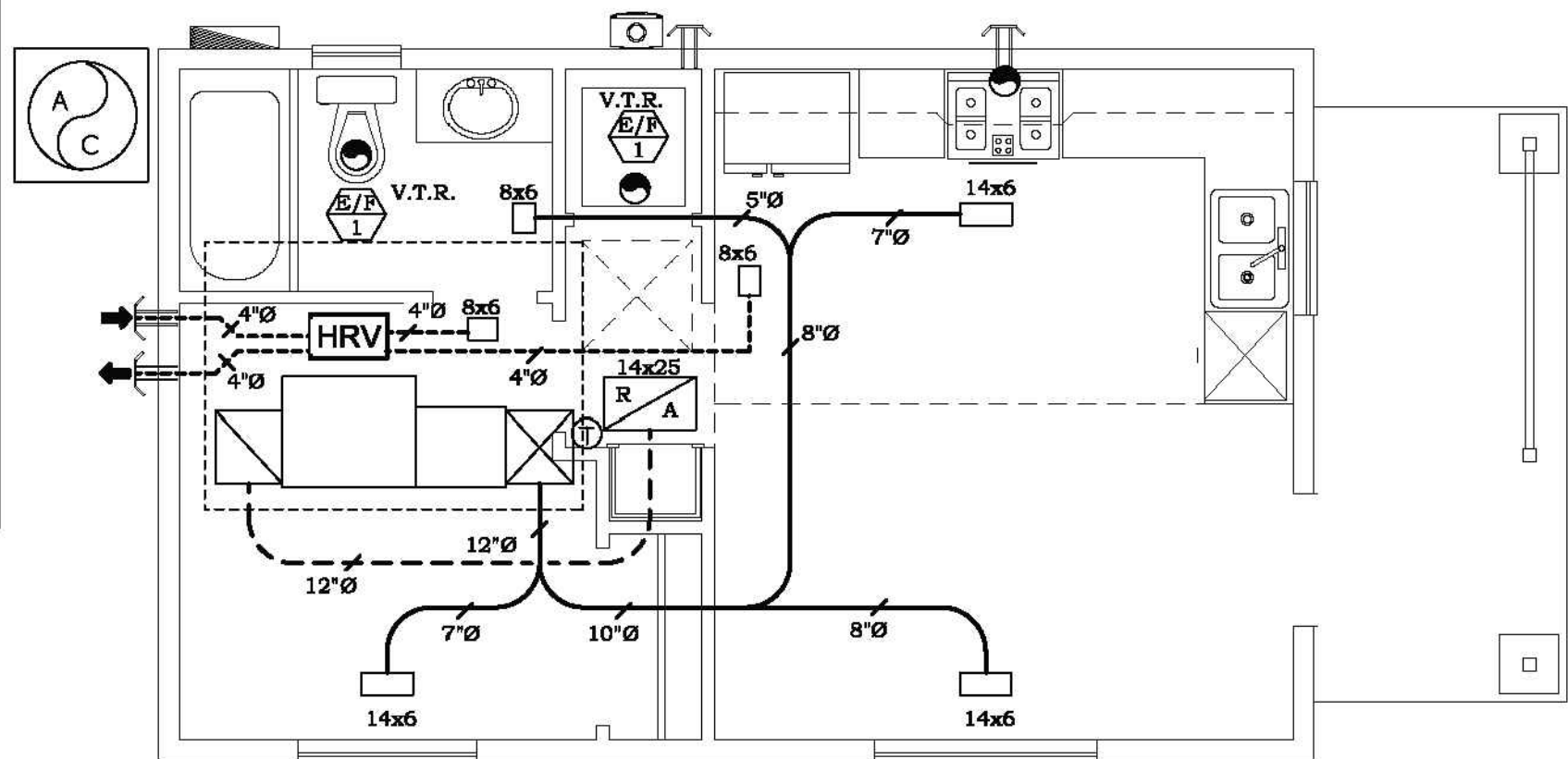
3 NO SCALE CONDENSER  
COND. DETAIL MOUNTING DETAIL

## HRV

- ① FRESH AIR FROM OUTSIDE
- ② EXHAUST TO OUTSIDE
- ③ STALE AIR FROM INSIDE
- ④ FRESH AIR TO INSIDE

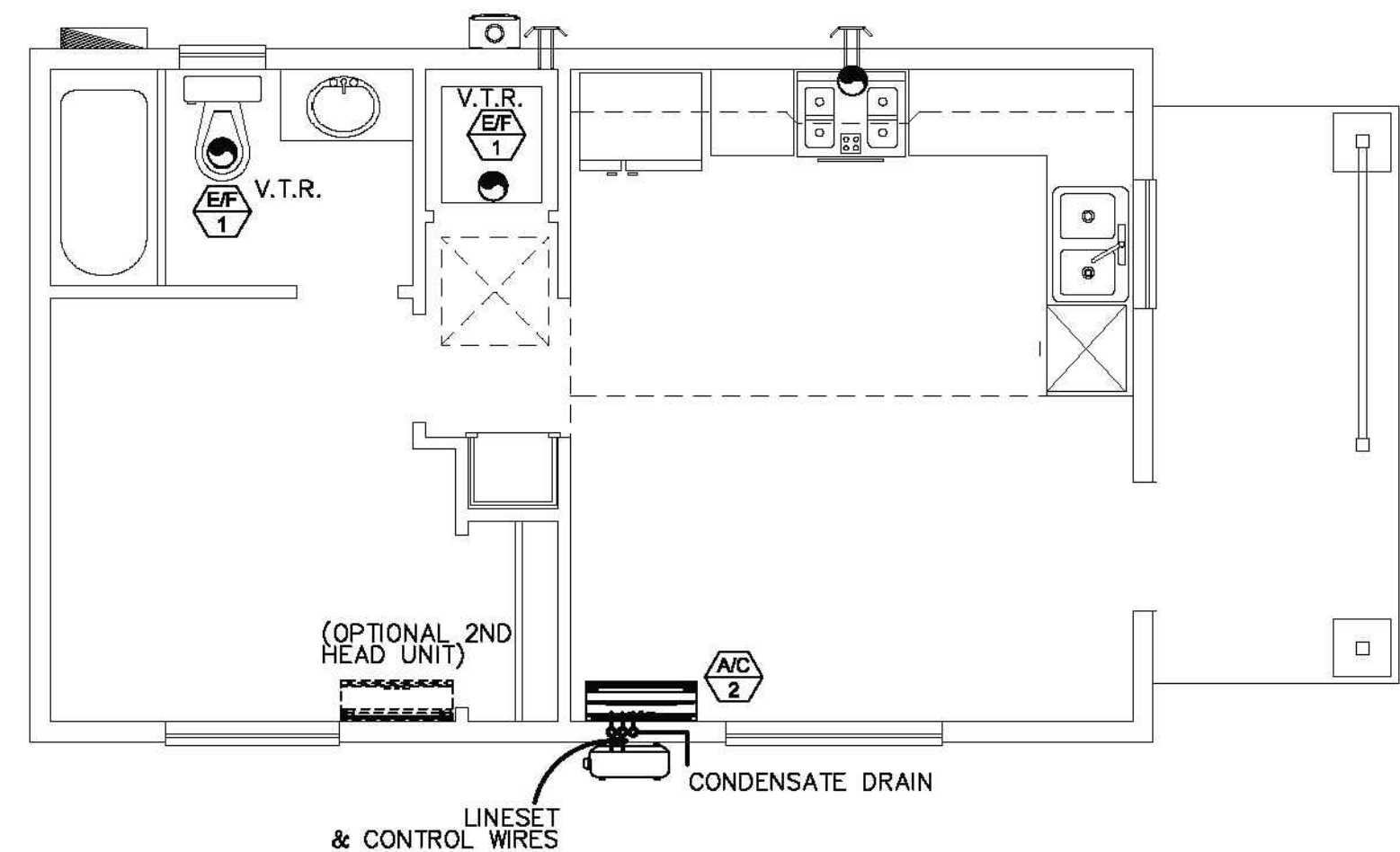


4 NO SCALE HRV  
HRV TYPICAL DETAIL



## MECHANICAL PLAN - STD. SPLIT

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



## MECHANICAL PLAN - MINI SPLIT - HEAT PUMP

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

## MINIMUM FRESH AIR

Enter Eq. 4.1a Calculation:

$$A_{\text{floor}} = \underline{397}$$

$$N_{\text{br}} = \underline{1}$$

$$Q_{\text{fan}} = \underline{40}$$

(Eq. 4.1a)

$$Q_{\text{fan}} = 0.03A_{\text{floor}} + 7.5(N_{\text{br}} + 1)$$

Where:

$A_{\text{floor}}$  = conditioned floor area, ft<sup>2</sup>

$N_{\text{br}}$  = number of bedrooms; not to be less than one

$Q_{\text{fan}}$  = ventilation air requirement = fan flow rate, (cfm)

MINIMUM FRESH AIR VENTILATION REQUIRED TO BE MET BY A BALANCED SYSTEM "HRV"

## DUCT INSULATION

R-8.0

## PERFORMANCE RATINGS AIRZONE EXHAUST FANS

HVI PERFORMANCE					
SYMBOL	MODEL	STATIC PRESSURE (Pa)	CFM	SONES	WATTS
	SE090	0.10	90	0.3	23.3
		0.25	70		
	SE110	0.10	110	0.6	33.5
		0.25	87		
	SE140	0.10	140	1.1	51.3
		0.25	128		

## PERFORMANCE RATINGS AIR KING EXHAUST FAN

HVI PERFORMANCE					
SYMBOL	MODEL	STATIC PRESSURE (Pa)	CFM	SONES	WATTS
	BFQ50	0.25	30	0.5	28

## HERS VERIFICATIONS

- ☐ VERIFIED EER
- ☐ VERIFIED AIRFLOW
- ☐ DUCT LEAKAGE (5%)
- ☐ VERIFIED REFRIGERANT CHARGE
- ☒ QUALITY INSULATION INSTALLATION INSPECTION
- ☐ FAN EFFICACY WATTS/CFM
- ☐ IAQ
- ☐ BUILDING ENVELOPE AIR LEAKAGE @ \_\_\_ ACH50
- ☐ VERIFIED SEER
- ☐ LOW LEAKAGE AIR HANDLER
- ☒ KITCHEN RANGE HOOD

(DUCTLESS SYSTEM)

■ INDICATES REQUIRED HERS VERIFICATION

## EQUIPMENT SCHEDULE

1.5 TON - HEAT PUMP DUCTLESS MINI SPLIT

HPSF: 9  
SEER: 16  
EER: 10.8  
-  
-

## HERS VERIFICATIONS

- ☒ VERIFIED EER
- ☒ VERIFIED AIRFLOW
- ☒ DUCT LEAKAGE (5%)
- ☒ VERIFIED REFRIGERANT CHARGE
- ☒ QUALITY INSULATION INSTALLATION INSPECTION
- ☒ FAN EFFICACY WATTS/CFM
- ☒ IAQ
- ☐ BUILDING ENVELOPE AIR LEAKAGE @ \_\_\_ ACH50
- ☒ VERIFIED SEER
- ☐ LOW LEAKAGE AIR HANDLER
- ☒ KITCHEN RANGE HOOD

(DUCTED SYSTEM)

■ INDICATES REQUIRED HERS VERIFICATION

## EQUIPMENT SCHEDULE

1.5 TON - SPLIT SYSTEM

15.0 SEER  
12.0 EER  
18,000 BATH COOLING  
-

FURNACE: 80% AFUE  
-  
-  
-

## MECHANICAL NOTES

- FURNACE TO BE SECURELY FASTENED TO BUILDING PLATFORM.
- A COMPLETED "REGISTERED" CF3R FORM TO BE SUBMITTED PRIOR TO FINAL INSPECTION, SIGNED BY THE CERTIFIED HERS RATER, FOR FIELD VERIFICATION AND DIAGNOSTIC TESTING.
- AFTER INSTALLING WATER HEATING SYSTEMS, FENESTRATION, AND HVAC EQUIPMENT THE INSTALLER SHALL POST IN A CONSPICUOUS LOCATION AN "INSTALLATION CERTIFICATE" (CF3R FORM), COMPLETED AND SIGNED BY THE INSTALLER, LISTING THE EQUIPMENT INSTALLED, (MANUFACTURER, MODEL, AND EFFICIENCIES, U-VALUES AND SHGC-VALUES, ETC.) AND THAT IT MEETS OR EXCEEDS THE REQUIREMENTS OF THE ENERGY DOCUMENTATION. (CES section 10-103(a)(3)). REGISTERED COPIES SHALL BE PROVIDED WHEN HERS VERIFICATION IS REQUIRED.
- ELECTRICAL CONTRACTOR TO PROVIDE LIGHT FIXTURE WITH SWITCH AT ATTIC ACCESS.
- MINIMUM 30"x30" ATTIC ACCESS DOOR REQUIRED FOR ATTIC MOUNTED FURNACE.
- ANY CATWALKS TO ATTIC MOUNTED MECHANICAL EQUIPMENT TO BE MINIMUM 24" WIDE (NOT TO EXCEED 20' LONG).
- ALL ATTIC MOUNTED MECHANICAL EQUIPMENT TO HAVE A MINIMUM 30" CLEAR IN FRONT FOR SERVICE (BY 48" HIGH).
- ALL BEDROOM DOORS TO UNDERCUT TO ALLOW FOR AIR RETURN.
- SMOKE DETECTOR PROVIDED FOR THE PROTECTION OF THE SLEEPING ROOMS IS REQUIRED TO BE PLACED IN FRONT OF THE RETURN GRILL.
- CONTRACTOR SHALL PROVIDE THE ORIGINAL OCCUPANT WITH A LIST OF THE HEATING, COOLING, WATER HEATING, LIGHTING SYSTEMS, AND CONSERVATION OR SOLAR DEVICES INSTALLED IN THE BUILDING AND INSTRUCTIONS ON HOW TO USE THEM EFFICIENTLY.
- ALL KITCHENS AND BATHROOMS SHALL HAVE LOCAL EXHAUST SYSTEMS VENTED TO THE OUTDOORS, EACH LOCAL VENTILATION SYSTEM SHALL BE EITHER INTERMITTENT OR CONTINUOUS MECHANICAL EXHAUST SYSTEM, KITCHEN HOOD EXHAUST AIR FLOW RATE TO BE 100 CFM.
- AIR INLETS THAT ARE PART OF THE VENTILATION DESIGN SHALL BE LOCATED A MINIMUM 10 FEET FROM KNOWN SOURCES OF CONTAMINATION SUCH AS STACK VENT, EXHAUST HOOD OR VEHICLE EXHAUST.
- MECHANICAL SYSTEMS INCLUDING HEATING AND AIR CONDITIONING SYSTEMS THAT SUPPLY AIR TO HABITABLE SPACES SHALL HAVE MERV 6 FILTERS OR BETTER.
- WHEN A LIVING SPACE ADJOINS A GARAGE THE DESIGN MUST PREVENT MIGRATION OF CONTAMINANTS FROM THE GARAGE TO THE ADJOINING LIVING SPACE. DOORS BETWEEN THE LIVING SPACE AND THE GARAGE SHALL HAVE GASKETS INSTALLED OR MADE SUBSTANTIALLY AIRTIGHT WITH WEATHER-STRIPPING.
- MINIMUM 50 CFM EXHAUST FAN (VENTED TO EXTERIOR) WITH INTERMITTENT SWITCH REQUIRED AT ALL BATHROOMS AND LAUNDRY PER SHRAE 62.2-2004
- KITCHEN HOOD TO HAVE A MINIMUM 100 CFM @ <3 SONES (VENTED TO EXTERIOR).
- AIR CONDITIONING EQUIPMENT DESIGNED TO BE IN A FIXED POSITION SHALL BE SECURELY FASTENED, PER MANUFACTURER'S INSTALLATION INSTRUCTIONS, INSTALLATION INSTRUCTIONS SHALL BE PROVIDED TO THE FIELD INSPECTOR. (CMC SECTION 903.4).
- CONDENSING UNITS SHALL NOT BE PLACED WITHIN 5 FEET OF A DRYER VENT.
- DUCT INSTALLATION MUST COMPLY WITH 2016 CALIFORNIA CODE SECTIONS 601-805 AND CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS EFFECTIVE JANUARY, 2017.
- MANDATORY HERS TESTING FOR NEW DUCTED SYSTEMS (MAXIMUM LEAKAGE 5%)
- PICTURES ABOVE BATHTUBS: NO PART OF CORDS CONNECTED FIXTURES, HANGING FIXTURES, TRACK LIGHTING, PENDANTS, OR CEILING FANS SHALL BE LOCATED DIRECTLY ABOVE THE TUB AND WITHIN A ZONE MEASURED 3 FEET HORIZONTALLY AND 8 FEET VERTICALLY FROM THE BATHTUB RIM. (CEC 410.1(D)).
- FOR ATTIC MOUNTED FURNACES:
  - PROVIDE MINIMUM 24" WIDE SOLID FLOORING CATWALK FROM THE ATTIC ACCESS TO WORK PLATFORM ON THE CONTROL SIDE OF THE FURNACE.
  - PROVIDE 30"x30" ATTIC ACCESS WITHIN 20' OF FURNACE. ACCESS MAY BE SMALLER, PROVIDED FURNACE PARTS WILL PASS THROUGH. (PROVIDE DOCUMENTATION)
  - SEE ELECTRICAL PLAN FOR LIGHT AND ELECT. RECEPTACLE LOCATION
  - PROVIDE CONDENSATE DRIP PAN AND OVERFLOW LINES FOR COOLING COILS
- AFTER INSTALLING HVAC EQUIPMENT AND WATER HEATING SYSTEMS, THE INSTALLER SHALL POST IN A CONSPICUOUS LOCATION AT THE BUILDING SITE. AN "INSTALLATION CERTIFICATE" (CF-3R FORM) SIGNED BY THE INSTALLER, LISTING THE EQUIPMENT INSTALLED (MANUFACTURER, MODEL AND EFFICIENCIES) AND THAT IT MEETS OR EXCEEDS THE REQUIREMENTS OF THE ENERGY DOCUMENTATION.
- AIR CONDITIONING EQUIPMENT DESIGNED TO BE IN A FIXED POSITION SHALL BE SECURELY FASTENED TO STRUCTURE.
- WHERE MECHANICAL VENTILATION IS USED IN BATHROOMS, EXHAUST FAN SHALL PROVIDE A MIN. OF FIVE AIR CHANGES PER HOUR, VENTED DIRECTLY TO THE OUTSIDE. THE POINT OF DISCHARGE OF EXHAUST AIR SHALL BE AT LEAST 5 FEET FROM ANY MECHANICAL VENTILATION INTAKE AND 3 FEET MIN. FROM PROPERTY LINES.
- CLOTHES DRYER SHALL BE VENTED TO EXTERIOR OF BUILDING PER U.M.C. 504.3 AND DRYER DUCTS SHALL NOT EXCEED A TOTAL HORIZONTAL AND VERTICAL LENGTH OF 14 FEET. 2 FEET SHALL BE DUCTED FOR EACH 90 DEGREE ELBOW IN EXCESS OF TWO. WHERE A DRYER SPACE IS PROVIDED, A MIN. 4 INCH DRYER VENT MUST BE INSTALLED.
- ALL DUCTS SHALL BE CONSTRUCTED, INSTALLED AND INSULATED PER CHAPTER 6 OF THE CURRENT C.M.C.

## PLAN 2

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THE ABOVE DRAWINGS AND SPECIFICATIONS AND IDEAS, DESIGNS AND ARRANGEMENTS REPRESENTED THEREBY ARE AND SHALL REMAIN THE PROPERTY OF C. H. B. DESIGNS AND NO PART THEREOF SHALL BE COPIED, DISCLOSED TO OTHERS OR USED IN CONNECTION WITH ANY WORK OR PROJECT OTHER THAN THE SPECIFIC PROJECT FOR WHICH THEY HAVE BEEN PREPARED AND DEVELOPED, WITHOUT THE WRITTEN CONSENT. VIOLATION OF THESE TERMS SHALL BE CONSIDERED A BREACH OF CONTRACT AND SHALL CONSTITUTE CONCLUSIVE EVIDENCE OF NEGLIGENT OR WILLFUL VIOLATION OF THESE RESTRICTIONS.

*Chowchilla*

DATE: 06-17-2022

CWB DESIGNS

3838 N. CHICKADEE AVE.  
SANGER, CA 93657  
PHONE: 559.294.6534

STANDARD PLAN #2 FOR:

CITY OF CHOWCHILLA

130 S 2ND STREET  
CHOWCHILLA, CA 93610  
PHONE: 559-665-8615

MECHANICAL

SHEET

M1

OF 19

REV	DATE
NEW	05.09.22
ENG	05.25.22
SUB	06.17.22

DRAWING FILE  
F:\CHOWCHILLA  
PLAN 2\1AMA

CWB



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*[Signature]*

CERTIFICATE OF COMPLIANCE

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REQUIRED PV SYSTEMS - SIMPLIFIED

01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWp)	Exception	Module Type	Array Type	Power Electronics	CPV	Asimuth (deg)	Tilt Input	Array Angle (deg)	Inverter Effic (%)	Annual Solar Access (%)	
2.05	NA	Standard	Fixed	none	true	150-270	N/A	N/A	<=71.2	96	98

REQUIRED SPECIAL FEATURES

The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.

- Indoor air quality, balanced fan
- IAQ Ventilation System: achieve at 0.25 W/CFM
- IAQ Ventilation System Heat Recovery: minimum 69 SEER and 75 ASHRAE
- IAQ Ventilation System: supply outside air inlet, filter, and HEPA covers acceptable per RACM Reference Manual
- Insulation below roof deck
- Window overhangs and/or film

HERS FEATURE SUMMARY

The following is a summary of the features that must be field verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CDRs and CDRs are required to be completed in the HERS Rater.

Building Level Verifications:

- Quality insulation installation (QI)
- Indoor air quality verification
- Kitchen range hood
- Cooling System Verifications:
- Minimum airflow
- Verified EER
- Verified SEER
- Verified Refrigerant Charge
- Fan Efficiency Warranty (FEW)
- Heating System Verifications:
- None
- HVAC Distribution System Verifications:
- Duct leakage testing
- Domestic Hot Water System Verifications:
- None

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BUILDING - FEATURES INFORMATION

01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Plan 2	378	1	1	1	0	1

ZONE INFORMATION

01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft²)	Avg. Ceiling Height	Water Heating System 1	Water Heating System 2
House	Conditioned	HVAC1	378	8	DHW Sys 1	N/A

OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Asimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft²)	Tilt (deg)
Front Wall	House	R-19 Wall - R-6.1 EPS	0	front	209	36	90
Left Wall	House	R-19 Wall - R-6.1 EPS	90	left	139	0	90
Back Wall	House	R-19 Wall - R-6.1 EPS	180	back	209	6	90
Right Wall	House	R-19 Wall - R-6.1 EPS	270	right	128	30.5	90
Roof	House	R-38 Ceiling-R-13	n/a	n/a	378	n/a	n/a

ATTC

01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise (in 12)	Roof Reflectance	Roof Entrance	Radiant Barrier	Cool Roof
Attic House	Attic: Roof/House	Ventilated	6	0.1	0.05	No	No

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FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Asimuth	Width (ft)	Height (ft)	Mult. Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading	
5000 SL	Window	Front Wall	Front	0	5	4	1	20	0.3	NFRC	0.23	NFRC	Bag Screen
4000 SL	Window	Front Wall	Front	0	4	4	1	16	0.3	NFRC	0.23	NFRC	Bag Screen
2030 SH	Window	Back Wall	Back	180	1	6	0.3	NFRC	0.23	NFRC	0.23	NFRC	Bag Screen
3036 SH	Window	Right Wall	Right	270	3	3.5	1	10.5	0.3	NFRC	0.23	NFRC	Bag Screen

OPAQUE DOORS

01	02	03	04
Name	Side of Building	Area (ft²)	U-factor
Door	Right Wall	20	0.5

OVERHANGS AND FINIS

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Window	Overhang	Left Fin	Right Fin	Depth	Top Up	Dist L	Bot Up	Depth	Top Up	Dist R	Bot Up		
5000 SL	1	0.3	2	2	0	0	0	0	0	0	0	0	0
4000 SL	1	0.3	2	2	0	0	0	0	0	0	0	0	0
3036 SH	5	0.3	2	2	0	0	0	0	0	0	0	0	0

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SLAB FLOORS

01	02	03	04	05	06	07	08
Name	Zone	Area (ft²)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated
Sub-on-grade	House	378	84	none	0	80%	No

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-19 Wall - R-6.1 EPS	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O.C.	R-19	None / R-4	0.055	Inside: Gypsum Board Cavity / Frame: R-19 in 5.1/2 in. (R-18) / 2x6 Sheathing / Insulation: R-4 Sheathing Exterior Finish: Synthetic Stucco
Attic Roof/House	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R-13	None / None	0.078	Roofing: High Roof (Asphalt Shingle) Roof Deck: Wood Siding/Sheathing/Decking: Cavity / Frame: R-13 @ 2x4 Around Roof Joists: R-6.0 Insul.
R-38 Ceiling-R-13	Ceilings (Below attic)	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R-38	None / None	0.025	Over Ceiling Joists: R-28.9 Insul. Cavity / Frame: R-13 / 2x4 Inside: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION

01	02	03
Quality Insulation Installation (QI)	High R-value Spray Foam Insulation	Building Envelope Air Leakage
Required	Not Required	CFM50
		n/a

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WATER HEATING SYSTEMS

01	02	03	04	05	06	07
Name	System Type	Distribution Type	Water Heater Name (N)	Solar Heating System	Compact Distribution	HERS Verification
DHW Sys 1	Domestic Hot Water (DHW)	Standard Distribution System	DHW Heater 1 (1)	n/a	None	n/a

WATER HEATERS

01	02	03	04	05	06	07	08	09	10	11	12
Name	Heating Element Type	Tank Type	# of Units	Tank Size (gal)	Energy Factor or Efficiency	Input Rating or Pilot	Tank Insulation or Recovery Eff.	Standby Loss or Flow Rate	1st Hr. Rating or Flow Rate	NEEA Heat Pump Brand or Model	Tank Location or Ambient Condition
DHW Heater 1	Gas	Consumer Instantaneous	1	0	0.93 SEER	<= 200 MBtu/yr	0	n/a	n/a	n/a	n/a

WATER HEATING - HERS VERIFICATION

01	02	03	04	05	06	07	08
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Compact Distribution Type	Recirculation Control	Central DHW Distribution	Showers Drain Water Heat Recovery
DHW Sys 1 - 1/2"	Not Required	Not Required	Not Required	None	Not Required	Not Required	Not Required

SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
Name	System Type	Heating Unit Name	Cooling Unit Name	Fan Name	Distribution Name	Required Thermostat	Status	Verified Existing Condition	Heating Equipment Count	Cooling Equipment Count	
HVAC1	Heating and cooling system other	Heating Component 1	Cooling Component 1	HVAC Fan 1	HVAC Fan 1 thermostat	Setback	New	NA	1	1	

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HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name		Date	
Plan 2	6/16/2022		
Engineering Checks			
Number of Systems	System Load	COIL COOLING PEAK	COIL HTG. PEAK
		CFM Sensible Latent	CFM Sensible
Heating Systems	Total Room Loads	171 5,629 152	104 7,424
	Return Ventd Lighting	0	0
	Return Air Ducts	157	374
Cooling Systems	Return Fan Ventilation	0 0 0	0
	Supply Fan	0	0
	Supply Air Ducts	157	374
	Total Output (Tons)	17.2	17.2
	Total Output (Btu/hour)	47,720	47,720
	Total Output (kW/ton)	252.0	252.0

COOLING SYSTEM PSYCHROMETRICS (Air stream Temperatures at Time of Cooling Peak)

01	02	03	04	05	06	07	08	09	10	11	12
Name	Type	Design Type	Supply	Return	Supply	Return	Supply	Return	Bypass Duct	Duct Leakage	HERS Verification
Air Distribution System 1	Unconditioned attic	Non-Verified	R-8	R-8	ASRC	ASRC	n/a	n/a	No Bypass Duct	Sealed and tested	As Distribution System 1, there is no

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HVAC DISTRIBUTION - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Duct Leakage Verification	Duct Leakage Target (%)	Verified Duct Location	Verified Duct Design	Buried Ducts	Deeply Buried Ducts	Low Leakage Air Handler	Low Leakage Ducts Entirely in Conditioned Space
Air Distribution System 1, there is no	Yes	5.0	Not Required	Not Required	Not Required	Credit not taken	Not Required	No

HVAC - FAN SYSTEMS

01	02	03	04
Name	Type	Fan Power (Watt/CFM)	Name
HVAC Fan 1	HVAC Fan	0.45	HVAC Fan 1 thermostat

HVAC FAN SYSTEMS - HERS VERIFICATION

01	02	03
Name	Verified Fan Watt Draw	Required Fan Efficiency (Watt/CFM)
HVAC Fan 1 thermostat	Required	0.45

IAQ (INDOOR AIR QUALITY) RANS

01	02	03	04	05	06	07
Dwelling Unit	IAQ CFM	IAQ Watts/CFM	IAQ Fan Type	IAQ Recovery Effectiveness - SE	IAQ Recovery Effectiveness - ASRE	HERS Verification
Stair IAQ/Watt/ft² 1.1	40	0.25	Balanced	69	75	Yes

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I, the undersigned, declare that the information provided in this Certificate of Compliance is accurate and complete.

Documentation Author Name: *Juanval Martinez*

Signature: *Juanval Martinez*

Registration Date: 2022-06-16 13:31:10

Company: EnerCal Solutions

Address: 244 S. Olympic St. Kernam, CA 93630

Phone: 559-846-4327

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I, the undersigned, declare that the information provided in this Certificate of Compliance is accurate and complete.

Responsible Person Name: *Clifton W. Barnes*

Signature: *Clifton W. Barnes*

Registration Date: 2022-06-16 17:30:10

Company: CWB Designs

Address: 401 Harmon Ave #2245 Clovis, CA 93612

Phone: 559-294-6534

Digitally signed by CWCBTIS, Inc. This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.

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2022-06-16 17:30:10

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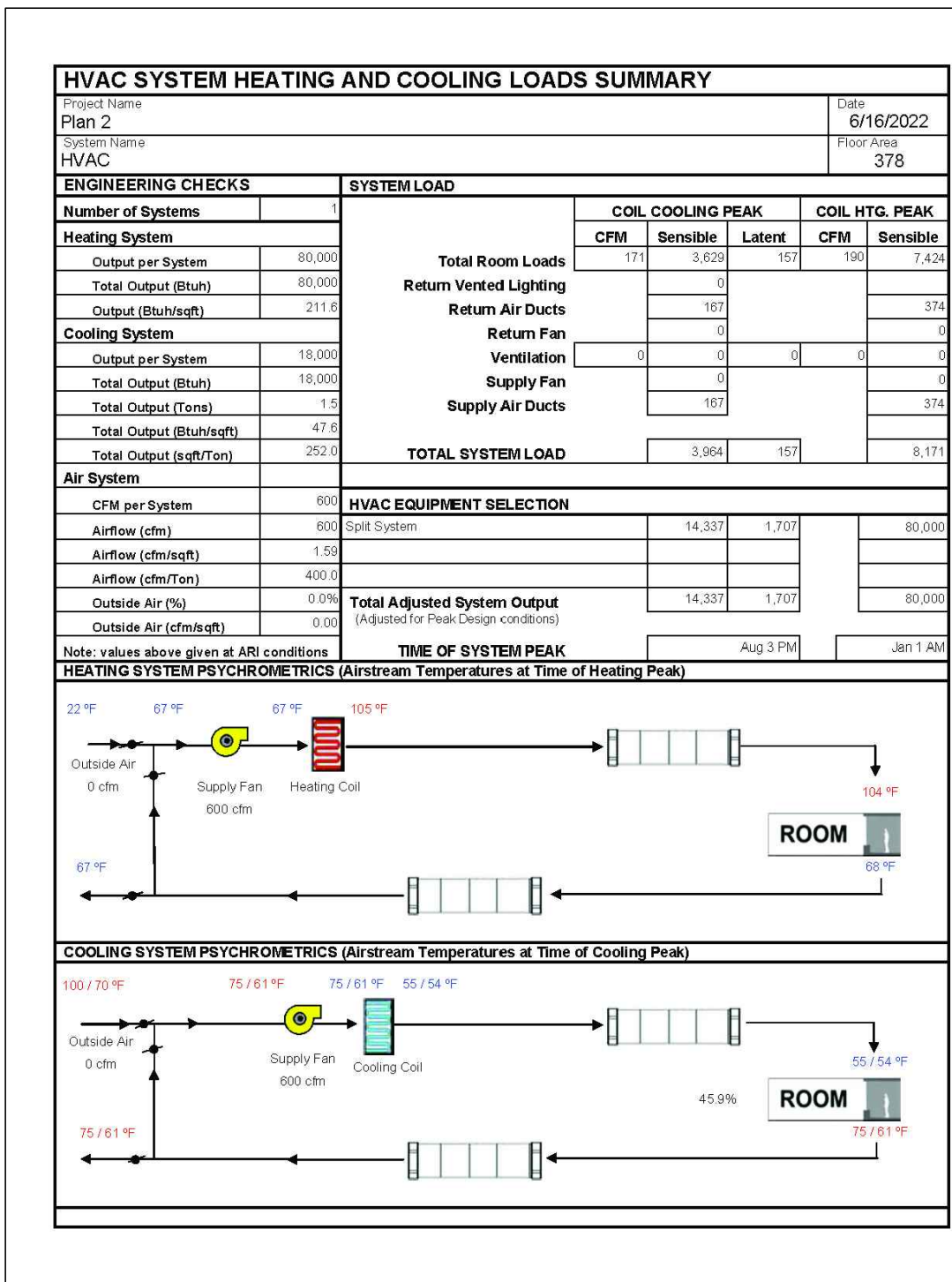
CWCBTIS, Inc.

CA Building Energy Efficiency Standards - 2019 Residential Compliance

Report Version: 2019.2.000

Schema Version: rev 20200901

Report Generated: 2022-06-16 13:14:30





CERTIFICATE OF COMPLIANCE
Project Name: Plan 2 - w Mini Split
Calculation Date/Time: 2022-06-16T13:50:12-07:00
Input File Name: Plan 2 - Mini Split HP - v2019.rbd159x
CF1R-PHF-01E (Page 1 of 10)

CERTIFICATE OF COMPLIANCE
Project Name: Plan 2 - w Mini Split
Calculation Date/Time: 2022-06-16T13:50:12-07:00
Input File Name: Plan 2 - Mini Split HP - v2019.rbd159x
CF1R-PHF-01E (Page 2 of 10)

CERTIFICATE OF COMPLIANCE
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Calculation Date/Time: 2022-06-16T13:50:12-07:00
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CF1R-PHF-01E (Page 3 of 10)

CERTIFICATE OF COMPLIANCE
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Calculation Date/Time: 2022-06-16T13:50:12-07:00
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CF1R-PHF-01E (Page 4 of 10)

CERTIFICATE OF COMPLIANCE
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Calculation Date/Time: 2022-06-16T13:50:12-07:00
Input File Name: Plan 2 - Mini Split HP - v2019.rbd159x
CF1R-PHF-01E (Page 5 of 10)

CERTIFICATE OF COMPLIANCE
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Calculation Date/Time: 2022-06-16T13:50:12-07:00
Input File Name: Plan 2 - Mini Split HP - v2019.rbd159x
CF1R-PHF-01E (Page 6 of 10)

CERTIFICATE OF COMPLIANCE
Project Name: Plan 2 - w Mini Split
Calculation Date/Time: 2022-06-16T13:50:12-07:00
Input File Name: Plan 2 - Mini Split HP - v2019.rbd159x
CF1R-PHF-01E (Page 7 of 10)

CERTIFICATE OF COMPLIANCE
Project Name: Plan 2 - w Mini Split
Calculation Date/Time: 2022-06-16T13:50:12-07:00
Input File Name: Plan 2 - Mini Split HP - v2019.rbd159x
CF1R-PHF-01E (Page 8 of 10)

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY
Project Name: Plan 2 - w Mini Split
System Name: HVAC
Date: 6/16/2022
Floor Area: 378

CERTIFICATE OF COMPLIANCE
Project Name: Plan 2 - w Mini Split
Calculation Date/Time: 2022-06-16T13:50:12-07:00
Input File Name: Plan 2 - Mini Split HP - v2019.rbd159x
CF1R-PHF-01E (Page 9 of 10)

CERTIFICATE OF COMPLIANCE
Project Name: Plan 2 - w Mini Split
Calculation Date/Time: 2022-06-16T13:50:12-07:00
Input File Name: Plan 2 - Mini Split HP - v2019.rbd159x
CF1R-PHF-01E (Page 10 of 10)

DATE: 06-17-2022

CWB DESIGNS

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STANDARD PLAN #2 FOR:

CITY OF CHOWCHILLA

130 S 2ND STREET
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REV DATE
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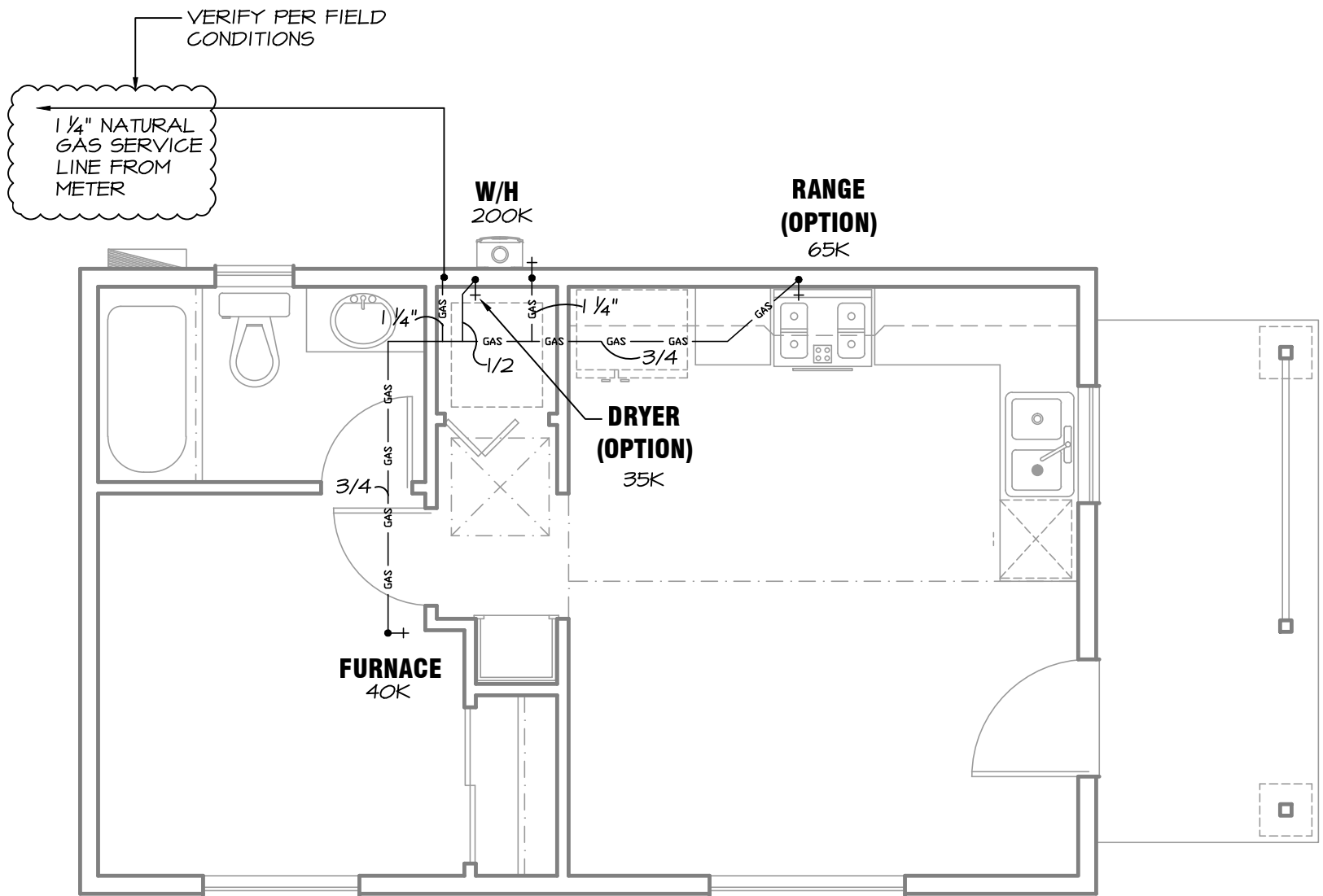
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## GAS PIPING PLAN

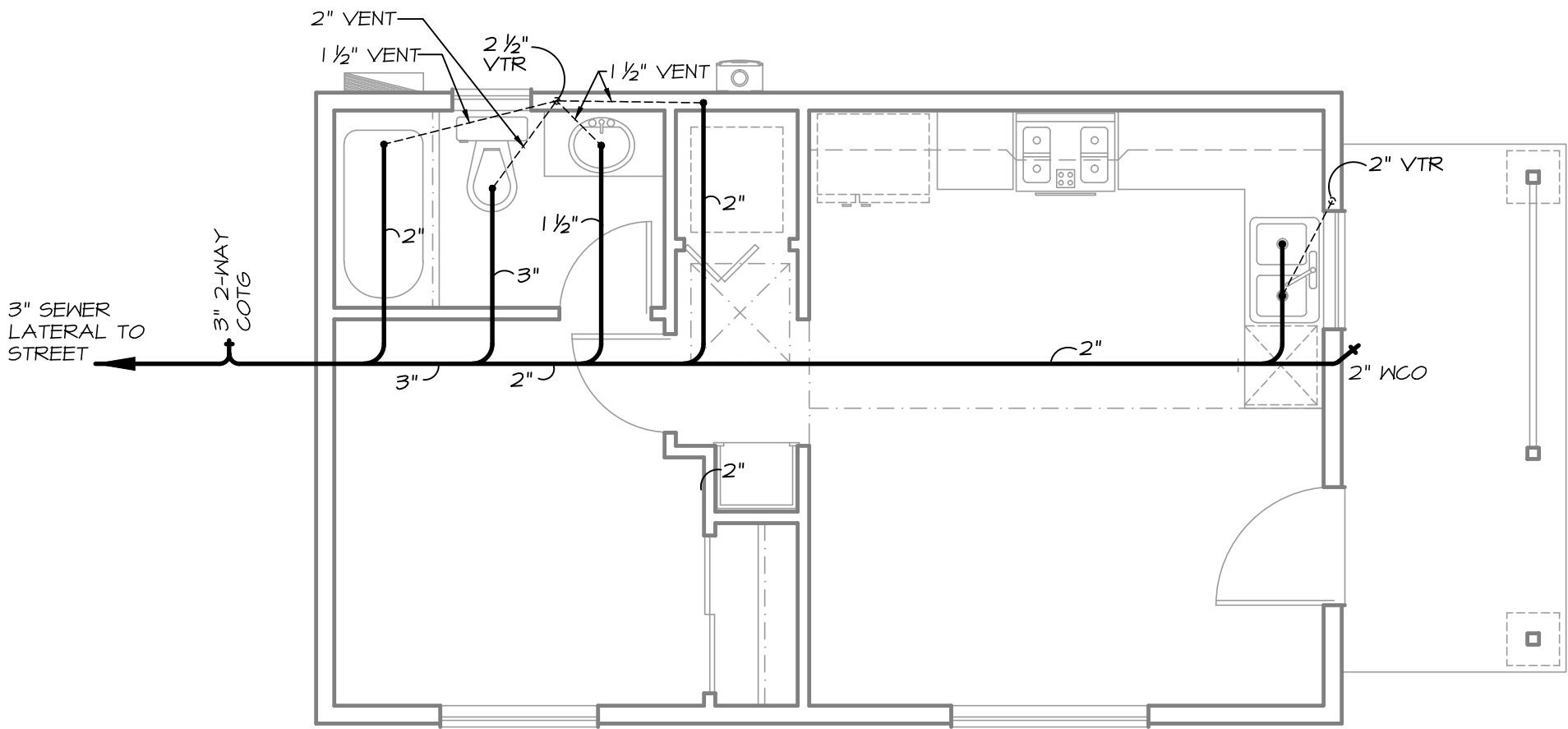
SCALE: 1/4" = 1'-0"

GAS LINE FIXTURE VALUES (TABLE 1208.4.1)		
FIXTURE TYPE	B.T.U.H. (X1000)	C.F.H.
WATER HEATER	200	181.8
FURNACE	40	36.4
GAS RANGE	65	59.0
GAS DRYER	35	31.8
TOTAL	340	309
LENGTH FROM METER TO FARTHEST FIXTURE : NOT TO EXCEED 150'-0"		

GAS PIPE SIZING- TABLE 1216.2(1)	
PIPE SIZE	CFM
1 1/2"	482
1 1/4"	322
1"	157
3/4"	83
1/2"	40
1 1/2" NATURAL GAS SERVICE DISTANCE TO REMOTE FIXTURE 150' W.G. PRESSURE DROP 0.5" SPECIFIC GRAVITY 0.60	

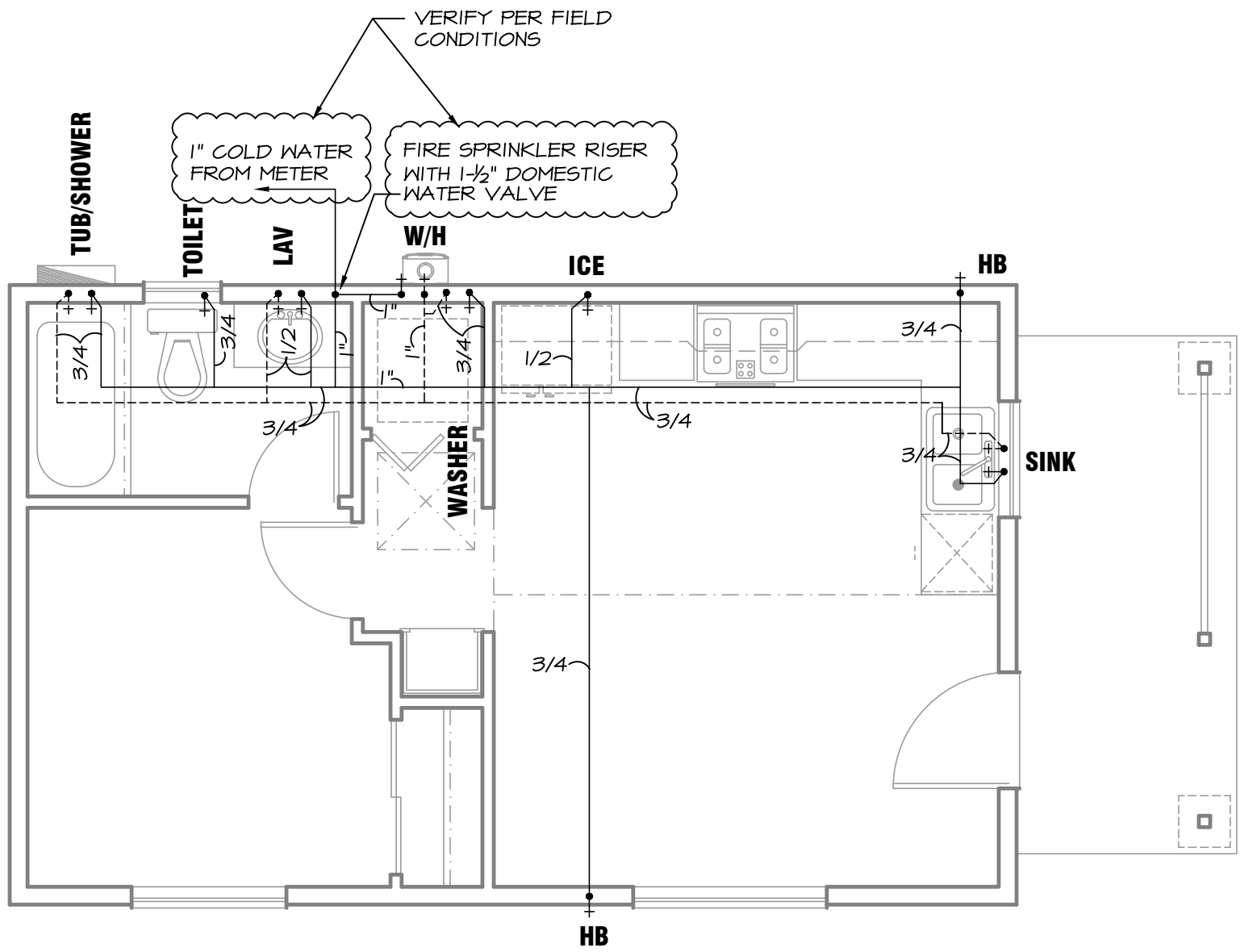
DRAINAGE FIXTURE VALUES			
FIXTURE	F.U. EA.	QUANT.	F.U. TOTAL
W/C	3	1	3
TUB/SHWR	2	1	2
LAV	1	1	1
SINK	2	1	2
WASHER	3	1	3
TOTAL		5	11

WASTE PIPE SIZING- UNIT LOADING TABLE (703.2)			
PIPE SIZE	WASTE		VENT F.U.
	F.U.	MAX. LENGTH	
1 1/4"	1	45'	1
1 1/2"	1	65'	8
2"	8	85'	24
2 1/2"	14	148'	48
3"	35	212'	84
4"	216	300'	256
WASTE PIPE SHALL HAVE MIN. 1/4" PER FOOT SLOPE			



## WASTE PIPING PLAN

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



## WATER PIPING PLAN

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

WATER SUPPLY FIXTURE VALUES			
FIXTURE	F.U. EA.	QUANT.	F.U. TOTAL
W/C	2.5	1	2.5
TUB/SHWR	4	1	4
LAV	1.5	1	1.5
SINK	4	1	4
WASHER	2.5 / 1	2	3.5
H.B.	1	1	1
REF	1	1	1
TOTAL		8	17.5

DISTANCE FROM WATER SERVICE TO MOST REMOTE PLUMBING FIXTURE = 150'-0"

WATER PIPE SIZING- FIXTURE UNIT TABLE (610.4)	
PIPE SIZE	FIXTURE UNITS
1 1/4"	32
1"	20
3/4"	9
1/2"	2
1" METER SERVICE 150' DISTANCE TO REMOTE FIXTURE 30 - 45 PSI AVAILABLE STATIC PRESSURE	

## SPECIAL NOTES

THE ABOVE WATER AND GAS PIPING PLANS AND THE WASTE PIPING PLANS ARE SUBJECT TO CHANGE PER LOT SPECIFIC FIELD CONDITIONS. ONCE THE FIELD CONDITIONS HAVE BEEN VERIFIED, THE CITY OF CLOVIS BUILDING DEPARTMENT MUST REVIEW AND APPROVE THE PLANS PRIOR TO COMMENCING WITH THE PLUMBING INSTALLATION IN THE FIELD.

GAS PIPING PLANS ARE BASED ON A MAXIMUM DEVELOPED LENGTH OF 150'-0" FROM METER TO MOST REMOTE FIXTURE. THIS DISTANCE SHOULD BE VERIFIED IN THE FIELD AS WELL AS THE PIPE SIZE AT THE SERVICE. PG&E MAY NEED TO REPLACE EXISTING SERVICE TO ACCOMMODATE FOR 1 1/4" GAS PIPING.

## PLUMBING PLAN NOTES

WATER HAMMER ARRESTORS TO BE INSTALLED AT THE FOLLOWING QUICK-ACTING SHUTOFF VALVES:

- AUTOMATIC WASHING MACHINE (HOT & COLD WATER)
- ICE MAKER
- DISHWASHER
- FRONT & REAR SPRINKLER OUTLETS.

ALL HOSE BIBS SHALL BE EQUIPPED WITH NON-REMOVABLE BACK FLOW PREVENTERS.

ALL WATER CLOSETS SHALL BE LOW-FLOW WITH MAX. 1.28 GAL. PER FLUSH

SHOWER COMPARTMENTS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEADS SHALL BE FINISHED WITH A NONABSORBENT SURFACE TO A HEIGHT NOT LESS THAN 6 FEET ABOVE THE FLOOR PER **CRC R301.2**.

ALL TUB-SHOWER OPENINGS SHALL BE RODENT PROOF, WITH 1" CEMENT COVERING IN AN APPROVED MANNER.

ALL TUB AND SHOWER VALVES ARE TO BE SINGLE CONTROL PRESSURE BALANCING OR THERMOSTATIC MIXING TYPE. THE DEVICE IS REQUIRED TO LIMIT THE WATER TEMPERATURE TO A MAXIMUM OF 120 DEGREES. (SUCH DEVICES SHALL CONFORM TO ASSE 1070 OR CSA B125.3) THE WATER HEATER THERMOSTAT SHALL NOT BE CONSIDERED AS MEETING THIS PROVISION

PROVIDE WATERPROOF FINISH MATERIALS AT SHOWER WALLS TO 6'-0", SHOWER DOORS AND GLASS TUB ENCLOSURES SHALL BE SAFETY GLASS OR INSTALL ROD AND CURTAIN.

PROVIDE 12" x 12" TUB AND SHOWER ACCESS PANELS OR PROVIDE BRASS FERRULE OVERFLOW AND DRAIN.

GAS VENTS TO TERMINATE NOT LESS THAN 48" FROM OPENINGS OR PROPERTY LINES, AND NOT LESS THEN 12" ABOVE A DOOR, OPENABLE WINDOW OR GRAVITY AIR INLET.

CEMENT, FIBER CEMENT OR GLASS MAT GYPSUM BACKERS SHALL BE USED AS A BASE FOR WALL TILES IN TUB AND SHOWER AREAS. WATER RESISTIVE GYP. BOARD IS NOT PERMITTED AT THESE LOCATIONS.

ALL EQUIPMENT IN THE POTABLE WATER DELIVERY SYSTEM SHALL COMPLY WITH AB 1953 FOR LEAD CONTENT. THIS APPLIES TO ALL PIPING, FIXTURES AND FITTINGS THAT CONVEY OR DISPENSE WATER FOR HUMAN CONSUMPTION.

HOT AND COLD WATER PIPING IN UNCONDITIONED SPACE LEADING TO AND FROM WATER HEATER SHALL BE PROVIDED WITH A MINIMUM 1" THICK PIPE INSULATION FOR THE FIRST FIVE FEET OF PIPE CLOSEST TO THE WATER HEATER.

ALL DOMESTIC HOT WATER PIPING SHALL BE INSULATED. ALL HOT WATER PIPE INSULATION SHALL HAVE A MINIMUM WALL THICKNESS OF NOT LESS THAN THE DIAMETER OF THE PIPE UP TO 2"

THE MAXIMUM HOT WATER TEMPERATURE DISCHARGE SHALL BE LIMITED FOR THE FOLLOWING:

- BATHUBS AND WHIRLPOOL BATHTUBS SHALL BE LIMITED TO 120°F BY A DEVICE THAT CONFORMS TO ASSE 1070 OR CSA B125.3, (CPC SECTION 404.4) (THE WATER HEATER THERMOSTAT SHALL NOT BE CONSIDERED A CONTROL FOR MEETING THIS PROVISION)
- SHOWERS AND TUB/SHOWER COMBINATIONS SHALL BE PROVIDED WITH INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE, THERMOSTATIC, OR COMBINATION PRESSURE BALANCE/THERMOSTATIC MIXING VALVES TYPE THAT PROVIDE SCALD AND THERMAL SHOCK PROTECTION FOR THE RATED FLOW RATE OF THE INSTALLED SHOWERHEAD. THESE VALVES SHALL BE INSTALLED AT THE POINT OF USE AND IN ACCORDANCE WITH ASSE 1016 OR ASME AL 12.10/CSAB 125.1 (CPC SECTION 408.3)

AT THE TIME OF FINAL INSPECTION, THE PERMIT APPLICANT MUST PROVIDE THE OWNER OF THE PROPERTY WITH A CERTIFICATE OF COMPLETION, CERTIFICATE OF INSTALLATION, IRRIGATION SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE.

THE WATER HEATER SHALL BE PROVIDED WITH A TEMPERATURE AND PRESSURE RELIEF VALVE HAVING A FULL SIZED DRAIN OF GALVANIZED STEEL OR HARD DRAWN COPPER TO THE OUTSIDE OF THE BUILDING WITH THE END OF THE PIPE NOT MORE THAN 24" NOR LESS THAN 6" ABOVE GRADE, POINTING DOWNWARD WITH THE TERMINAL END BEING UNTHREADED.

PEX PIPING MATERIAL SHALL BE USED FOR WATER DELIVERY. AT THE TIME OF FINAL INSPECTION, EACH FIXTURE SHALL HAVE A REMOVABLE TAG APPLIED STATING: THIS NEW PLUMBING SYSTEM WAS FIRST FILLED AND FLUSHED ON (DATE) BY (NAME). THE STATE OF CALIFORNIA REQUIRES THAT THE SYSTEM BE FLUSHED AFTER STANDING AT LEAST ONE WEEK AFTER THE FILL DATE SPECIFIED ABOVE. IF THIS SYSTEM IS USED EARLIER THAN ONE WEEK AFTER THE FILL DATE, THE WATER MUST BE ALLOWED TO RUN FOR AT LEAST TWO MINUTES PRIOR TO USE FOR HUMAN CONSUMPTION. THIS TAG MAY NOT BE REMOVED PRIOR TO THE COMPLETION OF THE REQUIRED SECOND FLUSHING, EXCEPT BY THE OWNER OR OCCUPANT. - 2013 CPC 604.1.2

CONDENSATE DRAIN LINES SHALL BE CONFIGURED OR PROVIDED WITH A CLEANOUT TO PERMIT THE CLEARING OF BLOCKAGES AND FOR MAINTENANCE WITHOUT REQUIRING THE DRAIN LINE TO BE CUT.

THE TEMPERATURE AND PRESSURE RELIEF VALVE SHALL HAVE A FULL SIZED DRAIN OF GALV. STEEL OR HARD DRAWN COPPER TO THE OUTSIDE OF THE BUILDING WITH THE END OF THE PIPE NOT MORE THAN 24" OR LESS THAN 6" ABOVE GRADE, POINTING DOWNWARD AND THE TERMINAL END BEING UNTHREADED.

## WATER HEATING MANDATORY MEASURES

WATER HEATING SYSTEMS USING GAS TO SERVE INDIVIDUAL DWELLING UNITS SHALL INCLUDE THE FOLLOWING COMPONENTS:

- A 120 VOLT ELECTRICAL RECEPTACLE WITHIN 3 FEET FROM THE WATER HEATER AND ACCESSIBLE TO THE WATER HEATER WITH NO OBSTRUCTIONS
- A CATEGORY III OR IV VENT, OR A TYPE B VENT WITH STRAIGHT PIPE BETWEEN THE OUTSIDE TERMINATION AND THE SPACE WHERE THE WATER HEATER IS INSTALLED.
- A CONDENSATE DRAIN THAT IS NO MORE THAN 2 INCHES HIGHER THAN THE BASE OF THE INSTALLED WATER HEATER, AND ALLOWS NATURAL DRAINAGE WITHOUT PUMP ASSISTANCE.
- A GAS SUPPLY LINE WITH A CAPACITY OF AT LEAST 200,000 BTU/HR.

MINIMUM 1" THICK PIPE INSULATION SHALL BE INSTALLED ON HOT WATER PIPES FROM THE WATER HEATER TO THE KITCHEN FIXTURES.

ANY WATER SYSTEM PROVIDED WITH A CHECK VALVE, BACK-FLOW PREVENTER, OR ANY OTHER NORMALLY CLOSED DEVICE THAT PREVENTS DISSIPATION OF BUILDING PRESSURE BACK INTO THE WATER MAIN SHALL BE PROVIDED WITH AN APPROVED, LISTED, AND ADEQUATELY SIZED EXPANSION TANK.

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DATE: 06-17-2022

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PLUMBING

REVISIONS	
REV	DATE
NEW	05-09-22
ENG	05-25-22
SB	06-17-22

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PLAN	21.APA

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## 2019 CALIFORNIA GREEN BUILDING STANDARDS

### SECTION 4.106

#### SECTION DEVELOPMENT

**4.106.1 GENERAL.** PRESERVATION AND USE OF AVAILABLE NATURAL RESOURCES SHALL BE ACCOMPLISHED THROUGH EVALUATION AND CAREFUL PLANNING TO MINIMIZE NEGATIVE EFFECTS ON THE SITE AND ADJACENT AREAS. PRESERVATION OF SLOPES, MANAGEMENT OF STORM WATER DRAINAGE AND EROSION CONTROLS SHALL COMPLY WITH THIS SECTION.

#### 4.106.2 STORM WATER DRAINAGE AND RETENTION DURING CONSTRUCTION.

PROJECTS WHICH DISTURB LESS THAN ONE ACRE OF SOIL AND ARE NOT PART OF A LARGER COMMON PLAN OF DEVELOPMENT

WHICH IN TOTAL DISTURBS ONE ACRE OR MORE, SHALL MANAGE STORM WATER DRAINAGE DURING CONSTRUCTION. IN ORDER TO MANAGE STORM WATER DRAINAGE DURING CONSTRUCTION, ONE OR MORE OF THE FOLLOWING MEASURES SHALL BE IMPLEMENTED TO PREVENT FLOODING OF ADJACENT PROPERTY, PREVENT EROSION AND RETAIN SOIL RUNOFF ON THE SITE.

1. RETENTION BASINS OF SUFFICIENT SIZE SHALL BE UTILIZED TO RETAIN STORM WATER ON THE SITE.
2. WHERE STORM WATER IS CONVEYED TO A PUBLIC DRAINAGE SYSTEM, COLLECTION POINT, GUTTER OR SIMILAR DISPOSAL METHOD, WATER SHALL BE FILTERED BY USE OF A BARRIER SYSTEM, WATTLE OR OTHER METHOD APPROVED BY THE ENFORCING AGENCY.
3. COMPLIANCE WITH A LAWFULLY ENACTED STORM WATER MANAGEMENT ORDINANCE.

**4.106.3 GRADING AND PAVING.** CONSTRUCTION PLANS SHALL INDICATE HOW THE SITE GRADING OR DRAINAGE SYSTEM WILL MANAGE ALL SURFACE WATER FLOWS TO KEEP WATER FROM ENTERING BUILDINGS. EXAMPLES OF METHODS TO MANAGE SURFACE WATER INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

1. SWALES
  2. WATER COLLECTION AND DISPOSAL SYSTEMS
  3. FRENCH DRAINS
  4. WATER RETENTION GARDENS
  5. OTHER WATER MEASURES WHICH KEEP SURFACE WATER AWAY FROM BUILDINGS AND AID IN GROUNDWATER RECHARGE.
- EXCEPTION: ADDITIONS AND ALTERATIONS NOT ALTERING THE DRAINAGE PATH.

#### 4.106.4 ELECTRIC VEHICLE (EV) CHARGING FOR NEW CONSTRUCTION.

NEW CONSTRUCTION SHALL COMPLY WITH SECTIONS 4.106.4.1 AND 4.106.4.2 TO FACILITATE FUTURE INSTALLATION AND USE OF EV CHARGERS. ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE) SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE, ARTICLE 625.

EXCEPTIONS: ON A CASE-BY-CASE BASIS, WHERE THE LOCAL ENFORCING AGENCY HAS DETERMINED EV CHARGING AND INFRASTRUCTURE ARE NOT BASED UPON ONE OR MORE OF THE FOLLOWING CONDITIONS:

1. WHERE THERE IS NO COMMERCIAL POWER SUPPLY.
2. WHERE THERE IS EVIDENCE SUBSTANTIATING THAT MEETING THE REQUIREMENTS WILL ALTER THE LOCAL UTILITY INFRASTRUCTURE.

DESIGN REQUIREMENTS ON THE UTILITY SIDE OF THE METER SO AS TO INCREASE THE UTILITY SIDE COST TO THE HOMEOWNER OR THE DEVELOPER BY MORE THAN \$400.00 PER DWELLING UNIT.

**4.106.4.1 NEW ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES WITH ATTACHED PRIVATE GARAGES.** FOR EACH DISTURBED UNIT, INSTALL A LISTED RACEWAY CAPABLE OF ACCOMMODATING A 208/1240-VOLT BRANCH CIRCUIT, THE RACEWAY SHALL NOT BE LESS THAN TRADE SIZE 1" (NOMINAL 1-INCH INSIDE DIAMETER). THE RACEWAY SHALL ORIGINATE AT THE MAIN SERVICE OR SUBPANEL AND SHALL TERMINATE INTO A LISTED CABINET, BOX OR OTHER ENCLOSURE IN CLOSE PROXIMITY TO THE PROPOSED LOCATION OF AN EV CHARGER. RACEWAYS ARE REQUIRED TO BE CONTINUOUS AT ENCLOSED, INACCESSIBLE OR CONCEALED AREAS AND SPACES. THE SERVICE PANEL AND/OR SUBPANEL SHALL PROVIDE CAPACITY TO INSTALL A 40-AMPERE MINIMUM DEDICATED BRANCH CIRCUIT AND SPACES RESERVED TO PERMIT INSTALLATION OF A BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE.

**4.106.4.1.1 IDENTIFICATION.** THE SERVICE PANEL OR SUBPANEL CIRCUIT DIRECTORY SHALL IDENTIFY THE OVERCURRENT PROTECTIVE DEVICE SPACE(S) RESERVED FOR FUTURE EV CHARGING AS "EV CAPABLE". THE RACEWAY TERMINATION LOCATION SHALL BE PERMANENTLY AND VISIBLY MARKED AS "EV CAPABLE".

**4.106.4.2 NEW MULTIFAMILY DWELLINGS.** WHERE 17 OR MORE MULTIFAMILY DWELLING UNITS ARE CONSTRUCTED ON A BUILDING SITE, 3 PERCENT OF THE TOTAL NUMBER OF PARKING SPACES PROVIDED FOR ALL TYPES OF PARKING FACILITIES, BUT IN NO CASE LESS THAN ONE, SHALL BE ELECTRIC VEHICLE CHARGING SPACES (EV SPACES) CAPABLE OF SUPPORTING FUTURE EVSE. CALCULATIONS FOR THE REQUIRED NUMBER OF EV SPACES SHALL BE ROUNDED UP TO THE NEAREST WHOLE NUMBER.

**NOTES:** CONSTRUCTION DOCUMENTS ARE INTENDED TO DEMONSTRATE THE PROJECT'S CAPABILITY AND CAPACITY FOR FACILITATING FUTURE EV CHARGING. THERE IS NO REQUIREMENT FOR EV SPACES TO BE CONSTRUCTED OR AVAILABLE UNTIL EV CHARGERS ARE PROVIDED FOR ALL TYPES OF PARKING FACILITIES, BUT IN NO CASE LESS ARE INSTALLED FOR USE.

**4.106.4.2.1 ELECTRIC VEHICLE CHARGING SPACE (EV SPACE) LOCATIONS.** CONSTRUCTION DOCUMENTS SHALL INDICATE THE LOCATION OF PROPOSED EV SPACES. AT LEAST ONE EV SPACE SHALL BE LOCATED IN COMMON USE AREAS AND AVAILABLE FOR USE BY ALL RESIDENTS. WHEN EV CHARGERS ARE INSTALLED, EV SPACES REQUIRED BY SECTION 4.106.4.2.2, ITEM 3, SHALL COMPLY WITH AT LEAST ONE OF THE FOLLOWING OPTIONS:

1. THE EV SPACE SHALL BE LOCATED ADJACENT TO AN ACCESSIBLE PARKING SPACE MEETING THE REQUIREMENTS OF THE CALIFORNIA BUILDING CODE, CHAPTER 11A, TO ALLOW USE OF THE EV CHARGER FROM THE ACCESSIBLE PARKING SPACE.
2. THE EV SPACE SHALL BE LOCATED ON AN ACCESSIBLE ROUTE, AS DEFINED IN THE CALIFORNIA BUILDING CODE, CHAPTER 2, TO THE BUILDING.

**4.106.4.2.2 ELECTRIC VEHICLE CHARGING SPACE (EV SPACE) DIMENSIONS.** THE EV SPACES SHALL BE DESIGNED TO COMPLY WITH THE FOLLOWING:

1. THE MINIMUM LENGTH OF EACH EV SPACE SHALL BE 18 FEET (5486 MM).
2. THE MINIMUM WIDTH OF EACH EV SPACE SHALL BE 9 FEET (2743 MM).
3. ONE IN EVERY 25 EV SPACES, BUT NOT LESS THAN ONE, SHALL ALSO HAVE AN 8-FOOT (2438 MM) WIDE MINIMUM aisle. A 5-FOOT (1524 MM) WIDE MINIMUM AISLE SHALL BE PERMITTED PROVIDED THE MINIMUM WIDTH OF THE EV SPACE IS 12 FEET (3658 MM).

4. SURFACE SLOPE FOR THIS EV SPACE AND THE AISLE SHALL NOT EXCEED 1 UNIT VERTICAL IN 48 UNITS HORIZONTAL (2.083 PERCENT SLOPE) IN ANY DIRECTION.

**4.106.4.2.3 SINGLE EV SPACE REQUIRED.** INSTALL A LISTED RACEWAY CAPABLE OF ACCOMMODATING A 208/1240-VOLT DEDICATED BRANCH CIRCUIT. THE RACEWAY SHALL NOT BE LESS THAN TRADE SIZE 1" (NOMINAL INCH INSIDE DIAMETER). THE RACEWAY SHALL ORIGINATE AT THE MAIN SERVICE OR SUBPANEL AND SHALL TERMINATE INTO A LISTED CABINET, BOX OR ENCLOSURE IN CLOSE PROXIMITY TO THE PROPOSED LOCATION OF THE EV SPACES. CONSTRUCTION DOCUMENTS SHALL IDENTIFY THE RACEWAY TERMINATION POINT. THE SERVICE PANEL AND/OR SUBPANEL SHALL PROVIDE CAPACITY TO INSTALL A 40-AMPERE MINIMUM DEDICATED BRANCH CIRCUIT AND SPACE(S) RESERVED TO PERMIT INSTALLATION OF A BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE.

**4.106.4.2.4 MULTIPLE EV SPACES REQUIRED.** CONSTRUCTION DOCUMENTS SHALL INDICATE THE RACEWAY TERMINATION POINT AND PROPOSED LOCATION OF FUTURE EV SPACES AND EV CHARGERS. CONSTRUCTION DOCUMENTS SHALL ALSO PROVIDE INFORMATION ON AMPERAGE OF FUTURE EVSE, RACEWAY METHOD(S), WIRING SCHEMATICS AND ELECTRICAL LOAD CALCULATIONS TO VERIFY THAT THE ELECTRICAL PANEL SERVICE CAPACITY AND ELECTRICAL SYSTEM, INCLUDING ANY ON-SITE DISTRIBUTION TRANSFORMER(S), HAVE SUFFICIENT CAPACITY TO SIMULTANEOUSLY CHARGE ALL EVS AT ALL REQUIRED EV SPACES AT THE FULL RATED AMPERAGE OF THE EVSE. PLAN DESIGN SHALL BE BASED UPON A 40-AMPERE MINIMUM BRANCH CIRCUIT. RACEWAYS AND RELATED COMPONENTS THAT ARE PLANNED TO BE INSTALLED UNDERGROUND, ENCLOSED, INACCESSIBLE OR IN CONCEALED AREAS AND SPACES SHALL BE INSTALLED AT THE TIME OF ORIGINAL CONSTRUCTION.

**4.106.4.2.5 IDENTIFICATION.** THE SERVICE PANEL OR SUBPANEL CIRCUIT DIRECTORY SHALL IDENTIFY THE OVERCURRENT PROTECTIVE DEVICE SPACE(S) RESERVED FOR FUTURE EV CHARGING PURPOSES AS "EV CAPABLE IN ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE."

#### NOTES:

1. THE CALIFORNIA DEPARTMENT OF TRANSPORTATION ADOPTS AND PUBLISHES THE "CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CALIFORNIA MUTCD)" TO PROVIDE UNIFORM STANDARDS AND SPECIFICATIONS FOR ALL OFFICIAL TRAFFIC CONTROL DEVICES IN CALIFORNIA. ZERO EMISSION VEHICLE SIGNS AND PAVEMENT MARKINGS CAN BE FOUND IN THE NEW POLICIES & DIRECTIVES NUMBER 13-01, WEBSITE: [HTTP://WWW.DOT.CA.GOV/TRAFFICOPS/POLICY/13-01.PDF](http://www.dot.ca.gov/trafficops/policy/13-01.pdf)
2. SEE VEHICLE CODE SECTION 22611 FOR EV CHARGING SPACE SIGNAGE IN OFF-STREET PARKING FACILITIES AND FOR USE OF EV CHARGING SPACES.
3. THE GOVERNOR'S OFFICE OF PLANNING AND RESEARCH (OPR) PUBLISHED A "ZERO-EMISSION VEHICLE COMMUNITY READINESS GUIDEBOOK" WHICH PROVIDES HELPFUL INFORMATION FOR LOCAL GOVERNMENTS, RESIDENTS AND BUSINESSES. WEBSITE: [HTTP://OPR.CA.GOV/DOCS/ZEV-GUIDEBOOK.PDF](http://opr.ca.gov/docs/ZEV-Guidebook.pdf).

### SECTION 4.303

#### INDOOR WATER USE

**4.303.1 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS.** PLUMBING FIXTURES, (WATER CLOSETS & URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) SHALL COMPLY WITH THE FOLLOWING:

**4.303.1.1 WATER CLOSETS.** THE EFFECTIVE FLUSH VOLUME OF ALL WATER CLOSETS SHALL NOT EXCEED 1.28 GALLONS PER FLUSH. TANK-TYPE WATER CLOSETS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR TANK-TYPE TOILETS.  
**NOTE:** THE EFFECTIVE FLUSH VOLUME OF DUAL FLUSH TOILETS IS DEFINED AS THE COMPOSITE, AVERAGE FLUSH VOLUME OF TWO REDUCED FLUSHES AND ONE FULL FLUSH.

**4.303.1.2 URINALS.** THE EFFECTIVE FLUSH VOLUME OF WALL MOUNTED URINALS SHALL NOT EXCEED 0.125 GALLONS PER FLUSH. THE EFFECTIVE FLUSH VOLUME OF ALL OTHER URINALS SHALL NOT EXCEED 0.5 GALLONS PER FLUSH.

#### 4.303.1.3 SHOWERHEADS.

**4.303.1.3.1 SINGLE SHOWERHEAD.** SHOWERHEADS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 2.0 GALLONS PER MINUTE AT 80 PSI. SHOWERHEADS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR SHOWERHEADS.

**4.303.1.3.2 MULTIPLE SHOWERHEADS SERVING ONE SHOWER.** WHEN A SHOWER IS SERVED BY MORE THAN ONE SHOWERHEAD, THE COMBINED FLOW RATE OF ALL SHOWERHEADS AND/OR OTHER SHOWER OUTLETS CONTROLLED BY A SINGLE VALVE SHALL NOT EXCEED 2.0 GALLONS PER MINUTE AT 80 PSI, OR THE SHOWER SHALL BE DESIGNED TO ALLOW ONE SHOWER OUTLET TO BE IN OPERATION AT A TIME.  
**NOTE:** A HAND-HELD SHOWER SHALL BE CONSIDERED A SHOWERHEAD.

#### 4.303.1.4 FAUCETS.

**4.303.1.4.1 RESIDENTIAL LAVATORY FAUCETS.** THE MAXIMUM FLOW RATE OF RESIDENTIAL LAVATORY FAUCETS SHALL NOT EXCEED 1.2 GALLONS PER MINUTE AT 60 PSI. THE MINIMUM FLOW RATE OF A RESIDENTIAL LAVATORY FAUCET SHALL NOT BE LESS THAN 0.8 GALLONS PER MINUTE AT 20 PSI.

**4.303.1.4.2 LAVATORY FAUCETS IN COMMON AND PUBLIC USE AREAS.** THE MAXIMUM FLOW RATE OF LAVATORY FAUCETS INSTALLED IN COMMON AND PUBLIC USE AREAS (OUTSIDE OF DWELLINGS OR SLEEPING UNITS) IN RESIDENTIAL BUILDINGS SHALL NOT EXCEED 0.5 GALLONS PER MINUTE AT 60 PSI.

**4.303.1.4.3 METERING FAUCETS.** METERING FAUCETS WHEN INSTALLED IN RESIDENTIAL BUILDINGS SHALL NOT DELIVER MORE THAN 0.25 GALLONS PER CYCLE.

**4.303.1.4.4 KITCHEN FAUCETS.** THE MAXIMUM FLOW RATE OF KITCHEN FAUCETS SHALL NOT EXCEED 1.8 GALLONS PER MINUTE AT 60 PSI. KITCHEN FAUCETS MAY TEMPORARILY INCREASE THE FLOW ABOVE THE MAXIMUM RATE, BUT NOT TO EXCEED 2.2 GALLONS PER MINUTE AT 60 PSI, AND MUST DEFAULT TO A MAXIMUM FLOW RATE OF 1.8 GALLONS PER MINUTE AT 60 PSI.  
**NOTE:** WHERE COMPLYING FAUCETS ARE UNAVAILABLE, AERATORS OR OTHER MEANS MAY BE USED TO ACHIEVE REDUCTION.

### SECTION 4.304

#### OUTDOOR WATER USE

#### 4.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS.

ALL LANDSCAPED AREAS, INCLUDING AREAS DEVELOPED WITH AN AGGREGATE LANDSCAPE AREA EQUAL TO OR GREATER THAN 500 SQUARE FEET SHALL COMPLY WITH ONE OF THE FOLLOWING OPTIONS:

1. A LOCAL WATER EFFICIENT LANDSCAPE ORDINANCE OR THE CURRENT CALIFORNIA DEPARTMENT OF WATER RESOURCES' MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO), WHICHEVER IS STRINGENT, OR
2. PROJECTS WITH AGGREGATE LANDSCAPE AREAS LESS THAN 2,500 SQUARE FEET MAY COMPLY WITH THE MWELO'S APPENDIX D PRESCRIPTIVE COMPLIANCE OPTION.

#### NOTES:

1. THE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO) AND SUPPORTING DOCUMENTS ARE AVAILABLE AT [HTTP://WWW.WATER.CA.GOV/WATERUSEEFFICIENCY/LANDSCAPORDINANCE/](http://www.water.ca.gov/wateruseefficiency/landscapordinance/)
2. A WATER BUDGET CALCULATOR IS AVAILABLE AT: [HTTP://WWW.WATER.CA.GOV/WATERUSEEFFICIENCY/LANDSCAPORDINANCE/](http://www.water.ca.gov/wateruseefficiency/landscapordinance/)

#### ENHANCED DURABILITY

#### AND REDUCED MAINTENANCE

**4.406.1 RODENT PROOFING.** ANNULAR SPACES AROUND PIPES, ELECTRIC CABLES, CONDUITS OR OTHER OPENINGS IN SOLE/BOTTOM PLATES AT EXTERIOR WALLS SHALL BE PROTECTED AGAINST THE PASSAGE OF RODENTS BY CLOSING SUCH OPENINGS WITH CEMENT MORTAR, CONCRETE MASONRY OR A SIMILAR METHOD ACCEPTABLE TO THE ENFORCING AGENCY.

### SECTION 4.408

#### CONSTRUCTION WASTE REDUCTION,

#### DISPOSAL AND RECYCLING

**4.408.1 CONSTRUCTION WASTE MANAGEMENT.** RECYCLE AND/OR SALVAGE FOR REUSE A MINIMUM OF 65 PERCENT OF THE NONHAZARDOUS CONSTRUCTION AND DEMOLITION WASTE IN ACCORDANCE WITH EITHER SECTION 4.408.2, 4.408.3 OR 4.408.4, OR MEET A MORE STRINGENT LOCAL CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT ORDINANCE.  
**EXCEPTIONS:**

1. EXCAVATED SOIL AND LAND-CLEARING DEBRIS.
2. ALTERNATE WASTE REDUCTION METHODS DEVELOPED BY WORKING WITH LOCAL AGENCIES IF DIVERSION OR RECYCLE FACILITIES CAPABLE OF COMPLIANCE WITH THIS ITEM DO NOT EXIST OR ARE NOT LOCATED REASONABLY CLOSE TO THE JOBSITE.

THE ENFORCING AGENCY MAY MAKE EXCEPTIONS TO THE REQUIREMENTS OF THIS SECTION WHEN ISOLATED JOBSITES ARE LOCATED IN AREAS BEYOND THE HAUL BOUNDARIES OF THE DIVERSION FACILITY.

**4.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN.** SUBMIT A CONSTRUCTION WASTE MANAGEMENT PLAN IN CONFORMANCE WITH ITEMS 1 THROUGH 5. THE CONSTRUCTION WASTE MANAGEMENT PLAN SHALL BE UPDATED AS NECESSARY AND SHALL BE AVAILABLE DURING CONSTRUCTION FOR EXAMINATION BY THE ENFORCING AGENCY. IDENTIFY THE CONSTRUCTION AND DEMOLITION WASTE MATERIALS TO BE DIVERTED FROM DISPOSAL BY RECYCLING, REUSE OR THE PROJECT OR SALVAGE FOR FUTURE USE OR SALE.

2. SPECIFY IF CONSTRUCTION AND DEMOLITION WASTE MATERIALS WILL BE SORTED ON-SITE (SOURCE SEPARATED) OR BULK MIXED (SINGLE STREAM).
3. IDENTIFY DIVERSION FACILITIES WHERE THE CONSTRUCTION AND DEMOLITION WASTE MATERIAL WILL BE TAKEN.
4. IDENTIFY CONSTRUCTION METHODS EMPLOYED TO REDUCE THE AMOUNT OF CONSTRUCTION AND DEMOLITION WASTE GENERATED.
5. SPECIFY THAT THE AMOUNT OF CONSTRUCTION AND DEMOLITION WASTE MATERIALS DIVERTED SHALL BE CALCULATED BY WEIGHT OR VOLUME, BUT NOT BY BOTH.

**4.408.3 WASTE MANAGEMENT COMPANY.** UTILIZE A WASTE MANAGEMENT COMPANY, APPROVED BY THE ENFORCING AGENCY, WHICH CAN PROVIDE VERIFIABLE DOCUMENTATION THAT THE PERCENTAGE OF CONSTRUCTION AND DEMOLITION WASTE MATERIAL DIVERTED FROM THE LANDFILL COMPLIES WITH SECTION 4.408.1.  
**NOTE:** THE OWNER OR CONTRACTOR MAY MAKE THE DETERMINATION IF THE CONSTRUCTION AND DEMOLITION WASTE MATERIALS WILL BE DIVERTED BY A WASTE MANAGEMENT COMPANY.

**4.408.4 WASTE STREAM REDUCTION ALTERNATIVE [LR].** PROJECTS THAT GENERATE A TOTAL COMBINED WEIGHT OF CONSTRUCTION AND DEMOLITION WASTE DISPOSED OF IN LANDFILLS, WHICH DO NOT EXCEED 3.4 POUNDS PER SQUARE FOOT OF THE BUILDING AREA SHALL MEET THE MINIMUM 65 PERCENT CONSTRUCTION WASTE REDUCTION REQUIREMENT IN SECTION 4.408.1

**4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE.** PROJECTS THAT GENERATE A TOTAL COMBINED WEIGHT OF CONSTRUCTION AND DEMOLITION WASTE DISPOSED OF IN LANDFILLS, WHICH DO NOT EXCEED 2 POUNDS PER SQUARE FOOT OF THE BUILDING AREA, SHALL MEET THE MINIMUM 65-PERCENT CONSTRUCTION WASTE REDUCTION REQUIREMENT IN SECTION 4.408.1

**4.408.5 DOCUMENTATION.** DOCUMENTATION SHALL BE PROVIDED TO THE ENFORCING AGENCY WHICH DEMONSTRATES COMPLIANCE WITH SECTION 4.408.2, ITEMS 1 THROUGH 5, SECTION 4.408.3 OR SECTION 4.408.4.

#### NOTES:

1. SAMPLE FORMS SOUND IN "A GUIDE TO THE CALIFORNIA GREEN BUILDING STANDARDS CODE (RESIDENTIAL)" LOCATED AT [WWW.HCD.CA.GOV/CALLGREEN.HTML](http://www.hcd.ca.gov/callgreen.html) MAY BE USED TO ASSIST IN DOCUMENTING COMPLIANCE WITH THIS SECTION.
2. MIXED CONSTRUCTION AND DEMOLITION DEBRIS (CAD) PROCESSOR-S CAN BE LOCATED AT THE CALIFORNIA DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY (CALRECYCLE).

### SECTION 4.410

#### BUILDING MAINTENANCE AND OPERATION

**4.410.1 OPERATION AND MAINTENANCE MANUAL.** AT THE TIME OF FINAL INSPECTION, A MANUAL, COMPACT DISC, WEB-BASED REFERENCE OR OTHER MEDIA ACCEPTABLE TO THE ENFORCING AGENCY WHICH INCLUDES ALL OF THE FOLLOWING SHALL BE PLACED IN THE BUILDING.

1. DIRECTIONS TO THE OWNER OR OCCUPANT THAT THE MANUAL SHALL REMAIN WITH THE BUILDING THROUGHOUT THE LIFE CYCLE OF THE STRUCTURE.
2. OPERATION AND MAINTENANCE INSTRUCTIONS FOR THE FOLLOWING:
  - a. EQUIPMENT AND APPLIANCES, INCLUDING WATER-SAVING DEVICES AND SYSTEMS, HVAC SYSTEMS, PHOTOVOLTAIC SYSTEMS, ELECTRIC VEHICLE CHARGERS, WATER-HEATING SYSTEMS AND OTHER MAJOR APPLIANCES AND EQUIPMENT.
  - b. ROOF AND YARD DRAINAGE, INCLUDING GUTTERS AND DOWNSPOUTS.
  - c. SPACE CONDITIONING SYSTEMS, INCLUDING CONDENSERS AND AIR FILTERS.
  - d. LANDSCAPE IRRIGATION SYSTEMS.
  - e. WATER REUSE SYSTEMS.
3. INFORMATION FROM LOCAL UTILITY, WATER AND WASTE RECOVERY PROVIDERS ON METHODS TO FURTHER REDUCE RESOURCE CONSUMPTION, INCLUDING RECYCLE PROGRAMS AND LOCATIONS.
4. PUBLIC TRANSPORTATION AND/OR CARPOOL OPTIONS AVAILABLE IN THE AREA.
5. EDUCATIONAL MATERIAL ON THE POSITIVE IMPACTS OF AN INTERIOR RELATIVE HUMIDITY BETWEEN 30-60 PERCENT AND WHAT METHODS AN OCCUPANT MAY USE TO MAINTAIN THE RELATIVE HUMIDITY LEVEL IN THAT RANGE.
6. INFORMATION ABOUT WATER-CONSERVING LANDSCAPE AND IRRIGATION DESIGN AND CONTROLLERS WHICH CONSERVE WATER.

INSTRUCTIONS FOR MAINTAINING GUTTERS AND DOWNSPOUT AND THE IMPORTANCE OF DIVERTING WATER AT LEAST 5 FEET AWAY FROM THE FOUNDATION.

8. INFORMATION ON REQUIRED ROUTINE MAINTENANCE MEASURES, INCLUDING, BUT NOT LIMITED TO, CAULKING, PAINTING, GRADING AROUND THE BUILDING, ETC.
9. INFORMATION ABOUT STATE SOLAR ENERGY AND INCENTIVE PROGRAMS AVAILABLE.
10. A COPY OF ALL SPECIAL INSPECTION VERIFICATIONS REQUIRED BY THE ENFORCING AGENCY OR THIS CODE.

**4.410.2 RECYCLING BY OCCUPANTS.** WHERE 5 OR MORE MULTIFAMILY DWELLING UNITS ARE CONSTRUCTED ON A BUILDING SITE, PROVIDE READILY ACCESSIBLE AREA(S) THAT SERVES ALL BUILDINGS ON THE SITE AND IS IDENTIFIED FOR THE DEPOSITING, STORAGE AND COLLECTION OF NON-HAZARDOUS MATERIALS FOR RECYCLING, INCLUDING (AT A MINIMUM) PAPER, CORRUGATED CARDBOARD, GLASS, PLASTICS, ORGANIC WASTE, AND METALS, OR MEET A LAWFULLY ENACTED LOCAL RECYCLING ORDINANCE, IF MORE RESTRICTIVE.  
**EXCEPTION:** RURAL JURISDICTIONS THAT MEET AND APPLY FOR THE EXEMPTION IN PUBLIC RESOURCES CODE SECTION 42649.82.  
(a)(1A) ET SEQ. ARE NOT REQUIRED TO COMPLY WITH THE ORGANIC WASTE, AND METALS, OR MEET A LAWFULLY ENACTED RECYCLING ORDINANCE, IF MORE RESTRICTIVE.  
**EXCEPTION:** RURAL JURISDICTIONS THAT MEET AND APPLY FOR THE EXEMPTION IN PUBLIC RESOURCES CODE SECTION 42649.82 (a)(2)(A) ET SEQ. ARE NOT REQUIRED TO COMPLY WITH ORGANIC WASTE PORTION OF THIS SECTION.

#### FIREPLACES

**4.503.1 GENERAL.** ANY INSTALLED GAS FIREPLACE SHALL BE A DIRECT-VENT SEALED-COMBUSTION TYPE. ANY INSTALLED WOODSTOVE OR PELLET STOVE SHALL COMPLY WITH U.S. EPA NEW SOURCE PERFORMANCE STANDARDS (NSPS) EMISSION LIMITS AS APPLICABLE, AND SHALL HAVE A PERMANENT LABEL INDICATING THEY ARE CERTIFIED TO MEET THE EMISSION LIMITS. WOODSTOVES, PELLET STOVES AND FIREPLACES SHALL ALSO COMPLY WITH APPLICABLE LOCAL ORDINANCES.

### SECTION 4.504

#### POLLUTANT CONTROL

**4.504.1 COVERING OF DUCT OPENINGS AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION.** AT THE TIME OF ROUGH INSTALLATION, DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEETMETAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF WATER, DUST AND DEBRIS, WHICH MAY ENTER THE SYSTEM.

**4.504.2 FINISH MATERIAL POLLUTANT CONTROL.** FINISH MATERIALS SHALL COMPLY WITH THIS SECTION.

**4.504.2.1 ADHESIVES, SEALANTS AND CAULKS.** ADHESIVES, SEALANTS AND CAULKS USED ON THE PROJECT SHALL MEET THE REQUIREMENTS OF THE FOLLOWING STANDARDS UNLESS MORE STRINGENT LOCAL OR REGIONAL AIR POLLUTION OR AIR QUALITY MANAGEMENT DISTRICT RULES APPLY:

1. ADHESIVES, ADHESIVE BONDING PRIMERS, ADHESIVE PRIMERS, SEALANTS, SEALANT PRIMERS, AND CAULKS SHALL COMPLY WITH LOCAL OR REGIONAL AIR POLLUTION CONTROL, OR AIR QUALITY MANAGEMENT DISTRICT RULES WHERE APPLICABLE OR SCAQMD RULE 1168 VOC LIMITS, AS SHOWN IN TABLE 4.504.1 OR 4.504.2, AS APPLICABLE. SUCH PRODUCTS ALSO SHALL COMPLY WITH THE RULE 1168 PROHIBITION ON THE USE OF CERTAIN TOXIC COMPOUNDS (CHLOROFORM, ETHYLENE DICHLORIDE, METHYLENE CHLORIDE, PERCHLOROETHYLENE AND TRICHLOROETHYLENE), EXCEPT FOR AEROSOL PRODUCTS, AS SPECIFIED IN SUBSECTION 2 BELOW.
2. AEROSOL ADHESIVES, AND SMALLER UNIT SIZES OF ADHESIVES, AND SEALANT OR CAULKING COMPOUNDS (IN UNITS OF PRODUCT, LESS PACKAGING, WHICH DO NOT WEIGH MORE THAN 1 POUND AND DO NOT CONSIST OF MORE THAN 16 FLUID OUNCES) SHALL COMPLY WITH STATEWIDE VOC STANDARDS AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS, OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94507.

**4.504.2.2 PAINTS AND COATINGS.** ARCHITECTURAL PAINTS AND COATINGS SHALL COMPLY WITH VOC LIMITS IN TABLE 1 OF THE ARB ARCHITECTURAL SUGGESTED CONTROL MEASURE, AS SHOWN IN TABLE 4.504.3, UNLESS MORE STRINGENT LOCAL LIMITS APPLY. THE VOC CONTENT LIMIT FOR COATINGS THAT DO NOT MEET THE DEFINITIONS FOR THE SPECIALTY COATINGS CATEGORIES LISTED IN TABLE 4.504.3 SHALL BE DETERMINED BY CLASSIFYING THE COATING AS A FLAT, NONFLAT OR NONFLAT-HIGH GLOSS COATING, BASED ON ITS GLOSS, AS DEFINED IN SUBSECTION 4.1, 4.36 OF THE 2007 CALIFORNIA CODE OF REGULATIONS, TITLE 17, RESOURCES BOARD, SUGGESTED CONTROL MEASURE, AND THE CORRESPONDING FLAT, NONFLAT OR NONFLAT-HIGH GLOSS VOC LIMIT IN TABLE 4.504.3 SHALL APPLY.

**4.504.2.3 AEROSOL PAINTS AND COATINGS.** AEROSOL PAINTS AND COATINGS SHALL MEET THE PRODUCT-WEIGHTED MIR LIMITS FOR ROC IN SECTION 94522(a)(2) AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS AND OZONE DEPLETING SUBSTANCES, IN SECTIONS 94522(E)(I) AND (F)(I) OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94520; AND IN AREAS UNDER THE JURISDICTION OF THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT ADDITIONALLY COMPLY WITH THE PERCENT VOC BY WEIGHT OF PRODUCT LIMITS OF REGULATION 8, RULE 49.

**4.504.2.4 VERIFICATION.** VERIFICATION OF COMPLIANCE WITH THIS SECTION SHALL BE PROVIDED AT THE REQUEST OF THE ENFORCING AGENCY. DOCUMENTATION MAY INCLUDE, BUT IS NOT LIMITED TO, THE FOLLOWING:

1. MANUFACTURER'S PRODUCT SPECIFICATION.
2. FIELD VERIFICATION OF ON-SITE PRODUCT CONTAINERS.

**4.504.3 CARPET SYSTEMS.** ALL CARPET INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE TESTING AND PRODUCT REQUIREMENTS OF ONE OF THE FOLLOWING:

1. CARPET AND RUG INSTITUTE'S GREEN LABEL PLUS PROGRAM.
2. CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, "STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS," VERSION 1.1, FEBRUARY 2010 (ALSO KNOWN AS SPECIFICATION 01350.)
3. NSF/ANSI 140 AT THE GOLD LEVEL.
4. SCIENTIFIC CERTIFICATIONS SYSTEMS INDOOR ADVANTAGE GOLD.

**4.504.3.1 CARPET CUSHION.** ALL CARPET CUSHION INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE REQUIREMENTS OF THE CARPET AND RUG INSTITUTE'S GREEN LABEL PROGRAM.

**4.504.3.2 CARPET ADHESIVE.** ALL CARPET ADHESIVE SHALL MEET THE REQUIREMENTS OF TABLE 4.504.1.

**4.504.4 RESILIENT FLOORING SYSTEMS.** WHERE RESILIENT FLOORING IS INSTALLED, AT LEAST 80 PERCENT OF FLOOR AREA RECEIVING RESILIENT FLOORING SHALL COMPLY WITH ONE OR MORE OF THE FOLLOWING:

1. PRODUCTS COMPLIANT WITH THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, "STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS," VERSION 1.1, FEBRUARY 2010 (ALSO KNOWN AS SPECIFICATION 01350), CERTIFIED AS A CHPS LOW-EMITTING MATERIAL IN THE COLLABORATIVE FOR HIGH PERFORMANCE SCHOOLS (CHPS) HIGH PERFORMANCE PRODUCTS DATABASE.
2. PRODUCTS CERTIFIED UNDER UL GREENGUARD GOLD (FORMERLY THE GREENGUARD CHILDREN & SCHOOLS PROGRAM).
3. CERTIFICATION UNDER THE RESILIENT FLOOR COVERING INSTITUTE (RFCI) FLOORSCORE PROGRAM.
4. MEET THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, "STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS," VERSION 1.1, FEBRUARY 2010 (ALSO KNOWN AS SPECIFICATION 01350).

**4.504.5 COMPOSITE WOOD PRODUCTS.** HARDWOOD PLYWOOD, PARTICLEBOARD AND MEDIUM DENSITY FIBERBOARD COMPOSITE WOOD PRODUCTS USED ON THE INTERIOR OR EXTERIOR OF THE BUILDING SHALL MEET THE REQUIREMENTS FOR FORMALDEHYDE AS SPECIFIED IN ARB'S AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD (17CCR 93.120 ET SEQ.), BY OR BEFORE THE DATES SPECIFIED IN THOSE SECTIONS, AS SHOWN IN TABLE 4.504.5.

**4.504.5.1 DOCUMENTATION.** VERIFICATION OF COMPLIANCE WITH THIS SECTION SHALL BE PROVIDED AS REQUESTED BY THE ENFORCING AGENCY. DOCUMENTATION SHALL INCLUDE AT LEAST ONE OF THE FOLLOWING:

1. PRODUCT CERTIFICATIONS AND SPECIFICATIONS.
2. CHAIN OF CUSTODY CERTIFICATIONS.
3. PRODUCT LABELED AND INVOICED AS MEETING THE COMPOSITE WOOD PRODUCTS REGULATION (SEE CCR, TITLE 17, SECTION 93120, ET SEQ.).
4. EXTERIOR GRADE PRODUCTS MARKED AS MEETING THE PS-1 OR PS-2 STANDARDS OF THE ENGINEERED WOOD ASSOCIATION THE AUSTRALIAN ASINZS 2269, EUROPEAN 636 35, AND CANADIAN CSA 0121, CSA 0151, CSA 0153 AND CSA 0325 STANDARDS.
5. OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY.

### SECTION 4.505

#### INTERIOR MOISTURE CONTROL

**4.505.1 GENERAL.** BUILDINGS SHALL MEET OR EXCEED THE PROVISIONS OF THE CALIFORNIA BUILDING STANDARDS CODE.

**4.505.2 CONCRETE SLAB FOUNDATIONS.** CONCRETE SLAB FOUNDATIONS REQUIRED TO HAVE A VAPOR RETARDER BY THE CALIFORNIA BUILDING CODE, CHAPTER 19 OR CONCRETE SLAB-ON-GROUND FLOORS REQUIRED TO HAVE A VAPOR RETARDER BY THE CALIFORNIA RESIDENTIAL CODE, CHAPTER 5, SHALL ALSO COMPLY WITH THIS SECTION.

**4.505.2.1 CAPILLARY BREAK.** A CAPILLARY BREAK SHALL BE INSTALLED IN COMPLIANCE WITH AT LEAST ONE OF THE FOLLOWING:

1. A 4-INCH-THICK (101.6 MM) BASE OF ½ INCH (12.7 MM) OR LARGER CLEAN AGGREGATE SHALL BE PROVIDED WITH A VAPOR RETARDER IN DIRECT CONTACT WITH CONCRETE AND A CONCRETE MIX DESIGN, WHICH WILL ADDRESS BLEEDING, SHRINKAGE, AND CURLING, SHALL BE USED, FOR ADDITIONAL INFORMATION, SEE AMERICAN CONCRETE INSTITUTE, ACI 302.2R-06.
2. OTHER EQUIVALENT METHODS APPROVED BY THE ENFORCING AGENCY.
3. A SLAB DESIGN SPECIFIED BY A LICENSED DESIGN PROFESSIONAL.

**4.505.3 MOISTURE CONTENT OF BUILDING MATERIALS.** BUILDING MATERIALS WITH VISIBLE SIGNS OF WATER DAMAGE SHALL NOT BE INSTALLED. WALL AND FLOOR FRAMING SHALL NOT BE ENCLOSED WHEN THE FRAMING MEMBERS EXCEED 19-PERCENT MOISTURE CONTENT. MOISTURE CONTENT SHALL BE VERIFIED IN COMPLIANCE WITH THE FOLLOWING:

1. MOISTURE CONTENT SHALL BE DETERMINED WITH EITHER A PROBE-TYPE OR CONTACT-TYPE MOISTURE METER. EQUIVALENT MOISTURE VERIFICATION METHODS MAY BE APPROVED BY THE ENFORCING AGENCY AND SHALL SATISFY REQUIREMENTS FOUND IN SECTION 101.8 OF THIS CODE.
2. MOISTURE READINGS SHALL BE TAKEN AT A POINT 2 FEET TO 4 FEET FROM THE GRADE STAMPED END METHODS.
3. AT LEAST THREE RANDOM MOISTURE READINGS SHALL BE PERFORMED ON WALL AND FLOOR FRAMING WITH DOCUMENTATION ACCEPTABLE TO THE ENFORCING AGENCY PROVIDED AT THE TIME OF APPROVAL TO ENCLOSE THE WALL AND FLOOR FRAMING.

INSULATION PRODUCTS WHICH ARE VISIBLY WET OR HAVE A HIGH MOISTURE CONTENT SHALL BE REPLACED OR ALLOWED TO DRY PRIOR TO ENCLOSURE IN WALL OR FLOOR CAVITIES. WET OR DAMAGED INSULATION PRODUCTS SHALL FOLLOW THE MANUFACTURERS' DRYING RECOMMENDATIONS PRIOR TO ENCLOSURE.

### SECTION 4.506

#### INDOOR AIR QUALITY AND EXHAUST

**4.506.1 BATHROOM EXHAUST FANS.** EACH BATHROOM SHALL BE MECHANICALLY VENTILATED AND SHALL COMPLY WITH THE FOLLOWING:

1. FANS SHALL BE ENERGY STAR COMPLIANT AND BE DUCTED TO TERMINATE OUTSIDE THE BUILDING.
2. UNLESS FUNCTIONING AS A COMPONENT OF A WHOLE HOUSE VENTILATION SYSTEM, FANS MUST BE CONTROLLED BY A HUMIDITY CONTROL.
  - a. HUMIDITY CONTROLS SHALL BE CAPABLE OF ADJUSTMENT BETWEEN A RELATIVE HUMIDITY RANGE OF < 50 PERCENT TO A



## ENERGY CONSERVATION NOTES:

THE INSULATION SHALL CONFORM TO FLAME-SPREAD INDEX AND SMOKE DEVELOPMENT INDEX REQUIREMENTS OF CRC R302.10

ALL HEATHER STRIPPING, GASKING, AND SEALING OF EXTERIOR DOORS, WINDOWS, AND BUILDING ENVELOPE PENETRATIONS SHALL BE REQUIRED BY THE STANDARDS. SHALL BE SUBJECT TO FIELD INSPECTION, JOINTS AND PENETRATIONS IN THE EXTERIOR OF THE BUILDING ENVELOPE SHALL BE CALKED AND SEALED TO LIMIT AIR INFILTRATION.

ALL EXHAUST FANS SHALL HAVE BACK-DRAFT OR AUTOMATIC DAMPERS TO PREVENT AIR LEAKAGE. ALL MANUFACTURED DOORS AND WINDOWS SHALL BE CERTIFIED AND LABELED. THEY ALSO SHALL BE DUAL PANE UNLESS NOTED. (SEE ENERGY DOCUMENTATION FOR WINDOW UN-VALUES, AND/OR FRAME MATERIALS.

REFRIGERATORS, FREEZERS, ROOM OR CENTRAL AIR CONDITIONERS, GAS SPACE HEATERS, WATER HEATERS, SHOWER HEADS, FAUCETS, AND FLUORESCENT LAMP BALLAST SHALL BE C.E.C. CERTIFIED AND INSTALLED ACCORDING TO MANUFACTURERS SPECS.

THE BUILDER SHALL PROVIDE THE ORIGINAL OCCUPANT WITH A LIST OF HEATING, COOLING, WATER, HEATING, LIGHTING SYSTEMS AND CONSERVATION OF SOLAR DEVICES INSTALLED AND INSTRUCTIONS ON HOW TO USE THEM EFFICIENTLY.

THERMOSTATICALLY CONTROLLED HEATING SYSTEMS SHALL HAVE AN AUTOMATIC NIGHT SET-BACK THERMOSTAT.

GAS COOKING APPLIANCES SHALL HAVE AN INTERMITTENT IGNITION DEVICE.

FOR THE IGNITION OF GAS APPLIANCES, A CONTINUOUSLY BURNING PILOT IS NOT PERMITTED ON:  
A) FAN TYPE CENTRAL 4 WALL FURNACES.  
B) RESIDENTIAL TYPE CLOTHES DRYERS AND COOKING APPLIANCES;  
C) POOL HEATERS.

LIGHT FIXTURES SHALL HAVE AN EFFICIENCY OF NOT LESS THAN 40 LUMENS PER WATT.

MASONRY AND FACTORY-BUILT FIREPLACES SHALL HAVE:  
A) TIGHT FITTING GLOSSEABLE METAL OR GLASS DOORS COVERING THE ENTIRE OPENING OF THE FIREBOX.  
B) A COMBUSTION AIR INTAKE TO DRAIN AIR FROM THE OUTSIDE OF THE BUILDING DIRECTLY INTO THE FIREBOX WITH AT LEAST 6 SQ. IN. AREA.  
C) EQUIPPED WITH A READILY ACCESSIBLE, OPERABLE, AND TIGHT FITTING DAMPER.  
D) NO PART OF INTAKE SHALL BE GREATER THAN 12" ABOVE BOTTOM OF FIRE BOX.  
E) OUTSIDE AIR INTAKE TO BE CONSTRUCTED OF NON-COMBUSTIBLE AND NON-CORROSIVE MATERIALS.  
F) TIGHT FITTING FLUE DAMPER WITH A READILY ACCESSIBLE CONTROL.

CONTINUOUS BURNING GAS PILOT OF LPG LOG LIGHTER IS PROHIBITED.

## PLUMBING NOTES:

PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING AND ROUTING OF ALL WASTE, VENT, WATER, GAS AND A/C CONDUIT LINES. CONDUIT SHALL BE APPROVED BY THE OWNER FOR SERVICE.

ALL PLUMBING MATERIALS AND WORKMANSHIP SHALL BE IN STRICT ACCORDANCE WITH THE CALIFORNIA BUILDING CODE, CALIFORNIA PLUMBING CODE, AND AMERICAN GAS ASSOCIATION, AS AMENDED BY LOCAL GOVERNING AGENCIES.

ALL FIXTURES ARE TO BE FINISHED BY THE PLUMBING CONTRACTOR UNLESS OTHERWISE NOTED ON PLANS. ALL FIXTURES ARE TO BE INSTALLED COMPLETE WITH RESPECTS TO TRIM SEALS, ETC. AS REQUIRED TO MAKE JOB READY FOR SERVICE AND USE.

PLUMBING CONTRACTOR TO TAKE OUT AND PAY FOR ALL PERMITS AND INSPECTION FEES AS REQUIRED FOR HIS WORK.

ALL WATER LINES TO BE STANDARD WEIGHT SCHEDULE 40 GALVANIZED OR COPPER PIPING. PROVIDE APPROVED WRAPPING TO WATER PIPING UNDER CONCRETE FLOORS.

ALL BATHTUBS SHALL HAVE AN APPROVED PLASTIC OR BRASS FERRULE SOLID TRAP AND OVERFLOW FITTING OR PROVIDE 12" X 12" MINIMUM ACCESS PANEL.

ALL TUB-SHOWER OPENINGS SHALL BE ROOFED-PRIOR WITH 1" CEMENT COVERING IN AN APPROVED MANNER.

CUTTING, NOTCHING, OR BORING OF FLATES OR STUDS SHALL CONFORM TO THE CURRENT CALIFORNIA BUILDING CODE EDITION AND ANY OTHER APPLICABLE STANDARDS.

ALL FIXTURES TO BE WHITE UNLESS OTHERWISE NOTED IN PLANS. PLUMBING CONTRACTOR SHALL SUBMIT FIXTURE SPECIFICATIONS FOR OWNERS APPROVAL.

PROVIDE SHUTOFF VALVE FOR COLD WATER SUPPLY TO BUILDING.

PROVIDE TWO-WAY CLEANOUTS AT THE CONNECTION OF THE HOUSE DRAIN AND THE BUILDING SEWER. ALL HORIZONTAL DRAIN LINES OVER 3' IN LENGTH SHALL BE PROVIDED WITH A CLEAN-OUT. THE OWNER SHALL COORDINATE ALL SERVICE CONNECTIONS FOR THE WORK WITH THE APPROPRIATE AGENCIES.

CONTRACTOR TO DETERMINE WATER, SEWER AND SUPPLY LINE SIZES IN CONFORMANCE WITH THE CALIFORNIA PLUMBING CODE AND COORDINATE WITH PLUMBER AS TO ANY VARIATION AND/OR CONFLICT FROM DRAWINGS.

ALL ROOF DRAINATIONS WITH PIPES TO BE INSTALLED WITH "DECK-TYPE" PIPE FLASHINGS INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS. EACH VENT PIPE OR STACK SHALL EXTEND THROUGH ITS FLASHING AND SHALL TERMINATE VERTICALLY NOT LESS THAN SIX (6) INCHES ABOVE THE ROOF NOR LESS THAN ONE (1) FOOT FROM ANY VERTICAL SURFACE.

VENT PIPES OR STACKS SHALL TERMINATE NOT LESS THAN 10 FEET FROM OR AT LEAST THREE (3) FEET ABOVE ANY WINDOW, DOOR OPENINGS, AIR INTAKE OR VENT SHANK, NOR LESS THAN THREE (3) FEET IN EVERY DIRECTION FROM ANY LOT LINE, ALLEY OR STREET.

DRAINAGE PIPE MATERIALS SHALL BE CAST IRON, GALVANIZED STEEL, PVC OR ABS SCHEDULE 40 DW. PLASTIC PIPE EXCEPT THAT NO GALVANIZED STEEL PIPE SHALL BE USED UNDERGROUND AND SHALL BE KEPT AT LEAST 6" ABOVE GROUND.

CHANGES IN DIRECTION OR SIZE OF DRAINAGE PIPING SHALL BE MADE BY THE APPROPRIATE USE OF APPROVED FITTINGS, AND SHALL BE OF THE ANGLES PRESENTED BY ONE-SIXTEENTH BEND, ONE-EIGHT BEND, ONE-SIXTH BEND, OR OTHER APPROVED FITTINGS OR EQUIVALENT SHARP.

AN ACCESSIBLE SHUTOFF VALVE SHALL BE INSTALLED IN THE FUEL SUPPLY PIPING OUTSIDE OF EACH APPLIANCE. SHUTOFF VALVES SHALL BE WITHIN 3' OF THE APPLIANCE.

WATER METER SHALL BE INSTALLED PRIOR TO FINAL INSPECTION. WATER METER CAN SHALL NOT BE LOCATED IN DRIVE OR APPROACH.

PROVIDE LOW FLOW WATER CLOSETS WITH MAXIMUM OF 128 GALLONS PER FLUSH.

SOLDERS AND FLUXES WITH A LEAD CONTENT WHICH EXCEEDS TWO-TENTH OF ONE PERCENT (.002) ARE PROHIBITED IN PIPING SYSTEMS USED TO CONVEY WATER TO OR FROM THE BUILDING.

LISTED METAL APPLIANCE CONNECTORS FOR RANGES AND CLOTHES DRYERS SHALL HAVE AN OVERALL LENGTH NOT TO EXCEED SIX (6) FEET.

CONDENSATE DRAINS FROM AIR CONDITIONING UNITS SHALL BE APPROVED GALVANIZED OR COPPER MATERIAL. APPROVED PVC MATERIAL SHALL BE USED ONLY ON RESIDENTIAL CONSTRUCTION NOT OVER TWO STORES IN HEIGHT.

UNDERGROUND FERROUS GAS PIPING SHALL BE ELECTRICALLY ISOLATED FROM THE REST OF THE GAS SYSTEM WITH LISTED ISOLATED FITTINGS AND INSTALLED A MINIMUM OF SIX INCHES ABOVE GRADE.

ALL SHOWER HEADS SHALL BE CERTIFIED AND EQUIPPED WITH FLOW RESTRICTORS.

ALL TUB AND SHOWER VALVES ARE TO BE SINGLE CONTROL PRESSURE BALANCING OR THERMOSTATIC ANT- I - SCALD TYPE.

PROVIDE A NON-REMOVABLE TYPE BACK FLOW PREVENTION DEVICE ON ALL HOSE BIBS.

## WATER HEATING NOTES:

WATER HEATING EQUIPMENT, SHOWER HEADS, AND FAUCETS SHALL BE CERTIFIED BY THE CALIFORNIA ENERGY COMMISSION.

NO WATER HEATER SHALL BE INSTALLED IN ANY ROOM USED OR DESIGNED TO BE USED FOR SLEEPING PURPOSES, BATHROOMS, CLOTHES CLOSETS, OR IN ANY CLOSET UNLESS ACCESS TO SUCH ROOMS.

APPLIANCES SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS WITH PROPER CLEARANCES TO COMBUSTIBLE MATERIALS.

FOR WATER HEATERS LOCATED IN CLOSETS OR CONFINED SPACES, PROVIDE MIN. 2 SQ. INCHES OF COMBUSTION AIR VENTILATION FOR EACH 1000 BTU/H OF WATER HEATER INPUT. 20K OR REQUIRED VENTILATION SHALL BE LOCATED WITHIN 12" OF THE CEILING AND 20K SHALL BE LOCATED WITHIN 12" OF THE FLOOR. FURR CEILING TO 17'-0" AND PROVIDE 5/8" TYPE 'X' GYPSUM WALL BOARD AT CEILING AND ALL WALLS.

APPLIANCES INSTALLED IN GARAGES SHALL BE LOCATED SUCH THAT IT IS PROPERLY GUARDED AGAINST FLOOD, AND ELEVATED SO THAT ANY GLOW OR SPARK EMITTED SHALL BE AT LEAST 18" ABOVE THE FLOOR OF THE GARAGE.

PROVIDE ADEQUATE EARTHQUAKE BRACING FOR WATER HEATER, WHEN NOT LOCATED IN A CLOSET USED EXCLUSIVELY FOR THE WATER HEATER. USE A 2" WIDE X 26 GA. SHEET METAL STRIP AT TOP AND BOTTOM 1/3 OF TANK. SECURE WITH (2) 16D AT EACH END TO FRAMING.

THE WATER HEATER SHALL BE PROVIDED WITH A TEMPERATURE AND PRESSURE RELIEF VALVE HAVING A FULL SIZED DRAIN OR HARD DRAWN COPPER TO THE OUTSIDE OF THE BUILDING WITH THE END OF THE PIPE NOT MORE THAN 24" NOR LESS THAN 6" ABOVE GRADE, POINTING DOWNWARD WITH THE TERMINAL END BEING UNDREADED.

PIPING IN UNCONDITIONED SPACE LEADING TO AND FROM WATER HEATER SHALL BE INSULATED WITH AN INSTALLED THERMAL RESISTANCE OF R-3 OR GREATER FOR THE FIRST FIVE FEET OF PIPE CLOSEST TO THE WATER HEATER, OR WHATEVER SHORTER LENGTH IS LOCATED IN UNCONDITIONED SPACE.

FULL SIZED, DOUBLE WALLED METAL VENT PIPING FROM WATER HEATERS SHALL BE ROUTED THROUGH THE ROOF AND PROVIDED WITH A WEATHERPROOF CAP. INSTALLATION AND REQUIRED CLEARANCES SHALL BE IN ACCORDANCE WITH APPLICABLE CODES.

STORAGE TYPE WATER HEATERS AND STORAGE AND BACKUP TANKS FOR SOLAR WATER HEATING SYSTEM SHALL BE EXTERNALLY WRAPPED WITH INSULATION HAVING AN INSTALLED THERMAL RESISTANCE OF R-4 OR GREATER.

## ELECTRICAL NOTES:

ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE NATIONAL ELECTRICAL CODE (NEC), ELECTRICAL SAFETY ORDERS, AND ALL APPLICABLE CODES.

ELECTRICAL CONTRACTOR SHALL CHECK POWER AND PHONE SERVICES AT SITE PRIOR TO BIDDING. SERVICES NOT AVAILABLE SUBJECT TO FIELD INSPECTION. THE CONTRACTOR SHALL ARRANGE FOR SERVICE INSTALLATION, RELOCATION AND/OR REMOVAL PER UTILITY COMPANY REQUIREMENTS. CONTRACTOR SHALL DEFRAIT COSTS FOR SERVICE. (VERIFY OVERHEAD OR UNDERGROUND SERVICE).

ELECTRICAL CONTRACTOR SHALL VERIFY ALL LIGHTING AND CONVENIENCE OUTLETS AND ELECTRICAL PANEL LOCATION WITH OWNER. CONTRACTOR SHALL VERIFY ELECTRICAL CHARACTERISTICS, PANEL SIZING CIRCUITS, WIRE SIZES AND CIRCUIT BREAKER SIZES.

PROVIDE AN ILLUMINATED ADDRESS SIGN LOCATED 10' OR GREATER IT CAN BE CLEARLY SEEN FROM THE STREET. PROVIDE 10 VOLT DIRECT WIRE.

ELECTRICAL SERVICE TO BE 100 AMP (UNLESS NOTED OTHERWISE IN THE DRAWINGS).

PRIOR TO COMMENCING CONSTRUCTION, ELECTRICAL CONTRACTOR SHALL ARRANGE A CONFERENCE WITH THE MECHANICAL AND PLUMBING CONTRACTORS AND SHALL VERIFY ELECTRICAL CHARACTERISTICS, SIZES, LOCATION REQUIREMENTS, CONTROLS TYPES AND DIAGRAMS OF ALL EQUIPMENT FURNISHED BY THESE CONTRACTORS.

ELECTRICAL SERVICE AND/OR SUB-PANELS SHALL NOT BE LOCATED IN CLOTHES CLOSETS.

LIGHTING FIXTURES IN CLOTHES CLOSETS SHALL BE 18" MIN. FROM COMBUSTIBLE MATERIALS AND SHALL COMPLY WITH CEC 402.4.

PROVIDE APPROVED SMOKE DETECTOR (PIRE XCBG #3429 OR EQUAL) BETWEEN KITCHEN AND FIRST BEDROOM, AT ALL CHANGES OF CEILING ELEVATIONS, AND IN ALL BEDROOMS AND SLEEPING AREAS. USE 100VOLT DIRECT WIRE WITH BATTERY BACK-UP LOCATED AT CEILING AND MINIMUM 24" FROM AIR OUTLET OR RETURN. (ALL DETECTORS SHALL BE ELECTRONICALLY INTERCONNECTED AND SHALL EMIT A SIGNAL WHEN THE BATTERIES ARE LOW).

PROVIDE AN APPROVED HEAT DETECTOR IN ATTIC ABOVE ANY MECHANICAL EQUIPMENT WITH AN ALARM LOCATED IN THE LIVING AREA.

PROVIDE AT LEAST ONE SWITCHED LIGHT IN ATTIC AND AN ELECTRICAL OUTLET WITHIN 25' OF ATTIC MOUNTED EQUIPMENT. VERIFY LOCATION WITH MECHANICAL CONTRACTOR.

RECEPTACLES SHALL BE INSTALLED SUCH THAT NO POINT MEASURED HORIZONTALLY ALONG THE FLOOR LINE IN ANY WALL SPACE IS MORE THAN 6 FEET FROM A RECEPTACLE OUTLET PER CEC 210.52 (A). A WALL SPACE SHALL INCLUDE:  
(1) ANY SPACE 2 FEET OR MORE IN WIDTH (INCLUDING SPACE MEASURED AROUND CORNERS) AND WIREN ALONG THE FLOOR LINE BY DOORWAYS AND REAR WALLS.  
(2) SPACE OCCUPIED BY FIXED PANELS IN EXTERIOR WALLS EXCLUDING SLIDING PANELS.  
(3) THE SPACE AFFORDED BY FIXED ROOM DIVIDERS SUCH AS FREESTANDING BAR-TYPE COUNTERS OR RAILINGS.

ALL ELECTRICAL OUTLETS IN BATHS, GARAGES AND EXTERIOR LOCATIONS, AND WITHIN 6" OF SINKS OR OTHER WATER SOURCES SHALL BE ON GROUND-FAULT INTERRUPTING CIRCUITS.

ANY APPLIANCES OR ELECTRICAL OUTLETS LOCATED IN GARAGE THAT GENERATE A SPARK OR GLOW SHALL BE ELEVATED AT LEAST 18" ABOVE THE FLOOR.

PROVIDE AN ELECTRODE (UPPER GROUND) ENCASED BY AT LEAST 3" OF CONCRETE FOOTING OR FOUNDATION THAT IS IN DIRECT CONTACT WITH THE EARTH. CONDUIT SHALL BE AT LEAST 30" OF ONE OR MORE STEEL REINFORCING BARS NOT LESS THAN 1/2 INCH DIAMETER OR AT LEAST 20" BARE SOLID COPPER CONDUCTOR NOT SMALLER THAN 14 AWG.

DISCONNECT SWITCH AT ROOF-MOUNTED AC UNITS, PROVIDE 110-VOLT WATER-PROOF OUTLET WITHIN 20' OF HVAC/AC UNIT SHALL BE ON THE SAME LEVEL. THE EQUIPMENT IT SERVES.

SWITCHES MAY BE RELOCATED AS DESIRED BY THE OWNER ON THE JOBSITE.

LIGHT FIXTURES ARE TO BE SELECTED BY THE OWNER (SEE CONTRACT FOR ALLOWANCE). ALL T.V. AND TELEPHONE OUTLETS SHOWN ON THESE PLANS TO BE FIELD VERIFIED WITH THE OWNER. ALL LOCATIONS AS REQUIRED BY OWNER SHALL BE FIELD MARKED ON THE FRAMING PRIOR TO ANY INSTALLATION. TV ANTENNAE SHALL BE TIED TOGETHER IN ATTIC SPACE AND WIRE RUN THROUGH PLASTIC CONDUIT WITH ROOF JACK. (CHECK WITH OWNER WITH REGARDS TO CABLE TV).

APPLIANCES SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

ALL SWITCHES SHALL BE A MAXIMUM OF 48" AND A MINIMUM OF 436" FROM FLOOR TO THE CENTER OF OUTLET.

ALL RECEPTACLES SHALL BE A MINIMUM OF 412" FROM FLOOR TO CENTER OF OUTLET.

PROVIDE MINIMUM 36" WORK CLEARANCE IN FRONT OF PANELS AND/OR SERVICE EQUIPMENT. WITH 30" MIN. NET WORK SPACE. PROVIDE 18" FROM BUS BARS TO CONSTRUCTION.

INCANDESCENT LIGHTING FIXTURES THAT ARE RECESSED INTO INSULATED CEILINGS SHALL BE APPROVED FOR ZERO-CLEARANCE INSULATION COVER (L.C.) BY UL OR OTHER TESTING LABORATORY RECOGNIZED BY L.C.B.O.

## MECHANICAL NOTES:

ALL MECHANICAL EQUIPMENT AND RELATED WORK SHALL CONFORM TO THE CURRENT EDITION OF THE CALIFORNIA MECHANICAL CODE AS AMENDED BY THE LOCAL GOVERNING AGENCIES.

ALL WORK SHALL BE DONE IN A NEAT AND PROPER MANNER AS PRACTICED BY THOSE SKILLED IN THE PARTICULAR TRADE. ALL PIPES, FIXTURES, EQUIPMENT, GRILLES, REGISTERS AND OTHER COMPONENTS SHALL BE INSTALLED LEVEL, SQUARE AND IN A NEAT AND PROPER MANNER. PROVIDE 5/8" TYPE 'X' 1/4" DR. DRYWALL WHERE REQUIRED BY PLAN. UNLESS OTHERWISE INDICATED ON PLANS, ALL WALLS SHALL RECEIVE A SKIP TROWEL TEXTURE.

ALL EQUIPMENT SHALL BE INSTALLED WITH STRICT CONFORMANCE TO THE MANUFACTURERS RECOMMENDATIONS.

MECHANICAL CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES.

CONTRACTOR SHALL TEST EQUIPMENT ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS TO INSURE SYSTEM IS FREE OF ANY DEFECTS, OBJECTIONABLE NOISES, AND VIBRATION OR ANY OTHER DEFECTS.

CONTRACTOR SHALL PROVIDE OWNER WITH ANY NECESSARY OPERATION AND MAINTENANCE INSTRUCTIONS, WARRANTIES, OR OTHER DOCUMENTATION SUPPLIED WITH THE EQUIPMENT.

MECHANICAL CONTRACTOR SHALL VERIFY ALL SYSTEM VOLTAGES PRIOR TO BIDDING AND/OR ORDERING EQUIPMENT.

THE ARRANGEMENT OF EQUIPMENT, PIPING, DUCT WORK, AND OTHER MATERIALS INDICATED ON THE DRAWINGS ARE TO BE FOLLOWED UNLESS THE FOLLOWING ARE POSSIBLE AND ACHIEVE A NEAT ARRANGEMENT, WHILE STILL OVERCOMING OBSTRUCTIONS.

ANY CHANGE OF HVAC OR WATER HEATING UNITS FROM THAT LISTED IN THE DRAWINGS (MODEL, CAPACITIES, OR EFFICIENCIES) ARE REQUIRED TO BE DONE BY PLAN ADDENDUM. ADDENDUMS MAY REQUIRE REVISED ENERGY CALCULATIONS AND SHALL BE SUBJECT AS TO THE CHANGES, AND SHALL BE ACCOMPANIED BY A COPY OF THE EQUIPMENT PAGE FROM THE CEC DIRECTORY OF CERTIFIED EQUIPMENT.

LOCATION OF HVAC UNITS AND THE THERMOSTAT AS SHOWN IN THE DRAWINGS SHALL BE VERIFIED WITH THE MECHANICAL CONTRACTOR.

INDOOR DESIGN TEMPERATURES AND AIR SUPPLY REQUIREMENTS SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITIONS OF THE CALIFORNIA BUILDING CODE AND THE CALIFORNIA MECHANICAL CODE.

ALL EXHAUST SYSTEMS SHALL BE VENTED TO THE OUTSIDE AIR.

ALL REST ROOMS AND LAUNDRY ROOMS SHALL BE PROVIDED WITH MECHANICAL VENTILATION SYSTEMS WITH A MINIMUM OF 25 A/C AIR CHANGES PER HOUR. ALL OTHER ROOMS SHALL BE PROVIDED WITH A MINIMUM OF 2 AIR CHANGES PER HOUR.

ALL EXHAUST FANS SHALL BE PROVIDED WITH BACK-DRAFT OR AUTOMATIC DAMPERS TO PREVENT AIR LEAKAGE. ALL EXHAUST FANS SHALL PROVIDE 5 AIR CHANGES PER HOUR.

COMBUSTION AIR FOR GAS BURNING EQUIPMENT (FURNACES AND/OR WATER HEATERS) SHALL BE FROM THE EXTERIOR OF THE BUILDING.

ALL HEATING AND COOLING EQUIPMENT SHALL BEAR A PERMANENT IDENTIFICATION AS TO THE AREA OF SPACE SERVED BY THE EQUIPMENT.

WHEN HVAC EQUIPMENT AND/OR EVAPORATIVE COOLERS ARE LOCATED ON THE ROOF, AND THE PITCH OF THE ROOF EXCEEDS 4 IN 12, IT SHALL BE PROVIDED WITH A PLATFORM, RAILING AND CATWALK THAT COMPLIES WITH THE CALIFORNIA MECHANICAL CODE.

ALL ROOF MOUNTED EQUIPMENT WITH ROTATING COMPONENTS SHALL BE MOUNTED ON RUBBER VIBRATION ISOLATORS UNLESS NOTED OTHERWISE IN DRAWINGS.

IF HVAC EQUIPMENT IS LOCATED ON A TILE ROOF, PROVIDE AN ACCESS TO HVAC UNITS SO THAT TRAVERSAL OF THE ROOF TILES ARE NOT REQUIRED. (COMPOSITION SHINGLES UNDER UNIT AND EXTENDING TO HAVE MAY BE USED).

PROVIDE DOUBLE CEILING JOISTS OR RAFTERS UNDER ALL ATTIC AND/OR ROOF MOUNTED EQUIPMENT. IF TRUSSES ARE USED, TRUSS MANUFACTURER SHALL PROVIDE CALCULATION FOR ADDITIONAL LOADS APPLIED DUE TO ATTIC AND/OR ROOF MOUNTED EQUIPMENT.

FOR WARM AIR FURNACES LOCATED IN ATTIC SPACES, PROVIDE THE FOLLOWING:  
A) 30" X 30" (MINIMUM) ATTIC ACCESS WITHIN 20' OF EQUIPMENT.  
B) A MINIMUM 24" WIDE SOLID FLOORING PASSAGE FROM THE ACCESS TO A 30" WIDE WORKING PLATFORM ON THE CONCRETE SIDE OF THE ATTIC SPACE.  
C) A PERMANENT ELECTRICAL OUTLET AND A LIGHT CONTROLLED BY A SWITCH LOCATED AT THE ACCESS.  
D) AN APPROVED HEAT DETECTOR LOCATED IN THE ATTIC WITH AN ALARM LOCATED IN THE LIVING AREA OF THE RESIDENCE.

EITHER COMBUSTION AIR OPENING SHALL BE PROVIDED WITH A MIN. 26 GA. STEEL SLEEVE EXTENDING 6" MIN. ABOVE THE TOP OF THE INSULATION.

THERMOSTATICALLY CONTROLLED HEATING SYSTEMS SHALL HAVE AN AUTOMATIC NIGHT SETBACK THERMOSTAT. THERMOSTATS SHALL BE ADJUSTABLE TO PROVIDE A TEMP. RANGE OF UP TO 10 DEGREES BETWEEN FULL HEATING AND FULL COOLING.

ALL DUCTS SHALL BE CONSTRUCTED, INSTALLED AND INSULATED IN ACCORDANCE WITH THE CALIFORNIA MECHANICAL CODE. ALL DUCTS CONVEYING AIR FROM OUTSIDE THE BUILDING OR FROM EVAPORATIVE COOLERS SHALL BE MADE OF GALVANIZED STEEL OR NON-CORROSIVE METAL. ALL DUCTS SHALL BE EXTERNALLY WRAPPED OR HAVE AN INSTALLED THERMAL RESISTANCE AS SHOWN ON THE DRAWINGS OR THE ATTACHED ENERGY CALCULATION.

DOMESTIC CLOTHES DRYER EXHAUST DUCTS SHALL NOT EXCEED A COMBINED HORIZONTAL AND VERTICAL LENGTH OF 14'-0" INCLUDING (2) 90 DEGREE ELBOWS.

ALL ATTIC INSTALLED APPLIANCES SHALL HAVE A SHEET METAL SECONDARY PAN AND 1 1/2" DIAMETER DRAIN TO AN APPROVED LOCATION AT THE EXTERIOR.

AFTER INSTALLING HVAC EQUIPMENT AND WATER HEATING SYSTEMS, THE INSTALLER SHALL POST, IN A CONSPICUOUS LOCATION AT THE BUILDING SITE, AN "INSTALLATION CERTIFICATE" (FOR FORM), SIGNED BY THE INSTALLER, LISTING THE EQUIPMENT INSTALLED, MANUF., MODEL, AND EFFICIENCIES) AND THAT IT MEETS OR EXCEEDS THE REQUIREMENTS OF THE ENERGY CONSERVATION DOCUMENTATION.

ALL AIR MOVING EQUIPMENT USED TO MEET EITHER THE WHOLE BUILDING OR LOCAL EXHAUST VENTILATION REQUIREMENTS SHALL BE RATED IN TERMS OF AIRFLOW AND SOUND.

A) ALL CONTINUOUSLY OPERATED FANS SHALL BE RATED AT A MAXIMUM OF 10 SONE.  
B) INTERMITTENTLY OPERATED WHOLE-BUILDING VENTILATION FANS SHALL BE RATED AT A MAXIMUM OF 10 SONE.  
C) INTERMITTENTLY OPERATED LOCAL EXHAUST FANS SHALL BE RATED AT A MAXIMUM OF 3 SONE.  
D) REMOTELY LOCATED AIR MOVING EQUIPMENT NEED NOT MEET SOUND REQUIREMENTS IF THERE IS AT LEAST 4 FEET OF DUCTWORK BETWEEN THE PAN AND THE INTAKE GRILLE.

## FRAMING NOTES:

ALL WOOD FRAMING SHALL COMPLY WITH THE WORKING DRAWINGS AND THE REQUIREMENTS OF THE LATEST EDITION OF THE CALIFORNIA RESIDENTIAL CODE. IF THE WORKING DRAWINGS ARE INCORRECT OR AN ERROR IS FOUND, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY SUCH INFORMATION WITH THE DESIGNER PRIOR TO CONTINUING WITH ANY WORK AFFECTED.

FRAMING CLIPS, POST CAPS, TWIST STRAPS, AND HANGERS AS REQUIRED FOR PROPER EXECUTION OF THIS JOB SHALL BE SIMPSON OR EQUAL. (OR AS NOTED IN DRAWINGS).

ALL NAILS USED FOR CONSTRUCTION SHALL BE APPROVED FOR THE APPLICATION FOR WHICH THE NAILS ARE BEING USED.

FINGER JOINTED STUDS SHALL NOT BE USED IN ANY STRUCTURAL WALLS (BEARING OR SHEAR WALLS) WITHOUT ANALYSIS OR APPROVAL TO SUBSTANTIATE EQUIVALENCY.

ALL STUDS SHALL BE MINIMUM 2X4 IN SIZE AND SPACED NOT MORE THAN 16" O.C. UNLESS NOTED CLEARLY IN THE DRAWINGS.

ALL STUDS SHALL HAVE RAIL BEARING ON A SILL PLATE NOT LESS THAN 2" IN THICKNESS AND HAVING A WIDTH NOT LESS THAN THAT OF THE WALL STUDS. ALL SILL PLATES IN CONTACT WITH CONCRETE SHALL BE FOUNDATION GRADE REDWOOD OR PRESSURE TREATED DOUGLAS FIR.

ALL BEARING WALLS AND EXTERIOR WALL STUDS SHALL BE CAPPED WITH DOUBLE TOP PLATES. INSTALLED PROVIDE OVERLAPPING AT CORNERS AND AT INTERSECTIONS WITH OTHER PARTITIONS, END JOINTS AND SPLICES SHALL BE OFFSET MINIMUM 40".

EXTERIOR STUD WALLS WITHOUT CEILINGS OR OTHER APPROVED LATERAL BRACINGS AT THE 8' FOOT PLATE HEIGHT SHALL BE CONTINUOUS STUDS AND/OR COLUMNS.

FIRE BLOCKING IS REQUIRED AT 10'-0" INTERVALS AT CONTINUOUS WALLS OVER 10'-0" HIGH.

PIPES EXCEEDING 1/8RD OF THE PLATE WIDTH SHALL NOT BE PLACED IN PARTITIONS USED AS BEARING OR LATERAL FORCE RESISTING WALLS, UNLESS FURRED ENTIRELY CLEAR OF STUDS. WHERE ALLOWED, PIPES SHALL BE PLACED IN THE CENTER OF THE PLATES, USING A NEAT HOLE. NO NOTCHING OF THE PLATES ARE ALLOWED.

ALL BEAMS AND/OR GIRDER STUDS6555 SHALL HAVE SILL SUPPORT TO THE FOUNDATION. PROVIDE MINIMUM 2X STUDS MINIMUM 48" OR 48" POSTS AS CALLED OUT IN DRAWINGS.

ALL SHEAR WALLS SHALL EXTEND TO THE ROOF SHEATHING UNLESS CLEARLY SPECIFIED OTHERWISE IN THESE DRAWINGS. ALL WOOD SHEAR WALLS AND DIAPHRAGMS SHALL CONFORM TO THE FOLLOWING:

OSHEETS USED IN THE CONSTRUCTION OF DIAPHRAGMS AND SHEAR WALLS SHALL BE LESS THAN 4' X 8' IN SIZE.  
BIMINIMUM SIZE SHEET AT BOUNDARIES AND CHANGES IN FRAMING SHALL BE 24" UNLESS ALL EDGES ARE BLOCKED AND NAILLED.  
PROVIDE FRAMING MEMBERS OR BLOCKING AT ALL PANEL EDGES IN SHEAR WALLS OR RAILINGS.

NAILING OF PLYWOOD SHEAR WALLS OR PLYWOOD DIAPHRAGMS SHALL BE DONE WITH COMMON WIRE NAILS. FIBER-CONTENT OR GLASS-MADE GYPSUM BACKERS, TYPE NR GYPSUM WALL BOARD (GREEN BOARD) IS NOT ALLOWED.

PROVIDE FIRE BLOCKING AT FLOORS, CEILING COVES AND SOFFITS AND AT 10'-0" INTERVALS AND AT STUD WALLS ADJACENT TO THE STAIR STRINGERS.

CONTRACTOR TO CONFIRM IF ALL AREAS ARE PROVIDED WITH POSITIVE DRAINAGE PRIOR TO SHEATHING OF THE ROOF.

ALL ELEVATIONS ARE GIVEN FROM TOP OF FLOOR SLAB.

VERIFY SIZES AND LOCATIONS OF ALL ROOF OPENINGS, PLATFORMS, ETC. WITH THE RESPECTIVE CONTRACTORS.

PROVIDE FULL BLOCKING AT ALL ENDS OF JOISTS AND RAFTERS AND AT ALL SUPPORTS PER THE CALIFORNIA BUILDING CODE.

WHERE RAFTERS ARE NOT PARALLEL WITH CEILING JOISTS, THE RAFTERS SHALL BE TIED TOGETHER WITH MINIMUM 1X4 RAFTER TIES AT 48" O.C.

PROVIDE DOUBLE ROOF RAFTERS AT ANY ROOF MOUNTED MECHANICAL EQUIPMENT.

ALL ROOF COVERINGS SHALL CONFORM TO THE REQUIREMENTS OF THE CEC.

ALL ROOF MOUNTED EQUIPMENT (I.E. HOODS, VENTILATORS, ETC.) SHALL RECEIVE A MINIMUM OF 2 COATS OF PAINT. COLOR TO BE SELECTED BY OWNER.

ALL PLYWOOD ROOF SHEATHING SHALL BE LAID PERPENDICULAR TO THE RAFTERS WITH STAGGERED END JOINT PATTERNS.

PROVIDE MINIMUM 36" WORK CLEARANCE IN FRONT OF PANELS AND/OR SERVICE EQUIPMENT. WITH 30" MIN. NET WORK SPACE. PROVIDE 18" FROM BUS BARS TO CONSTRUCTION.

INCANDESCENT LIGHTING FIXTURES THAT ARE RECESSED INTO INSULATED CEILINGS SHALL BE APPROVED FOR ZERO-CLEARANCE INSULATION COVER (L.C.) BY UL OR OTHER TESTING LABORATORY RECOGNIZED BY L.C.B.O.

WOOD SCREWS AND LAG BOLTS SHALL BE TURNED, NOT DRIVEN, INTO PLACE FOR SCREW THREADS INTO ROOF BORE. A PILOT HOLE THE SAME DIAMETER AND DEPTH AS THE SHANK OF THE SCREW.

BOLT HOLES IN WOOD SHALL BE BORED 1/8" INCH LARGER THAN THE NET SIZE OF THE BOLT. PROVIDE STANDARD STEEL WASHERS UNDER BOLT HEAD AND NUTS WHEN BEARING AGAINST WOOD. ALL NUTS SHALL BE RE-TIGHTENED AT THE COMPLETION OF THE JOB OR JUST PRIOR TO CLOSING IN WITH FINISH EQUIPMENT.

ALL BOLTS IN WOOD SHALL BE SPACED MIN. 4 BOLT DIAMETERS EDGE DISTANCE, AND MIN. 1 BOLT DIAMETERS END DISTANCE. (UNLESS NOTED OTHERWISE IN DRAWINGS).

MAXIMUM SIZE OF OPENINGS IN HORIZONTAL DIAPHRAGMS SHALL NOT EXCEED 24" WITHOUT SOLID BLOCKING AT OPENING.

THE ENTIRE PERIMETER OF HORIZONTAL DIAPHRAGM (ROOFS AND FLOORS) SHALL HAVE SOLID BLOCKING.

## TRUSS NOTES:

ALL TRUSSES SHALL BE DESIGNED FOR THE LOADS SHOWN IN ACCORDANCE WITH THE CURRENT CALIFORNIA BUILDING CODE, AS AMENDED BY THE LOCAL GOVERNMENT, AND THE DESIGN SPECIFICATION FOR LIGHT METAL PLATE CONNECTED WOOD TRUSSES" BY THE TRUSS PLATE INSTITUTE (CURRENT EDITIONS).

TRUSS MANUFACTURER SHALL HAVE "IN PLANT" INSPECTION BY AN APPROVED AGENCY. CERTIFICATE SHALL BE SUBMITTED TO THE DEVELOPMENT DEPARTMENT, BUILDING AND SAFETY SERVICES.

TRUSS MANUFACTURER SHALL SUBMIT SHOP DRAWINGS OF THE TRUSSES TO THE DESIGNER AND/OR PROJECT ENGINEER, AND DRAWINGS SHALL BE APPROVED BY THE LOCAL BUILDING DEPARTMENT PRIOR TO FABRICATION OF AND TRUSSES. SHOP DRAWINGS SHALL INCLUDE VERIFYING CALCULATIONS SIGNED BY A CIVIL ENGINEER REGISTERED IN CALIFORNIA.

ALL TRUSS SPANS, QUANTITY AND OTHER DIMENSIONS SHALL BE VERIFIED BY THE TRUSS MANUFACTURER PRIOR TO FABRICATION.

JOB SITE STORAGE OF TRUSSES SHALL CONFORM TO MANUFACTURER'S RECOMMENDATIONS. TRUSSES STORED HORIZONTALLY SHOULD BE SUPPORTED ON BLOCKING TO PREVENT EXCESSIVE LATERAL BENDING AND LESSON MOISTURE GAIN.

ANY DAMAGE TO TRUSSES SHALL BE BROUGHT TO THE ATTENTION OF THE TRUSS MANUF. AND FIELD REPAIRS SHALL NOT BE DONE WITHOUT PRIOR APPROVAL FROM THE TRUSS MANUFACTURER.

CUTTING, NOTCHING AND/OR DRILLING OF ANY TRUSS IS PROHIBITED UNLESS SPECIFIED IN TRUSS DRAWINGS. ALL CUTTING, NOTCHING AND/OR DRILLING SHALL BE VERIFIED WITH THE TRUSS MANUFACTURER PRIOR TO STARTING WORK.

THE CONTRACTOR SHALL PROVIDE TEMPORARY HORIZONTAL AND CROSS BRACING TO HOLD TRUSSES PLUMB AND IN SAFE CONDITION UNTIL PERMANENT BRACING IS INSTALLED. ALL PERMANENT BRACING AND RELATED COMPONENTS SHALL BE IN PLACE PRIOR TO LOADS BEING APPLIED TO TRUSSES.

ALL INTERIOR NON-BEARING PARTITIONS SHALL HAVE 1/2" CLEARANCE FROM TOP PLATE TO BOTTOM CHORD OF TRUSS. USE METAL TRUSS CLIPS AT 6'-0" O.C. TO TRUSS TO BOTTOM CHORD OR BLOCKING BETWEEN TRUSSES. REFER TO DRAWINGS AND DETAILS.

TRUSSES SHALL BE ADEQUATELY ATTACHED TO TOP PLATES. REFER TO DRAWINGS AND ACCOMPANYING DETAILS AS WELL AS ATTACHED TRUSS CALCULATIONS FOR SPECIFIC REQUIREMENTS.

PROVIDE 2X RIDGE BLOCKING AT ALL TRUSSES AS REQUIRED.

PROVIDE 2X4 CONTINUOUS BOTTOM CHORD LATERAL BRACING AT 1/3 SPAN (NOT TO EXCEED 15'-0" O.C.). SPLICES SHALL BE LAPPED AT LEAST 2 TRUSSES.

PROVIDE 2X4 CROSS BRACING AT EACH END OF BUILDING AND AT 20'-0" O.C. (MINIMUM).