



PHOTO 1 NORTH ELEVATION



PHOTO 2 WEST ELEVATION



PHOTO 3 VIEW FROM SOUTHEAST



PHOTO 4 ADDED PORCH OVER ENTRANCE



PHOTO 5 EXTENDED RAKE



PHOTO 6 DETAIL AT CHIMNEY



PHOTO 7 FLASHING AT CHIMNEY

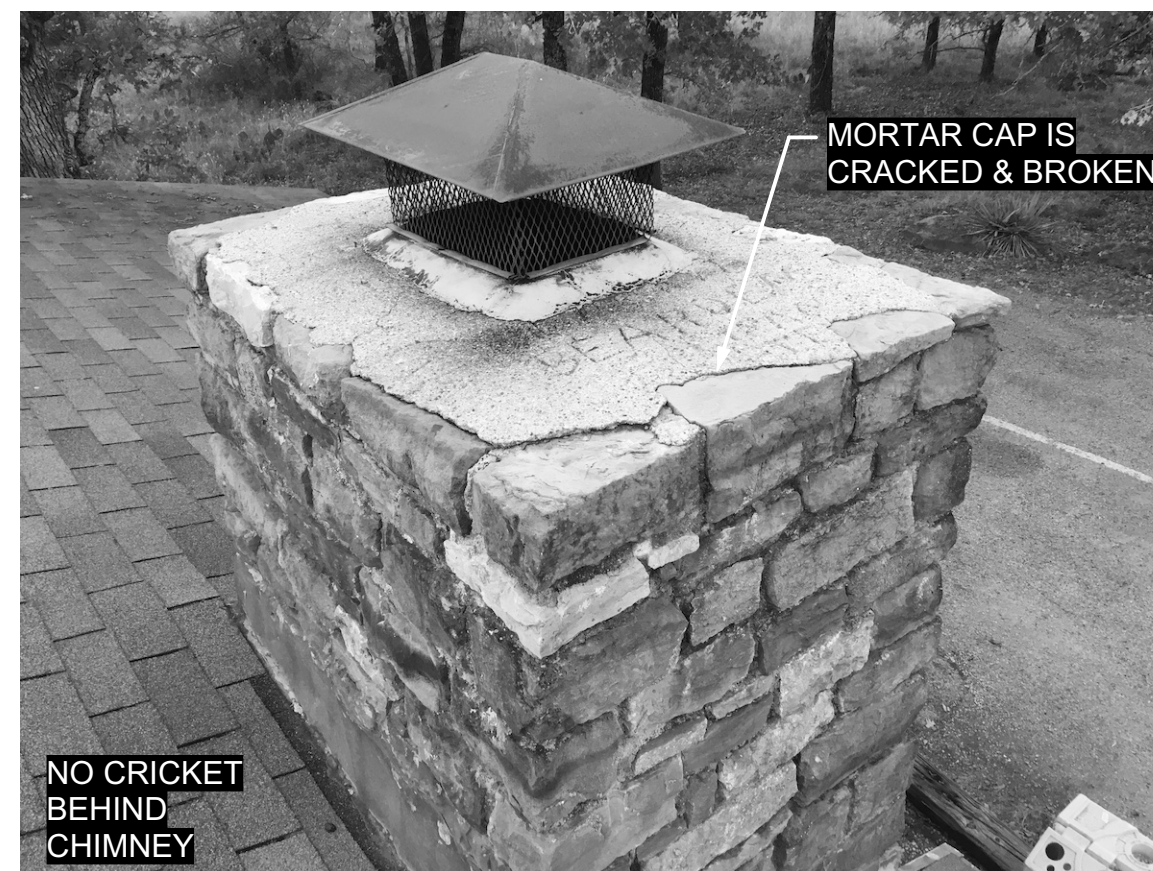
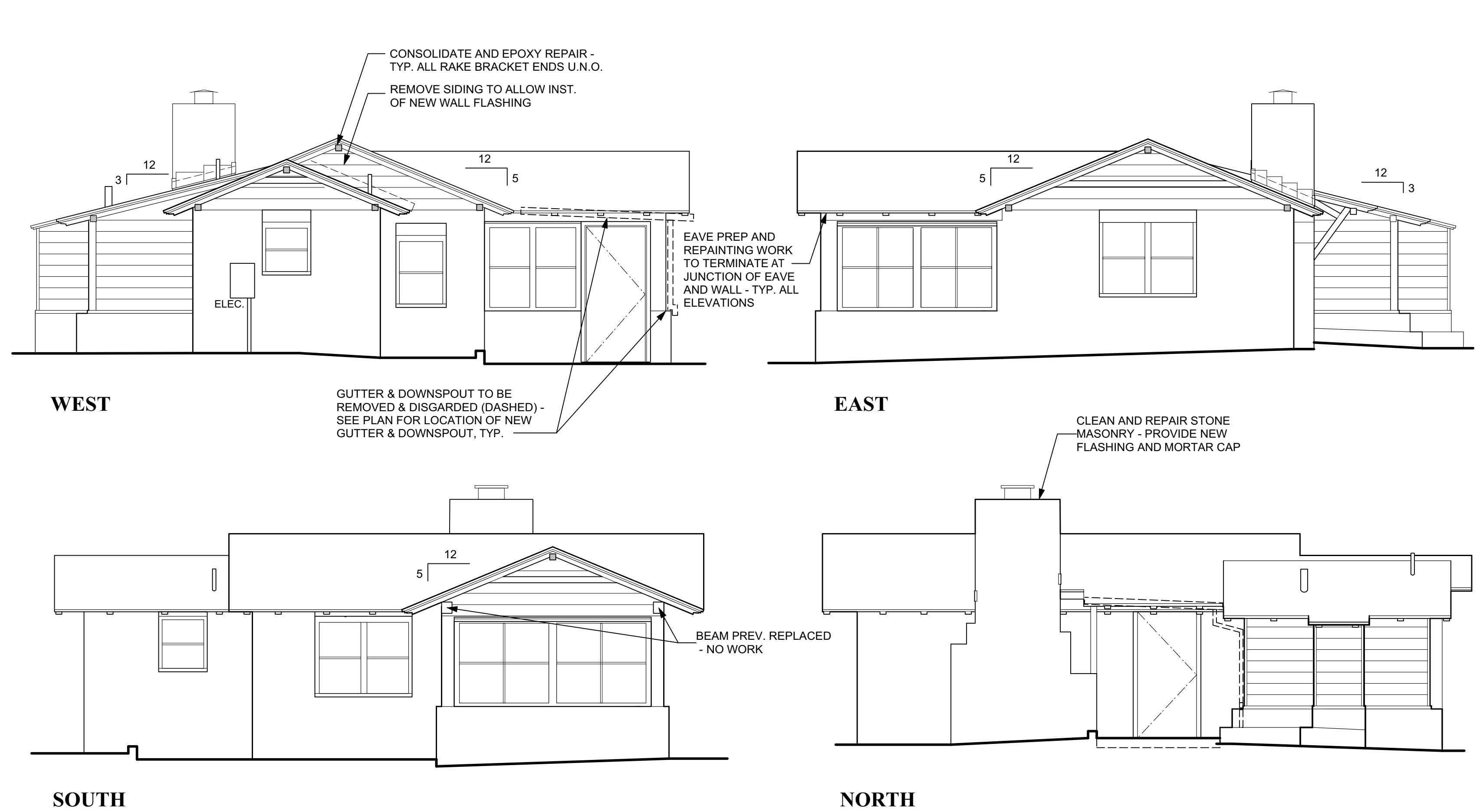
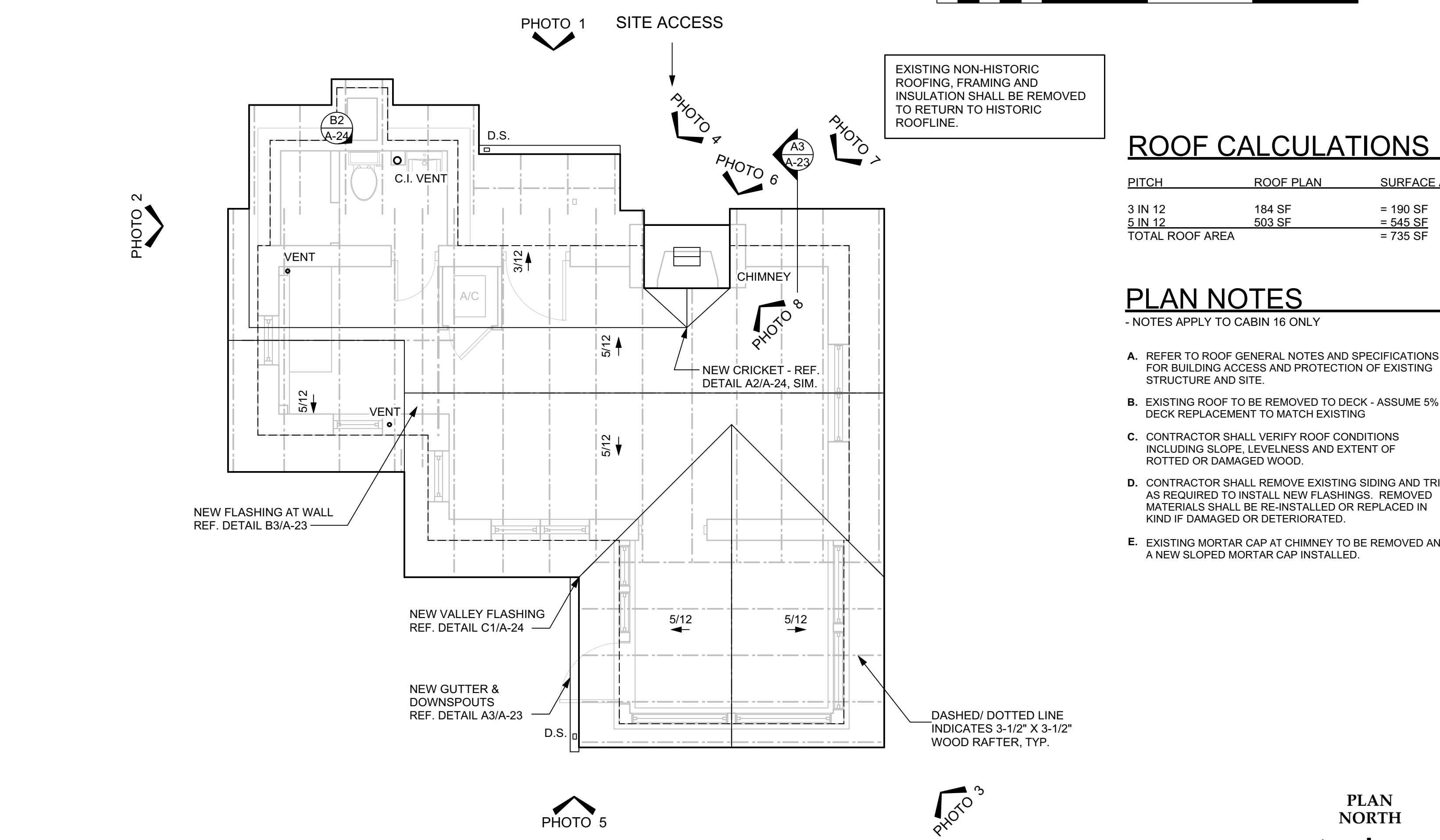


PHOTO 8 TOP OF CHIMNEY



B1 EXTERIOR ELEVATIONS - CABIN #16

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



A2 ROOF PLAN - CABIN #16

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

A1 PHOTOGRAPHS - EXISTING CONDITIONS

NOT TO SCALE

TEXAS PARKS & WILDLIFE

REGISTERED ARCHITECT
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 STATE OF TEXAS
 15535
 04-26-2021

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LAKE BROWNWOOD STATE PARK
 ROOF REPLACEMENT
 PROJECT NUMBER: 1110153

DATE: 04/26/2021
 DESIGNED BY: CHRIS H.
 DRAWN BY: PAT N.
 REVIEWED BY:

no. revision. date

SHEET TITLE
 CABIN #16 - ROOF PLAN & ELEVATIONS

SHEET NUMBER
 A-21

100% SET - CONSTRUCTION DOCUMENTS

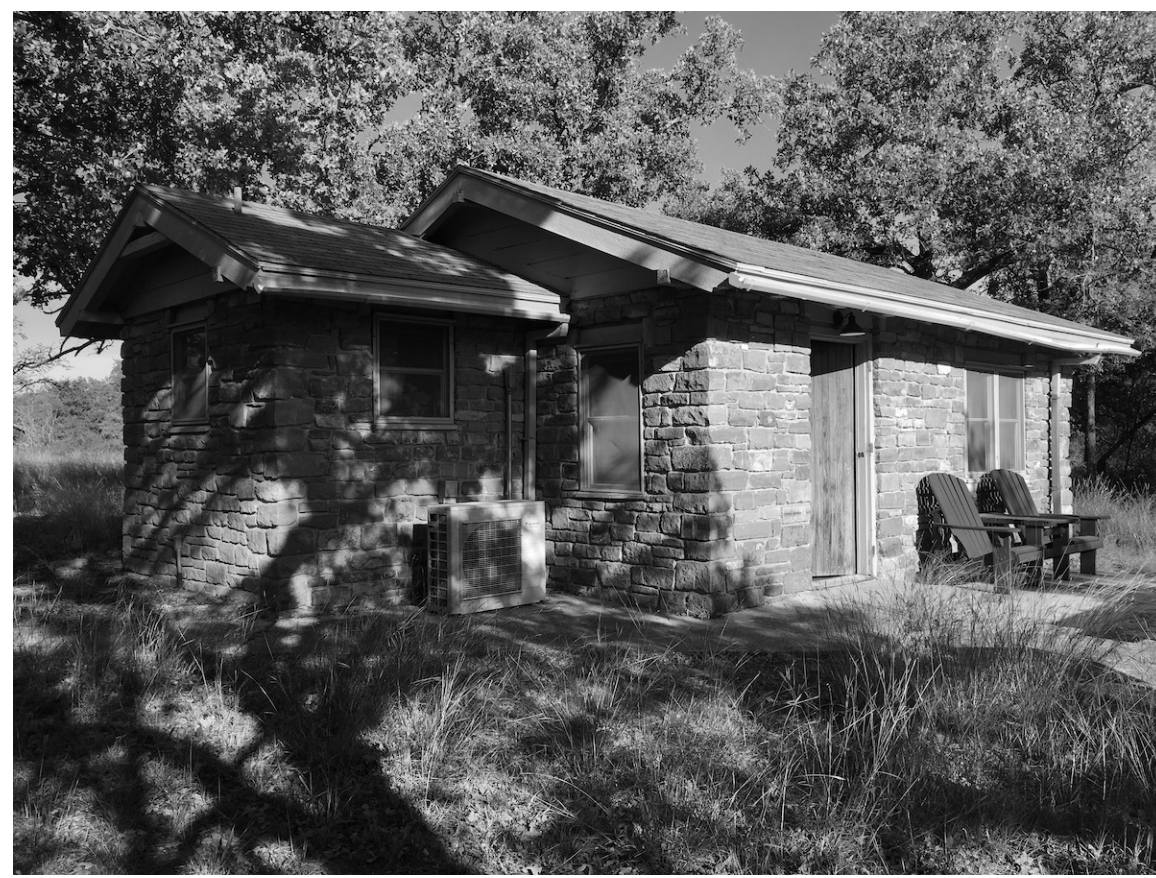


PHOTO 1 VIEW FROM SOUTHEAST



PHOTO 2 VIEW FROM SOUTHWEST

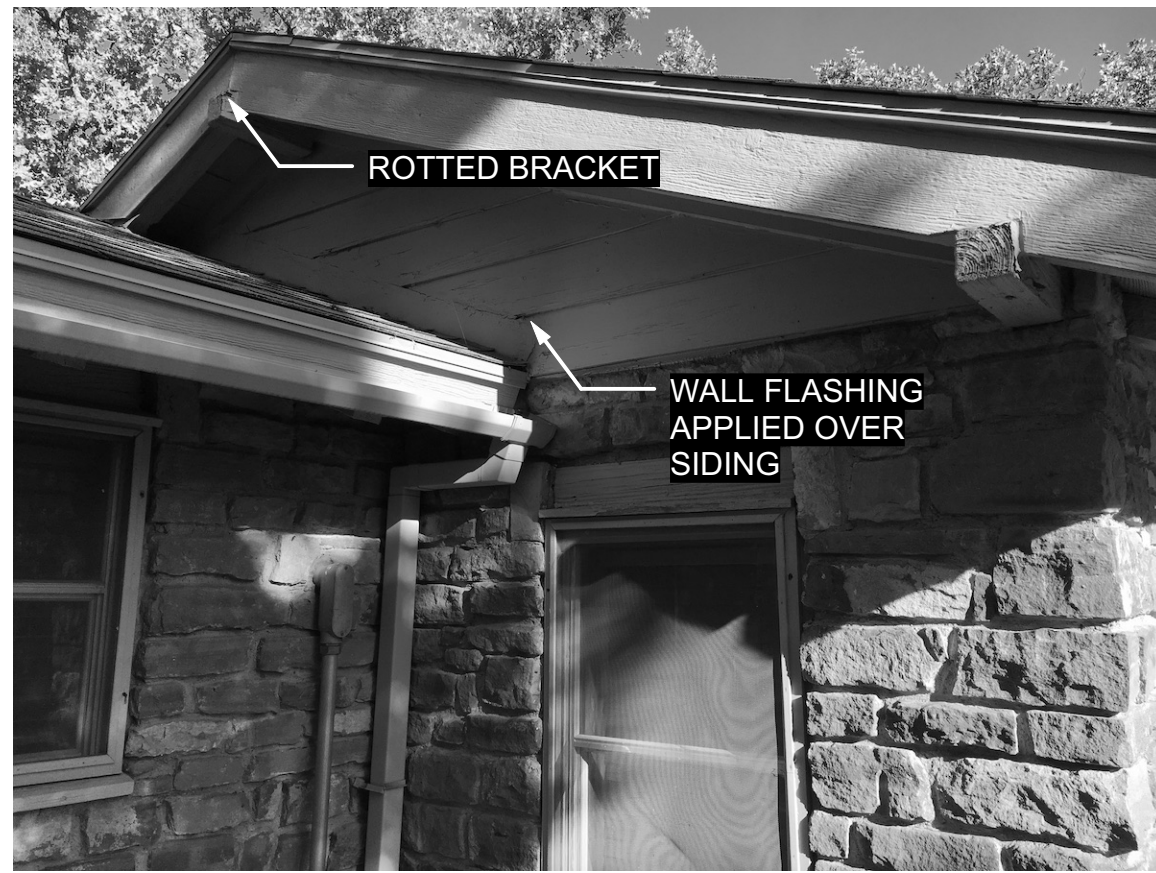


PHOTO 3 SOUTH GABLE AND FLASHING



PHOTO 4 RAFTER TAIL AT CHIMNEY



PHOTO 5 SOUTH GABLE



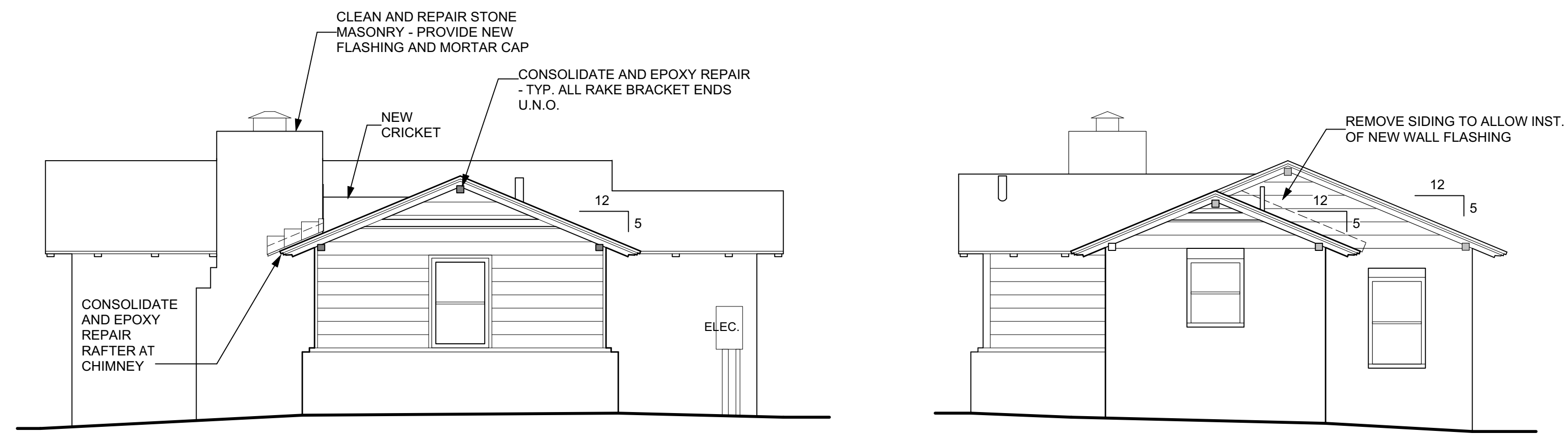
PHOTO 6 NORTHEAST CORNER



PHOTO 7 CHIMNEY LOOKING NORTH

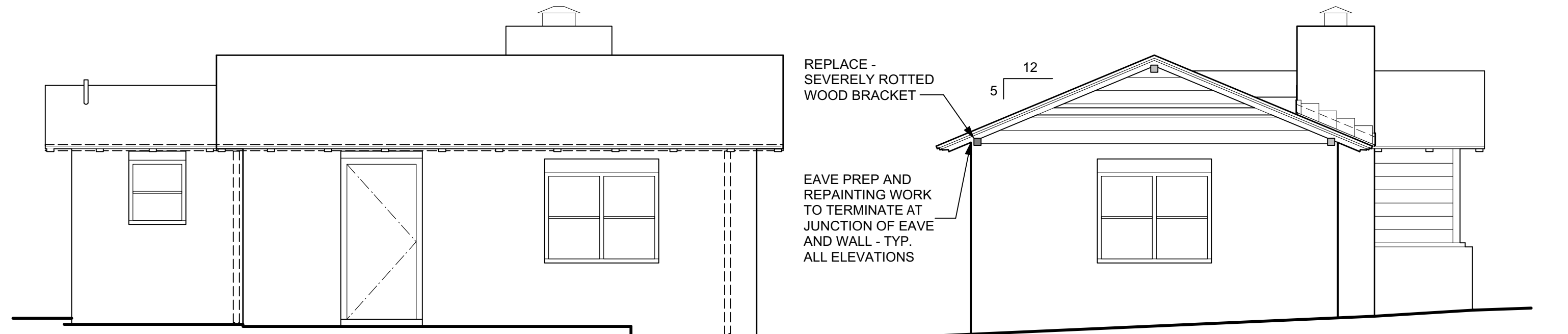


PHOTO 8 EAST SIDE OF CHIMNEY



WEST

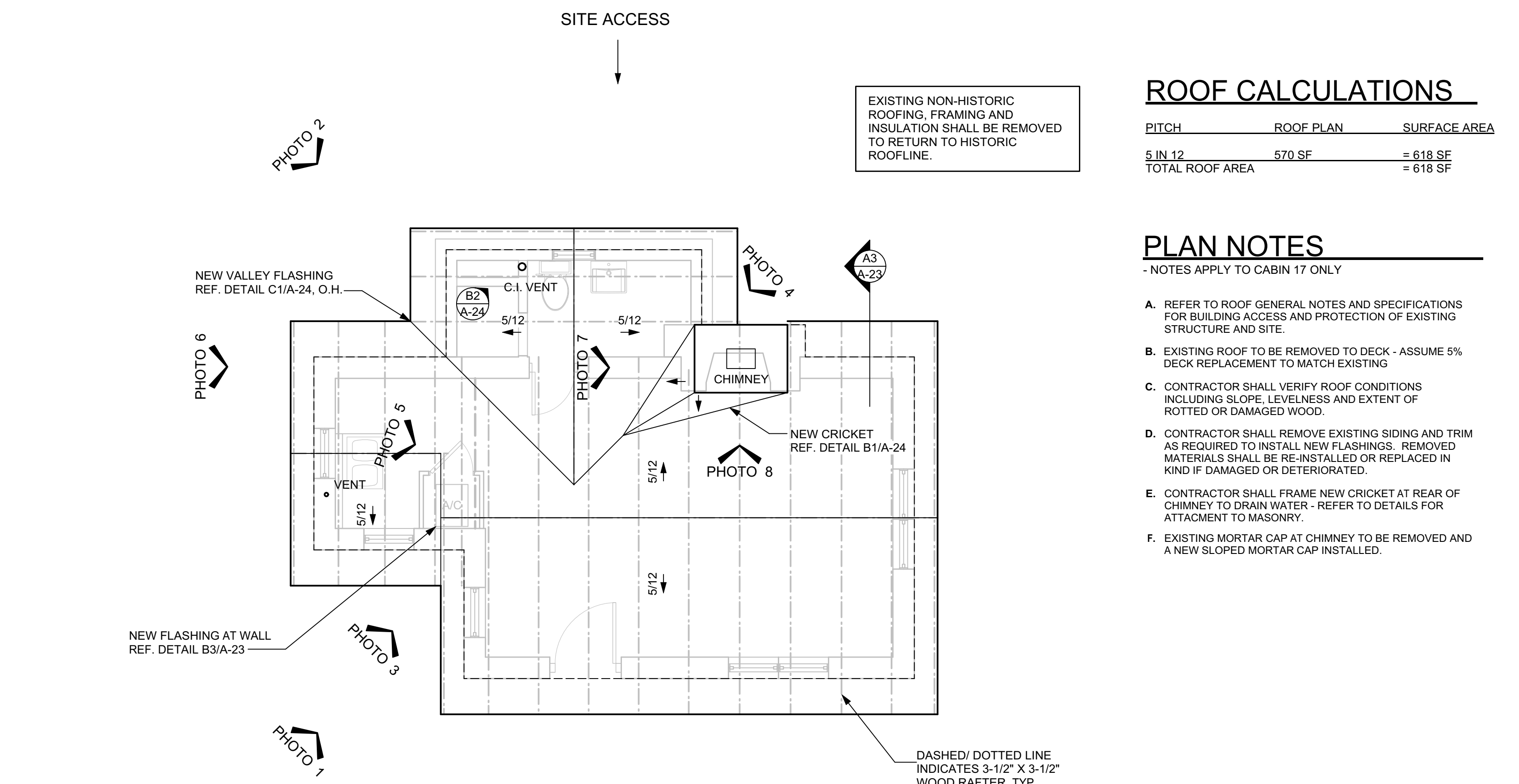
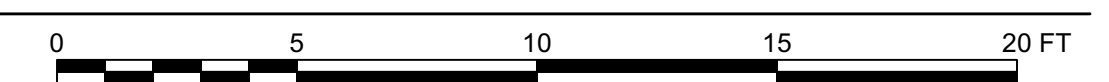
SOUTH



EAST

NORTH

B1 EXTERIOR ELEVATIONS - CABIN #17
SCALE: 1/4" = 1'-0"



ROOF CALCULATIONS

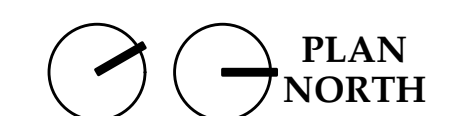
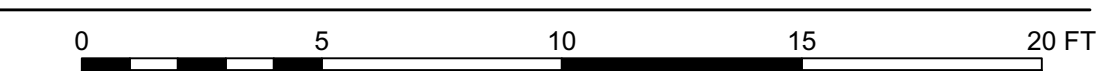
PITCH	ROOF PLAN	SURFACE AREA
5 IN 12	570 SF	= 618 SF
TOTAL ROOF AREA		= 618 SF

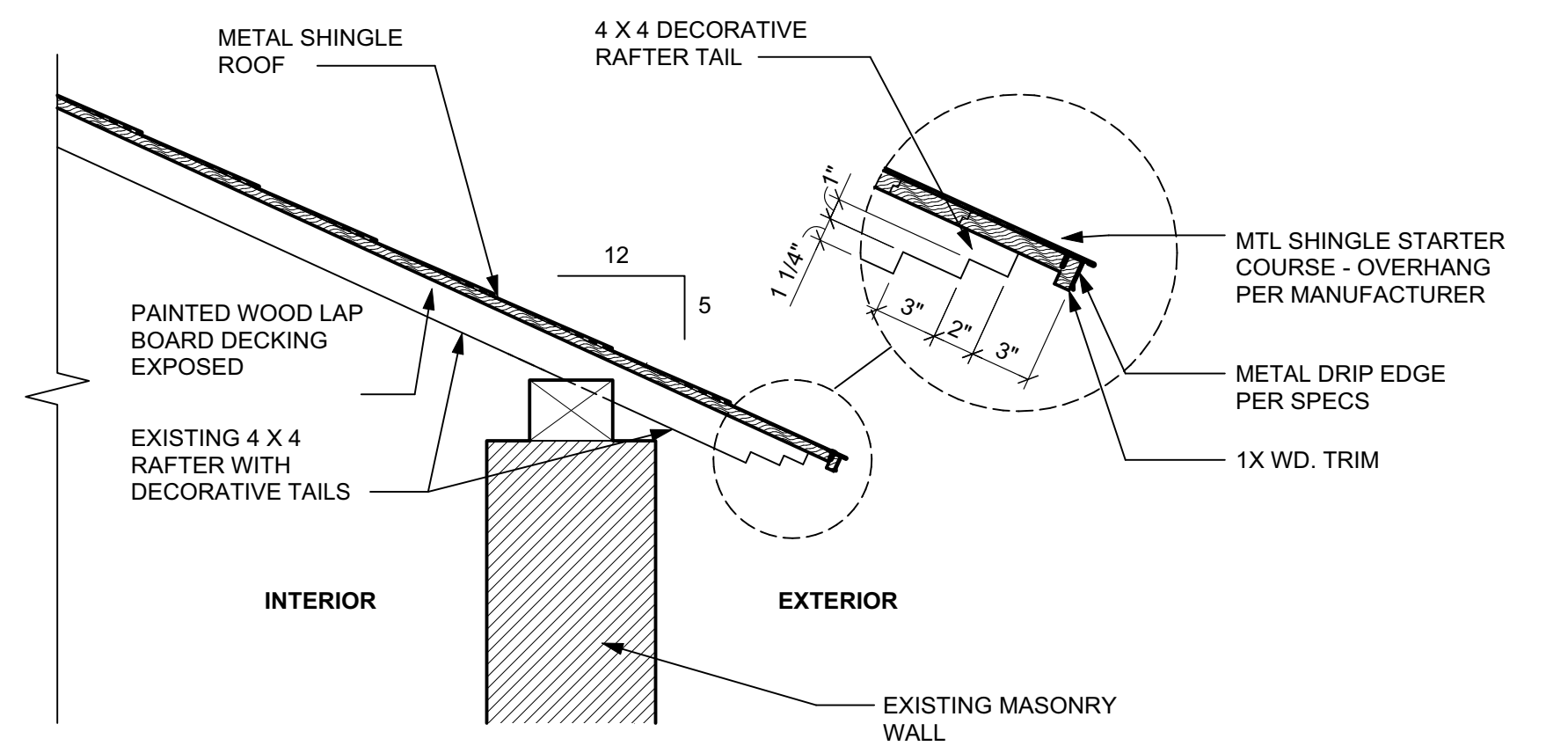
PLAN NOTES

- NOTES APPLY TO CABIN 17 ONLY
- A. REFER TO ROOF GENERAL NOTES AND SPECIFICATIONS FOR BUILDING ACCESS AND PROTECTION OF EXISTING STRUCTURE AND SITE.
- B. EXISTING ROOF TO BE REMOVED TO DECK - ASSUME 5% DECK REPLACEMENT TO MATCH EXISTING
- C. CONTRACTOR SHALL VERIFY ROOF CONDITIONS INCLUDING SLOPE, LEVELNESS AND EXTENT OF ROTTED OR DAMAGED WOOD.
- D. CONTRACTOR SHALL REMOVE EXISTING SIDING AND TRIM AS REQUIRED TO INSTALL NEW FLASHINGS. REMOVED MATERIALS SHALL BE RE-INSTALLED OR REPLACED IN KIND IF DAMAGED OR DETERIORATED.
- E. CONTRACTOR SHALL FRAME NEW CRICKET AT REAR OF CHIMNEY TO DRAIN WATER - REFER TO DETAILS FOR ATTACHMENT TO MASONRY.
- F. EXISTING MORTAR CAP AT CHIMNEY TO BE REMOVED AND A NEW SLOPED MORTAR CAP INSTALLED.

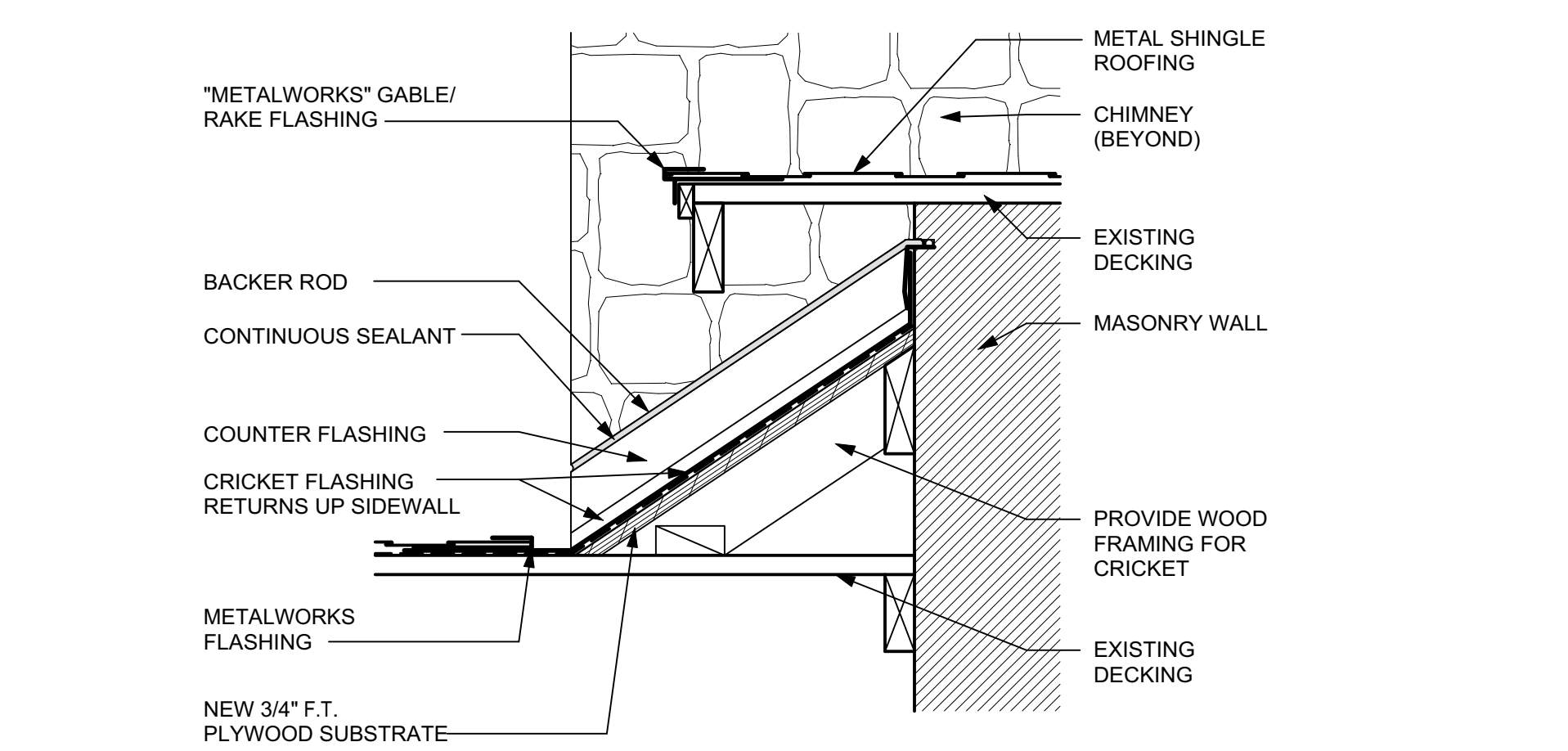
A1 PHOTOGRAPHS - EXISTING CONDITIONS
NOT TO SCALE

A2 ROOF PLAN - CABIN #17
SCALE: 1/4" = 1'-0"

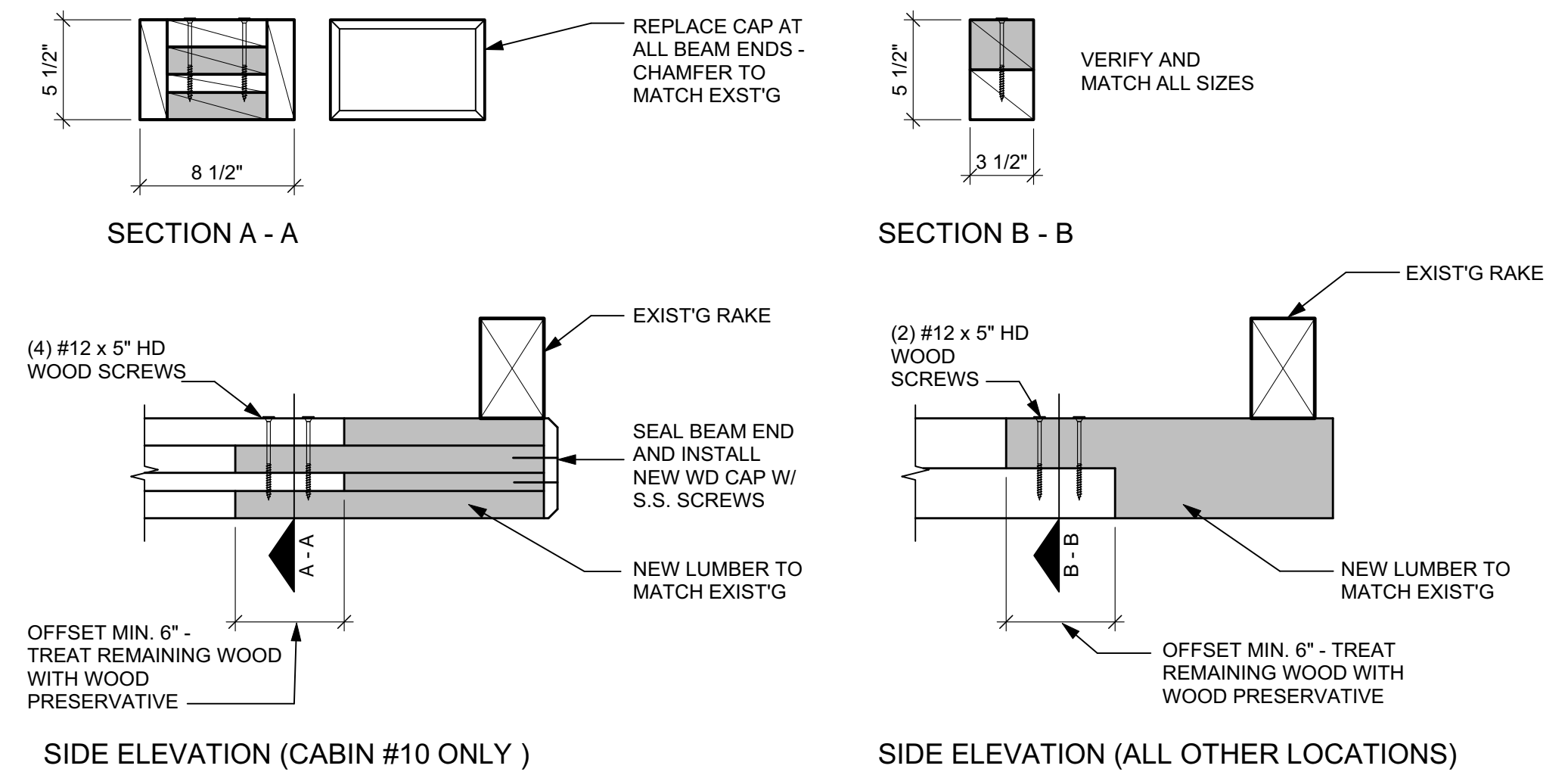




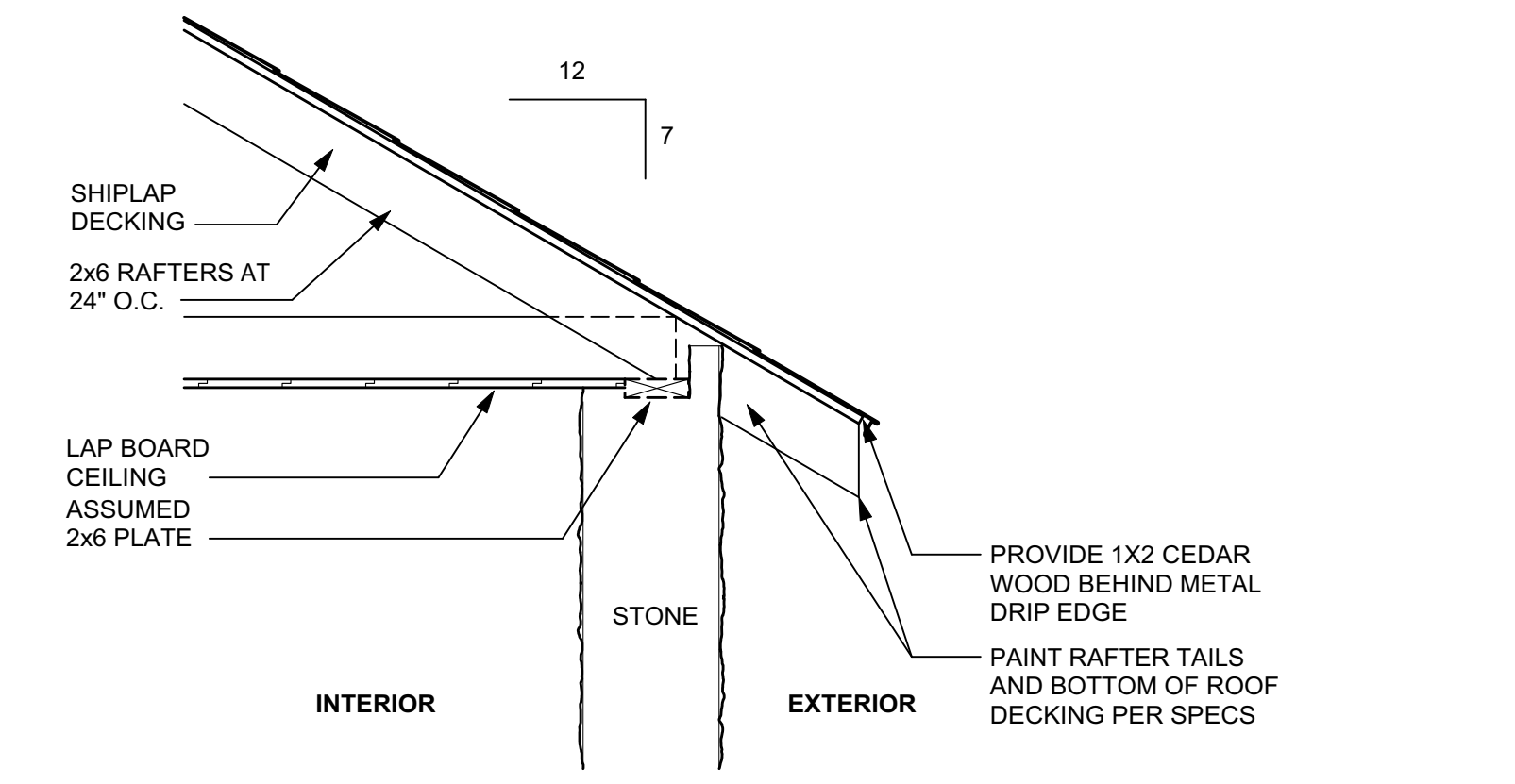
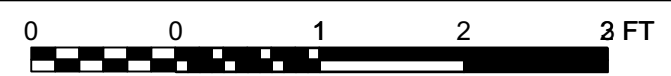
(STAIRCASE PAVILION)
C1 SECTION DETAIL - EAVE @ ROOF
 SCALE: 3/4" = 1'-0"



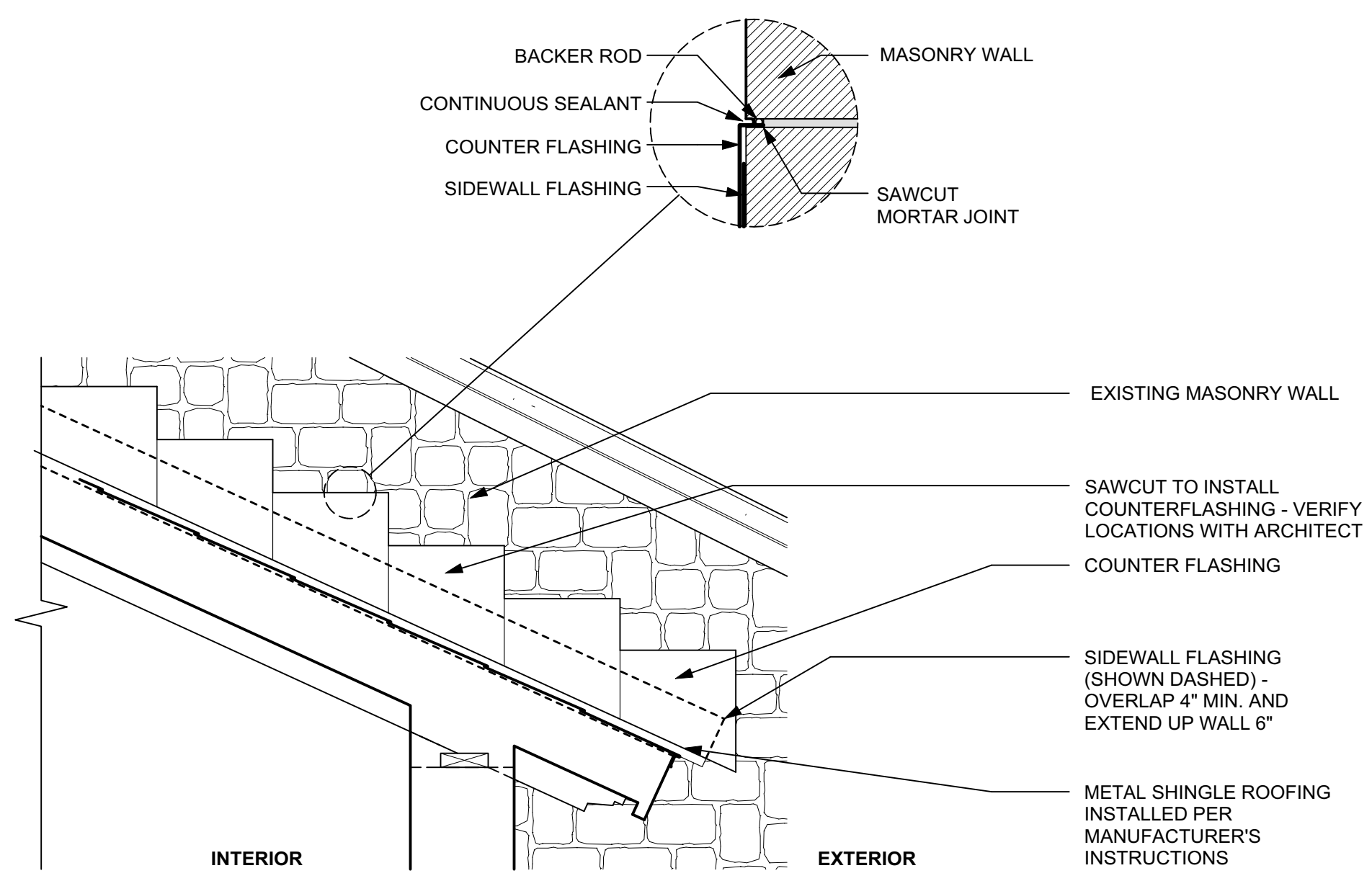
(OAK LODGE)
C2 DETAIL - CRICKET @ ABANDONED CHIMNEY
 SCALE: 1 1/2" = 1'-0"



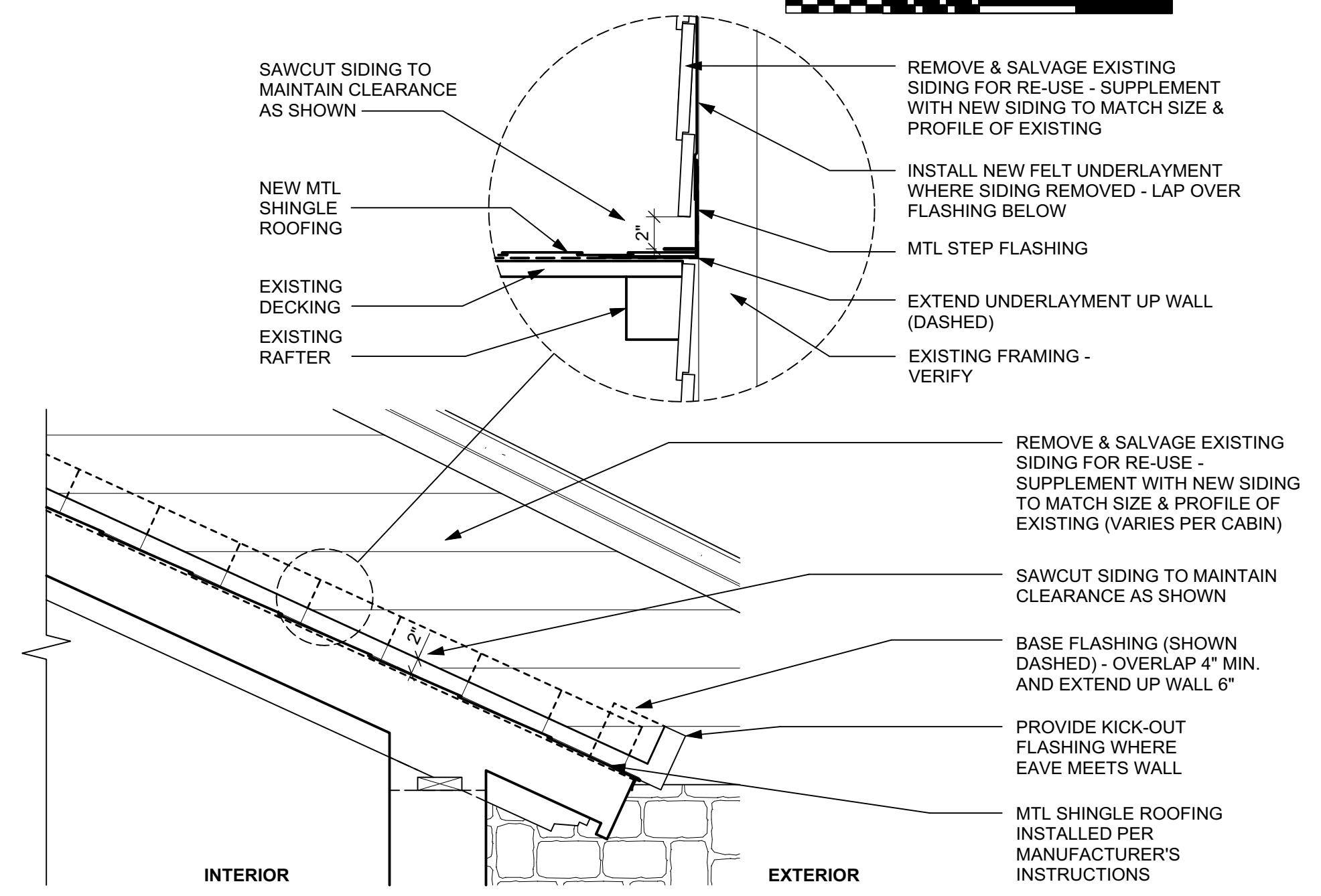
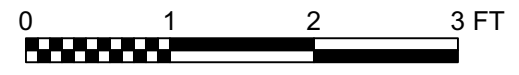
C3 DETAIL - BEAM END REPLACEMENT
 SCALE: 1 1/2" = 1'-0"



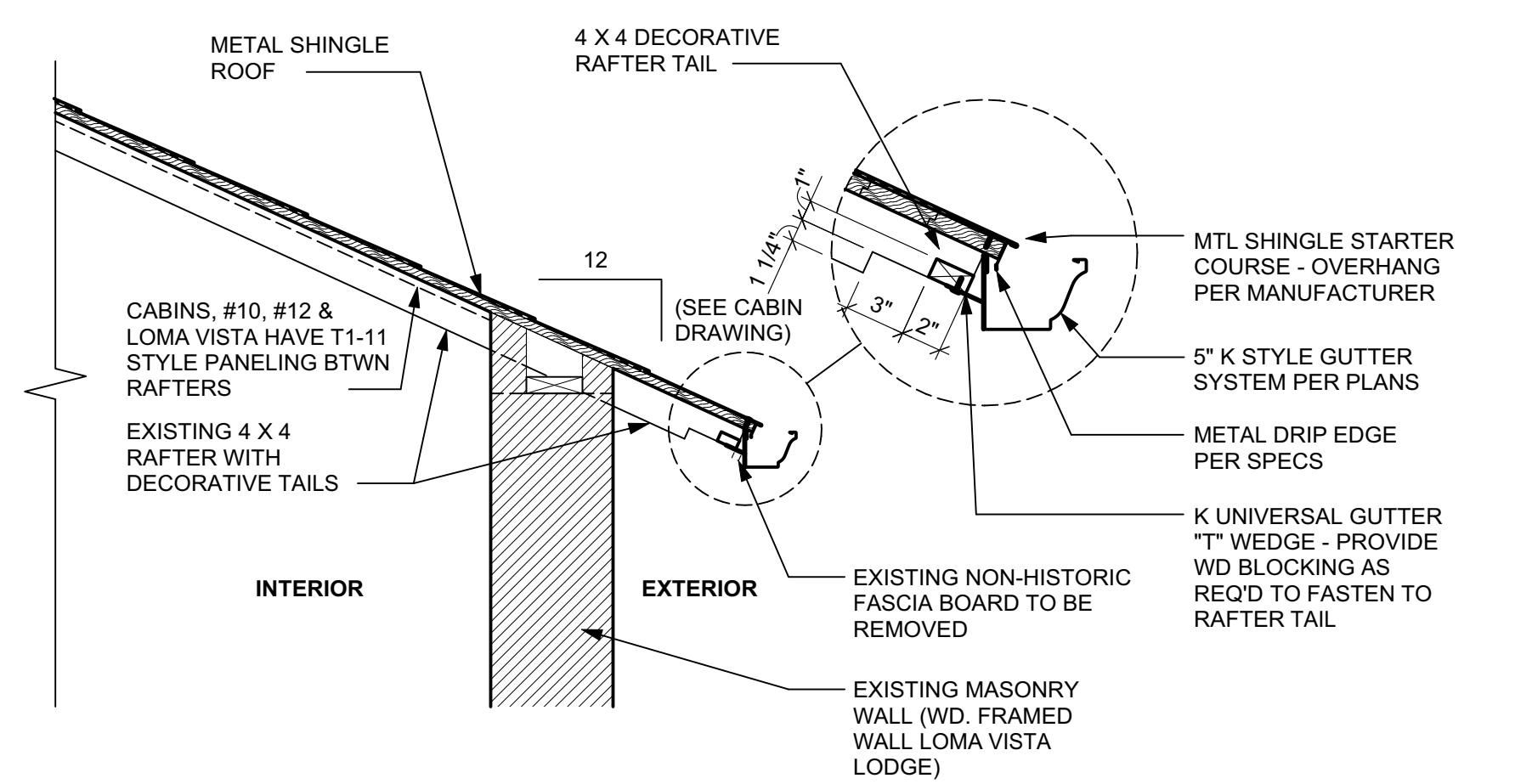
(OAK LODGE)
B1 SECTION - EAVE @ MASONRY WALL
 SCALE: 3/4" = 1'-0"



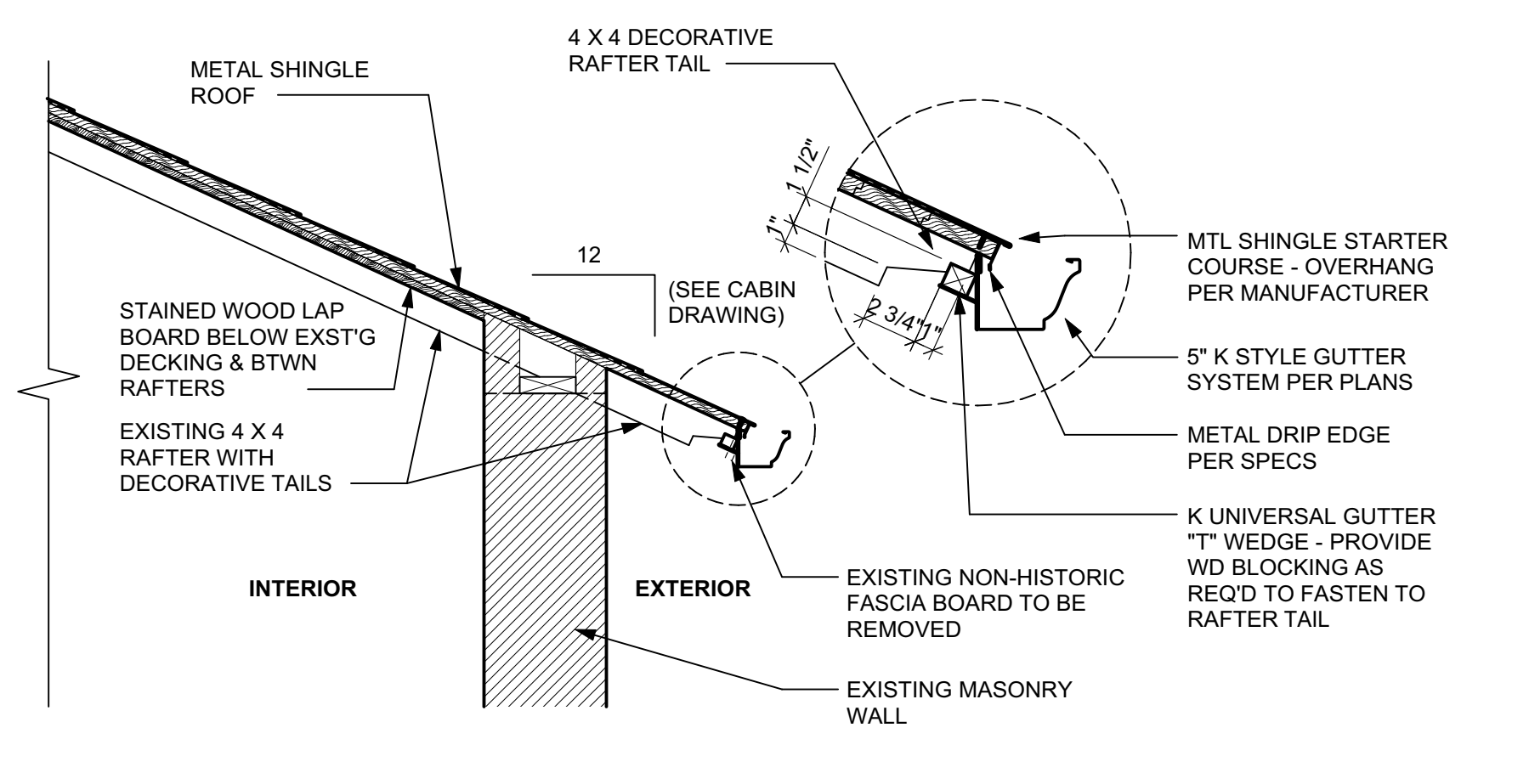
(OAK LODGE, CABINS #5, #6, #9 & #11)
B2 SECTION DETAIL - SIDEWALL FLASHING @ MASONRY WALL
 SCALE: 3/4" = 1'-0"



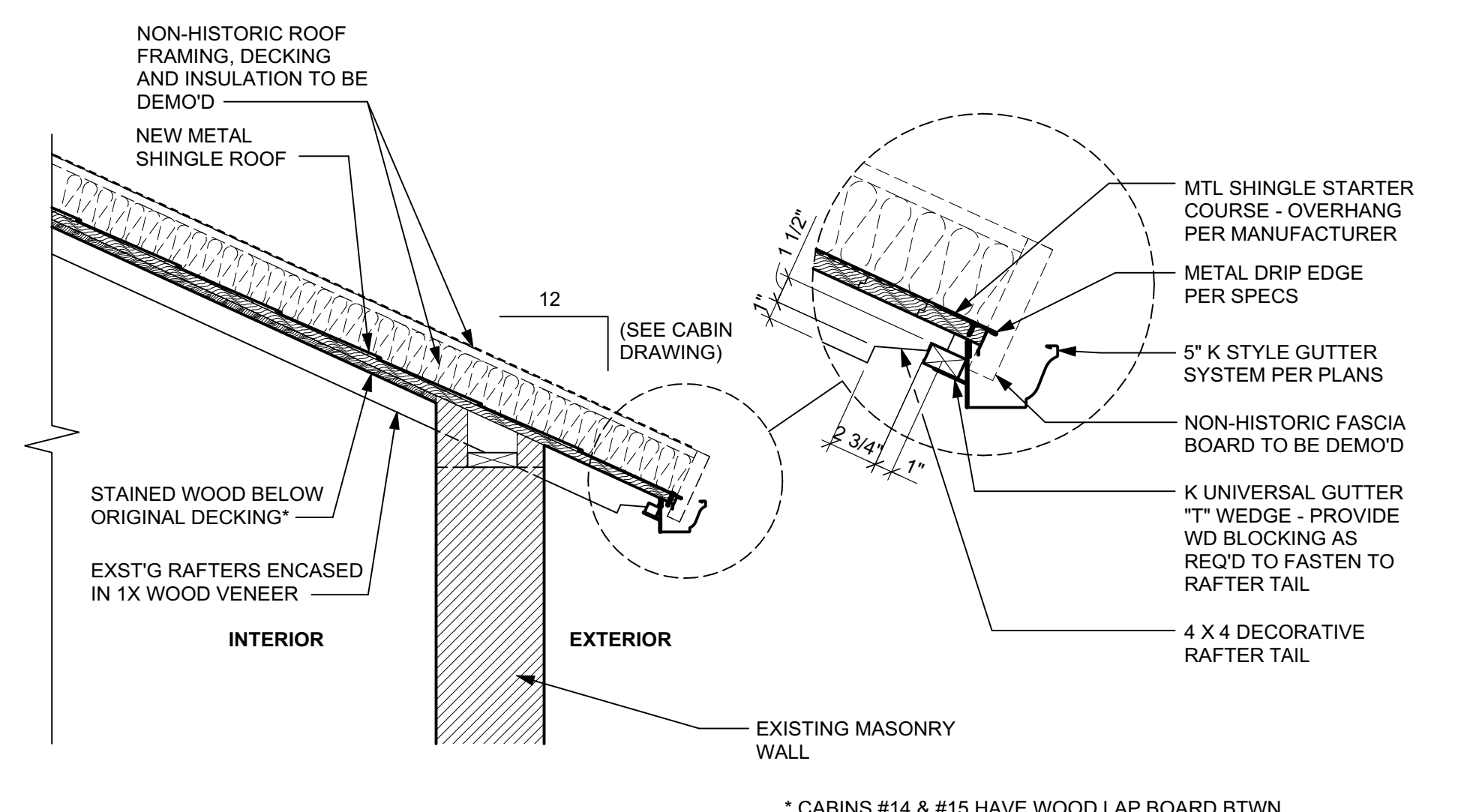
(CABINS #10, #14, #15, #16 & #17)
B3 SECTION DETAIL - SIDEWALL FLASHING @ SIDING
 SCALE: 3/4" = 1'-0"



(CABINS #5, #6, #10, #12 & LOMA VISTA)
A1 SECTION DETAIL - EAVE @ ROOF TYPE "A"
 SCALE: 3/4" = 1'-0"

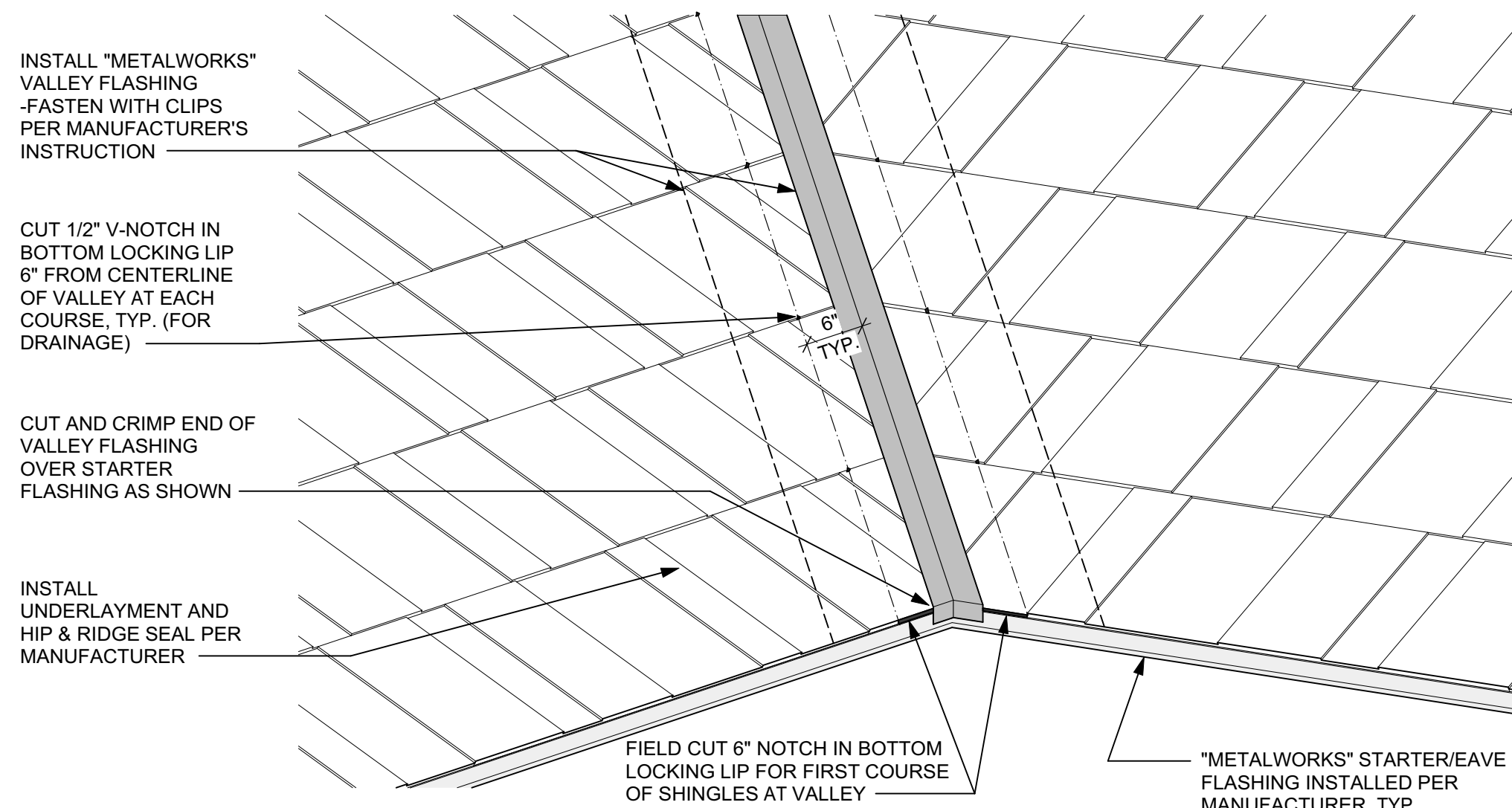


(CABINS #7, #9, #11 & #13)
A2 SECTION DETAIL - EAVE @ ROOF TYPE "B"
 SCALE: 3/4" = 1'-0"

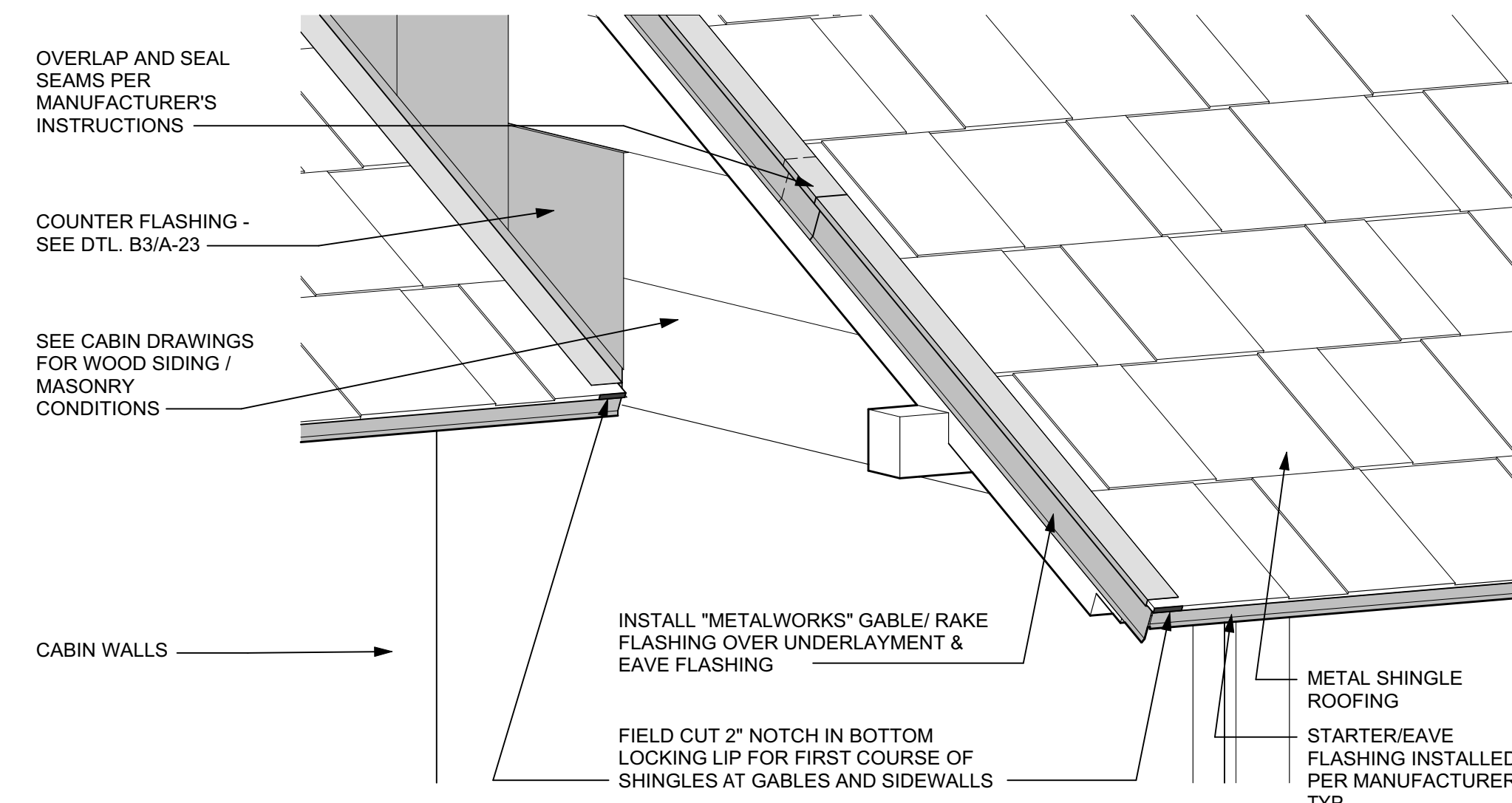


(CABINS #14, #15, #16 & #17)
A3 SECTION DETAIL - EAVE @ ROOF TYPE "C"
 SCALE: 3/4" = 1'-0"

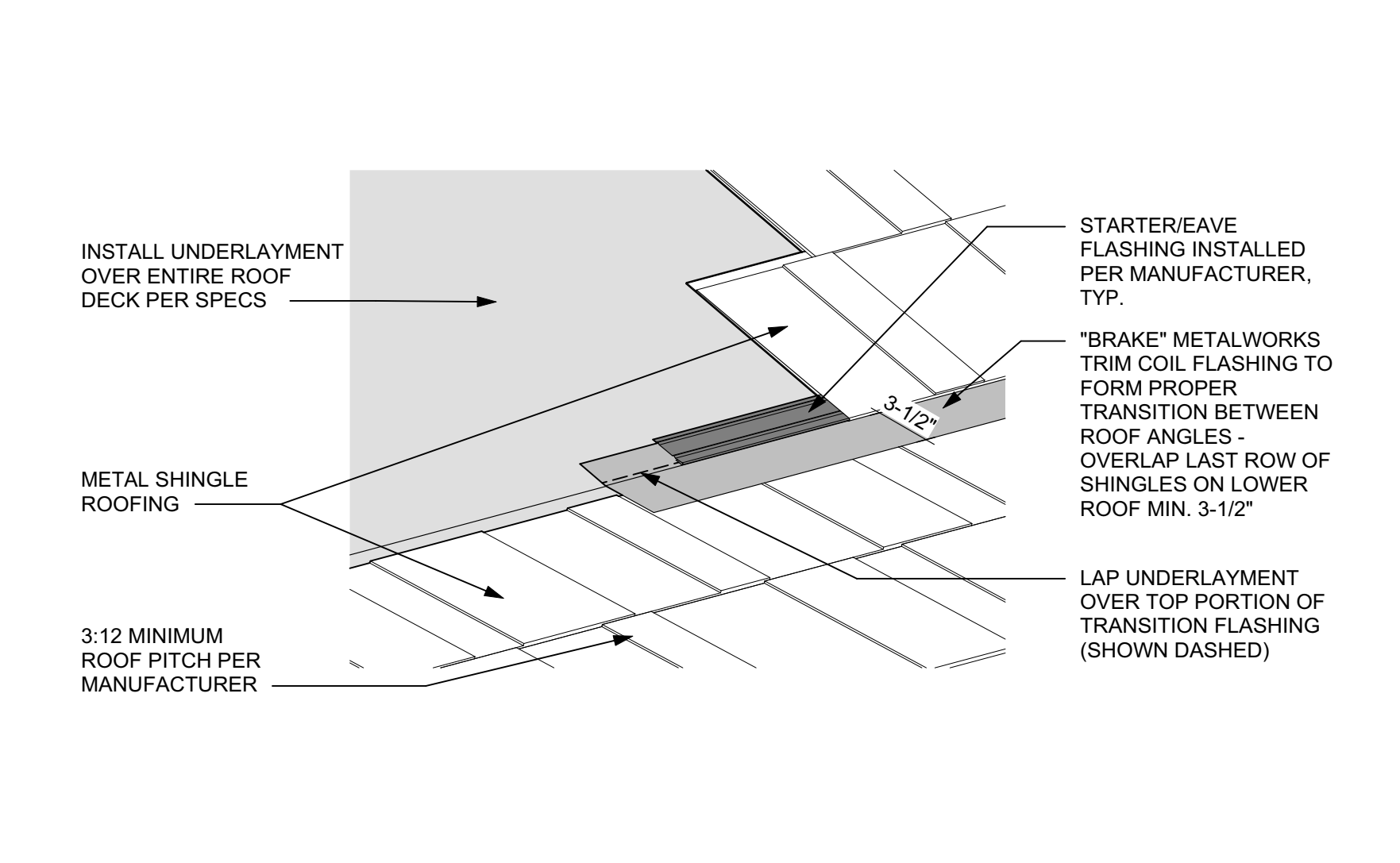




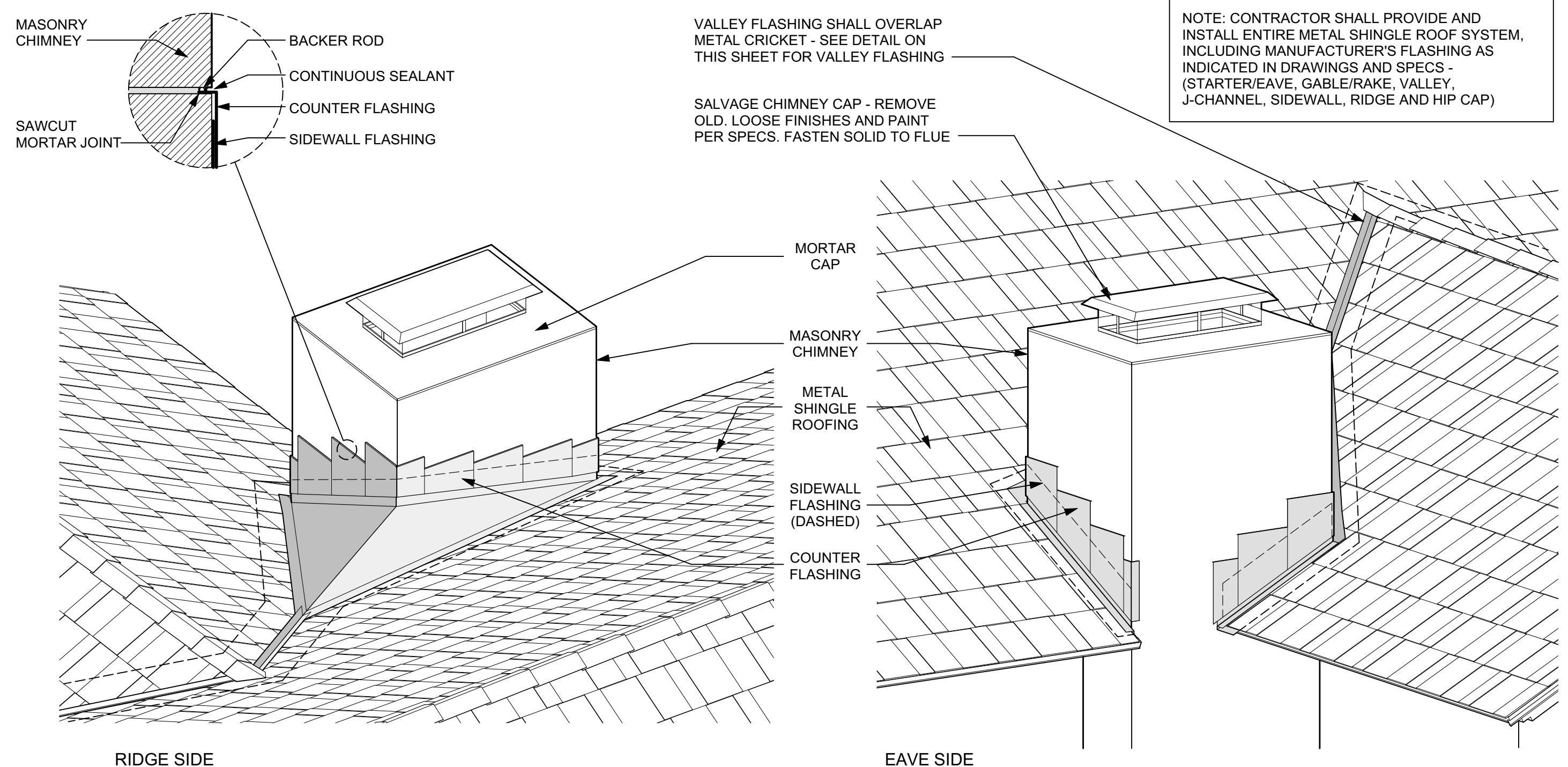
C1 DETAIL VIEW - VALLEY FLASHING
NOT TO SCALE



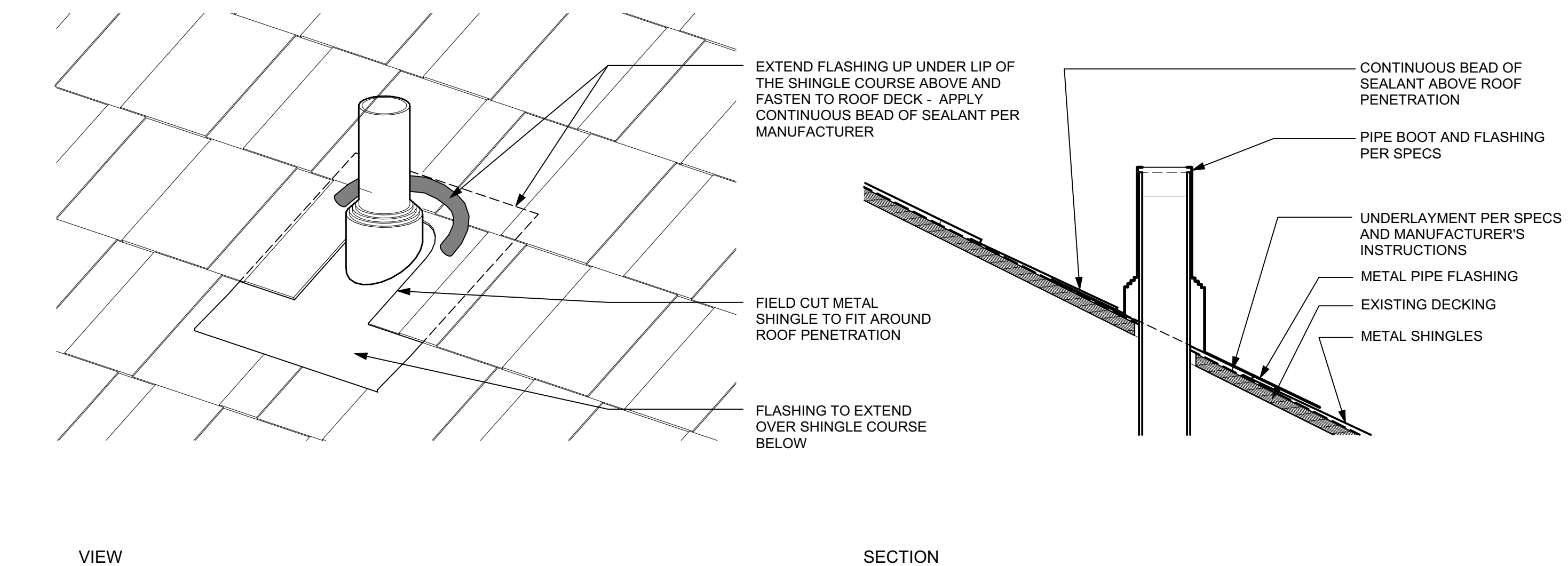
C2 DETAIL VIEW - RAKE AND SIDEWALL FLASHING
NOT TO SCALE



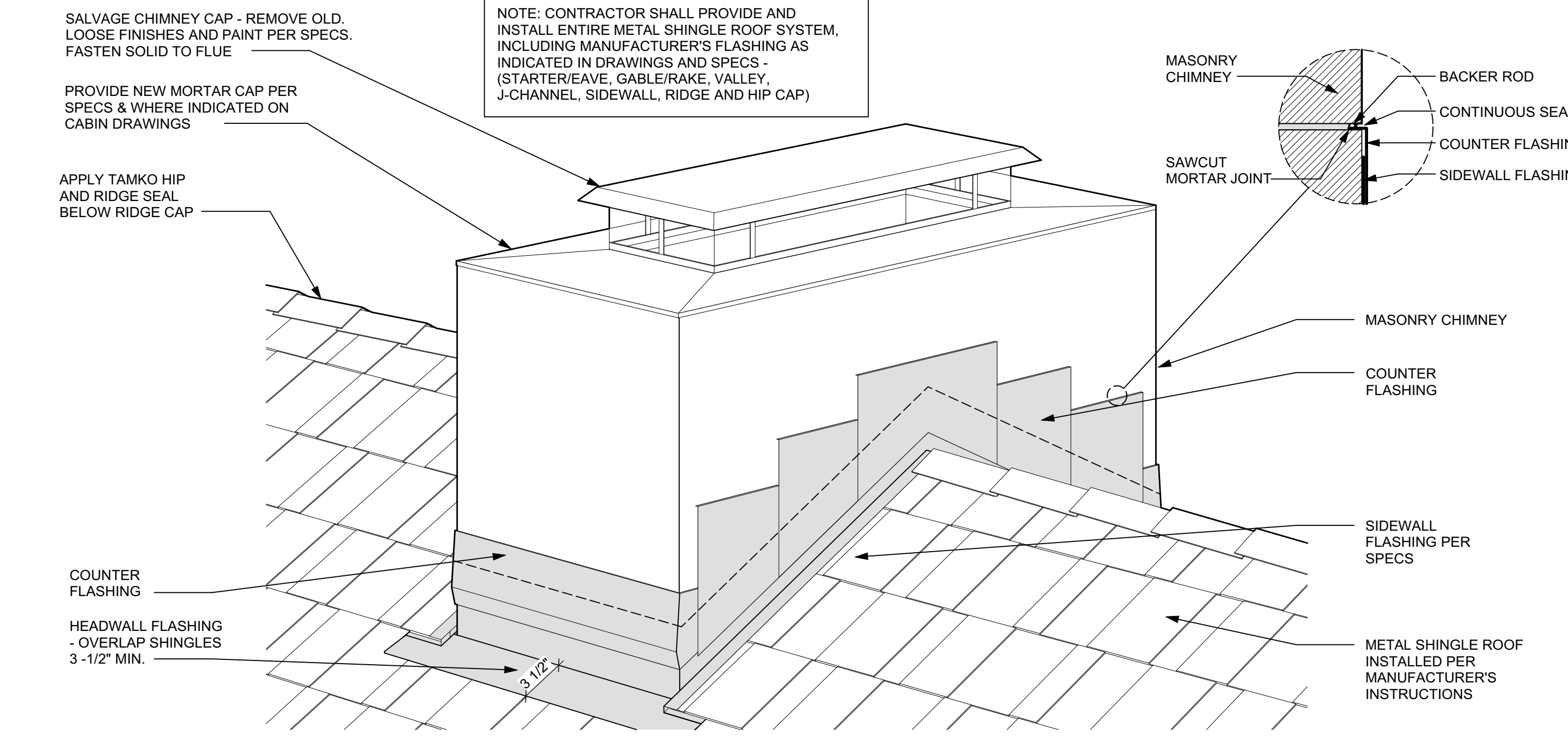
C3 DETAIL VIEW - ROOF PITCH TRANSITION (DO NOT BEND SHINGLES)
NOT TO SCALE



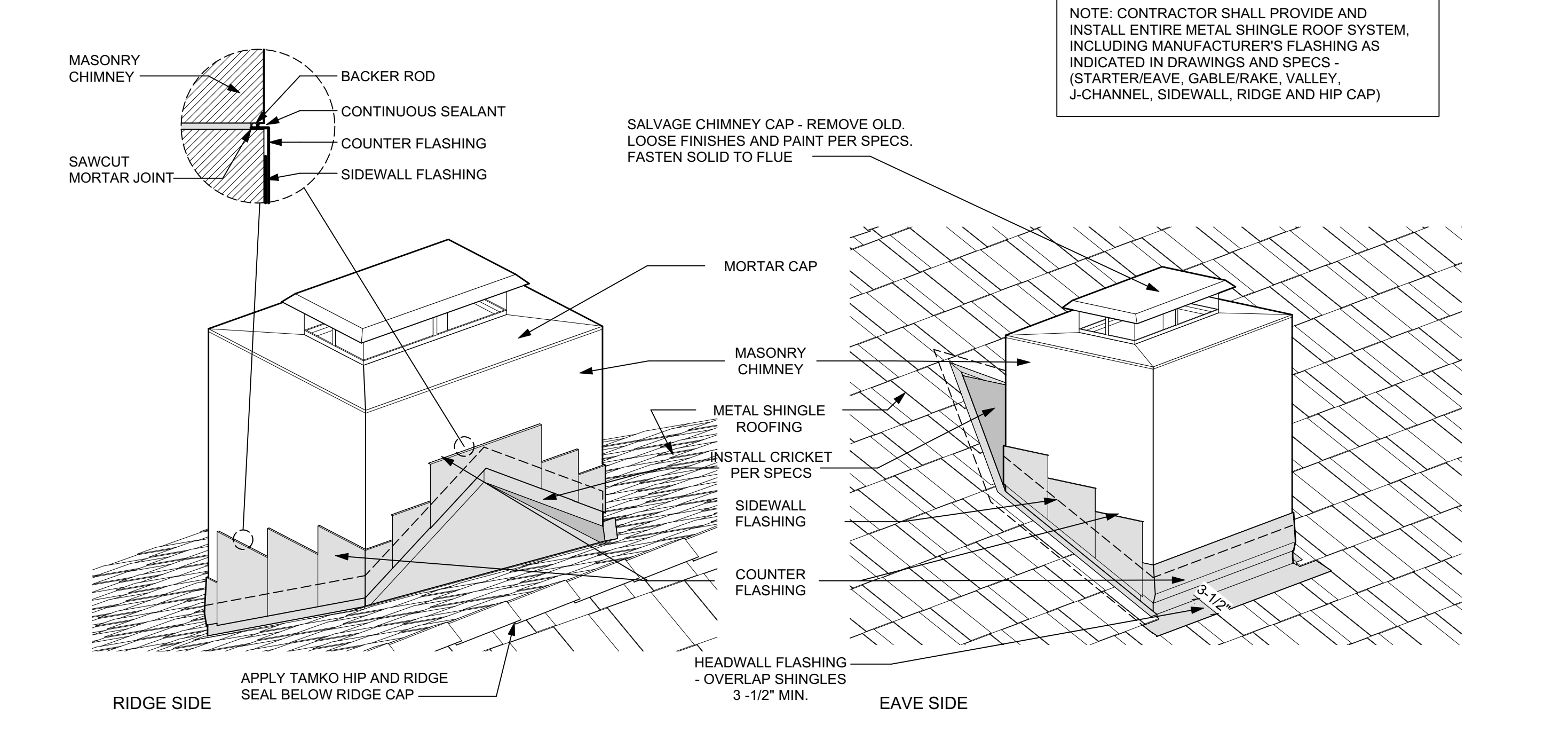
B1 DETAIL VIEW - CHIMNEY AT ROOF VALLEY
NOT TO SCALE



B2 DETAIL - ROOF PENETRATION
NOT TO SCALE



A1 DETAIL VIEW - TYPICAL CHIMNEY AT ROOF RIDGE
NOT TO SCALE



A2 DETAIL VIEW - TYPICAL CHIMNEY WITH CRICKET
NOT TO SCALE

COORDINATION

- A. THE CONTRACTOR SHALL COMPARE THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER SERIES DRAWINGS AND REPORT ANY DISCREPANCIES BETWEEN EACH SET OF DRAWINGS AND WITHIN EACH SET OF DRAWINGS PRIOR TO FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBERS.
- B. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR FLOOR ELEVATIONS, SLOPES, DRAINS AND LOCATION OF DEPRESSED AND ELEVATED FLOOR AREAS.
- D. THE DETAILS DESIGNATED AS "TYPICAL DETAILS" APPLY GENERALLY TO THE STRUCTURAL DRAWINGS IN ALL AREAS WHERE CONDITIONS ARE SIMILAR TO THOSE DESCRIBED IN THE DETAILS.
- E. ALL DIMENSIONS AND CONDITIONS OF EXISTING CONSTRUCTION SHALL BE VERIFIED AT THE JOB SITE PRIOR TO THE PREPARATION OF SHOP DRAWINGS. DIFFERENCES BETWEEN EXISTING CONSTRUCTION AND THAT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE REFERRED TO THE ARCHITECT. DIFFERENCES SHALL ALSO BE CLOUDED ON THE SHOP DRAWINGS. CUTTING OR CORING OF ANY STRUCTURAL CONCRETE OR STEEL ELEMENTS SHALL BE COORDINATED WITH THE ENGINEER.
- F. ALL STRUCTURAL ELEMENTS OF THE PROJECT HAVE BEEN DESIGNED BY THE ENGINEER TO RESIST THE REQUIRED CODE VERTICAL AND LATERAL FORCES THAT COULD OCCUR IN THE FINAL COMPLETED STRUCTURE ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL REQUIRED BRACING DURING CONSTRUCTION TO MAINTAIN THE STABILITY AND SAFETY OF ALL STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PROCESS UNTIL THE LATERAL-LOAD RESISTING OR STABILITY-PROVIDING SYSTEM IS COMPLETELY INSTALLED AND THE STRUCTURE IS COMPLETELY TIED TOGETHER. TEMPORARY SUPPORTS SHALL NOT RESULT IN THE OVERSTRESS OR DAMAGE OF THE ELEMENTS TO BE BRACED NOR ANY ELEMENTS USED AS BRACE SUPPORTS.
- G. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, AND EXCEPT WHERE SPECIFICALLY SHOWN, DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR AND THEIR SUB-CONTRACTORS SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, SEQUENCES AND SAFETY MEASURES INCLUDING, BUT NOT LIMITED TO, ADHERENCES TO ALL OSHA GUIDELINES. THE ENGINEER SHALL NOT HAVE CONTROL OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, OR ANY OTHER PERSON PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THESE PERSONS TO CARRY OUT THE WORK IN ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS.
- H. WHERE CONFLICT EXISTS AMONG THE VARIOUS PARTS OF THE STRUCTURAL CONTRACT DOCUMENTS, STRUCTURAL DRAWINGS, GENERAL NOTES, AND SPECIFICATIONS, THE STRICTEST REQUIREMENTS, AS INDICATED BY THE ENGINEER, SHALL GOVERN.
- I. PERIODIC SITE OBSERVATION BY FIELD REPRESENTATIVES OF TSEN ENGINEERING IS SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK IS PROCEEDING IN ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION IS NOT INTENDED TO BE A CHECK OF THE QUALITY OR QUANTITY OF THE WORK, BUT RATHER A PERIODIC CHECK IN AN EFFORT TO INFORM THE OWNER AGAINST DEFECTS AND DEFICIENCIES IN THE WORK OF THE CONTRACTOR.

SUBSTITUTIONS

- A. ALL REQUESTS FOR SUBSTITUTIONS OF MATERIALS OR DETAILS SHOWN IN THE STRUCTURAL CONTRACT DOCUMENTS SHALL BE SUBMITTED FOR APPROVAL DURING THE BIDDING PERIOD.
- B. ONCE BIDS ARE ACCEPTED, PROPOSED SUBSTITUTIONS WILL BE CONSIDERED ONLY WHEN THEY ARE OFFICIALLY SUBMITTED WITH AN IDENTIFIED SAVINGS OR DURATION TO BE DEDUCTED FROM THE CONTRACT AND/OR SCHEDULE IMPACT. A STATEMENT THAT THE GC WILL ASSUME ANY UNIDENTIFIED COST IMPACT RELATED TO THE SUBSTITUTION SHALL ALSO BE PROVIDED. SUBMITTALS NOT SATISFYING THE ABOVE CRITERIA WILL NOT BE CONSIDERED.

CODES & REFERENCED REPORTS

- A. THE GENERAL BUILDING CODE(S) USED AS THE BASIS FOR THE STRUCTURAL DESIGN ARE AS FOLLOWS:
 - 1. INTERNATIONAL BUILDING CODE, 2015 EDITION
 - 2. INTERNATIONAL EXISTING BUILDING CODE, 2015 EDITION
- B. WOOD FRAMING: NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION WITH SUPPLEMENT, NATIONAL FOREST AND PAPER PRODUCTS ASSOCIATION, AS REFERENCED BY THE GENERAL BUILDING CODE.

DESIGN LOADS

- A. DEAD LOADS INCLUDE THE SELF-WEIGHT OF THE STRUCTURAL ELEMENTS AND THE FOLLOWING SUPERIMPOSED LOADS:
 - 1. CEILING AND MECHANICAL AT ROOF 10 PSF
 - 3. ROOFING AND RIGID INSULATION 8 PSF
- B. LIVE LOADS INCLUDE THE FOLLOWING UNIFORMLY DISTRIBUTED LOADS OR CONCENTRATED LOADS, WHICHEVER PRODUCES THE GREATER LOAD EFFECTS.

OCCUPANCY OR USE	UNIFORM (psf)	CONCENTRATED (lbs.)
1. ROOF - UNREDUCED	16	N/A
C. SNOW LOADS		
1. GROUND SNOW LOAD, P _g		5 PSF
D. WIND LOADS		
1. WIND LATERAL LOAD ON STRUCTURAL FRAME IS BASED ON ASCE 7-10 USING THE FOLLOWING:		
a. BASIC WIND SPEED (ULTIMATE)		115 MPH
b. EXPOSURE		C
c. INTERNAL PRESSURE COEFFICIENT, G _{cp}		+/-0.18
d. RISK CATEGORY		II

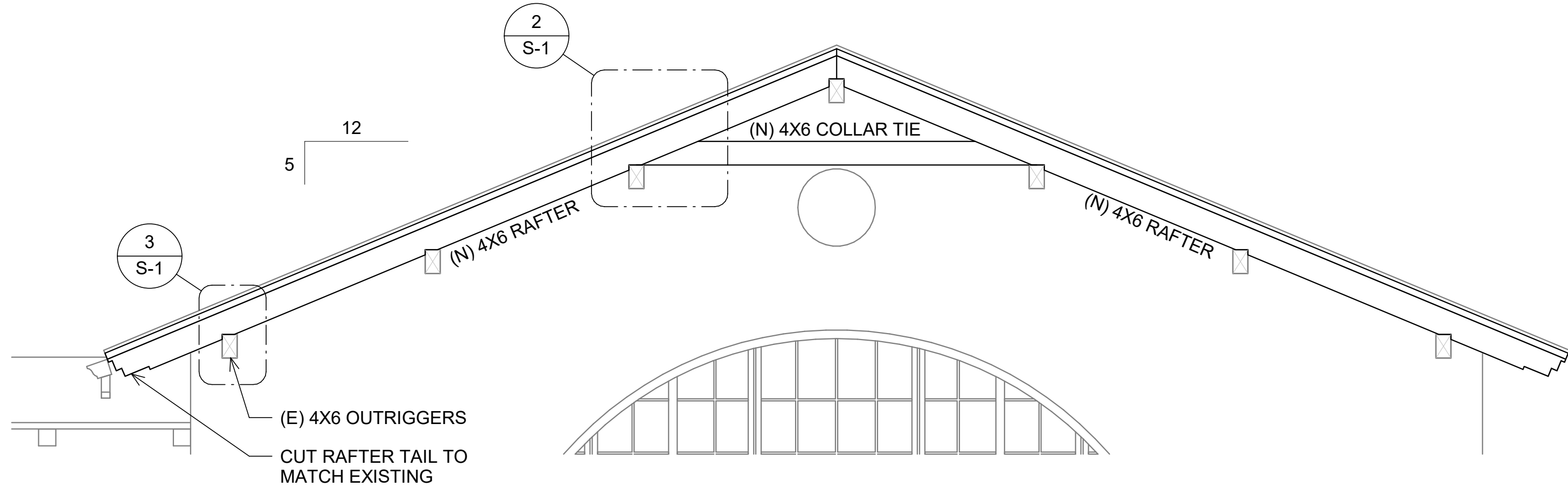
TIMBER FRAMING

- A. UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS, ALL STRUCTURAL FRAMING LUMBER SHALL BE CLEARLY MARKED NO. 1 DOUGLAS FIR
- B. WOOD PRESERVATIVE TREATED LUMBER (PRESSURE TREATED):
 - 1. PRESERVATIVE TREATED LUMBER SHALL BE DOUGLAS FIR AND SHALL BE TREATED AS DESCRIBED BELOW.
 - 2. PRESERVATIVE TREATMENT BY PRESSURE PROCESS SHOULD BE PERFORMED ACCORDING TO THE AWPAs METHODS DESCRIBED BELOW. THE PRESERVATIVE CHEMICALS SHALL BE WATERBORNE AND CAN INCLUDE ALKALINE COPPER QUAT (ACQ-C, ACO-C) AND COPPER AZOLE (CBA-C & CA-B) FOR INTERIOR OR EXTERIOR USES AND INORGANIC BORON (SBX) FOR INTERIOR USE ONLY. PRESERVATIVE SHALL NOT CONTAIN ARSENIC OR CHROMIUM AND SHALL NOT CONTAIN AMMONIA CARRIERS.
 - 3. WOOD INSTALLED FOR ABOVE GROUND USE SHALL BE PRESERVATIVE TREATED USING WATER-BORNE PRESERVATIVES IN ACCORDANCE WITH AWPAs U2, USE CATEGORY UC3B. THE LOCATIONS TO BE TREATED ARE AS FOLLOWS:
 - a. WOOD JOISTS OR WOOD FLOOR WITHOUT JOISTS ARE CLOSER THAN 18 INCHES OR WOOD GIRDERS ARE CLOSER THAN 12 INCHES TO THE EXPOSED GROUND IN CRAWL SPACE.
 - b. WOOD FRAMING MEMBERS INCLUDING WOOD SHEATHING WHICH REST ON EXTERIOR FOUNDATION WALLS AND ARE LESS THAN 8 INCHES FROM THE EXPOSED EARTH.
 - c. WOOD FRAMING MEMBERS OR FURRING STRIPS ATTACHED DIRECTLY TO THE INTERIOR OF EXTERIOR OR CONCRETE WALLS BELOW GRADE.
 - d. WOOD SLEEPERS AND SILL PLATES ON CONCRETE OR MASONRY SLAB THAT IS IN DIRECT CONTACT WITH EARTH.
 - e. WOOD GIRDER ENDS SUPPORTED BY EXTERIOR MASONRY OR CONCRETE WALLS UNLESS 1/2 INCH AIRSPACE IS PROVIDED ON TOP, SIDES, AND END.
 - f. WOOD SIDING CLOSER THAN 6 INCHES TO EARTH.
 - g. POSTS OR COLUMNS SUPPORTED DIRECTLY ON A FOOTING UNLESS SEPARATED BY AN IMPERVIOUS MOISTURE BARRIER AND A MINIMUM 6 INCHES ABOVE GRADE AND 1 INCH ABOVE SLAB WHERE A SLAB EXISTS OR 8 INCHES ABOVE EARTH ON A CONCRETE PIER WHERE NO SLAB EXISTS.
 - h. PORTIONS OF GLUED-LAMINATED TIMBERS EXPOSED TO WEATHER.
 - 4. WOOD IN CONTACT WITH GROUND (EXPOSED EARTH) OR FRESH WATER SHALL BE PRESERVATIVE TREATED USING WATER-BORNE PRESERVATIVES IN ACCORDANCE WITH AWPAs U1, WITH USE CATEGORY UC4C.
 - 5. WOOD MEMBER THAT FORM SUPPORTS OF BUILDINGS, BALCONIES, PORCHES, OR SIMILAR PERMANENT BUILDING APPURTENANCES WHERE SUCH MEMBERS ARE EXPOSED TO THE WEATHER WITHOUT ADEQUATE PROTECTION FROM THE ROOF, EAVE, OVERHANG, ETC. TO PREVENT WATER ACCUMULATION ON THE SURFACE OR BETWEEN JOINTS SHALL BE PRESERVATIVE TREATED USING WATER-BORNE PRESERVATIVES IN ACCORDANCE WITH AWPAs U1 WITH USE CATEGORY UC3A.
 - 6. OTHER WOOD MEMBERS NOTED IN THE DRAWINGS SHALL BE PRESERVATIVE TREATED USING WATER-BORNE PRESERVATIVES IN ACCORDANCE WITH AWPAs U1 WITH USE CATEGORY UC3A.
- C. ROOF SHEATHING: 3/4" SHIPLAP (MATCH EXISTING AND FIELD VERIFY DEPTH). PLANKS SHALL BE CONTINUOUS OVER TWO OR MORE SPANS. NAIL WITH 8d COMMON NAILS AT 6" ON CENTER AT SUPPORTED EDGES AND 12" ON CENTER AT INTERMEDIATE SUPPORTS.
- D. REFER TO THE ARCHITECTURAL DRAWINGS FOR ADDITIONAL WOOD FRAMING MEMBERS. PROVIDE ADDITIONAL WOOD FRAMING MEMBERS SHOWN ON THE ARCHITECTURAL DRAWINGS EVEN THOUGH THEY MAY NOT BE SHOWN ON THE STRUCTURAL DRAWINGS.

TIMBER FRAMING CONNECTIONS

- A. NAILING AND ATTACHMENT OF ALL FRAMING MEMBERS AND SHEATHING SHALL BE AS SPECIFIED IN THE INTERNATIONAL BUILDING CODE NAILING SCHEDULE UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS. COMMON WIRE NAILS OR SPIKES, OR GALVANIZED BOX NAILS SHALL BE USED FOR ALL FRAMING UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS. LIST OF FASTENERS (WITH PENNY WEIGHT/NAIL TYPE CONVERSIONS) USED IN TABLE R602.3(1) AND THROUGHOUT THE DRAWINGS ARE AS FOLLOWS:

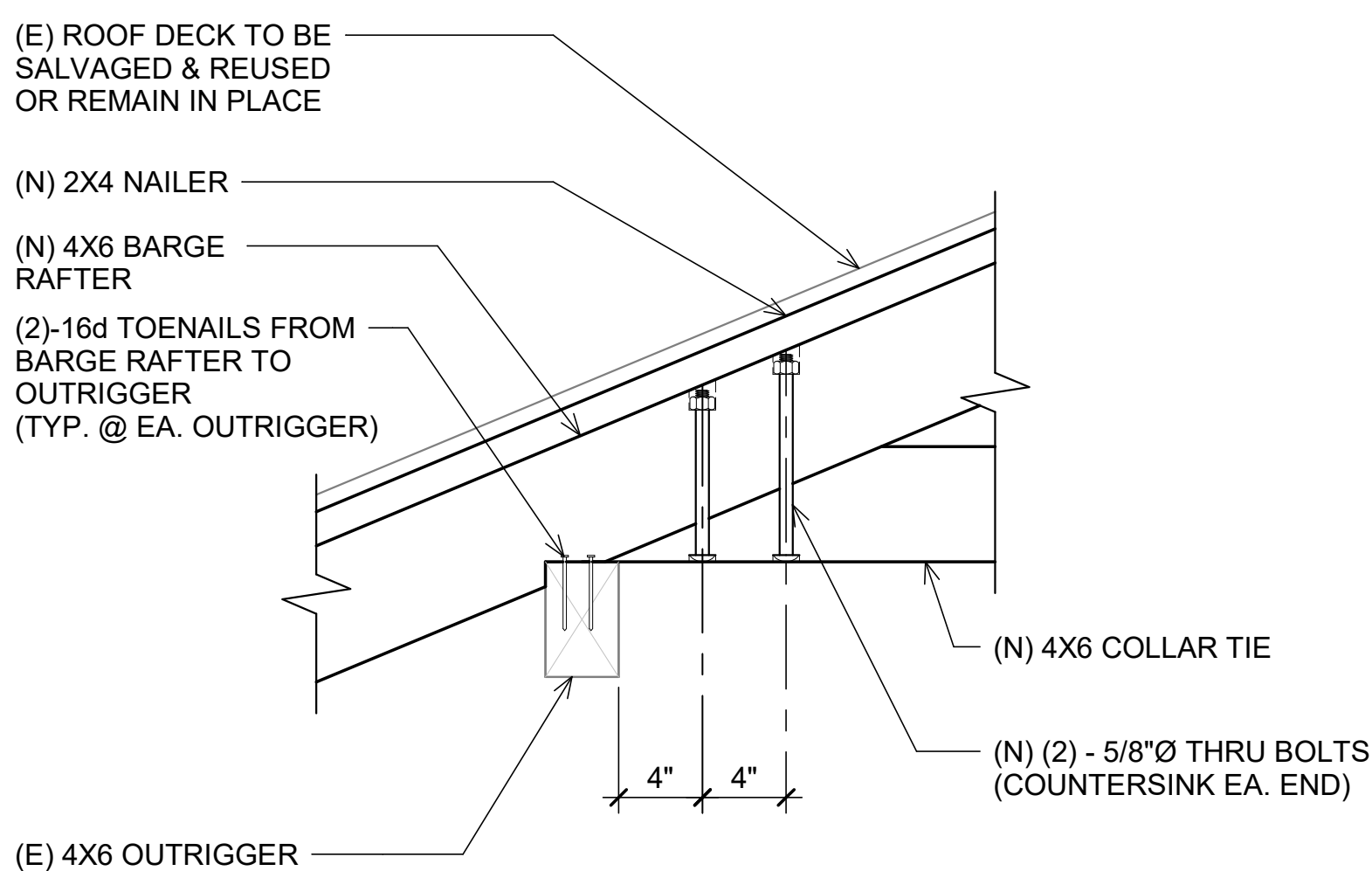
NAIL SIZE
2 1/2" X 0.113" (8d BOX)
2 1/2" X 0.131" (8d COMMON)
3" X 0.128" (10d BOX)
3" X 0.131"
3" X 0.148" (10d COMMON)
3 1/2" X 0.135" (16d BOX)
3 1/2" X 0.162" (16d COMMON)
- B. ALL BOLTS AND LAG SCREWS SHALL HAVE STANDARD WASHERS. ALL ANCHOR AND EXPANSION BOLTS USED IN WOOD TO CONCRETE CONNECTIONS IN CRAWLSPACE AREAS SHALL BE HOT DIP GALVANIZED OR STAINLESS STEEL.



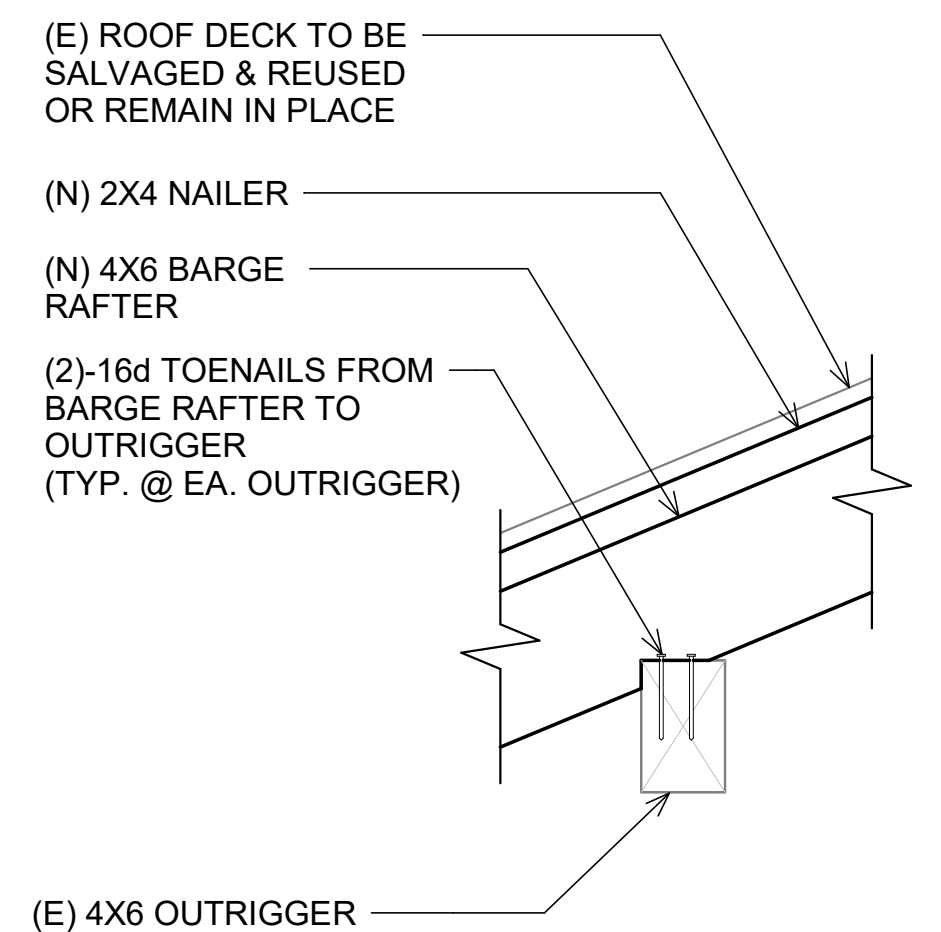
1 BARGE RAFTER REPLACEMENT - SOUTH ELEVATION (NORTH ELEVATION SIM.)
SCALE: 1/2" = 1'-0"

PLAN NOTES:

- 1. ALL LUMBER TO BE PRESSURE TREATED DOUGLAS FIR NO. 1 GRADE.



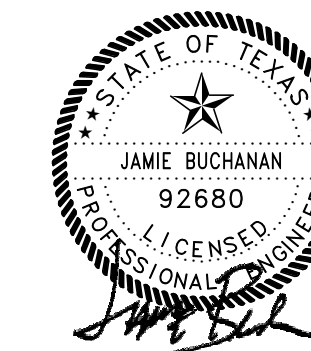
2 SECTION
1/S-1 SCALE: 1 1/2" = 1'-0"



3 SECTION
1/S-1 SCALE: 1 1/2" = 1'-0"



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04/26/2021

DATE: 04/26/2021
DESIGNED BY: JB
DRAWN BY: AA
REVIEWED BY: JB

no. revision. date

SHEET TITLE
BARGE RAFTER
REPLACEMENT

SHEET NUMBER

S-1