

GENERAL NOTES:

1. MATERIALS	ASTM DESCRIPTION
STRUCTURAL STEEL PLATE	A529 / A572 / A1011
HOT ROLLED MILLS SHAPES	A36 / A529 / A572 / A500
HSS ROUND	A500
HSS RECTANGULAR	A500
COLD FORM SHAPES	A653 / A1011
ROOF AND WALL SHEETING	A653 / A792
BOLTS	A307 / A325 / A490
CABLE	A475
RODS	A529 / A572

2. STRUCTURAL PRIMER NOTE:

SHOP COAT PRIMER IS INTENDED TO PROTECT THE STEEL FRAMING FOR A SHORT PERIOD OF TIME. STORAGE IN EXTREME COLD TEMPERATURES OR WINTER SNOW CONDITIONS, INCLUDING TRANSPORTATION ON SALTED OR CHEMICALLY TREATED ROADS WILL ADVERSELY AFFECT THE DURABILITY AND LONGEVITY OF THE PRIMER. THE COAT OF SHOP PRIMER DOES NOT PROVIDE THE UNIFORMITY OF APPEARANCE, OR THE DURABILITY AND CORROSION RESISTANCE OF A FIELD APPLIED FINISH COAT OF PAINT OVER A SHOP PRIMER. MINOR ABRASIONS TO THE SHOP COAT PRIMER CAUSED BY HANDLING, LOADING, SHIPPING, UNLOADING AND ERECTION ARE UNAVOIDABLE AND ARE NOT THE RESPONSIBILITY OF THE METAL BUILDING MANUFACTURER. METAL BUILDING MANUFACTURER IS NOT RESPONSIBLE FOR THE DETERIORATION OF THE PRIMER OR CORROSION THAT MAY RESULT FROM ATMOSPHERIC AND ENVIRONMENTAL CONDITIONS NOR THE COMPATIBILITY OF THE PRIMER TO ANY FIELD APPLIED COATING.

3. BUILDING ERECTION NOTES:

THE GENERAL CONTRACTOR AND/OR ERECTOR IS RESPONSIBLE TO SAFELY AND PROPERLY ERECT THE METAL BUILDING SYSTEM IN CONFORMANCE WITH THESE DRAWINGS, OSHA REQUIREMENTS, AND EITHER MBMA OR CSA S16 STANDARDS PERTAINING TO PROPER ERECTION. TEMPORARY SUPPORTS SUCH AS GUYS, BRACES, FALSEWORK, CRIBBING, OR OTHER ELEMENTS FOR ERECTION ARE TO BE DETERMINED, FURNISHED, AND INSTALLED BY THE ERECTOR. THESE SUPPORTS MUST SECURE THE STEEL FRAMING, OR PARTLY ASSEMBLED STEEL FRAMING, AGAINST LOADS COMPARABLE IN INTENSITY TO THOSE FOR WHICH THE STRUCTURE WAS DESIGNED IN ADDITION TO LOADS RESULTING FROM THE ERECTION OPERATION. SECONDARY WALL AND ROOF FRAMING (GIRTS, PURLINS, AND/OR JOISTS) ARE NOT DESIGNED TO FUNCTION AS A WORKING PLATFORM OR TO PROVIDE AS AN ANCHORAGE POINT FOR A FALL ARREST / SAFETY TIE OFF.

4. SPECIAL INSPECTION:

SPECIAL INSPECTIONS AND TESTING THAT MAY BE REQUIRED BY GOVERNMENTAL OR OTHER AUTHORITY DURING CONSTRUCTION AND/OR STEEL FABRICATION (COLLECTIVELY, "INSPECTIONS") ARE NOT THE RESPONSIBILITY OF NBG, AND TO THE EXTENT REQUIRED IT SHALL BE THE RESPONSIBILITY OF THE BUILDER AND/OR OWNER. IN THE EVENT INSPECTIONS ARE REQUIRED, THE BUILDER AND/OR OWNER SHALL EMPLOY A THIRD PARTY QUALITY ASSURANCE TESTING AGENCY APPROVED BY THE RELEVANT AUTHORITY. IF SUCH REQUIREMENTS ARE NOT SPECIFICALLY INCLUDED IN NBG SALES DOCUMENTS, NO INSPECTIONS BY NBG OR AT ANY NBG FACILITY SHALL BE MADE. ALL NBG FACILITIES ARE ACCREDITED BY IAS AC472.

5. A325 & A490 BOLT TIGHTENING REQUIREMENTS:

IT IS THE RESPONSIBILITY OF THE ERECTOR TO ENSURE PROPER BOLT TIGHTNESS IN ACCORDANCE WITH APPLICABLE REGULATIONS. FOR PROJECTS IN THE UNITED STATES SEE THE RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS OR FOR PROJECTS IN CANADA, SEE THE CAN/CSA S16 LIMIT STATES DESIGN OF STEEL STRUCTURES FOR MORE INFORMATION.

THE FOLLOWING CRITERIA MAY BE USED TO DETERMINE THE BOLT TIGHTNESS (I.E., "SNUG-TIGHT" OR "FULLY-PRETENSIONED"), UNLESS REQUIRED OTHERWISE BY LOCAL JURISDICTION OR CONTRACT REQUIREMENTS:

A) ALL A490 BOLTS SHALL BE "FULLY-PRETENSIONED"

B) ALL A325 BOLTS IN PRIMARY FRAMING (RIGID FRAMES AND BRACING) MAY BE "SNUG-TIGHT", EXCEPT AS FOLLOWS: "FULLY-PRETENSION" A325 BOLTS IF:

- BUILDING SUPPORTS A CRANE SYSTEM WITH A CAPACITY GREATER THAN 5 TONS.
- BUILDING SUPPORTS MACHINERY THAT CREATES VIBRATION, IMPACT OR STRESS-REVERSALS ON THE CONNECTIONS. THE ENGINEER-OF-RECORD FOR THE PROJECT SHOULD BE CONSULTED TO EVALUATE FOR THIS CONDITION.
- THE PROJECT SITE IS LOCATED IN A HIGH SEISMIC AREA. FOR IBC-BASED CODES, "HIGH SEISMIC AREA" IS DEFINED AS "SEISMIC DESIGN CATEGORY" OF "D", "E", OR "F". SEE THE "BUILDING LOADS" SECTION OF THIS PAGE FOR THE DEFINED SEISMIC DESIGN CATEGORY FOR THIS PROJECT.
- ANY CONNECTION DESIGNATED IN THESE DRAWINGS AS "A325-SC" OR "SLIP-CRITICAL (SC)" CONNECTIONS MUST BE FREE OF PAINT, OIL, OR OTHER MATERIALS THAT REDUCE FRICTION AT CONTACT SURFACES. GALVANIZED OR LIGHTLY RUSTED SURFACES ARE ACCEPTABLE.

C) IN CANADA, ALL A325 AND A490 BOLTS SHALL BE "FULLY PRE-TENSIONED", EXCEPT FOR SECONDARY MEMBERS (PURLINS, GIRTS, OPENING FRAMING, ETC.) AND FLANGE BRACES.

SECONDARY MEMBER (PURLIN, GIRT, OPENING FRAMING, ETC.) AND FLANGE BRACE CONNECTIONS MAY ALWAYS BE "SNUG-TIGHT", UNLESS INDICATED OTHERWISE IN THESE DRAWINGS.

6. GENERAL DESIGN NOTES:

- ALL STRUCTURAL STEEL SECTIONS AND WELDED PLATE MEMBERS ARE DESIGNED IN ACCORDANCE WITH ANSI/AISC 360 "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS" OR THE CAN/CSA S16 "LIMIT STATES DESIGN OF STEEL STRUCTURES", AS REQUIRED BY THE SPECIFIED BUILDING CODE.
- ALL WELDING OF STRUCTURAL STEEL IS BASED ON EITHER AWS D1.1 "STRUCTURAL WELDING CODE - STEEL" OR CAN/CSA W59 "WELDED STEEL CONSTRUCTION (METAL ARC WELDING)", AS REQUIRED BY THE SPECIFIED BUILDING CODE.
- ALL COLD FORMED MEMBERS ARE DESIGNED IN ACCORDANCE WITH ANSI/AISI 100 OR THE CAN/CSA S136 "SPECIFICATIONS FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS", AS REQUIRED BY THE SPECIFIED BUILDING CODE.
- ALL WELDING OF COLD FORMED STEEL IS BASED ON AWS D1.3 "STRUCTURAL WELDING CODE - SHEET STEEL" OR CAN/CSA W59 "WELDED STEEL CONSTRUCTION (METAL ARC WELDING)", AS REQUIRED BY THE SPECIFIED BUILDING CODE.
- THIS MANUFACTURING FACILITY IS IAS AC-472 ACCREDITED AND CAN/CSA A660 AND W47.1 CERTIFIED (IF APPLICABLE) FOR THE DESIGN AND MANUFACTURING OF METAL BUILDING SYSTEMS.
- IF JOISTS ARE INCLUDED WITH THIS PROJECT, THEY ARE SUPPLIED AS A PART OF THE SYSTEMS ENGINEERED METAL BUILDING AND ARE FABRICATED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 1926.758 OF OSHA SAFETY STANDARDS FOR STEEL ERECTION DATED JANUARY 18, 2001.

THE DRAWINGS AND THE METAL BUILDING THEY REPRESENT ARE THE PRODUCT OF THE METAL BUILDING MANUFACTURER. THE REGISTERED PROFESSIONAL ENGINEER'S SEAL PERTAINS ONLY TO THE REQUIREMENTS LISTED HEREIN FOR THE MATERIALS DESIGNED AND SUPPLIED BY THE METAL BUILDING MANUFACTURER. THE REGISTERED PROFESSIONAL ENGINEER WHOSE SEAL APPEARS ON THESE DRAWINGS IS EMPLOYED OR ENGAGED BY THE METAL BUILDING MANUFACTURER AND DOES NOT SERVE AS OR REPRESENT THE PROJECT ENGINEER OF RECORD AND SHALL NOT BE CONSTRUED AS SUCH.

7. GLOSSARY OF ABBREVIATIONS:

A.B. = ANCHOR RODS	M.B. = MACHINE BOLTS	PL = PLATE
B.U. = BUILT-UP	MAX = MAXIMUM	REQ'D = REQUIRED
BS = BOTH SIDES	MBS = METAL BUILDING SUPPLIER	REV. = REVISION
DIA = DIAMETER	MIN = MINIMUM	SIM = SIMILAR
F.S. = FAR SIDE	N.S. = NEAR SIDE	SL = STEEL LINE
FLG = FLANGE	N/A = NOT APPLICABLE	SLV = SHORT LEG VERTICAL
GA = GAUGE	NIC = NOT IN CONTRACT	TBD = TO BE DETERMINED
H.S.B. = HIGH STRENGTH BOLTS	O.A.L. = OVERALL LENGTH	TYP = TYPICAL
HT. = HEIGHT	O.C. = ON CENTER	U.N.O. = UNLESS NOTED OTHERWISE
LLV = LONG LEG VERTICAL		

?? = PART MARK TO BE DETERMINED AND WILL BE UPDATED ON CONSTRUCTION DRAWINGS

KIRBY BUILDING SYSTEMS

124 KIRBY DRIVE
PORTLAND, TN 37148
PHONE: 615-325-4165

PROJECT BUILDING LOADS

CERTIFICATION EXTENDS ONLY FOR THE LOADS SPECIFIED ON KIRBY'S PURCHASE ORDER TO THE STRUCTURAL COMPONENTS OF THE BUILDING DESIGNED AND SUPPLIED BY KIRBY BUILDING SYSTEMS, IF ERECTED AS INDICATED. KIRBY'S CUSTOMER IS TO CONFIRM THAT THESE LOADS COMPLY WITH THE REQUIREMENTS OF THE LOCAL BUILDING DEPARTMENT. NOTE THAT KIRBY'S ENGINEER IS NOT ACTING AS THE ENGINEER OF RECORD FOR THIS CONSTRUCTION PROJECT. DESIGN LOADS HAVE BEEN APPLIED IN ACCORDANCE WITH THE FOLLOWING.

DESIGN CODE: OHIO 2017 (IBC 2015)

ROOF LIVE LOAD: 20.00 psf
REDUCIBLE PER CODE

RISK CATEGORY:

II - STANDARD BUILDINGS

GROUND SNOW LOAD: 20.00 psf
SNOW IMPORTANCE FACTOR, Is: 1.00

SNOW EXP. FACTOR, Ce: 1.00

ULTIMATE DESIGN WIND SPEED: 115 mph (Vult)
NOMINAL DESIGN WIND SPEED: 89 mph (Vasd)

WIND EXPOSURE: C

DESIGN SUCTION / PRESSURE FOR WALL COMPONENTS

AND CLADDING NOT DESIGNED OR PROVIDED BY KBS: + 30 PSF / - 40 PSF

UL-90 : NO

SEISMIC INFORMATION: Ss: 0.130 S1: 0.060

DESIGN (Sds / Sd1) : 0.139/0.096 SITE CLASS: D

SEISMIC IMP. FACTOR, Ie: 1.00 SEISMIC DESIGN CATEGORY: B

ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE
BASIC SFRS: NOT DETAILED FOR SEISMIC

STATE: OHIO

COUNTY: MARION

NOTES:

1) COLLATERAL DEAD LOADS, UNLESS OTHERWISE NOTED, ARE ASSUMED TO BE UNIFORMLY DISTRIBUTED. WHEN SUSPENDED SPRINKLER SYSTEMS, LIGHTING, HVAC EQUIPMENT, CEILINGS, ETC., ARE SUSPENDED FROM ROOF MEMBERS, CONSULT THE M.B.S. IF THESE CONCENTRATED LOADS EXCEED 500 POUNDS (USING THE WEB MOUNT DETAIL), OR 200 POUNDS (USING THE FLANGE MOUNT DETAIL), OR IF INDIVIDUAL MEMBERS ARE LOADED SIGNIFICANTLY MORE THAN OTHERS.

2) THE DESIGN OF STRUCTURAL MEMBERS SUPPORTING GRAVITY LOADS IS CONTROLLED BY THE MORE CRITICAL EFFECT OF ROOF LIVE LOAD OR ROOF SNOW LOAD, AS DETERMINED BY THE APPLICABLE CODE.

3) ALL WELDING MUST BE PERFORMED BY AWS QUALIFIED WELDERS FOR THE WELDING PROCESSES AND POSITIONS TO BE USED. ALL WELDING AND WELD PREP MUST BE COMPLETED AND VISUALLY INSPECTED TO AWS ACCEPTANCE CRITERIA (TABLE 6.1) IN ACCORDANCE WITH THE APPLICABLE AWS STANDARD. WELD ELECTRODES USED FOR ALL FIELD WELD PROCESSES MUST BE SELECTED FROM TABLE 3.1 IN AWS D1.1 FOR GROUP II MATERIAL GREATER THAN OR EQUAL TO 0.125" THICK OR TABLE 1.2 IN AWS D1.3 FOR MATERIAL LESS THAN 0.125" THICK AND ALL FILLER MATERIAL MUST HAVE A Fu OF 70 KSI.

4) ALL EXTERIOR COMPONENTS (WINDOWS, DOORS, ETC) MUST MEET WIND LOADING REQUIREMENTS FOR THE BUILDING CODE LISTED ABOVE OR MUST BE ADEQUATELY PROTECTED DURING A HIGH WIND EVENT. ALL GLAZING AND OTHER APPLICABLE OPENINGS IN WINDBORNE DEBRIS REGIONS MUST BE IMPACT-RESISTANT OR PROTECTED WITH AN IMPACT-RESISTANT COVERING. IMPACT RESISTANT MATERIALS MUST MEET THE LARGE AND/OR SMALL MISSILE TEST OF ASTM E 1996 AND ASTM E 1886.

BUILDING SPECIFIC LOADING INFORMATION

* DEAD LOAD: NORMAL WEIGHT OF METAL BUILDING COMPONENTS, NOT INCLUDING PRIMARY FRAMING, AS SUPPLIED BY THE MANUFACTURER

** Pm IS BASED ON THE MINIMUM ROOF SNOW LOAD CALCULATED PER BUILDING CODE OR THE CONTRACT-SPECIFIED ROOF SNOW LOAD, WHICHEVER IS GREATER. THIS VALUE, Pm, IS ONLY APPLIED IN COMBINATION WITH DEAD AND COLLATERAL LOADS. ROOF SNOW IN OTHER LOADING CONDITIONS IS DETERMINED PER THE SPECIFIED BUILDING CODE.

BLDG.	ROOF DEAD		COLLATERAL DEAD		SNOW COEFFICIENT		SNOW LOAD		WIND			SEISMIC		
	(psf)*		Pri (psf)	Sec (psf)	Ct	Cs	Ps (psf)	**Pm (psf)	Enclosure	GCpi	R	Cs	V (kips)	
A	3.00		5.00	5.00	1.00	1.00	14.00	20.00	Enclosed	+/-0.18	3.00	0.046	16.10	
B	3.50		5.00	5.00	1.00	1.00	14.00	20.00	Enclosed	+/-0.18	3.00	0.046	6.80	

ENGINEER NOTES:

FOR OCCUPANCY (RISK) CATEGORY I OR II, IBC PROVISIONS INDICATE THAT SINGLE-STORY BUILDINGS SHALL HAVE "NO DRIFT LIMIT" PROVIDED THAT INTERIOR WALLS, PARTITIONS, CEILINGS, AND EXTERIOR WALL SYSTEMS HAVE BEEN DESIGNED TO ACCOMMODATE THE SEISMIC STORY DRIFTS. INTERIOR WALLS, PARTITIONS, CEILINGS, OR EXTERIOR WALL SYSTEMS NOT PROVIDED BY THE METAL BUILDING MANUFACTURER SHALL BE DESIGNED AND DETAILED BY OTHERS TO ACCOMMODATE THE SEISMIC STORY DRIFTS. SEISMIC DRIFT VALUES MAY BE OBTAINED FROM THE METAL BUILDING MANUFACTURER.

FRAMED OPENINGS HAVE BEEN DESIGNED TO SUPPORT WIND LOAD NORMAL TO THE WALL BASED ON THE STANDARD BUILDING CODE CRITERIA. FRAMED OPENINGS HAVE NOT BEEN DESIGNED FOR ANY ADDITIONAL MOMENT OR CATENARY FORCES FROM THE DOOR. ANY CHANGE TO THE INFORMATION SHOWN HERE WILL REQUIRE AN ENGINEERING INVESTIGATION AND POSSIBLE BUILDING REINFORCEMENT.

IF SNOW GUARDS OR OTHER DEVICES INTENDED TO HOLD SNOW AND/OR ICE ACCUMULATION ON THE ROOF SYSTEM ARE TO BE USED ON THIS PROJECT, THEY MUST BE INSTALLED UNDER THE GUIDANCE OF THE PROJECT "ENGINEER OF RECORD" (EOR), NOT THE METAL BUILDING MANUFACTURER, SO AS NOT TO EXCEED THE DESIGN ROOF SNOW LOAD ON THIS PROJECT.

ACCESSORIES (DOORS, WINDOWS, ETC.) NOT PROVIDED BY THE METAL BUILDING MANUFACTURER MUST BE DESIGNED AS "COMPONENTS AND CLADDING" IN ACCORDANCE WITH THE SPECIFIC WIND PROVISIONS OF THE REFERENCED BUILDING CODE DISPLAYED ON THE COVER PAGE OF THIS DRAWING PACKET.

CONTENTS

SHEET NUMBER	DESCRIPTION
C1	COVER SHEET(S)
F1	ANCHOR ROD PLAN
E1-E9	ERECTION DRAWINGS
D1-D3	FRAMING DETAILS
SD1-SD6	SHEETING DETAILS

BUILDING NAME DESIGNATION

A - MAIN ADDITION
B - DRIFT BAY ADDITION

PRIMER

STRUCTURAL FRAMING: GP - GRAY PRIMER
WALL SECONDARY: GP - GRAY PRIMER
ROOF SECONDARY: GP - GRAY PRIMER

ROOF PANELS

TYPE: 24 Ga. STANDING SEAM 360 (SS3)
HIGH SYSTEM w/ THERMAL SPACERS
COLOR: GALVALUME PLUS (GM)

WALL PANELS

TYPE: 26 Ga. REVERSE R-PANEL
COLOR: PEARL GRAY, PVDF (PG)

SOFFIT PANELS

TYPE: N/A
COLOR: N/A

LINER PANELS

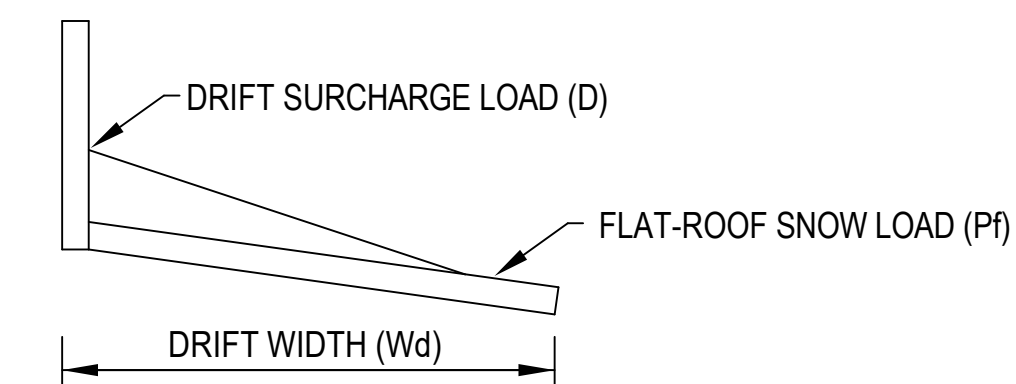
TYPE: 26 Ga. R-PANEL
COLOR: POLAR WHITE, SP (PW)

TRIM COLORS

ROOF LINE TRIM: SLATE GRAY, PVDF (SG)
DOWNSPOUTS: SLATE GRAY, PVDF (SG)
WALL CORNER TRIM: SLATE GRAY, PVDF (SG)
BASE TRIM: SLATE GRAY, PVDF (SG)
FRAMED OPENING TRIM: SLATE GRAY, PVDF (SG)

NOTE: ANY VARIANCE FROM THE PANEL TYPES OR COLORS LISTED HERE WILL BE NOTED ON THE ELEVATION DRAWINGS.

THE BUILDING CODE REQUIRES CONSIDERATION OF SNOW SURCHARGES FOR ANY LOWER ROOF OF A STRUCTURE WITHIN 20 FT OF A HIGHER STRUCTURE. INFORMATION PROVIDED TO THE METAL BUILDING MANUFACTURER INDICATES SNOW SURCHARGES MUST BE CONSIDERED IN THE METAL BUILDING DESIGN AS SHOWN BELOW.



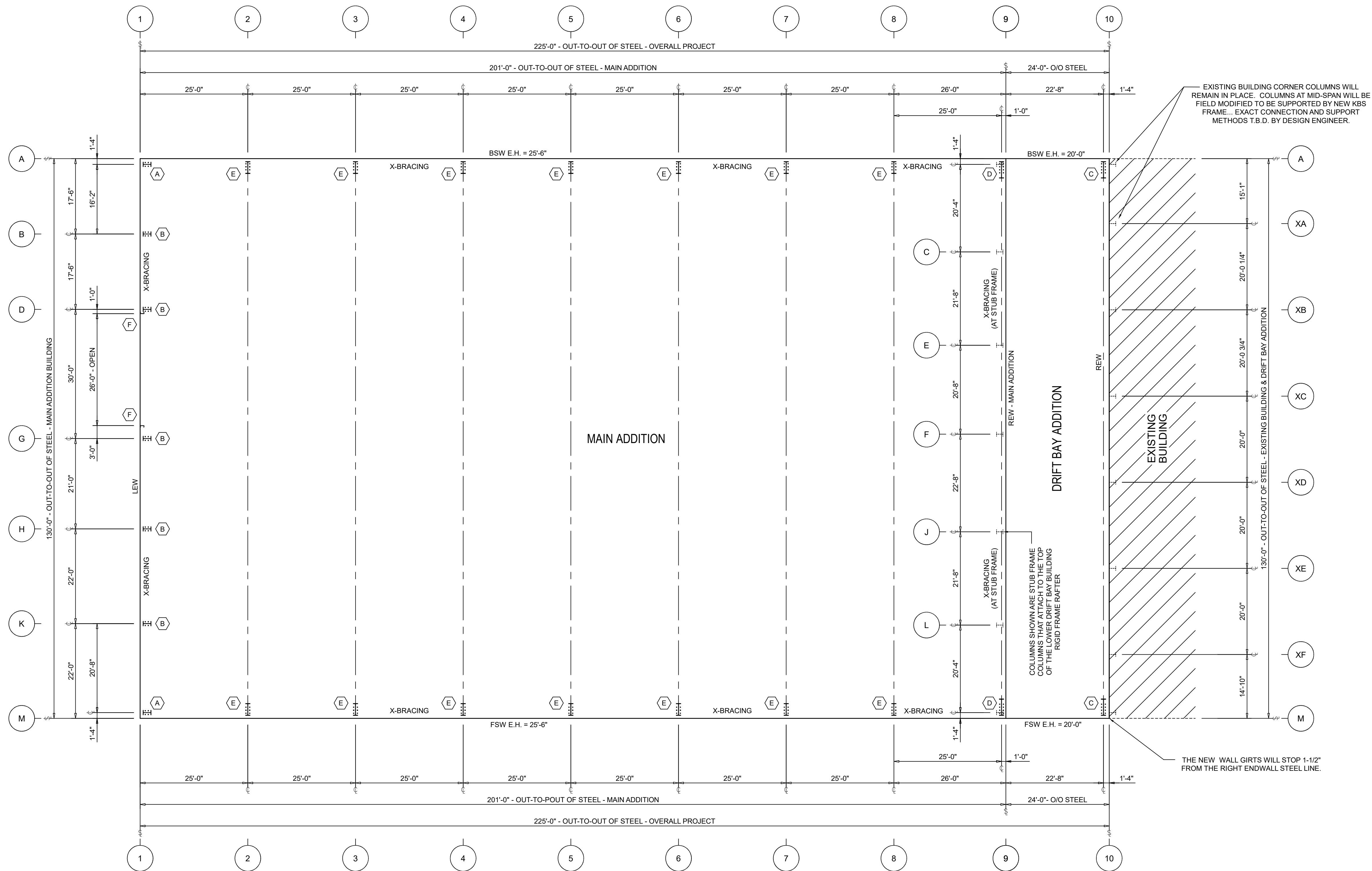
THE CONDITIONS AT THE FOLLOWING LOCATIONS PRODUCE DRIFT SURCHARGE LOADS:

- LOCATION: MAIN BLDG ONTO DRIFT BAY BLDG D(psf): 72.96 Pf(psf): 14.00 Wd(ft): 17.58
- LOCATION: DRIFT BAY ONTO EXISTING BLDG D(psf): 19.20 Pf(psf): 14.00 Wd(ft): 9.25

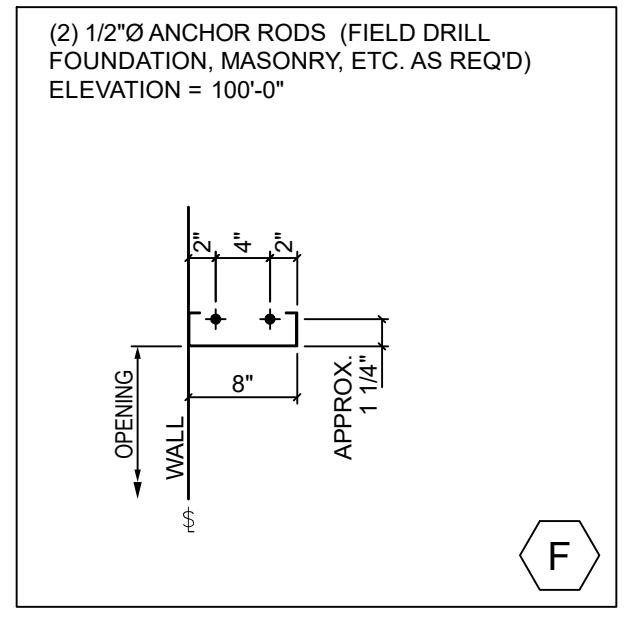
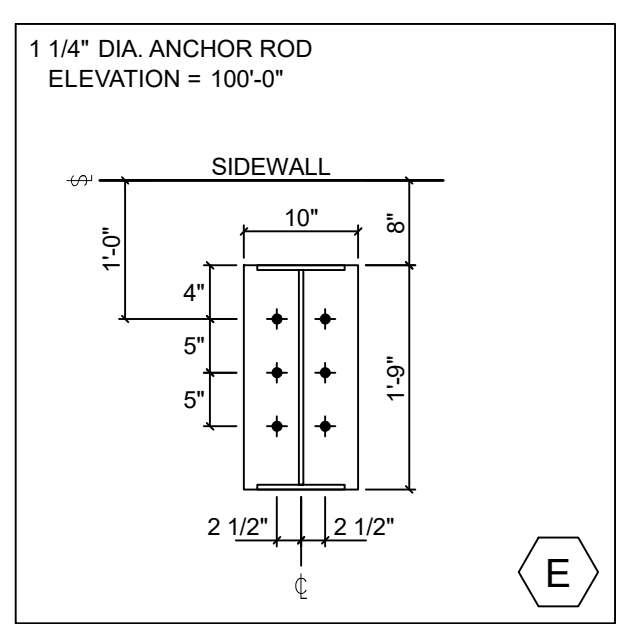
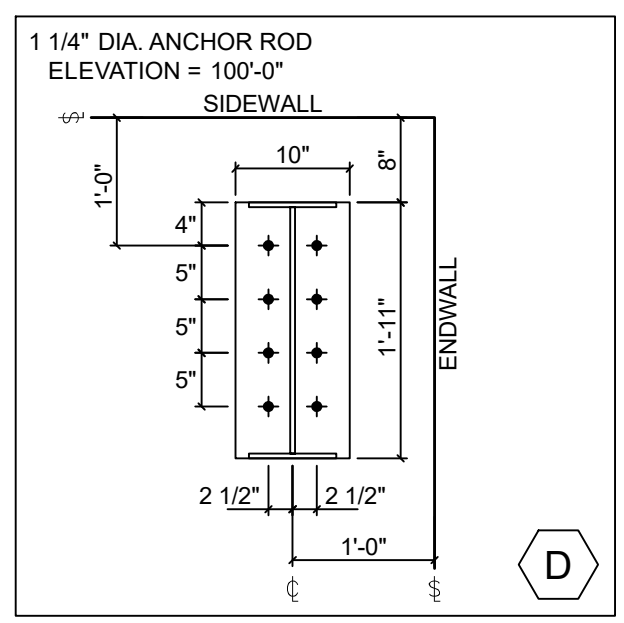
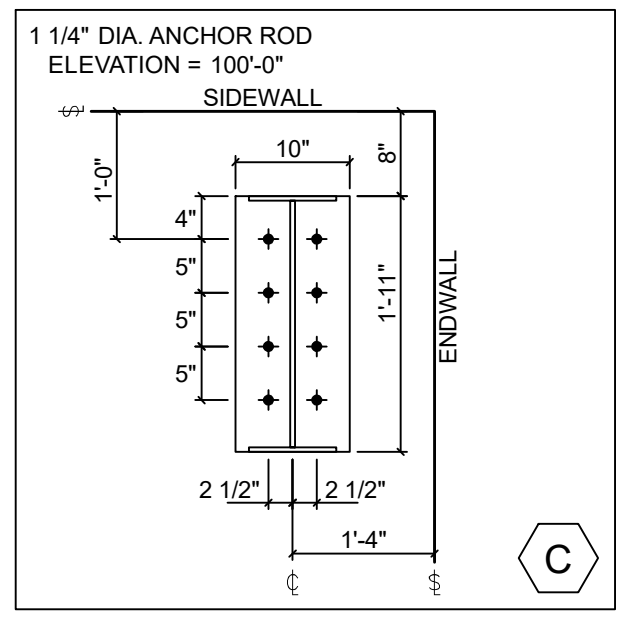
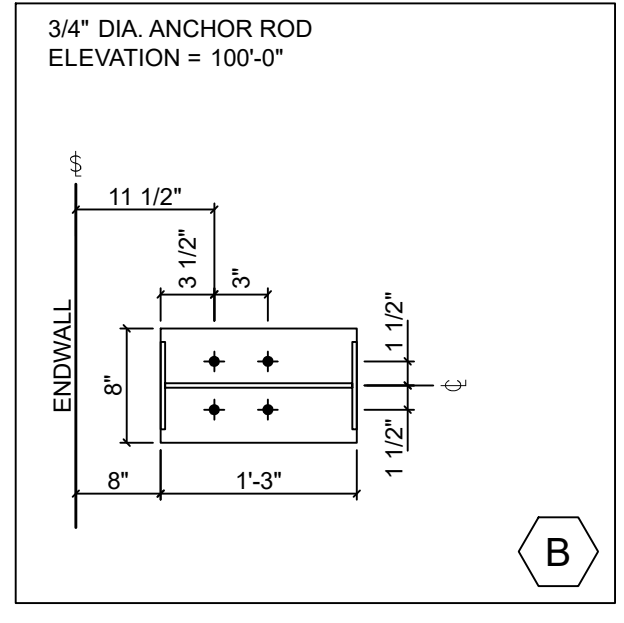
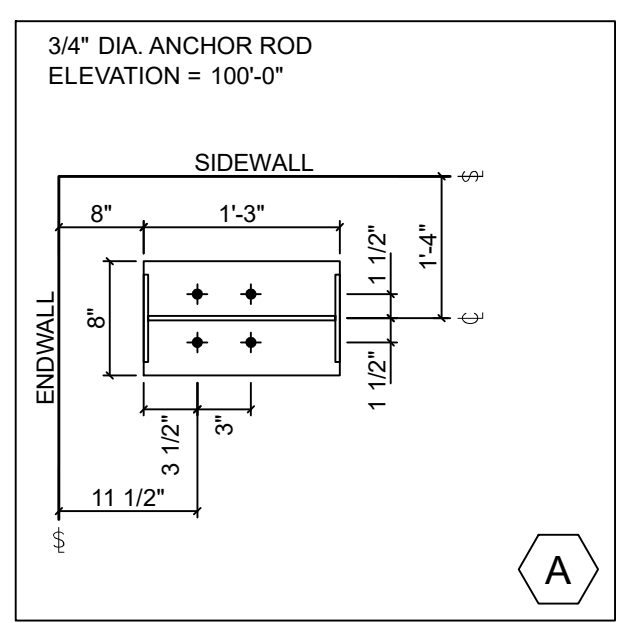
FOR NUMBER: K23G0354A
ADDRESS: MARION, OH 43302
PROJECT NAME: STEEL BUILDING SYSTEMS
SITE LOCATION: DRIFT BAY ADDITION - NO CRANES
DESIGNED BY: STEVENS CONSTRUCTION CO., INC.
DATE: 08/09/2023
BY: [Signature]
SCALE: AS SHOWN
SHEET: 1 OF 1
TOWN: [Blank]
COUNTY: [Blank]
PERMITS: [Blank]

MBMA MEMBER
KIRBY BUILDING SYSTEMS
IBS MEMBER

STATE OF OHIO
HAROLD WAYNE GREGORY
REGISTERED PROFESSIONAL ENGINEER
No. 15867
08/09/2023



FINAL BASE PLATE LENGTHS MAY DIFFER +/- 2" FROM LENGTH SHOWN ON DETAILS. ANCHOR ROD LOCATIONS WILL REMAIN CONSISTENT U.N.O.



EXISTING BUILDING CORNER COLUMNS WILL REMAIN IN PLACE. COLUMNS AT MID-SPAN WILL BE FIELD MODIFIED TO BE SUPPORTED BY NEW KBS FRAME. EXACT CONNECTION AND SUPPORT METHODS T.B.D. BY DESIGN ENGINEER.

DRIFT BAY ADDITION

EXISTING BUILDING

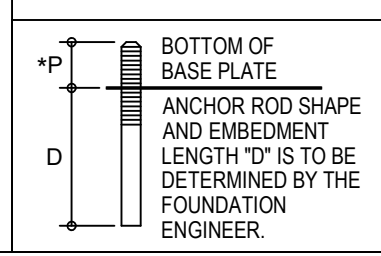
THE NEW WALL GIRTS WILL STOP 1-1/2" FROM THE RIGHT ENDWALL STEEL LINE.

ANCHOR ROD PLAN
 NOTE: ALL BASE PLATES @ 100'-0" (U.N.)
 FINISHED FLOOR @ 100'-0"

ANCHOR ROD PLAN GENERAL NOTES:
 AN1: THE SPECIFIED ANCHOR ROD DIAMETER ASSUMES F1554 GRADE 36 UNLESS NOTED OTHERWISE. ANCHOR ROD MATERIAL OF EQUAL DIAMETER MEETING OR EXCEEDING THE STRENGTH REQUIREMENTS SET FORTH ON THESE DRAWINGS MAY BE UTILIZED AT THE DISCRETION OF THE FOUNDATION DESIGN ENGINEER. ANCHOR ROD EMBEDMENT LENGTH SHALL BE DETERMINED BY THE FOUNDATION DESIGN ENGINEER.
 AN2: METAL BUILDING MANUFACTURER IS NOT RESPONSIBLE FOR PROJECT FOUNDATION DESIGN. THE FOUNDATION DESIGN IS THE RESPONSIBILITY OF A REGISTERED PROFESSIONAL ENGINEER, FAMILIAR WITH LOCAL SITE CONDITIONS.
 AN3: ANCHOR RODS, NUTS, FLAT WASHERS FOR ANCHOR RODS, EXPANSION BOLTS, AND CONCRETE/MASONRY EMBEDMENT PLATES ARE NOT BY THE METAL BUILDING MANUFACTURER.

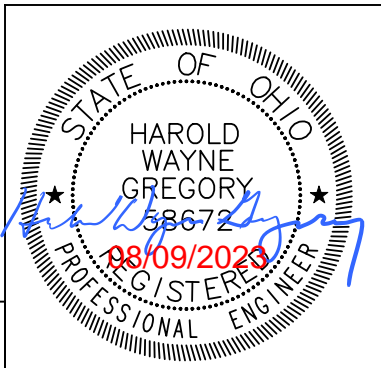
AN4: THE ANCHOR ROD LOCATIONS PROVIDED BY THE METAL BUILDING MANUFACTURER SATISFY PERTINENT REQUIREMENTS FOR THE DESIGN OF THE MATERIALS SUPPLIED BY THE METAL BUILDING MANUFACTURER. IT IS THE RESPONSIBILITY OF THE FOUNDATION ENGINEER TO MAKE CERTAIN THAT SUFFICIENT EDGE DISTANCE IS PROVIDED FOR ALL ANCHOR RODS IN THE DETAILS OF THE FOUNDATION DESIGN.
 AN5: DRAWINGS ARE NOT TO SCALE. SEE DETAILS FOR COLUMN ORIENTATION.
 AN6: THE ANCHOR ROD PLAN INDICATES WHERE THE ANCHOR RODS ARE TO BE PLACED AS WELL AS THE FOOTPRINT OF THE METAL BUILDING. IT IS ESSENTIAL THAT THESE ANCHOR ROD PATTERNS BE FOLLOWED. IF THESE SETTINGS DIFFER FROM THE ARCHITECTURAL FOUNDATION PLANS, THE METAL BUILDING MANUFACTURER MUST BE CONTACTED IMMEDIATELY - BEFORE CONCRETE IS PLACED.

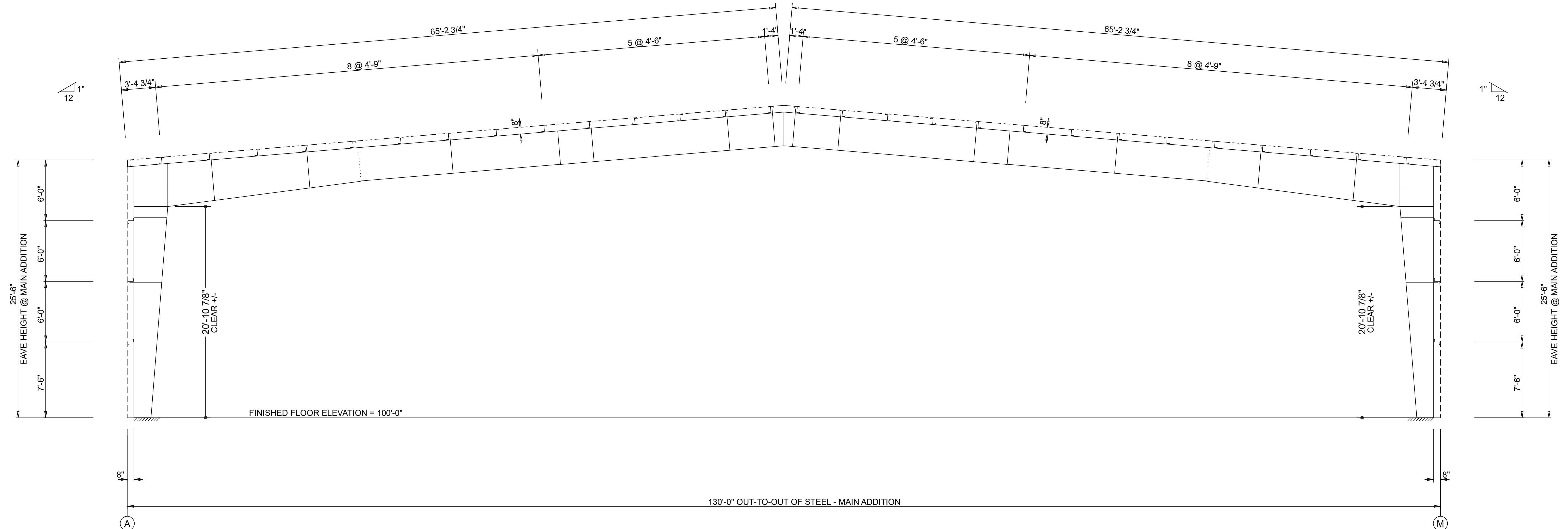
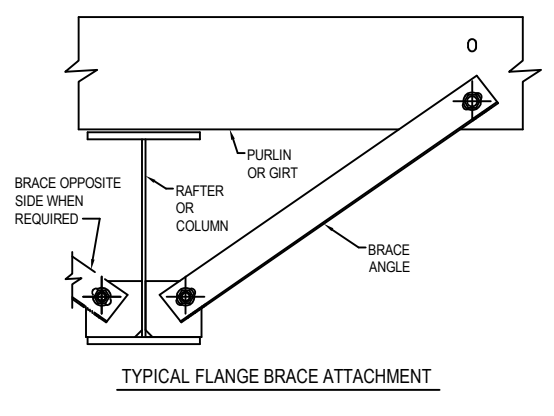
AN7: "SINGLE" CEE COLUMNS SHALL BE ORIENTED WITH THE "TOES" TOWARD THE LOW EAVE UNLESS NOTED OTHERWISE.
 AN8: ALL DIMENSIONS ARE OUT TO OUT OF STEEL. IF A CONCRETE NOTCH IS REQUIRED THEN THE REQUIRED DIMENSION SHOULD BE ADDED TO OBTAIN THE OUT TO OUT OF CONCRETE DIMENSIONS.
 AN9: FINISHED FLOOR ELEVATION = 100'-0" AND BOTTOM OF BASE PLATE = 100'-0" UNLESS NOTED OTHERWISE.



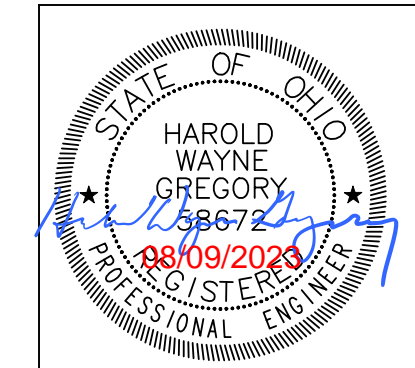
ANCHOR RODS				
QTY	DIA.	MATERIAL	PROJECTION (*P)	
28	3/4"	F1554 GR 36	3"	
116	1-1/4"	F1554 GR 36	3-1/2"	
	1-1/2"	F1554 GR 36	3-1/2"	

DESIGN ENGINEER DATE

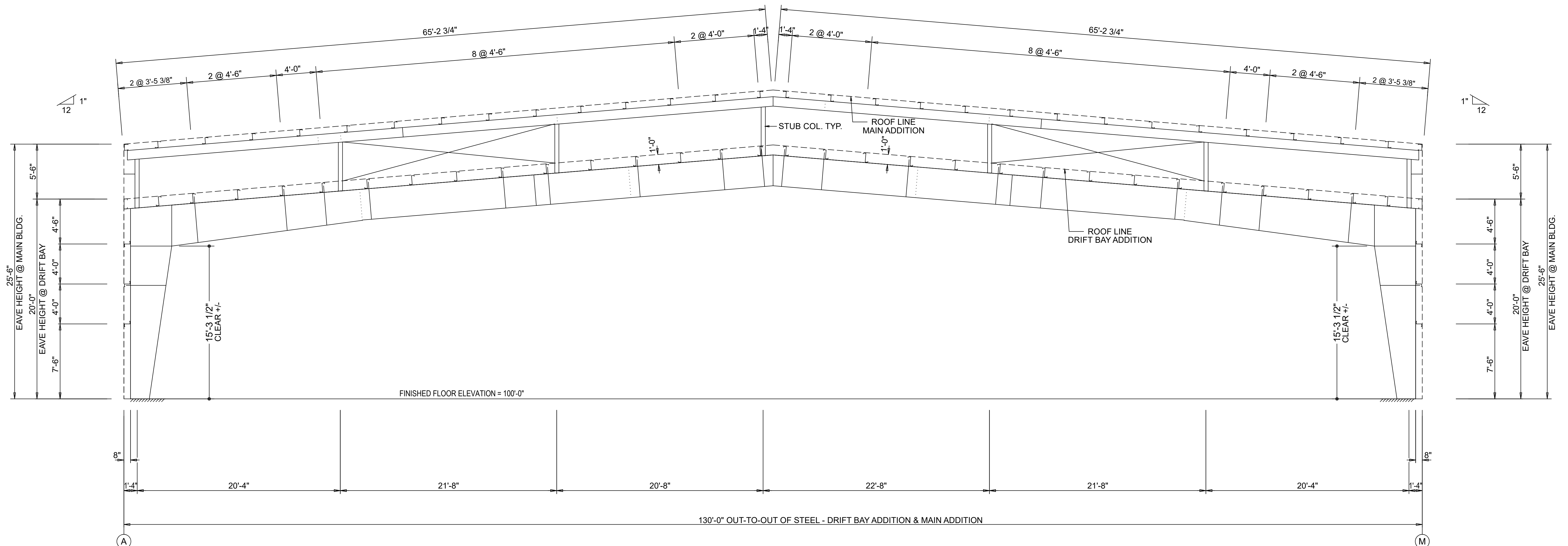
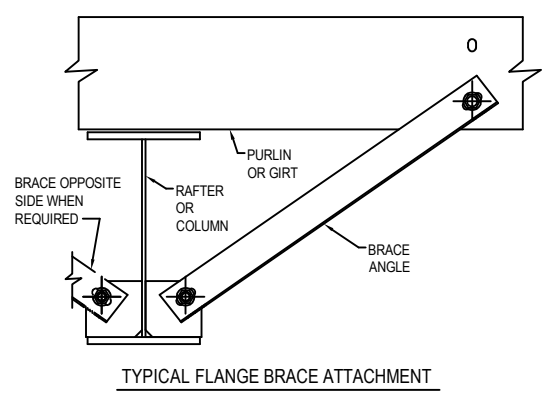




FRAME REPRESENTATIONS ONLY ARE SHOWN
 EXACT FRAME SHAPE AND DETAILS ARE
 SUBJECT TO CHANGE UPON FINAL DESIGN.

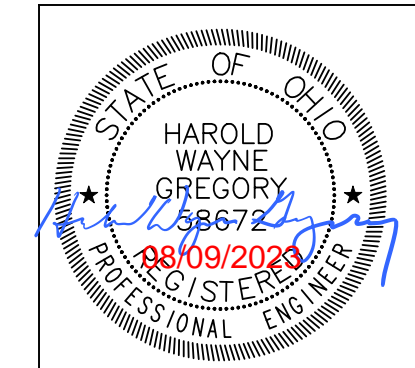


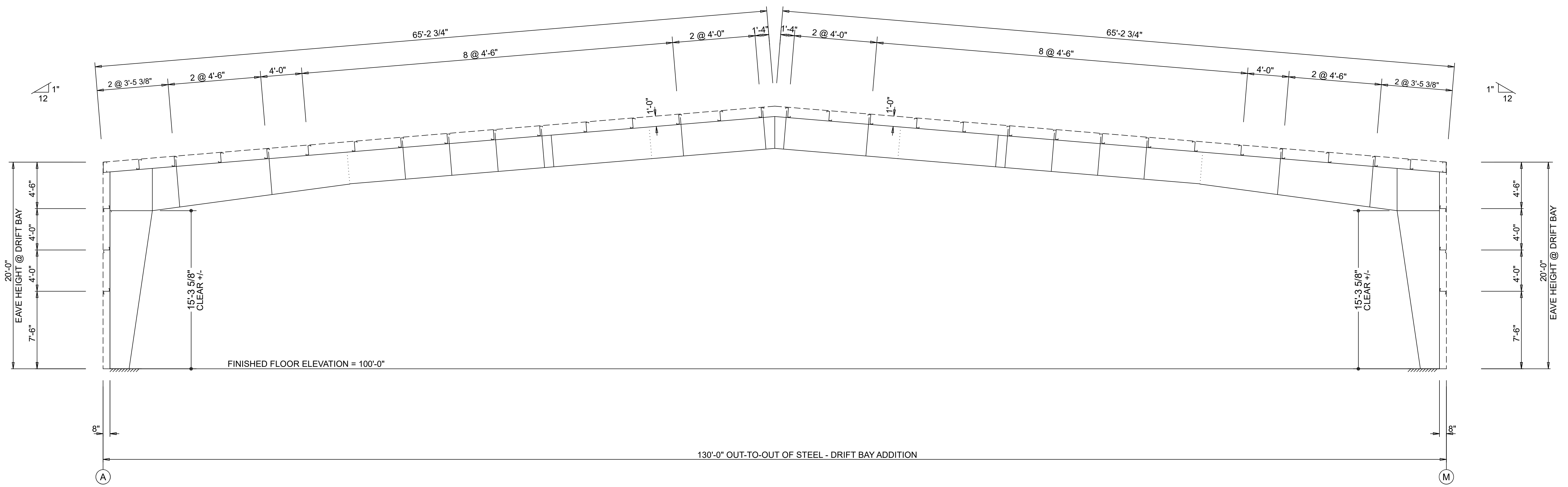
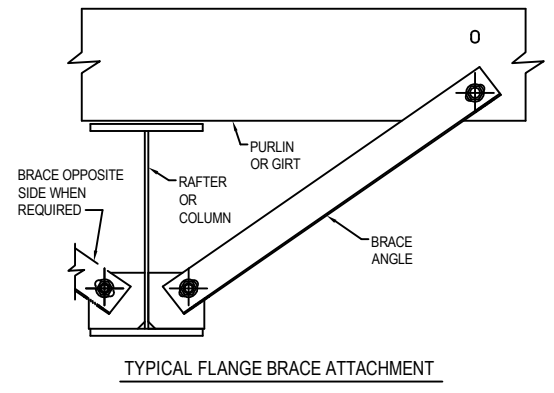
MAIN ADDITION



RIGID FRAME ELEVATION: FRAME LINE 9

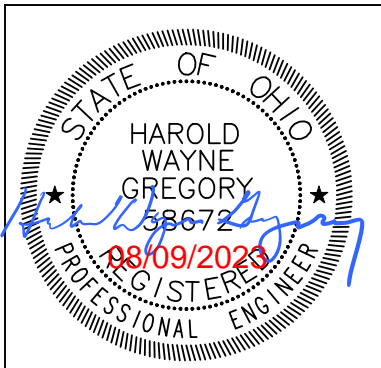
FRAME REPRESENTATIONS ONLY ARE SHOWN.
 EXACT FRAME SHAPE AND DETAILS ARE
 SUBJECT TO CHANGE UPON FINAL DESIGN.



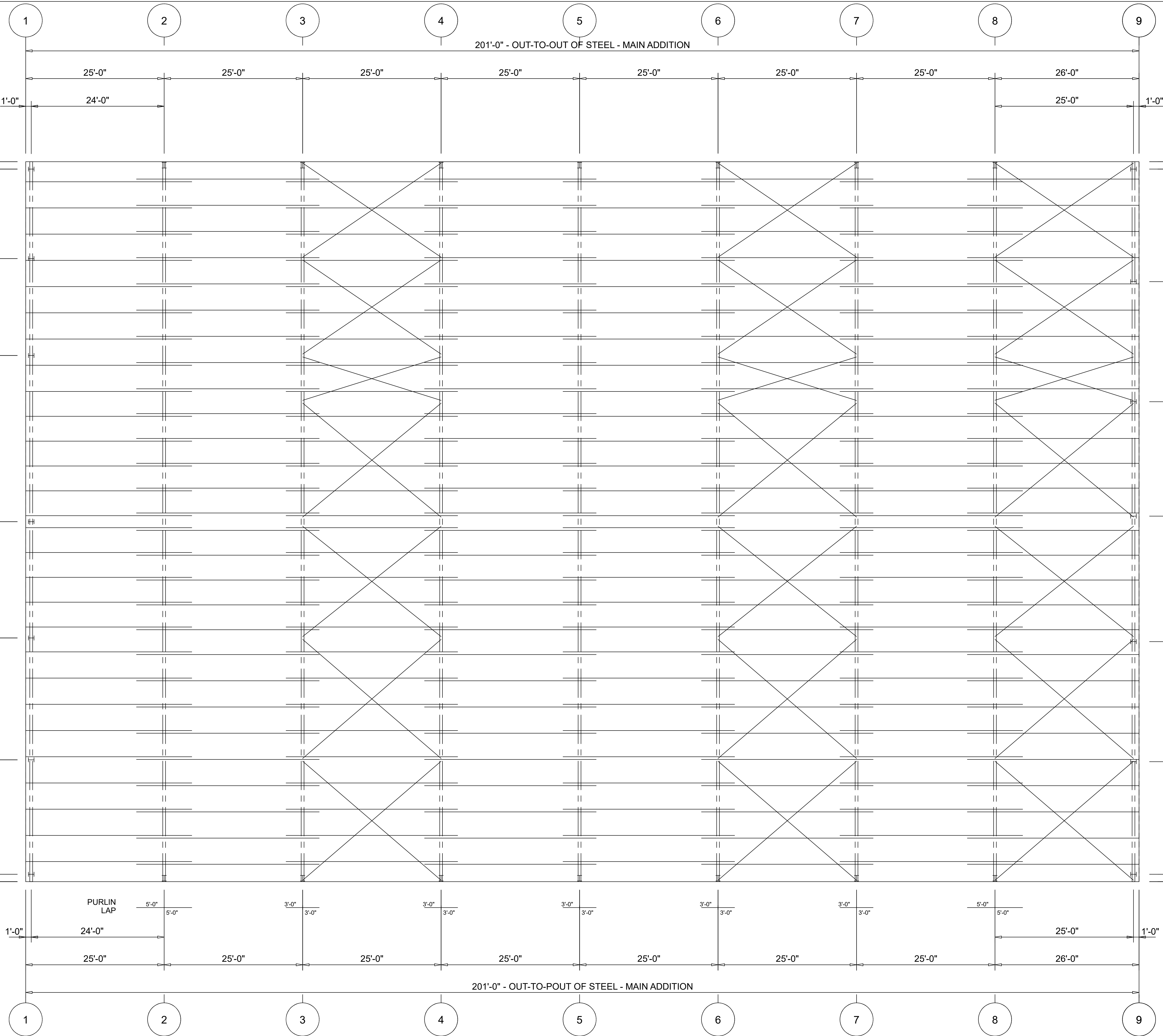


NOTE: THIS IS A RIGID FRAME DESIGNED FOR A MAX. EXPANSION OF 25'-0"

FRAME REPRESENTATIONS ONLY ARE SHOWN. EXACT FRAME SHAPE AND DETAILS ARE SUBJECT TO CHANGE UPON FINAL DESIGN.



DRIFT BAY ADDITION

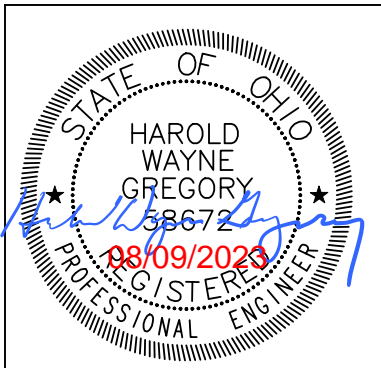


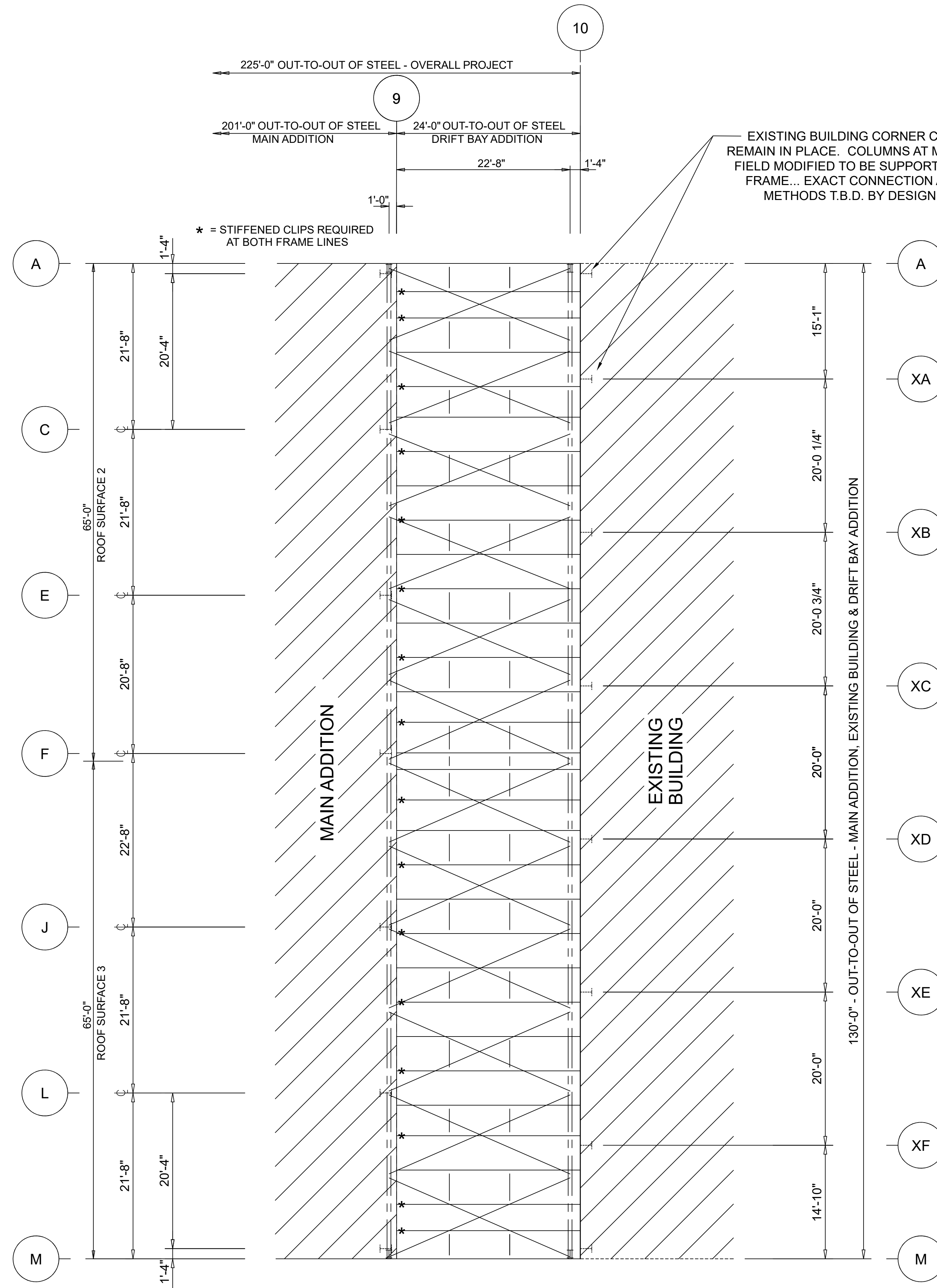
ROOF FRAMING PLAN

MAIN ADDITION

MEMBER: MEMB
 PROJECT: K2303544
 PROJECT NAME: MARION, OH 43302
 CLIENT: STEVENS CONSTRUCTION CO., INC.
 PROJECT ADDRESS: 1300 W. 10TH AVE.
 PROJECT TYPE: ROOF PERMITS ONLY

DATE: 08/09/2023
 DRAWN BY: GREGORY
 CHECKED BY: GREGORY
 PROJECT: MARION, OH 43302
 CLIENT: STEVENS CONSTRUCTION CO., INC.
 PROJECT ADDRESS: 1300 W. 10TH AVE.
 PROJECT TYPE: ROOF PERMITS ONLY

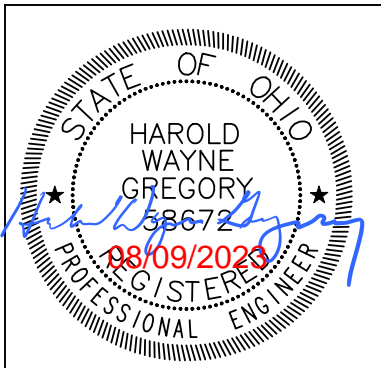


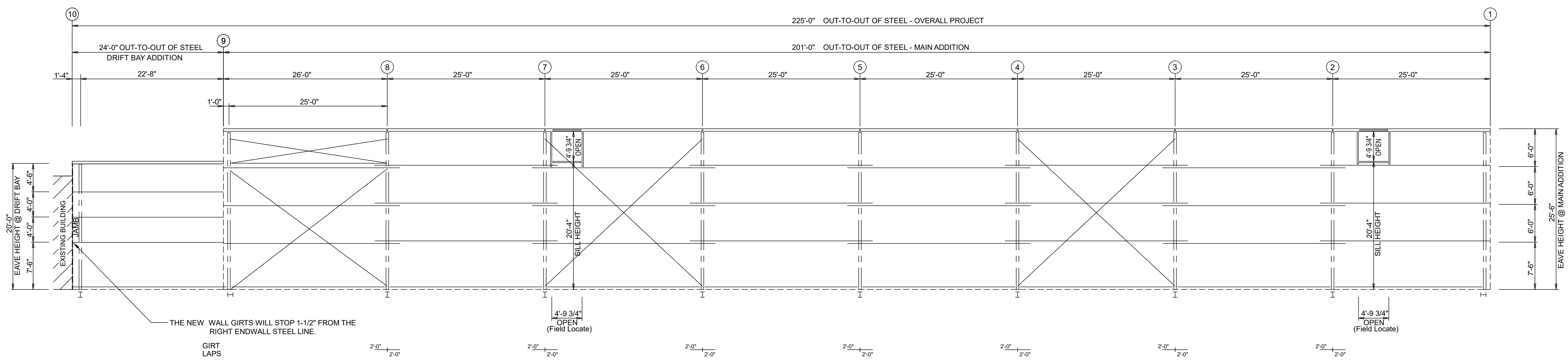


ROOF FRAMING PLAN

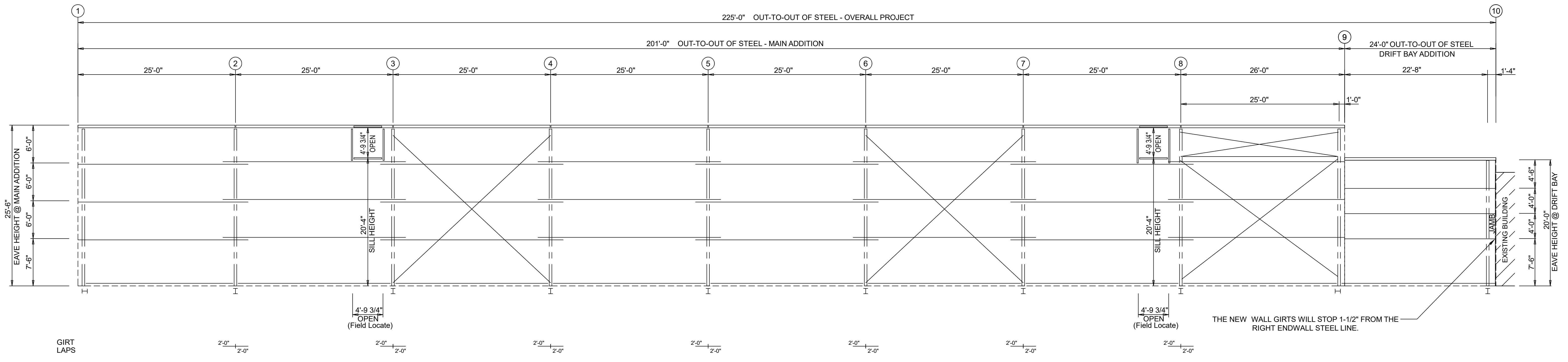
EXISTING BUILDING CORNER COLUMNS WILL REMAIN IN PLACE. COLUMNS AT MID-SPAN WILL BE FIELD MODIFIED TO BE SUPPORTED BY NEW KBS FRAME... EXACT CONNECTION AND SUPPORT METHODS T.B.D. BY DESIGN ENGINEER.

* = STIFFENED CLIPS REQUIRED AT BOTH FRAME LINES

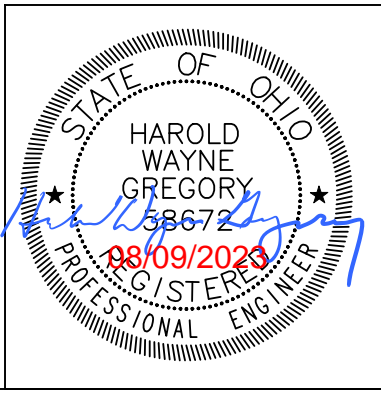


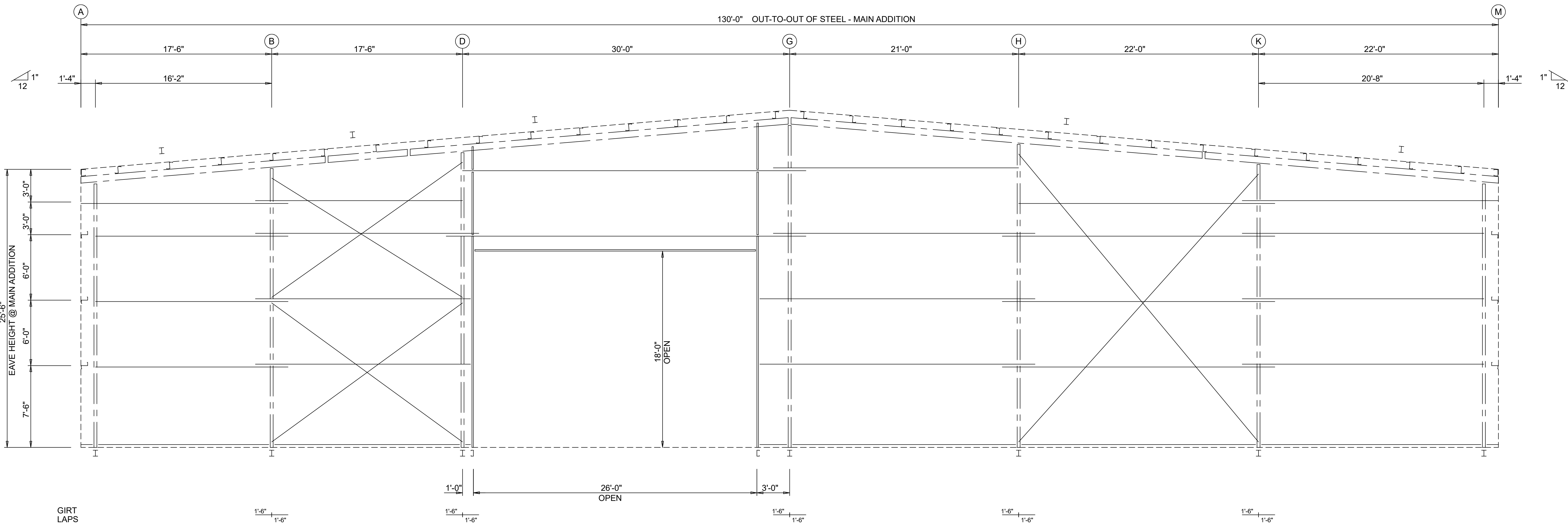


SIDEWALL FRAMING: FRAME LINE A

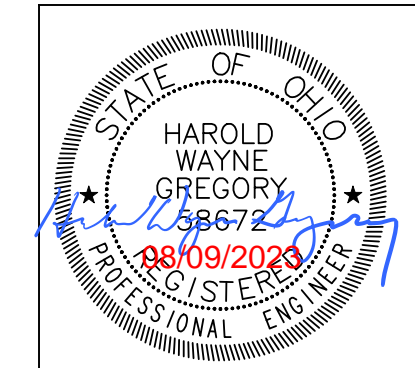


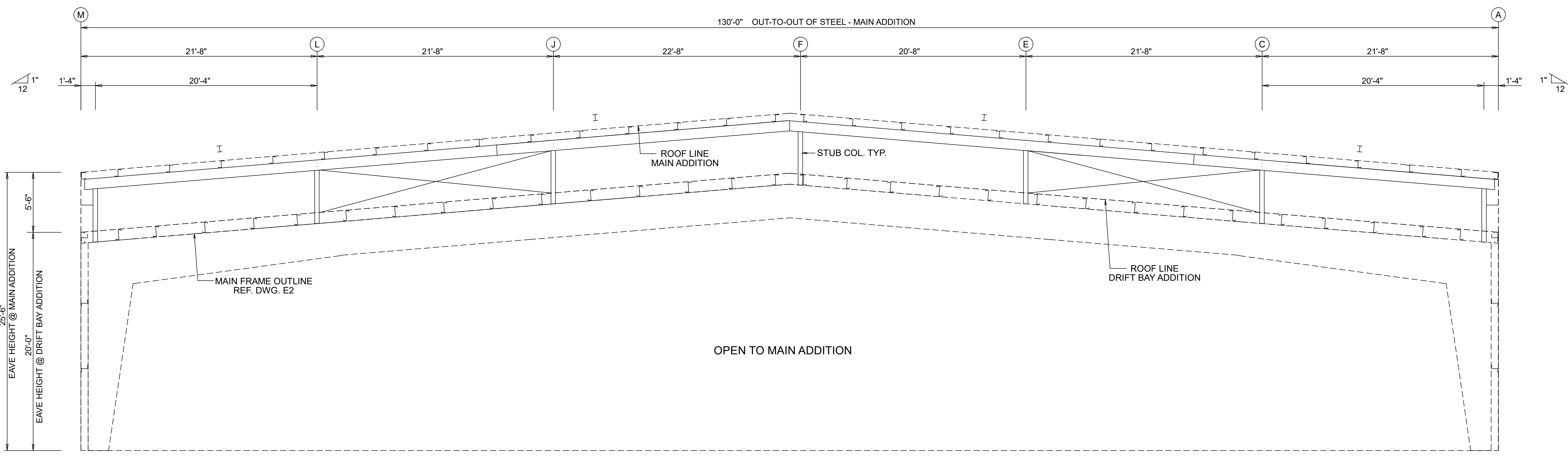
SIDEWALL FRAMING: FRAME LINE M





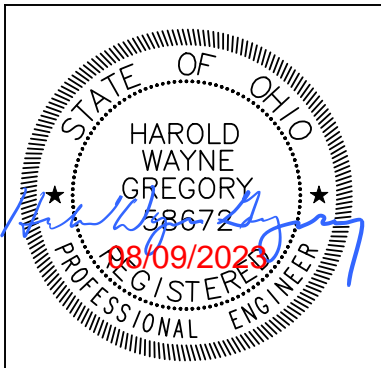
MAIN ADDITION

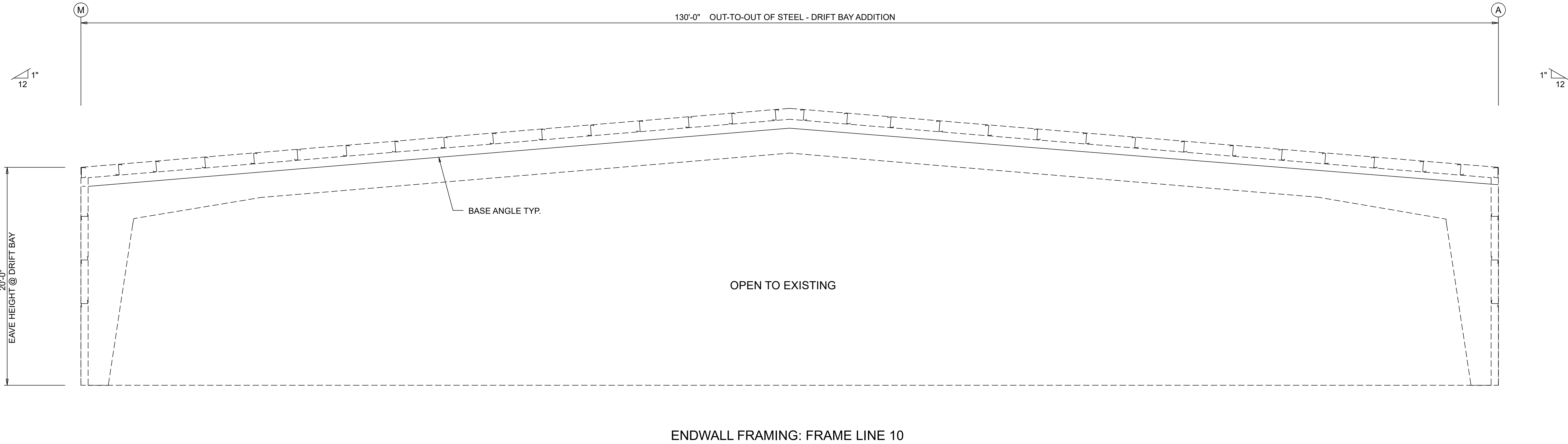




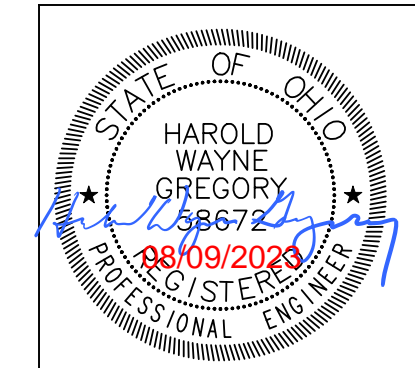
ENDWALL FRAMING: FRAME LINE 9

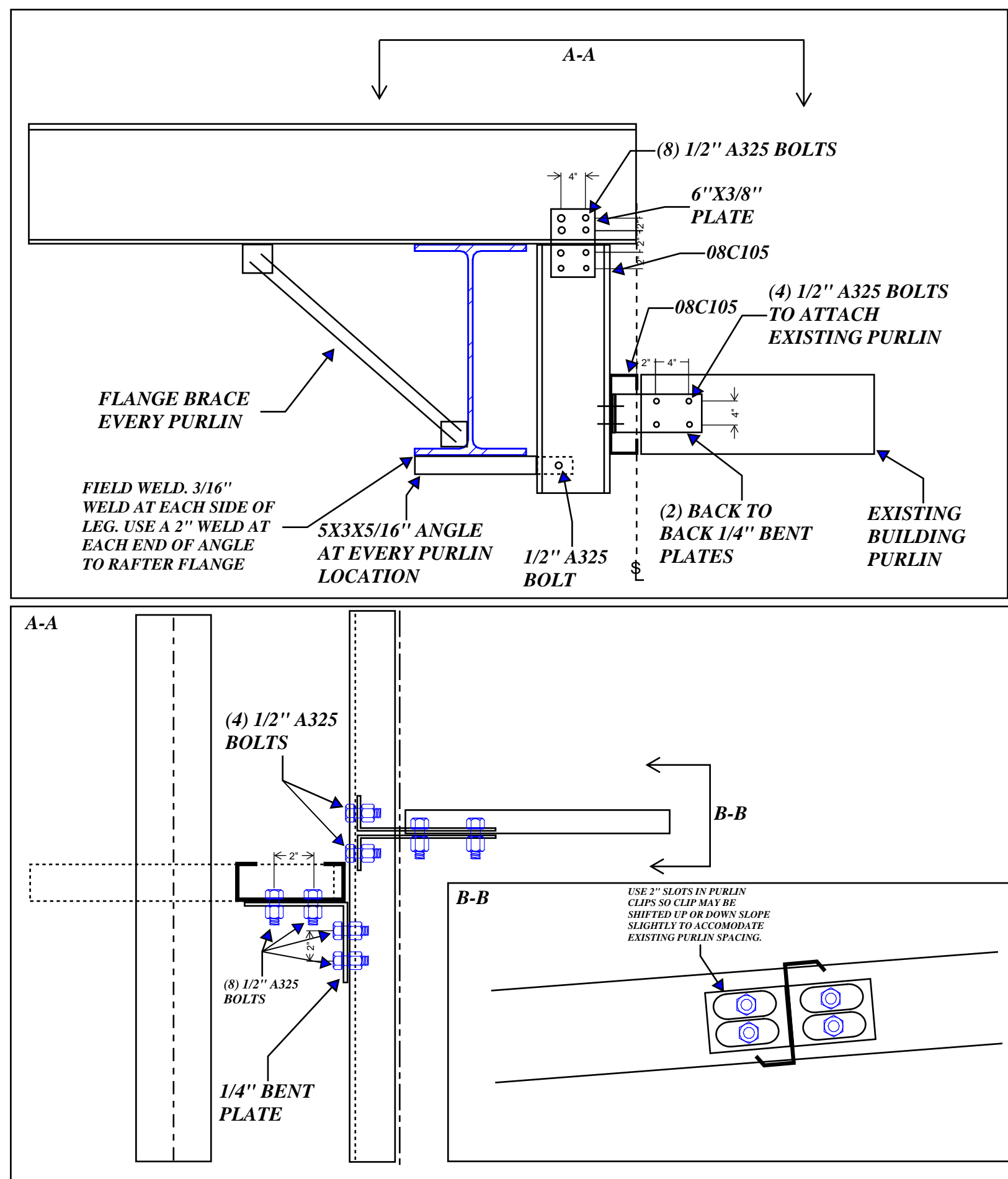
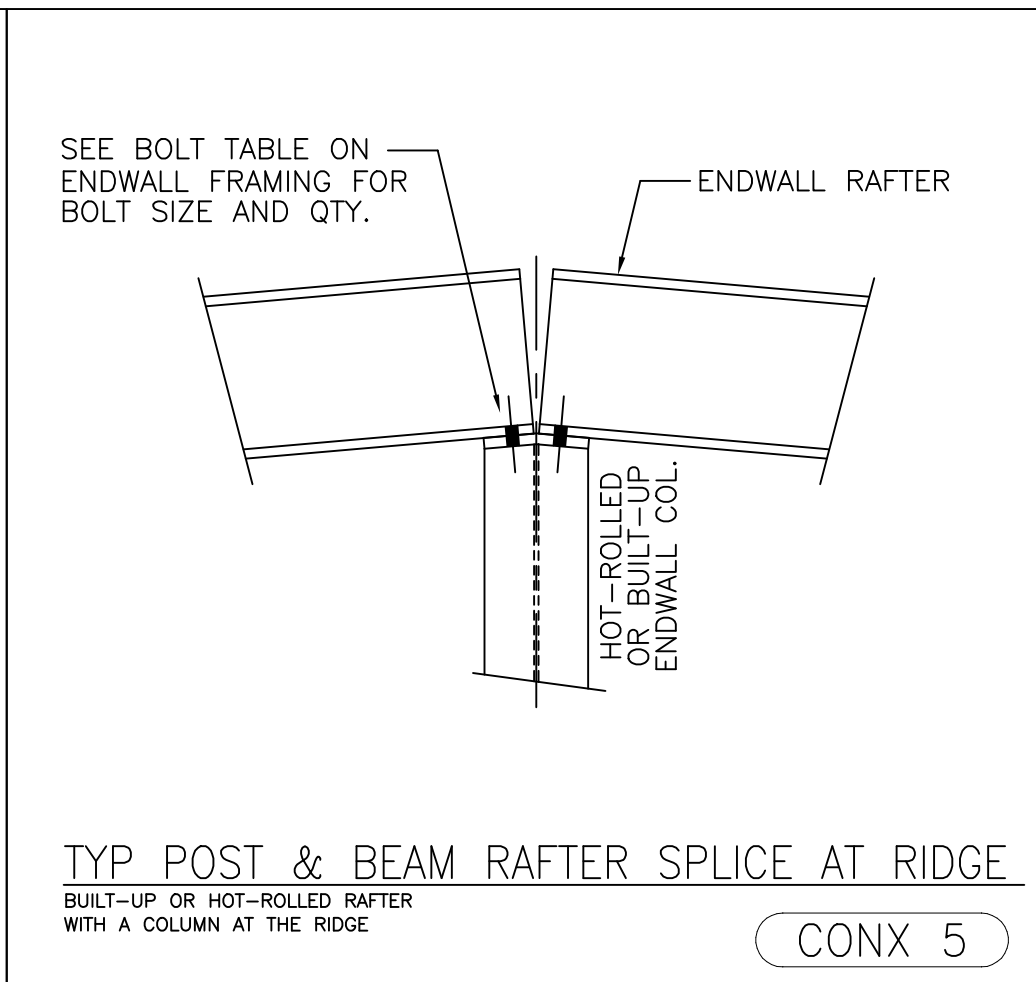
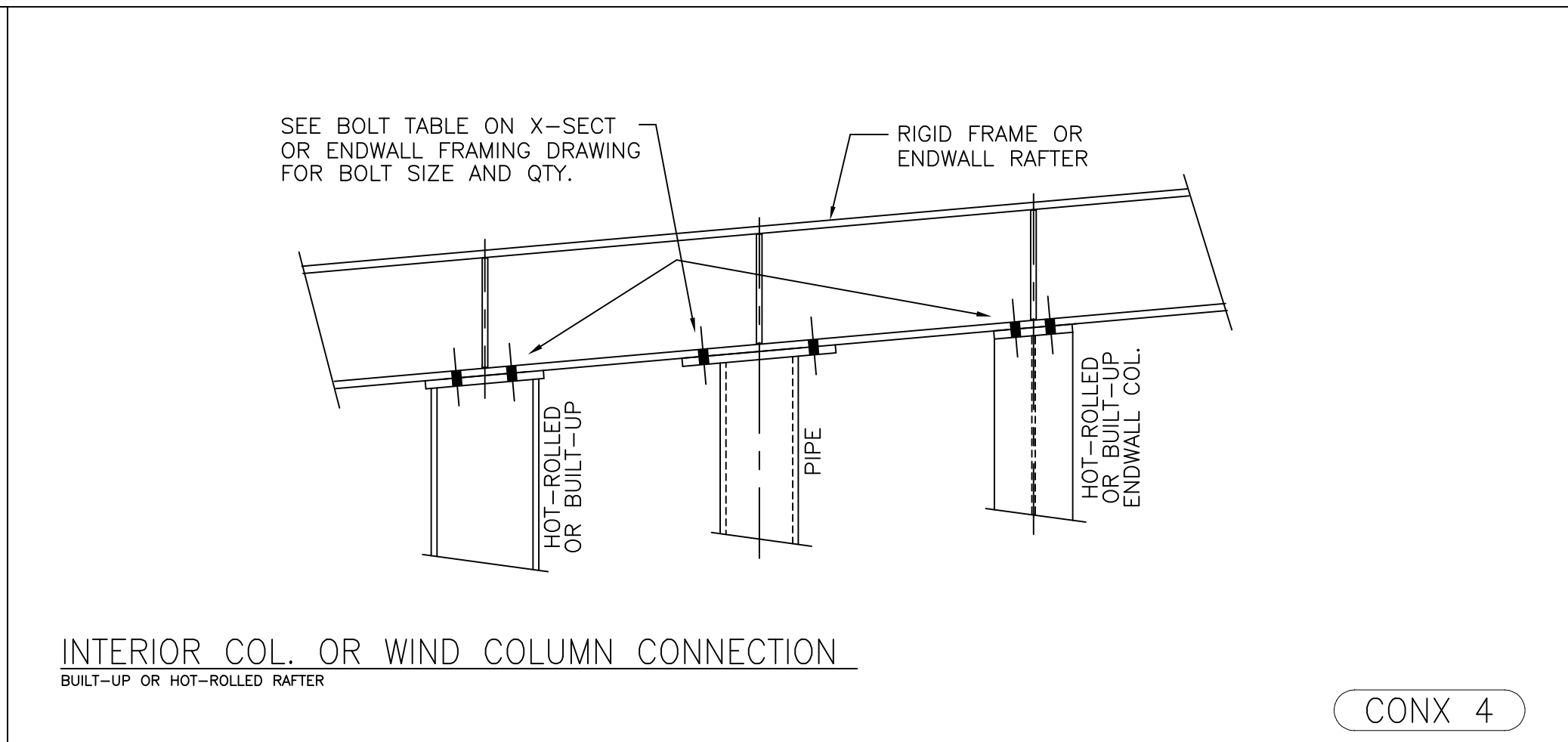
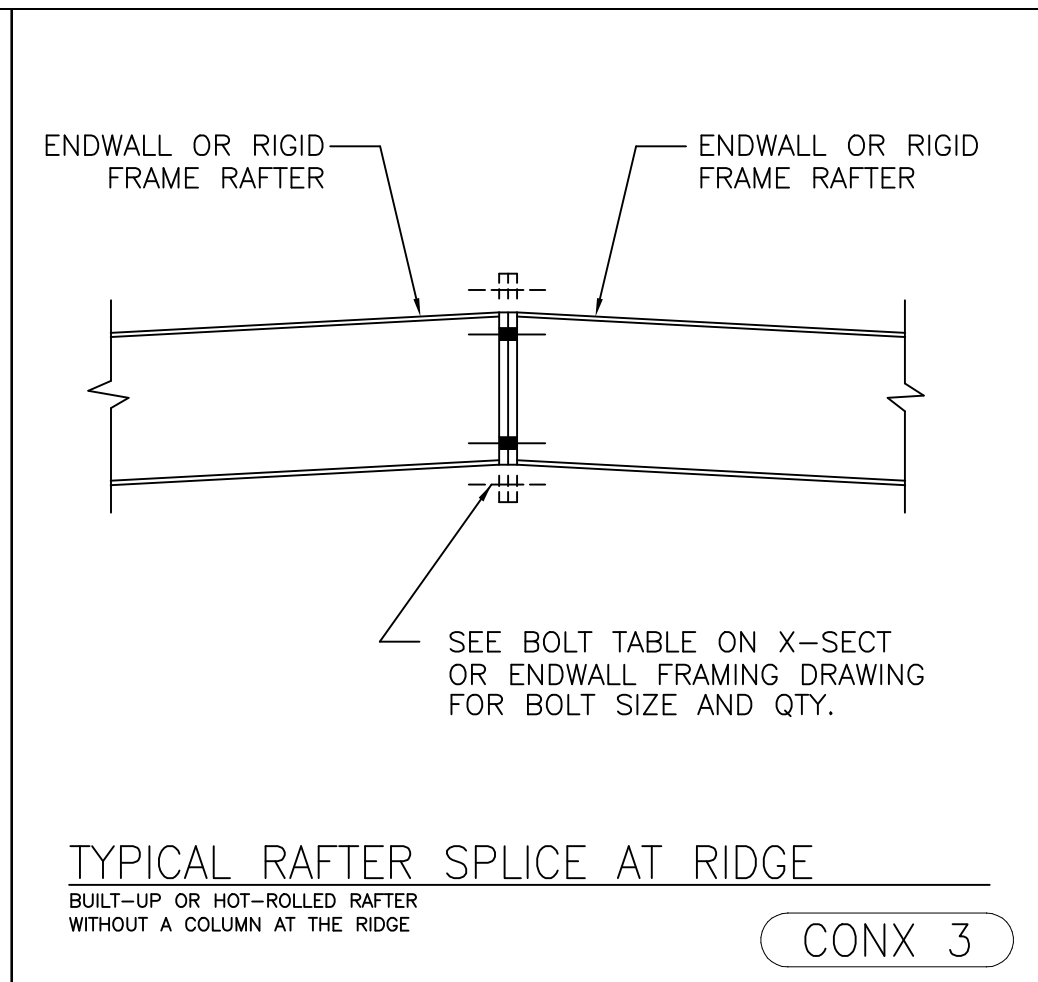
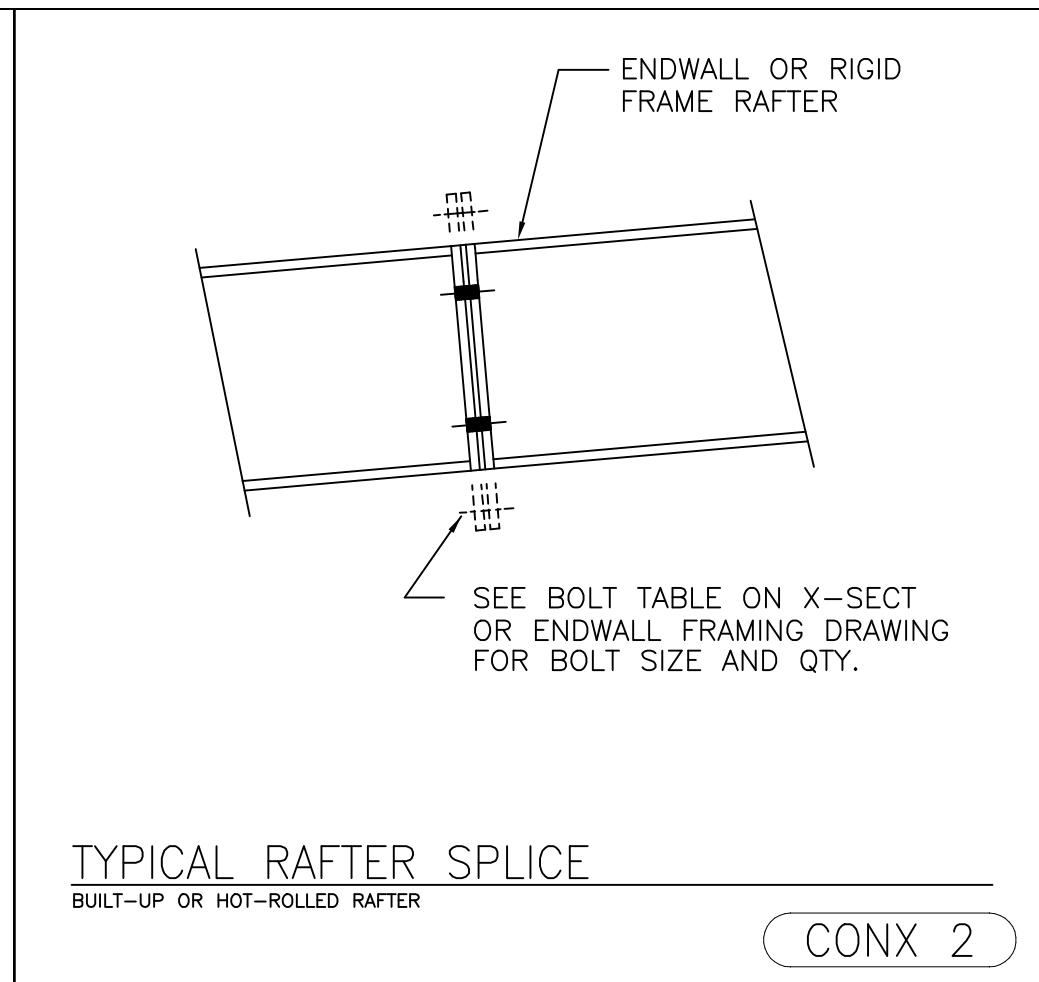
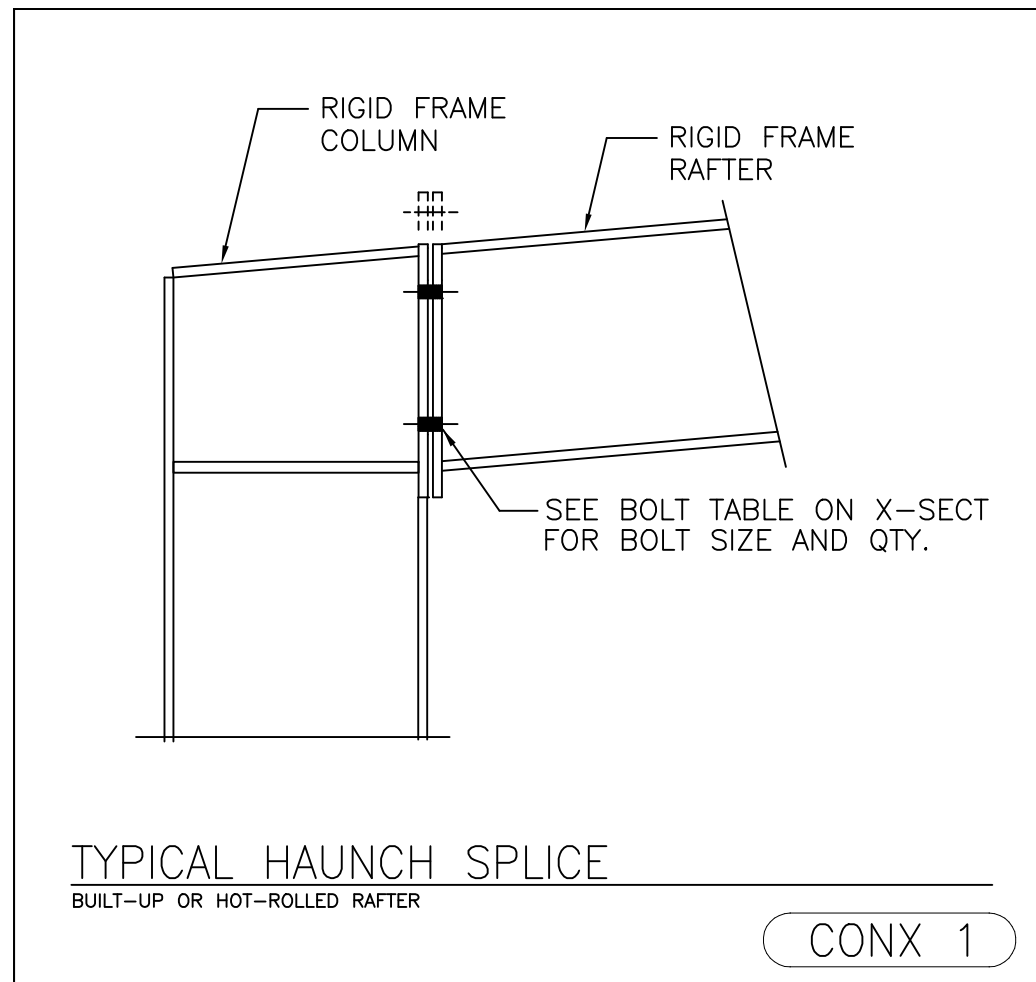
MAIN ADDITION & DRIFT BAY ADDITION

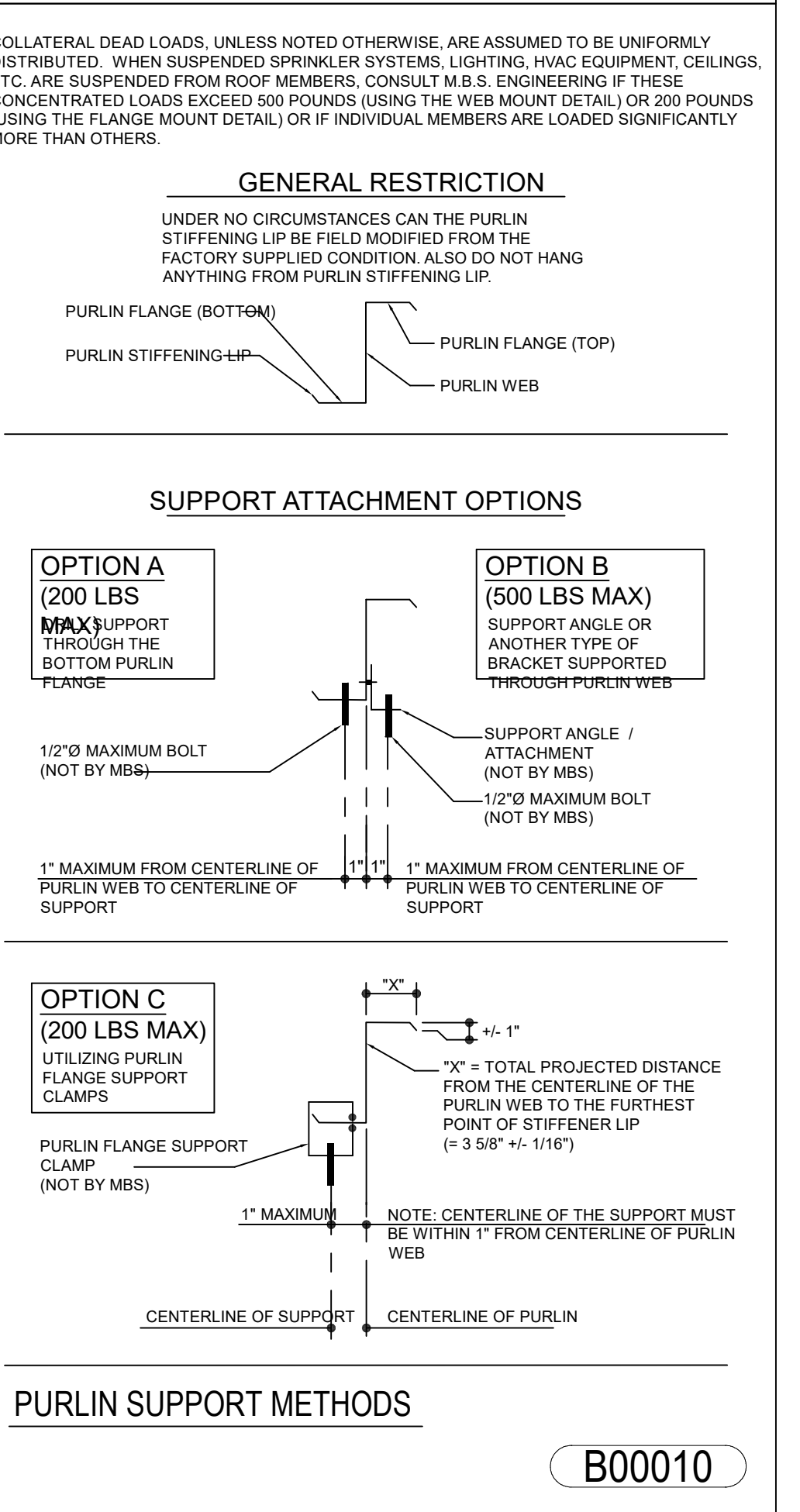
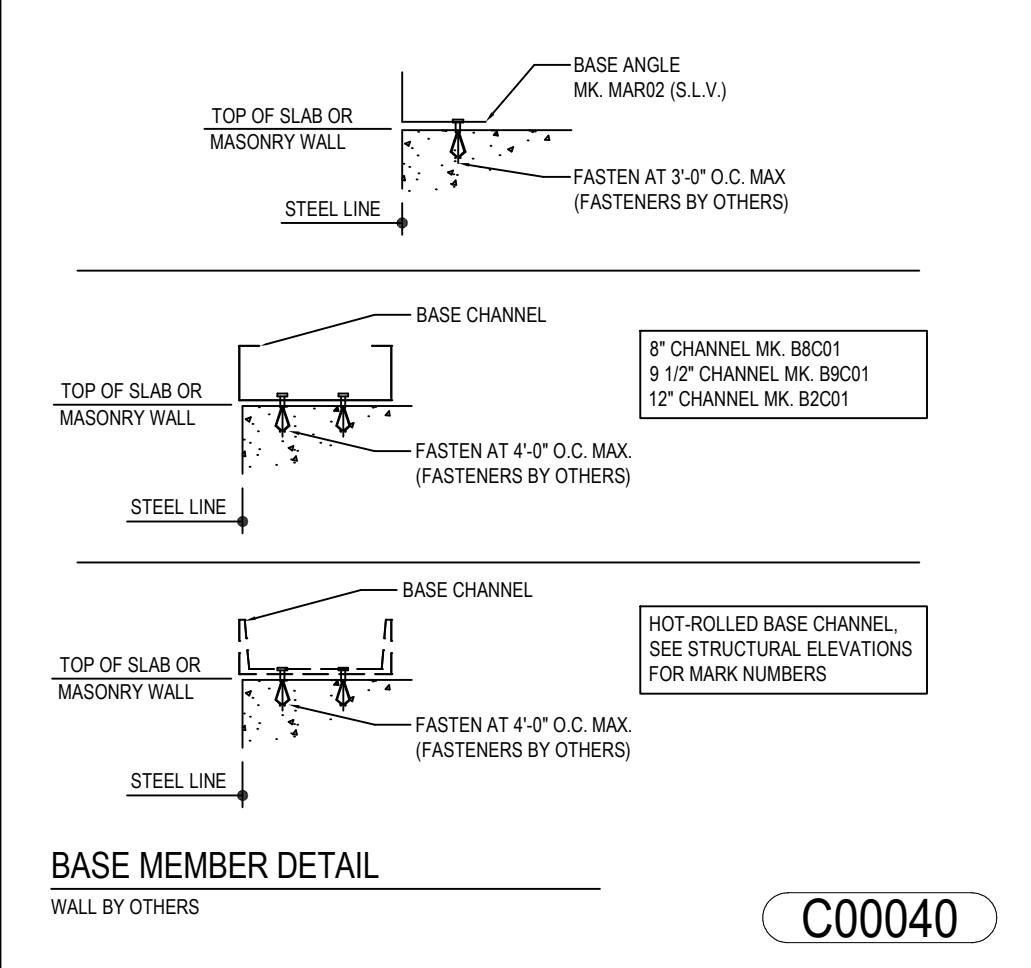
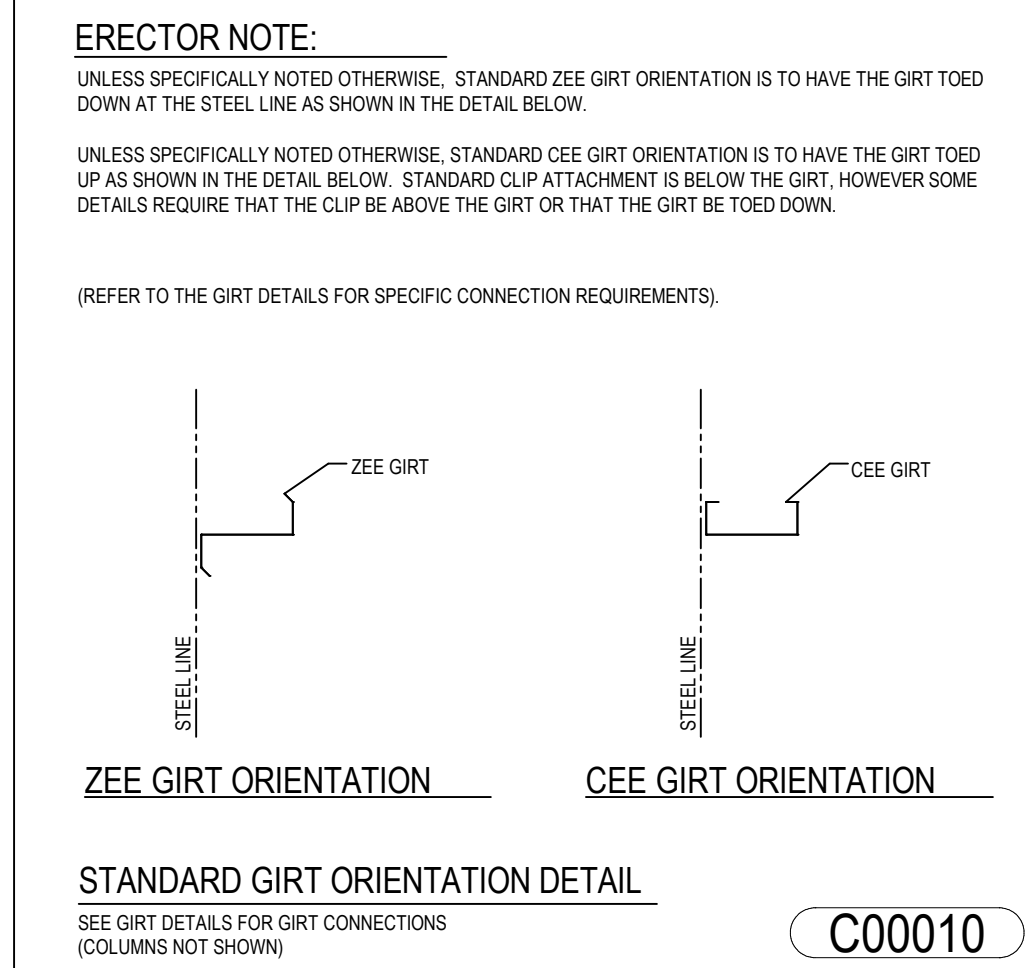
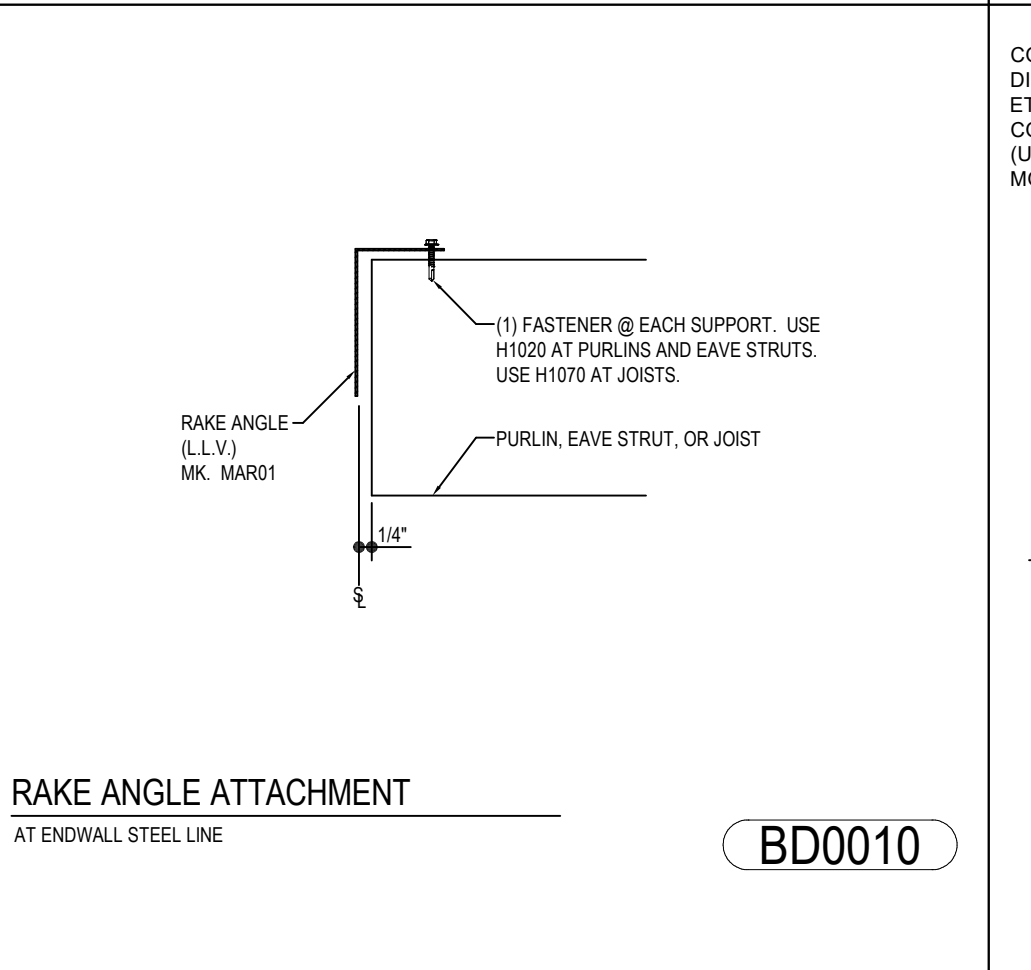
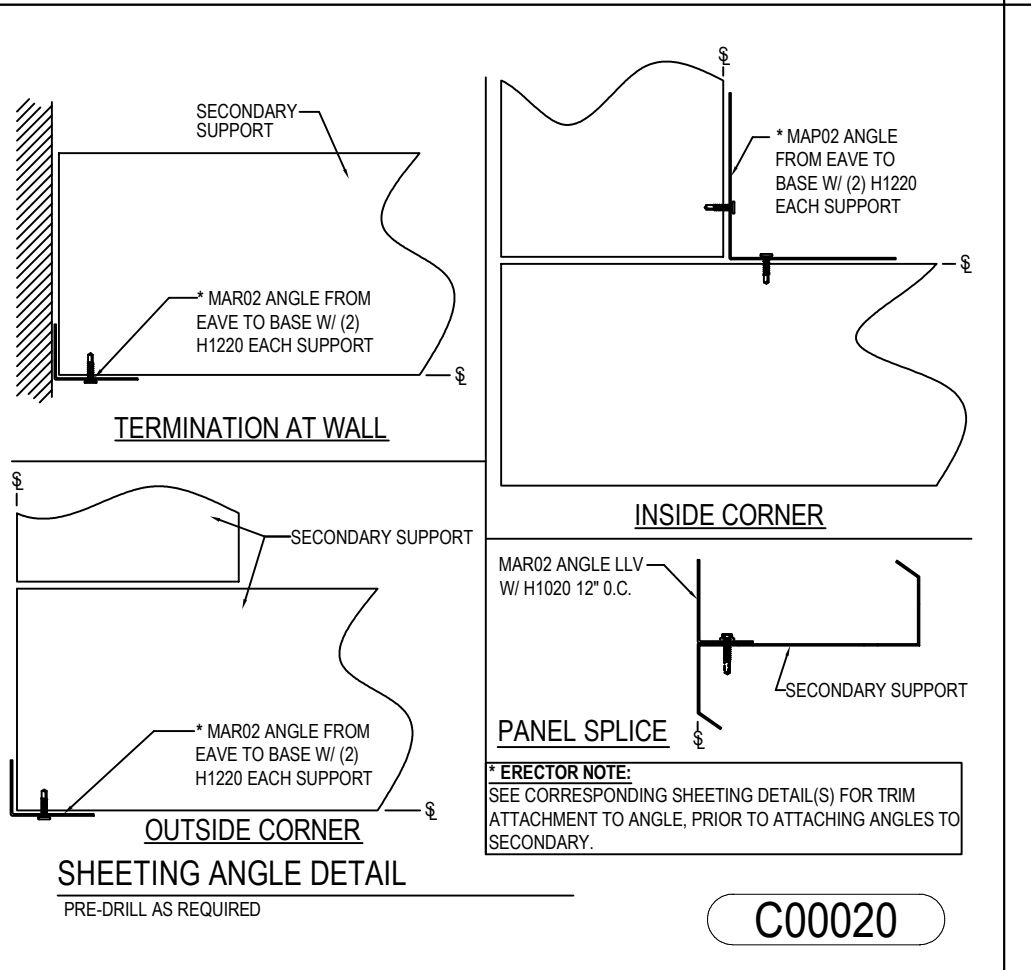
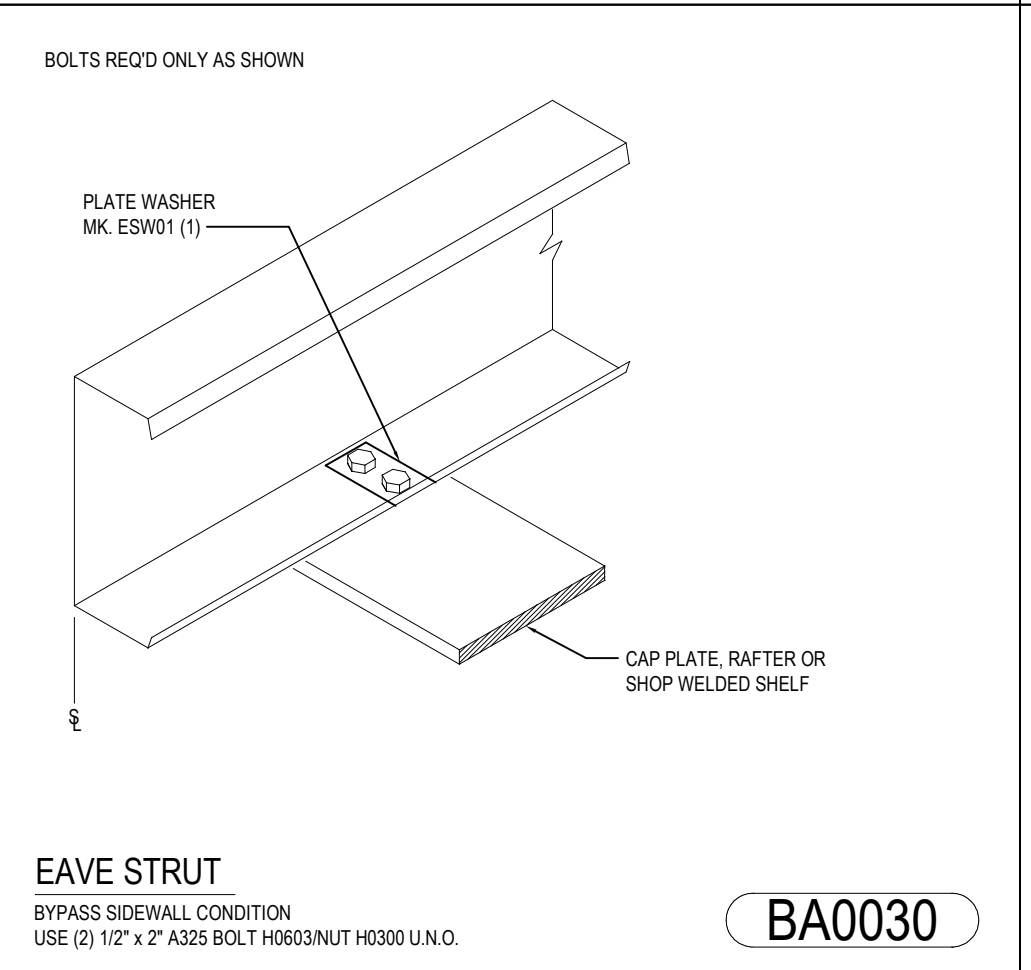
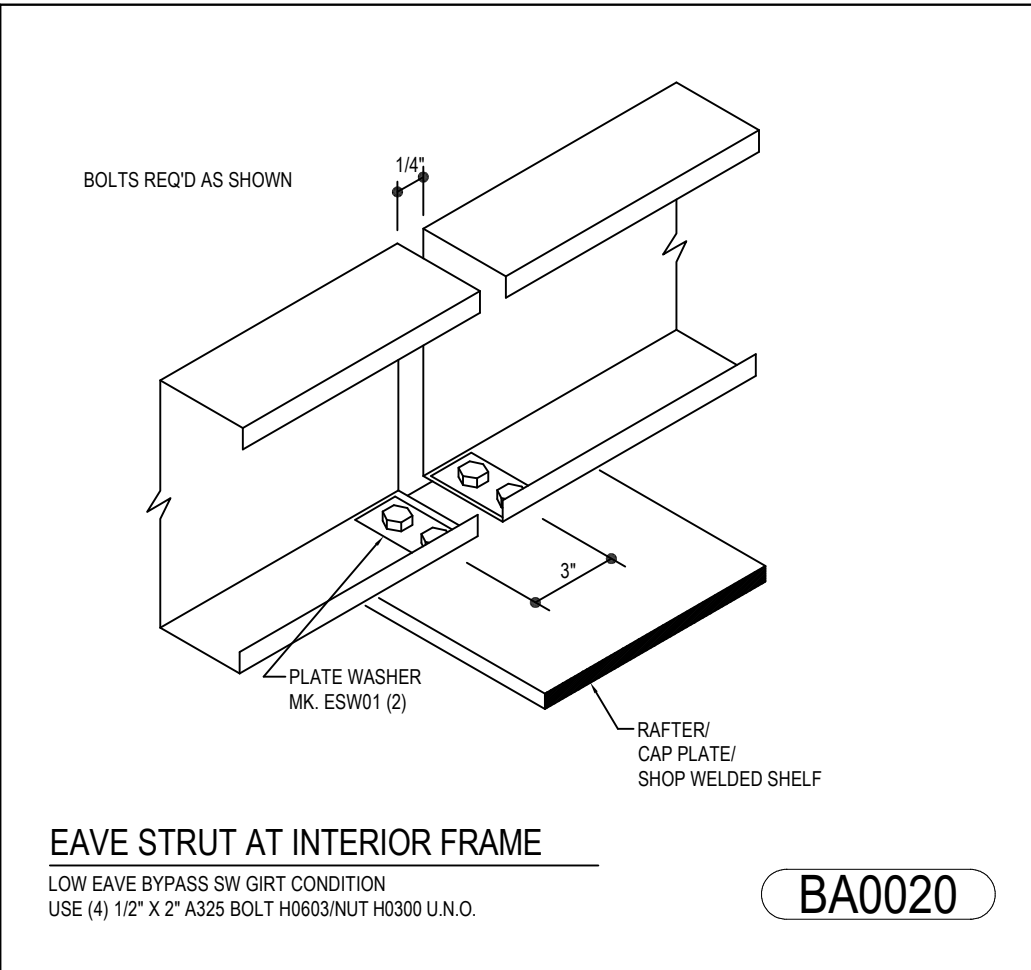
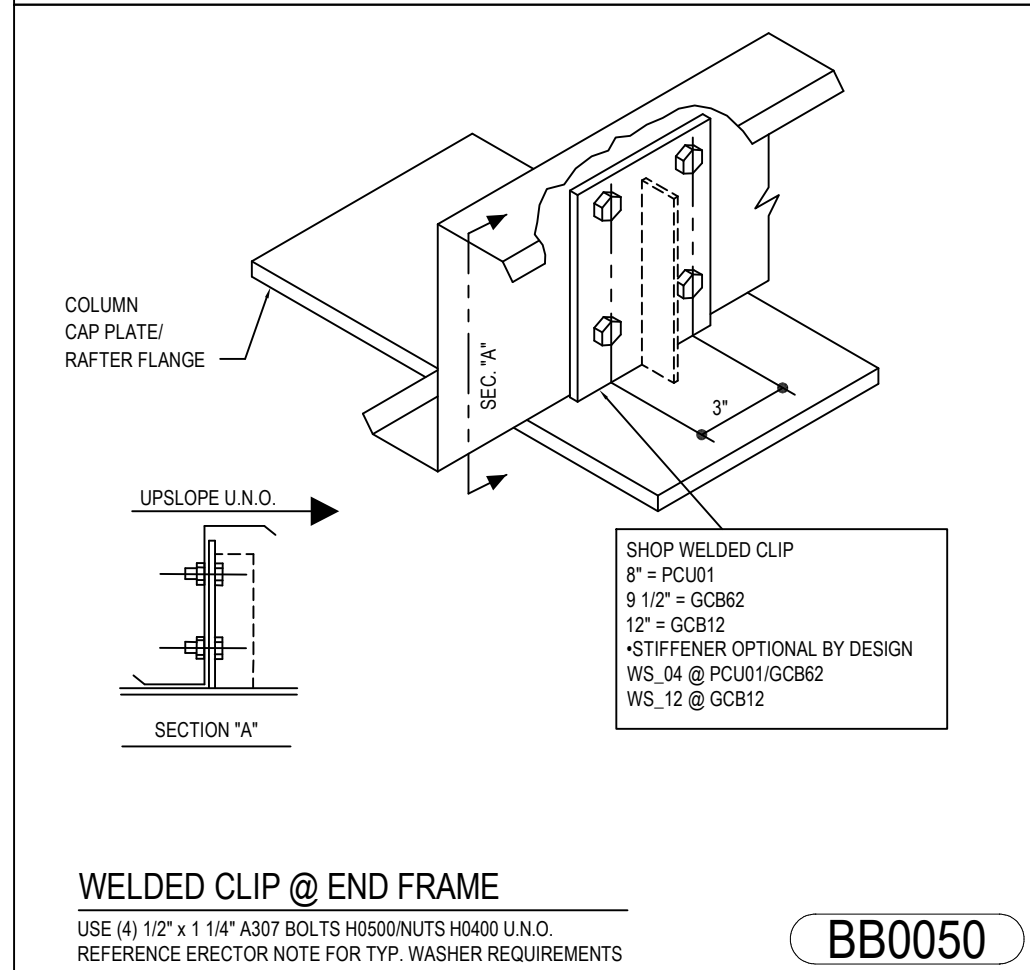
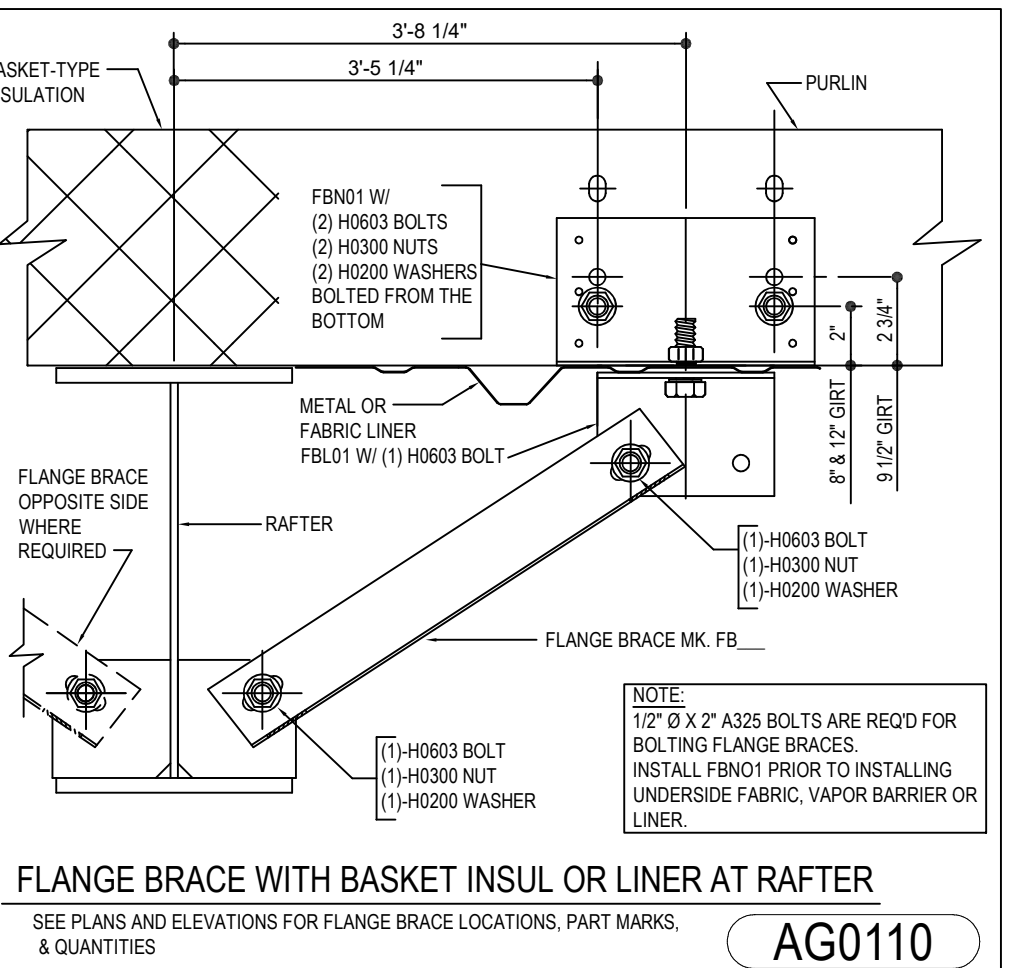
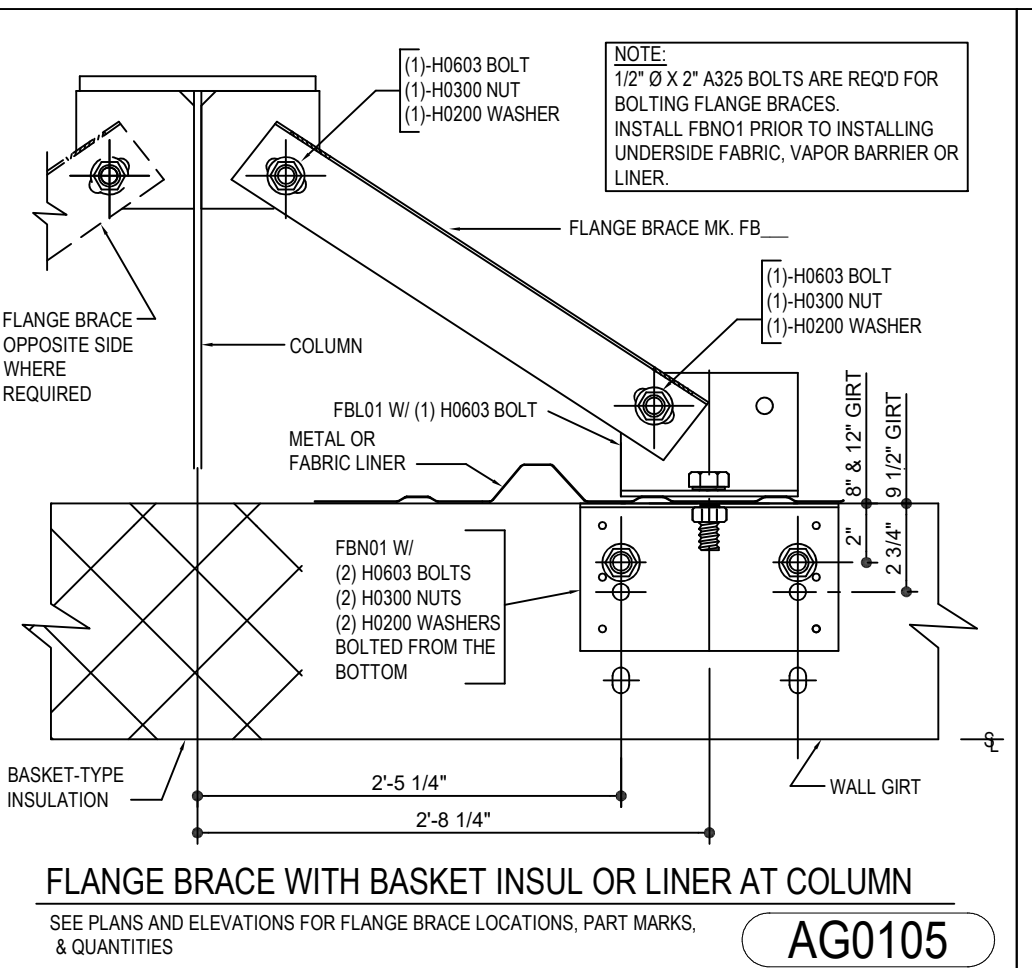
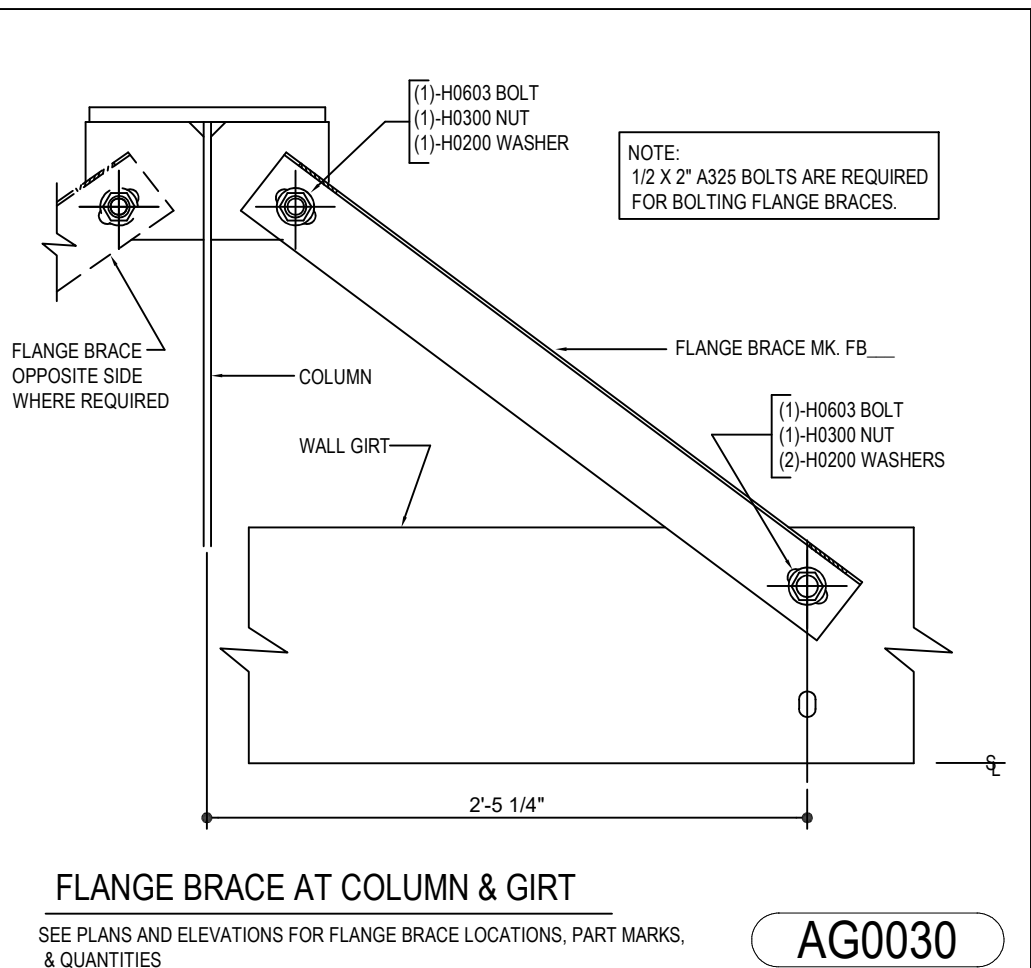
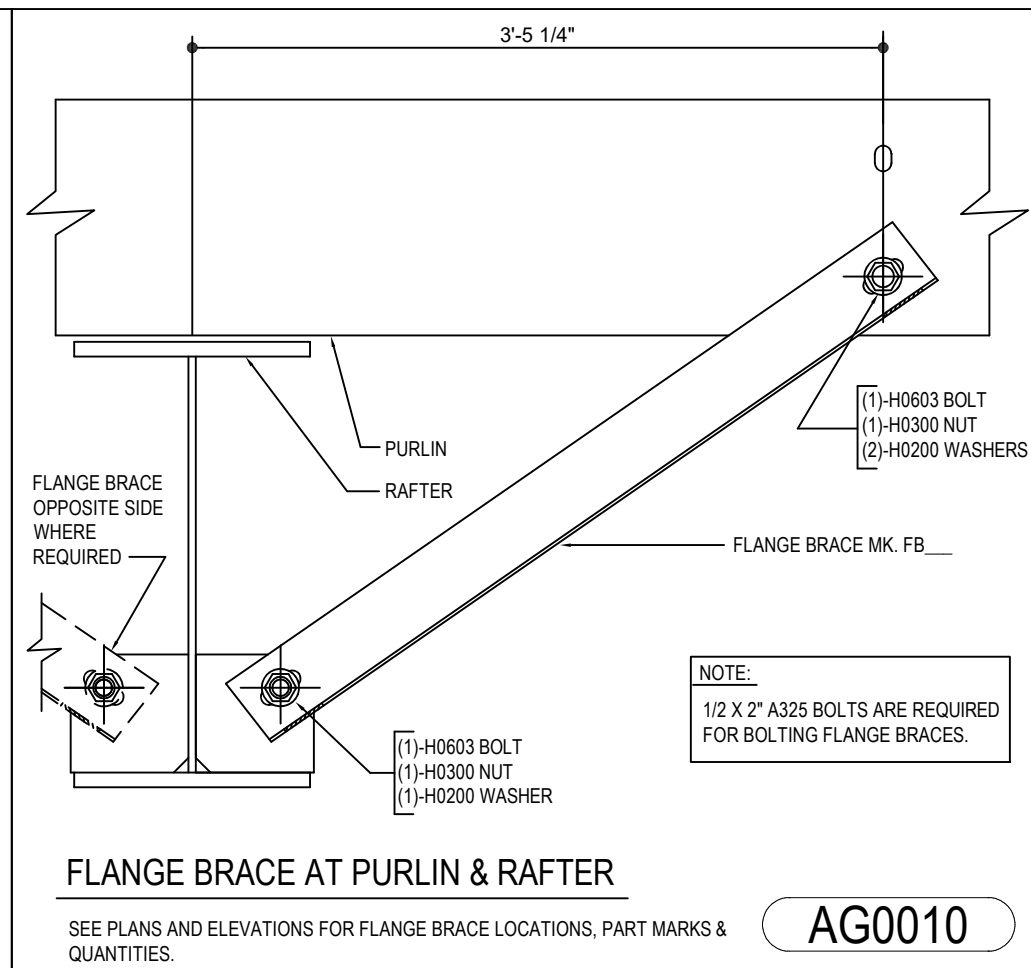
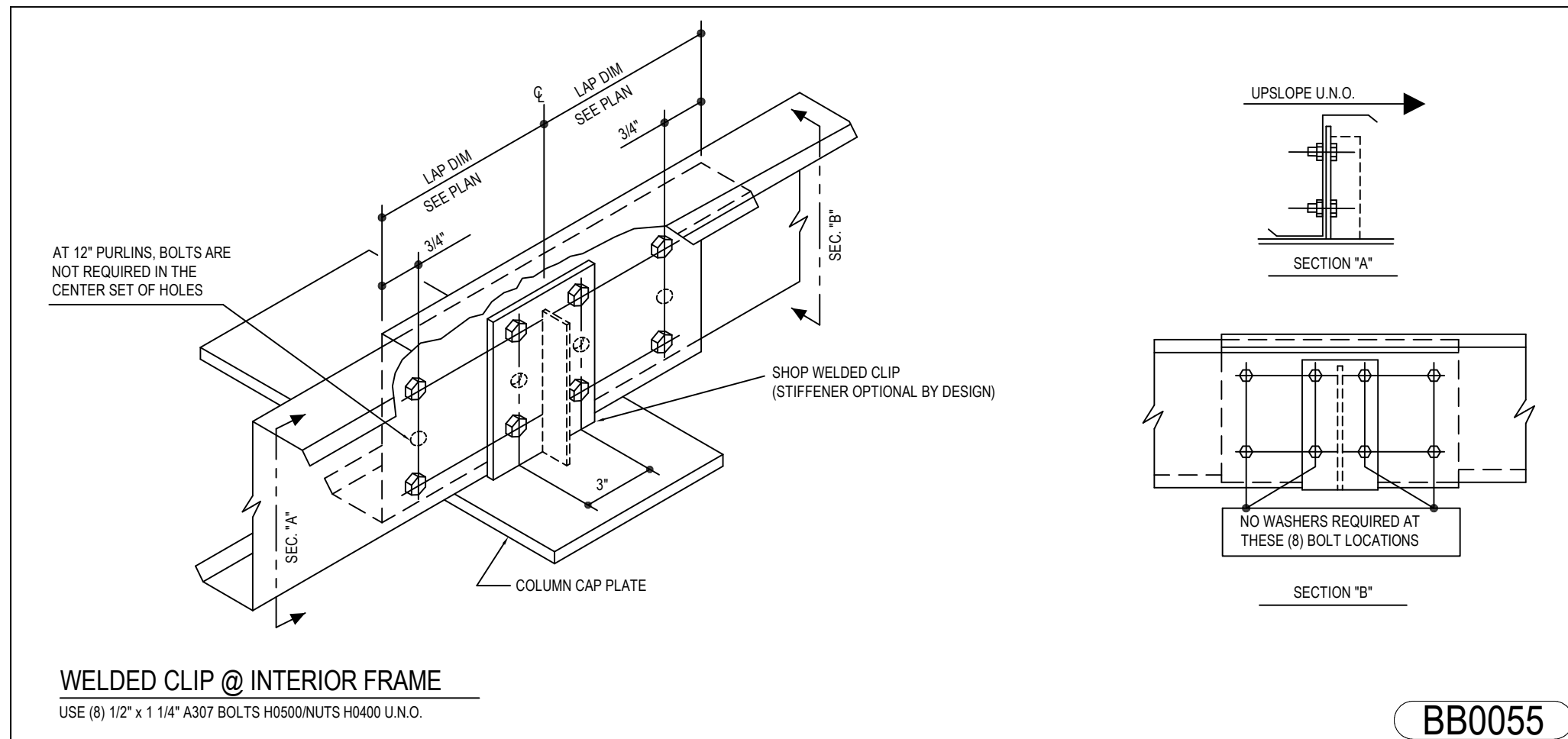




NOTE:
 DRIFT BAY ADDITION BUILDING FRAME DESIGNED TO TAKE VERTICAL LOADING ONLY FROM EXISTING BUILDING. DRIFT BAY ADDITION BUILDING HAS NOT BEEN DESIGNED TO TAKE ANY LONGITUDINAL LOADING FROM THE EXISTING BUILDING.

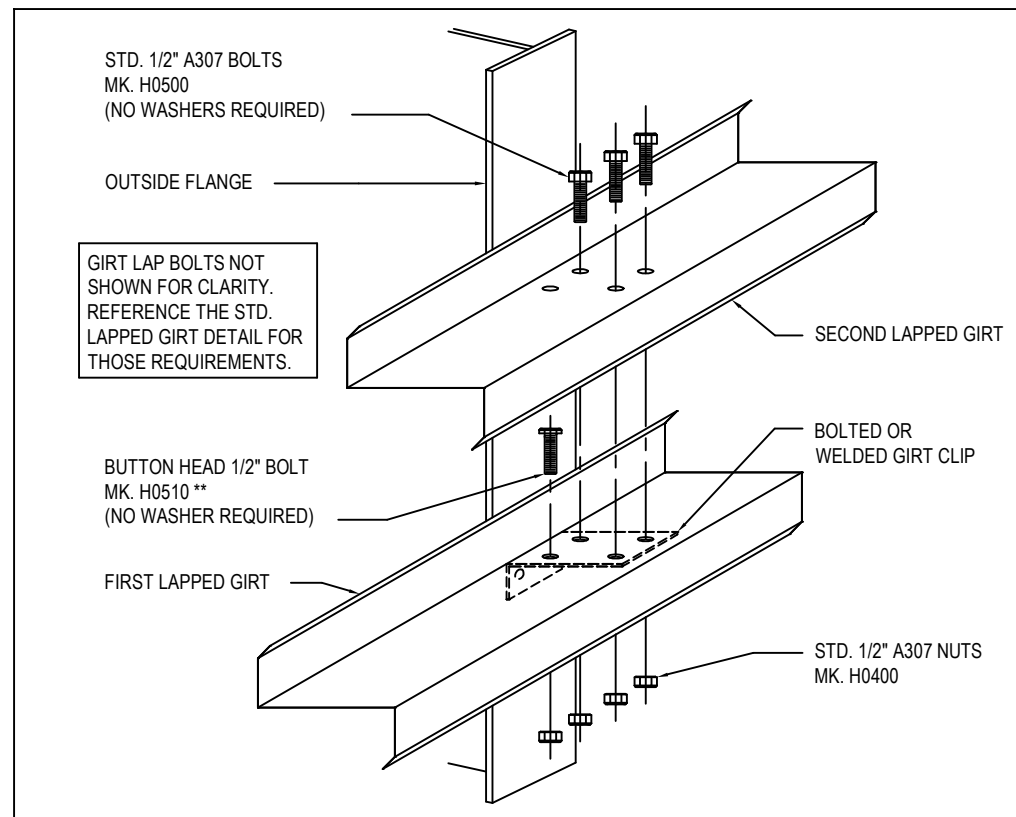






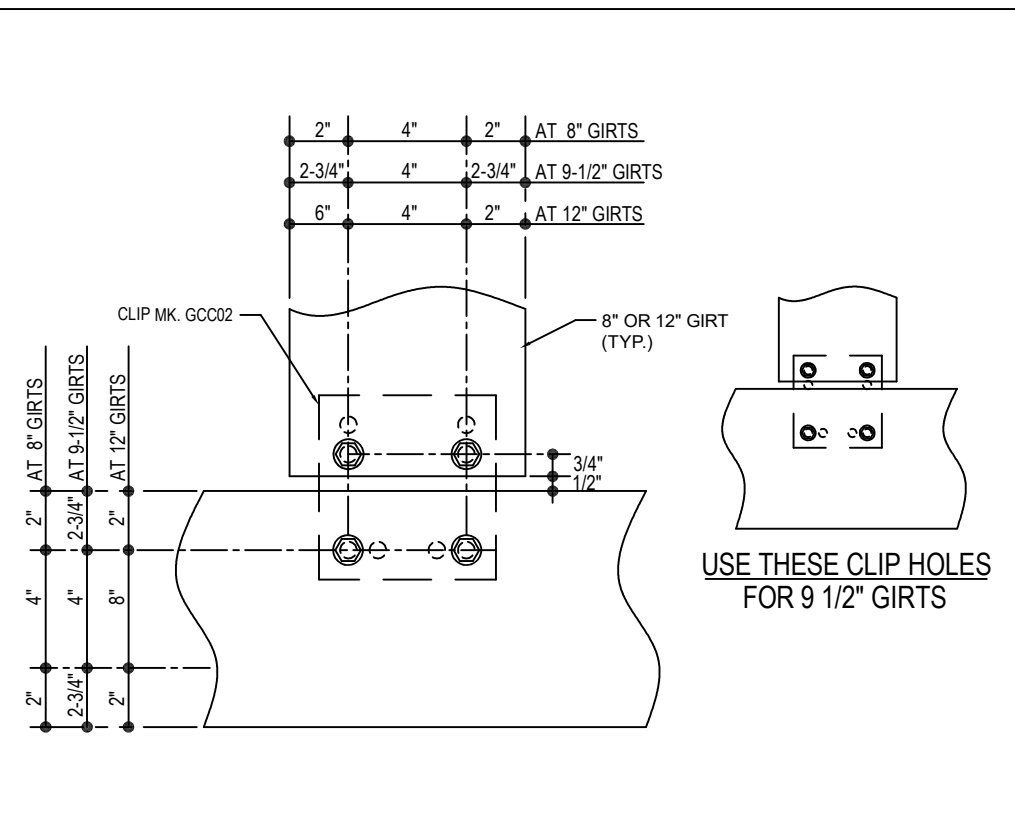
MEMBER: K2304354A
 ADDRESS: MARION, OH 43302
 PROJECT NAME: RENTALS ADDITION - NO CRANES
 CLIENT: STEVENS CONSTRUCTION CO., INC.
 DRAWING NO: 18P-0828281-02
 DATE: 08/09/2023
 PREPARED BY: GREGORY W. STERN
 CHECKED BY: GREGORY W. STERN
 APPROVED BY: GREGORY W. STERN
 PROFESSIONAL ENGINEER

STATE OF OHIO
 HAROLD WAYNE GREGORY
 08/09/2023
 PROFESSIONAL ENGINEER



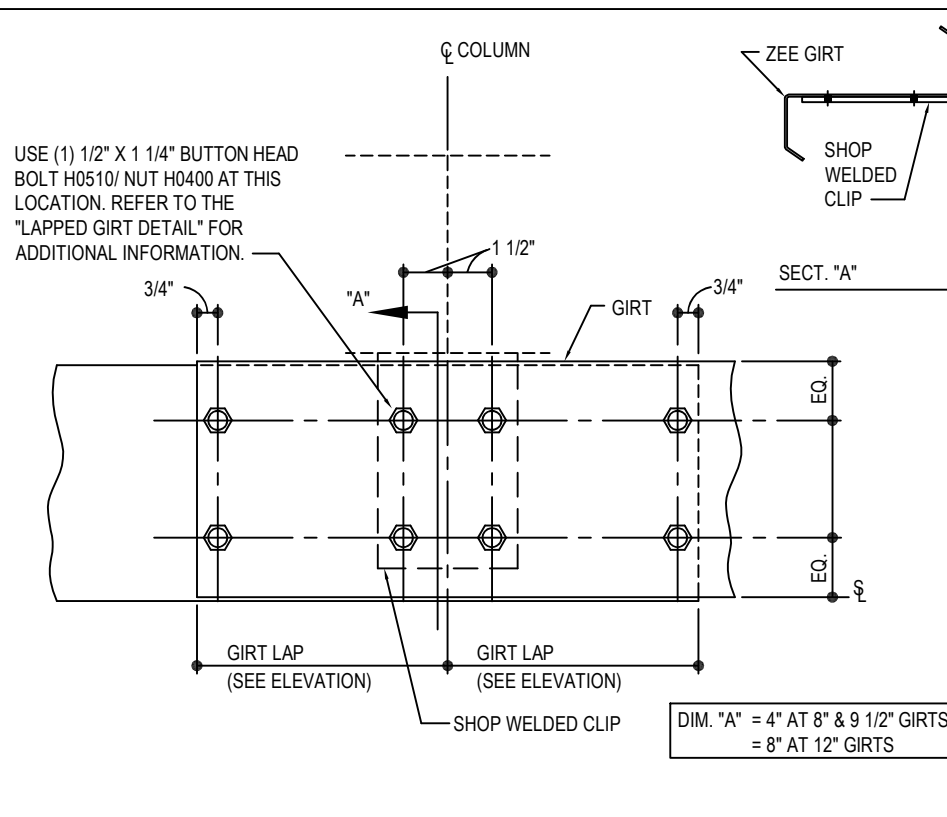
LAPPED GIRT DETAIL
 LAPPED GIRTS @ INTERIOR BAY COLUMNS
 **THE BUTTON HEAD 1/2" A307 BOLT MUST BE INSTALLED INTO THE FIRST GIRT AND CLIP OF A LAPPED CONDITION. THE BOLT/NUT ASSEMBLY MUST BE WRENCH TIGHT PRIOR TO THE SECOND LAPPED GIRT BEING INSTALLED.

CC0006



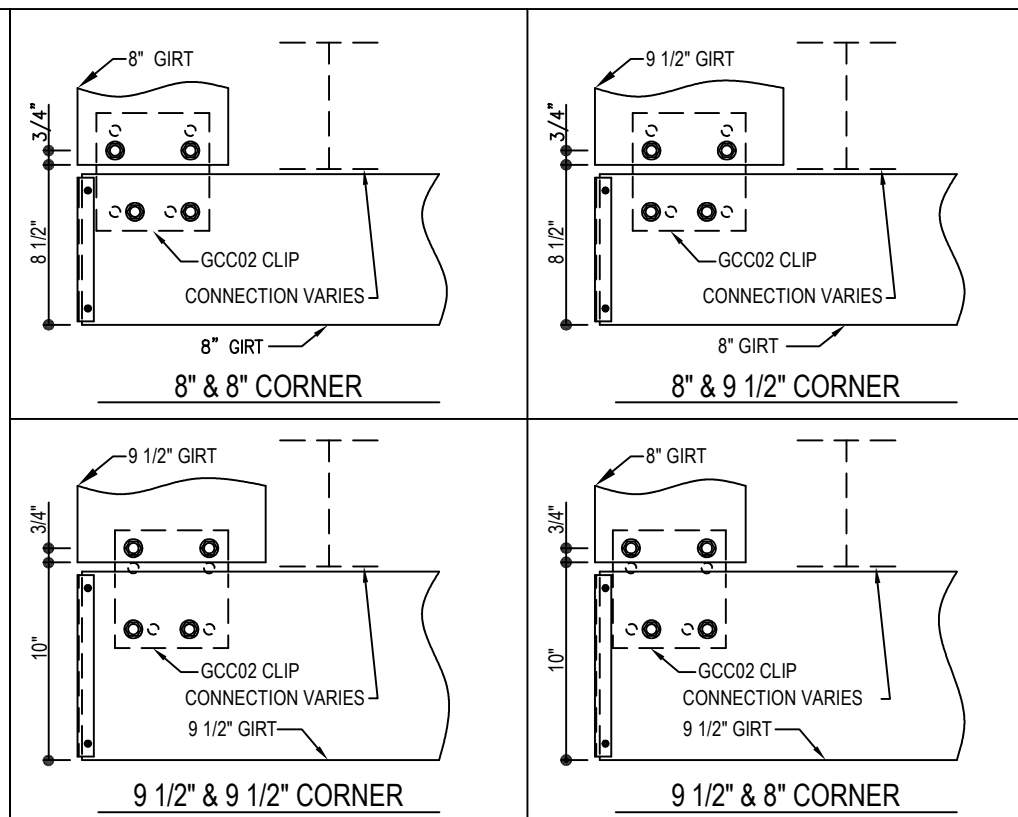
GIRT TO GIRT DETAIL
 GIRT TO GIRT CONNECTION DETAIL
 NOTE: USE (4) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
 REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CJ0005



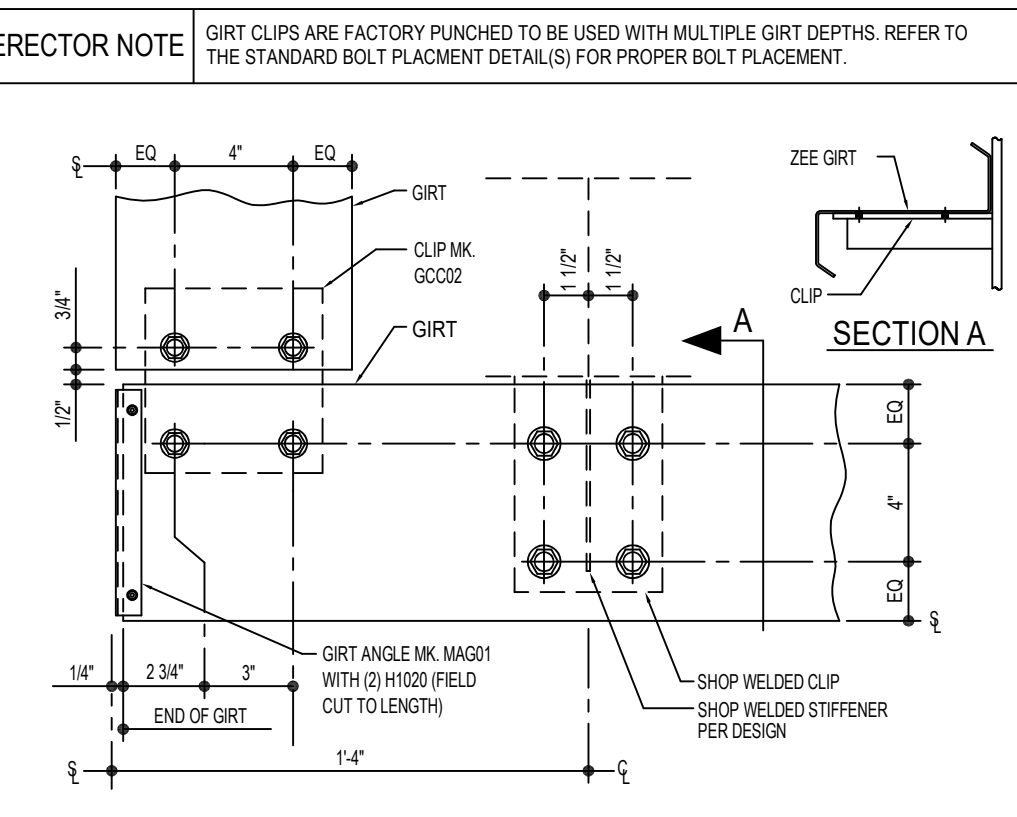
SW OR EW GIRTS DETAIL
 LAPPED BYPASS GIRTS AT INTERIOR BAY COLUMNS
 NOTE: USE (1) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
 REFERENCE ERECTOR NOTE FOR TYPICAL WASHER REQUIREMENTS

CC1010



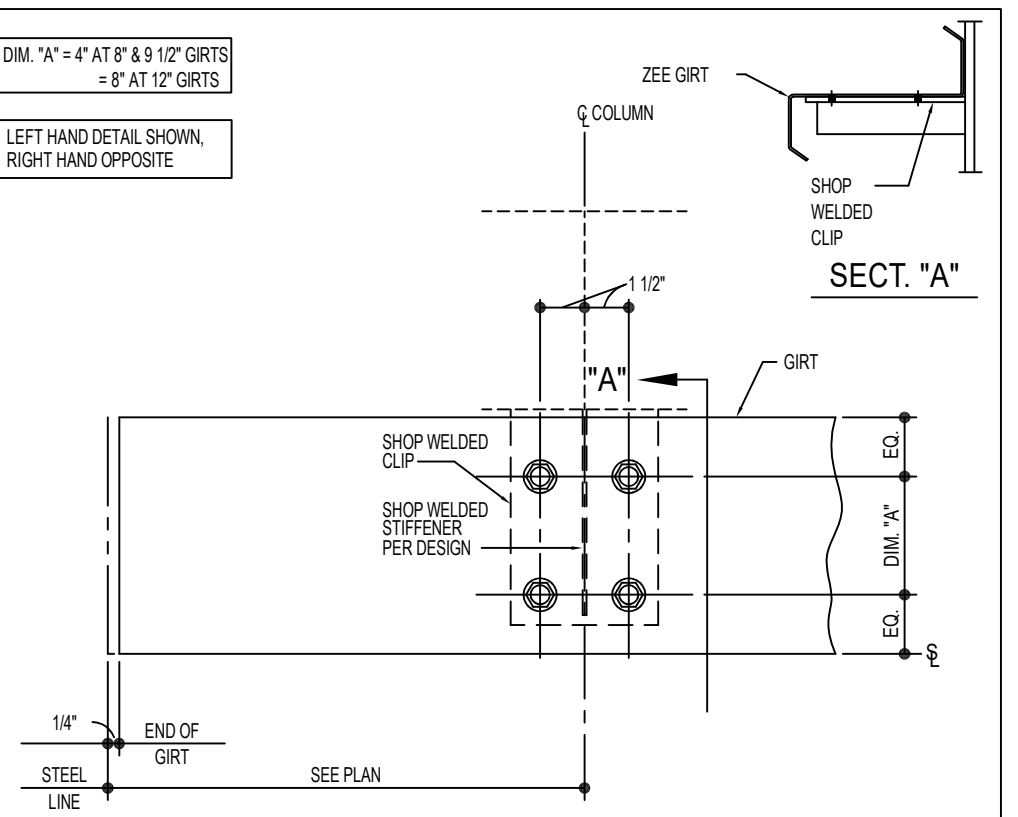
BYPASS GIRT BOLT PLACEMENT DETAIL
 REFERENCE WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS
 GIRT CLIPS ARE FACTORY PUNCHED TO BE USED WITH MULTIPLE GIRTS DETAILS. REFER TO THE DETAILS ABOVE TO DETERMINE WHICH HOLES ARE UTILIZED.

CF1001



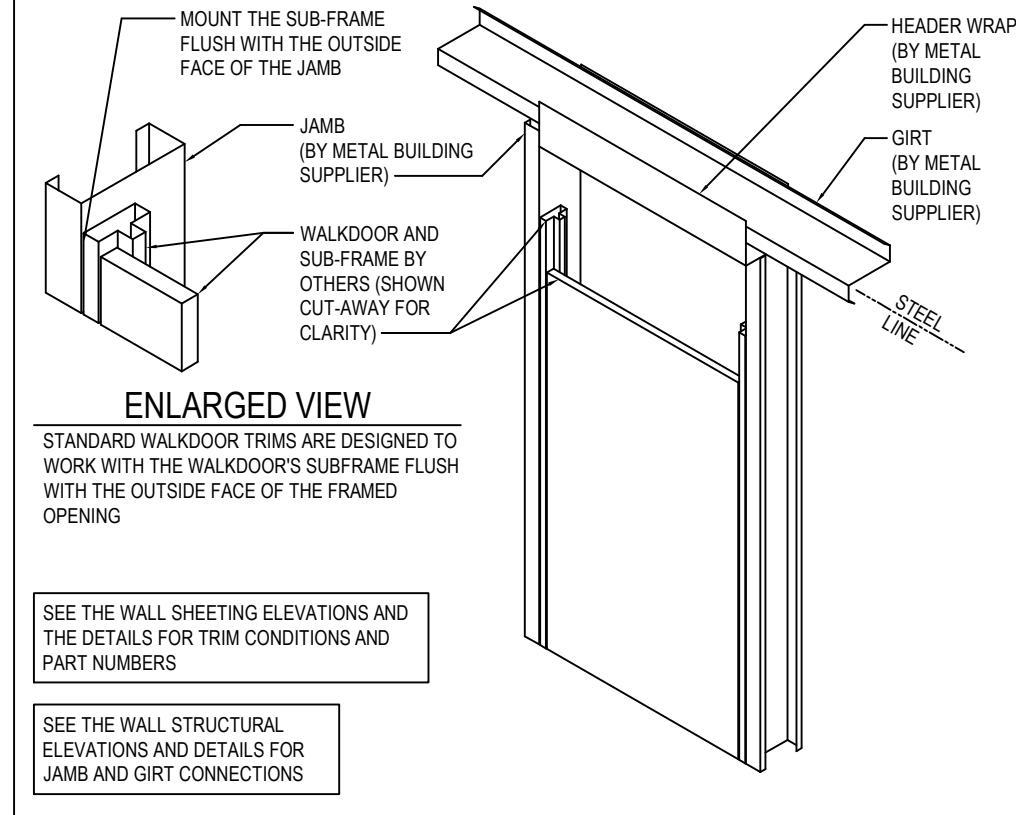
BYPASS GIRT CORNER DETAIL
 LEFT HAND DETAIL SHOWN, RIGHT HAND OPPOSITE
 NOTE: USE (8) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
 REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CF1010



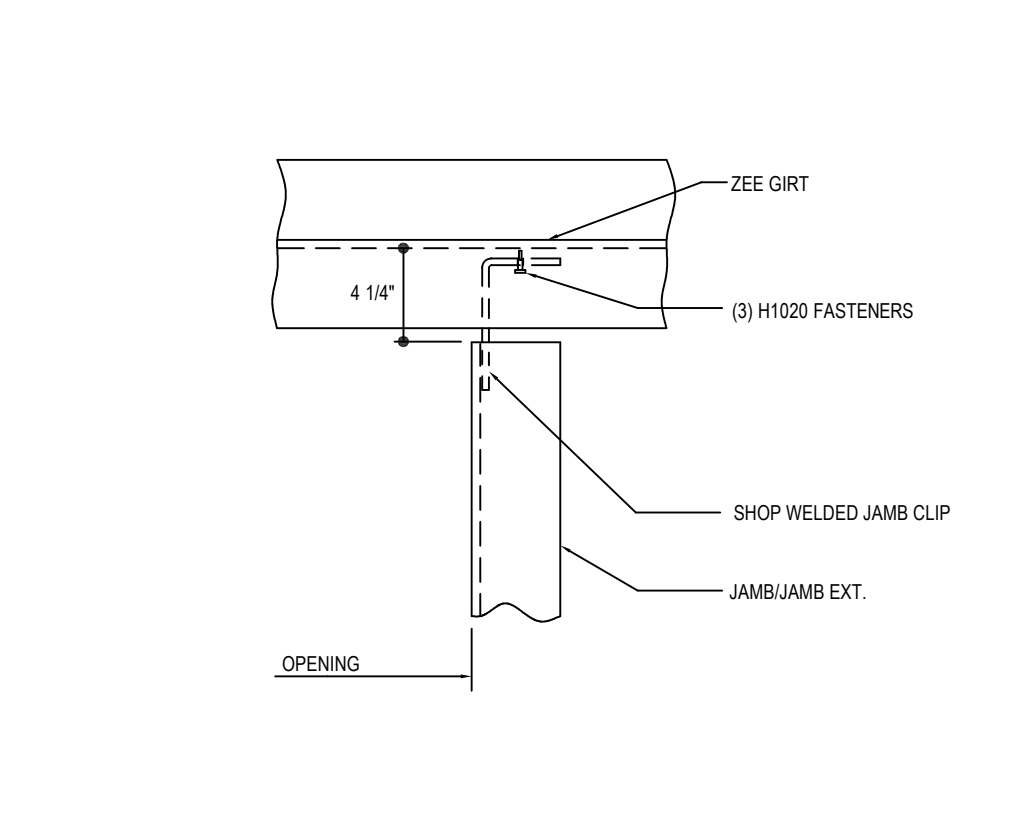
GIRT TERMINATION DETAIL
 LEFT HAND DETAIL SHOWN, RIGHT HAND OPPOSITE
 NOTE: USE (4) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
 REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CF1200



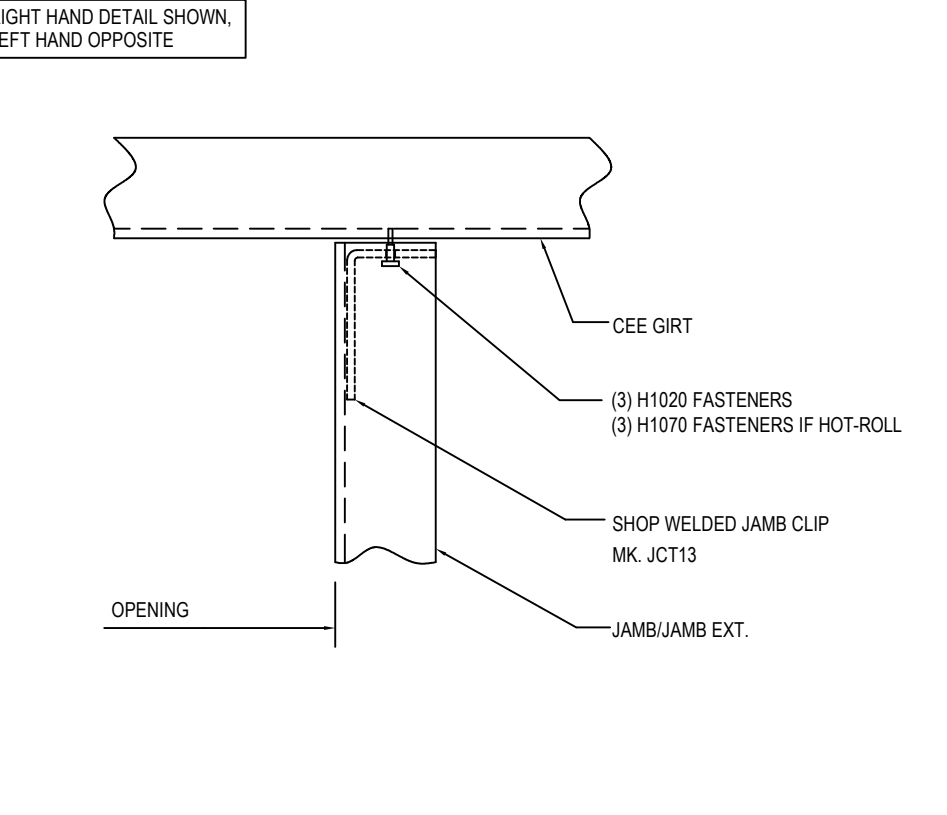
WALKDOOR FRAMED OPENING DETAIL
 (WALKDOOR PROVIDED BY OTHERS)
 SEE THE WALL ELEVATIONS FOR JAMB AND GIRTS PART NUMBERS

CG0016



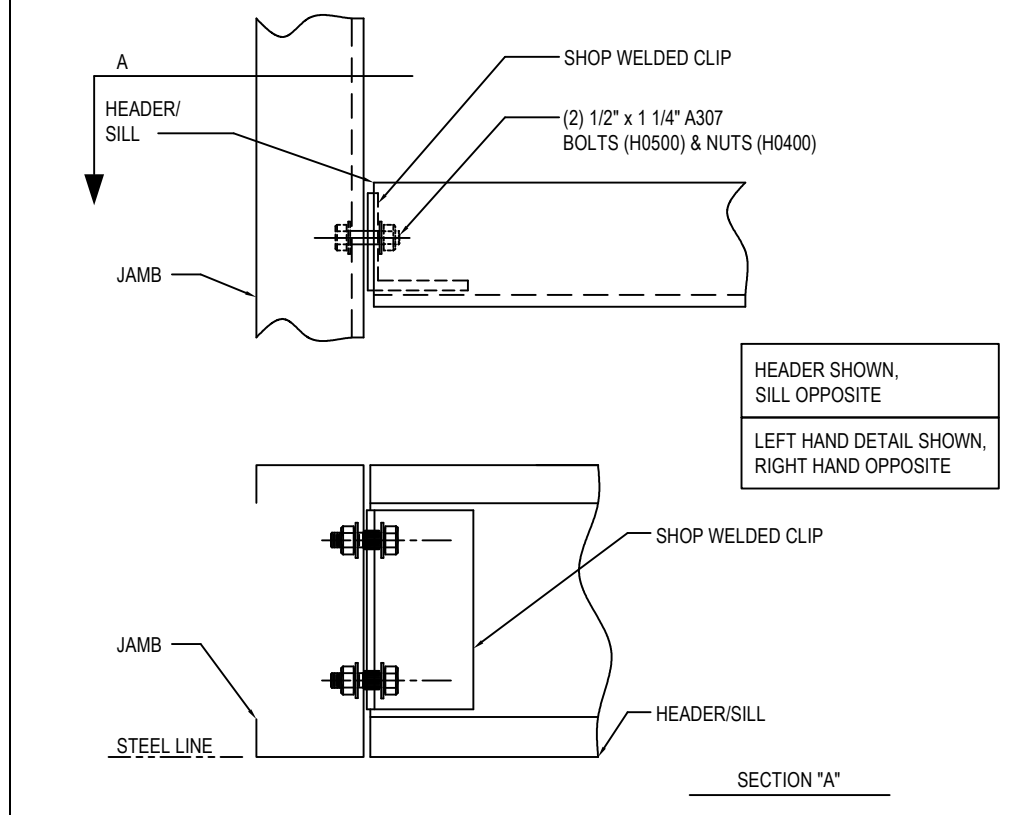
TYPICAL JAMB/JAMB EXT. DETAIL (WELDED)
 JAMB TO ZEE GIRT WITHOUT INTERMEDIATE GIRT

CG1017



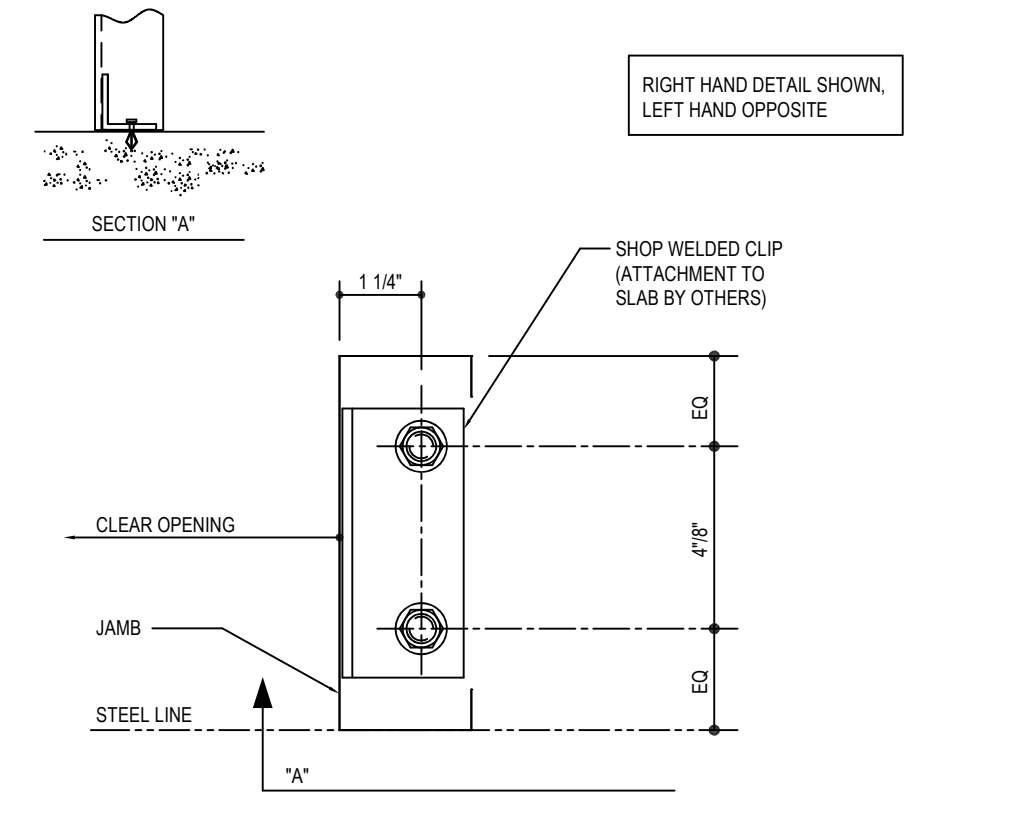
TYPICAL JAMB/JAMB EXT. DETAIL (WELDED)
 COLD-FORMED JAMB AT CEE GIRT WITHOUT INTERMEDIATE GIRT

CG1019



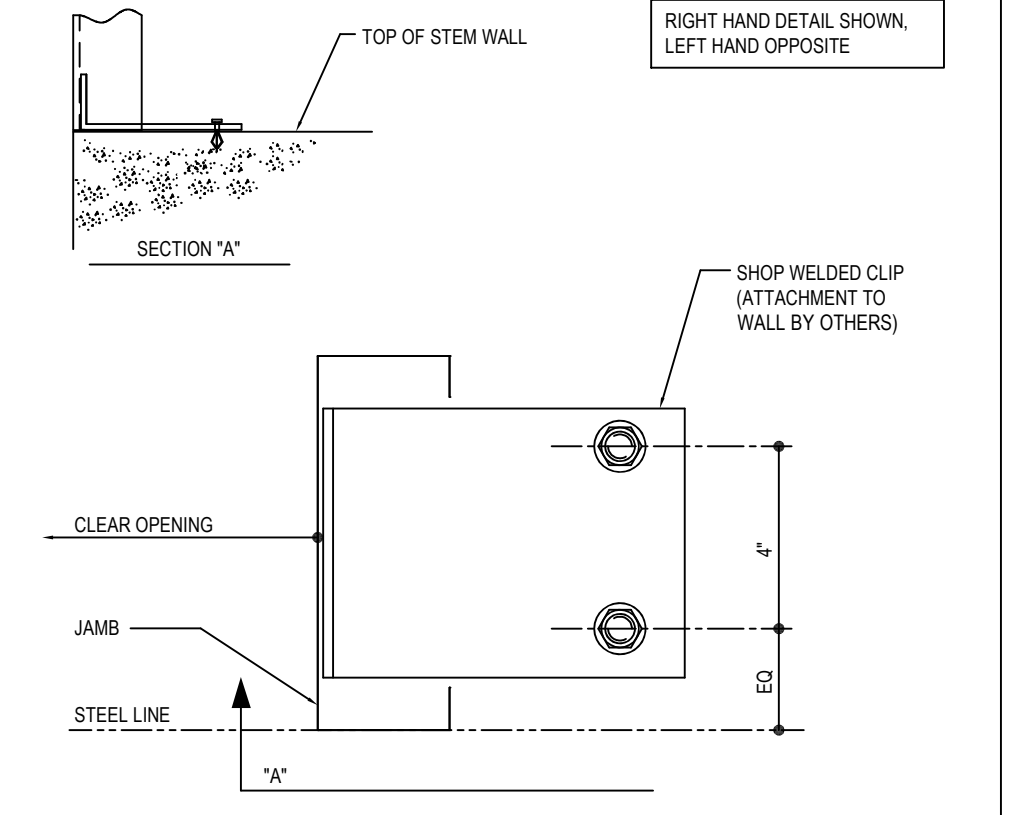
HEADER/SILL TO JAMB CONNECTION (WELDED)
 NOTE: USE (2) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
 REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CG1050



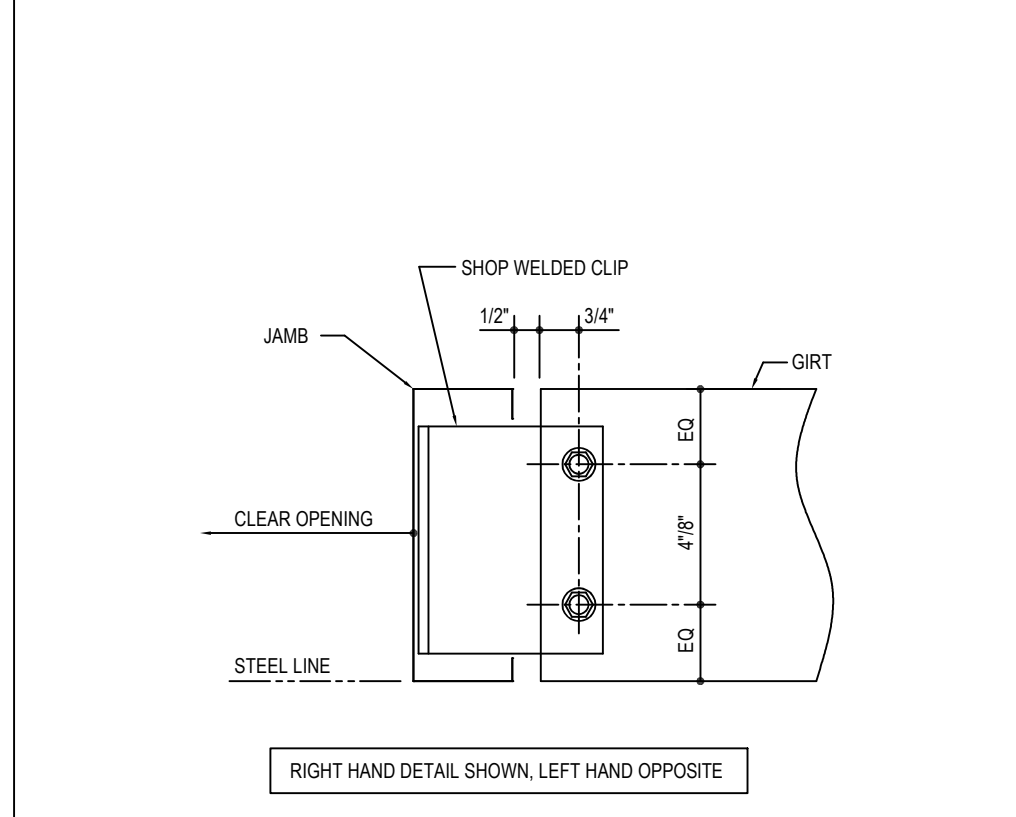
JAMB TO FINISHED FLOOR CONNECTION (WELDED)

CG1030



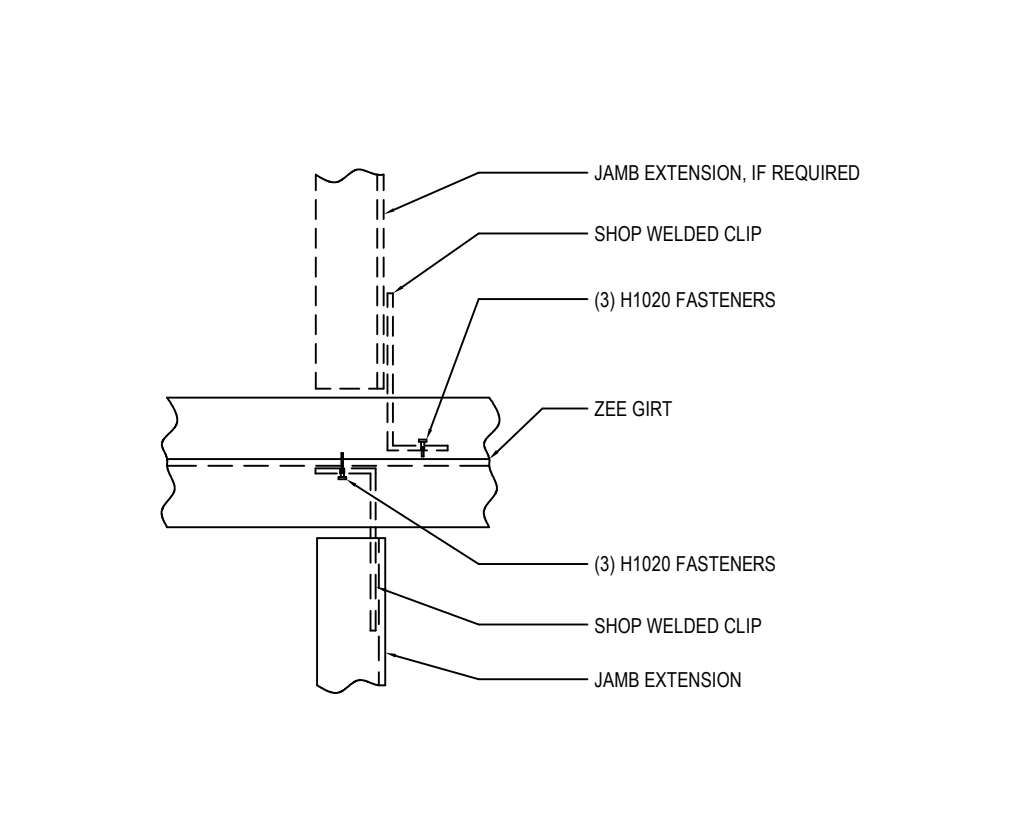
JAMB TO STEM WALL CONNECTION (WELDED)

CG1039



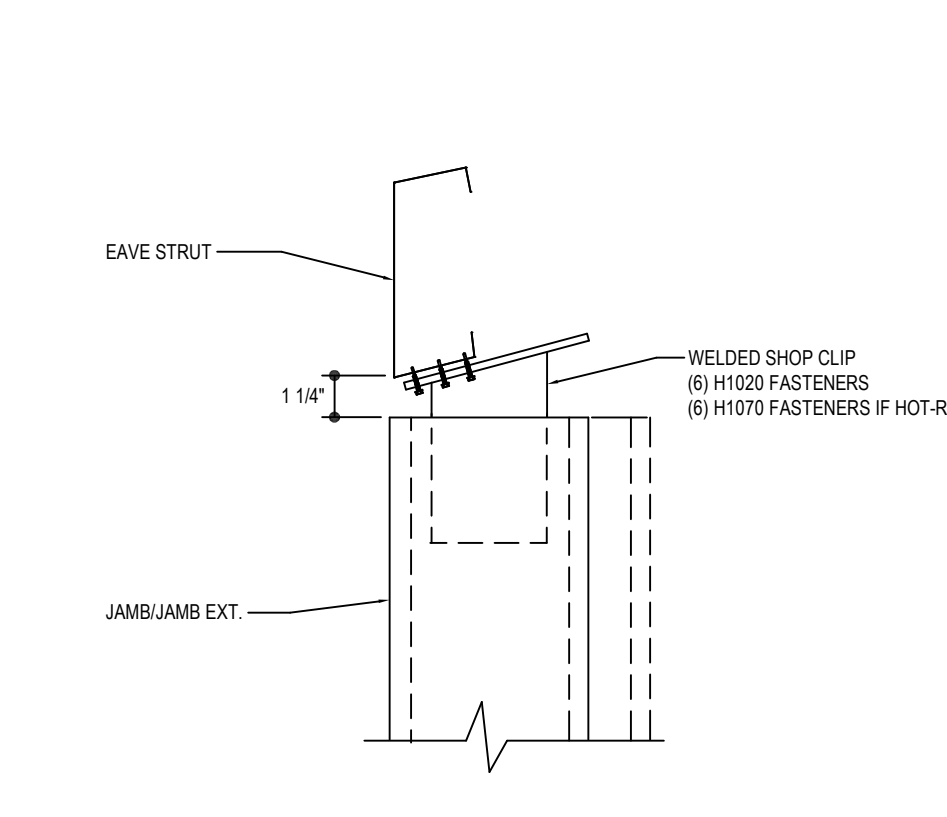
GIRT TO JAMB CONNECTION (WELDED)
 NOTE: USE (2) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
 REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CG1060



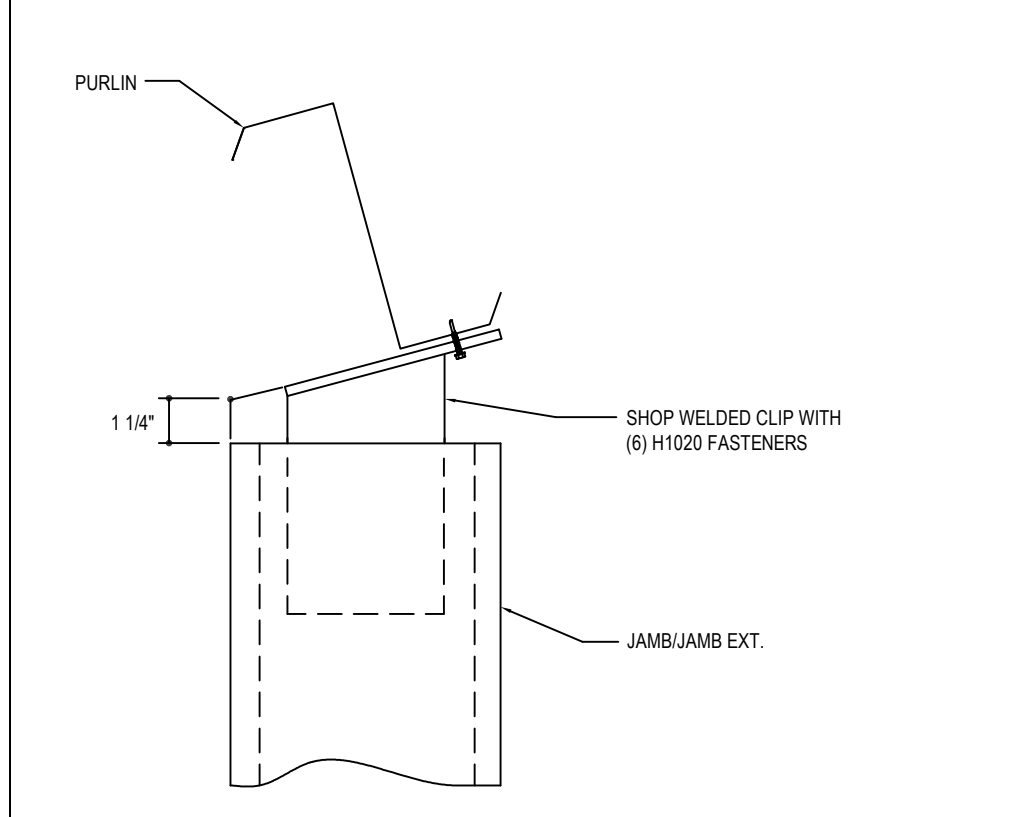
JAMB EXTENSION TO ZEE GIRT (WELDED)
 ZEE GIRTS CONNECTION

CG1058



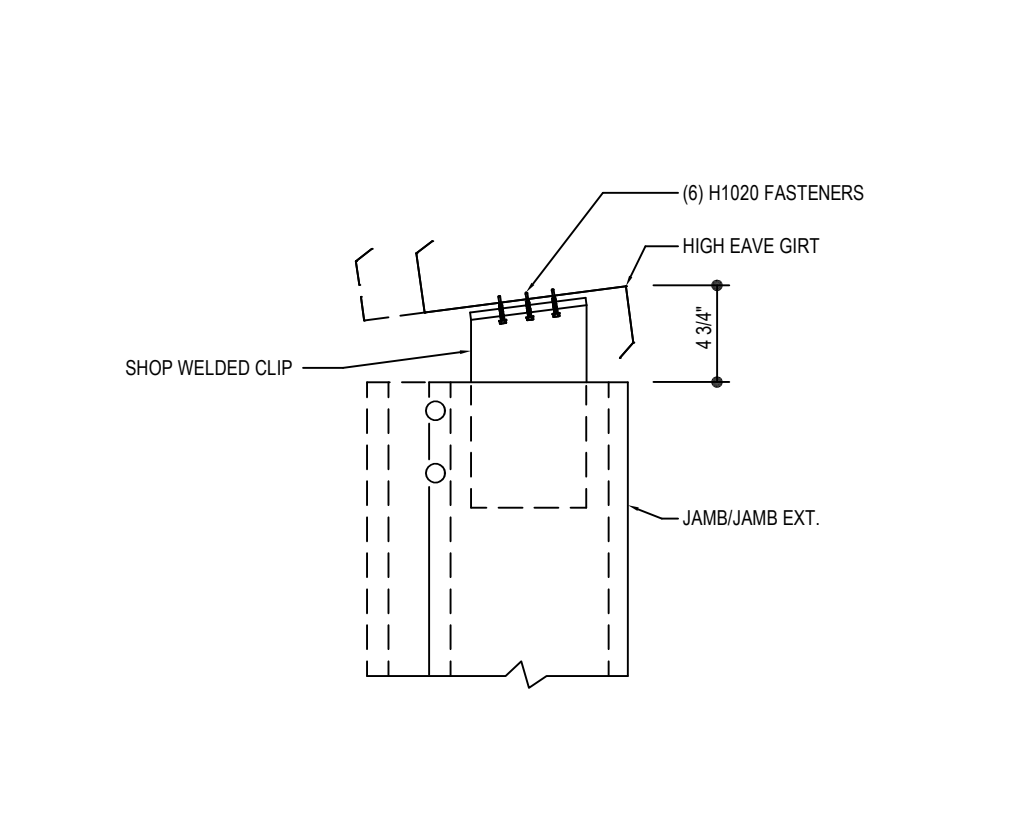
JAMB/JAMB EXT. TO EAVE STRUT (WELDED)

CG1085



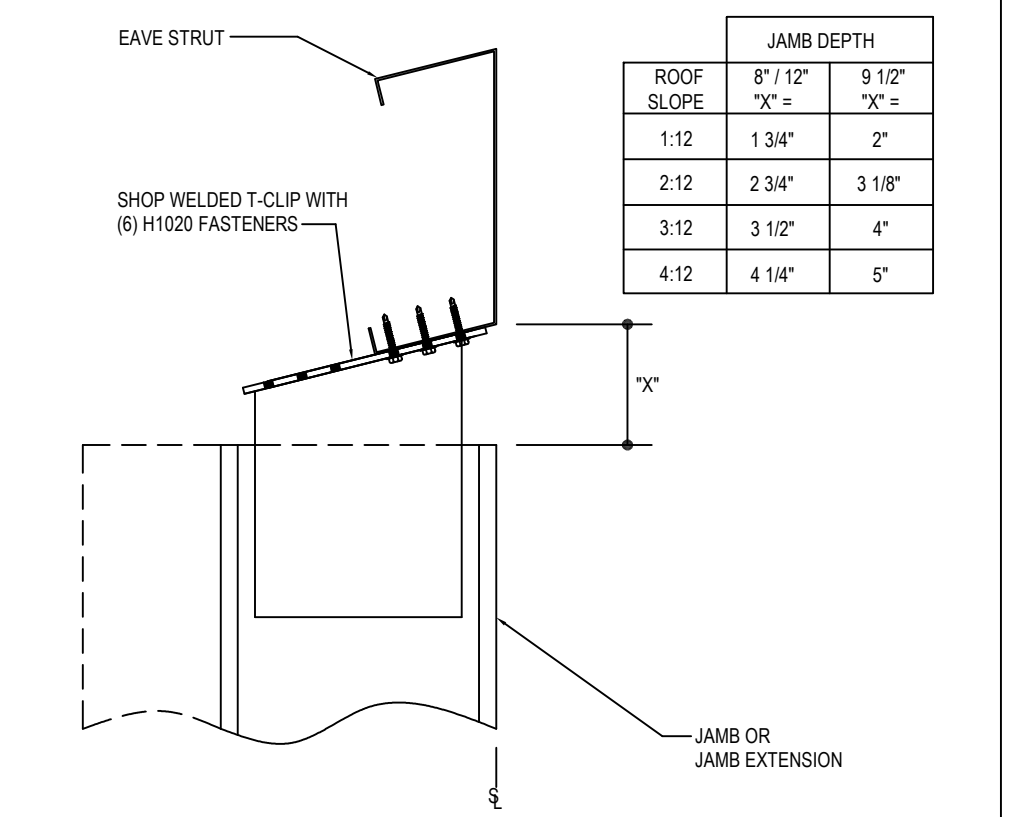
JAMB/JAMB EXT. TO LOW EAVE PURLIN (WELDED)

CG1105



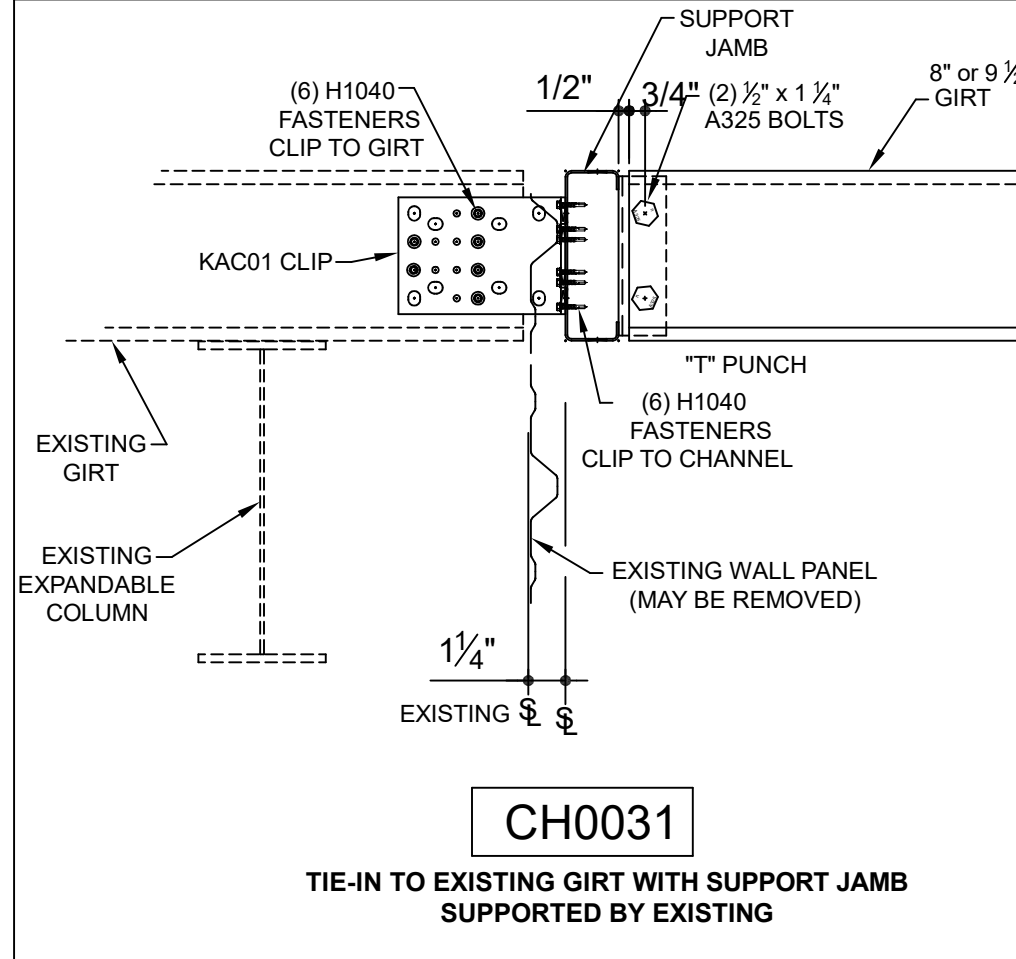
JAMB/JAMB EXT. TO HIGH EAVE GIRTS (WELDED)

CG1205



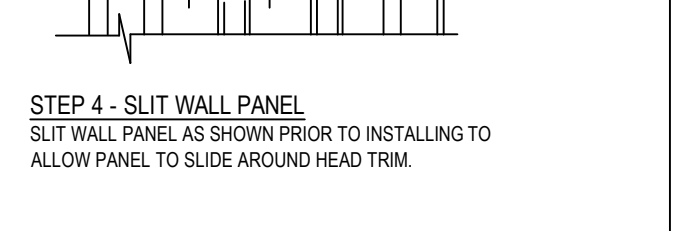
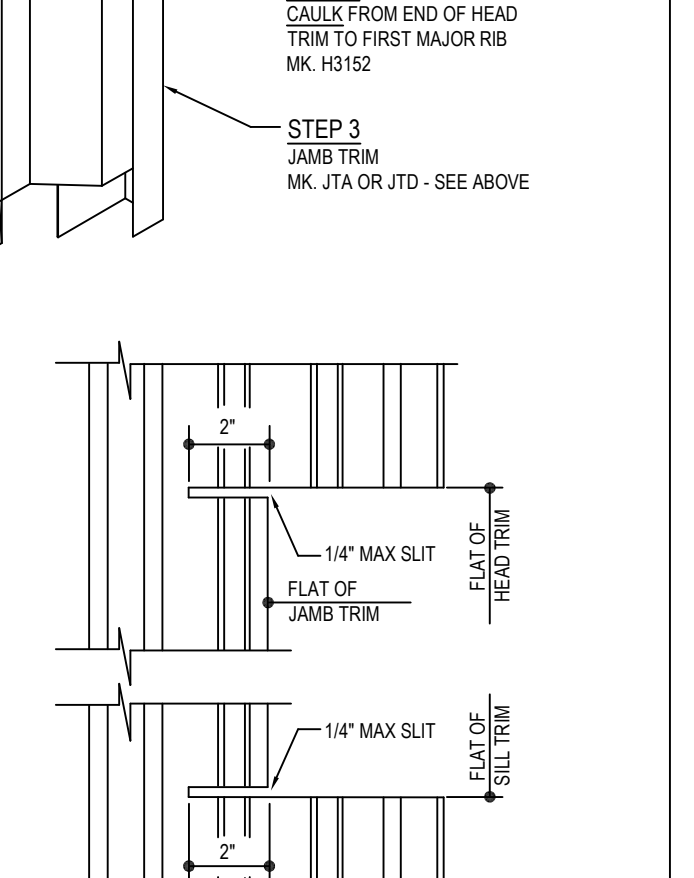
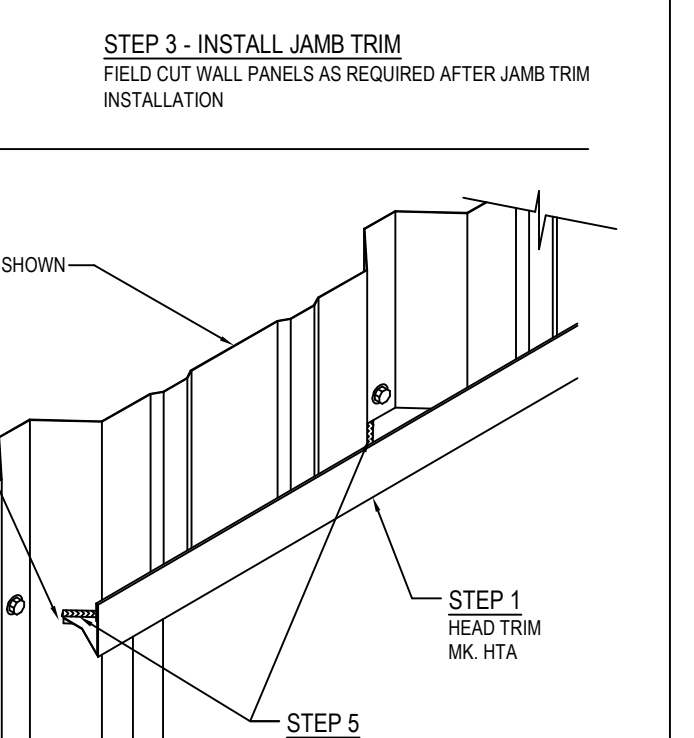
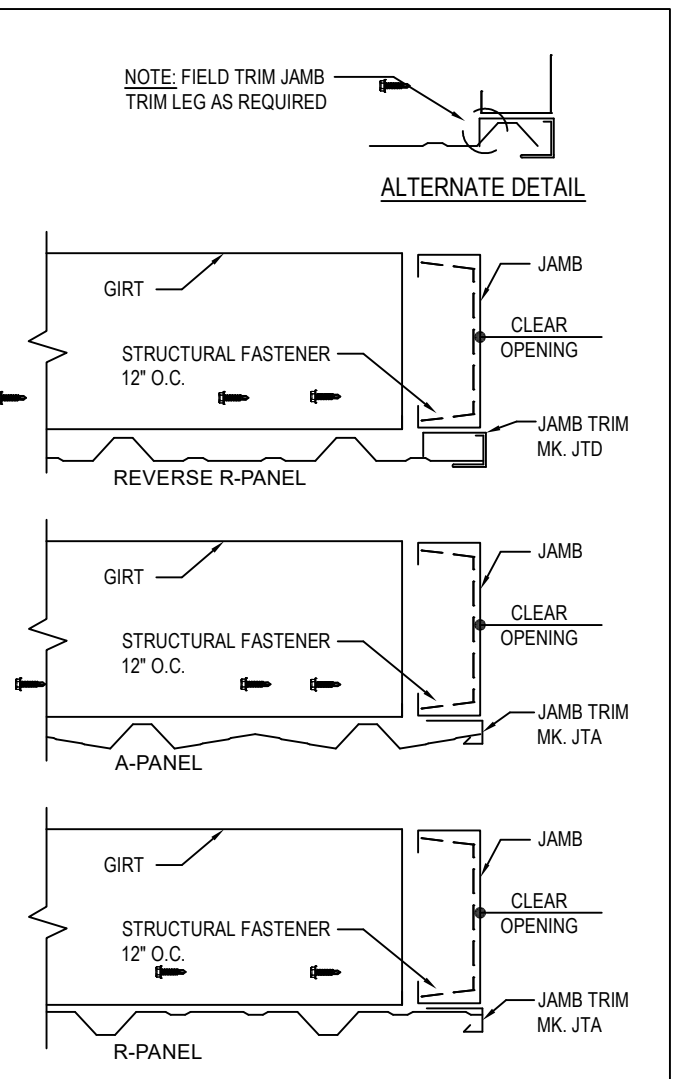
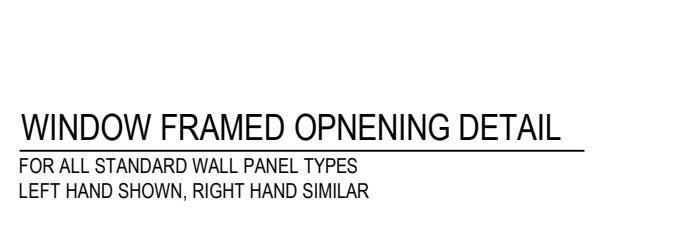
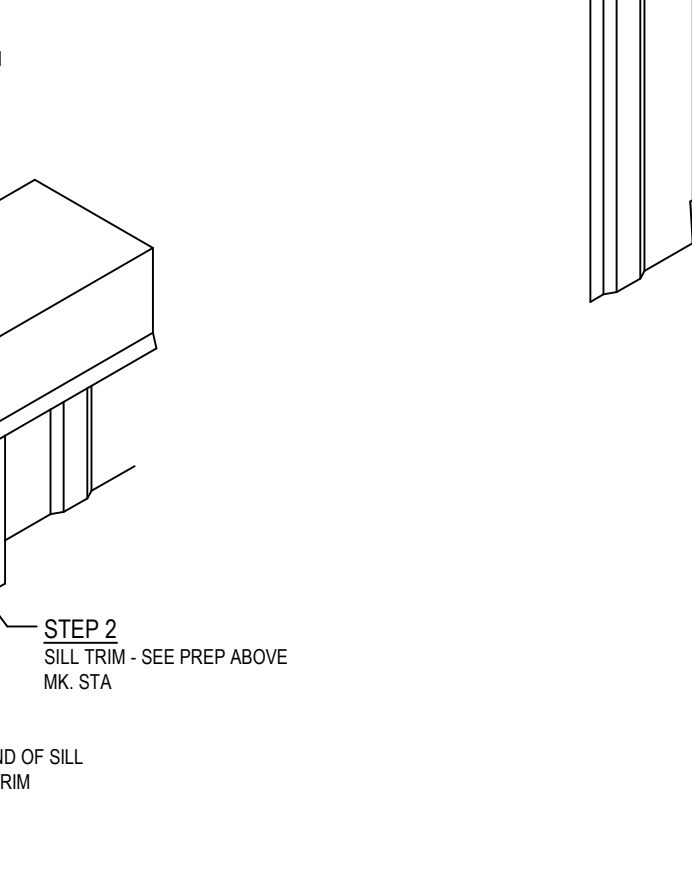
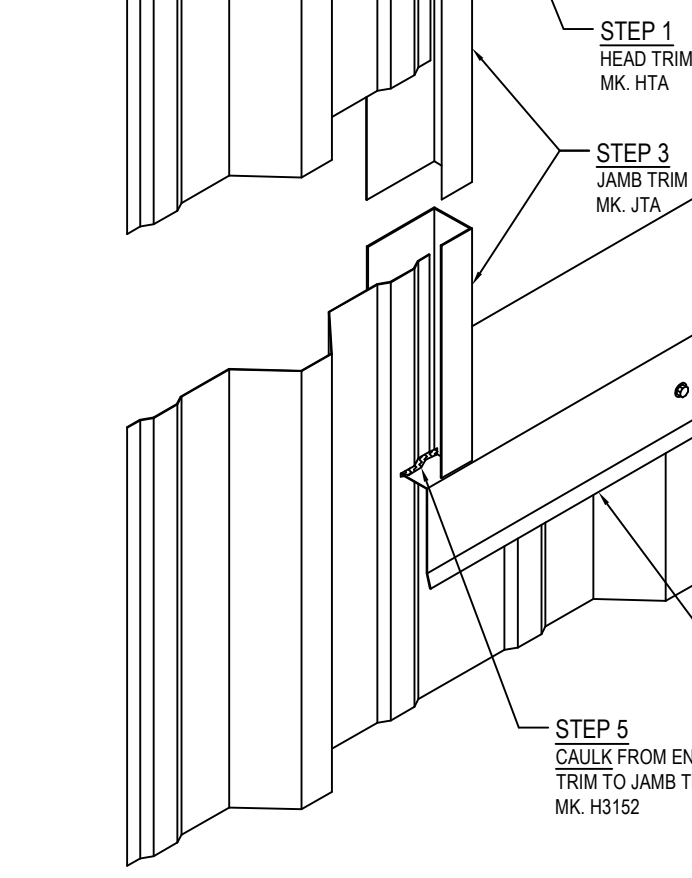
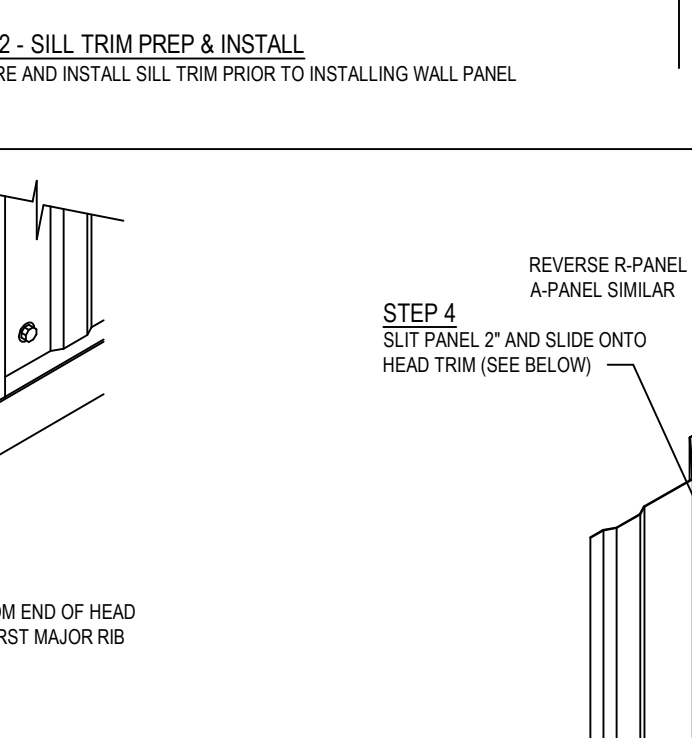
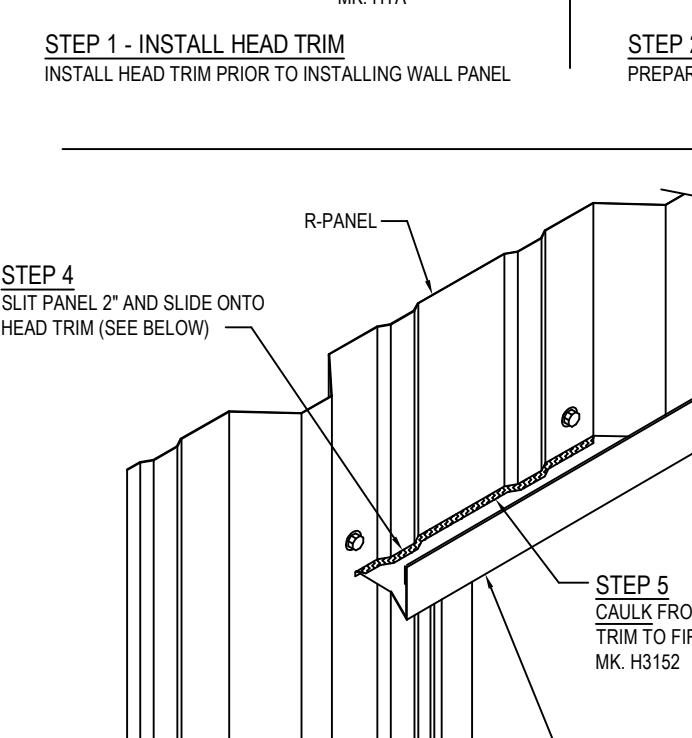
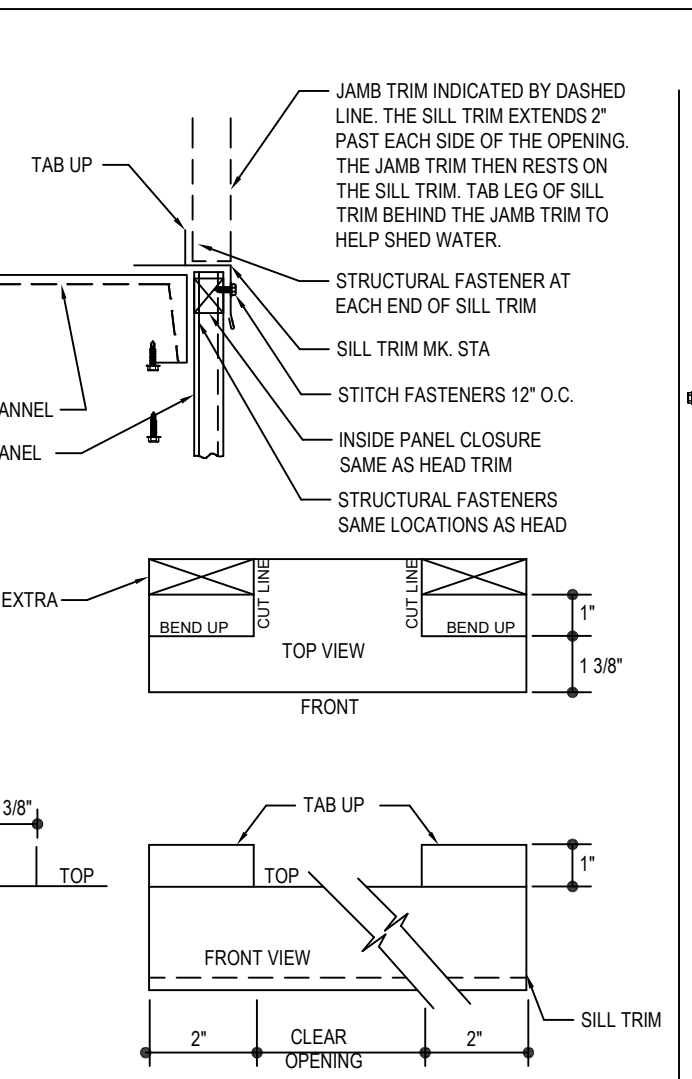
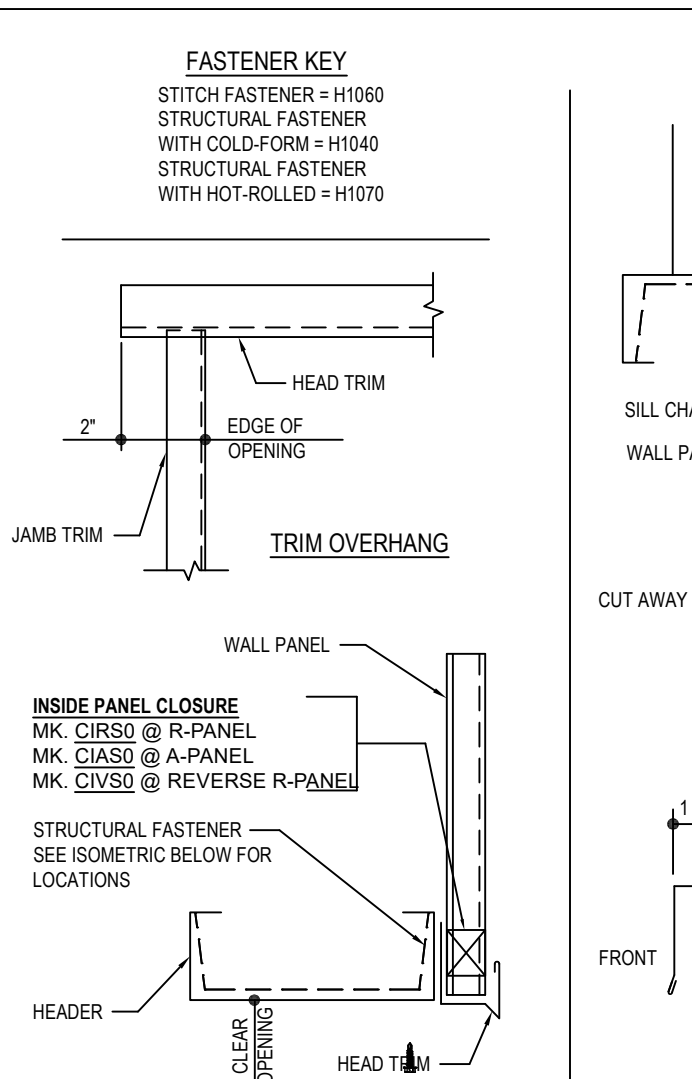
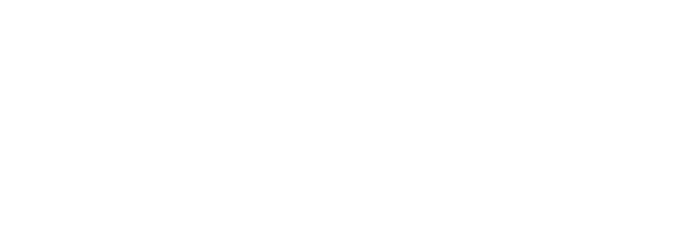
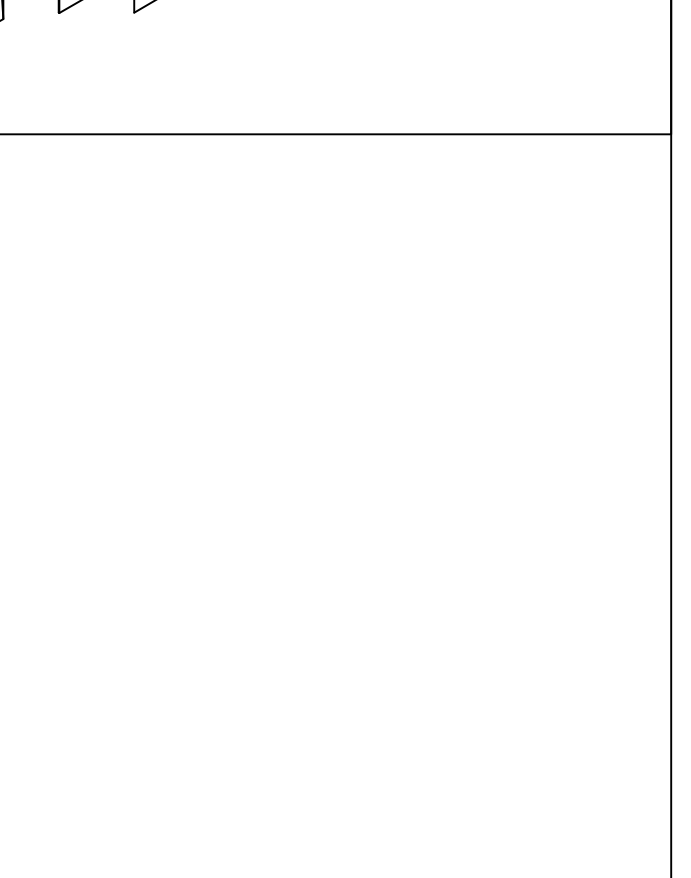
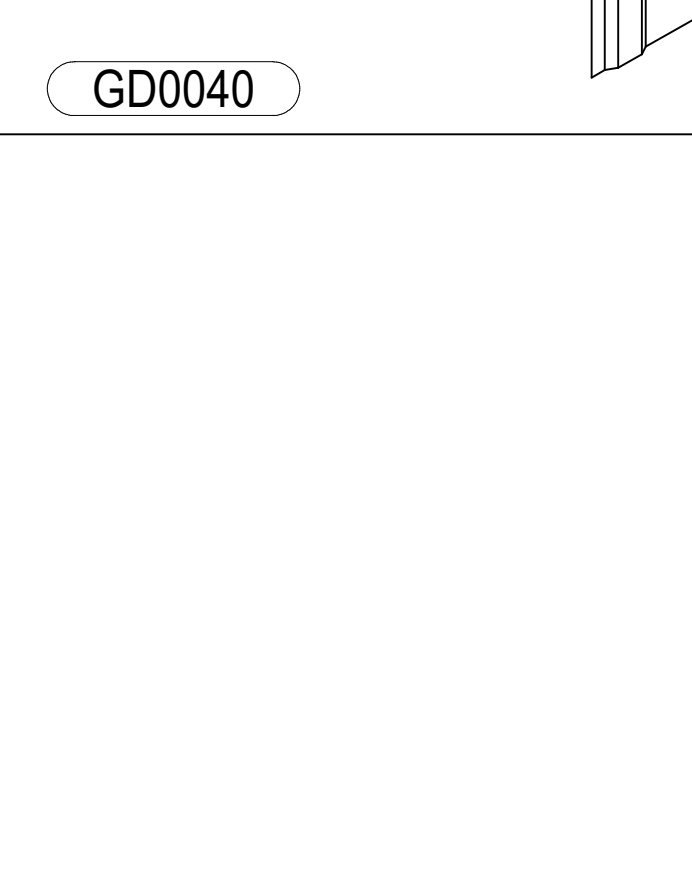
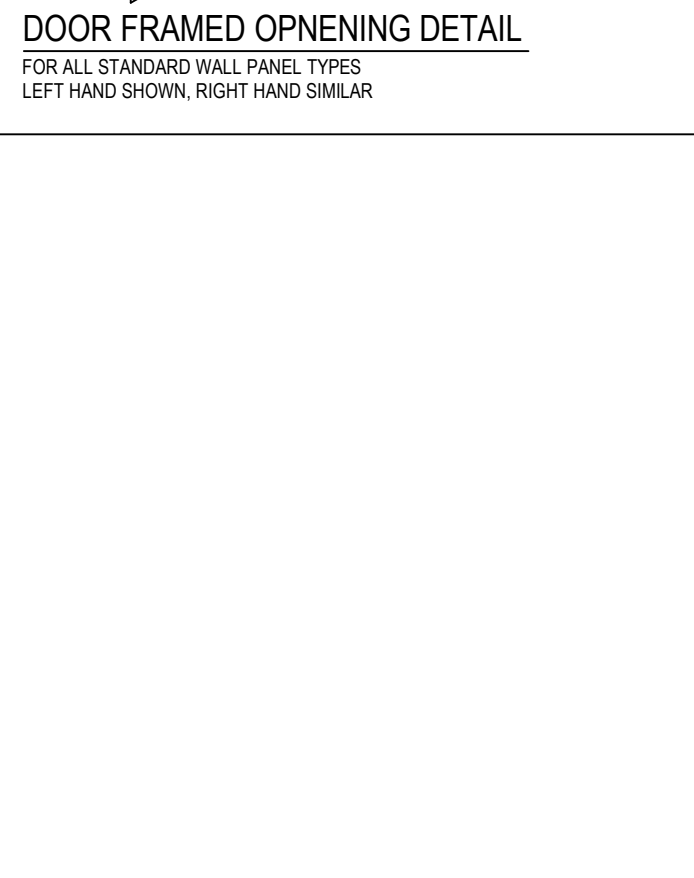
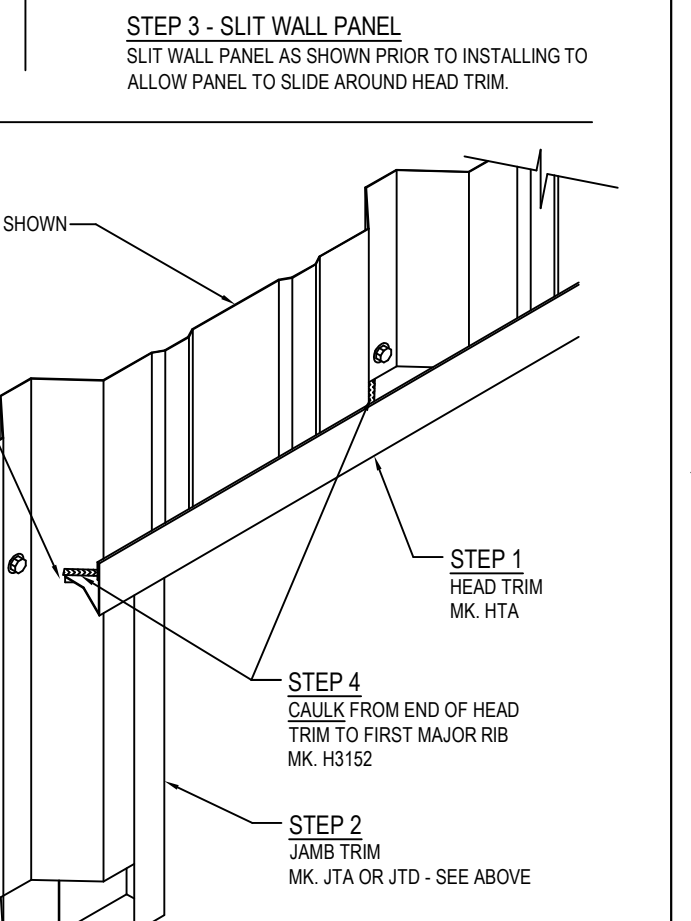
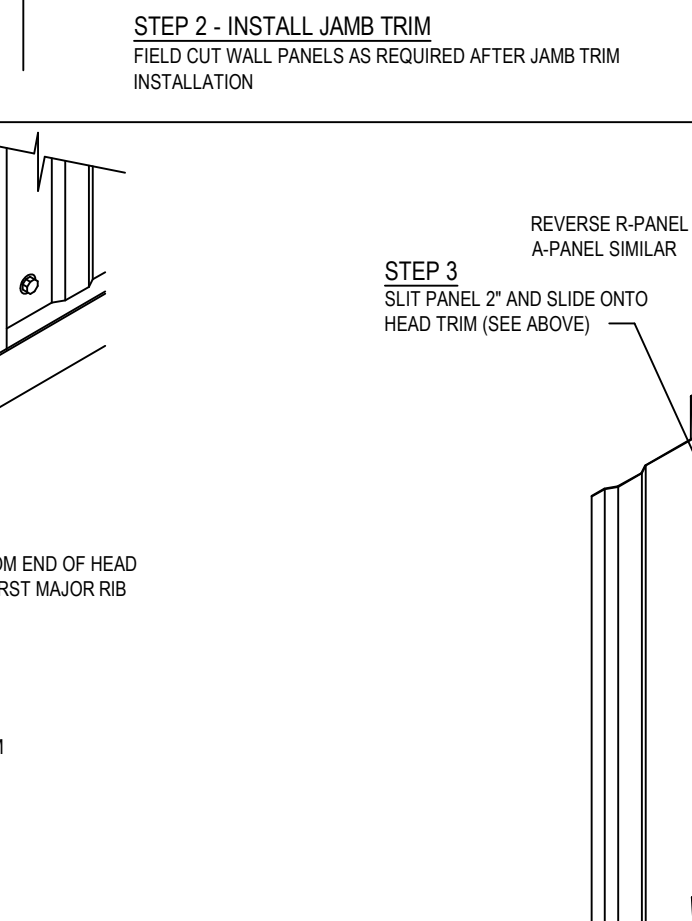
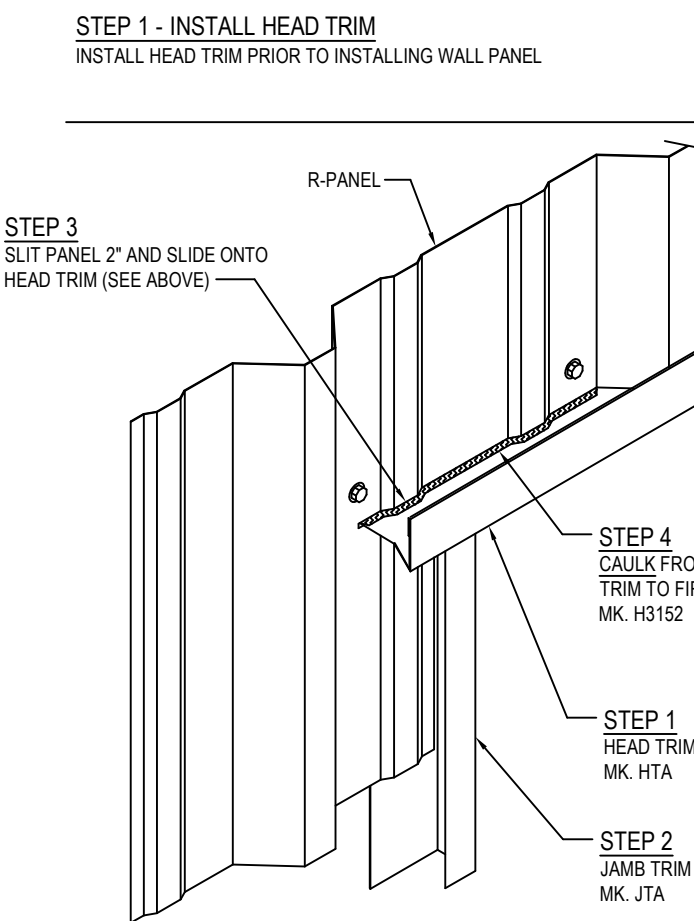
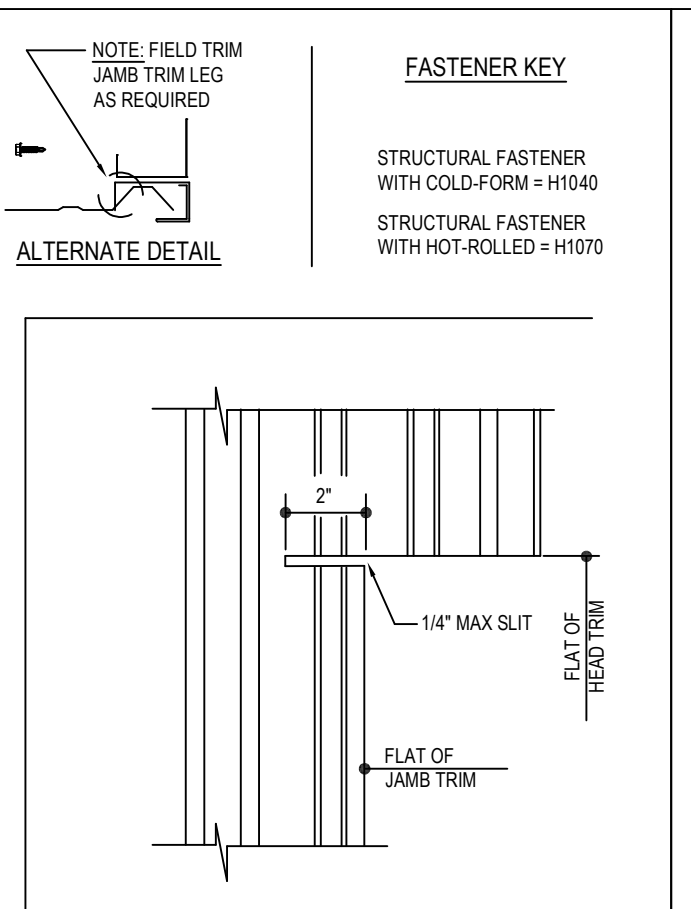
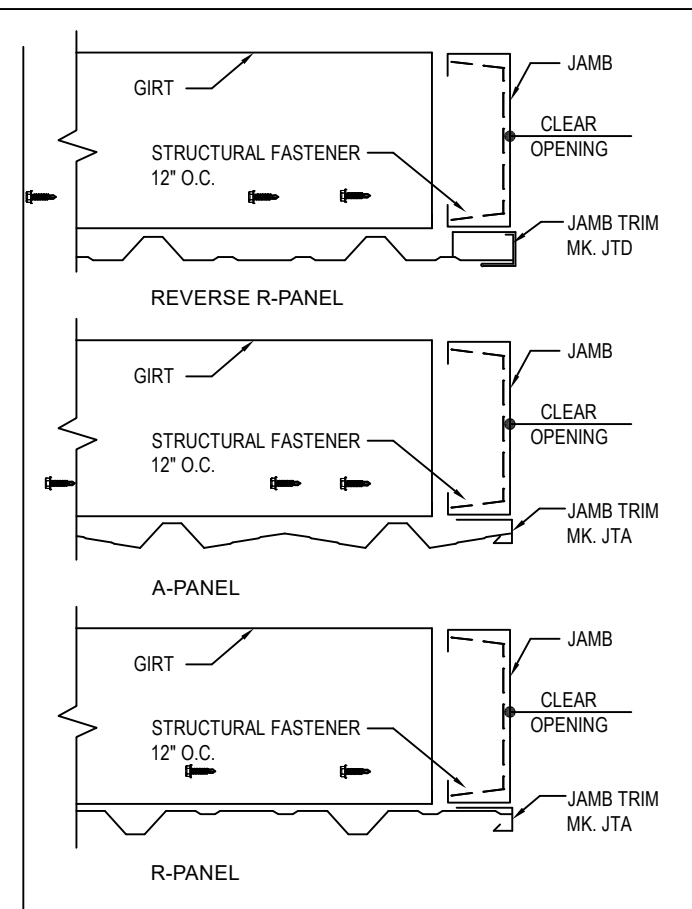
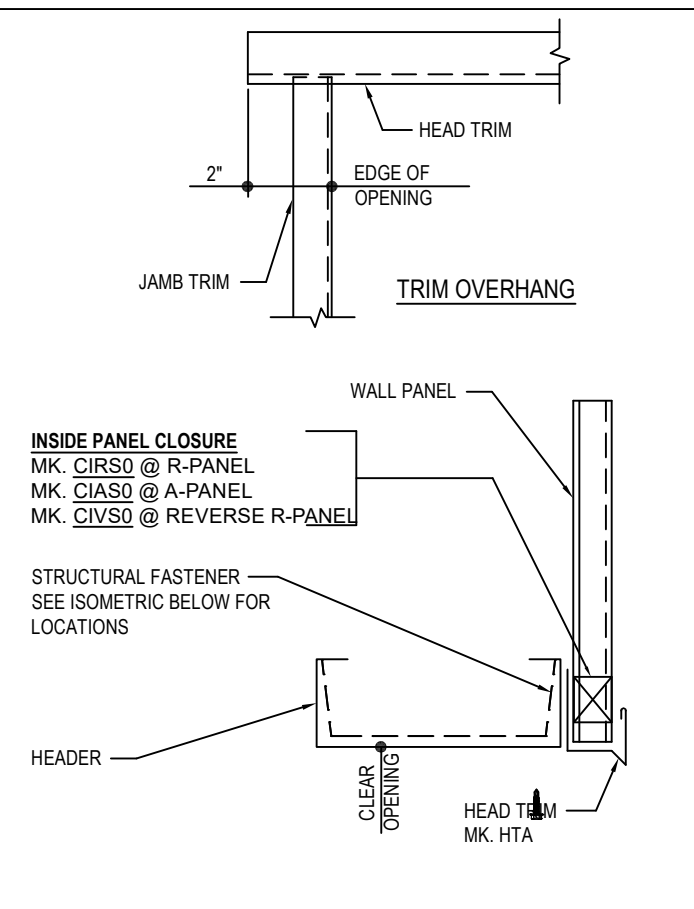
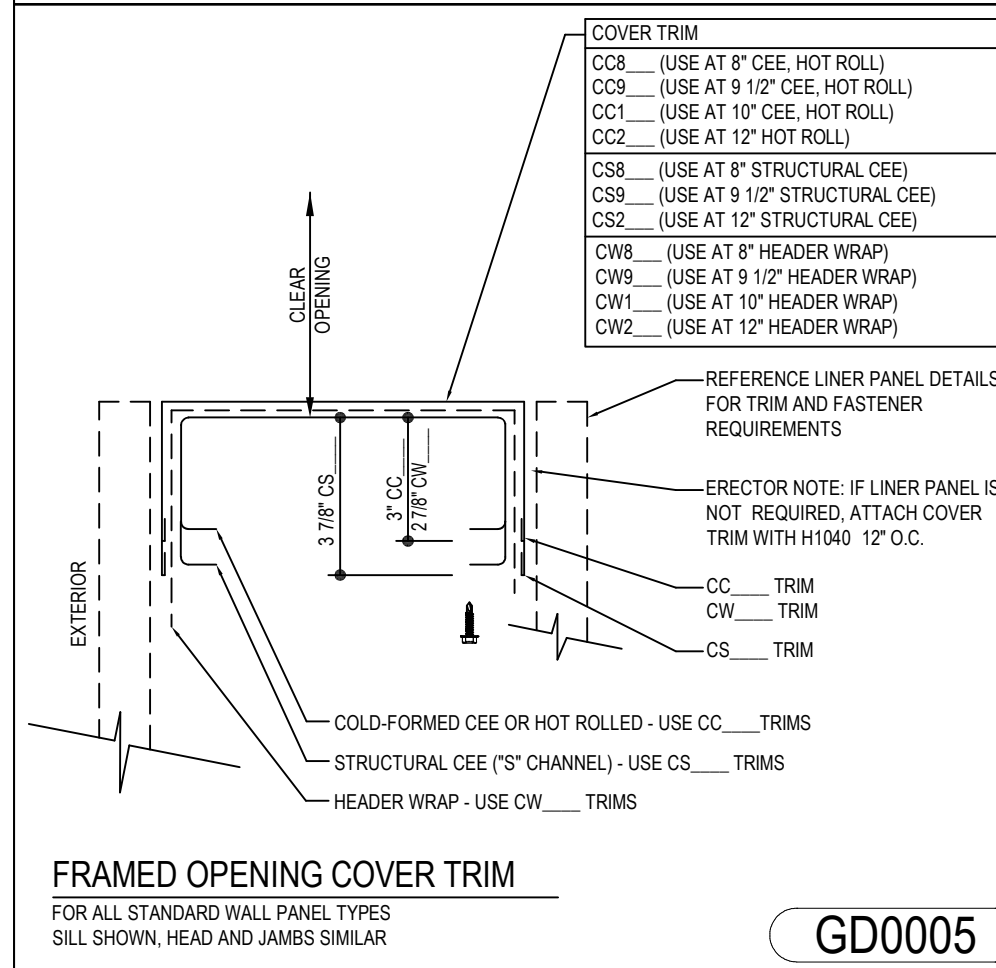
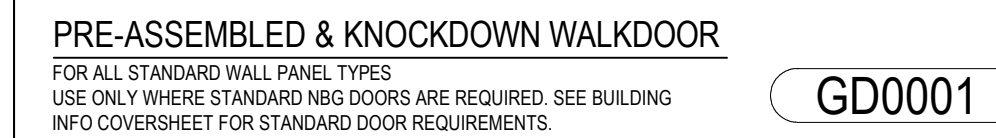
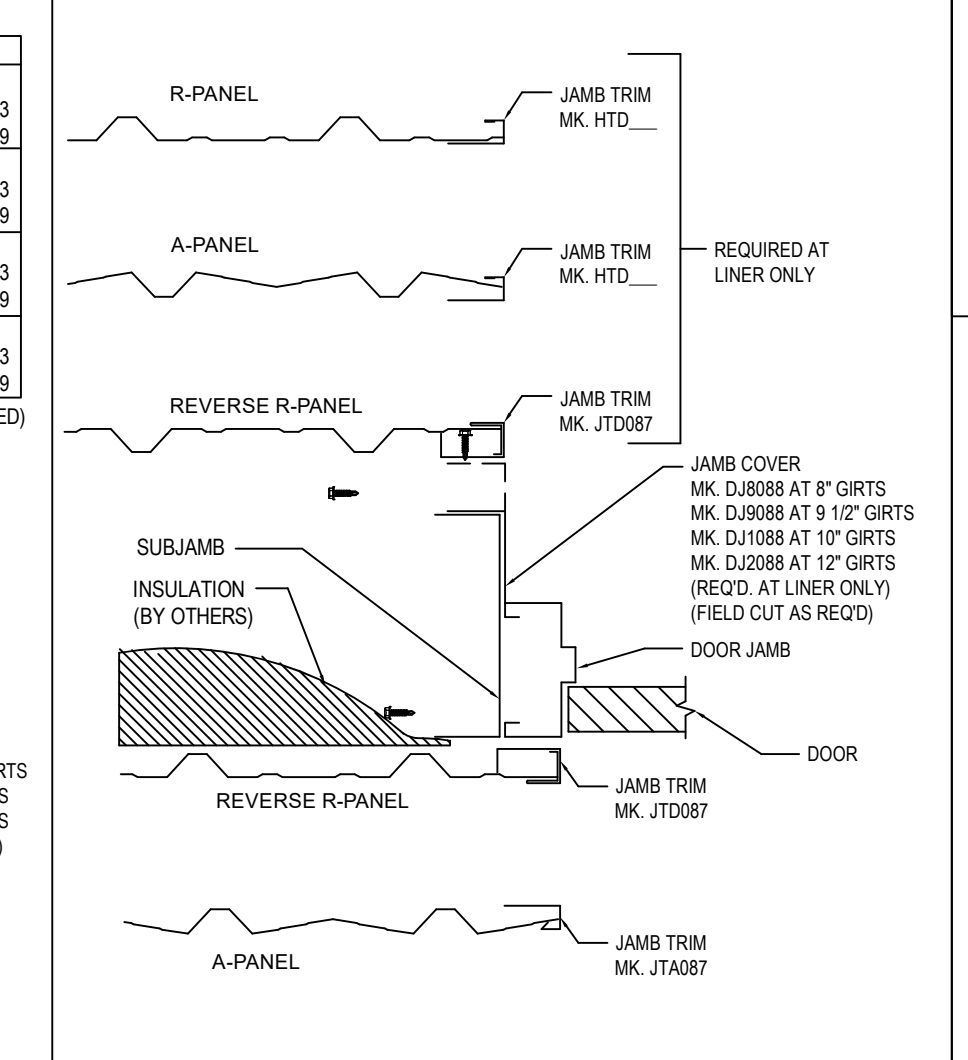
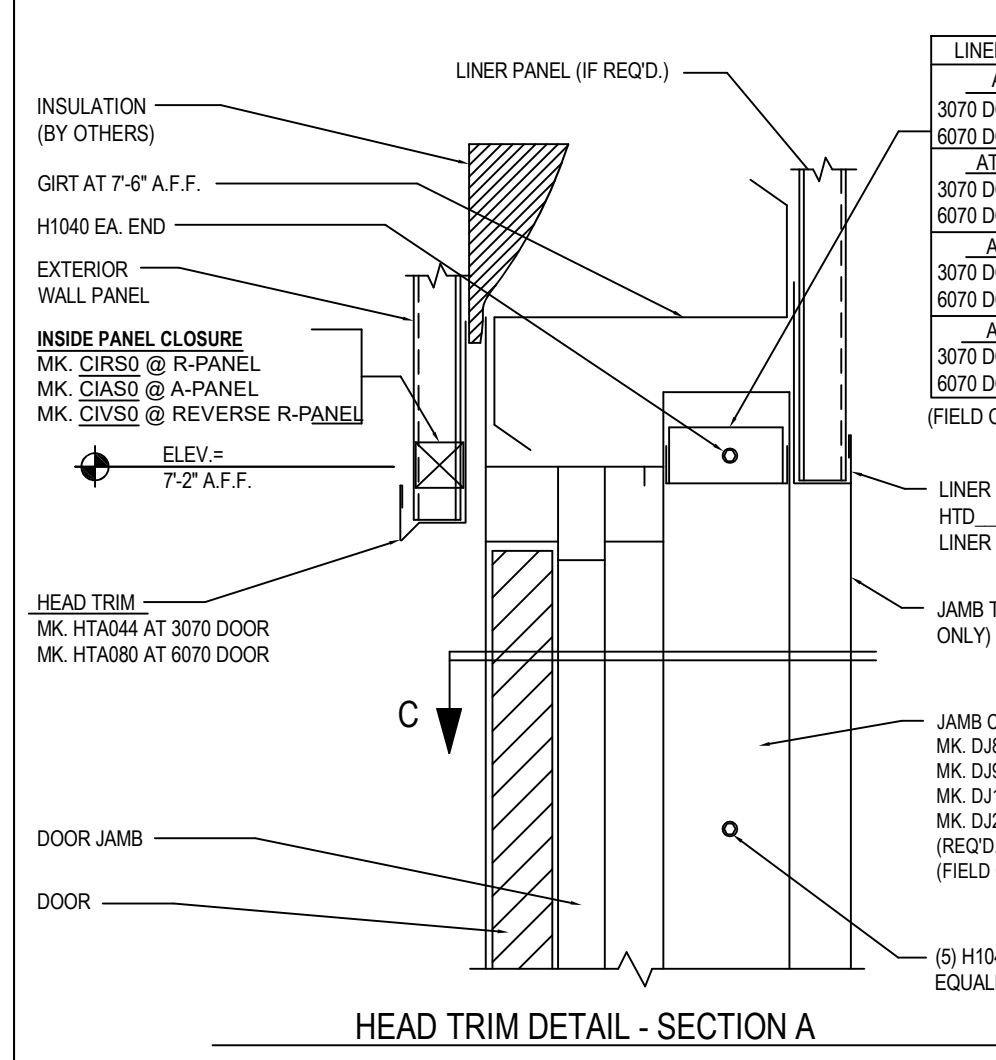
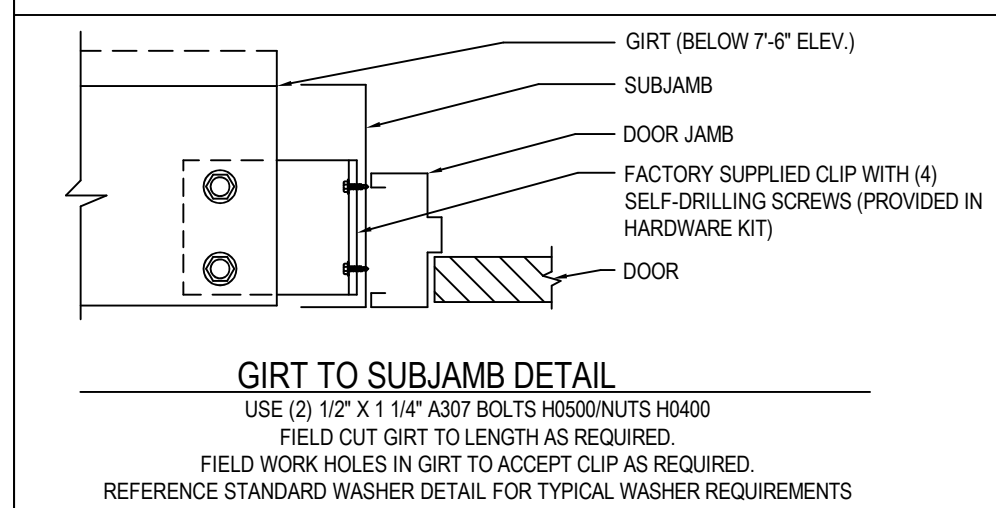
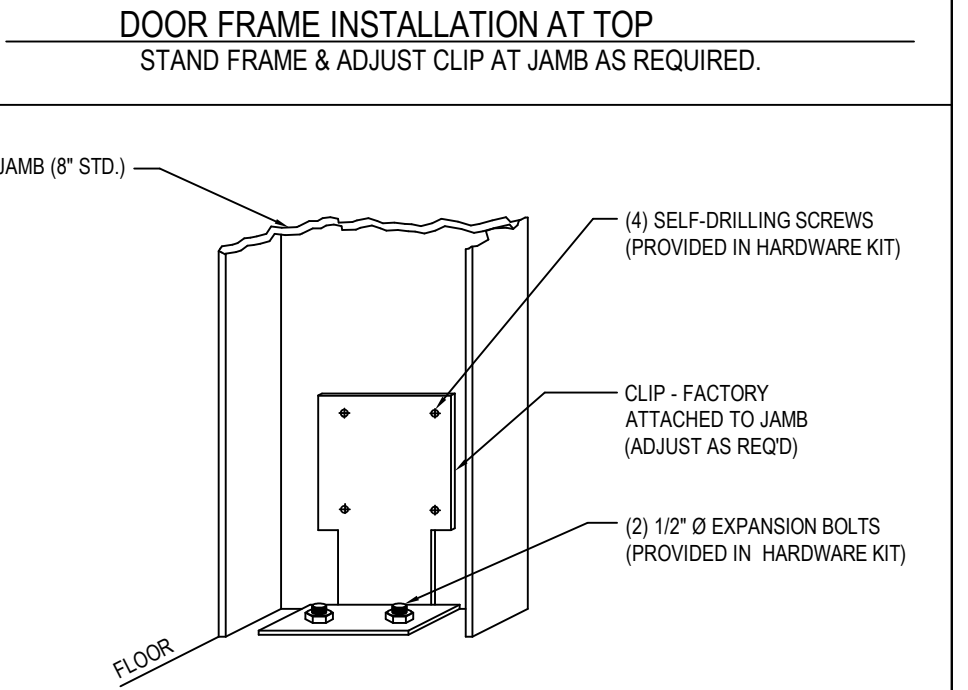
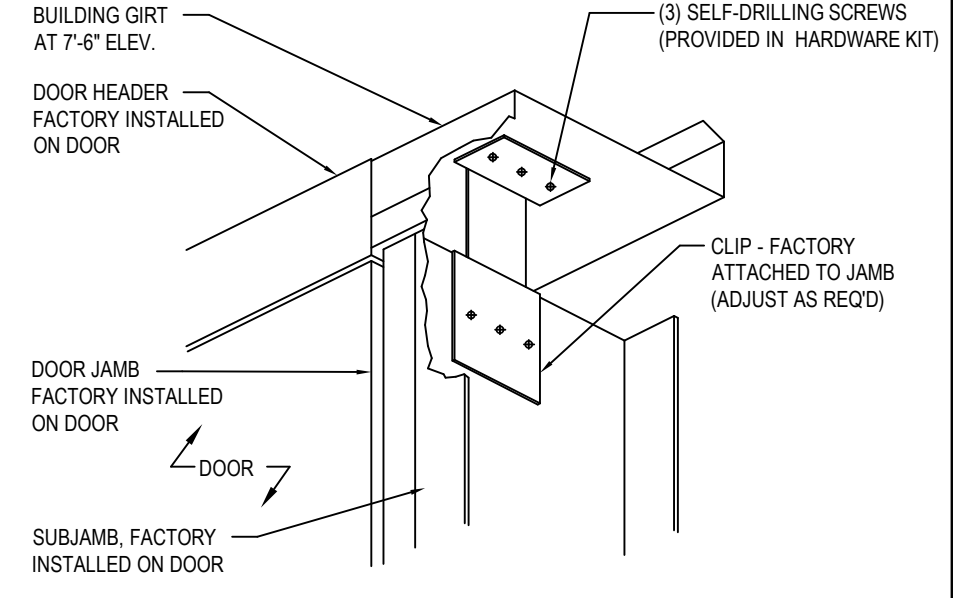
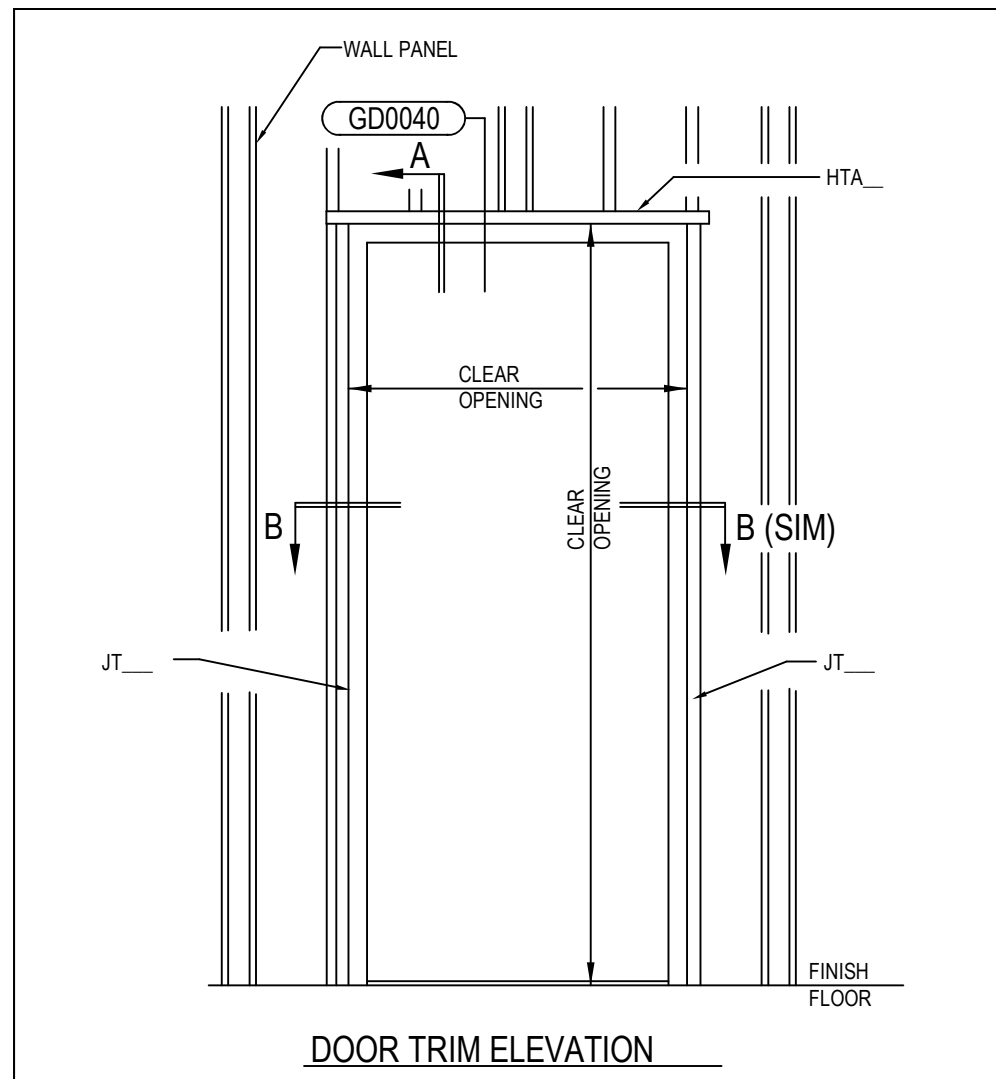
JAMB OR JAMB EXT. TO HIGH EAVE STRUT (WELDED)

CG1390



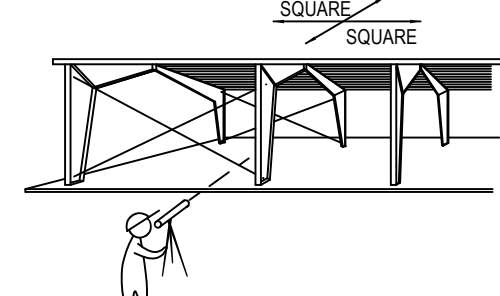
TIE-IN TO EXISTING GIRTS WITH SUPPORT JAMB SUPPORTED BY EXISTING

CH0031

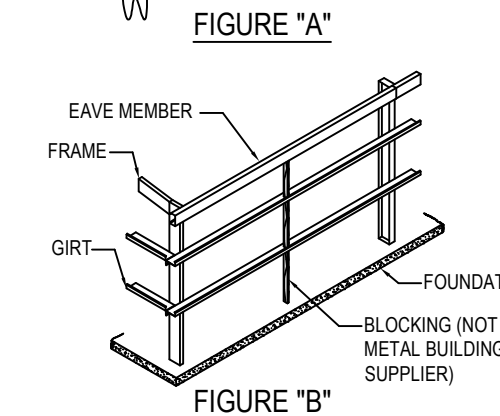


BUILDING & PANEL PREPARATION

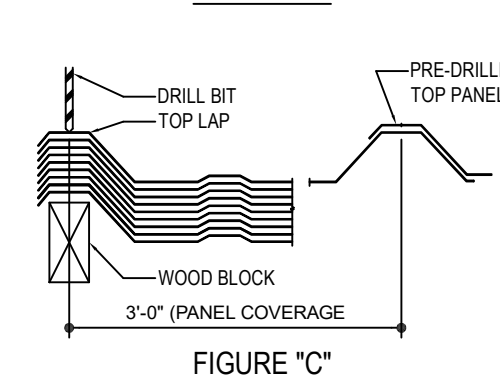
STEP 1: PLUMB AND SQUARE
THE FIRST STEP IN THE SUCCESSFUL INSTALLATION OF WALL PANELS IS TO HAVE THE PRIMARY FRAMING PLUMB AND SQUARE. FOR BEST RESULTS, IT IS RECOMMENDED THAT A TRANSIT BE USED WHEN ERECTING THE STRUCTURAL STEEL. MAKE SURE THAT THE FOUNDATION AND BUILDING STRUCTURE IS SQUARE, LEVEL, AND CORRECT TO THE OUT-TO-OUT STEEL LINE DIMENSIONS.
SEE FIGURE "A"



STEP 2: GIRT BLOCKING
BLOCK GIRTS TO 'LEVEL' POSITION BEFORE STARTING THE WALL SHEETING OR INSULATION. CHECK TO BE SURE THAT THE EAVE STRUT AND GIRTS ARE STRAIGHT AND PLUMB. TO ALIGN THE GIRTS, CUT TEMPORARY WOOD BLOCKING TO THE PROPER LENGTH AND INSTALL BETWEEN THE LINES OF GIRTS. THIS BLOCKING CAN BE MOVED FROM BAY TO BAY WHICH WILL REDUCE THE NUMBER OF PIECES REQUIRED. NORMALLY, ONE LINE OF BLOCKING PER BAY WILL BE SUFFICIENT BUT WIDER BAYS MAY REQUIRE MORE. IT IS RECOMMENDED TO BLOCK AT LEAST TWO BAYS AND LEAP FROM THE BLOCKING AS A BAY IS SHEETED. BLOCKING SHOULD NOT BE REMOVED UNTIL THE FULL BAY HAS BEEN SHEETED.
SEE FIGURE "B"



STEP 3: PRE-DRILL PANEL LAP
STACK PANELS WITH ENDS FLUSH ON A LEVEL PLACE ON THE GROUND IN PILES NOT EXCEEDING 10 PANELS. THEN PLACE SMALL WOODEN BLOCKS UNDER SIDE LAPPING EDGE OF STACK OF PANELS TO HOLD THEM AT CORRECT HEIGHT AND POSITION WHILE DRILLING FASTENER HOLES. HOLD PANELS TIGHTLY TOGETHER AT EACH END WITH CLAMPING PLIERS. CAREFULLY MARK POSITIONS FOR SIDE-LAP FASTENERS ON TOP OF HIGH RIB. FASTENERS SHOULD BE LOCATED 'ON CENTER' OF HIGH RIB. DRILL HOLES FOR 'STITCH' FASTENER (USE #1-7/32" 1564" DRILL BIT) ON TOP SHEET OF SIDE-LAP. BE SURE PANELS ARE WELL NESTED BEFORE DRILLING.
SEE FIGURE "C"



FIELD CUTTING PANELS

WHEN FIELD CUTTING OR MITERING WALL PANELS, NON-ABRASIVE CUTTING TOOLS SUCH AS NIBBLERS OR TIN SNIPS SHALL BE USED. ABRASIVE CUTTING TOOLS SUCH AS MECHANICAL GRINDERS OR POWER SAWS CAN DAMAGE THE MATERIAL FINISH AND CREATE EXCESS METAL SHAVINGS THAT CAN CORRODE THE PANELS. THE USE OF NON-APPROVED CUTTING DEVICES MAY VOID THE FACTORY WARRANTY.

ANY METAL SHAVINGS THAT ARE CREATED NEED TO BE CLEANED FROM THE PANEL TO PREVENT SCRATCHING AND/OR CORROSION. THE MANUFACTURER WILL NOT ACCEPT CLAIMS FOR DAMAGE/DETERIORATION DUE TO USE OF UNAPPROVED TOOLS.

FASTENER INSTALLATION

RECOMMENDED TOOL TYPES: SEE ALSO FASTENER SCHEDULE
4 AMP OR HIGHER RATED TOOLS (DO NOT USE IMPACTING TOOLS)
2000 - 2500 RPM SCREW GUN WITH TORQUE ADJUSTABLE CLUTCH
MANUAL OR ELECTRIC RIVET TOOL

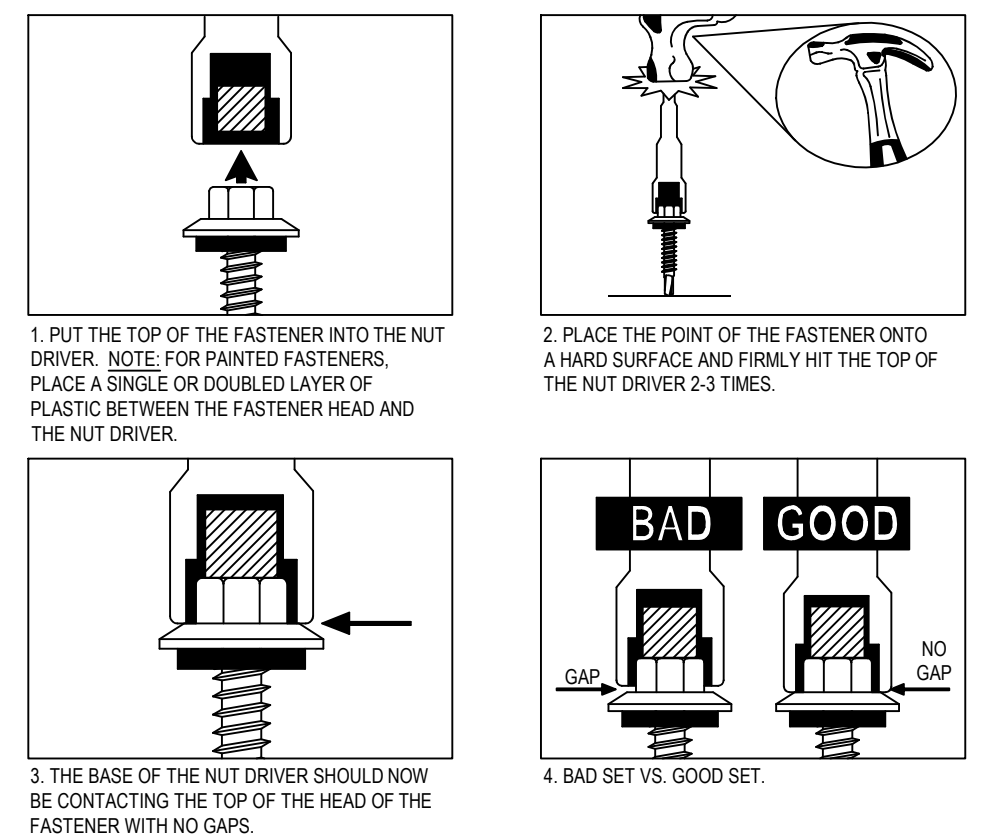
DO NOT USE IMPACTING TOOLS
TO ASSURE PROPER VOLTAGE TO THE TOOL, EXTENSION CORDS SHOULD BE CHECKED FOR PROPER WIRE SIZE/CHORD LENGTH.
1/8 GAGE WIRE, MAXIMUM CHORD LENGTH = 100'
1/4 GAGE WIRE, MAXIMUM CHORD LENGTH = 200'
1/2 GAGE WIRE, MAXIMUM CHORD LENGTH = 300'

DRIVING TIPS:
SET THE NUT DRIVER AS DESCRIBED BELOW PRIOR TO INSTALLING FASTENERS TO PREVENT FASTENER WOBBLE.

COMPRESS THE INSULATION AT FASTENER LOCATION WITH ONE HAND WHILE DRIVING THE FASTENER WITH THE OTHER. THIS WILL HELP KEEP THE PANEL FLAT AND PREVENT THE FASTENER FROM 'WALKING'. DRIVE FASTENERS PERPENDICULAR TO PANEL SURFACE.

EXCESSIVE PRESSURE CAN CAUSE DRILL POINT FAILURE. LET THE FASTENER DO THE WORK.

DO NOT OVER TIGHTEN FASTENERS AS THIS WILL LEAD TO PANEL DIMPLING AND DISTORTION.



PANEL INSTALLATION & FASTENER SEQUENCE

STEP 1: INSTALL FIRST PANEL
INSTALL THE FIRST WALL PANEL AT THE BUILDING CORNER AND ALIGN THE PANEL RIB WITH THE STEEL LINE AS SHOWN IN THE CORNER DETAILS USING THE START/FINISH DIMENSION SHOWN ON THE PLAN. IT IS EXTREMELY IMPORTANT THAT THE FIRST WALL PANEL IS INSTALLED PLUMB AND SQUARE. USE A LEVEL OR A TRANSIT TO AID IN THIS PROCESS.

PLACE A 1/8" SHIM ON THE BASE TRIM UNDER THE PANEL TO HOLD THE PANEL OFF THE BASE TRIM. ENSURE THAT THE WEIGHT OF THE PANEL DOES NOT FORCE THE BASE TRIM TO EXCESSIVELY BEND DOWN. BASE TRIM SHOULD HAVE A SLIGHT SLOPE TO ALLOW WATER TO RUN OFF AND NOT SIT ON BASE TRIM.
SEE FIGURE "D" - TO RIGHT

WHEN INSTALLING THE PANEL, APPLY PRESSURE EVENLY TO AVOID DISTORTING THE PANEL AND CAUSING OIL CANNING.
SEE FIGURE "E" - ABOVE

RECOMMENDED PANEL FASTENING SEQUENCE IS SHOWN TO THE RIGHT. THIS PATTERN AIDS IN PLUMBING AS WELL AS MAINTAINING PANEL COVERAGE / MODULARITY. SOME APPLICATIONS MAY REQUIRE MODIFIED SEQUENCE AND WILL BE BEST DETERMINED IN THE FIELD. DO NOT ATTACH PANEL AT BASE AND TOP AND WORK TOWARD THE MIDDLE OF THE PANEL. THIS CREATES OIL CANNING. MANUFACTURER IS NOT RESPONSIBLE FOR FINAL APPEARANCE OF INSTALLED PANEL.

STEP 2: INSTALL SUBSEQUENT PANELS
INSTALL THE SECOND PANEL BY LAYING THE LAP EDGE OVER THE BEARING RIB OF THE FIRST PANEL. SEE BELOW FOR PROPER ALIGNMENT AT SIDE-LAP. CHECK PANEL PLUMBNESS AND FASTEN PANEL IN THE SAME SEQUENCE STARTING WITH THE STRUCTURAL FASTENERS ALONG THE LAP TO ENSURE A TIGHT SIDE-LAP. CONTINUE FOR THE REMAINDER OF THE WALL. CUTTING PANELS AROUND FRAMED OPENINGS AS REQUIRED. (TRIM SHOULD BE INSTALLED AROUND OPENINGS PRIOR TO INSTALLING PANEL.)

RECOMMENDED TIPS:
WALL PANELS CAN BE INSTALLED LEFT TO RIGHT OR RIGHT TO LEFT. IT IS RECOMMENDED TO INSTALL SHEETS STARTING OPPOSITE THE PREVAILING WIND SO THAT THE SIDE-LAP SEAM IS AWAY AND LESS NOTICEABLE.

PANEL ORIENTATION AND ALIGNMENT

NOTE THE ORIENTATION OF THE PROFILE AND BEARING LEG FOR THE LEADING EDGE OF THE PANEL. PANELS SHOULD BE INSTALLED AS SHOWN BELOW TO HELP MAINTAIN PANEL MODULARITY / COVERAGE FOR THE LENGTH OF THE WALL.

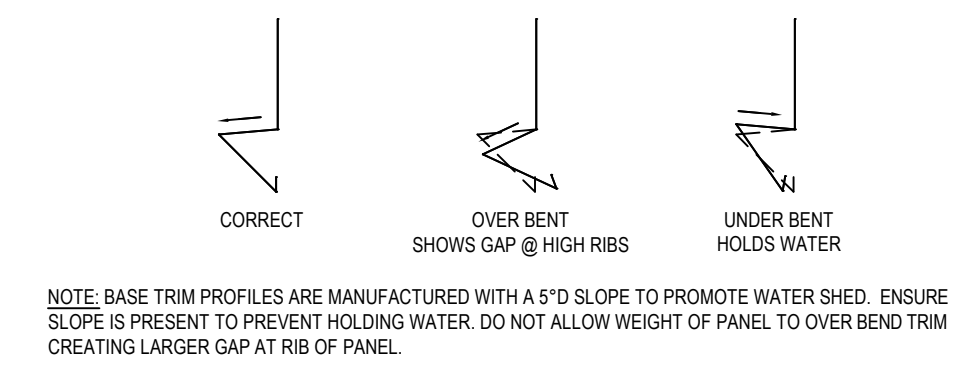
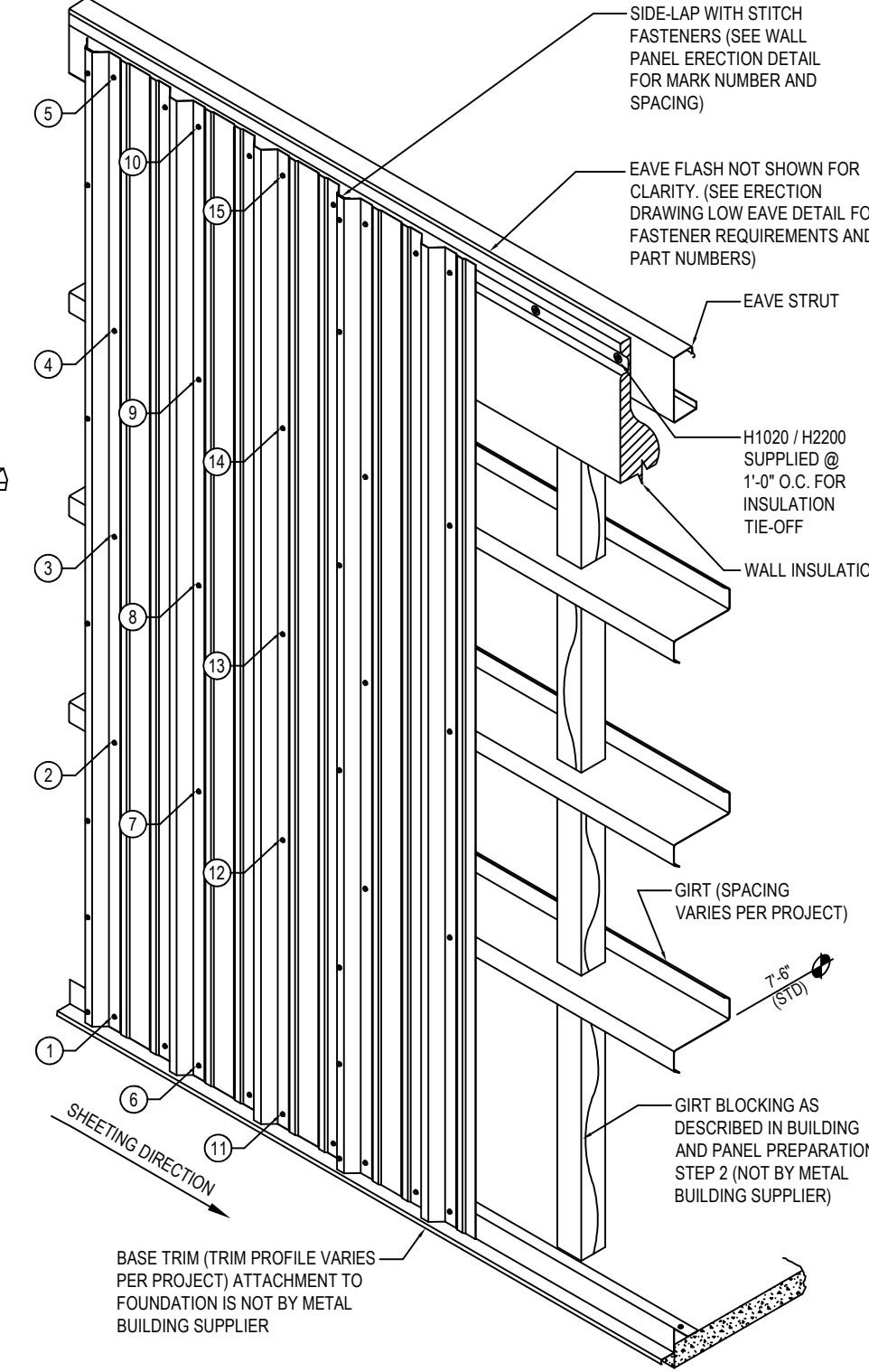
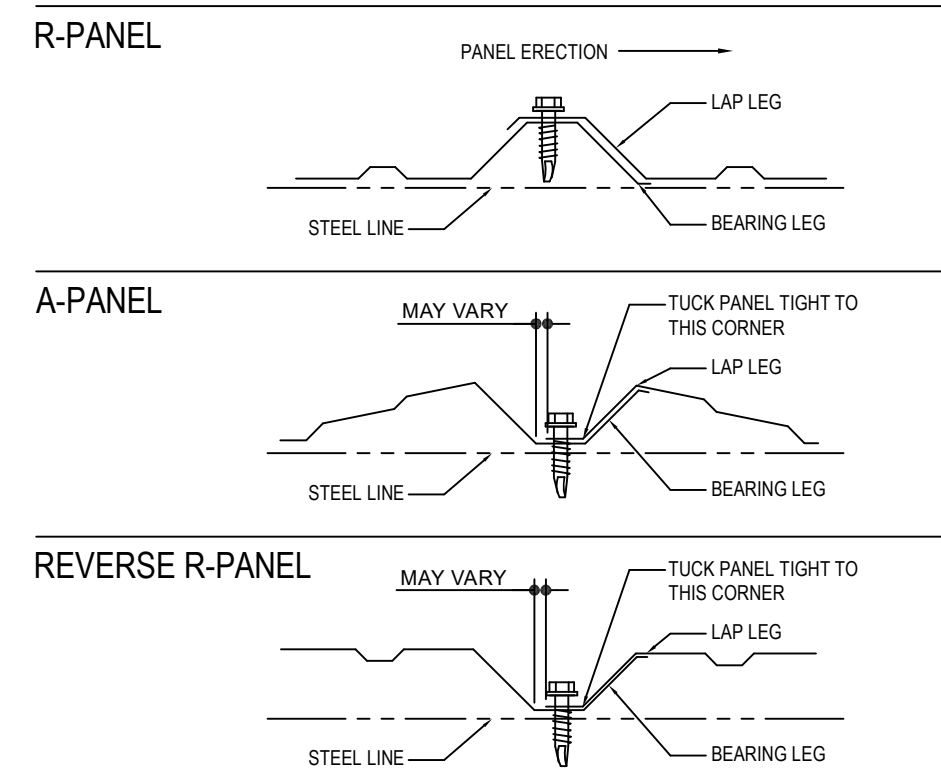


FIGURE "D"

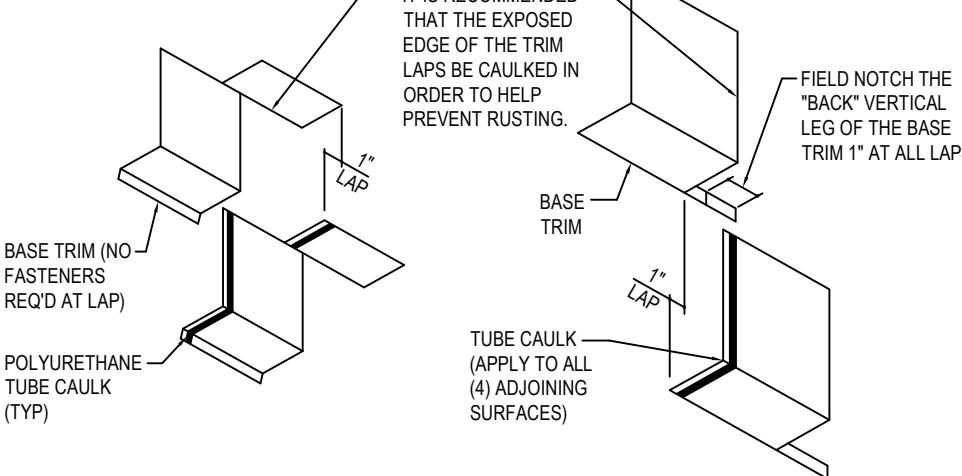
BASE TRIM LAP SEALANT

AT BASE TRIM LAPS, APPLY A BEAD OF POLYURETHANE TUBE CAULK (H3152) TO ALL ADJOINING SURFACES AND LAP 1". SEE BASE TRIM DETAIL FOR THE SPECIFIC TRIM FOR YOUR PROJECT.

IF JOB HAS OPTIONAL FOAM PANEL CLOSURES ORDERED AT BASE, ATTACH TO INSIDE OF WALL PANEL AT BASE AND FASTEN THROUGH PANEL AND CLOSURE INTO BASE TRIM. FASTENING PATTERN WILL VARY PER WALL PANEL TYPE. REFER TO THE WALL PANEL ERECTION DETAIL FOR MORE FASTENING INFO.

USE SUPPLIED BASE CORNER PIECES OR FIELD MITER BASE TRIM AT CORNERS.

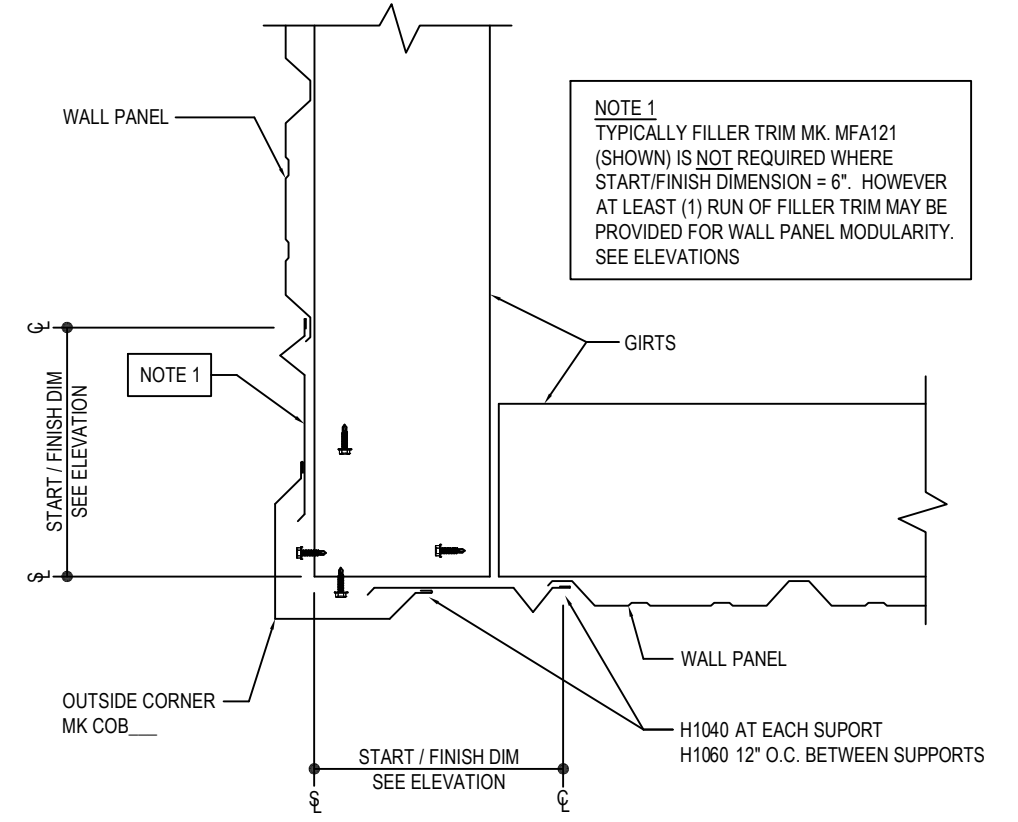
INSULATION HINT: AT THE BASE, FOLD THE INSULATION VAPOR BARRIER OVER THE FIBER TO HELP PREVENT WATER FROM WICKING.



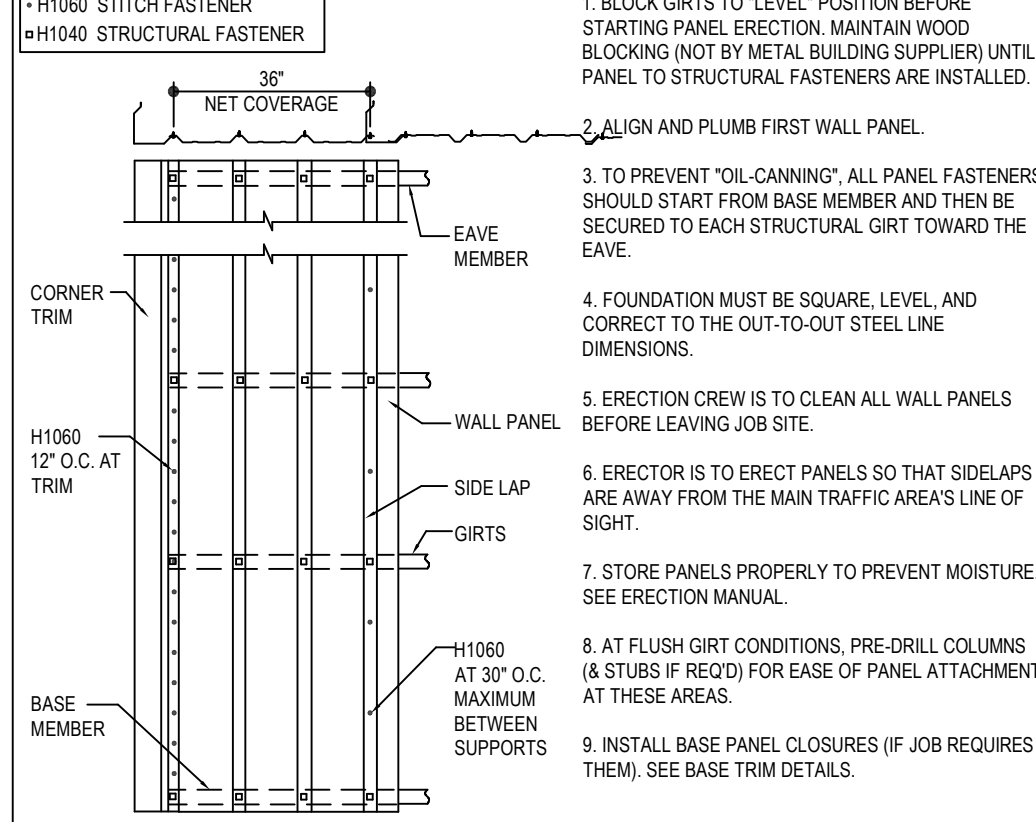
WALL SHEETING GENERAL NOTES

GA0000

OUTSIDE CORNER DETAIL



GC0031

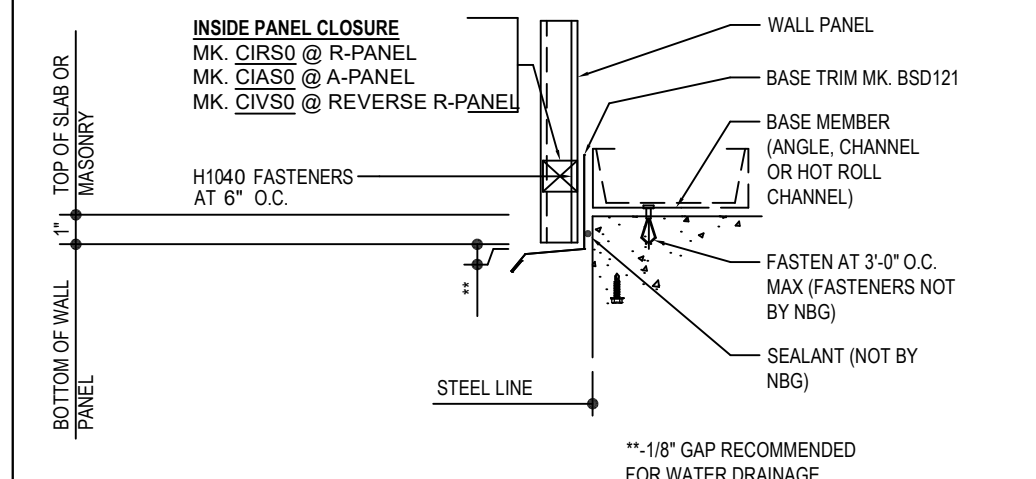


WALL PANEL ERECTION

ERECTOR NOTE: 1/2" SIDELAP MASTIC (H3010) IS REQUIRED IN SNOWDRIFT CONDITIONS. REFER TO THE ELEVATIONS FOR LOCATION REQUIREMENTS.

ERECTOR NOTE:
UNTIL WALL PANELS ARE INSTALLED, (3) H1040 SCREWS ARE TO BE USED FOR TEMPORARY INSTALLATION OF THE BASE TRIM.
FIELD MITER BASE TRIM AT CORNERS.

GA0030



ALTERNATE BASE TRIM DETAIL

SEE WALL SHEETING ERECTION DETAIL FOR WALL PANEL FASTENER LOCATIONS

GB0040

DESIGN AND PERFORMANCE CRITERIA

ROOF SYSTEM

THE ROOF SYSTEM CONSISTS OF 24 GAUGE PANELS WITH A NOMINAL COVERAGE OF 2'-0" AND A PANEL SEAM THAT IS 3 1/2", 4 1/2" AND 5 1/2" HIGH DEPENDING ON CLIP TYPE USED. REFER TO THE DETAILS AND SECTIONS FOR SPECIFIC PANEL CLIP TYPE.

PANEL CLIP SPACING

THE ROOF SYSTEM USES A CLIP TO ATTACH THE PANELS TO THE ROOF SECONDARY MEMBERS. PANEL CLIP SPACING REQUIREMENTS AS A STANDARD ARE REQUIRED AT EVERY PURLIN AND/OR ROOF JOIST. FOR STRUCTURES NOT SUPPLIED BY MBS, MAXIMUM CLIP SPACING IS TO BE 5'-0" FOR PURLIN ROOFS AND 5'-6" FOR JOIST ROOFS.

PANEL CLIP FASTENING REQUIREMENTS

STANDARD CLIP FASTENERS ARE DESIGNED TO FASTEN TO A STEEL STRUCTURAL MEMBER OF .060" MINIMUM THICKNESS (16 GA.). A MINIMUM OF TWO FASTENERS ARE REQUIRED TO ENGAGE THE STRUCTURAL MEMBER AT EVERY PANEL CLIP LOCATION. IN CERTAIN INSTANCES, THREE FASTENERS MAY BE REQUIRED PER CLIP REQUIRED. LOOK ON CHART AT RIGHT AND IN THE ERECTION DRAWINGS FOR YOUR SPECIFIC FASTENER REQUIREMENTS. FASTENER PULLOUT VALUES ARE DEPENDENT UPON PROJECT LOCATION, SIZE, BUILDING CODE AND LOADING.

ROOF TOP UNITS AND CURB SUPPORTS

THE ROOF SYSTEM IS ELEVATED ABOVE THE TOP OF THE ROOF SECONDARY STRUCTURAL MEMBERS. THE ROOF CURB SUB-FRAMING IS LEVEL WITH THE SECONDARY STRUCTURAL MEMBERS. REFER TO THE DETAILS FOR PROPER JAMB LOCATIONS AND DIMENSIONS.

THE ROOF SYSTEM IS DESIGNED AS A FLOATING SYSTEM. CURB FRAMING AND FLASHING MUST BE DESIGNED ACCORDINGLY TO ALLOW THE CURB SYSTEM TO FLOAT WITH THE ROOF DURING THERMAL EXPANSION AND CONTRACTION. ROOF CURBS SHALL NOT SPAN THE RIDGE OF A BUILDING.

INSULATION REQUIREMENTS

INSULATION IS RECOMMENDED TO BE USED IN ALL ROOF APPLICATIONS TO AVOID PROBLEMS WITH CONDENSATION FORMING ON THE UNDERSIDE OF THE SHEETING. THIS ALSO PROVIDES A BUFFER BETWEEN THE PURLINS AND THE ROOF TO ELIMINATE NOISE AND POSSIBLE DAMAGE DUE TO METAL-TO-METAL CONTACT. NOISE REDUCING FOAM TAPE CAN BE SUPPLIED FOR USE IN LIMITED APPLICATIONS (CANOPIES, ETC.) WHEN INCLUDED AS PART OF THE ROOF ORDER. REFER TO THE DETAILS FOR FOAM TAPE REQUIREMENTS.

PAINTED ROOF

PAINTED STANDING SEAM ROOF PANELS ARE OFTEN PROVIDED BY MBS. IN THIS CASE, GUTTER BRACKETS AND OUTSIDE CLOSURES WILL BE PAINTED TO MATCH THE ROOF COLOR AS A STANDARD.

MASTIC APPLICATION

TEMPERATURE EXTREMES

TEMPERATURE EXTREMES MUST BE CONSIDERED DURING INSTALLATION OF THE ROOF DUE TO THE SENSITIVITY OF MASTICS. THE RECOMMENDED INSTALLATION TEMPERATURE RANGE IS 20-120 DEGREES FAHRENHEIT. AT COLDER TEMPERATURES, THE MASTIC STIFFENS RESULTING IN LOSS OF ADHESION AND COMPRESSIBILITY. AT HOTTER TEMPERATURES, THE MASTIC BECOMES TOO SOFT FOR PRACTICAL HANDLING. ON COLD BUT SUNNY DAYS, THE PANEL SURFACE MAY BECOME WARM ENOUGH TO ACCEPT THE APPLICATION OF HEATED MASTIC EVEN THOUGH THE AIR TEMPERATURE IS BELOW 20 DEGREES FAHRENHEIT.

WHEN OVERNIGHT TEMPERATURES FALL BELOW FREEZING, THE MASTIC SHOULD BE STORED IN A HEATED ROOM SO IT WILL BE WARM ENOUGH TO USE THE FOLLOWING DAY. ON HOT DAYS, THE MASTIC CARTONS SHOULD BE STORED OFF THE ROOF IN A COOL AND SHADED AREA. WHILE ON THE ROOF, MASTIC ROLLS SHOULD BE KEPT SHADED UNTIL ACTUAL USE.

IN VERY COLD WEATHER, IT IS RECOMMENDED THAT THE FASTENERS BE TIGHTENED SLOWLY AND ONLY TIGHT ENOUGH THAT THE MASTIC IS IN FULL CONTACT WITH THE PANEL OR FLASHING. THEN ON THE NEXT SUNNY DAY, COMPLETE THE TIGHTENING PROCESS AFTER THE SUN WARMS THE PANEL AND FLASHING SURFACES.

CONTAMINATION

TO ASSURE PROPER ADHESION AND SEALING, THE MASTIC MUST HAVE COMPLETE CONTACT WITH ADJOINING SURFACES. CONTAMINANTS SUCH AS WATER, OIL, DIRT AND DUST PREVENT SUCH CONTACT. THE PANEL AND FLASHING SURFACES MUST BE DRY AND THOROUGHLY CLEANED OF ALL CONTAMINANTS. BEFORE APPLYING TAPE MASTIC, THE MASTIC SHOULD BE CHECKED FOR CONTAMINANTS. IF THE MASTIC SURFACES ARE CONTAMINATED, IT MUST NOT BE USED.

DURING COOL WEATHER, CONDENSATION OR LIGHT MIST CAN ACCUMULATE ON THE PANEL AND FLASHING SURFACE AND NOT BE EASILY NOTICED. IT IS RECOMMENDED THAT THE MASTICS ALWAYS BE KEPT UNDER PROTECTIVE COVER AND THAT THE PANEL AND FLASHING SURFACES BE WIPED DRY IMMEDIATELY BEFORE INSTALLATION.

TAPE MASTIC IS PROVIDED WITH A PROTECTIVE PAPER TO REDUCE CONTAMINATION. INCOMPLETE REMOVAL OF THE PROTECTIVE PAPER WILL PREVENT THE MASTIC ADHESION TO THE PANEL OR FLASHING SURFACES. ALWAYS CHECK THAT THE PROTECTIVE PAPER IS COMPLETELY REMOVED. DO NOT REMOVE THE PROTECTIVE PAPER UNTIL IMMEDIATELY BEFORE THE PANEL OR FLASHING IS INSTALLED OVER THE MASTIC.

COMPRESSION

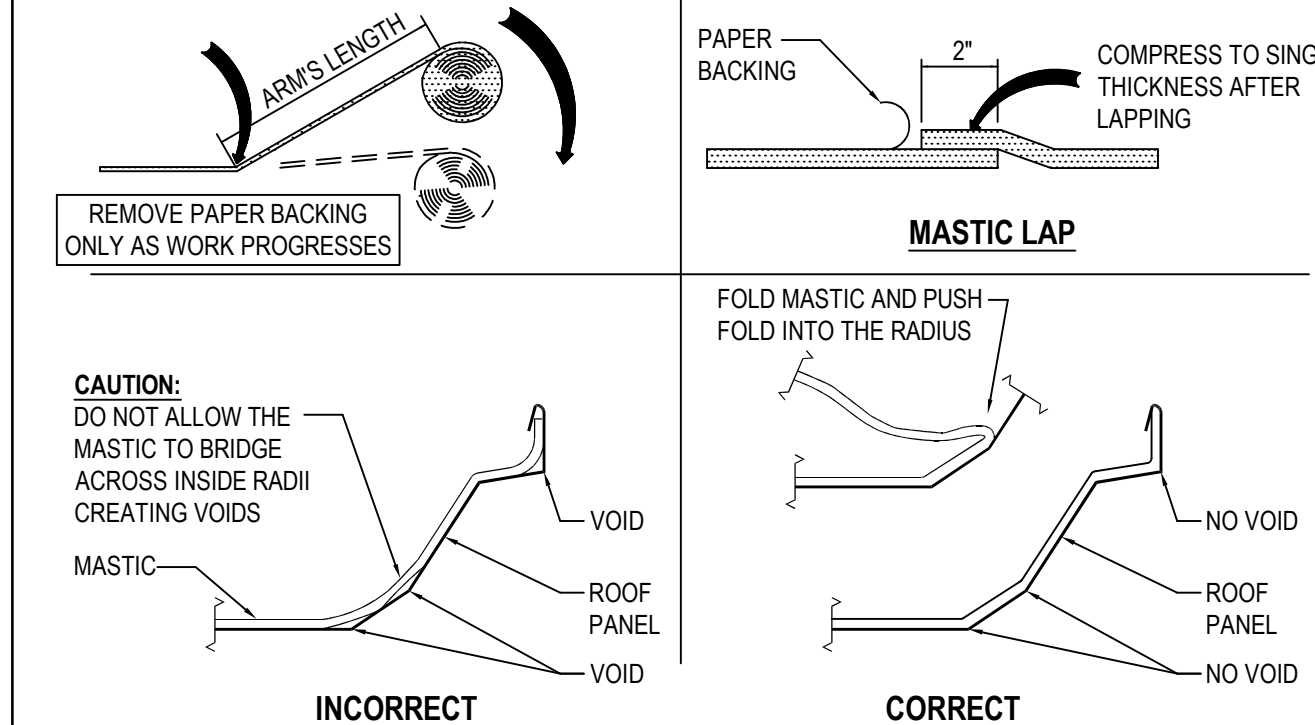
TO ASSURE PROPER COMPRESSION AND SEAL, THE TAPE MASTIC MUST BE COMPRESSED BETWEEN THE PANEL AND FLASHING SURFACES WITH FIRM AND UNIFORM PRESSURE. IN MOST CASES, THE REQUIRED PRESSURE IS APPLIED BY THE CLAMPING ACTION OF SCREWS PULLING THE ADJOINING SURFACES TOGETHER. HOWEVER, THE TAPE SEALANT'S RESISTANCE TO PRESSURE BECOMES GREATER IN COLD WEATHER.

DURING COLD WEATHER, THE FASTENERS MUST BE TIGHTENED SLOWLY TO ALLOW THE MASTIC TIME TO COMPRESS. IF THE FASTENERS ARE TIGHTENED TOO FAST, THE FASTENERS MAY STRIP OUT BEFORE THE MASTIC COMPRESSES ADEQUATELY, OR THE PANEL OR FLASHING MAY DEFORM IN THE IMMEDIATE AREA OF THE FASTENER, LEAVING THE REST OF THE MASTIC INSUFFICIENTLY COMPRESSED.

INSIDE CORNERS

AN INSIDE RADIUS, SUCH AS WHERE THE PANEL FLAT MEETS A RIB, IS USUALLY THE MOST CRITICAL AREA TO SEAL. A COMMON MISTAKE FOR THE INSTALLER IS TO BRIDGE THE MASTIC ACROSS THE INSIDE RADIUS.

WHEN THE LAPPING PANEL OR FLASHING IS PUSHED INTO PLACE, THE BRIDGED MASTIC IS STRETCHED AND THINNED. THE MASTIC MAY THEN BE TOO THIN TO ADEQUATELY SEAL THIS CRITICAL AREA. WHEN TAPE MASTIC IS APPLIED AT AN INSIDE RADIUS, IT IS RECOMMENDED THAT THE MASTIC BE FOLDED BACK, THEN PUSH THE MASTIC FOLD INTO THE RADIUS.



ERECTORS RESPONSIBILITY

REGULATIONS

REGULATIONS SET FORTH BY THE OCCUPATIONAL SAFETY AND HEALTH ACT, LOCAL, STATE, AND/OR FEDERAL AGENCIES SHOULD BE ADHERED TO AT ALL TIMES. MBS IS NOT RESPONSIBLE FOR INJURY, DAMAGE, OR FAILURE, WHICH MAY BE THE RESULT FROM FAILING TO MEET ANY OF THESE REGULATIONS.

IN COMPLIANCE WITH THE HAZARD COMMUNICATION RULE 1910-1200, MATERIAL SAFETY DATA SHEETS (MSDS) HAVE BEEN PROVIDED FOR YOUR USE AND SAFETY. THESE DATA SHEETS SHOULD BE MADE AVAILABLE TO ALL PERSONNEL THAT COME IN CONTACT WITH THESE PRODUCTS. THESE DATA SHEETS WILL GIVE YOU THE NECESSARY INFORMATION TO PROPERLY HANDLE SUCH MATERIALS AND WHAT TO DO IN CASE OF AN EMERGENCY. (THE MSDS SHEETS ARE LOCATED ONLINE AND ARE AVAILABLE UPON REQUEST).

THE ERECTOR OF THE ROOF SYSTEM IS RESPONSIBLE FOR THE SAFE EXECUTION OF THIS MANUAL. THESE INSTRUCTIONS ARE INTENDED TO DESCRIBE THE SEQUENCE AND PROPER PLACEMENT OF PARTS. THEY ARE NOT INTENDED TO PRESCRIBE COMPREHENSIVE SAFETY PROCEDURES. THE PROCEDURES IN THIS MANUAL ARE BELIEVED TO BE RELIABLE. HOWEVER, MBS SHALL NOT BE RESPONSIBLE FOR INJURY, DAMAGE, OR FAILURE DUE TO THE MISAPPLICATION OF THESE PROCEDURES, IMPROPER ERECTION TECHNIQUES, OR NEGLIGENCE.

WALKING AND WORKING ON ROOF PANELS

DO NOT PLACE BUNDLES OF PANELS ON THE ROOF STRUCTURE WITHOUT FIRST VERIFYING THE STRUCTURE WILL SAFELY SUPPORT THE CONCENTRATED WEIGHT OF THE PANELS AND THE WEIGHT OF THE INSTALLATION CREW. SOME ROOF STRUCTURES MAY NOT BE DESIGNED TO SUPPORT THE WEIGHT OF A FULL PANEL BUNDLE WITHOUT ADDITIONAL STRUCTURE SUPPORT.

DO NOT USE A ROOF PANEL AS A WORKING PLATFORM. AN UNSECURED PANEL COULD COLLAPSE UNDER THE WEIGHT OF A PERSON STANDING BETWEEN PURLINS OR AT THE PANEL END.

DO NOT WALK ON THE LAST INSTALLED PANEL RUN, AS THE UNSECURED EDGE COULD COLLAPSE UNDER A PERSON'S WEIGHT. WHEN INSTALLING CLIPS OR MAKING END LAP CONNECTIONS, ETC., STAND WHERE THE ROOF STRUCTURE WILL SUPPORT YOUR WEIGHT.

AN APPROVED AND SAFE WALKING PLATFORM SHOULD BE USED IN HIGH TRAFFIC AREAS TO PREVENT THE ROOF PANEL FROM BEING DEFORMED, SCRATCHED, OR SCUFFED.

SAFETY EQUIPMENT

THE USE OF SAFETY EQUIPMENT FOR THE ROOF PANEL INSTALLATION IS RECOMMENDED AT ALL TIMES DURING THE INSTALLATION PROCESS. HOWEVER, WHEN USING LANYARDS, ENSURE THAT THE CLASP, BELT HOOKS AND WIRE CABLES ARE COVERED IN SUCH A MANNER THAT THEY WILL NOT SCRATCH THE PANEL SURFACE IF ACCIDENTALLY DRAGGED ALONG THE PANEL.

CREW SIZE

THE LENGTH OF THE INDIVIDUAL ROOF PANELS SHOULD BE CONSIDERED WHEN DETERMINING CREW SIZE. IT IS RECOMMENDED THAT UNDER NORMAL CONDITIONS, THERE BE ONE PERSON FOR EVERY TEN FEET OF PANEL LENGTH, PLUS ONE.

PANEL OVERHANG

DO NOT STAND ON THE END OF UNSUPPORTED (CANTILEVERED) PANELS AT THE EAVE OR RIDGE. STANDING ON THE CANTILEVER PORTION MAY RESULT IN PANEL COLLAPSE.

POINT LOADS

WHEN PROPERLY SUPPORTED BY THE STRUCTURAL STEEL, PANELS ARE DESIGNED TO SUPPORT UNIFORM LOADS, WHICH ARE EVENLY DISTRIBUTED OVER THE PANEL SURFACES. POINT LOADS THAT OCCUR IN SMALL OR CONCENTRATED AREAS, SUCH AS HEAVY EQUIPMENT, LADDER, OR PLATFORM FEET, ETC., MAY CAUSE PANEL DEFORMATION OR EVEN PANEL COLLAPSE.

SLICK SURFACES

PANEL SURFACES AND STRUCTURAL STEEL SURFACES ARE HARD, SMOOTH, AND NONABSORBENT, WHICH CAUSES THESE SURFACES TO BE VERY SLICK WHEN WET OR COVERED WITH SNOW OR ICE. EVEN BLOWING SAND OR HEAVY DUST CAN MAKE THESE SURFACES DIFFICULT TO WALK ON WITHOUT SLIPPING.

UNPAINTED PANEL SURFACES ARE OFTEN COATED WITH OIL TO ACCOMMODATE THE PANEL-FABRICATION PROCESS. ALTHOUGH DESIGNED TO WASH AWAY OR EVAPORATE DURING NORMAL WEATHER, THE OIL ON NEW PANELS CAN BE EXTREMELY SLICK, ESPECIALLY DURING PERIODS OF LIGHT RAIN AND DEW. CAUTION MUST BE EXERCISED TO PREVENT SLIPPING AND FALLING ONTO THE ROOF SURFACE OR EVEN SLIDING OFF THE ROOF. NON-SLIP FOOTWEAR IS A NECESSITY AND NON-SLIP WORKING PLATFORMS ARE RECOMMENDED.

ELECTRICAL CONDUCTANCE

METAL PANELS ARE EXCELLENT ELECTRICAL CONDUCTORS. A COMMON CAUSE OF INJURY IS THE CONTACT OF METAL PANELS WITH POWER LINES DURING HANDLING AND INSTALLATION. THE LOCATION OF ALL POWER LINES MUST BE NOTED AND, IF POSSIBLE, FLAGGED. THE INSTALLATION PROCESS MUST BE ROUTED TO AVOID ACCIDENTAL CONTACT WITH ALL POWER LINES AND HIGH VOLTAGE SERVICES AND EQUIPMENT. ALL TOOLS AND POWER CORDS MUST BE PROPERLY INSULATED AND GROUNDED AND THE USE OF APPROVED GROUND FAULT CIRCUIT BREAKERS IS RECOMMENDED.

FALSE SECURITY OF INSULATION

BLANKET AND RIGID BOARD INSULATION BLOCK THE INSTALLER'S VIEW OF THE GROUND BELOW THE ROOF. SERIOUS INJURY CAN OCCUR WHEN THE INSTALLER GETS A FALSE SENSE OF SECURITY BECAUSE HE CANNOT SEE THE GROUND AND STEPS THROUGH THE INSULATION.

SHARP EDGES

SOME EDGES OR PANELS AND FLASHING ARE RAZOR SHARP AND CAN CAUSE SEVERE CUTS IF PROPER PROTECTIVE HAND GEAR IS NOT WORN. BE CAREFUL NOT TO INJURE OTHERS WHILE MOVING PANELS AND FLASHING.

COORDINATION WITH OTHER TRADES

SUPPORTS FOR THE ROOF SYSTEM SHALL BE PROVIDED AND ARE REQUIRED AS SHOWN IN THE SECTIONS AND AS NOTED IN THESE SPECIFICATIONS. ALL NECESSARY CLEARANCE DIMENSIONS FOR PROPER ELEVATIONS RELATIVE TO THE ROOF PANELS HAVE BEEN SHOWN. THE ERECTOR SHALL BE RESPONSIBLE FOR COORDINATING THESE DIMENSIONAL REQUIREMENTS WITH OTHER TRADES ASSOCIATED WITH THE BUILDING ROOF SYSTEM.

ERECTION CARE

THE ERECTOR MUST BE SKILLED IN THE ERECTION OF METAL BUILDING SYSTEMS AND IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, FEDERAL AND STATE CONSTRUCTION AND SAFETY REGULATIONS INCLUDING OSHA REGULATIONS AS WELL AS ANY APPLICABLE REQUIREMENTS OF LOCAL, NATIONAL OR INTERNATIONAL UNION RULES OR PRACTICES. THE ERECTOR REMAINS SOLELY RESPONSIBLE FOR THE SAFETY AND APPROPRIATENESS OF ALL TECHNIQUES AND METHODS UTILIZED BY ITS CREWS IN THE ERECTION OF THE METAL BUILDING SYSTEM AND/OR THE ROOF SYSTEM. THE ERECTOR IS ALSO RESPONSIBLE FOR SUPPLYING ANY SAFETY DEVICES SUCH AS SCAFFOLDS, RUNWAYS, NETS, ETC. WHICH MAY BE REQUIRED TO SAFELY ERECT THE METAL BUILDING SYSTEM AND/OR ROOF SYSTEM.

THE ERECTOR OF THE ROOF SYSTEM SHALL EXERCISE GREAT CARE AND ATTENTION TO THE DETAILS AS SHOWN ON THESE DRAWINGS TO INSURE A SECURE AND PROPER FIT OF ALL COMPONENTS. MBS SHALL NOT BE RESPONSIBLE FOR SUPERVISING AND/OR COORDINATING THE ERECTION OF THE ROOF SYSTEM WITH OTHER TRADES.

DUE CONSIDERATION MUST BE GIVEN BY THE ERECTOR TO THE EFFECTS OF THERMAL EXPANSION AND CONTRACTION WHEN ERECTING A ROOF TIE-IN TO AN EXISTING STRUCTURE TO INSURE A SAFE, SECURE, WEATHERTIGHT CONDITION. FLASHING FOR TIE-INS TO EXISTING BUILDINGS IS TYPICALLY NOT INCLUDED AS PART OF THE MATERIAL PROVIDED BY MBS. REFER TO THE SECTIONS/DETAILS FOR SPECIFIC MATERIALS PROVIDED BY MBS.

THERMAL BLOCKS

PURPOSE

THERMAL BLOCKS ARE USED IN BOTH INSULATED AND UN-INSULATED CONDITIONS. THEY PROVIDE IMPROVED THERMAL PERFORMANCE WHERE INSULATION HAS BEEN COMPRESSED AT THE SECONDARY MEMBERS UNDER THE PANEL. THEY ALSO PROVIDE SUPPORT TO THE PANEL AND REDUCE PANEL FUTTERING AND RUMBLE IN UN-INSULATED CONDITIONS. UN-INSULATED CONDITIONS UTILIZE THERMAL BLOCKS OR FOAM SPACERS THAT HAVE ADHESIVE TO ADHERE TO THE SECONDARY MEMBER TO PREVENT THEM FROM FALLING OUT OF PLACE.

LOCATIONS

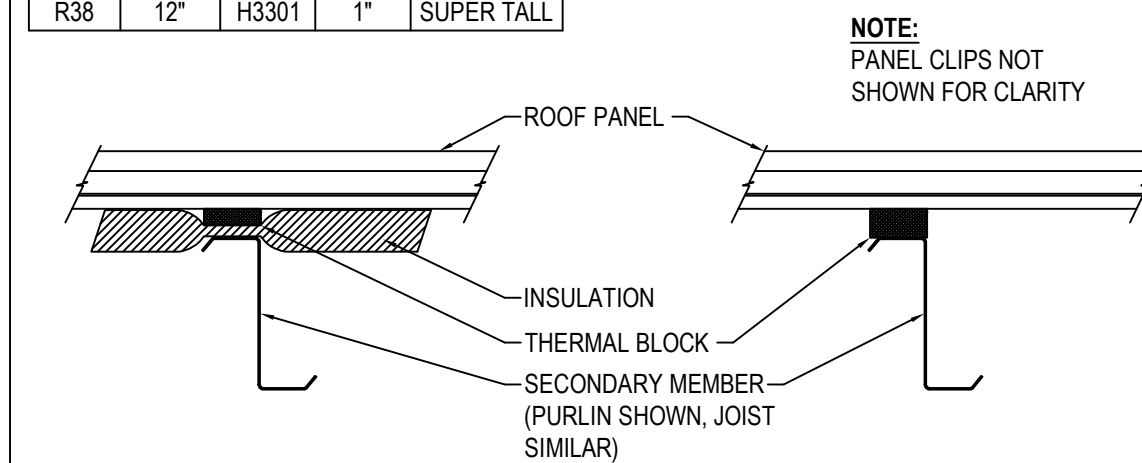
THERMAL BLOCKS OR FOAM SPACERS ARE TO BE USED OVER ANY SECONDARY MEMBER WITH THE EXCEPTION OF THE EAVE MEMBER WHERE THE EAVE PLATE IS LOCATED.

INSULATED ROOF

R	THICK	N/A	N/A	CLIP
R7	2"	N/A	N/A	SHORT
R10	3 3/8"	N/A	N/A	SHORT
R11	3 3/4"	N/A	N/A	SHORT
R13	4 3/8"	N/A	N/A	SHORT
R13	4 3/8"	H3303	1 1/2"	TALL
R16	5 1/4"	H3301	1"	TALL
R19	6 3/8"	H3301	1"	TALL
R25	8"	H3301	1"	TALL
R30	9 1/4"	H3301	1"	SUPER TALL
R32	10"	H3301	1"	SUPER TALL
R35	11 1/2"	H3301	1"	SUPER TALL
R38	12"	H3301	1"	SUPER TALL

UN-INSULATED ROOF

BLOCK	THICK	CLIP
H3310	1 1/2"	SHORT
H3305	1 1/2"	TALL
H3307	2 1/2"	SUPER TALL



ROOF SYSTEM COMPONENT WITH DETAILING

DEFINITION

COMPONENTS WITH DETAILING DEFINITION IS A CASE WHERE MBS IS PROVIDING THE ROOF SYSTEM TO BE USED IN CONJUNCTION WITH ANOTHER STRUCTURE. MBS REFERS TO THAT AS A "COMPONENTS WITH DETAILING." THIS SIMPLY MEANS THAT MBS SHALL CALCULATE THE QUANTITIES AND LENGTHS FOR THE MATERIAL REQUIRED. MBS IS PERFORMING NO ENGINEERING STUDY OF THE EXISTING STRUCTURE. THE ENGINEER OF RECORD ON THE PROJECT SHALL BE RESPONSIBLE FOR COORDINATING THE ROOF SYSTEM WITH THE OTHER TRADES OF THE PROJECT TO INSURE A SAFE, QUALITY AND PROPER APPLICATION OF THE ROOF SYSTEM.

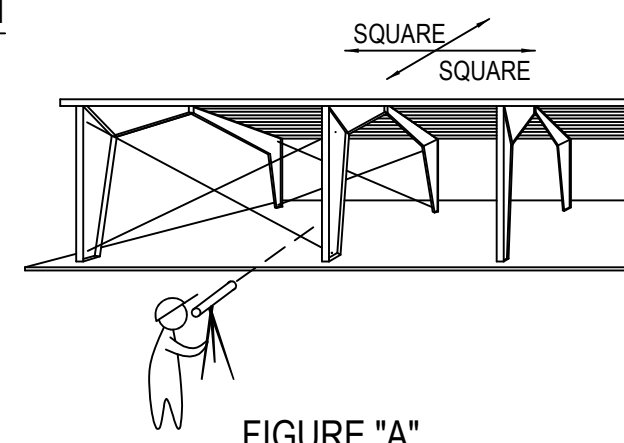
DIAPHRAGM

THE ROOF IS DESIGNED TO ACCOMMODATE THERMAL EXPANSION AND CONTRACTION AND WILL NOT ACT AS A DIAPHRAGM FOR RESISTING LATERAL LOAD FORCES OR PROVIDING LATERAL STABILITY TO THE ROOF STRUCTURAL MEMBERS. DUE CONSIDERATION FOR THIS MUST BE ADDRESSED BY THE PROJECT ENGINEER OF RECORD. IN ADDITION, THE ROOF SYSTEM, BECAUSE IT IS DESIGNED TO FLOAT, WILL NOT SUPPORT STRUCTURAL MEMBERS LATERALLY. WHEN REPLACING AN EXISTING SCREWDOWN ROOF, ADDITIONAL BRACING MAY BE REQUIRED TO LATERALLY SUPPORT THE MEMBERS. ENGINEERING AND MATERIAL FOR THESE USES SHALL NOT BE PROVIDED BY MBS.

BUILDING & PANEL PREPARATION

STEP 1: PLUMB AND SQUARE

THE FIRST STEP IN THE SUCCESSFUL INSTALLATION OF WALL PANELS IS TO HAVE THE PRIMARY FRAMING PLUMB AND SQUARE. FOR BEST RESULTS, IT IS RECOMMENDED THAT A TRANSIT BE USED WHEN ERECTING THE STRUCTURAL STEEL. MAKE SURE THAT THE FOUNDATION AND BUILDING STRUCTURE IS SQUARE, LEVEL, AND CORRECT TO THE OUT-TO-OUT STEEL LINE DIMENSIONS. SEE FIGURE "A"



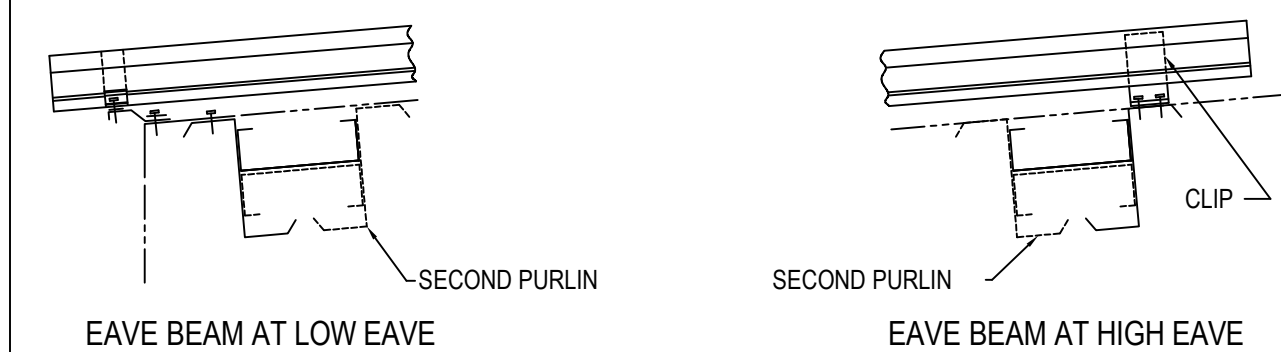
FIELD CUTTING PANELS

WHEN FIELD CUTTING OR MITERING WALL PANELS, NON-ABRASIVE CUTTING TOOLS SUCH AS NIBBLERS OR TIN-SNIPS SHALL BE USED. ABRASIVE CUTTING TOOLS SUCH AS MECHANICAL GRINDERS OR POWER SAWS CAN DAMAGE THE MATERIAL FINISH AND CREATE EXCESS METAL SHAVINGS THAT CAN CORRODE THE PANELS. THE USE OF NON-APPROVED CUTTING DEVICES MAY VOID THE FACTORY WARRANTY.

ANY METAL SHAVINGS THAT ARE CREATED NEED TO BE CLEANED FROM THE PANEL TO PREVENT SCRATCHING AND/OR CORROSION. THE MANUFACTURER WILL NOT ACCEPT CLAIMS FOR DAMAGE/DETERIORATION DUE TO USE OF UNAPPROVED TOOLS.

SPECIAL CONDITION AT A STRONG-BACK EAVE BEAM

IF THIS PROJECT HAS AN EAVE BEAM WITH (2) PURLINS, AS SHOWN, DO NOT ATTACH ROOF CLIPS TO THE "SECOND" PURLIN.



FASTENER INSTALLATION

RECOMMENDED TOOL TYPES: SEE ALSO FASTENER SCHEDULE

4 AMP OR HIGHER RATED TOOLS (DO NOT USE IMPACTING TOOLS) 2000 - 2500 RPM SCREW GUN WITH TORQUE ADJUSTABLE CLUTCH MANUAL OR ELECTRIC RIVET TOOL

DO NOT USE IMPACTING TOOLS

TO ASSURE PROPER VOLTAGE TO THE TOOL, EXTENSION CORDS SHOULD BE CHECKED FOR PROPER WIRE SIZE/CHORD LENGTH.

- 16 GAGE WIRE, MAXIMUM CHORD LENGTH = 100'
- 14 GAGE WIRE, MAXIMUM CHORD LENGTH = 200'
- 12 GAGE WIRE, MAXIMUM CHORD LENGTH = 300'

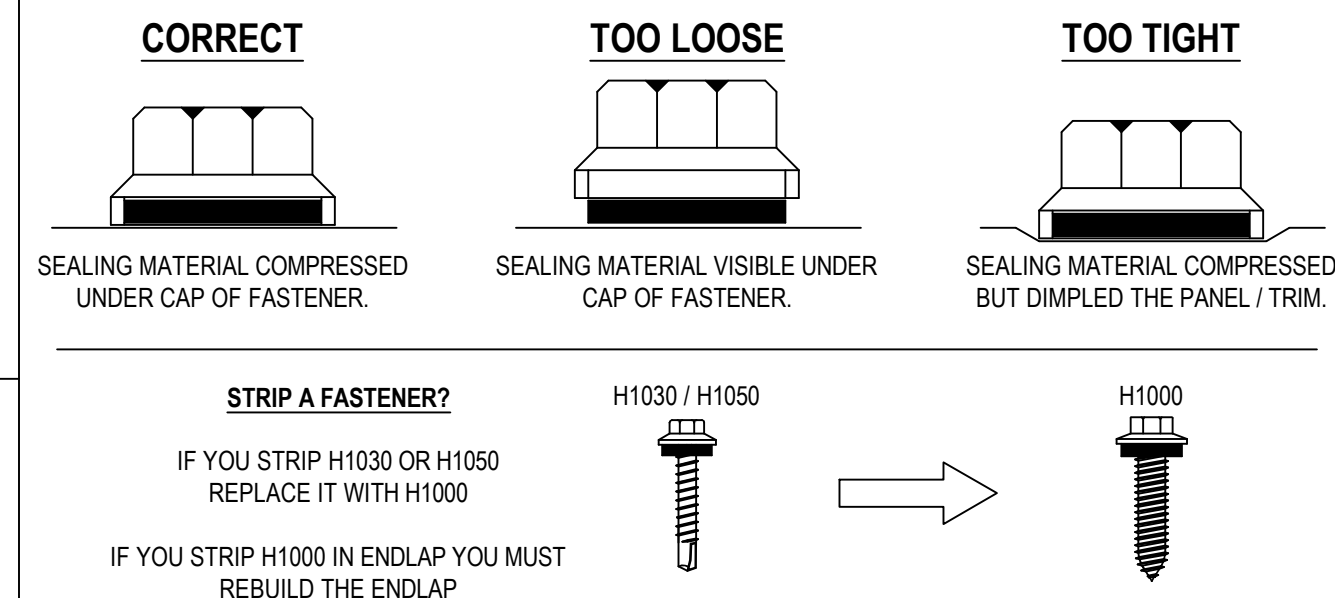
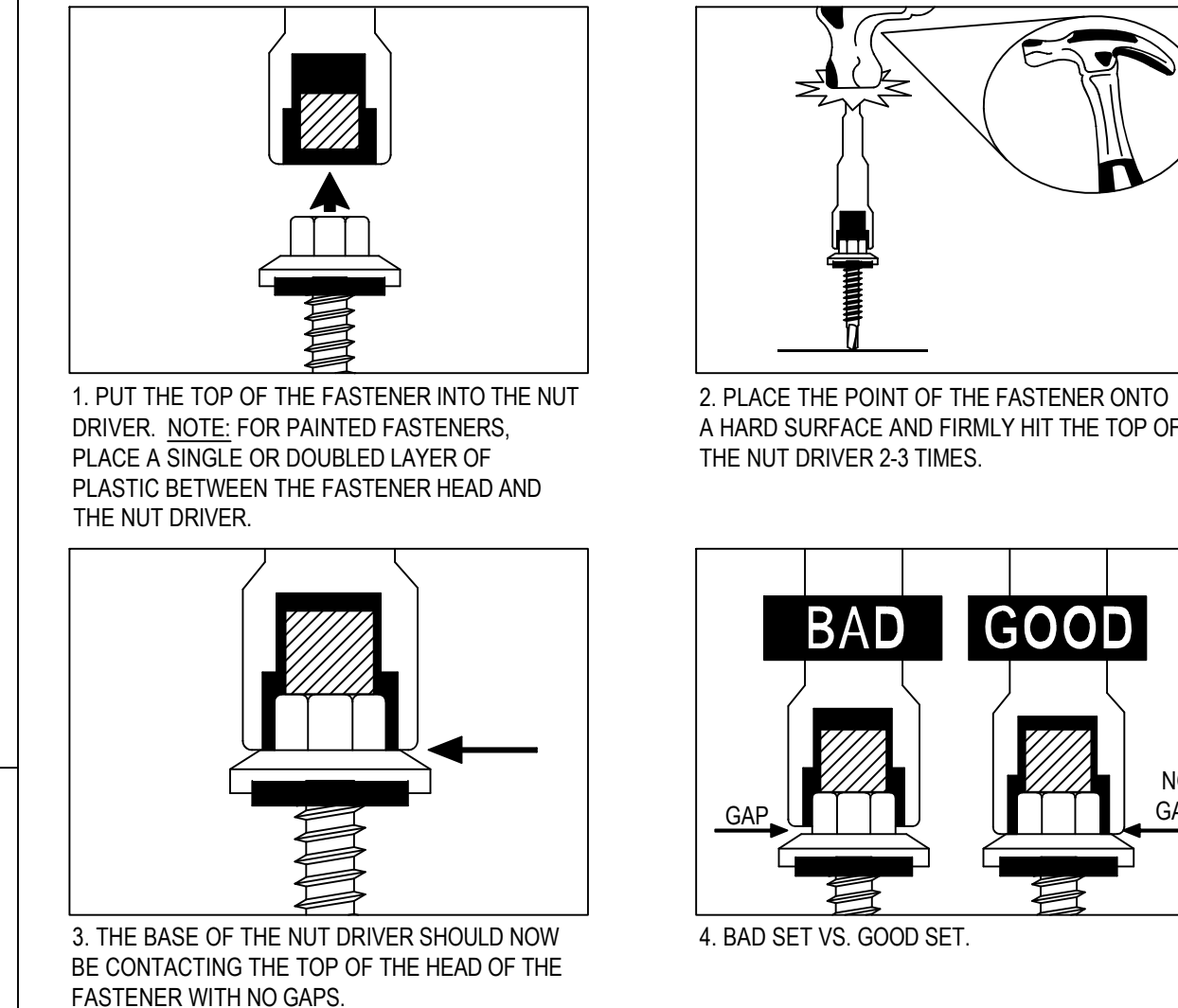
DRIVING TIPS:

SET THE NUT DRIVER AS DESCRIBED BELOW PRIOR TO INSTALLING FASTENERS TO PREVENT FASTENER WOBBLE...

SOCKET EXTENSIONS (4" OR 6") ARE RECOMMENDED TO BE USED FOR INSTALLING PANEL CLIP FASTENERS TO MAINTAIN VERTICAL FASTENER INSTALLATION.

EXCESSIVE PRESSURE CAN CAUSE DRILL POINT FAILURE. LET THE FASTENER DO THE WORK.

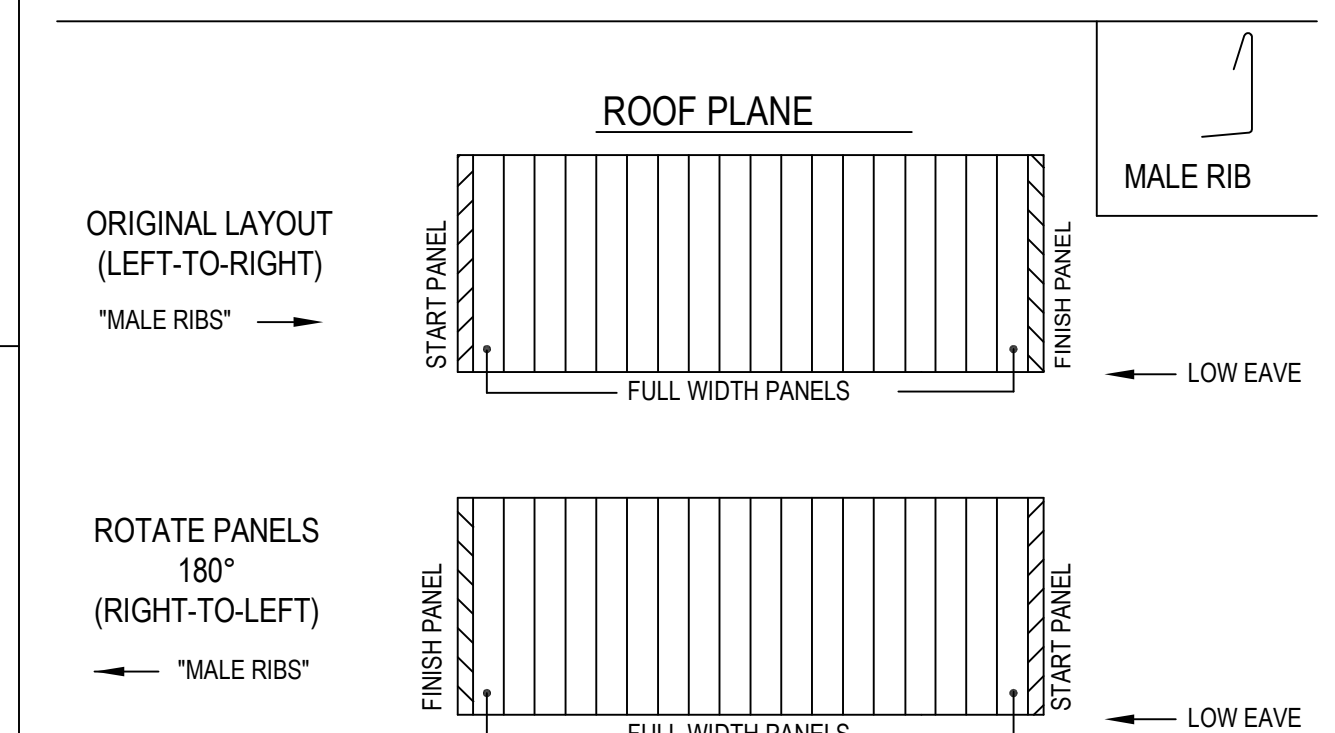
DO NOT OVER TIGHTEN FASTENERS AS THIS WILL LEAD TO PANEL DIMPLING AND DISTORTION.



ROOF SHEETING DIRECTION

1.) THE ROOF SHEETING PLAN IS SHOWN WITH THE ROOF PANELS BEING ERECTED FROM "LEFT-TO-RIGHT". IF THE DESIRE IS TO ERECT THE ROOF PANELS FROM "LEFT-TO-RIGHT", FOLLOW THE ROOF SHEETING PLAN AS SHOWN. IF THE DESIRE IS TO ERECT THE ROOF PANELS FROM "RIGHT-TO-LEFT", FOLLOW THE INSTRUCTIONS SHOWN BELOW.

2.) WHEN SETTING BUNDLES OF PANELS ON THE ROOF, THE "MALE RIB" MUST ALWAYS BE AWAY FROM THE END OF THE BUILDING WHERE THE SHEETING WILL BEGIN.



SS360 GENERAL NOTES

GENERAL ROOF PANEL NOTES

EA6010

BASIC INSTALLATION SEQUENCE

THE FOLLOWING STEPS OUTLINE THE BASIC INSTALLATION OF THE ROOF SYSTEM. REFERENCE THE SPECIFIC DETAILS WITHIN THIS ERECTION DRAWING SET FOR CONDITIONS SPECIFIC TO THIS PROJECT.

START PANEL PREPARATION

THE ROOF SYSTEM IS DESIGNED TO BE ELEVATED AND FLOAT ABOVE THE ROOF SUPPORT MEMBERS. BEGIN AT THE LOWER RAKE CORNER BY INSTALLING THE EAVE PLATE. (REFERENCE EAVE PLATE INSTALLATION BELOW)

AFTER EAVE PLATE HAS BEEN INSTALLED, STITCH THE FIRST ROLL OF ROOF INSULATION FROM RIDGE / HIGH EAVE TO LOW EAVE.

INSTALL THE RAKE CLIPS AND RAKE ANGLE TO SUPPORT / SECURE THE START PANEL. (REFERENCE RAKE ANGLE / RAKE CLIP PREPARATION TO THE RIGHT)

FIELD CUT AND INSTALL START PANEL

THE START PANEL IS SUPPLIED AS A FULL SHEET AND WILL NEED TO BE CUT. REFER TO THE ROOF SHEETING PLAN FOR START / FINISH DIMENSIONS AND RAKE DETAILS TO DETERMINE PROPER PANEL CUT. INSTALL THE START PANEL (LOW EAVE PANEL FIRST IF PANEL RUN IS LONG ENOUGH TO REQUIRE ENLAPS) BY SECURING THE PANEL TO THE EAVE PLATE AND RAKE ANGLE. (REFERENCE LOW EAVE AND RAKE DETAILS). INSTALL PANEL CLIPS ON LEADING EDGE OF PANEL AS SHOWN IN THE PANEL CLIP DETAIL. CONTINUE TO INSTALL UPSLOPE START PANEL IF ENLAPS ARE REQUIRED. REFERENCE THE BACKUP PLATE DETAIL AND ENLAP DETAIL FOR ATTACHMENT OF START PANEL(S) AT RAKE ANGLE.

INTERMEDIATE PANEL & MODULARITY

THE INTERMEDIATE PANELS (FULL PANELS) SHOULD BE INSTALLED BY ROLLING THE PANEL INTO PLACE ENSURING THE SEAM IS FULLY ENGAGED. SECURE THE PANELS WITH PANEL CLIPS AND THE LOW EAVE ACROSS THE ROOF. IT IS RECOMMENDED TO INSTALL THE OUTSIDE CLOSURE AT THE HIGH EAVE / RIDGE AS THE ROOF PROGRESSES. THIS WILL HELP MAINTAIN MODULARITY. (REFERENCE HIGH EAVE / RIDGE DETAILS)

FINISH PANEL

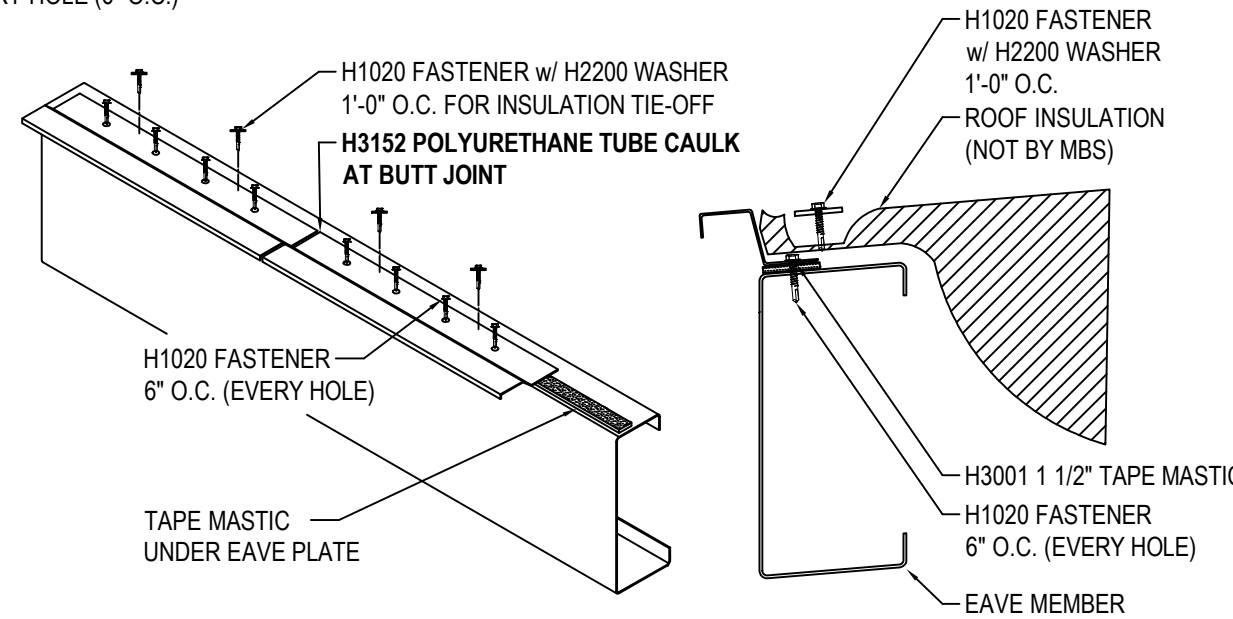
THE FINISH PANEL IS SIMILAR TO THE START PANEL INSTALLATION. THE RAKE ANGLE CLIPS AND RAKE ANGLE NEEDS TO BE INSTALLED ON TOP OF THE INSULATION PRIOR TO INSTALLING THE FINISH PANEL. THE FINISH PANEL SHOULD BE FIELD CUT AND ROLLED INTO PLACE AND SECURED TO THE RAKE ANGLE SIMILAR TO THE START PANEL.

TRIM INSTALLATION

TRIM INSTALLATION CAN BE DONE AFTER THE ROOF PANELS ALL HAVE BEEN INSTALLED OR CAN BE INSTALLED AS ENOUGH PANELS HAVE BEEN INSTALLED FOR ATTACHMENT OF TRIMS. (REFERENCE TRIM DETAILS)

EAVE PLATE INSTALLATION

PLACE TAPE MASTIC ON TOP OF EAVE MEMBER PRIOR TO INSTALLING EAVE PLATE. INSTALL EAVE PLATE BY FASTENING EVERY HOLE TO EAVE MEMBER (6" O.C.) PRIOR TO INSULATION BEING INSTALLED. SECURE INSULATION WITH FASTENER & INSULATION RETAINER WASHER. NOTE: IF NO ROOF INSULATION IS USED SECURE EAVE PLATE IN EVERY HOLE (6" O.C.)

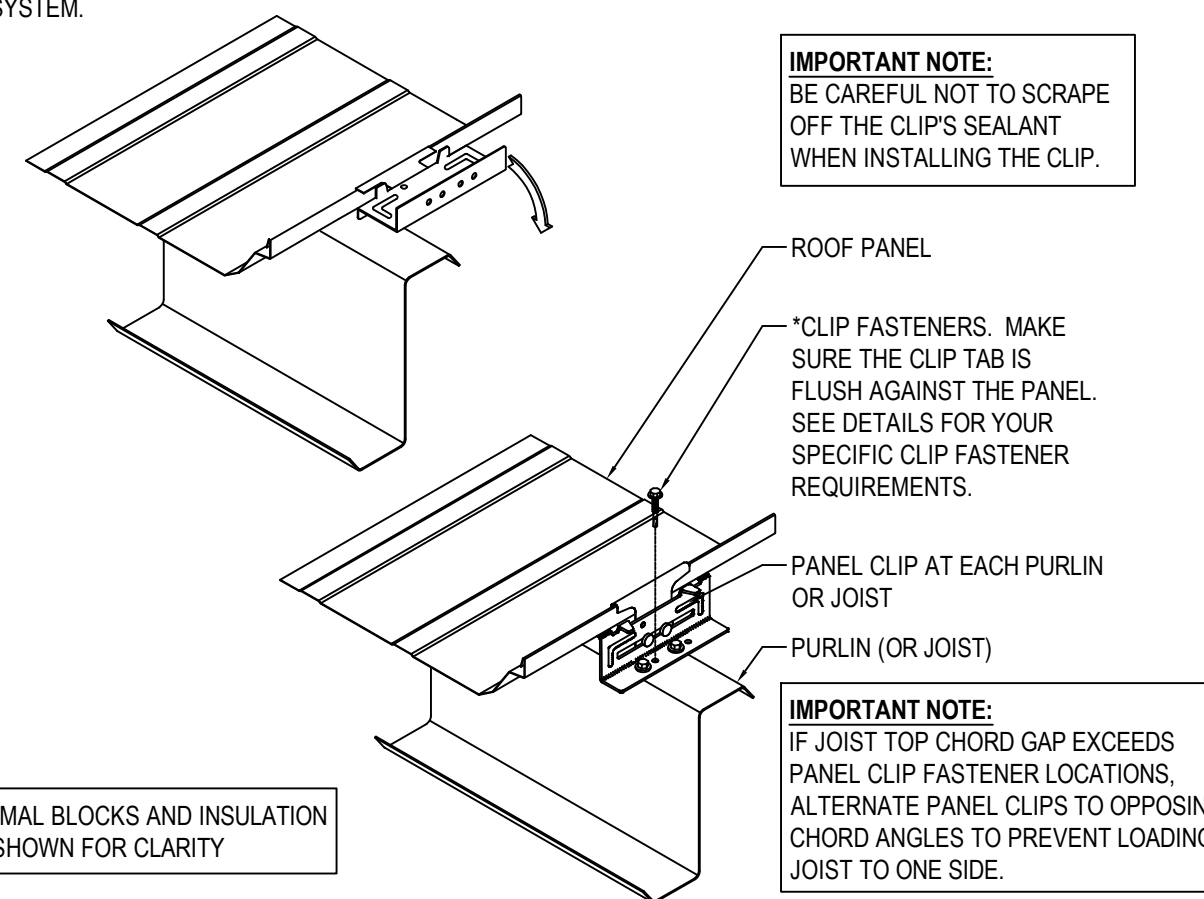


NOTE: H1020/H1070 (PURLIN/JOIST) FASTENER w/ H2200 WASHER 1'-0" O.C. FOR INSULATION TIE-OFF PROVIDED AT HIGH SIDE / RIDGE

	SHORT EAVE PLATE	TALL EAVE PLATE	SUPPER TALL EAVE PLATE
EPS108	BASIC EAVE / GUTTER	EPT108	BASIC EAVE / GUTTER
EPX108			BASIC EAVE / GUTTER

PANEL CLIP INSTALLATION

BEFORE INSTALLING THE PANEL CLIP, FEEL FOR THE SUPPORT MEMBER BELOW THE INSULATION. ALIGN CLIP CENTERED OVER THE SUPPORT MEMBER AND ROLL CLIP OVER THE MALE HOOK OF THE PANEL. FASTEN CLIP WITH FASTENERS AS SPECIFIED IN THE DETAILS BASED ON THE SUPPORT MEMBER AND INSULATION UTILIZED FOR THE ROOF SYSTEM.



IMPORTANT NOTE: BE CAREFUL NOT TO SCRAPE OFF THE CLIP'S SEALANT WHEN INSTALLING THE CLIP.

*CLIP FASTENERS. MAKE SURE THE CLIP TAB IS FLUSH AGAINST THE PANEL. SEE DETAILS FOR YOUR SPECIFIC CLIP FASTENER REQUIREMENTS.

IMPORTANT NOTE: IF JOIST TOP CHORD GAP EXCEEDS PANEL CLIP FASTENER LOCATIONS, ALTERNATE PANEL CLIPS TO OPPOSING CHORD ANGLES TO PREVENT LOADING JOIST TO ONE SIDE.

THERMAL BLOCKS AND INSULATION NOT SHOWN FOR CLARITY

CLIP FASTENER SELECTION

R-Boost™ APPLICATION SEE DETAIL FA2010

PURLIN APPLICATION
H1020 FOR INSULATION ≤R-19 (6 3/8")
H1025 FOR INSULATION >R-19 (6 3/8") AND ≤R-38 (12")

JOIST APPLICATION
H1070 FOR INSULATION ≤R-19 (6 3/8")
H1075 FOR INSULATION >R-19 (6 3/8") AND ≤R-38 (12")

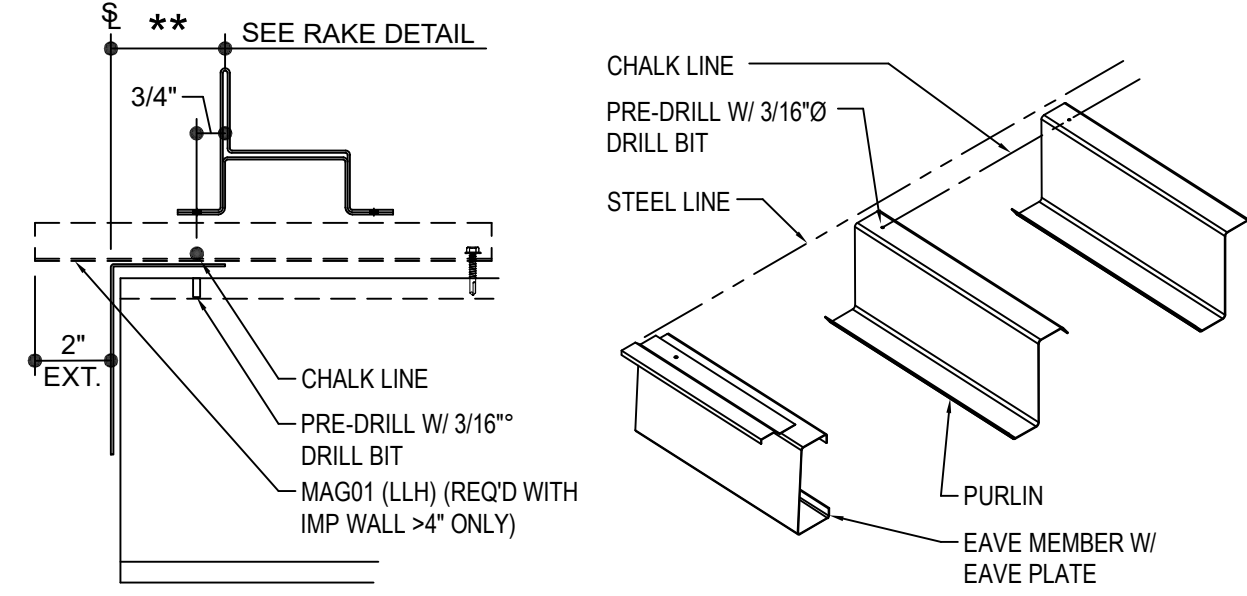
STANDARD CLIPS		PERIMETER CLIPS	
PART #	PART DESCRIPTION	PART #	PART DESCRIPTION
S3PC-1	SHORT CLIP	S3PC-1P	12" SHORT CLIP
S3PC-1R	SHORT CLIP - REINFORCED	S3PC-2TP	12" TALL CLIP
S3PC-2T	TALL CLIP		
S3PC-2TR	TALL CLIP - REINFORCED		
S3PC-5T	SUPER TALL CLIP		

RAKE ANGLE / RAKE CLIP PREPARATION

PRIOR TO INSTALLING THE ROOF INSULATION THE SECONDARY MEMBER WILL NEED TO BE PRE-DRILLED FOR THE RAKE CLIPS. PRE-DRILLING WILL MAKE INSTALLATION OF THE RAKE AND CLIPS MUCH EASIER AFTER INSULATION IS IN PLACE. DO NOT INSTALL RAKE CLIPS UNTIL INSULATION (IF REQUIRED) IS INSTALLED. **RAKE CLIP IS INSTALLED ON TOP OF THE INSULATION.**

SNAP A CHALK LINE AS SHOWN BELOW FROM HIGH EAVE / RIDGE TO LOW EAVE. DRILL 3/16" Ø HOLE CENTERED ON SECONDARY MEMBER. THIS HELPS TO ALIGN THE START PANEL.

NOTE: IMP WALL PANEL >4" THICK REQUIRE ANGLES ON TOP OF SECONDARY MEMBER EXTENDED BEYOND STEEL LINE TO ALLOW FOR RAKE CLIP ATTACHMENT. ATTACH WITH (1) H1020 / H1070 TO PURLIN / JOIST PRIOR TO RAKE CLIP INSTALLATION.

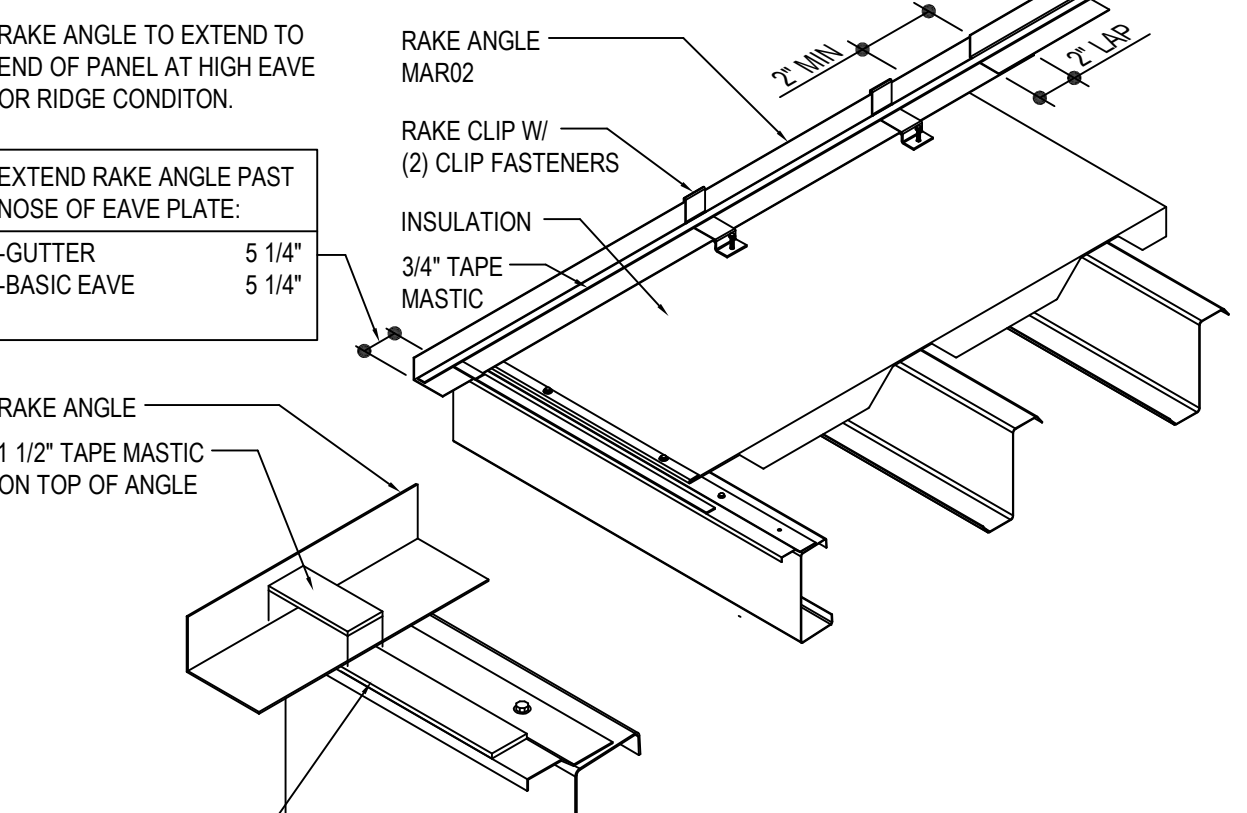


RAKE ANGLE / RAKE CLIP INSTALLATION

AFTER INSULATION IS IN PLACE AND PRIOR TO INSTALLING THE RAKE CLIPS AND RAKE ANGLE APPLY 1 1/2" TAPE MASTIC ON TOP OF THE EAVE PLATE BUT ONLY REMOVE PAPER BACKING WHERE THE RAKE ANGLE WILL REST. THIS WILL SEAL BETWEEN THE EAVE PLATE AND THE RAKE ANGLE.

SLIDE RAKE CLIPS ONTO RAKE ANGLE PRIOR TO SECURING THE RAKE CLIPS TO THE SECONDARY MEMBERS. PLACE THE RAKE CLIPS AND ANGLE OVER THE INSULATION USING A SMALL DRIFT PIN TO LOCATE THE PRE-DRILLED HOLE. INSTALL FASTENER THROUGH OPPOSITE CLIP HOLE INTO SECONDARY MEMBER. REMOVE DRIFT PIN AND INSTALL SECOND FASTENER TO SECURE CLIP. NOTE: (2) SCREWS ARE REQUIRED IN EVERY CLIP. DO NOT CUT INSULATION OUT FROM AROUND THE CLIP.

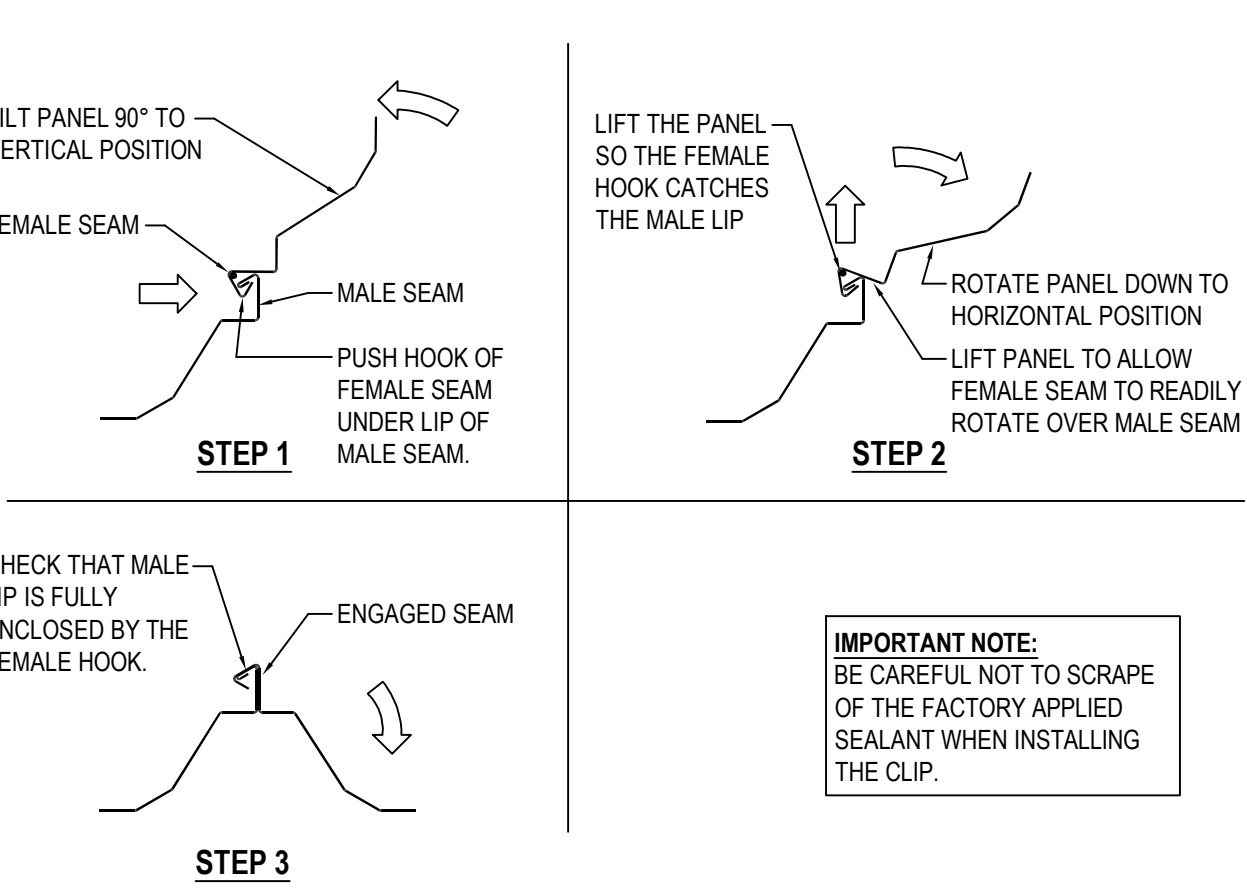
PLACE ADDITIONAL PIECE OF 1 1/2" TAPE MASTIC ON TOP OF RAKE ANGLE AND MARRY INTO EAVE PLATE MASTIC. NEXT RUN 3/4" TAPE MASTIC ALONG BEND OF RAKE ANGLE.



RAKE CLIP	
H2041	SHORT CLIPS
H2051	TALL CLIPS
H2061	SUPER TALL CLIPS

PANEL INSTALLATION

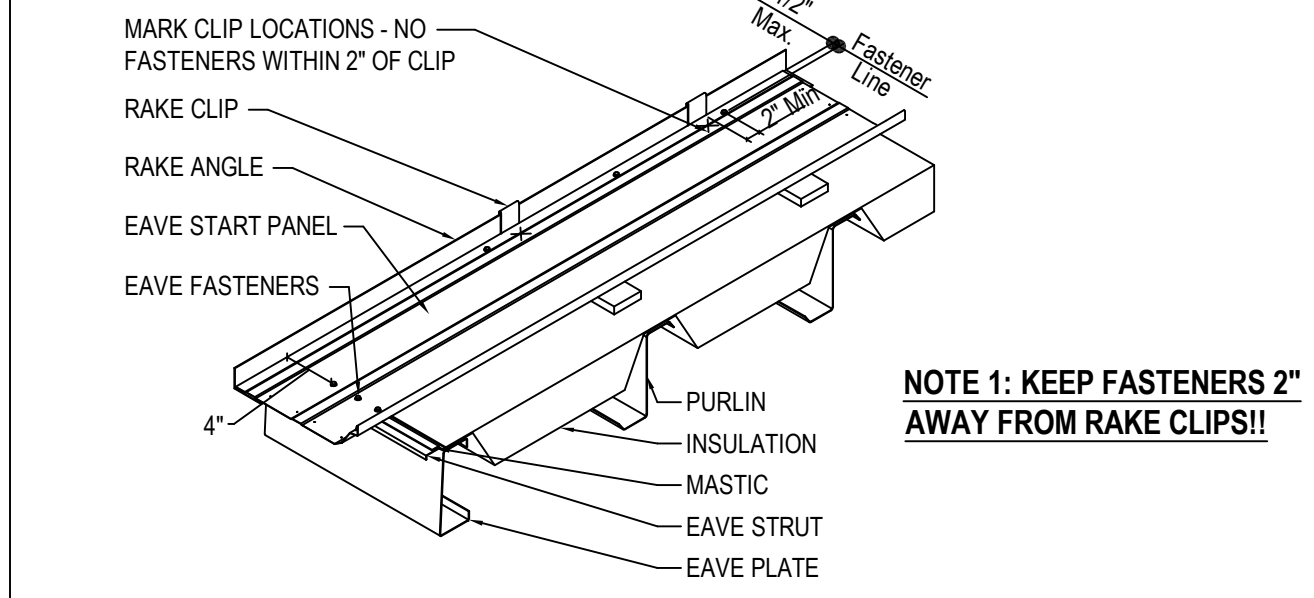
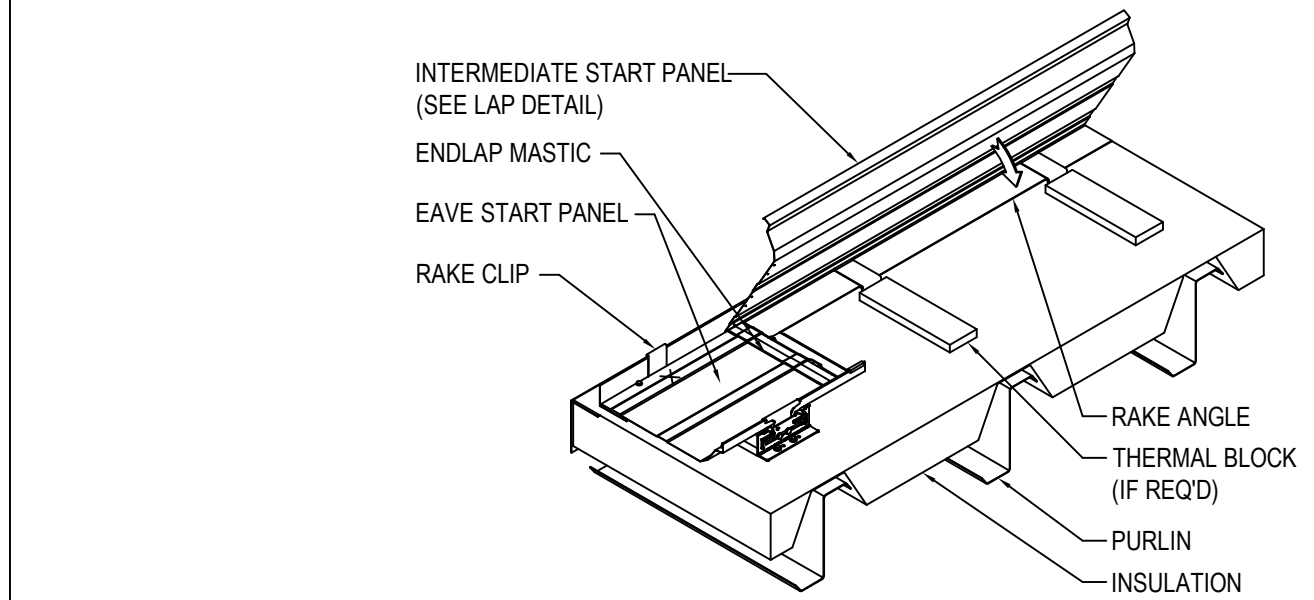
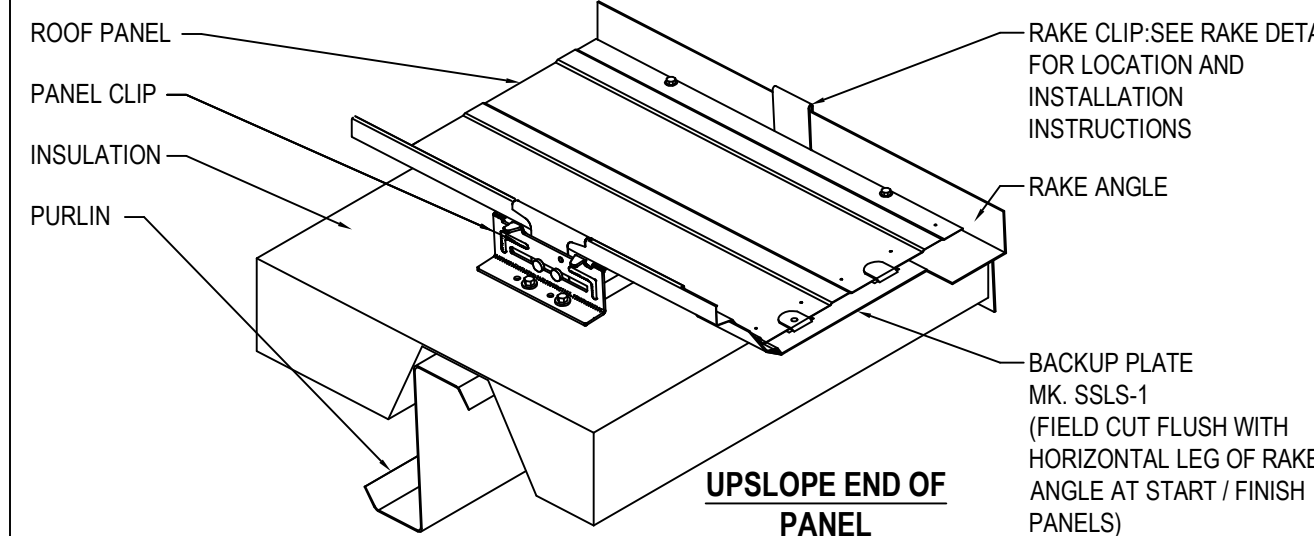
THE PANEL IS DESIGNED TO INTERLOCK AND HOOK TOGETHER AT THE SEAM. IN ORDER TO HOOK THE PANEL LAY PANEL WITH FEMALE RIB OVER TOP OF THE MALE RIB. TILT THE LEADING PANEL UP UNTIL THE HOOK CATCHES THE LIP OF THE MALE RIB. ROTATE THE PANEL DOWN WHILE ENSURING THE PANEL HOOKS ENGAGED COMPLETELY UP THE RIB OF THE PANEL.



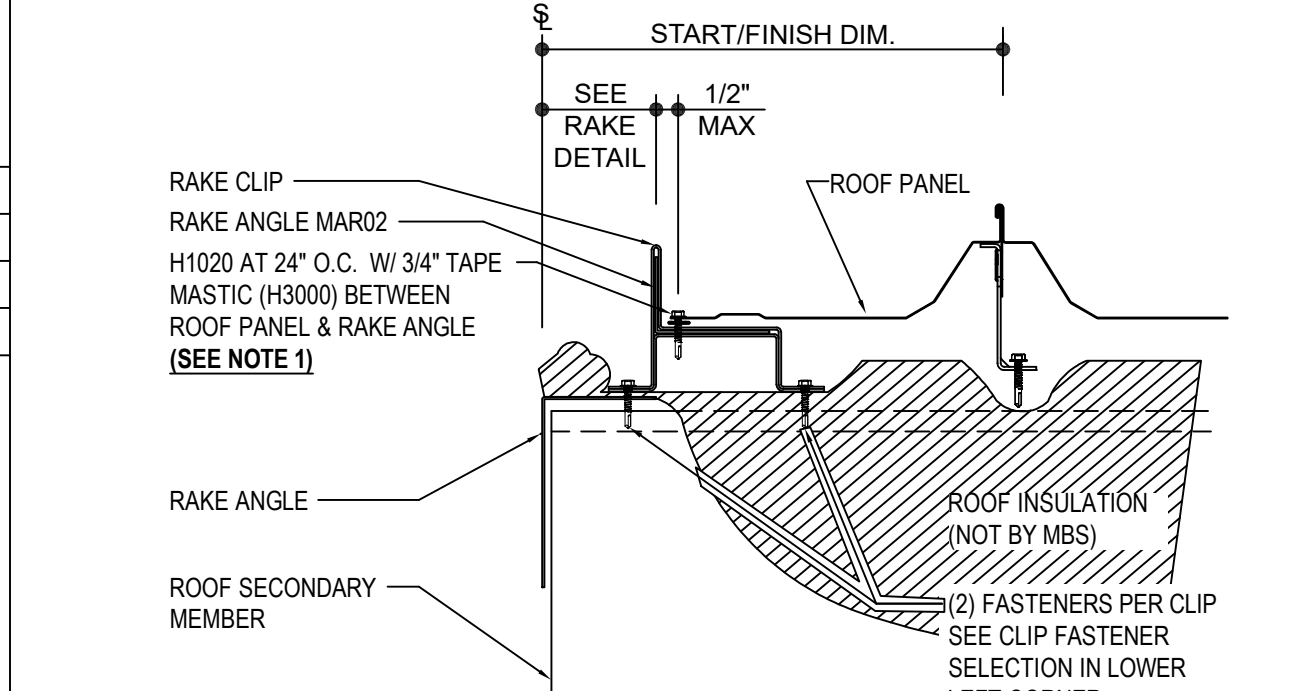
IMPORTANT NOTE: BE CAREFUL NOT TO SCRAPE OFF THE FACTORY APPLIED SEALANT WHEN INSTALLING THE CLIP.

BACKUP PLATE INSTALLATION

THE BACKUP PLATE PROVIDES SUPPORT AT THE ENLAP AND HIGH SIDE OF THE PANEL TO ALLOW FOR COMPRESSION OF SEALANTS. THE BACK UP PLATE HAS NOTCHES THAT SLIDE ONTO THE PANEL TO LOCATE AND HOLD THE BACKUP PLATE IN PLACE. AT THE RAKE CONDITION, THE BACKUP PLATE IS TO BE FIELD CUT FLUSH WITH THE HORIZONTAL LEG OF THE RAKE ANGLE. DO NOT EXTEND BACKUP PLATE ON TOP OF RAKE ANGLE.

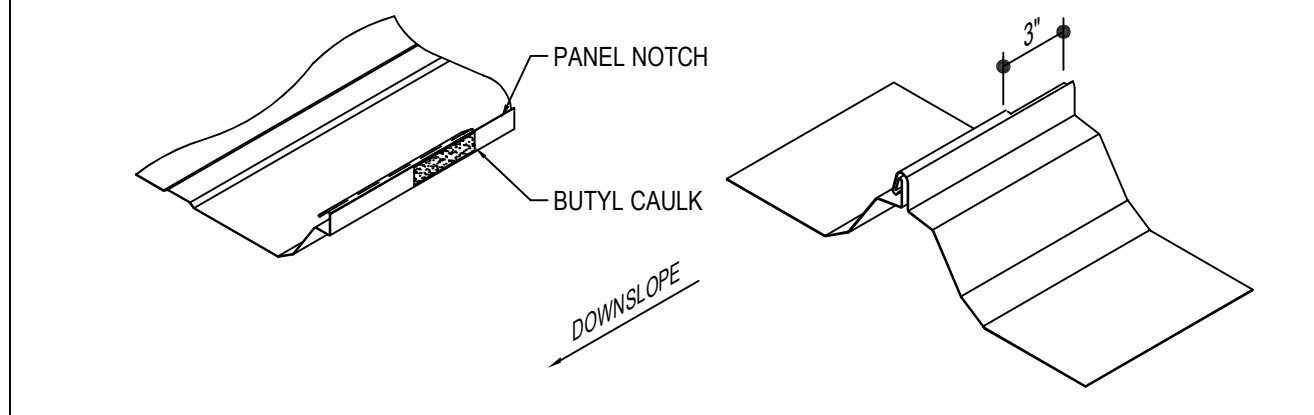


NOTE 1: KEEP FASTENERS 2" AWAY FROM RAKE CLIPS!



PANEL HIGH EAVE PREPARATION

BEFORE INSTALLING ADJOINING PANELS, APPLY 3" OF BUTYL CAULK ON THE MALE RIB FROM THE PANEL NOTCH DOWNSLOPE AS SHOWN TO SEAL PANEL SEAM. THE FEMALE RIB WILL NEED TO BE FIELD NOTCHED TO MATCH THE MALE RIB TO ALLOW THE OUTSIDE CLOSURE TO FIT PROPERLY. IT IS RECOMMENDED FOR THE NOTCH TO BE DONE BEFORE THE PANEL IS ROLLED INTO PLACE FOR EASE BUT CAN BE DONE AFTER. AFTER THE PANEL IS ROLLED INTO PLACE AND FIELD NOTCHED SLIDE THE BACKUP PLATE ONTO THE PANEL.



OUTSIDE CLOSURE MASTIC INSTALLATION

START & FINISH PANEL NOTE: OUTSIDE CLOSURE CANNOT BE INSTALLED IN THE START / FINISH PANEL UNTIL THE RAKE TRIM IS INSTALLED.

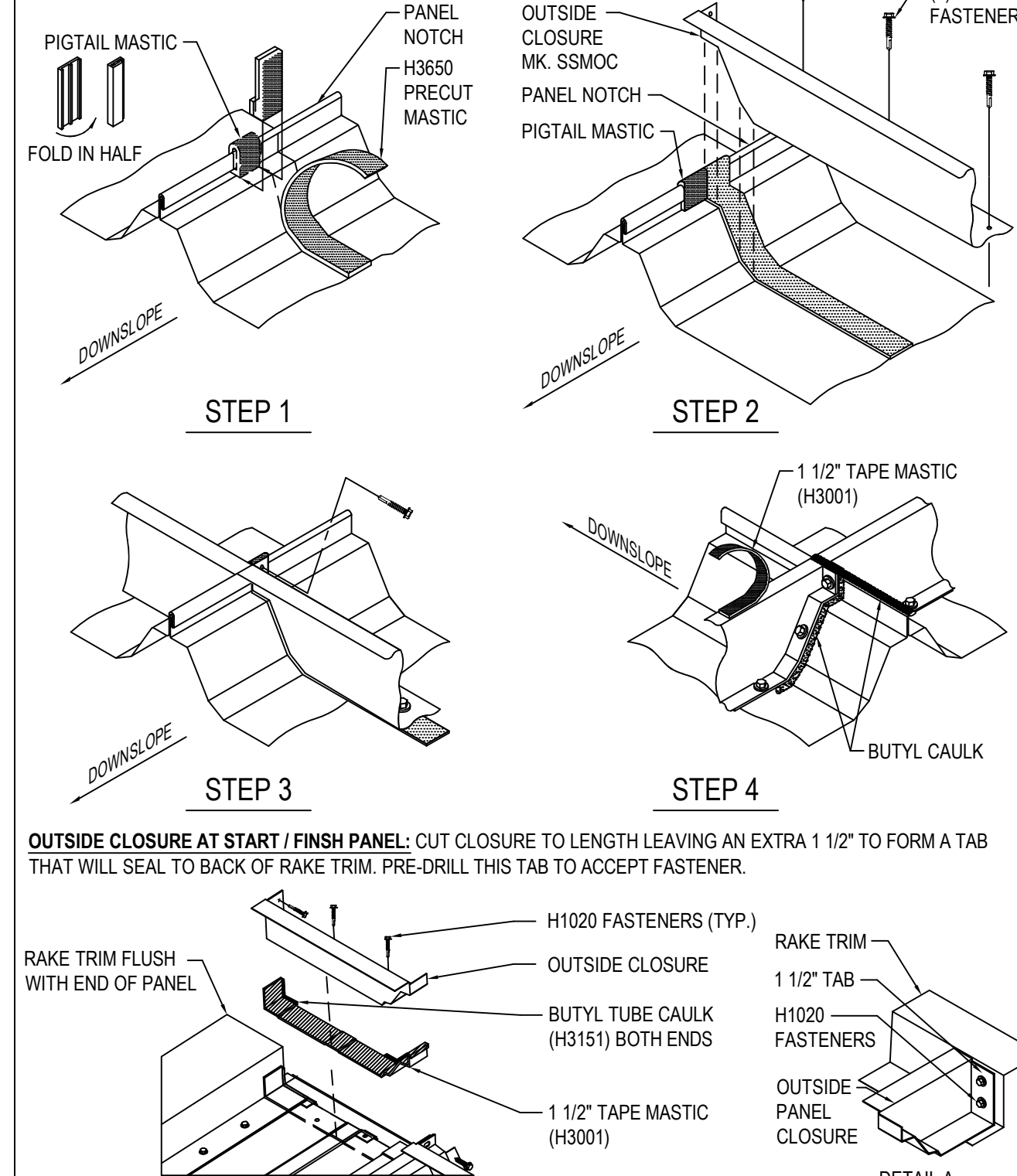
MODULARITY NOTE: OUTSIDE CLOSURE MUST BE INSTALLED AS ROOF PROGRESSES. AS NEXT PANEL IS INSTALLED, CLOSURE MUST BE INSTALLED IN THE PREVIOUS PANEL RUN.

STEP 1: APPLY THE PRECUT MASTIC ACROSS THE PANEL WITH THE BOTTOM OF THE MASTIC IN LINE WITH THE NOTCH. PRESS THE MASTIC INTO THE CORNERS OF THE TRAPEZOID TO ENSURE THERE ARE NO GAPS. CUT A 3" PIECE OF THE PRECUT MASTIC TO PLACE A PIGTAIL AROUND THE PANEL RIB WHERE THE NOTCH IS LOCATED. FOLD PIG TAIL AS SHOWN AND PRESS INTO VOID UNDER SEAM. MARRY PIGTAIL TO PRECUT AND SEAL END OF PANEL SEAM.

STEP 2: ALIGN THE OUTSIDE CLOSURE WITH THE NOTCH AND SEAT INTO THE PRECUT MASTIC. ATTACH THE OUTSIDE CLOSURE THROUGH THE PREPUNCHED HOLES THROUGH THE PANEL AND INTO THE BACKUP PLATE.

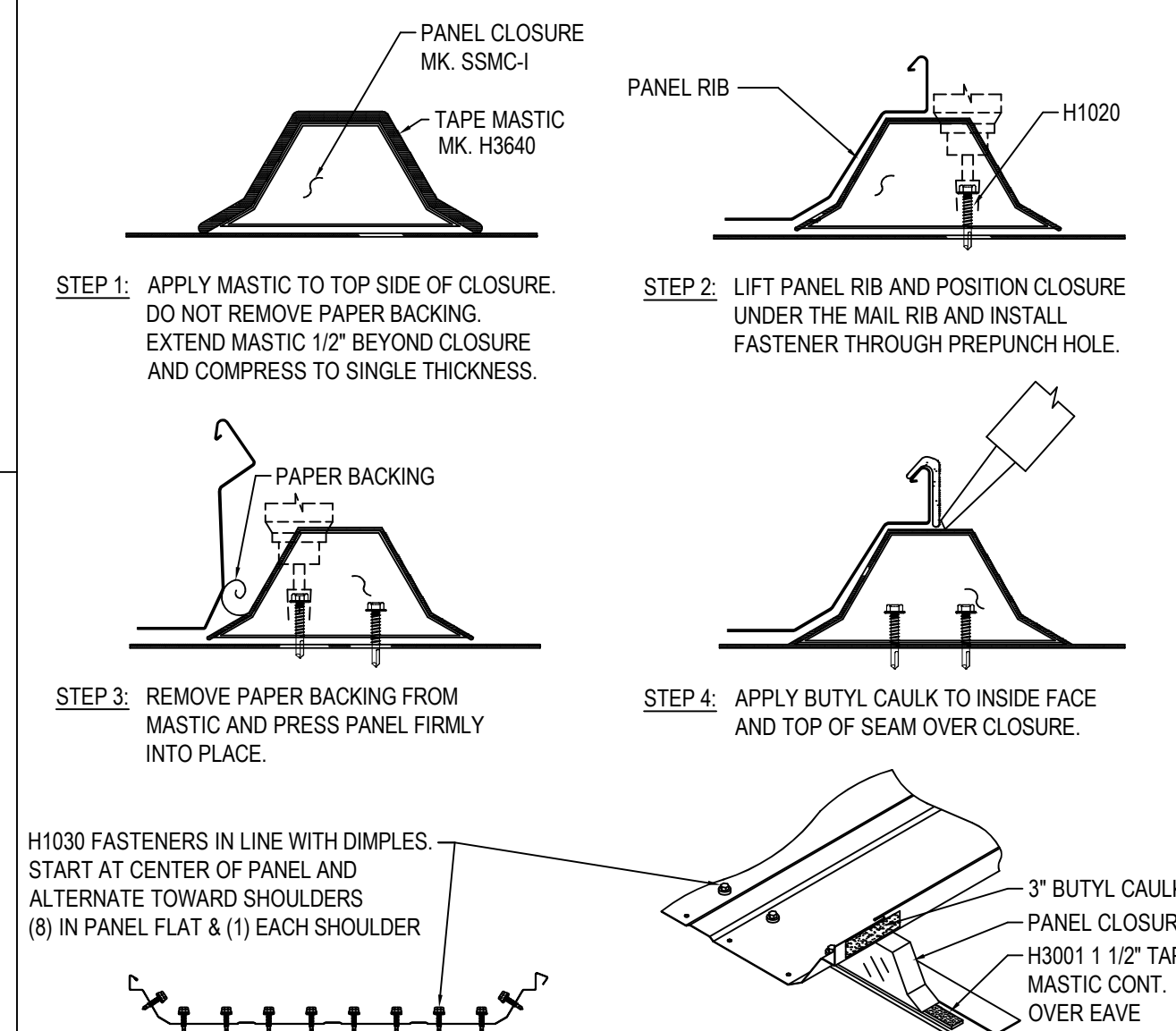
STEP 3: INSTALL FASTENER THROUGH RIB INTO ADJACENT OUTSIDE CLOSURE TO DRAW THEM TOGETHER.

STEP 4: PRIOR TO INSTALLING TRIM, APPLY BUTYL CAULK DOWN PROFILE OF TRAPEZOID AND 1" MIN ONTO PANEL FLAT. ALSO APPLY BUTYL CAULK FULL LENGTH OF NOTCH AND ACROSS JOINT OF ADJACENT OUTSIDE CLOSURES. ROLL OUT TAPE MASTIC ACROSS TOP OF OUTSIDE CLOSURES FOR TRIM SEALANT.



VOID CLOSURE INSTALLATION

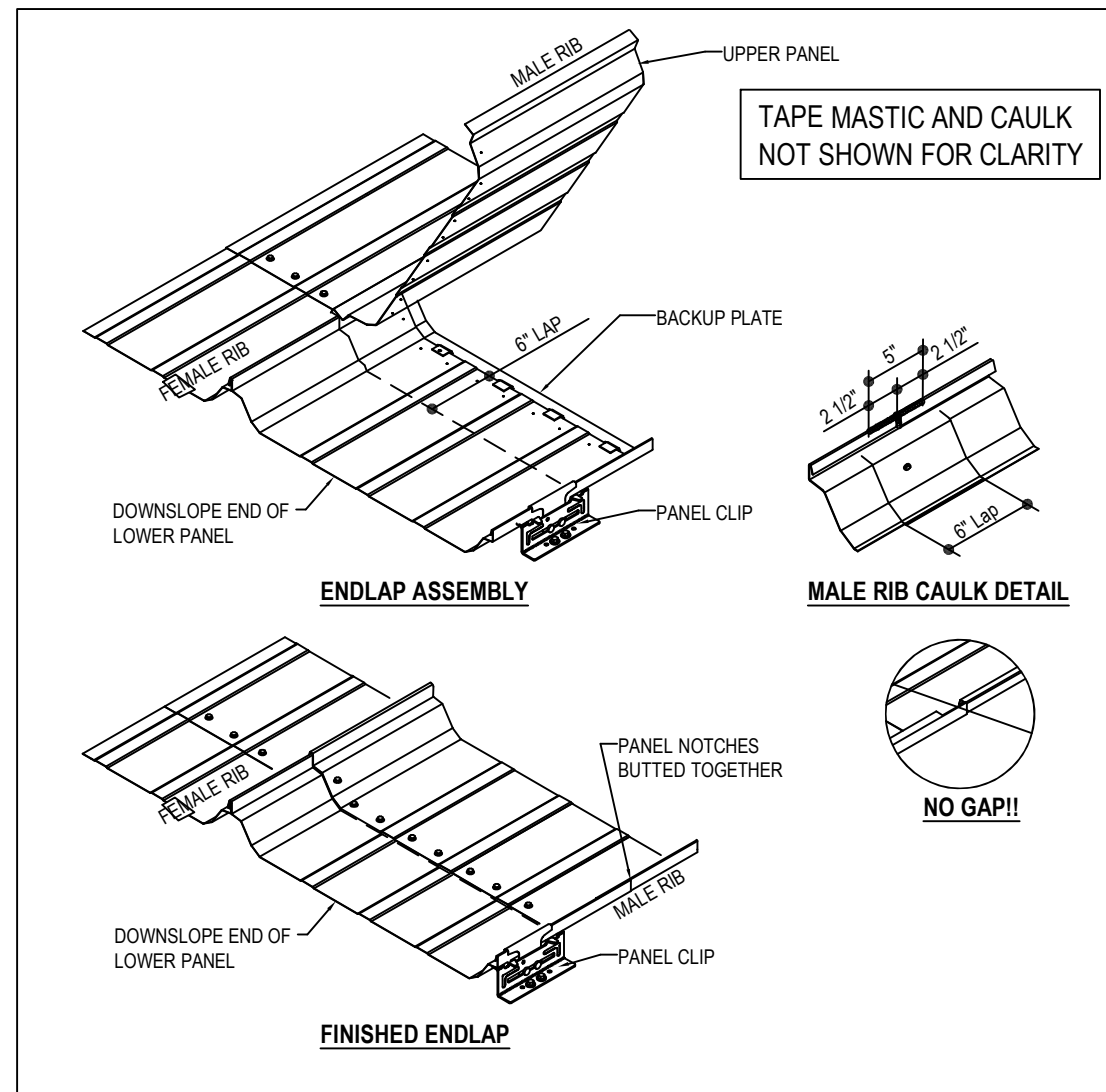
IT IS CRITICAL TO ENSURE THAT THE TAPE MASTIC OVER THE CLOSURE DOES NOT LEAVE GAPS AT THE CORNERS AND THAT THE BUTYL CAULK IN PANEL RIB JOINS THE TAPE MASTIC OVER THE CLOSURE.



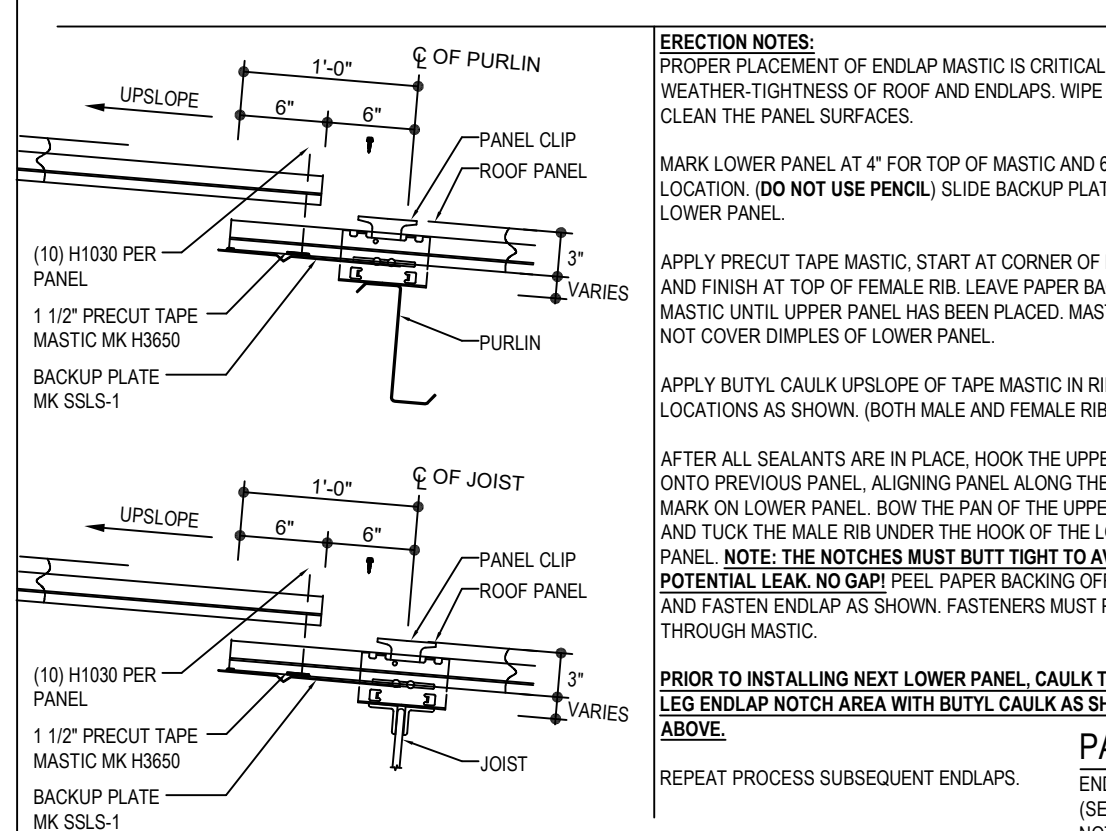
SS360 BASIC INSTALLATION DETAIL

BASIC PANEL INSTALLATION INSTRUCTIONS SEE ROOFLINE TRIM DETAILS FOR FURTHER INFORMATION

EA6011



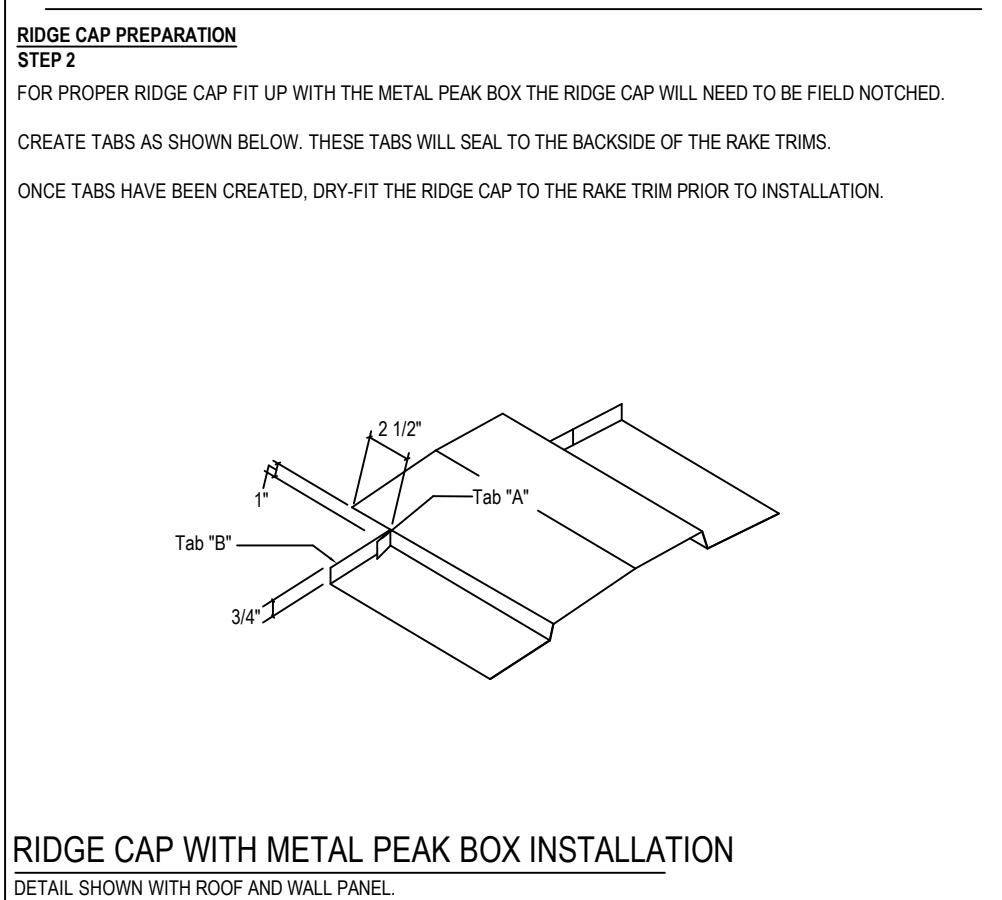
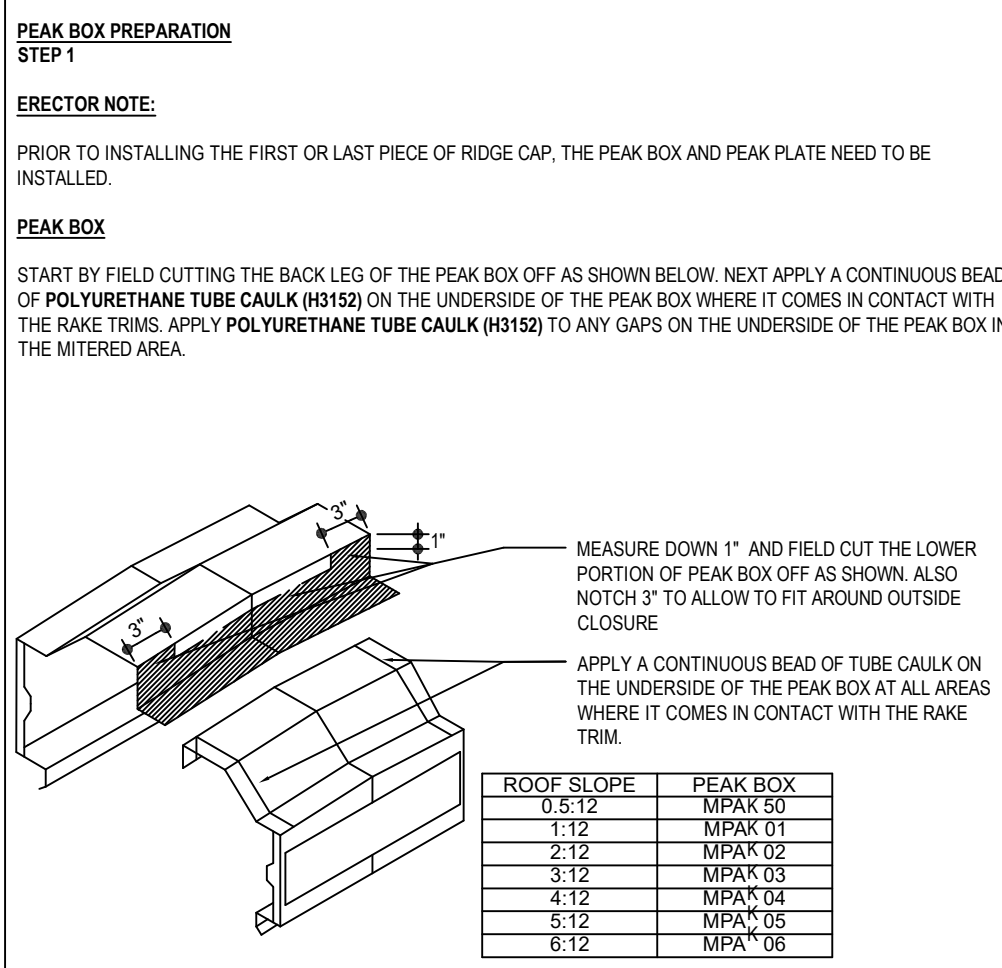
TAPE MASTIC AND CAULK NOT SHOWN FOR CLARITY



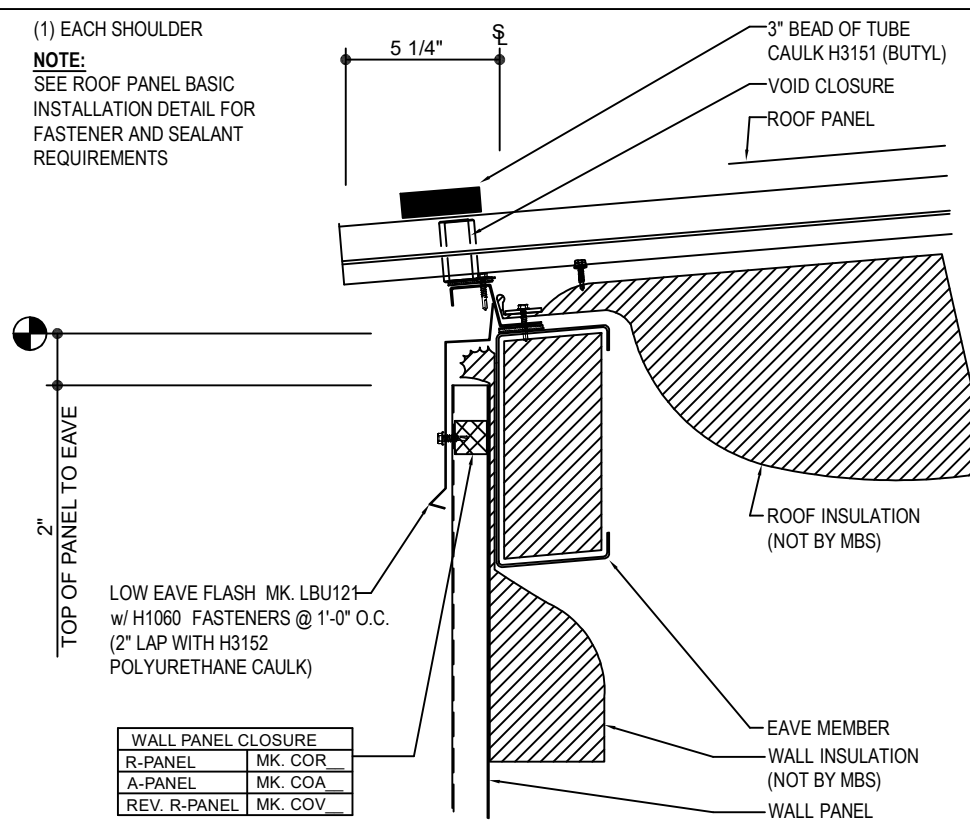
PANEL ENDLAP DETAIL

EA6020

METAL PEAK BOX PREPARATION

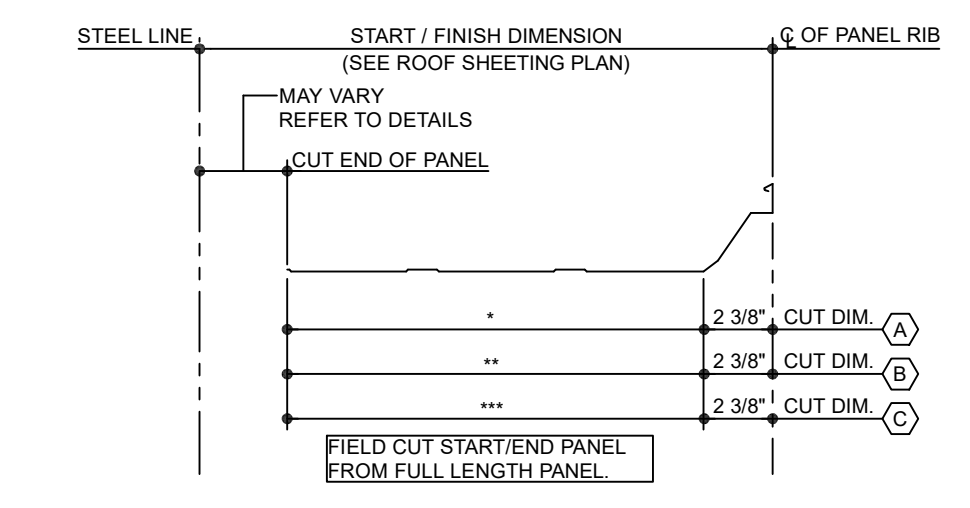


RIDGE CAP WITH METAL PEAK BOX INSTALLATION



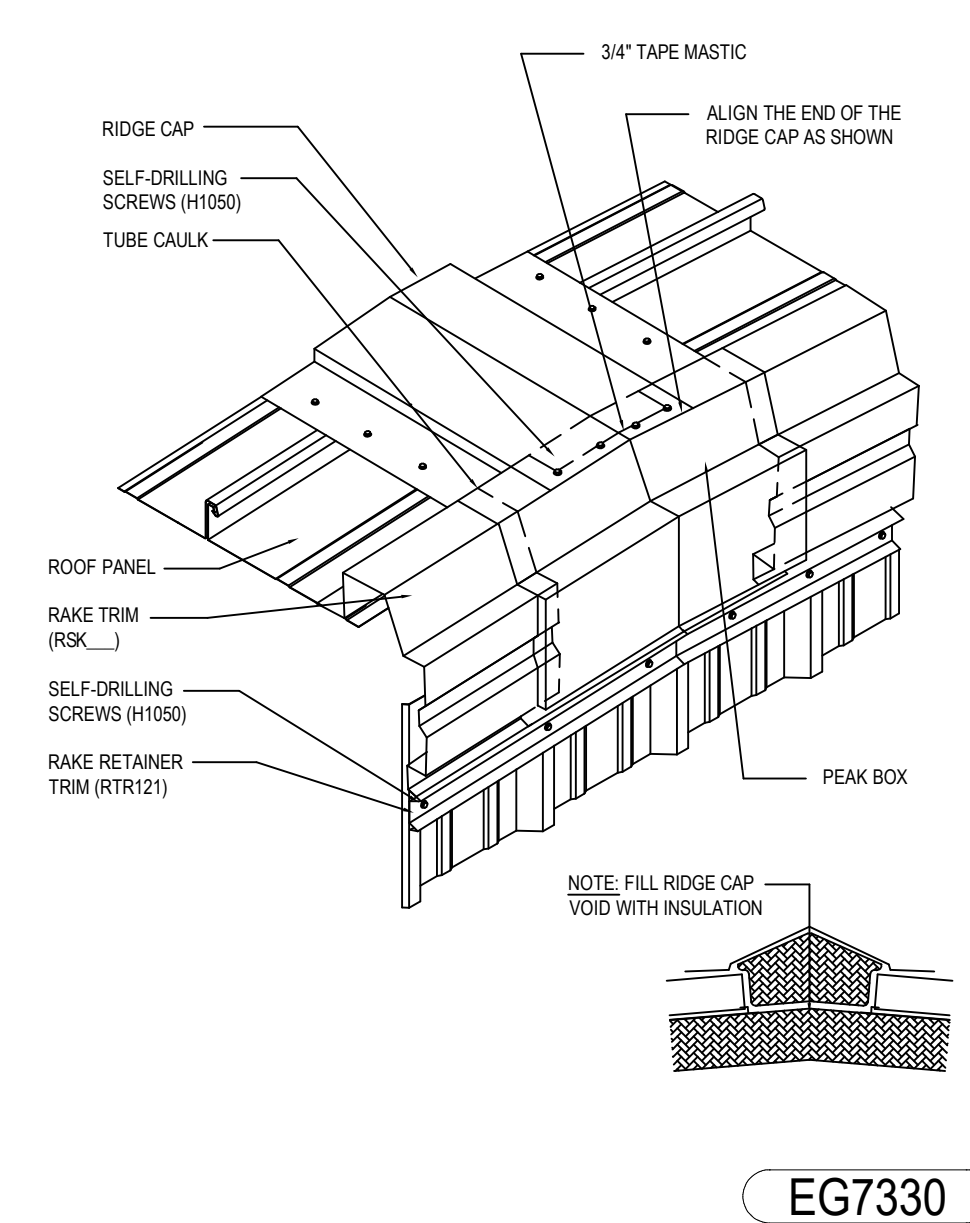
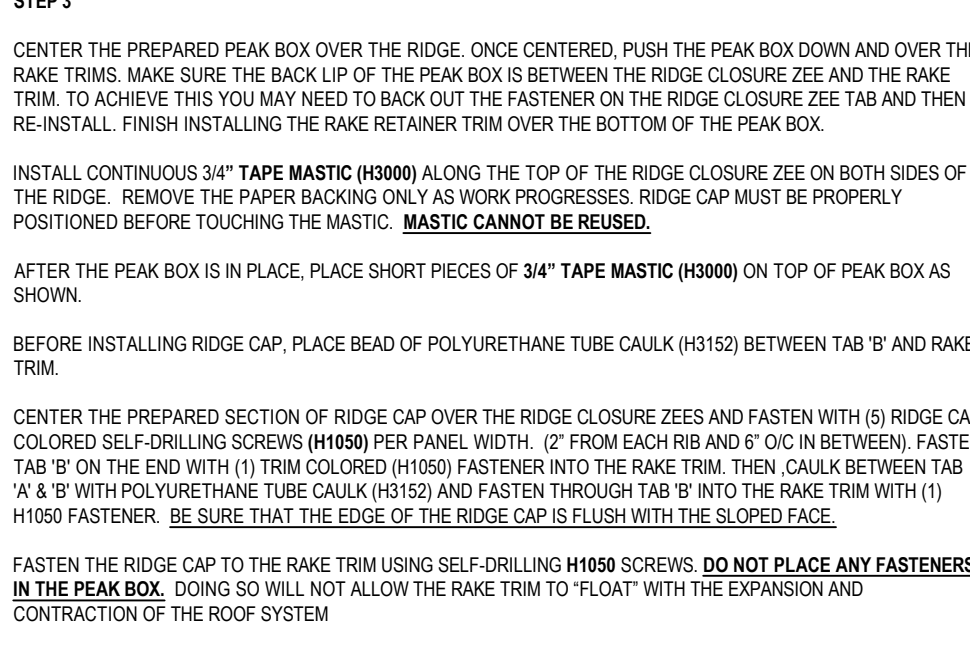
BASIC EAVE DETAIL

EB6010

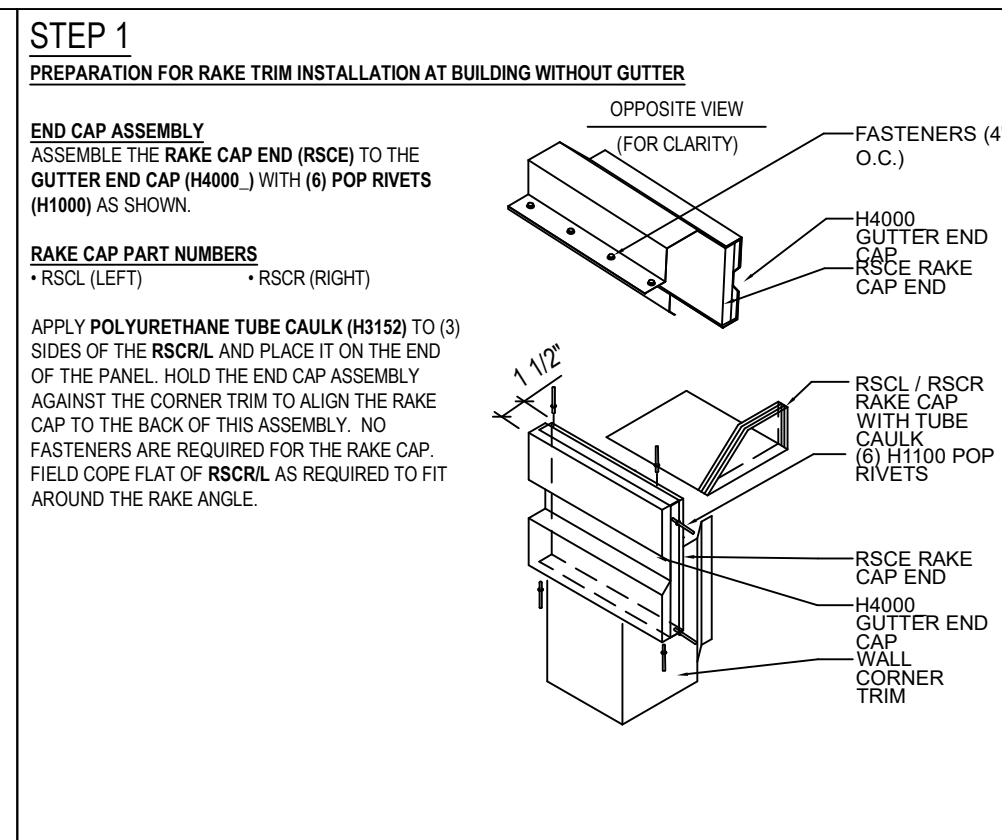


EA6035

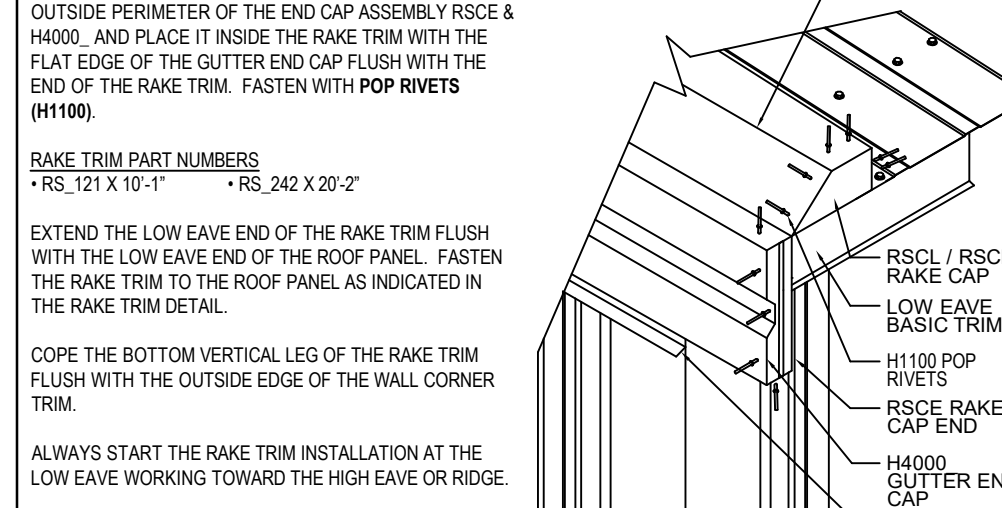
METAL PEAK BOX INSTALLATION AT STANDARD RAKE TRIM



EG7330



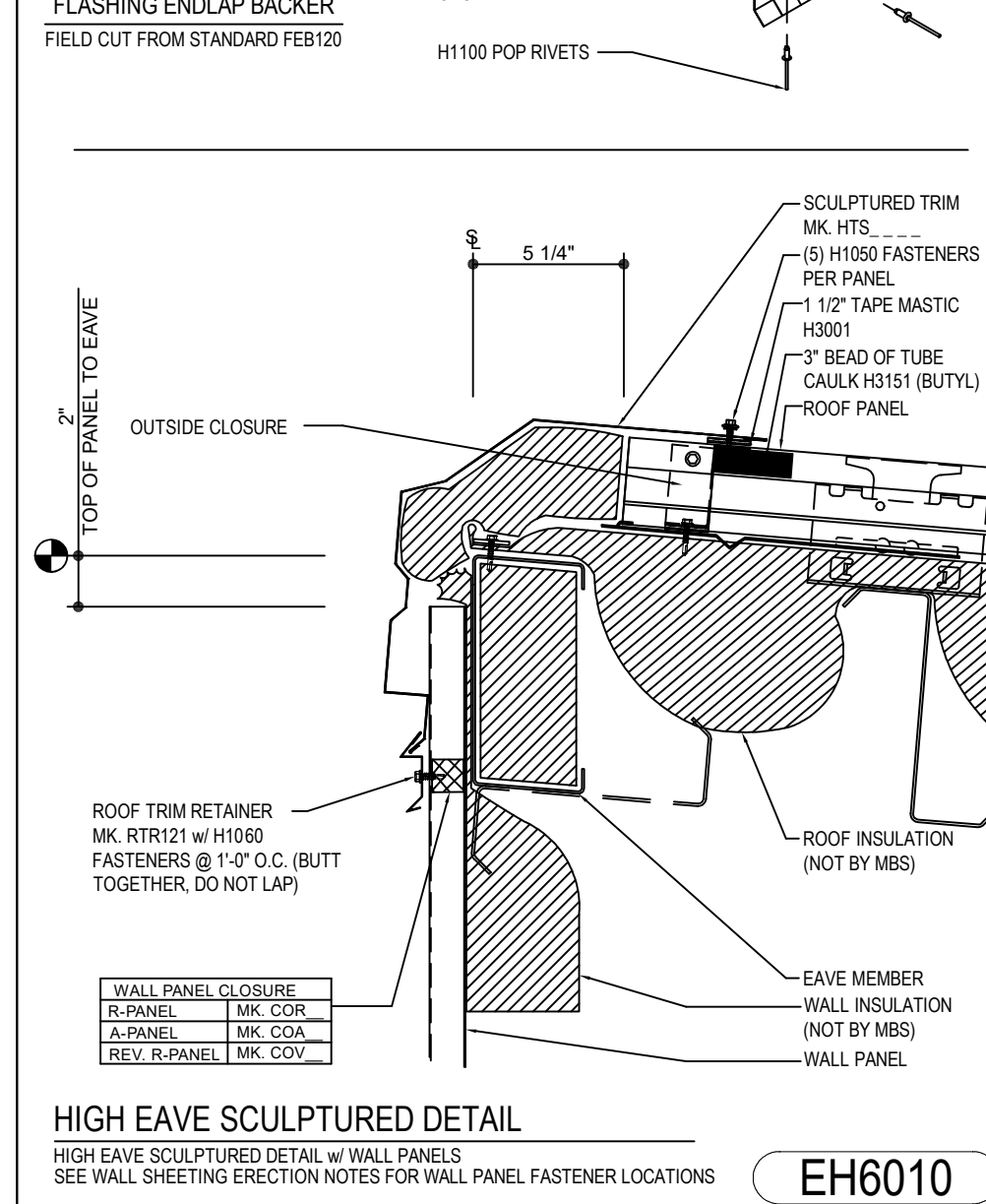
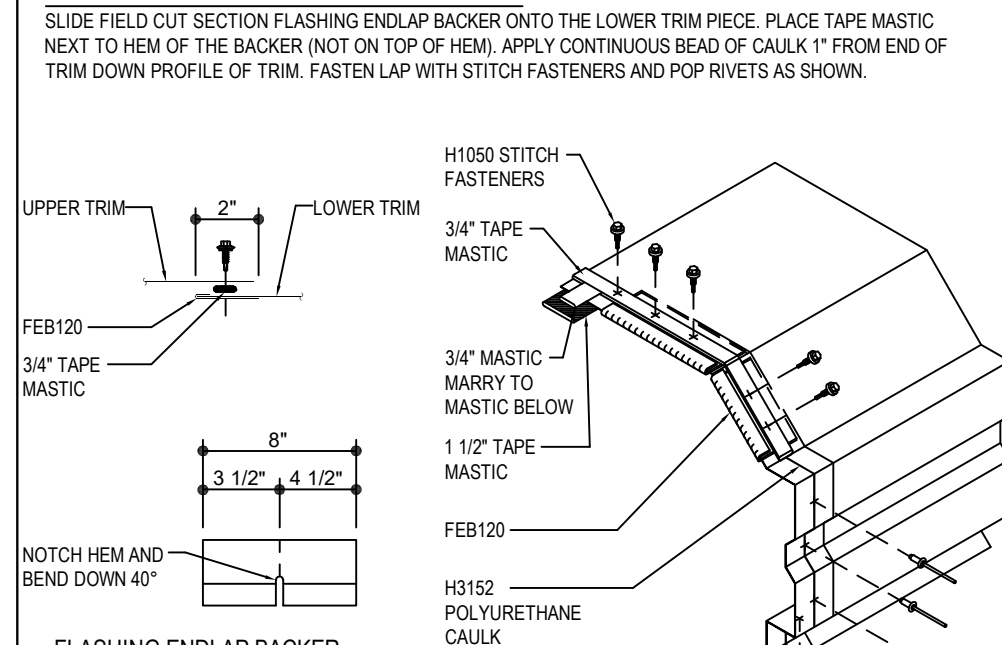
STEP 2



SCULPTURED RAKE TO BASIC LOW EAVE

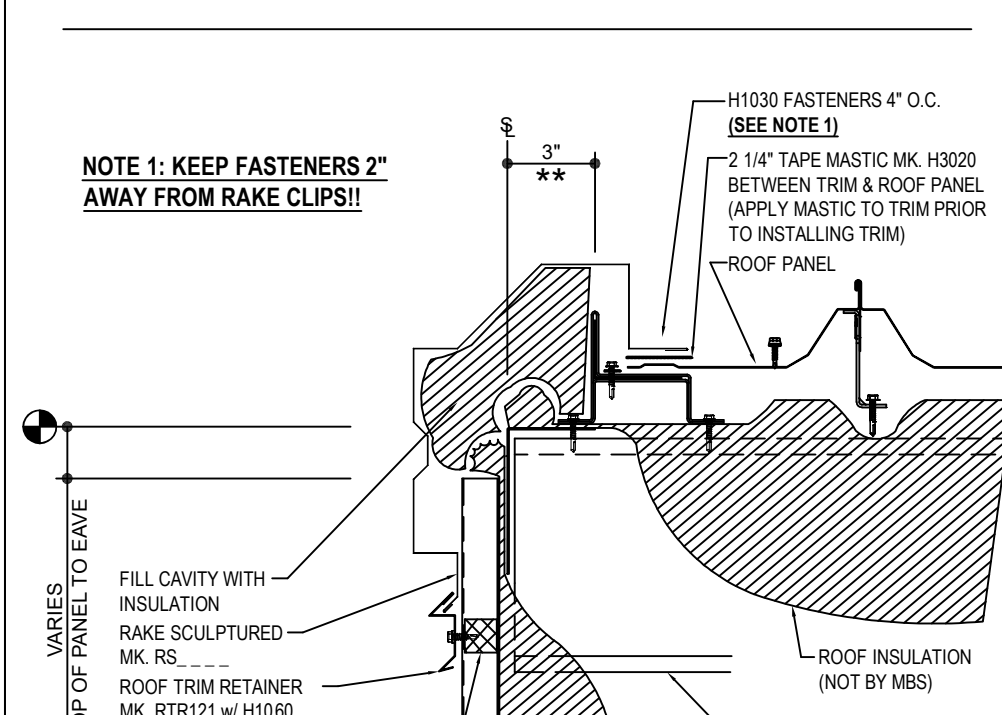
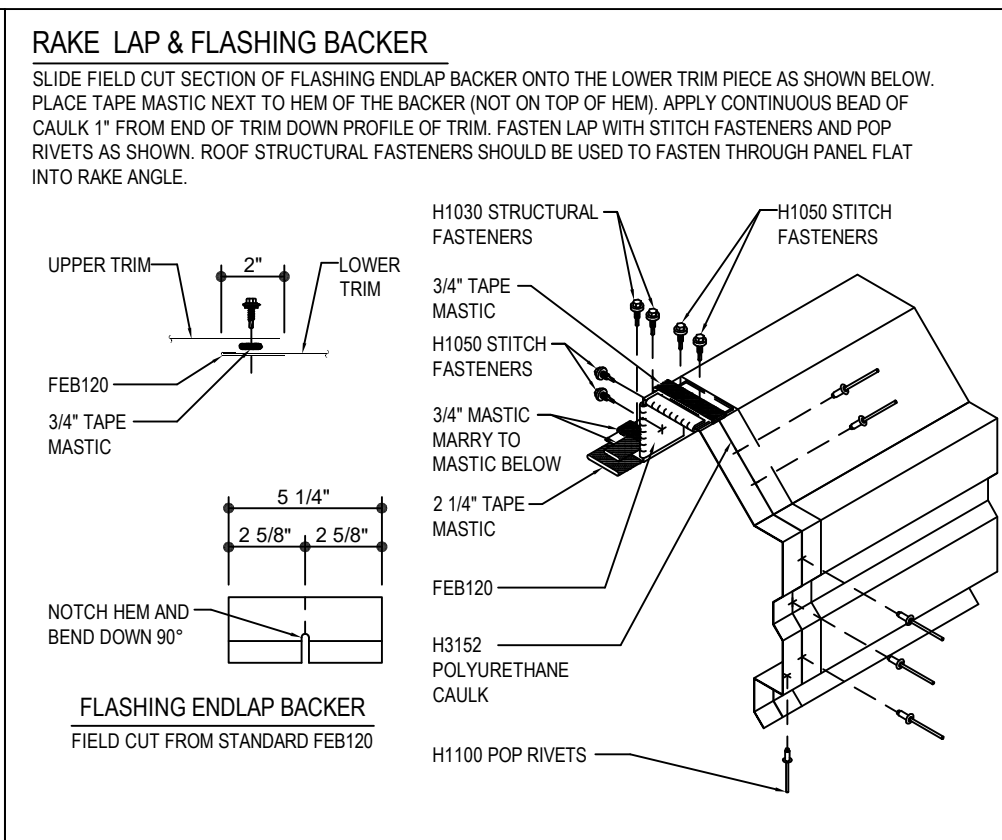
DB7020

HIGH EAVE LAP & FLASHING BACKER



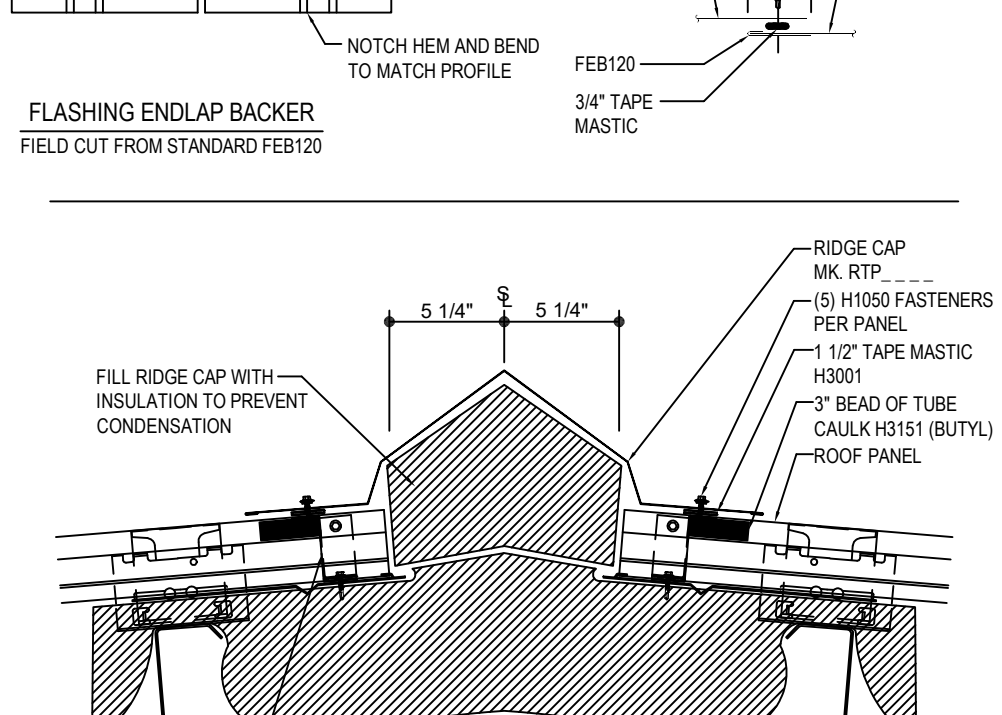
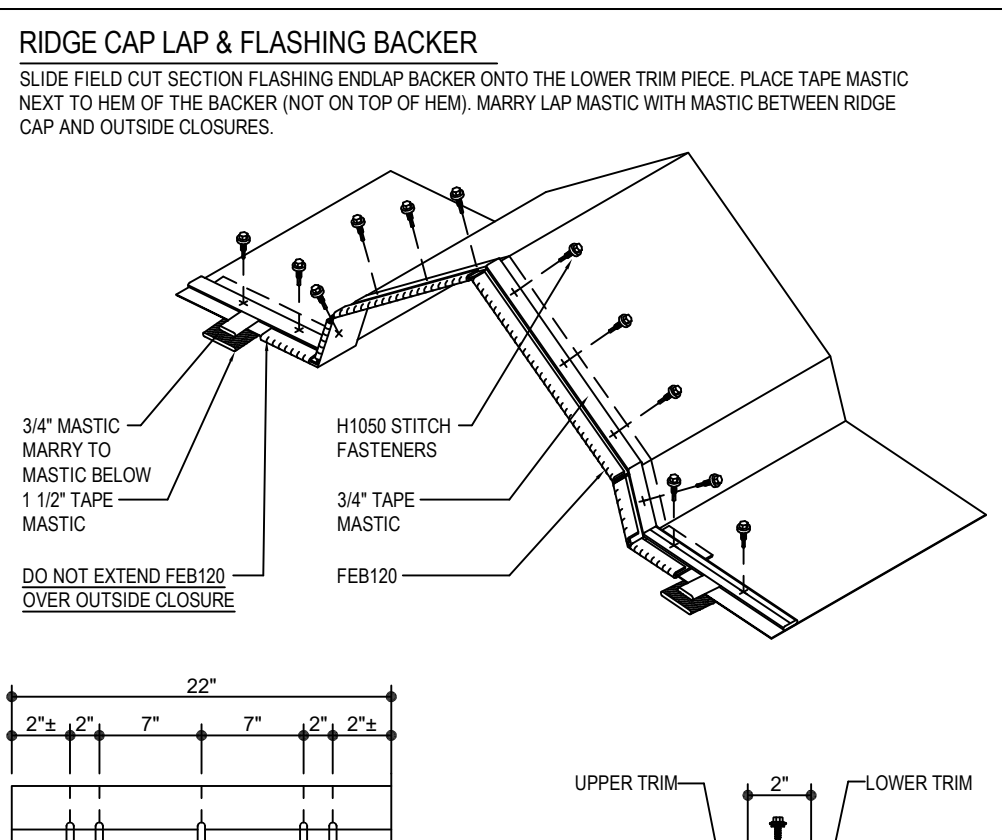
HIGH EAVE SCULPTURED DETAIL

EH6010



RAKE LAP & FLASHING BACKER

EE6010



RIDGE TRIM DETAIL

EG6010

