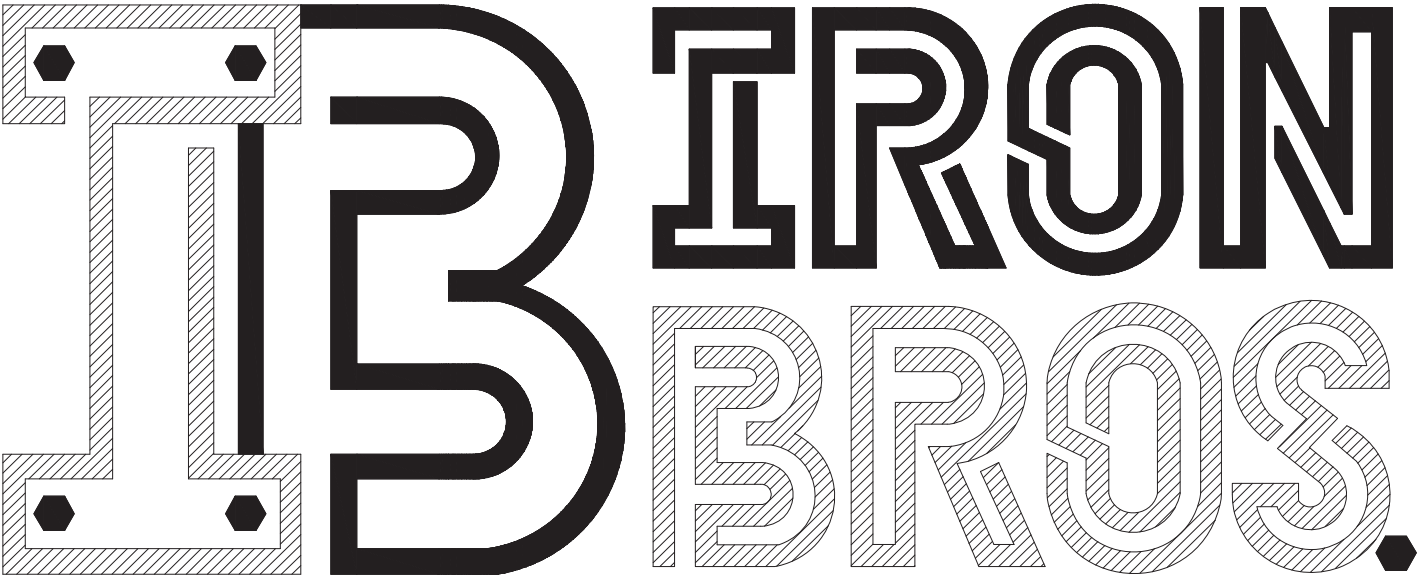




BUILDING DESCRIPTION

WIDTH:	70'-0"
LENGTH:	90'-0"
BACK SW HT:	20'-0"
FRONT SW HT:	20'-0"
BACK ROOF SLOPE:	1.0:12
FRONT ROOF SLOPE:	1.0:12

CODES AND REFERENCES

BUILDING:	IBC 12
HOT ROLLED STEEL:	AISC10
COLD FORMED STEEL:	NAUS07

GRAVITY LOADS

DEAD:	2.00
COLLATERAL:	1.00
LIVE:	20.00
REDUCIBLE?	Yes
GROUND SNOW:	5.00
ROOF SNOW:	3.50
ROOF EXP. FACTOR:	1.00
ROOF IMP. FACTOR:	1.00
THERMAL FACTOR:	1.00

WIND LOADS

SPEED (Vult):	128.00
SPEED (Vasd):	99.15
IMPORTANCE FACTOR:	1.00
OCCUPANCY/RISK CAT.:	II - Normal
EXPOSURE FACTOR:	C
INT. PRESS. COEF.:	+/- 0.18
ENCLOSURE:	Closed

COMPONENTS & CLADDING LOADS (Ultimate)

	PRESSURE (psf)	
	MEMBER	PANEL
INTERIOR	16.00	16.00
EDGE	16.00	16.00
CORNER	16.00	16.00
	SUCTION (psf)	
	MEMBER	PANEL
INTERIOR	-34.65	-37.86
EDGE	-40.89	-63.60
CORNER	-40.89	-95.79

SEISMIC LOADS

EQUIVALENT LATERAL FORCE PROCEDURE	
IMPORTANCE FACTOR:	1.00
OCCUPANCY/RISK CAT.:	II - Normal
MAPPED SPECTRAL RESPONSE	
Ss:	0.0710
S1:	0.0370
DESIGN SPECTRAL RESPONSE	
Sds:	0.0757
Sd1:	0.0592
SITE CLASS:	D
DESIGN CATEGORY:	A
DESIGN BASE SHEAR	
LONGITUDINAL:	0.38
TRANSVERSE:	0.36
NOTE: THE STRUCTURAL STEEL SYSTEMS ARE NOT SPECIFICALLY DESIGNED FOR SEISMIC RESISTANCE	
SEISMIC RESPONSE COEF. (Cs)	
RIGID FRAME:	0.0100
LEFT ENDWALL:	0.0100
RIGHT ENDWALL:	0.0100
FRONT SIDEWALL:	0.0100
BACK SIDEWALL:	0.0100
SEISMIC MODIFICATION FACT. (R)	
RIGID FRAME:	3.50
LEFT ENDWALL:	3.50
RIGHT ENDWALL:	3.25
FRONT SIDEWALL:	3.25
BACK SIDEWALL:	3.25

ADDITIONAL LOADS (psf)

MEZZANINE:	
DEAD:	15.00
PARTITION DEAD:	20.00
COLLATERAL BELOW:	3.00
LIVE:	50.00

COLORS

ROOF PANELS:	Brilliant
WALL PANELS:	Polar
BASE TRIM:	Crimson
GABLE/EAVE/GUTTER TRIM:	Crimson
DOWNSPOUTS:	Crimson
FRAMED OPENING TRIM:	Crimson
CORNER TRIM:	Crimson
PRIMARY FRAMING:	Red Oxide
SECONDARY FRAMING:	Red Oxide

SERVICEABILITY (DEFLECTIONS)

ENDWALL COLUMN WIND:	180
ENDWALL RAFTER LIVE:	180
ENDWALL RAFTER WIND:	180
WALL GIRT WIND:	90
WALL PANEL WIND:	90
ROOF PURLIN LIVE:	180
ROOF PURLIN WIND:	120
ROOF PANEL LIVE:	180
ROOF PANEL WIND:	120
RIGID FRAME HORIZONTAL DRIFT:	60
RIGID FRAME VERTICAL:	180
RIGID FRAME SEISMIC:	50
RIGID FRAME CRANE:	100
WIND BENT HORIZONTAL DRIFT:	60
WIND BENT SEISMIC:	50
MEZZANINE DEAD + LIVE:	240
MEZZANINE LIVE ONLY:	360

MATERIALS	MIN. YIELD (ksi)
HOT ROLLED BAR	50.00
STRUCTURAL STEEL SHEET	50.00
STRUCTURAL STEEL PLATE	50.00
COLD FORMED SHAPES	55.00
WALL SHEETING	80.00
ROOF SHEETING	80.00
BOLTS	A307 & A325

CONTRACTOR / END USER RESPONSIBILITIES

IT IS THE RESPONSIBILITY OF THE CONTRACTOR/END USER TO ENSURE THAT ALL PROJECT PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE REQUIREMENTS OF ANY GOVERNING BUILDING AUTHORITIES. THE SUPPLYING OF SEALED ENGINEERING DATA AND DRAWINGS FOR THE METAL BUILDING SYSTEM DOES NOT IMPLY OR CONSTITUTE AN AGREEMENT THAT IRON BROTHERS METALS, L.P. OR ITS DESIGN ENGINEER IS ACTING AS THE ENGINEER OF RECORD FOR THE PROJECT OR DESIGN PROFESSIONAL FOR A CONSTRUCTION PROJECT.

THE CONTRACTOR/END USER MUST SECURE ALL REQUIRED APPROVALS AND PERMITS FROM THE APPROPRIATE AGENCY. APPROVAL OF IRON BROTHERS METALS' DRAWINGS AND CALCULATIONS INDICATE THAT IRON BROTHERS METALS, L.P. HAS CORRECTLY INTERPRETED AND APPLIED THE REQUIREMENTS OF THE CONTRACT, DRAWINGS, AND SPECIFICATIONS AS WERE SUPPLIED TO IRON BROTHERS METALS, L.P. (SECT. 4.2.1 AISC CODE OF STANDARD PRACTICES, 9TH ED.)

WHERE DISCREPANCIES EXIST BETWEEN IRON BROTHERS METALS' STRUCTURAL STEEL PLANS AND THE PLANS FOR OTHER TRADES, THE STRUCTURAL STEEL PLANS SHALL GOVERN. (SECT. 3.3 AISC CODE OF STANDARD PRACTICE 9TH ED.)

DESIGN CONSIDERATIONS OF ANY MATERIALS IN THE STRUCTURE WHICH ARE NOT FURNISHED BY IRON BROTHERS METALS, L.P. ARE THE RESPONSIBILITY OF THE CONTRACTOR/END USER AND/OR THEIR ENGINEERS AND NOT IRON BROTHERS METALS, L.P.

THE CONTRACTOR/END USER IS RESPONSIBLE FOR ERECTION OF STEEL AND ASSOCIATED WORK IN COMPLIANCE WITH IRON BROTHERS METALS' "FOR CONSTRUCTION" DRAWINGS.

ALL BRACING AS SHOWN AND PROVIDED BY IRON BROTHERS METALS, L.P. FOR THIS BUILDING IS REQUIRED AND SHALL BE INSTALLED BY THE ERECTOR AS A PERMANENT PART OF THE STRUCTURE.

TEMPORARY SUPPORTS, SUCH AS TEMPORARY GUYS, BRACES, FALSE WORK, CRIBBING OR OTHER ELEMENTS REQUIRED FOR THE ERECTION OPERATION WILL BE DETERMINED, FURNISHED, AND INSTALLED BY THE ERECTOR. THESE TEMPORARY SUPPORTS SHALL SECURE THE STEEL FRAMING, OR ANY PARTLY ASSEMBLED STEEL FRAMING, AGAINST LOADS COMPARABLE IN INTENSITY TO THOSE FOR WHICH THE STRUCTURE WAS DESIGNED, RESULTING FROM WIND, SEISMIC FORCES AND ERECTION OPERATIONS, BUT NOT THE LOADS RESULTING FROM THE PERFORMANCE OF WORK BY OR THE ACTS OF OTHERS, NOR SUCH UNPREDICTABLE LOADS AS THOSE DUE TO TORNADO, EXPLOSION, OR COLLISION. (SECT. 7.9.1 AISC CODE OF STANDARD PRACTICE, 9TH ED.)

WARNING: IN NO CASE SHOULD GALVALUME STEEL PANELS BE USED IN CONJUNCTION WITH LEAD OR COPPER. BOTH LEAD AND COPPER HAVE HARMFUL CORROSION EFFECTS ON THE ALUMINIUM ZINC ALLOY COATING WHEN THEY ARE USED IN CONTACT WITH GALVALUME STEEL PANELS. EVEN RUN-OFF FROM COPPER FLASHING, WIRING, OR TUBING ONTO GALVALUME SHOULD BE AVOIDED AS IT CAN CAUSE DAMAGE TO THE FINISH AND VOID THE WARRANTY.

BOLT TIGHTENING REQUIREMENTS

ALL HIGH STRENGTH BOLTS ARE A325 UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS SHALL BE TIGHTENED BY THE TURN OF THE NUT METHOD IN ACCORDANCE WITH THE LATEST EDITION AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS". A325 BOLTS SHALL BE INSTALLED WITH OUT WASHERS WHEN TIGHTENED BY THE "TURN OF THE NUT" METHOD. ALL BOLTED CONNECTIONS, FOR SHEAR/BEARING CONNECTION TYPE WITH BOLT THREADS EXCLUDED FROM THE SHEAR PLANE SHALL BE SNUG TIGHT ONLY.

PRIMER

ALL STRUCTURAL STEEL TO RECEIVE A RUST INHIBITIVE PRIMER. THIS PRIMER IS NOT A FINAL PAINT FINISH AND IS NOT INTENDED FOR LONG TERM EXPOSURE TO THE ELEMENTS.

APPROVAL NOTES

THE FOLLOWING CONDITIONS APPLY IN THE EVENT THAT THESE DRAWINGS ARE USED AS APPROVAL DRAWINGS: IT IS IMPERATIVE THAT ANY CHANGES TO THESE DRAWINGS BE MADE IN CONTRASTING INK (PREFERABLY RED INK), HAVE ALL INSTANCES OF CHANGE CLEARLY INDICATED, AND BE LEGIBLE AND UNAMBIGUOUS. A SIGNATURE AND DATE IS REQUIRED ON ALL PAGES.

IRON BROTHERS METALS, L.P. RESERVES THE RIGHT TO RE-SUBMIT DRAWINGS WITH ADDITIONAL DETAILS OR CHANGES AS REQUIRED TO AVOID FABRICATION ERRORS. THIS MAY IMPACT THE DELIVERY SCHEDULE.

APPROVAL OF THESE DRAWINGS INDICATES CONCLUSIVELY THAT IRON BROTHERS METALS, L.P. HAS CORRECTLY INTERPRETED THE CONTRACT DOCUMENTS AND DRAWINGS, AND FURTHER CONSTITUTES AGREEMENT THAT THE BUILDING AS SHOWN ON IRON BROTHERS METALS' PLANS, WITH INDICATED CHANGES, REPRESENTS THE TOTAL OF THE MATERIALS TO BE SUPPLIED BY IRON BROTHERS METALS, L.P. TO FULFILL THE CONTRACT AGREEMENT.

ANY CHANGES NOTED ON THE DRAWINGS NOT IN CONFORMANCE WITH THE TERMS AND REQUIREMENTS OF THE CONTRACT BETWEEN IRON BROTHERS METALS, L.P. AND ITS CUSTOMER ARE NOT BINDING ON IRON BROTHERS METALS, L.P. UNLESS, SUBSEQUENTLY, SPECIFICALLY ACKNOWLEDGED AND AGREED TO IN WRITING BY CHANGE ORDER OR SEPARATE DOCUMENTATION.

IRON BROTHERS METALS, L.P. RECOGNIZES THAT "RUBBER STAMPS" ARE ROUTINELY USED FOR INDICATING APPROVAL, DISAPPROVAL, REJECTION, OR MERE REVIEW OF THE DRAWINGS SUBMITTED. HOWEVER, IRON BROTHERS METALS, LP DOES NOT ACCEPT CHANGES OR ADDITIONS TO CONTRACTUAL TERMS AND CONDITIONS THAT MAY APPEAR WITH USE OF A STAMP OR SIMILAR INDICATION OF APPROVAL, DISAPPROVAL, ETC. SUCH LANGUAGE APPLIED TO IRON BROTHERS METALS' DRAWINGS BY THE CUSTOMER, ARCHITECT, ENGINEER, OR ANY OTHER PARTY WILL BE CONSIDERED AS UNACCEPTABLE ALTERNATIONS TO THESE DRAWING NOTES AND WILL NOT ALTER THE CONTRACTUAL RIGHTS AND OBLIGATIONS EXISTING BETWEEN IRON BROTHERS METALS, L.P. AND ITS CUSTOMER.

FINAL DETAILING, FABRICATION, AND DELIVERY DATE OF THIS PROJECT CANNOT BE COMPLETED UNTIL SIGNED APPROVALS ARE RETURNED TO IRON BROTHERS METALS, L.P.

ACCESSORY SCHEDULE

- 24, Fiberglass Translucent Panels, length(ft)=4'-0"
- 2 - 3070 Double Lock Frame/Solid Leaf Walkdoor

Sealed: 12/7/20



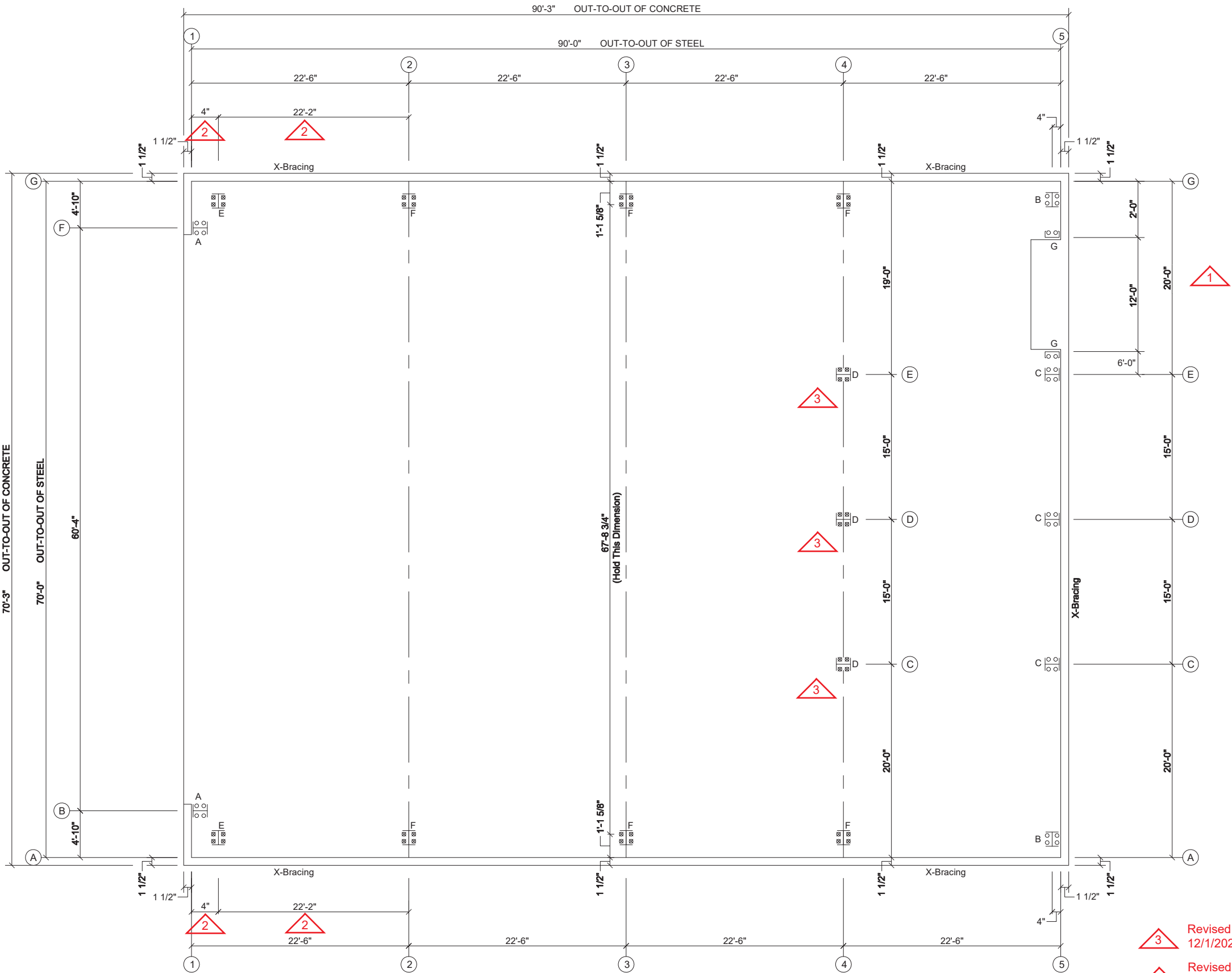
DRAWING REVISIONS

DRAWING USAGE

FOR CONSTRUCTION

12/1/2020

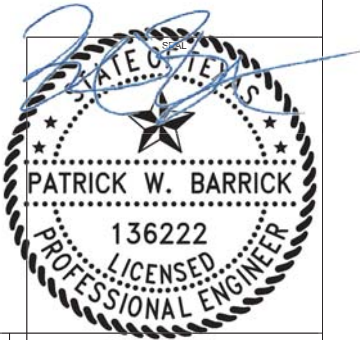
CUSTOMER	Cover Sheet	P20-028
	Mid-America Engine	Aircraft Hangar
	2500 State Hwy 160	11707 FM 359
	Warrior, Alabama 35180	Brookshire, Texas 77423



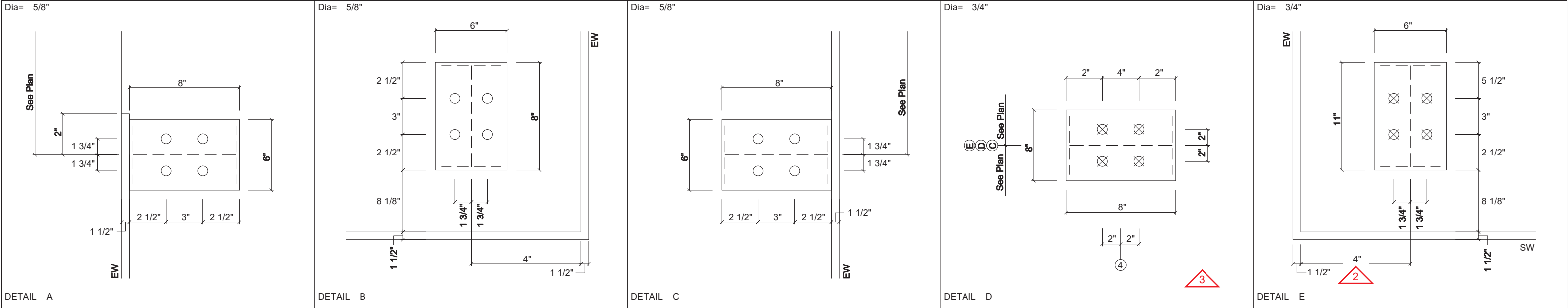
ANCHOR BOLT PLAN
NOTE: All Base Plates @ 100'-0" (U.N.)

- 3 Revised detail 12/1/2020 JHB
- 2 Revised dimension 11/24/2020 JHB
- 1 Revised dimension 11/18/2020 JHB

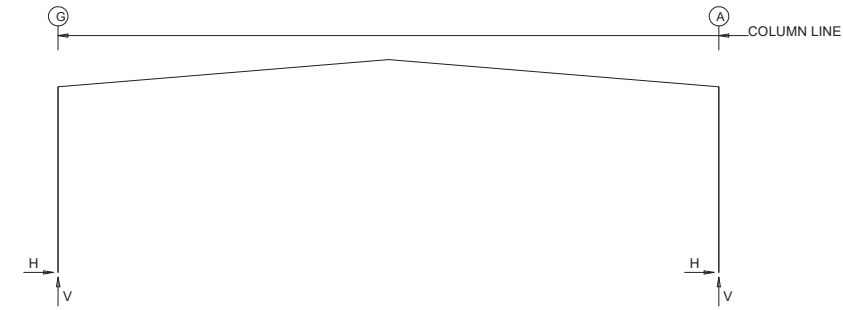
Sealed: 12/7/20



DRAWING REVISIONS	DRAWING USAGE		ANCHOR BOLT PLAN		P20-028	SHEET	PAGE 2 OF 19
	FOR CONSTRUCTION 12/1/2020		CUSTOMER	Mid-America Engine	Aircraft Hangar		
				2500 State Hwy 160 Warrior, AL 35180	PROJECT 11707 FM 359 Brookshire, Texas 77423		



FRAME LINES: 1 2 3 4



RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)						Bolt(in) Qty	Dia	Base_Plate(in)		Thick	Grout (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin			Width	Length		
1	G	1	7.6	13.2	2	-11.1	-15.6	4	0.750	6.000	11.00	0.500	0.0
					4	-4.7	-17.3						
1	A	3	11.1	-15.6	1	-7.6	13.2	4	0.750	6.000	11.00	0.500	0.0
		1	-7.6	13.2	5	4.7	-17.3						

RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)						Bolt(in) Qty	Dia	Base_Plate(in)		Thick	Grout (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin			Width	Length		
2*	G	1	7.4	12.8	2	-7.9	-11.2	4	0.750	6.000	11.00	0.500	0.0
					4	-5.0	-17.5						
2*	A	3	7.9	-7.8	1	-7.4	19.6	4	0.750	6.000	11.00	0.500	0.0
		7	-5.9	23.4	5	5.0	-14.1						
2*	Frame lines: 2 3 4												

NOTES FOR REACTIONS

1. All loading conditions are examined and only maximum/minimum H or V and the corresponding H or V are reported.

2. Positive reactions are as shown in the sketch. Foundation loads are in opposite directions.

3. Bracing reactions are in the plane of the brace with the H pointing away from the braced bay. The vertical reaction is downward.

4. Building reactions are based on the following building data:

Width (ft)

=

70.0

Length (ft)

=

90.0

Eave Height (ft)

=

20.0/ 20.0

Roof Slope (rise/12)

=

1.0/ 1.0

Dead Load (psf)

=

2.0

Collateral Load (psf)

=

1.0

Roof Live Load(psf)

=

20.0

Frame Live Load(psf)

=

12.0

Snow Load (psf)

=

3.5

Wind Speed (mph)

=

128.0

Wind Code

=

IBC 12

Exposure

=

C

Closed/Open

=

C

Importance Wind

=

1.00

Importance Seismic

=

1.00

Seismic Zone

=

A
5. Loading conditions are:

1 Dead+Collateral+Live

2 0.6Dead+0.6Wind_Left1

3 0.6Dead+0.6Wind_Right1

4 0.6Dead+0.6Wind_Long1L

5 0.6Dead+0.6Wind_Long2L

6 Dead+Collateral+Floor_Live

7 Dead+Collateral+0.75Live+0.75Floor_Live

8 0.6Dead+0.6Wind_Right2+0.6Wind_Suction

9 0.6Dead+0.6Wind_Pressure+0.6Wind_Long2L

10 Dead+0.6Wind_Right2+0.6Wind_Suction

11 0.6Dead+0.6Wind_Pressure+0.6Wind_Long1L

12 Dead+Collateral+0.75Live+0.45Wind_Right2+0.45Wind_Suction+0.75Floor_Live

13 0.6Dead+0.6Wind_Left1+0.6Wind_Suction

14 0.6Dead+0.6Wind_Left2+0.6Wind_Suction

15 Dead+Collateral+0.75Live+0.45Wind_Left2+0.45Wind_Suction+0.75Floor_Live

16 0.6Dead+0.6Wind_Right1+0.6Wind_Suction

RIGID FRAME: BASIC COLUMN REACTIONS (k)

Frame Line	Column Line	----Dead----		--Collateral--		----Live----		----Snow----		--Wind_Left1--		-Wind_Right1-	
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert
1	G	1.5	2.9	0.5	0.8	5.6	9.4	1.6	2.8	-20.0	-29.0	-6.8	-18.8
1	A	-1.5	2.9	-0.5	0.8	-5.6	9.5	-1.6	2.8	6.8	-18.8	20.0	-29.0
Frame Line	Column Line	--Wind_Left2-		-Wind_Right2-		--Wind_Long1-		--Wind_Long2-		-Seismic_Left		Seismic_Right	
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert
1	G	-17.2	-19.9	-4.0	-9.7	-9.4	-31.7	-10.5	-25.4	-0.1	0.0	0.1	0.0
1	A	4.0	-9.7	17.2	-19.9	10.5	-25.4	9.4	-31.7	0.0	0.0	0.0	0.0
Frame Line	Column Line	-Seismic_Long		-MIN_SNOW--		F1UNB_SL_L-		F1UNB_SL_R-					
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert				
1	G	0.0	-0.1	2.3	3.9	1.7	3.1	1.7	1.9				
1	A	0.0	-0.1	-2.3	3.9	-1.7	1.9	-1.7	3.1				
Frame Line	Column Line	----Dead----		--Collateral--		----Live----		----Floor----		----Snow----		--Wind_Left1--	
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert
2*	G	1.3	2.6	0.5	0.8	5.7	9.4	-0.1	-0.1	1.7	2.8	-14.5	-21.3
2*	A	-1.3	8.3	-0.5	1.9	-5.7	9.5	0.1	8.3	-1.7	2.8	5.2	-14.6
Frame Line	Column Line	-Wind_Right1-		--Wind_Left2-		-Wind_Right2-		--Wind_Long1-		--Wind_Long2-		-Seismic_Left	
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert
2*	G	-5.2	-14.6	-11.6	-12.2	-2.3	-5.5	-9.5	-31.7	-10.7	-25.4	0.0	0.0
2*	A	14.5	-21.3	2.3	-5.5	11.6	-12.2	10.7	-25.4	9.5	-31.7	0.0	0.0
Frame Line	Column Line	Seismic_Right		-Seismic_Long		-MIN_SNOW--		F2UNB_SL_L-		F2UNB_SL_R-			
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert		
2*	G	0.0	0.0	0.0	-0.1	2.4	3.9	1.7	3.1	1.7	1.9		
2*	A	0.0	0.0	0.0	-0.1	-2.4	3.9	-1.7	1.9	-1.7	3.1		

2* Frame lines: 2 3 4

ANCHOR BOLT SUMMARY

Qty	Locate	Dia (in)	Type
○ 4	Jamb	5/8"	ASTM F1554 GR36
○ 28	Endwall	5/8"	ASTM F1554 GR36
⊗ 32	Frame	3/4"	ASTM F1554 GR36
⊗ 12	Floor	3/4"	ASTM F1554 GR36

BUILDING BRACING REACTIONS

Loc	Wall Line	Col Line	± Reactions(k)				Panel_Shear (lb/ft)		
			Wind Horz	Seismic Vert	Wind Horz	Seismic Vert	Wind	Seis	Note
L_EW	1								(h)
F_SW	A	1,2	4.6	3.9	0.1	0.1			
		4,5	4.6	3.7	0.1	0.1			
R_EW	5	C,D	3.1	4.5	0.1	0.1			
B_SW	G	5,4	4.6	3.7	0.1	0.1			
		2,1	4.6	3.9	0.1	0.1			

(h)Rigid frame at endwall

ENDWALL COLUMN: BASIC COLUMN REACTIONS (k)

Frm Line	Col Line	Dead Vert	Press Horz	Suct Horz											
1	F	0.2	-0.7	0.8											
1	B	0.2	-0.7	0.8											
Frm Line	Col Line	Dead Vert	Collat Vert	---Live--- Horz	Vert	Floor Live Vert	Snow Vert	Wind_Left1 Horz	Vert	Wind_Right1 Horz	Vert	Wind_Left2 Horz	Vert		
5	A	5.3	0.5	0.0	1.9	6.4	0.3	-0.1	-3.6	0.0	-2.3	0.0	-2.4		
5	C	7.6	0.8	0.1	4.7	8.7	0.8	-3.1	-13.8	0.0	-0.5	-3.1	-11.0		
5	D	6.6	0.6	0.0	2.6	7.7	0.5	0.0	0.7	3.1	-8.5	0.0	1.9		
5	E	4.0	0.5	0.1	4.7	4.0	0.8	-0.1	-5.2	-0.1	-9.3	0.0	-2.4		
5	G	0.6	0.1	0.0	1.9	0.0	0.3	0.0	-2.3	-0.1	-3.6	0.0	-1.1		
Frm Line	Col Line	Wind_Right2 Horz	Vert	Wind_Press Horz	Vert	Wind_Suct Horz	Vert	Wind_Long1 Horz	Vert	Wind_Long2 Horz	Vert	Seis_Left Horz	Vert	Seis_Right Horz	Vert
5	A	0.0	-1.1	-7.3	-3.7	3.2	3.7	-0.1	-3.9	0.0	-2.4	0.0	0.0	0.0	0.0
5	C	0.0	2.3	-4.9	0.0	5.5	0.0	-0.1	-8.5	-0.5	-6.0	-0.1	-0.1	0.0	0.1
5	D	3.1	-7.3	-4.6	0.0	5.1	0.0	0.5	-4.3	0.0	-2.7	0.0	0.1	0.1	-0.1
5	E	-0.1	-6.5	-4.9	0.0	5.5	0.0	-0.1	-5.2	-0.1	-9.3	0.0	0.0	0.0	0.0
5	G	0.0	-2.4	-7.3	-3.7	3.2	3.7	0.0	-2.4	-0.1	-3.9	0.0	0.0	0.0	0.0

Frm Line	Col Line	Seis_Long Horz	Vert	-MIN_SNOW-- Horz	Vert	E2UNB_SL_L- Horz	Vert	E2UNB_SL_R- Horz	Vert
5	A	-0.1	-0.1	0.0	0.5	0.0	0.3	0.0	0.1
5	C	0.0	0.0	0.0	1.2	0.0	1.1	0.0	0.2
5	D	0.0	0.0	0.0	0.7	0.0	0.8	0.0	0.8
5	E	0.0	0.0	0.0	1.2	0.0	0.2	0.0	1.1
5	G	-0.1	-0.1	0.0	0.5	0.0	0.1	0.0	0.3

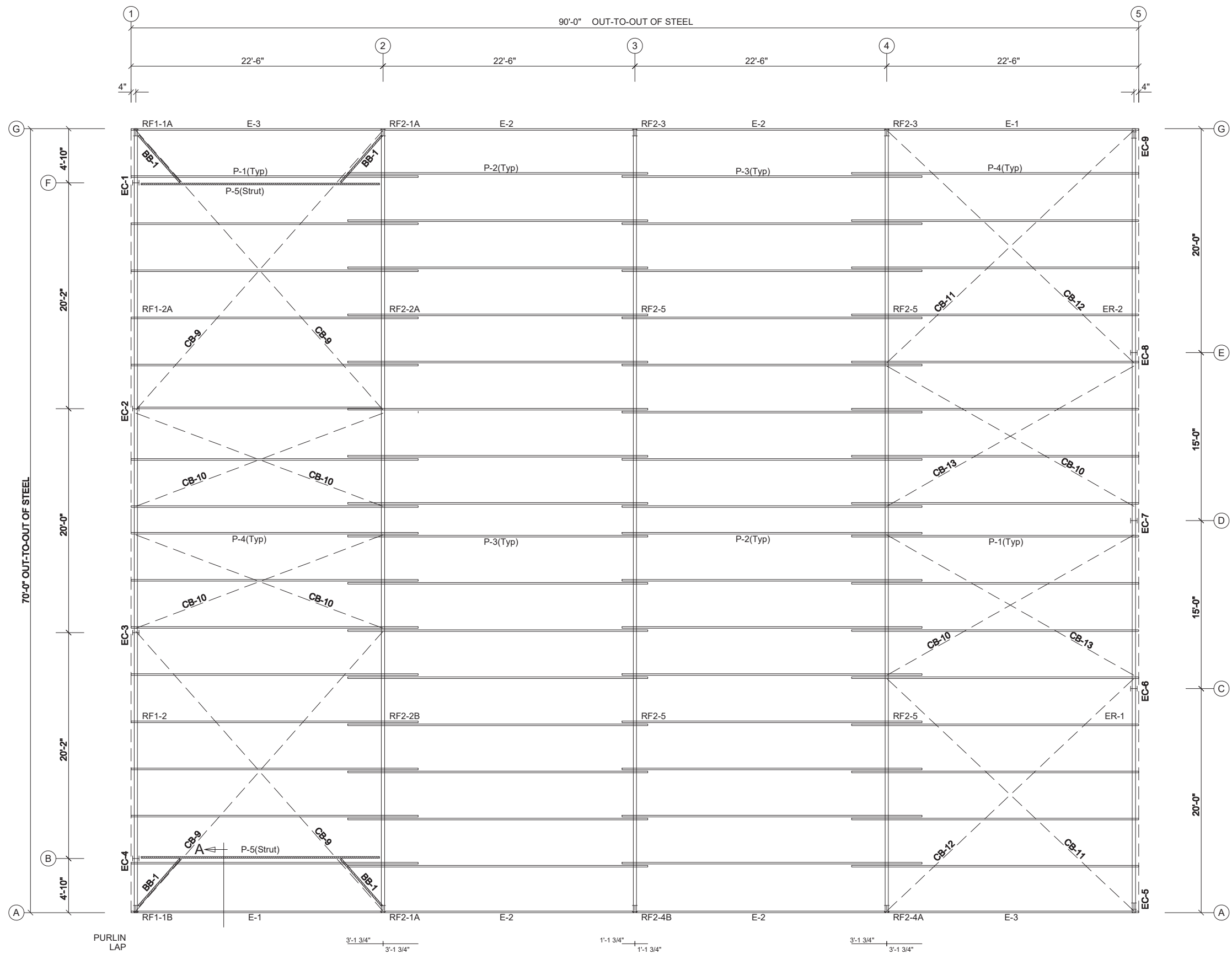
ENDWALL COLUMN: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)						Bolt(in) Qty	Dia	Base_Plate(in)		Thick	Grout (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin			Width	Length		
1	F	8	0.5	0.1	9	-0.4	0.1	4	0.625	6.000	7.875	0.375	0.0
		10	0.5	0.2									
1	B	8	0.5	0.1	9	-0.4	0.1	4	0.625	6.000	7.875	0.375	0.0
		10	0.5	0.2									
5	A	8	1.9	4.7	11	-4.4	-1.4	4	0.625	6.000	7.875	0.375	0.0
		12	1.5	13.2									
5	C	8	3.3	5.9	11	-3.0	-0.5	4	0.625	6.000	8.125	0.375	0.0
		12	2.5	19.5	13	3.2	-3.7						
5	D	14	3.0	5.1	11	-2.8	1.4	4	0.625	6.000	8.125	0.375	0.0
		15	2.3	15.8	16	3.0	-1.1						
5	E	14	3.3	1.0	9	-3.1	-3.1	4	0.625	6.000	8.125	0.375	0.0
		7	0.1	11.1	16	3.2	-3.1						
5	G	14	1.9	1.9	9	-4.4	-4.2	4	0.625	6.000	8.125	0.375	0.0
		15	1.5	3.3									

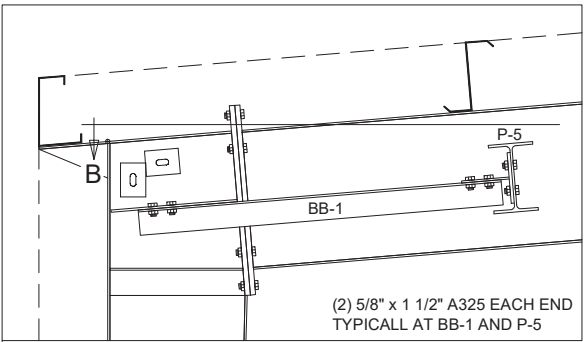
FLOOR COLUMN REACTIONS

Frame Line

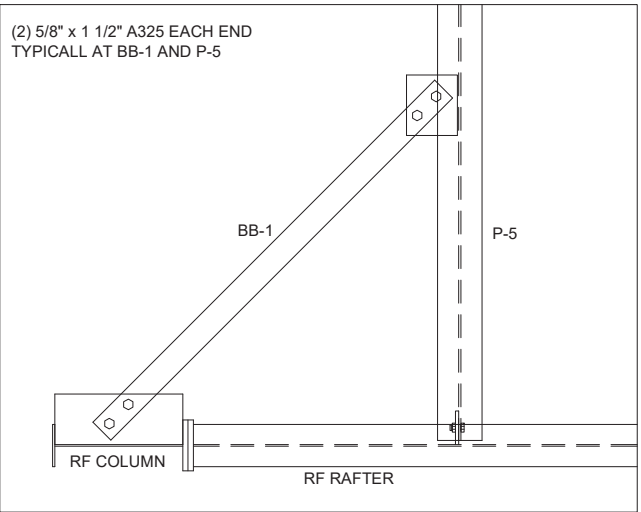
MEMBER TABLE			
ROOF PLAN			
QUAN	MARK	PART	LENGTH
16	P-1	Z82514	25'-7 1/2"
16	P-2	Z82516	26'-9 1/2"
16	P-3	Z82516	26'-9 1/2"
16	P-4	Z82514	25'-7 1/2"
2	P-5	W6X18	22'-0 13/16"
4	BB-1	L3X3X1/4	4'-9 3/8"
2	E-1	08534DU1	22'-5 1/2"
4	E-2	08534DU1	22'-5 1/2"
2	E-3	08534DU1	22'-5 1/2"
4	CB-9	CB0313	32'-11"
6	CB-10	CB0250	24'-1"
2	CB-11	CB0313	32'-6"
2	CB-12	CB0313	30'-0"
2	CB-13	CB0250	25'-9"



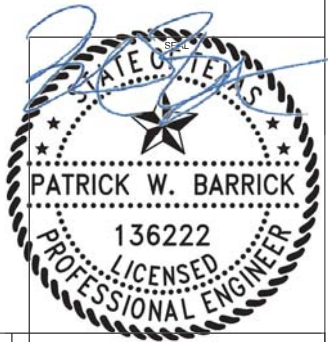
ROOF FRAMING PLAN



SECTION A

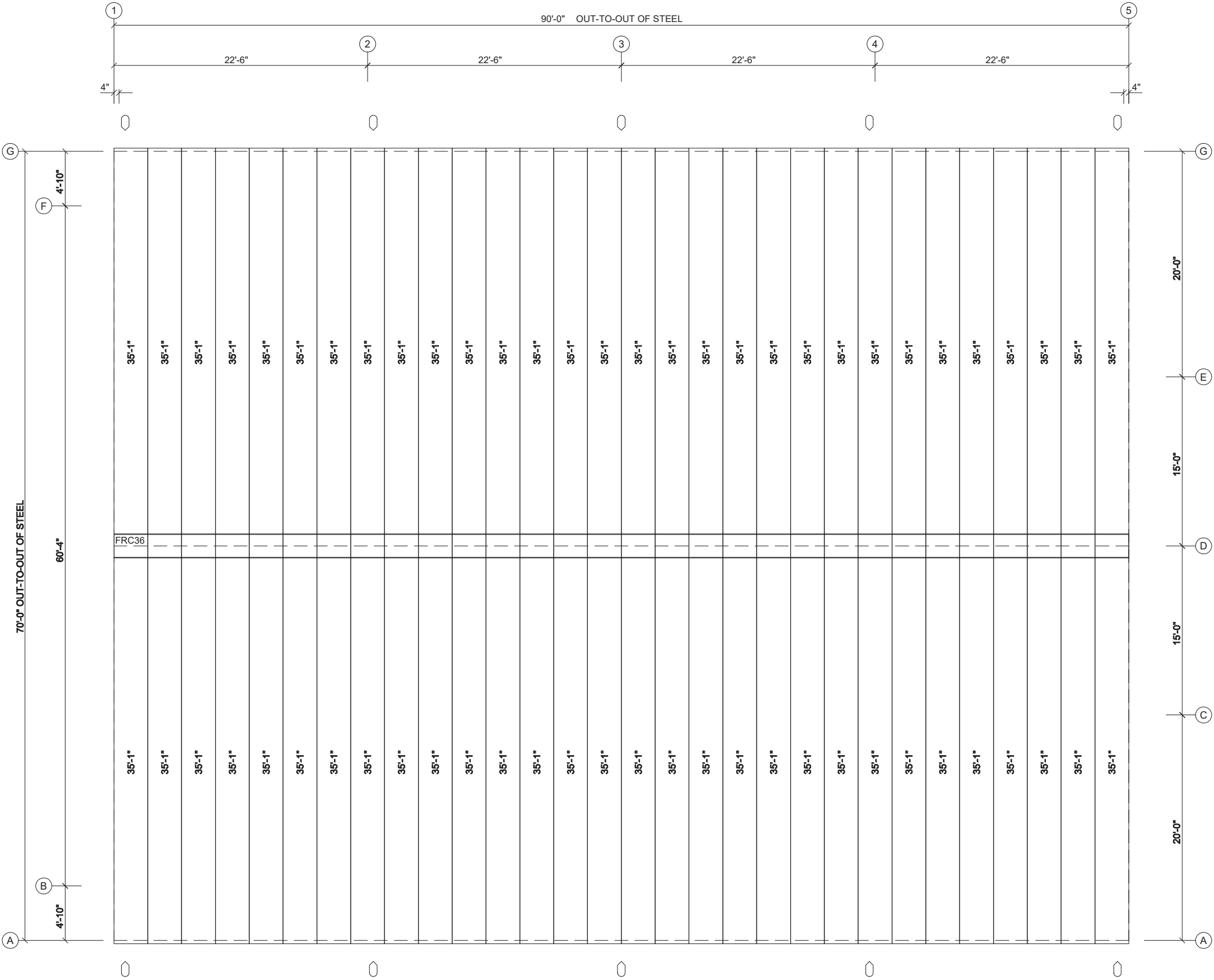


SECTION B



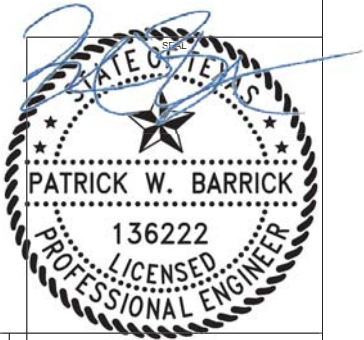
Sealed: 12/7/20

DRAWING REVISIONS		DRAWING USAGE				ROOF FRAMING		P20-028			PAGE 5 OF 19		
		FOR CONSTRUCTION 12/1/2020				CUSTOMER	Mid-America Engine		PROJECT			Aircraft Hangar	
							2500 State Hwy 160 Warrior, Alabama 35180					11707 FM 359 Brookshire, Texas 77423	

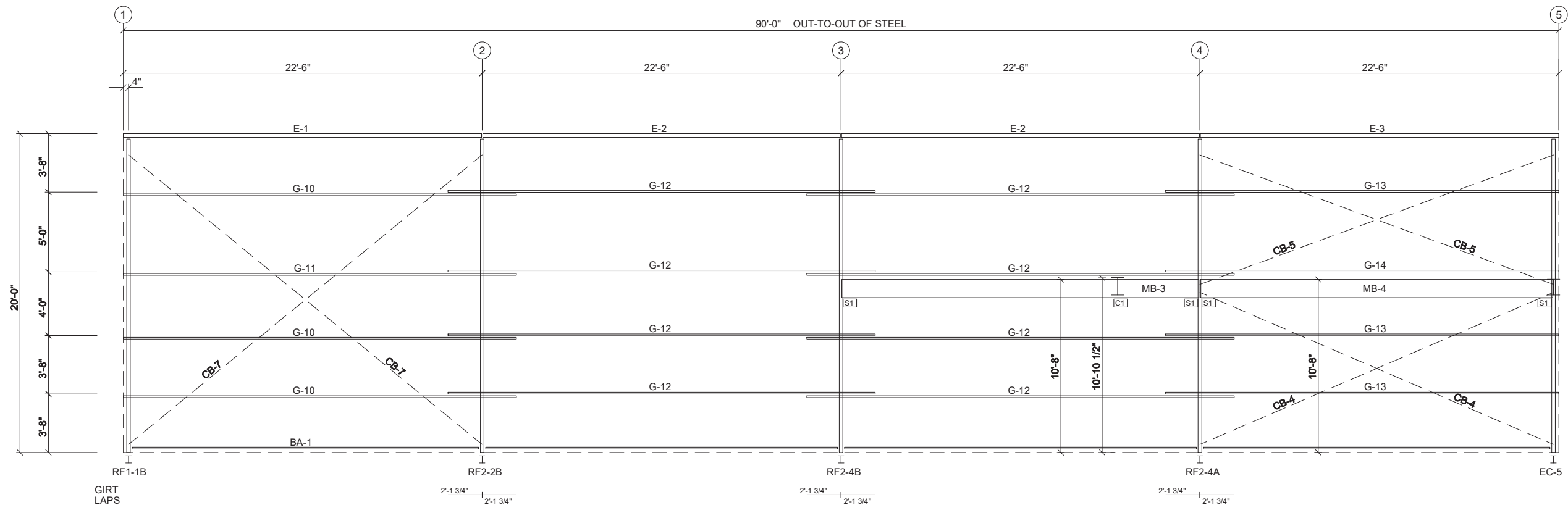


ROOF SHEETING PLAN
PANELS: 26 Ga. RLOC - Brilliant

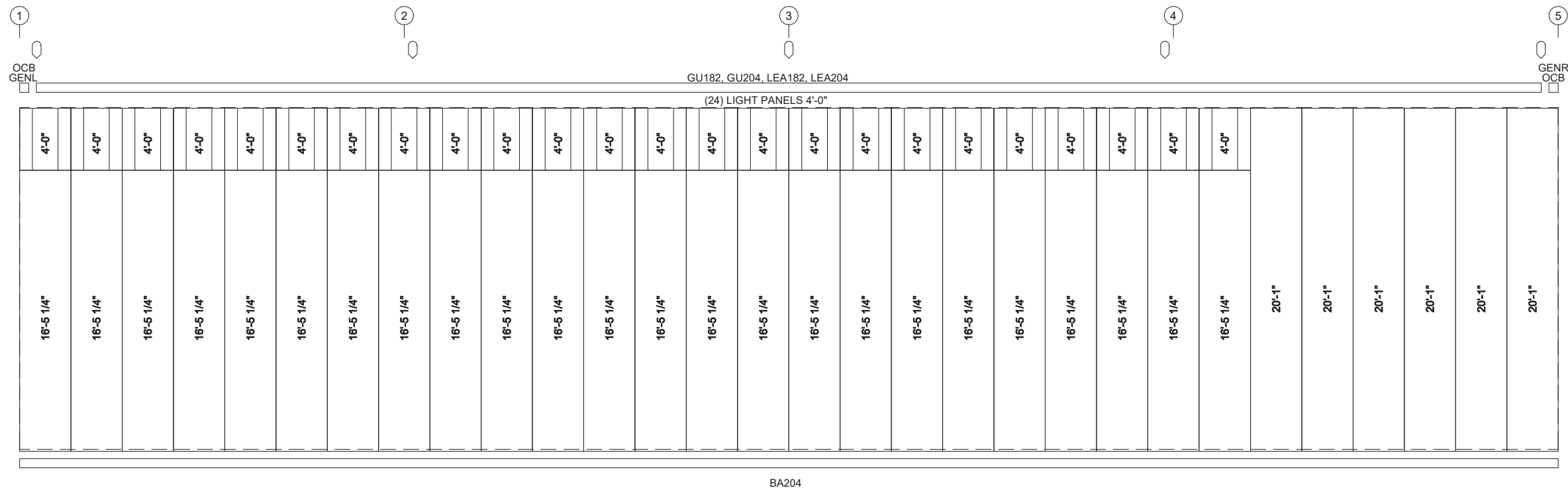
Sealed: 12/7/20



DRAWING REVISIONS	DRAWING USAGE		ROOF SHEETING		P20-028	SHEET	PAGE 6 OF 19
	FOR CONSTRUCTION 12/1/2020		CUSTOMER	Mid-America Engine	Aircraft Hangar		
				2500 State Hwy 160 Warrior, Alabama 35180	11707 FM 359 Brookshire, Texas 77423		



SIDEWALL FRAMING: FRAME LINE A



SIDEWALL SHEETING & TRIM: FRAME LINE A

PANELS: 26 Ga. RLOC - Polar

NOTE: Wall light panels to be field cut from 12'-0" light panels

MEMBER TABLE			
FRAME LINE A			
QUAN	MARK	PART	LENGTH
1	E-1	08534DU1	22'-5 1/2"
2	E-2	08534DU1	22'-5 1/2"
1	E-3	08534DU1	22'-5 1/2"
3	G-10	Z82516	24'-7 1/2"
1	G-11	Z82514	24'-7 1/2"
8	G-12	Z82516	26'-9 1/2"
3	G-13	Z82516	24'-7 1/2"
1	G-14	Z82514	24'-7 1/2"
2	CB-4	CB0250	24'-4"
2	CB-5	CB0250	24'-0"
2	CB-7	CB0313	29'-4"
1	MB-3	W14X22	22'-4 3/4"
1	MB-4	W14X22	22'-0 13/16"

SUPPORT BEAM BOLT TABLE

FRAME LINE A

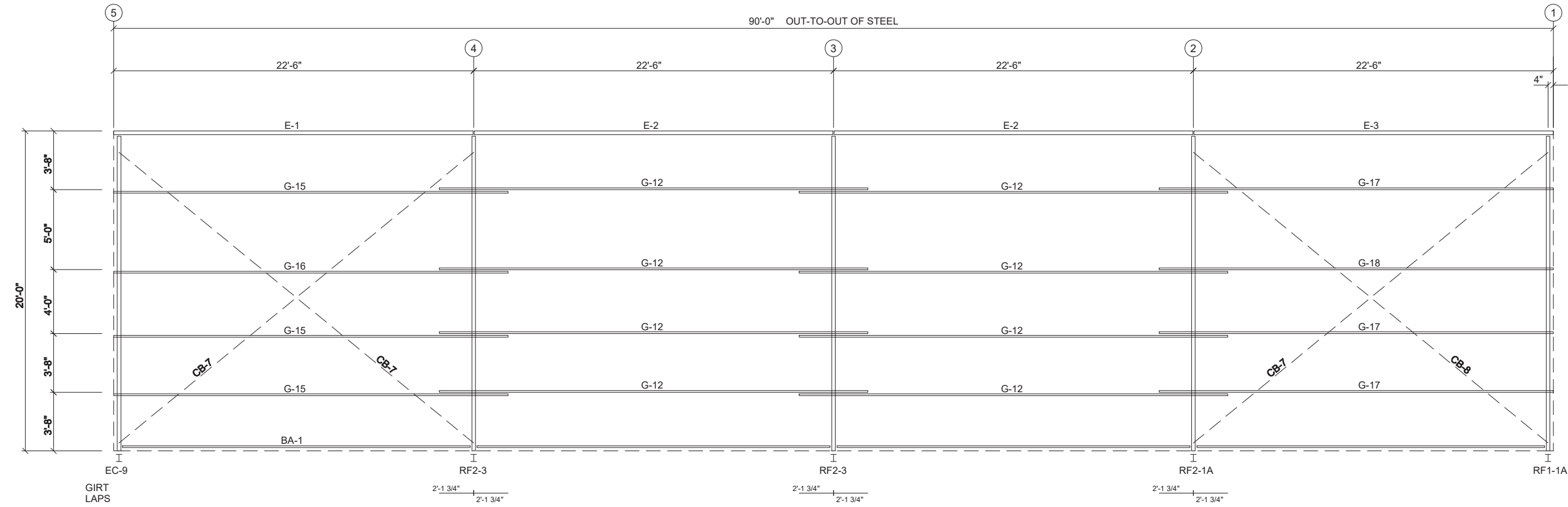
ID	QUAN	TYPE	DIA	LENGTH
S1	3	A325	5/8"	1 1/2"

COLUMN BOLT TABLE

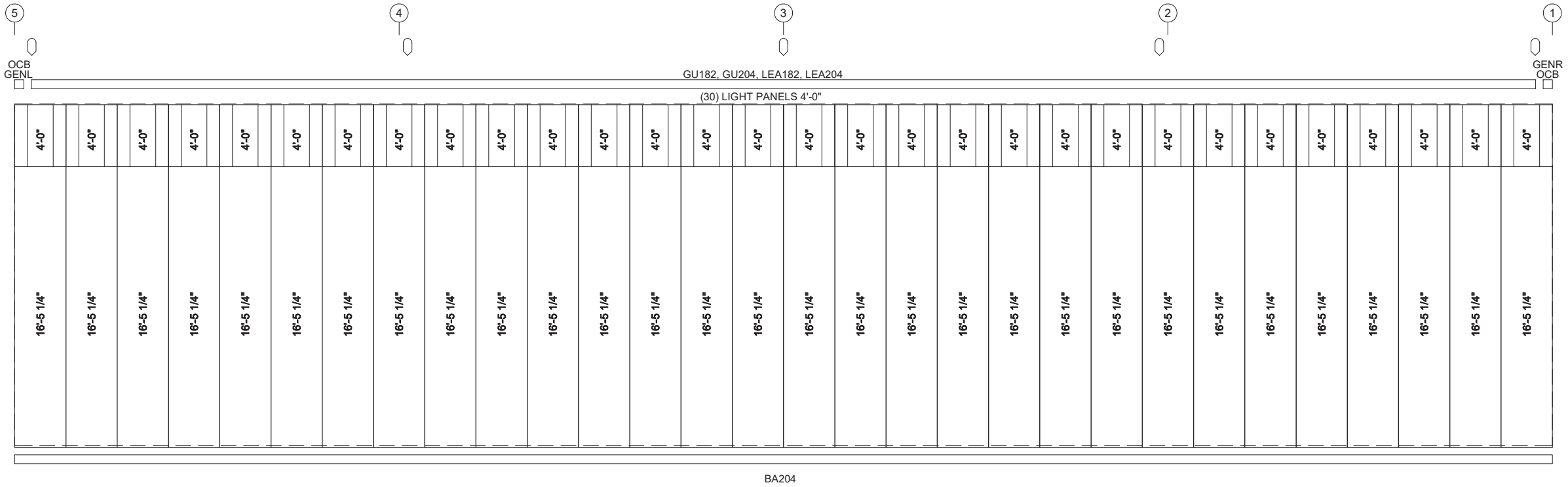
FRAME LINE A

ID	QUAN	TYPE	DIA	LENGTH
C1	2	A325	5/8"	1 1/2"

MEMBER TABLE			
FRAME LINE G			
QUAN	MARK	PART	LENGTH
1	E-1	08534DU1	22'-5 1/2"
2	E-2	08534DU1	22'-5 1/2"
1	E-3	08534DU1	22'-5 1/2"
8	G-12	Z82516	26'-9 1/2"
3	G-15	Z82516	24'-7 1/2"
1	G-16	Z82514	24'-7 1/2"
3	G-17	Z82516	24'-7 1/2"
1	G-18	Z82514	24'-7 1/2"
4	CB-7	CB0313	29'-4"



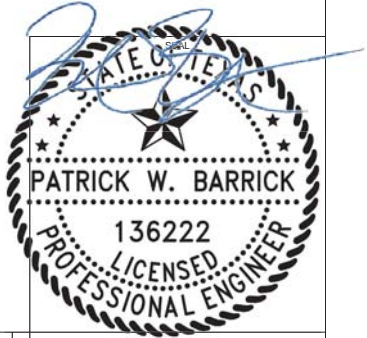
SIDEWALL FRAMING: FRAME LINE G



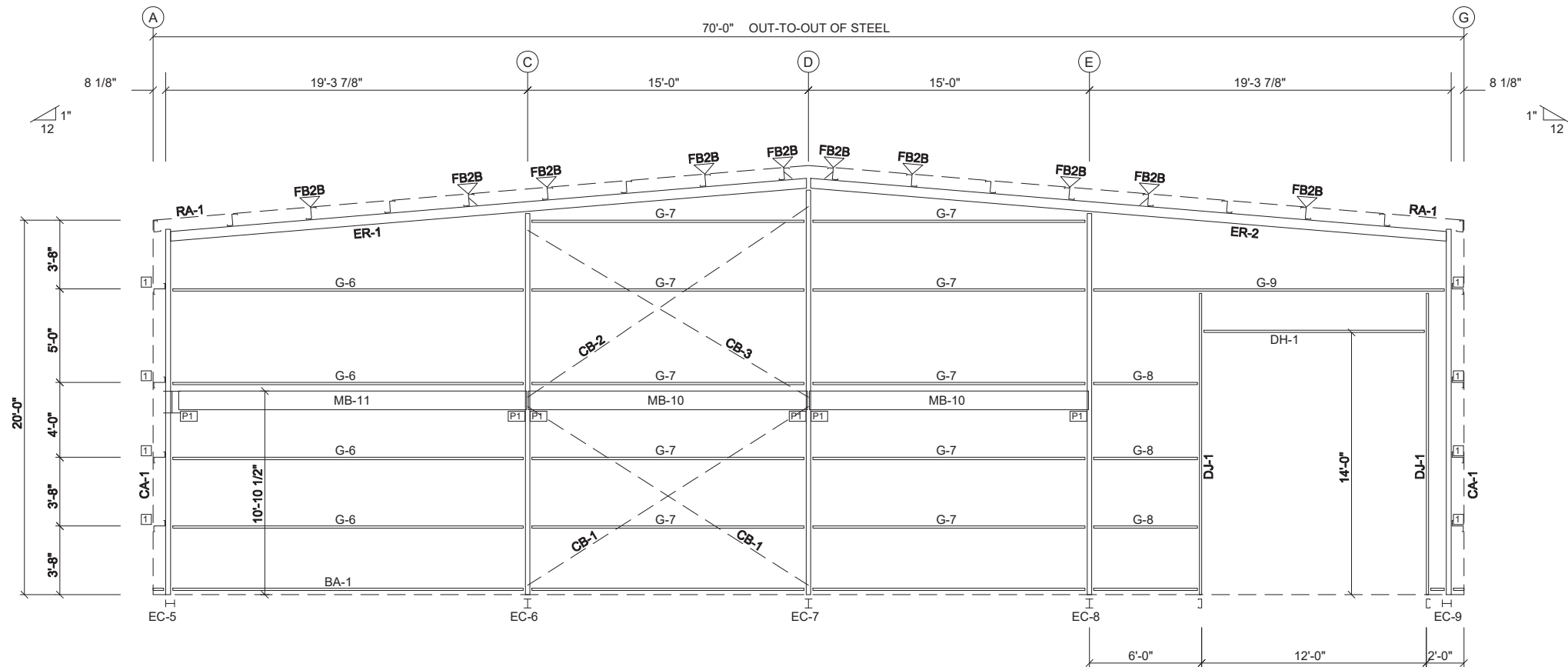
SIDEWALL SHEETING & TRIM: FRAME LINE G
PANELS: 26 Ga. RLOC - Polar

NOTE: Wall light panels to be field cut from 12'-0" light panels

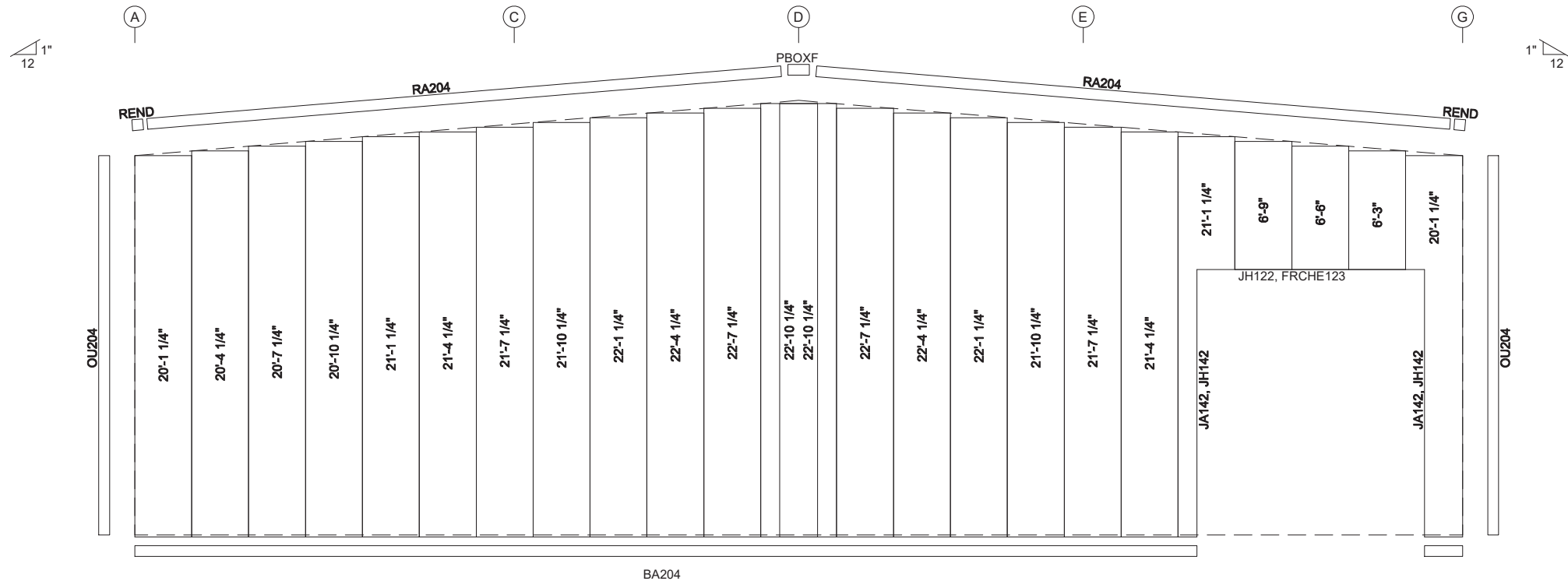
Sealed: 12/7/20



DRAWING REVISIONS		DRAWING USAGE				SIDEWALL FRAMING		P20-028		SHEET	PAGE 8 OF 19		
		FOR CONSTRUCTION 12/1/2020				Mid-America Engine		Aircraft Hangar					
						2500 State Hwy 160 Warrior, Alabama 35180		11707 FM 359 Brookshire, Texas 77423					



ENDWALL FRAMING: FRAME LINE 5



ENDWALL SHEETING & TRIM: FRAME LINE 5

PANELS: 26 Ga. RLOC - Polar

BOLT TABLE				
FRAME LINE 5				
LOCATION	QUAN	TYPE	DIA	LENGTH
Cor. Column/Raf	4	A325	5/8"	1 1/2"
ER-1/ER-2	8	A325	5/8"	1 1/2"
Int. Column/Raf	4	A325	5/8"	1 1/2"

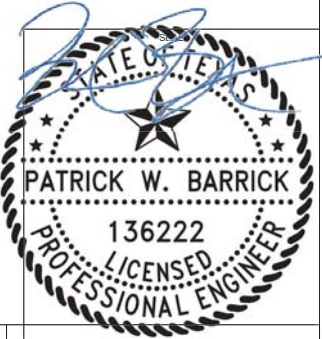
MEMBER TABLE			
FRAME LINE 5			
QUAN	MARK	PART	LENGTH
1	EC-5	W8X10	19'-5 3/16"
1	EC-6	W8X18	20'-4 1/8"
1	EC-7	W8X18	21'-1 15/16"
1	EC-8	W8X18	20'-4 1/8"
1	EC-9	W8X10	19'-5 3/16"
1	ER-1	W8X10	33'-10 1/16"
1	ER-2	W8X10	33'-10 1/16"
2	DJ-1	C83512A	16'-4"
1	DH-1	C83516A	12'-0"
4	G-6	Z82512	18'-4 1/2"
10	G-7	Z82516	14'-5 1/2"
3	G-8	Z82516	5'-4 1/2"
1	G-9	Z82512	18'-4 1/2"
2	CB-1	CB0250	17'-11"
1	CB-2	CB0250	17'-10"
1	CB-3	CB0250	17'-4"
2	MB-10	W12X14	14'-10 13/16"
1	MB-11	W12X14	18'-6 7/8"

FLANGE BRACE TABLE		
FRAME LINE 5		
▽ID	MARK	LENGTH
1	FB2B	2'-5 1/4"

CLIP TABLE		
FRAME LINE 5		
□ID	MARK	LENGTH
1	FZ-5	6"

COLUMN BOLT TABLE				
FRAME LINE 5				
□ID	QUAN	TYPE	DIA	LENGTH
P1	2	A325	5/8"	1 1/2"

WALKDOOR TRIM LAYOUT

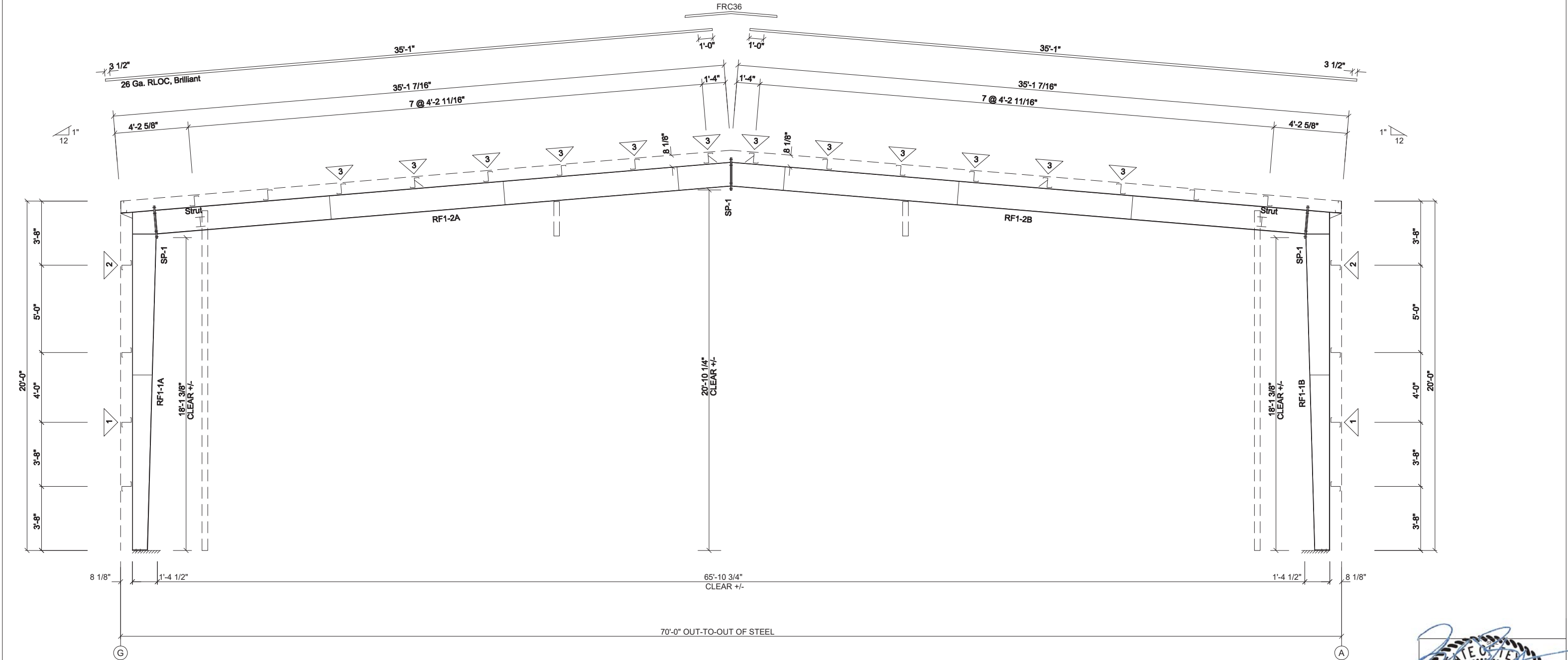


Sealed: 12/7/20

SPLICE PLATES & BOLTS FRAME LINE 1								
Splice Mark	Quan Top/Bot/Int	Type	----Bolt----- Dia	Length	Wid	Plate Size Thick Length		
SP-1	4 4 0	A325	5/8"	2 1/4"	6"	5/8"	1'-10 1/2"	

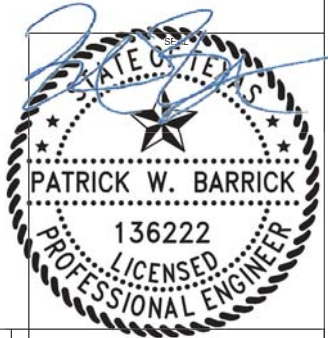
FLANGE BRACE TABLE FRAME LINE 1						
▽ ID	# SIDES	MARK	LENGTH	OFFSET	DETAIL	CLIP
1	1	FB3B	2'-7"	2'-4"		
2	1	FB5B	2'-8 1/2"	2'-4"		
3	1	FB6B	2'-8 3/4"	2'-4"		

MEMBER TABLE								
Mark	Weight	Length	Web Depth	Web Plate		Outside Flange W x Thk x Length	Inside Flange W x Thk x Length	
			Start/End	Thick	Length			
RF1-1	427	19'-4 1/2"	10.0/13.4 13.4/16.0	0.188 0.188	10'-0" 9'-5"	6 x 1/4" x 19'-3 3/4" 6 x 1/4" x 1'-10 13/16"	6 x 1/4" x 17'-9 7/8"	
RF1-2	666	33'-2"	16.0/16.0 16.0/16.0 16.0/16.0	0.135 0.135 0.135	10'-0" 10'-0" 10'-0"	6 x 1/4" x 33'-0 3/4"	6 x 1/4" x 32'-11 3/8"	
RF1-3	429	19'-4 1/2"	16.0/16.0 16.0/13.4 13.4/10.0	0.135 0.188 0.188	3'-0 3/4" 9'-5" 10'-0"	6 x 1/4" x 1'-10 13/16" 6 x 1/4" x 19'-3 3/4"	6 x 1/4" x 17'-9 7/8"	



RIGID FRAME ELEVATION: FRAME LINE 1

Sealed: 12/7/20



DRAWING REVISIONS		DRAWING USAGE				RIGID FRAME ELEVATION		P20-028			PAGE 11 OF 19
		FOR CONSTRUCTION 12/1/2020				Mid-America Engine		Aircraft Hangar			
						2500 State Hwy 160 Warrior, Alabama 35180		11707 FM 359 Brookshire, Texas 77423			

SPLICE PLATES & BOLTS								
FRAME LINE 2 3 4								
Splice Mark	Quan		----Bolt----		Plate Size			
	Top	Bot/Int	Type	Dia	Length	Wid	Thick	Length
SP-1	4	4	2	A325	5/8"	2 1/4"	6"	5/8" 2'-10 1/2"
SP-2	4	4	0	A325	5/8"	2 1/4"	6"	5/8" 1'-9 1/2"

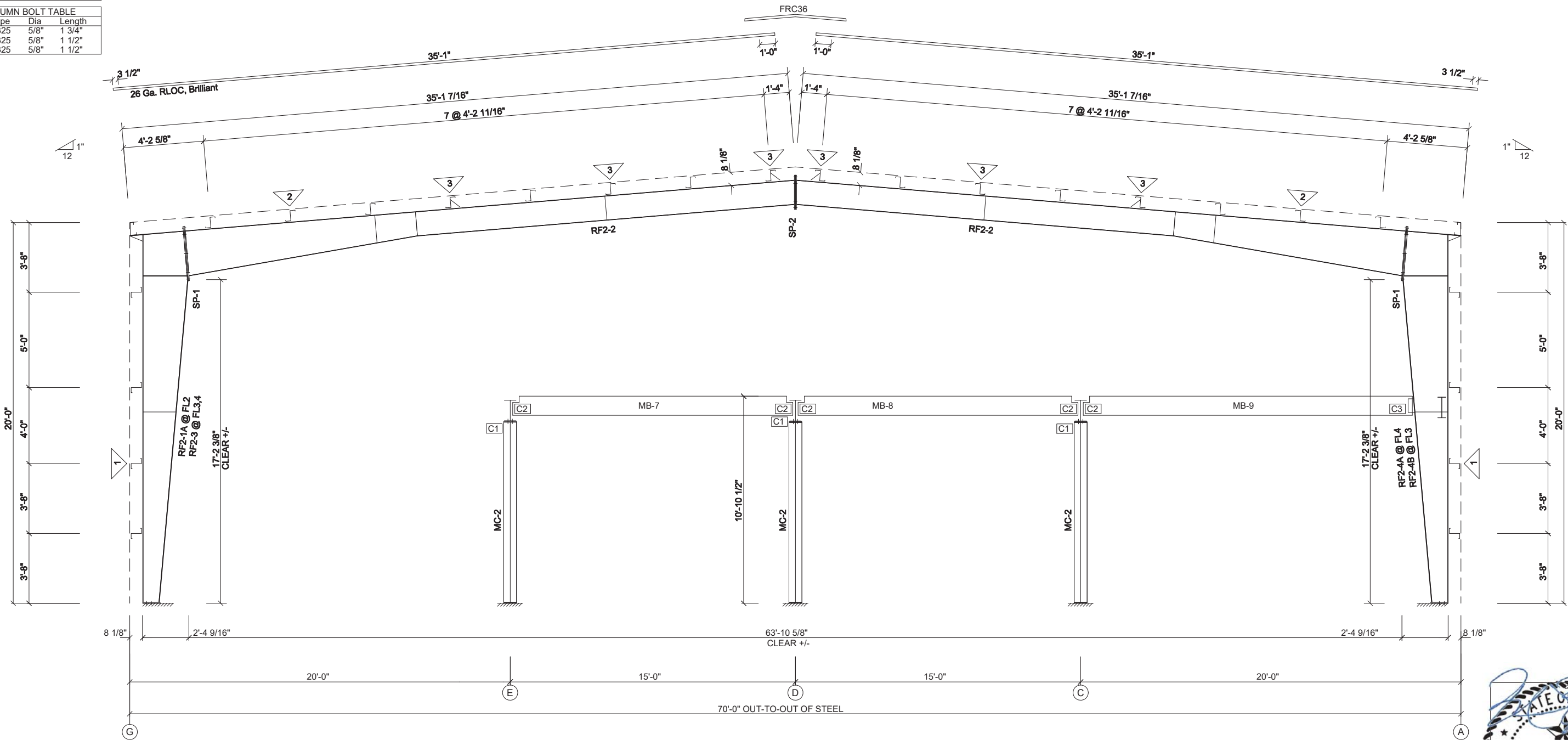
FLANGE BRACE TABLE						
FRAME LINE 2 3 4						
▽ ID	#	MARK	LENGTH	OFFSET	DETAIL	CLIP
1	2	FB7B	2'-9 1/2"	2'-4"		
2	2	FB8B	3'-0 1/4"	2'-4"		
3	2	FB4B	2'-8 1/4"	2'-4"		

PERIMETER BEAM BOLT TABLE				
□ ID	Qty	Type	Dia	Length
P1	4	A325	5/8"	1 3/4"

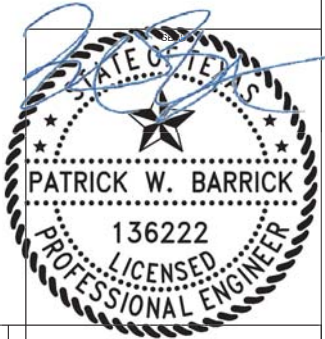
SUPPORT COLUMN BOLT TABLE				
□ ID	Qty	Type	Dia	Length
C1	4	A325	5/8"	1 3/4"
C2	2	A325	5/8"	1 1/2"
C3	3	A325	5/8"	1 1/2"

MEMBER TABLE								
Mark	Weight	Length	Web Depth	Web Plate		Outside Flange	Inside Flange	
			Start/End	Thick	Length	W x Thk x Length	W x Thk x Length	
RF2-1	629	19'-4 1/2"	10.0/20.7	0.250	10'-0"	6 x 1/4" x 19'-3 5/8"	6 x 5/16" x 16'-11 3/8"	
RF2-2	725	32'-2 15/16"	20.7/28.0	0.250	9'-5 13/16"	6 x 1/4" x 2'-9 7/8"	6 x 1/4" x 12'-2 1/4"	
			28.0/17.3	0.188	10'-0"	6 x 1/4" x 32'-1 11/16"	6 x 1/4" x 19'-10 11/16"	
			17.3/15.0	0.188	2'-1 11/16"			
			15.0/15.0	0.135	10'-0"			
RF2-3	631	19'-4 1/2"	15.0/15.0	0.135	10'-0"			
			28.0/20.7	0.250	9'-5 13/16"	6 x 1/4" x 2'-9 7/8"	6 x 5/16" x 16'-11 3/8"	
			20.7/10.0	0.250	10'-0"	6 x 1/4" x 19'-3 5/8"		

BEAM TABLE		
Mark	Part	Length
MC-2	W8X18	9'-6 1/4"
MC-4	W8X18	9'-8 7/16"
MC-5	W12X14	11'-1"
MC-7	W12X14	11'-1"
MB-12	W12X14	1'-4 1/16"



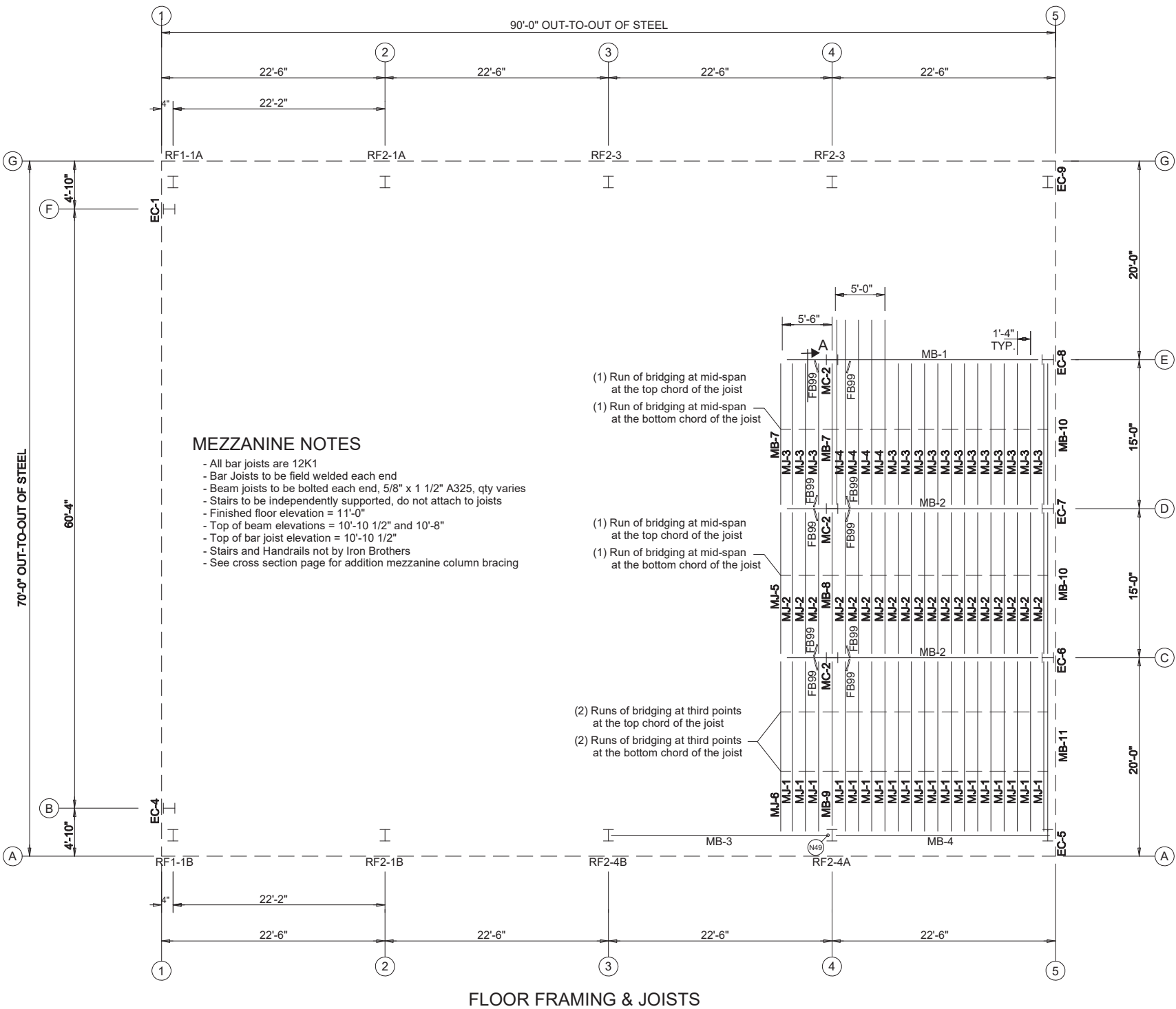
RIGID FRAME ELEVATION: FRAME LINE 2 3 4
(FLOOR BEAMS SHOWN AT FRAME LINE 4)



Sealed: 12/7/20

DRAWING REVISIONS		DRAWING USAGE				RIGID FRAME ELEVATION		P20-028		 PAGE 12 OF 19		
		FOR CONSTRUCTION 12/1/2020				CUSTOMER	Mid-America Engine		PROJECT		Aircraft Hangar	
							2500 State Hwy 160 Warrior, Alabama 35180				11707 FM 359 Brookshire, Texas 77423	

MEMBER TABLE	
MARK	PART
MB-1	W14X22
MB-2	W14X30
MB-3	W14X22
MB-4	W14X22
MB-7	W12X14
MB-8	W12X14
MB-9	W12X14
MB-10	W12X14
MB-11	W12X14
MC-2	W8X18
MJ-1	12K1
MJ-2	12K1
MJ-3	12K1
MJ-4	12K1
MJ-5	W12X14
MJ-6	W12X14
MJ-7	W12X14



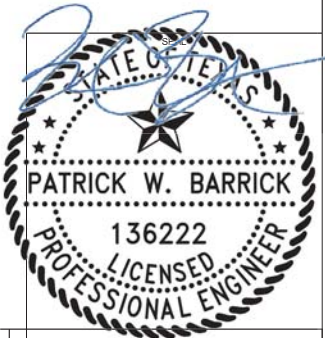
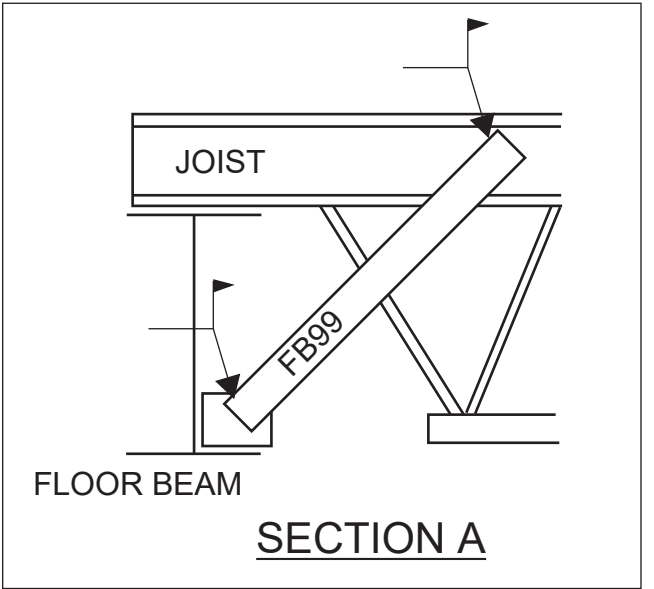
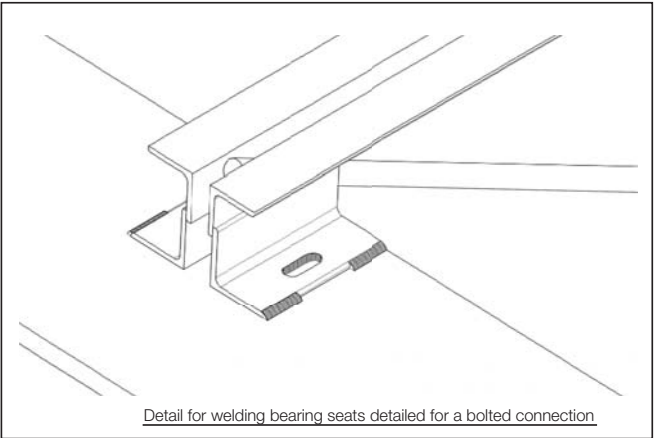
MEZZANINE NOTES

- All bar joists are 12K1
- Bar Joists to be field welded each end
- Beam joists to be bolted each end, 5/8" x 1 1/2" A325, qty varies
- Stairs to be independently supported, do not attach to joists
- Finished floor elevation = 11'-0"
- Top of beam elevations = 10'-10 1/2" and 10'-8"
- Top of bar joist elevation = 10'-10 1/2"
- Stairs and Handrails not by Iron Brothers
- See cross section page for addition mezzanine column bracing

- (1) Run of bridging at mid-span at the top chord of the joist
- (1) Run of bridging at mid-span at the bottom chord of the joist

- (1) Run of bridging at mid-span at the top chord of the joist
- (1) Run of bridging at mid-span at the bottom chord of the joist

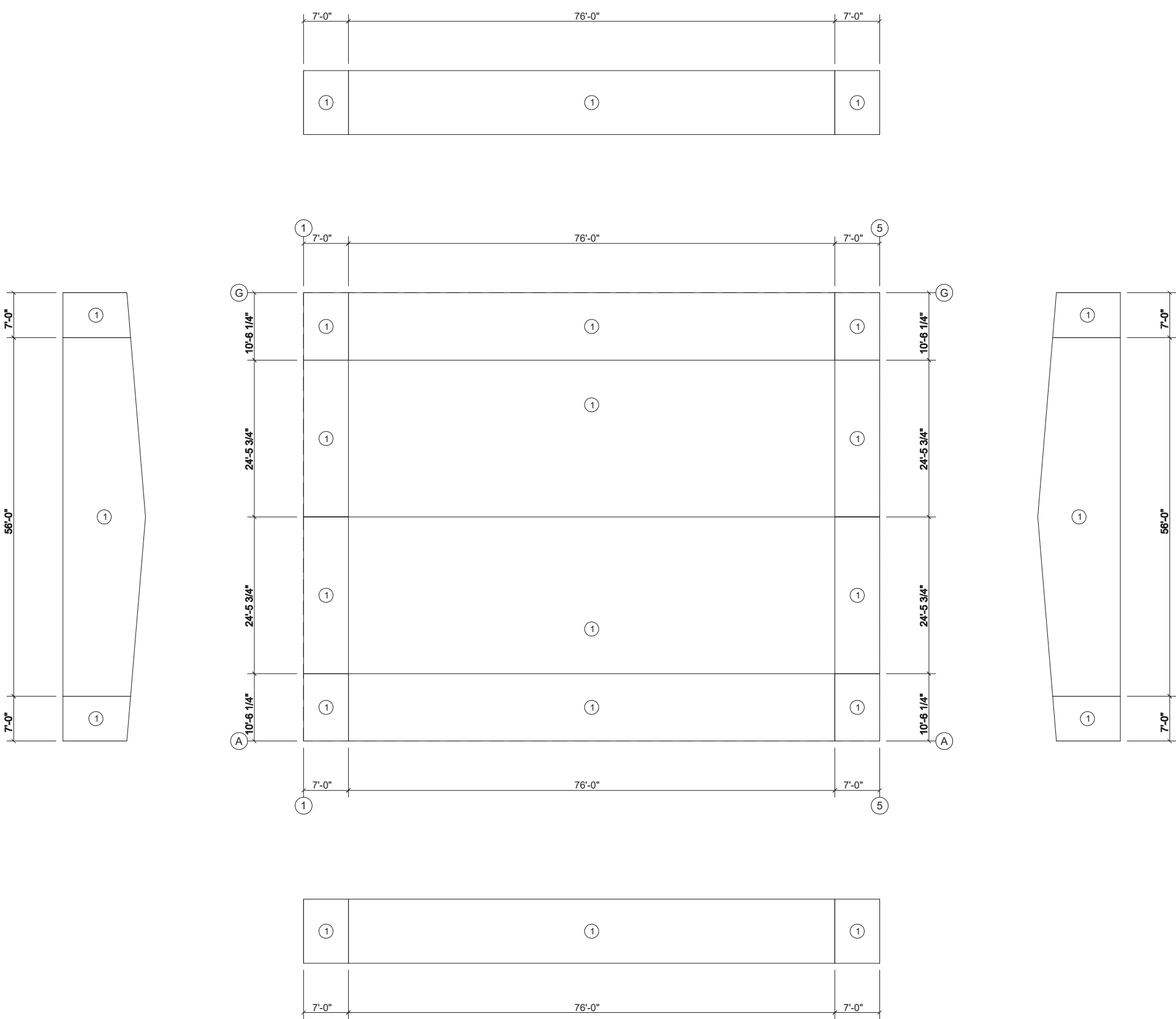
- (2) Runs of bridging at third points at the top chord of the joist
- (2) Runs of bridging at third points at the bottom chord of the joist



Sealed: 12/7/20

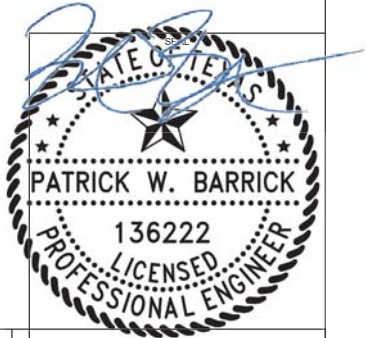
DRAWING REVISIONS	DRAWING USAGE		FLOOR FRAMING & JOISTS		P20-028		PAGE 13 OF 19
	FOR CONSTRUCTION 12/1/2020		CUSTOMER	Mid-America Engine	Aircraft Hangar		
				2500 State Hwy 160 Warrior, Alabama 35180	PROJECT 11707 FM 359 Brookshire, Texas 77423		

FASTENER TABLE		
ZONE ID	SCREW PART	SCREW SPACE
1	114ZACMM	1'-0"



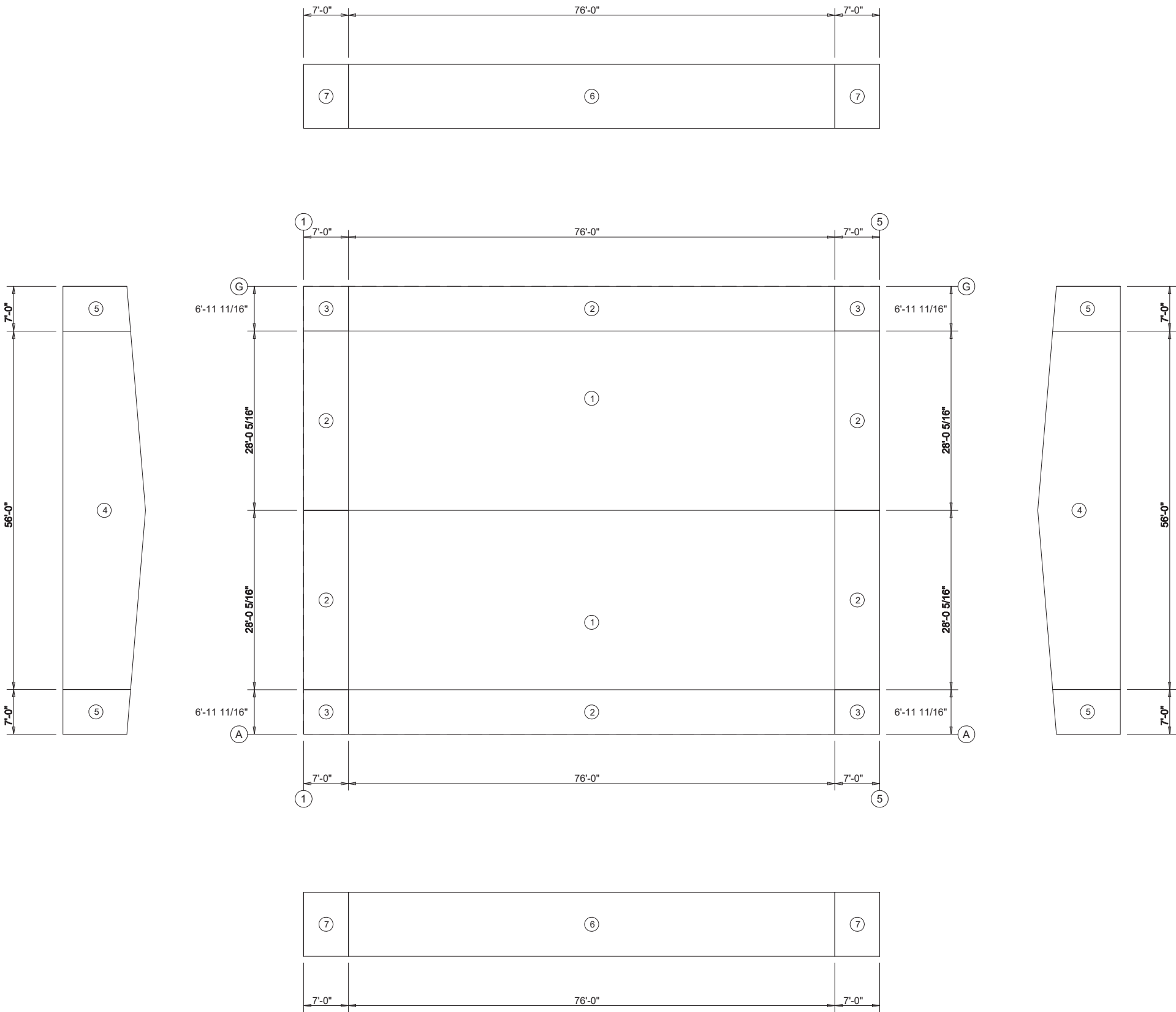
PANEL ZONE LAYOUT
(Minimum Fastener Spacing)

Sealed: 12/7/20



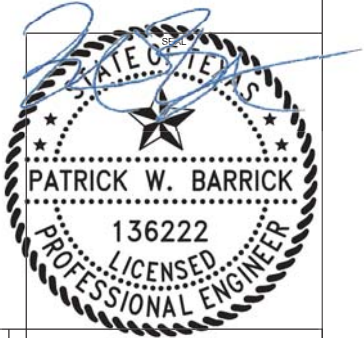
DRAWING REVISIONS		DRAWING USAGE			ZONE LAYOUT		P20-028			PAGE 14 OF 19	
		FOR CONSTRUCTION 12/1/2020			CUSTOMER	Mid-America Engine	PROJECT	Aircraft Hangar			
						2500 State Hwy 160 Warrior, Alabama 35180		11707 FM 359 Brookshire, Texas 77423			

COMPONENTS AND CLADDING			(Unfactored)	
○ Id	Member		Panel	
	Pressure	Suction	Pressure	Suction
1	16.00	-34.65	16.00	-37.86
2	16.00	-40.89	16.00	-63.60
3	16.00	-40.89	16.00	-95.79
4	28.04	-30.93	34.65	-37.54
5	28.04	-33.10	34.65	-46.17
6	28.00	-30.90	34.70	-37.50
7	28.00	-33.06	34.70	-46.13

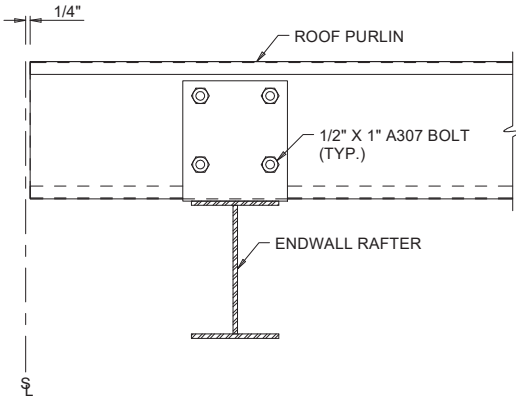
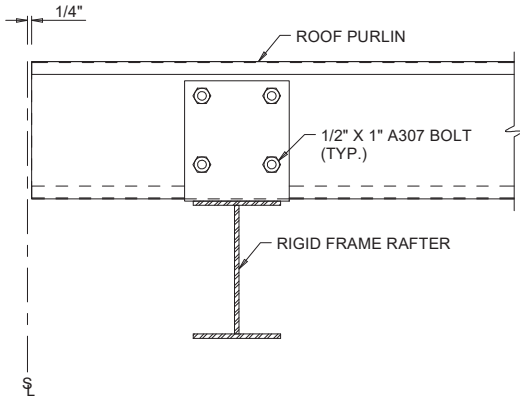
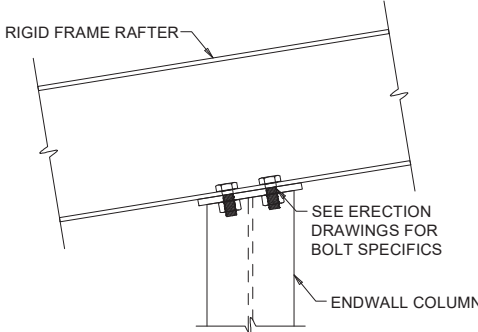
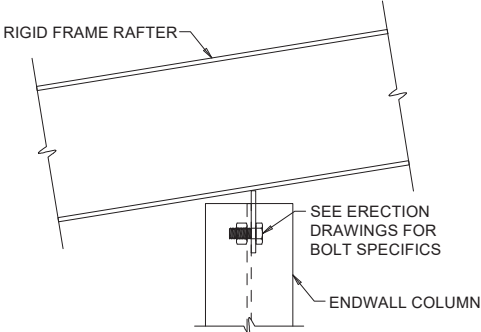
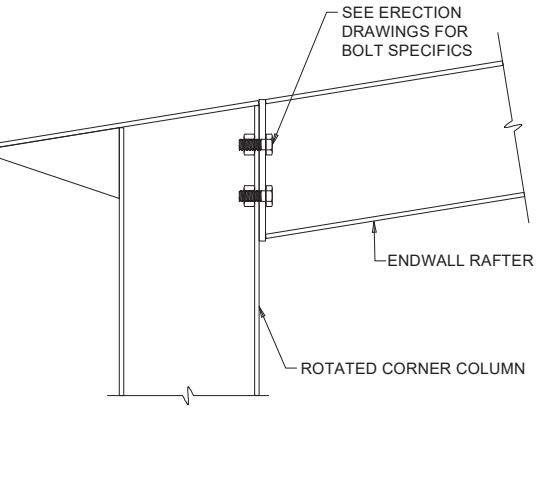
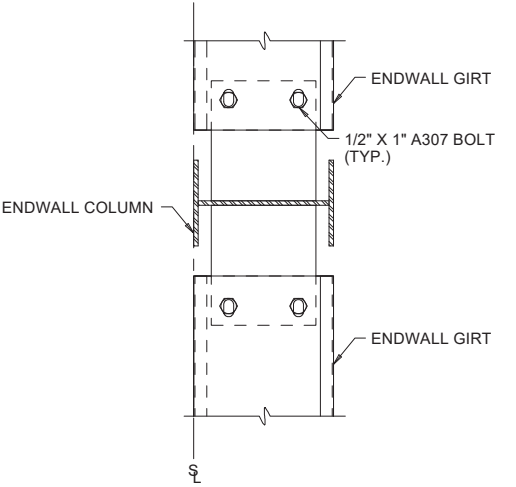
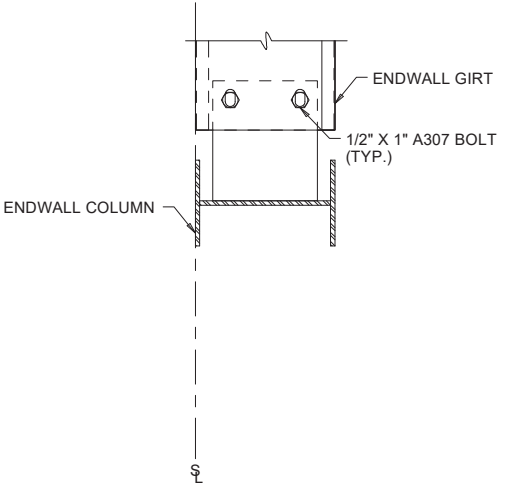
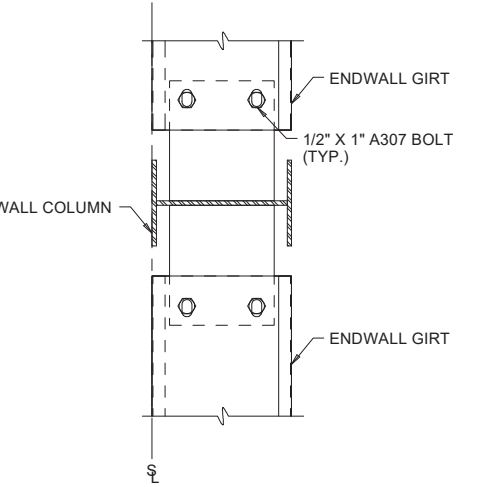
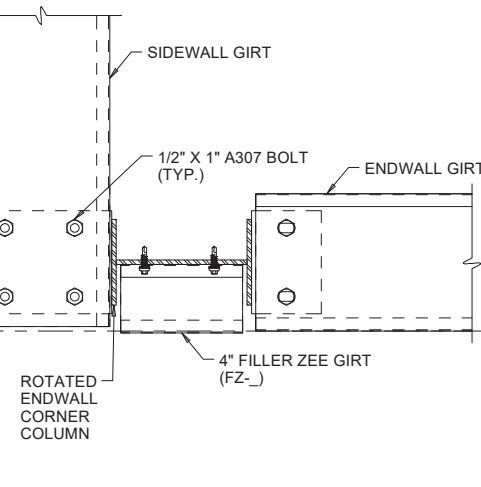
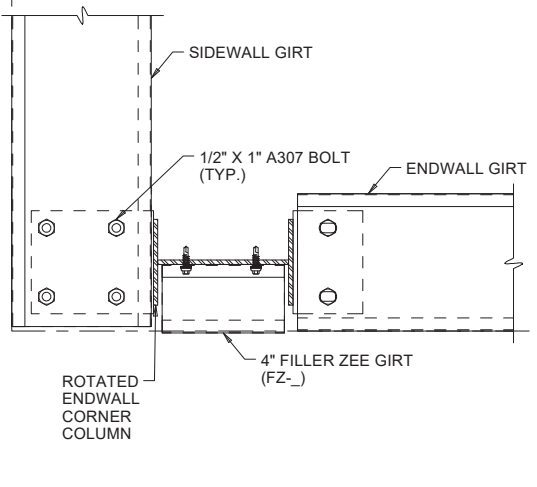
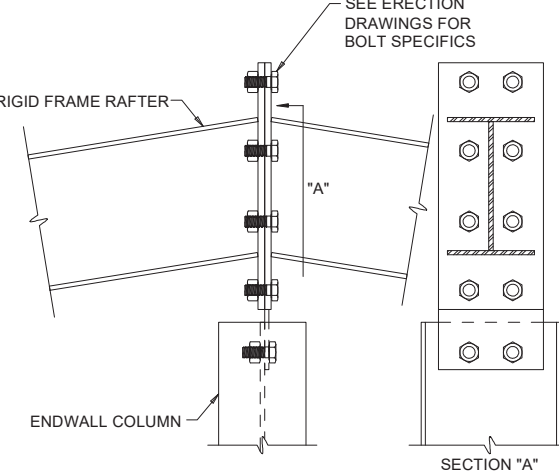
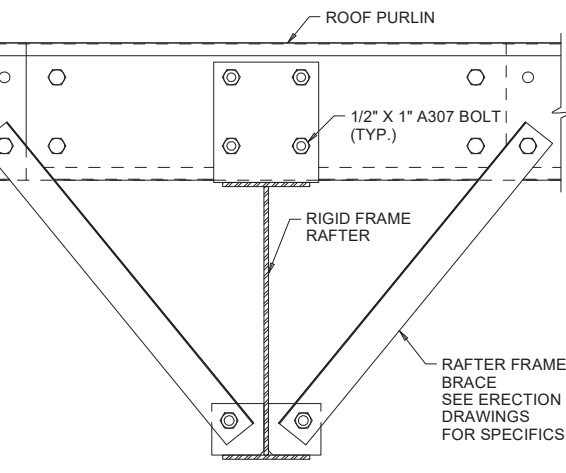
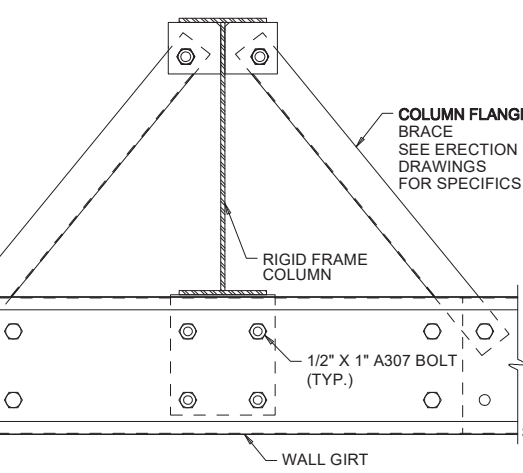
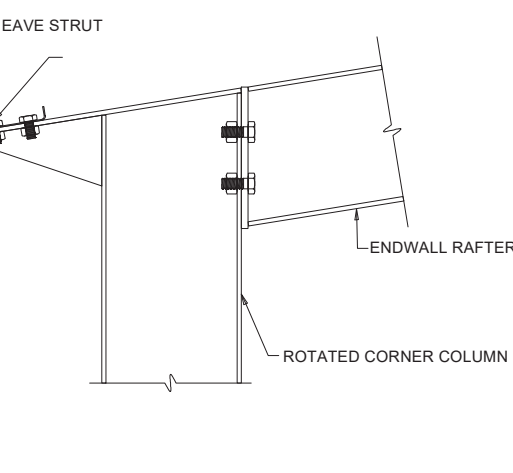


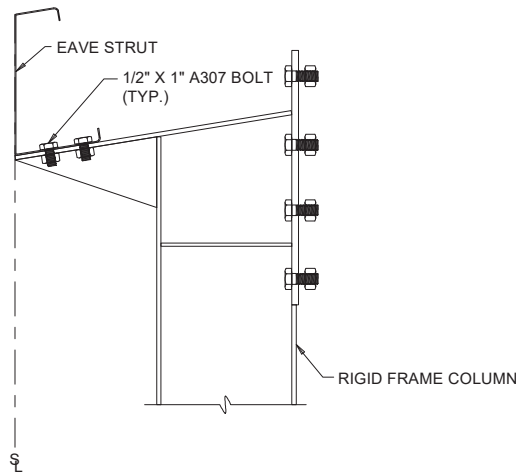
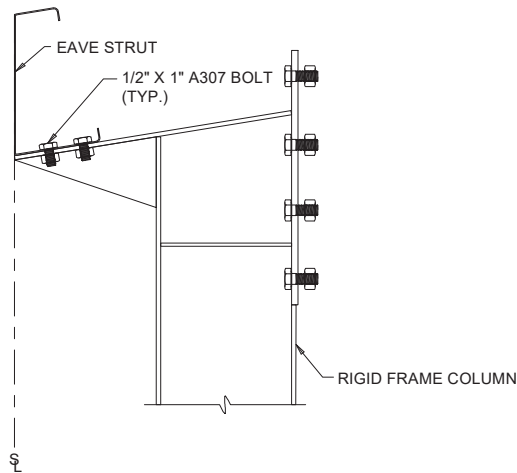
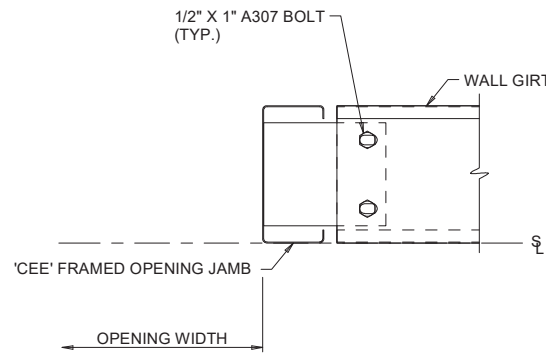
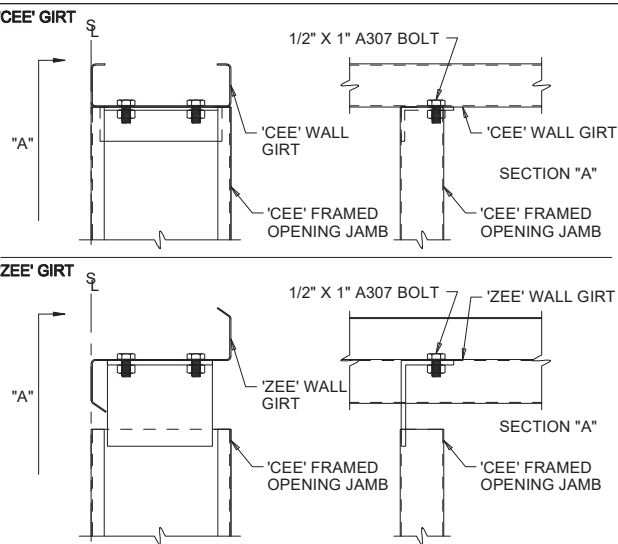
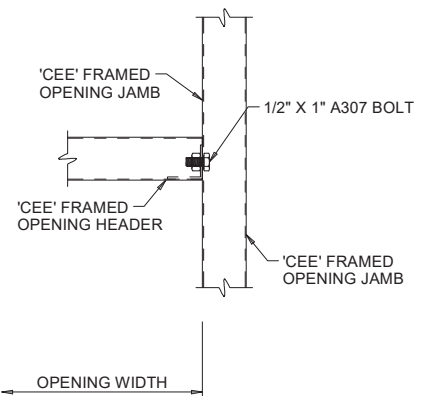
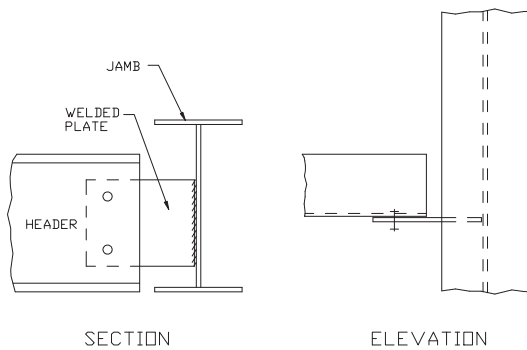
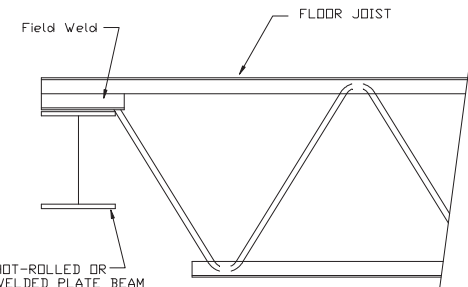
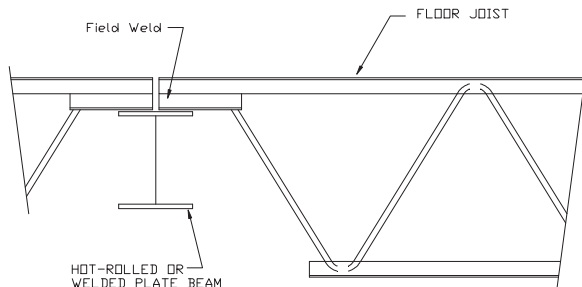
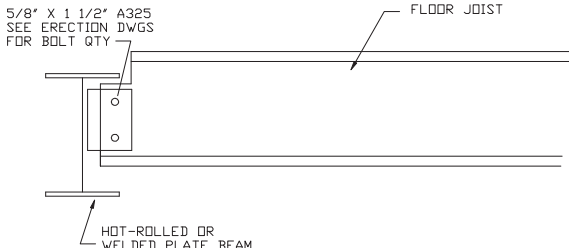
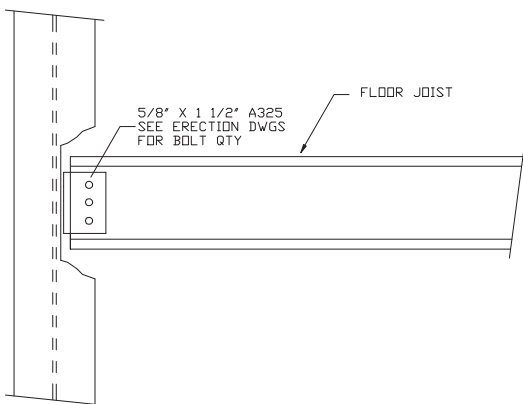
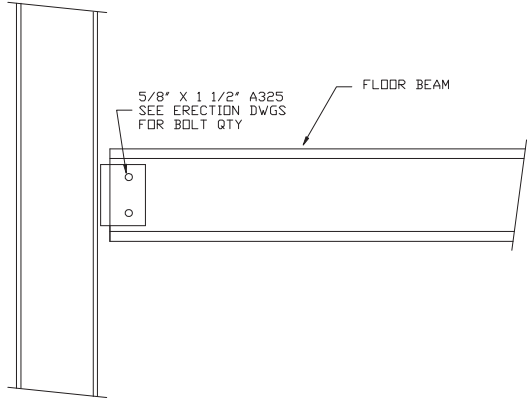
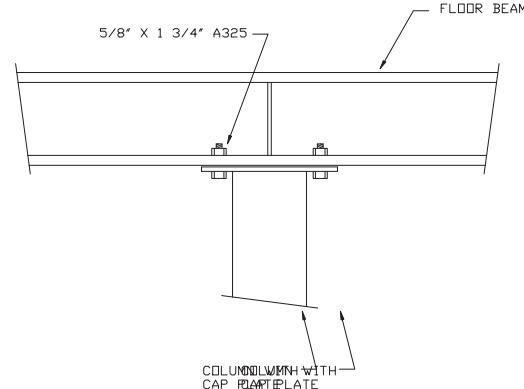
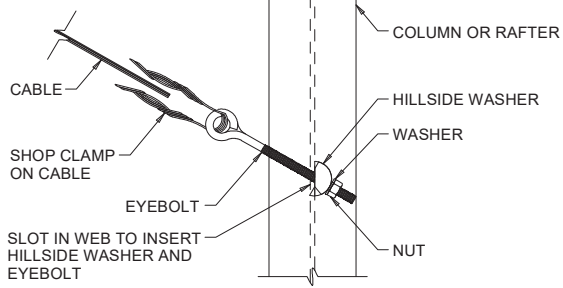
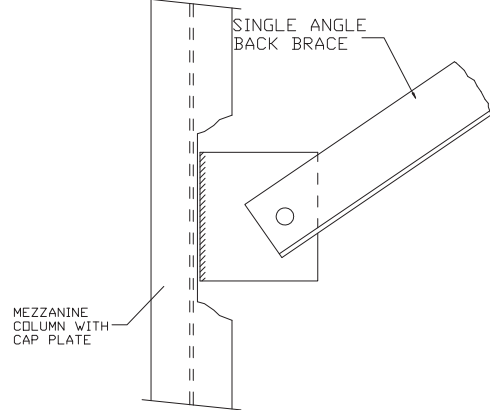
PANEL ZONE LAYOUT
(Wind Pressures, Unfactored (psf))

Sealed: 12/7/20



DRAWING REVISIONS	DRAWING USAGE		ZONE LAYOUT	P20-028	SHEET	PAGE 15 OF 19
	FOR CONSTRUCTION			Aircraft Hangar		
	12/1/2020			11707 FM 359		
				Brookshire, Texas 77423		

																			
A7 <u>ROOF PURLIN TO ENDWALL RAFTER</u> WELDED CLIP CONNECTION	A10 <u>ROOF PURLIN TO RIGID FRAME RAFTER</u> WELDED CLIP CONNECTION	B3 <u>ENDWALL COLUMN TO RAFTER</u>	B19 <u>ENDWALL COLUMN TO RAFTER</u>	B24 <u>ROTATED CORNER COLUMN TO RAFTER</u>															
																			
C6 <u>WALL GIRT TO ENDWALL COLUMN</u>	C15 <u>WALL GIRT TO ENDWALL COLUMN</u>	C66 <u>WALL GIRT TO ENDWALL COLUMN</u>	D15 <u>WALL GIRT TO CORNER COLUMN</u>	D17 <u>WALL GIRT TO CORNER COLUMN</u>															
																			
F20 <u>ENDWALL RAFTER PEAK SPLICE W/ COLUMN</u>	G2 <u>ROOF PURLIN TO RIGID FRAME RAFTER</u> WELDED CLIP CONNECTION	H2 <u>WALL GIRT TO RIGID FRAME COLUMN</u> WELDED CLIP CONNECTION	I14 <u>EAVE STRUT TO ROTATED CORNER COLUMN</u>	Sealed: 12/7/20															
<table><tr><td>DRAWING REVISIONS</td><td>DRAWING USAGE</td></tr><tr><td> </td><td rowspan="4">FOR CONSTRUCTION 12/1/2020</td></tr><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>		DRAWING REVISIONS	DRAWING USAGE		FOR CONSTRUCTION 12/1/2020				<table><tr><td rowspan="3">CUSTOMER</td><td>DETAIL DRAWINGS</td><td>P20-028</td><td rowspan="3">SHEET</td></tr><tr><td>Mid-America Engine</td><td>Aircraft Hangar</td></tr><tr><td>2500 State Hwy 160 Warrior, Alabama 35180</td><td>11707 FM 359 Brookshire, Texas 77423</td></tr></table>			CUSTOMER	DETAIL DRAWINGS	P20-028	SHEET	Mid-America Engine	Aircraft Hangar	2500 State Hwy 160 Warrior, Alabama 35180	11707 FM 359 Brookshire, Texas 77423
DRAWING REVISIONS	DRAWING USAGE																		
	FOR CONSTRUCTION 12/1/2020																		
CUSTOMER	DETAIL DRAWINGS	P20-028	SHEET																
	Mid-America Engine	Aircraft Hangar																	
	2500 State Hwy 160 Warrior, Alabama 35180	11707 FM 359 Brookshire, Texas 77423																	
		PAGE 16 OF 19																	

				
J2EAVE STRUT TO RIGID FRAME COLUMN	J24EAVE STRUT TO RIGID FRAME COLUMN	K3WALL GIRT TO 'CEE' FRAMED OPENING JAMB	L8FRAMED OPENING JAMB TO WALL GIRT	M3FRAMED OPENING HEADER TO JAMB
				
M13HEADER TO R/W JAMB	N3FLOOR JOIST TO BEAM	N21FLOOR JOIST TO BEAM	N32FLOOR JOIST TO BEAM	N49FLOOR BEAM TO COLUMN WEB
				
N52FLOOR BEAM TO COLUMN FLANGE	N54FLOOR BEAM ABOVE COLUMN	Q2CABLE ASSEMBLY	Q7BACK BRACE TO MEZZANINE COLUMN	
DRAWING REVISIONS		DRAWING USAGE		
		FOR CONSTRUCTION		
		12/1/2020		
		IRONBROS		
		DETAIL DRAWINGS		P20-028
		Mid-America Engine		Aircraft Hangar
		2500 State Hwy 160 Warrior, Alabama 35180		11707 FM 359 Brookshire, Texas 77423
		CUSTOMER		PROJECT
				Sealed: 12/7/20
				
				PAGE 17 OF 19

Q14BACK BRACE TO FLOOR BEAM

TD50FRAMED OPENING JAMB DETAIL

TD51FRAMED OPENING HEADER DETAIL

TD3BASE WITHOUT TRIM ANGLE DETAIL

TD1BASE TRIM WITH ANGLE DETAIL

TD30OUTSIDE CORNER DETAIL

TD63GUTTER TRIM AT SHEETED WALL

TD66RAKE TRIM AT SHEETED WALL

TD102RIDGE DETAIL WITH DIE FORMED RIDGE

S1FASTENER LOCATION FOR WALL PANELS

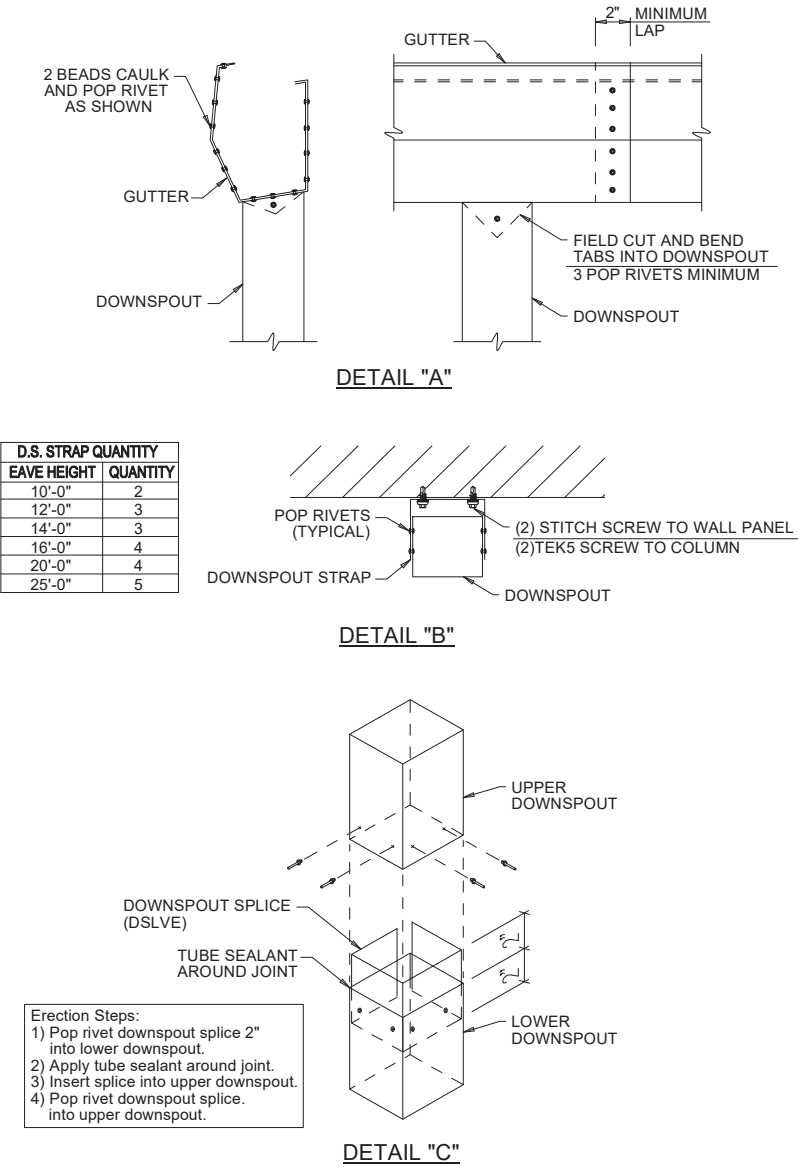
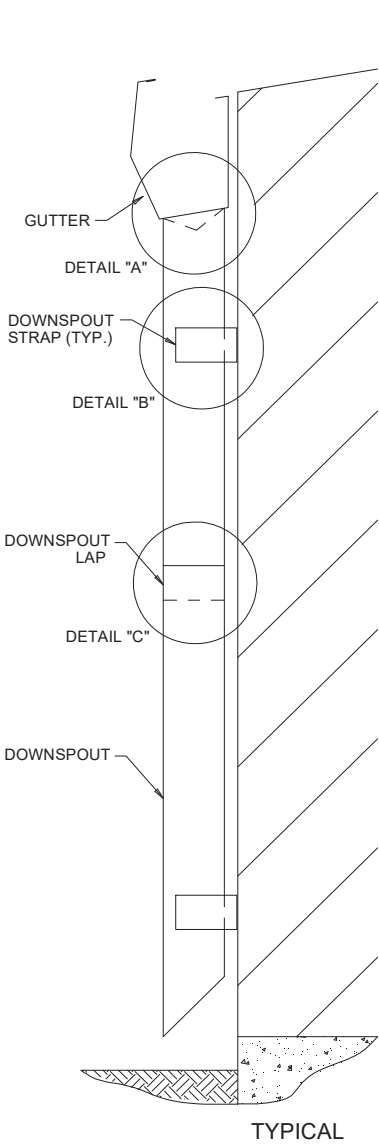
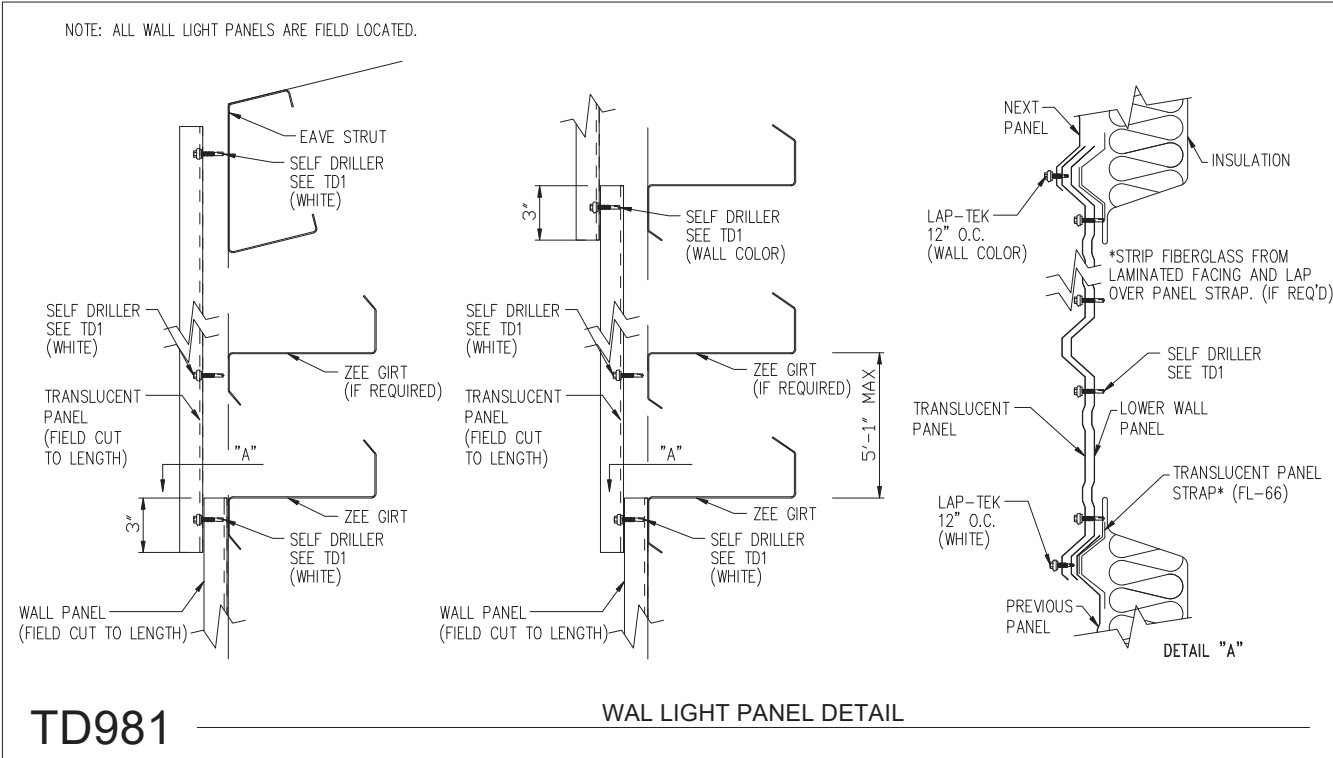
S2FASTENER LOCATION FOR ROOF PANELS

Sealed: 12/7/20

DRAWING REVISIONS	DRAWING USAGE
	FOR CONSTRUCTION
	12/1/2020

DETAIL DRAWINGS	P20-028
Mid-America Engine	Aircraft Hangar
2500 State Hwy 160 Warrior, Alabama 35180	11707 FM 359 Brookshire, Texas 77423

	PAGE 18 OF 19
--	---------------



DRAWING REVISIONS	DRAWING USAGE
	FOR CONSTRUCTION
	12/1/2020



DETAIL DRAWINGS	P20-028
Mid-America Engine	Aircraft Hangar
2500 State Hwy 160 Warrior, Alabama 35180	11707 FM 359 Brookshire, Texas 77423

PAGE 19 OF 19

