

R & M STEEL COMPANY

P.O. Box 580
Caldwell, Idaho 83606

STEEL BUILDING SYSTEMS

Phone: 1-208-454-1800 Toll Free: 1-866-454-1800
Fax: 1-208-454-1801 Toll Free: 1-866-454-1801

DRAWING APPROVAL

DATE: 7/13/2021

PHONE: (509) 590-9660

TO FAX NUMBER:

TO: ANDREW ROBINSON

ATTENTION: ANDREW ROBINSON

NUMBER OF PAGES TRANSMITTED INCLUDING THIS COVER SHEET: 16

REPLY REQUESTED: _____ URGENT **XXX** ASAP _____ NONE NEEDED

REGARDING JOB: HANGAR
(PAHRUMP, NV)

QUOTE #: EG-210623-3 AS Rev. 1

APPROVAL REVISION #:

Please Review the Attached Drawings
Check the Appropriate Comment Box
Sign Your Approval in the Box Below.

Documents For Approval	
Not To Be Used For Construction	
☐	Approved With No Changes
☐	Approved With Changes
☐	Resubmit For Approval with Changes
These documents set forth R & M Steel's interpretation of the building requirements as represented by your Acceptance of Quotation. Changes must be marked clearly in red ink. Any alteration or deviation from the Acceptance of Quotation will be subject to a written Change Order agreed-to and executed by both parties, and same will become a charge over and above the agreed-to Purchase Price.	
_____ Authorized Buyer's Signature	_____ Date

FROM: MARLA / ROB

Rev. #4 Revised 4/5/2017

www.rmsteel.com

www.aviationbuildingsystem.com

Steel Building Excellence • Since 1969

CUSTOMER INFORMATION

CUSTOMER NAME: ANDREW ROBINSON
ADDRESS: 3320 N.NAYLOR PLACE
PAHRUMP, NV 89060

PROJECT NAME: HANGAR
PROJECT LOCATION: PAHRUMP, NV

GENERAL NOTES

1. MATERIALS
- ASTM DESIGNATION
- STRUCTURAL STEEL PLATE

A529 OR A572 OR A1011SS

GRADE 55
- FLANGE MATERIAL

A529

GRADE 55
- COLD FORMED LIGHT GAUGE SHAPES

A1011SS

GRADE 55
- STRUCTURAL CABLES

A475

GRADE EHS
- HOT ROLLED MILL SHAPE

A992

GRADE 50
- HOLLOW STRUCTURAL SECTIONS

A500

GRADE B
- PBR36 ROOF AND WALL PANELS

A653 OR A792

GRADE 80
- STANDING SEAM ROOF

A653 OR A792

GRADE 50
- BOLTS

A325

A325
- BOLTS

GRADE 5

GRADE 5
2. DESIGN
- A. ALL STRUCTURAL STEEL SECTIONS AND WELDED PLATE MEMBER ARE DESIGNED IN ACCORDANCE WITH THE AISC 360-16 "SPECIFICATIONS FOR THE DESIGN, FABRICATING AND ERECTION OF STRUCTURAL STEEL BUILDING", ALLOWABLE STRESS DESIGN.
- B. ALL COLD FORMED MEMBERS ARE DESIGNED IN ACCORDANCE WITH AISI S100-16 "SPECIFICATIONS FOR DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS".
- C. ALL WELDING OF STRUCTURAL STEEL IS BASED ON AWS D1.1 2017 "STRUCTURAL WELDING CODE".
3. HIGH STRENGTH BOLT CONNECTIONS:
- ALL HIGH STRENGTH BOLTS ARE TYPE ASTM A325 AND ARE TO BE INSTALLED ACCORDING TO THE "SNUG-TIGHT" CONDITIONS AS DEFINED BY THE, RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS, UNLESS NOTED OTHERWISE.
- ALSO, NOTE THAT BOLTS IN STANDARD HOLES DO NOT REQUIRE WASHERS PER THE, RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS, SECTION 6 (REFERENCE STEEL CONSTRUCTION AISC MANUAL 360-16)
4. A325 BOLT TIGHTENING REQUIREMENTS
- ALL HIGH STRENGTH BOLTED CONNECTIONS ARE SUBJECT TO AXIAL TENSION AND OR SLIP CRITICAL. AS SUCH THE BOLTS MUST BE FULLY PRE-TENSIONED AND INSPECTED IN ACCORDANCE WITH THE AISC 360-16 SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 BOLTS AND THE APPLICABLE BUILDING CODE. WASHERS ARE NOT REQUIRED WHEN THE "TURN OF THE NUT" TIGHTENING PROCEDURE IS USED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE PROPER BOLT TIGHTNESS.
5. STRUCTURAL PRIMER
- ALL STRUCTURAL MEMBERS WILL BE GIVEN ONE COAT OF MANUFACTURER'S STANDARD RUST-INHIBITIVE PRIMER MEETING THE PERFORMANCE REQUIREMENTS OF TT-P-6645. THIS IS NOT A FINISH COAT AND IS NOT INTENDED FOR PROLONGED EXPOSURE TO THE ELEMENTS. REFERENCE AISC 360-16, CODE OF STANDARD PRACTICE SECTION 6.5.1-6.5.4.

6. BUILDER / CONTRACTOR RESPONSIBILITIES

R & M STEEL COMPANY STANDARD PRODUCT SPECIFICATIONS APPLY AND R & M STEEL COMPANY DESIGN, FABRICATION, QUALITY CONTROL STANDARDS AND TOLERANCE WILL GOVERN. IN CASE OF DISCREPANCIES BETWEEN R & M STEEL COMPANY'S PLANS AND PLANS FOR OTHER TRADES R & M STEEL PLANS SHALL GOVERN. (SECTION 3.3 AISC 303-16 CODE OF STANDARD PRACTICES.)

IT IS THE RESPONSIBILITY OF THE BUILDER / CONTRACTOR TO OBTAIN APPROPRIATE APPROVALS AND NECESSARY PERMITS FROM CITY, COUNTY, STATE OR FEDERAL AGENCIES AS REQUIRED.

APPROVAL OF R & M STEEL COMPANY'S DRAWINGS CONSTITUTES THE BUILDER / CONTRACTOR'S ACCEPTANCE OF R & M STEEL COMPANY'S INTERPRETATION OF THE PURCHASE ORDER. (SECTION 4.2.1 AISC 303.16 CODE OF STANDARD PRACTICES.)

THE BUILDER / CONTRACTOR OR A/E FIRM IS RESPONSIBLE FOR THE OVERALL PROJECT. ALL INTERFACE AND COMPATIBILITY CONCERNING ANY MATERIAL NOT FURNISHED BY R & M STEEL COMPANY ARE TO BE CONSIDERED AND COORDINATED BY THE BUILDER / CONTRACTOR OR A/E FIRM UNLESS SPECIFIC DESIGN CRITERIA CONCERNING THIS INTERFACE BETWEEN MATERIALS IS FURNISHED AS PART OF THE PURCHASE ORDER. R & M STEEL COMPANY ASSUMPTIONS WILL GOVERN.

THE BUILDER / CONTRACTORS RESPONSIBLE FOR SETTING OF ANCHOR BOLTS AND ERECTION OF STEEL BUILDING COMPONENTS IN ACCORDANCE WITH R & M STEEL COMPANY'S BUILDING "FOR CONSTRUCTION" DRAWINGS. TEMPORARY SUPPORTS OR BRACING REQUIRED FOR THE BUILDING ERECTION WILL BE THE RESPONSIBILITY OF THE ERECTOR TO DETERMINE, FURNISH AND INSTALL. (SECTION 7.9.1 AISC 303.16 CODE OF STANDARD PRACTICES.)

THE DESIGN OF THE ANCHOR BOLT EMBEDMENT LENGTH IS THE RESPONSIBILITY OF THE FOUNDATION DESIGN ENGINEER. THE LENGTH PROVIDED BY R & M STEEL IS AN ESTIMATED LENGTH AND SHOULD BE ADJUSTED ACCORDING TO THE FOUNDATION DESIGN.

BUILDING LOADS / DESCRIPTION:

WIDTH: 70 LENGTH: 60 HEIGHT: 19 / 19
ROOF PITCH: 1.0:12 / 1.0:12
THIS STRUCTURE IS DESIGNED UTILIZING THE LOADS INDICATED AND APPLIED AS REQUIRED BY : IBC 18 (IBC 18)
THE CONTRACTOR / BUILDER IS TO CONFIRM THAT THESE LOADS COMPLY WITH THE REQUIREMENTS OF THE LOCAL BUILDING DEPARTMENT.

ROOF DEAD LOAD:	2.10	PSF (ROOF PANELS & PURLINS)
COLLATERAL LOAD:	1.00	PSF
ROOF LIVE LOAD:	20.00	PSF
GROUND SNOW LOAD: (Pg)	0.00	PSF
ROOF SNOW LOAD: (Pf)	0.00	PSF
BASIC WIND SPEED:	115	MPH
SEISMIC COEFFICIENT:	0.749	

IMPORTANCE FACTORS:

WIND LOAD:	1.00
SNOW LOAD:	1.00
SEISMIC:	1.00

ROOF PANELS:

COLOR: Sandstone Beige

WALL PANELS:

COLOR: Sandstone Beige

TRIM COLORS:

GABLE:	Kelly Green
EAVE:	Kelly Green
CORNER:	Kelly Green
DOOR & WINDOW:	Kelly Green
GUTTER:	--
DOWNSPOUTS:	--
BASE (OPTIONAL):	Kelly Green
8" JAMB/HEAD:	Kelly Green

SOFFIT PANEL:

GABLE EXT:	
EAVE EXT:	
CANOPY:	

LINER PANEL:

LEFT :	
RIGHT:	
FRONT:	
BACK :	
ROOF :	

Pf = 0.7 Ce Ct I Pg
Ce = 1
Ct = 1.2
I = 1
Pg = 0.0 PSF
Pf = 0.0 PSF

EARTHQUAKE DESIGN DATA:

INPUT:
Occupancy Category: II - Normal
Seismic Importance Factor: 1.00
Mapped Response (Short), Ss: 0.55
Mapped Response (1 sec.), S1: 0.20
Site Class: d - Default

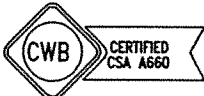
RESULT:
Seismic Design Category, SDC: D
Basic Seismic-Force-Resisting Systems: OCBF, OMF
Analysis Procedure Used: Equivalent Lateral

FORCE:
Site Coeff (Short), Fa: 1.3592
Site Coeff (1 sec.), Fv: 2.2020
Max. Design Response (Short), Sms: 0.75
Max. Design Response (1 sec.), Sml: 0.4382
Design Response (Short), Sds: 0.50
Design Response (1 sec.), Sd1: 0.29
Approx. Period (Moment), Ta: 0.3132
Approx. Period (Brace), Tb: 0.1924
Rigid Frame Deflection Limit (Seis): 65
Wind Bent Deflection Limit (Seis): 65

DES_CALC:
Seismic Forces:
Roof Bracing: Endwall Bracing: End Plates, Frame:
R = 3.2500 R = 3.2500 R = 3.5000
Rho = 1.3000 Omega = 2.0000 Omega = 3.0000
Cs = 0.154 Cs = 0.143

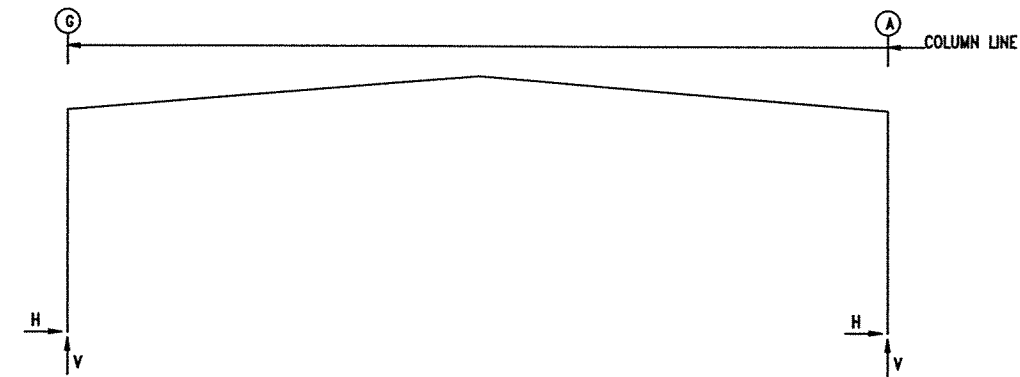
Sidewall Bracing: Rigid Frames:
R = 3.2500 R = 3.50
Omega = 2.0000 Rho = 1.3000
Cs = 0.154 Cs = 0.143

Total Base Shear:
Longitudinal Force, V = 4.08 (k)
Transverse Force, V = 3.89 (k)



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SCALE:	JOB LOCATION	REVISION	
DATE: 7/13/21	PAHRUMP, NV		
ANDREW ROBINSON		DRAWN BY	
HANGAR		MDC	
		DRAWING NUMBER	
		OF	

FRAME LINES: 1 2 3



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

Frm Line	Col Line	Column_Reactions(k)						Bolt(in)	Dia	Base_Plate(in)			Grout (in)
		Load Id	Hmax H	V Ymax	Load Id	Hmin H	V Vmin			Width	Length	Thick	
1	G	1	4.4	8.4	2	-1.7	-2.1	4	0.750	6.000	8.500	0.500	0.0
1	A	3	1.7	-2.1	1	-4.4	8.4	4	0.750	6.000	8.500	0.500	0.0
		1	-4.4	8.4	3	1.7	-2.1						

RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES
THE VERTICAL COMPONENT OF BRACING REACTION IS INCLUDED IN VERTICAL REACTIONS.

Frm Line	Col Line	Column_Reactions(k)						Bolt(in)	Dia	Base_Plate(in)			Grout (in)
		Load Id	Hmax H	V Ymax	Load Id	Hmin H	V Vmin			Width	Length	Thick	
2	G	1	6.0	11.6	2	-4.6	-6.8	4	0.750	6.000	8.500	0.500	0.0
2	A	3	4.6	-6.8	1	-6.0	11.6	4	0.750	6.000	8.500	0.500	0.0
		1	-6.0	11.6	5	1.3	-9.5						

RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES
THE VERTICAL COMPONENT OF BRACING REACTION IS INCLUDED IN VERTICAL REACTIONS.

Frm Line	Col Line	Column_Reactions(k)						Bolt(in)	Dia	Base_Plate(in)			Grout (in)
		Load Id	Hmax H	V Ymax	Load Id	Hmin H	V Vmin			Width	Length	Thick	
3	G	1	6.0	11.6	2	-4.6	-6.8	4	0.750	6.000	8.500	0.500	0.0
3	A	3	4.6	-6.8	1	-6.0	11.6	4	0.750	6.000	8.500	0.500	0.0
		1	-6.0	11.6	5	1.3	-9.5						

RIGID FRAME: BASIC COLUMN REACTIONS (k)

Frame Line	Column Line	Dead		Collateral		Live		Wind_Left1		Wind_Right1		Wind_Left2	
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert
1	G	1.8	3.6	0.2	0.4	2.3	4.4	-4.6	-7.2	-1.2	-4.9	-3.9	-4.1
1	A	-1.8	3.6	-0.2	0.4	-2.3	4.4	1.2	-4.9	4.6	-7.2	0.5	-1.8
2	G	1.1	2.5	0.4	0.7	4.5	8.4	-8.8	-13.8	-2.2	-9.4	-7.5	-7.9
2	A	-1.1	2.5	-0.4	0.7	-4.5	8.4	2.2	-9.4	8.8	-13.8	0.9	-3.5
3	G	1.1	2.5	0.4	0.7	4.5	8.4	-8.8	-13.8	-2.2	-9.4	-7.5	-7.9
3	A	-1.1	2.5	-0.4	0.7	-4.5	8.4	2.2	-9.4	8.8	-13.8	0.9	-3.5

Frame Line	Column Line	Wind_Right2		Wind_Long1		Wind_Long2		Seismic_Left		Seismic_Right		Seismic_Long	
		Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert
1	G	-0.5	-1.8	-1.7	-6.7	-1.9	-5.4	-0.5	-0.3	0.5	0.3	0.0	0.0
1	A	3.9	-4.1	1.9	-5.4	1.7	-6.7	-0.5	0.3	0.5	-0.3	0.0	0.0
2	G	-0.9	-3.5	-3.2	-18.2	-3.7	-15.8	-0.7	-0.4	0.7	0.4	0.0	-2.3
2	A	7.5	-7.9	3.7	-15.8	3.2	-18.2	-0.7	0.4	0.7	-0.4	0.0	-2.3
3	G	-0.9	-3.5	-3.2	-18.2	-3.7	-15.8	-0.7	-0.4	0.7	0.4	0.0	-2.3
3	A	7.5	-7.9	3.7	-15.8	3.2	-18.2	-0.7	0.4	0.7	-0.4	0.0	-2.3

ENDWALL COLUMN: BASIC COLUMN REACTIONS (k)

Frm Line	Col Line	Dead		Collat		Live		Wind_Left1		Wind_Right1		Wind_Left2		Wind_Right2		Wind Press	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Suct
1	F	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.9	6.5
1	B	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.9	6.5
4	A	0.2	0.1	1.2	0.0	0.0	-1.5	0.0	-1.1	0.0	-1.0	0.0	-0.5	0.0	-1.4	1.6	1.6
4	C	0.7	0.2	3.9	-1.9	-7.5	0.0	-0.8	-1.9	-5.9	0.0	0.8	-3.3	3.6	3.6	3.6	3.6
4	D	0.9	0.2	4.2	0.0	-2.5	1.9	-6.6	0.0	-0.9	1.9	-5.0	-4.2	4.6	4.6	4.6	4.6
4	E	0.7	0.2	3.9	0.0	-2.9	0.0	-5.6	0.0	-1.3	0.0	-3.9	-3.3	3.6	3.6	3.6	3.6
4	G	0.2	0.1	1.2	0.0	-1.1	0.0	-1.5	0.0	-0.5	0.0	-1.0	-1.4	1.6	1.6	1.6	1.6

Frm Line	Col Line	Wind_Long1		Wind_Long2		Seis_Left		Seis_Right	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
1	F	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	A	0.0	-1.7	0.0	-1.1	0.0	0.0	0.0	0.0
4	C	0.0	-5.2	-0.4	-3.3	-1.1	-1.1	0.0	1.2
4	D	0.4	-4.7	0.0	-3.9	0.0	1.1	1.1	-1.2
4	E	0.0	-2.9	0.0	-5.6	0.0	0.0	0.0	0.0
4	G	0.0	-1.1	0.0	-1.7	0.0	0.0	0.0	0.0

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

Frm Line	Col Line	Column_Reactions(k)						Bolt(in)	Dia	Base_Plate(in)			Grout (in)
		Load Id	Hmax H	V Ymax	Load Id	Hmin H	V Vmin			Width	Length	Thick	
1	F	7	3.9	0.1	8	-3.6	0.1	4	0.750	6.500	6.000	0.250	0.0
		6	0.0	0.2									
1	B	7	3.9	0.1	8	-3.6	0.1	4	0.750	6.500	6.000	0.250	0.0
		6	0.0	0.2									
4	A	9	1.0	-0.9	10	-0.8	-0.9	4	0.750	6.500	6.000	0.250	0.0
		1	0.0	1.5	9	1.0	-0.9						
4	C	11	2.2	-4.1	10	-2.0	-2.7	4	0.750	6.500	6.000	0.250	0.0
		1	0.0	4.8	11	2.2	-4.1						
4	D	12	2.8	-3.4	10	-2.5	-2.3	4	0.750	6.500	6.000	0.250	0.0
		1	0.0	5.3	12	2.8	-3.4						
4	E	12	2.2	-2.9	8	-2.0	-2.9	4	0.750	6.500	6.000	0.250	0.0
		1	0.0	4.8	12	2.2	-2.9						
4	G	13	1.0	-0.9	8	-0.8	-0.9	4	0.750	6.500	6.000	0.250	0.0
		1	0.0	1.5	13	1.0	-0.9						

BUILDING BRACING REACTIONS

Wall Loc	Col Line	Reactions(k)				Panel Shear (lb/ft)		Note
		Wind Horiz	Wind Vert	Seismic Horiz	Seismic Vert	Wind	Seis	
L_EW	1							(h)
F_SW	A	2.3	6.2	5.4	2.0	1.8		
R_EW	4	C,D	1.9	1.9	0.8	0.9		
B_SW	G	3.2	6.2	5.4	2.0	1.8		

(h) Rigid frame at endwall

ANCHOR BOLT SUMMARY

Qty	Locate	Dia (in)	Type	Proj (in)
28	Endwall	3/4"	GR36	2.00
24	Frame	3/4"	GR36	2.00

NOTES FOR REACTIONS

- All loading conditions are examined and only maximum/minimum H or V and the corresponding H or V are reported.
- Positive reactions are as shown in the sketch. Foundation loads are in opposite directions.
- Bracing reactions are in the plane of the brace with the H pointing away from the braced bay. The vertical reaction is downward.
- Building reactions are based on the following building data:

Width (ft)	=	70.0
Length (ft)	=	60.0
Eave Height (ft)	=	19.0/ 19.0
Roof Slope (rise/12)	=	1.0/ 1.0
Dead Load (psf)	=	2.1
Collateral Load (psf)	=	1.0
Roof Live Load (psf)	=	20.0
Frame Live Load (psf)	=	12.0
Ground Snow Load (psf) (Pg)	=	0.0
Wind Speed (mph)	=	115.0
Wind Code	=	IBC 18
Exposure	=	C
Closed/Open	=	C
Importance Wind	=	1.00
Importance Seismic	=	1.00
Seismic Zone	=	D
Seismic Coeff (Fa*Se)	=	0.75

5. Loading conditions are:

- Dead+Collateral+Live
- 0.6Dead+0.6Wind_Left1
- 0.6Dead+0.6Wind_Right1
- 0.6Dead+0.6Wind_Long1L
- 0.6Dead+0.6Wind_Long2L
- 1.05Dead+1.05Collateral+0.53Seismic_Right
- 0.6Dead+0.6Wind_Right2+0.6Wind_Suction
- 0.6Dead+0.6Wind_Pressure+0.6Wind_Long2L
- 0.6Dead+0.6Wind_Suction+0.6Wind_Long1L
- 0.6Dead+0.6Wind_Pressure+0.6Wind_Long1L
- 0.6Dead+0.6Wind_Left1+0.6Wind_Suction
- 0.6Dead+0.6Wind_Right1+0.6Wind_Suction
- 0.6Dead+0.6Wind_Suction+0.6Wind_Long2L

$P_f = 0.7$ C_e C_t I P_g
 $C_e = 1$
 $C_t = 1.2$
 $I = 1$
 $P_g = 0.0$ PSF
 $P_f = 0.0$ PSF

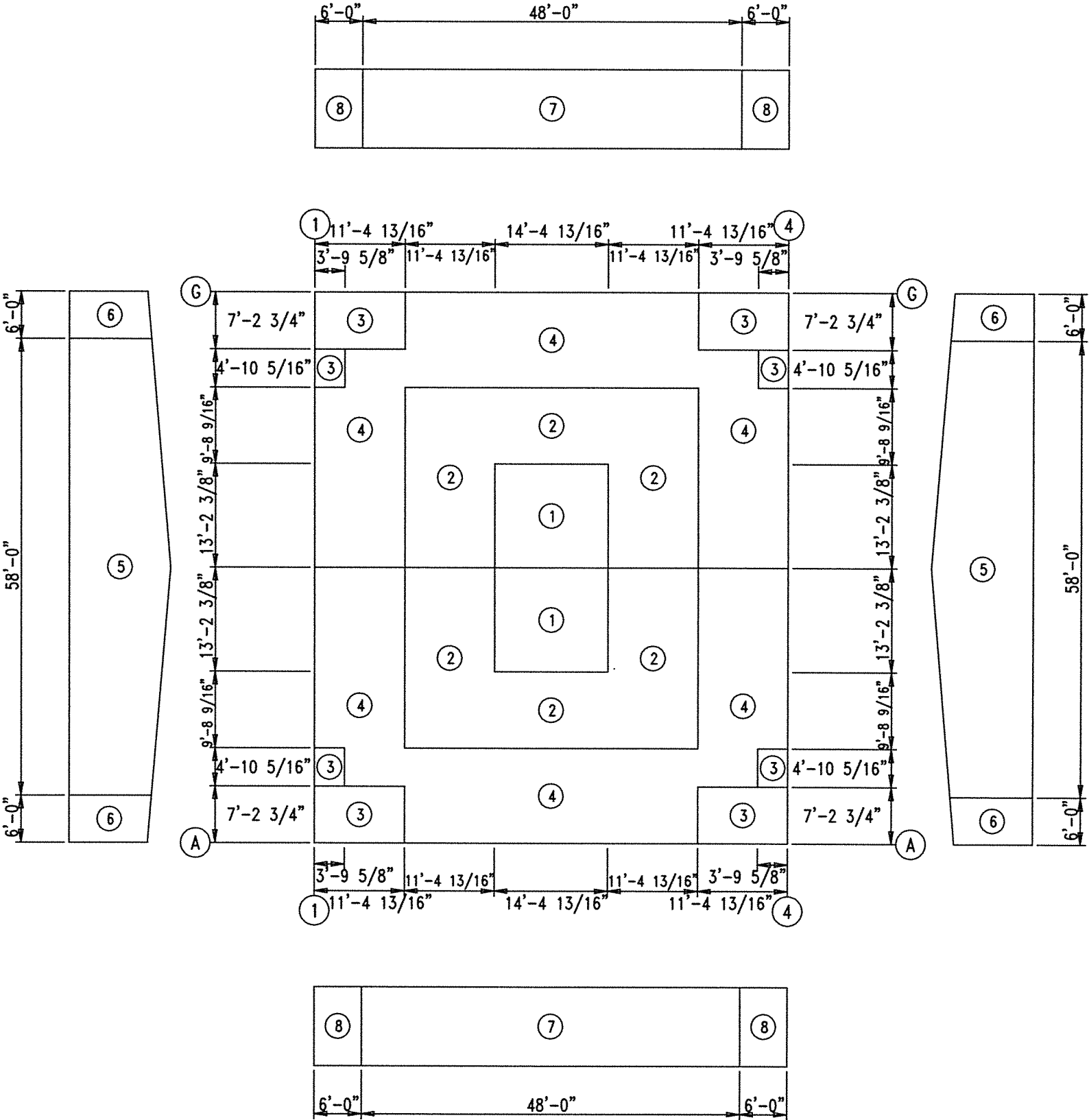


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SCALE:	JOB LOCATION	REVISION
DATE: 7/13/21	PAHRUMP, NV	
DRAWN BY ANDREW ROBINSON		MDC
HANGAR		DRAWING NUMBER OF

COMPONENTS AND CLADDING				(Unfactored)
○ Id	Member		Panel	
	Pressure	Suction	Pressure	Suction
1	16.00	-21.69	16.00	-25.21
2	16.00	-31.45	16.00	-43.87
3	16.00	-46.63	16.00	-78.91
4	16.00	-41.86	16.00	-57.98
5	20.38	-22.48	25.21	-33.61
6	20.38	-24.05	25.21	-33.61
7	20.40	-22.50	25.20	-33.60
8	20.40	-24.08	25.20	-33.60

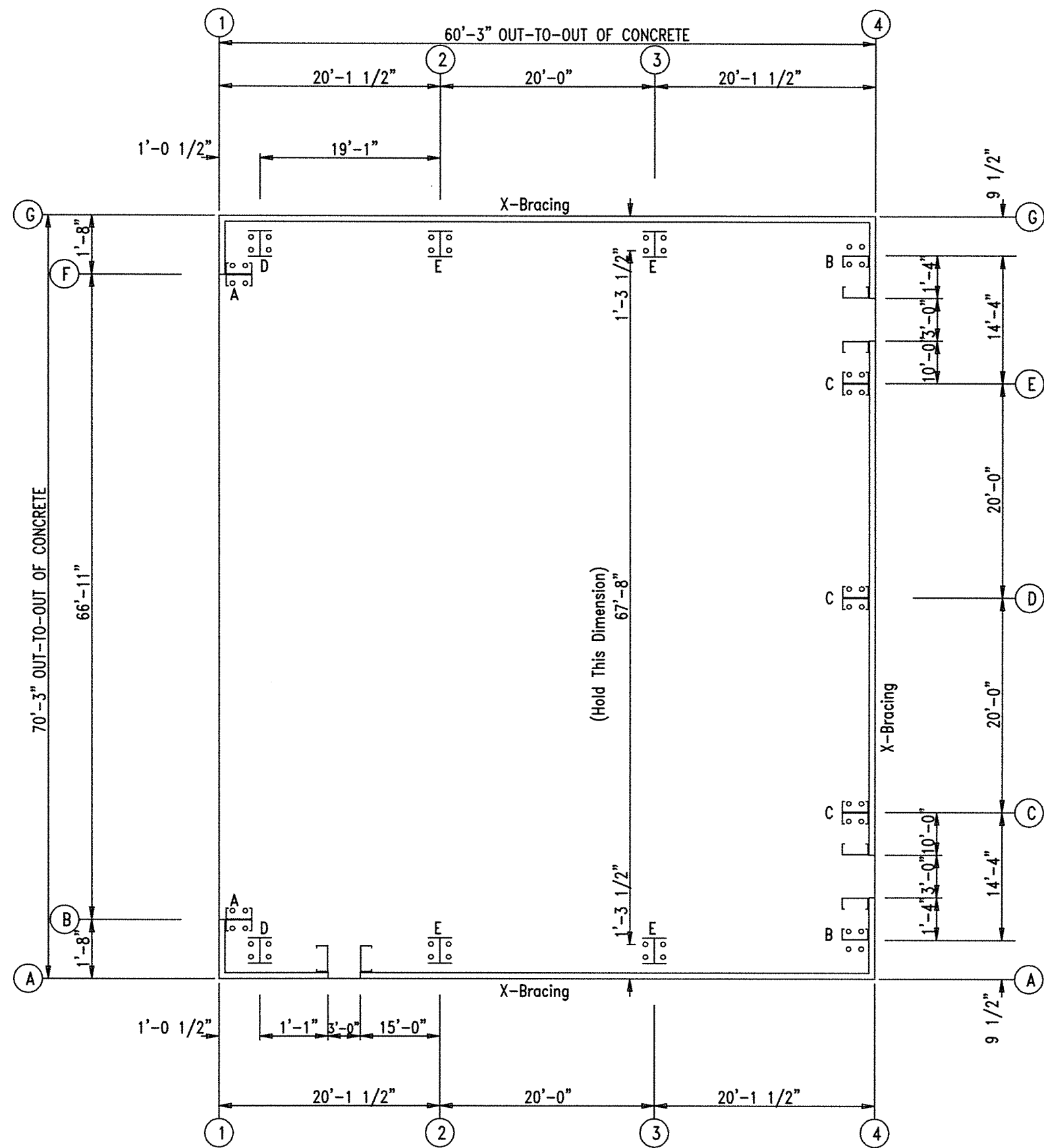


PANEL ZONE LAYOUT
(Wind Pressures, Unfactored (psf))

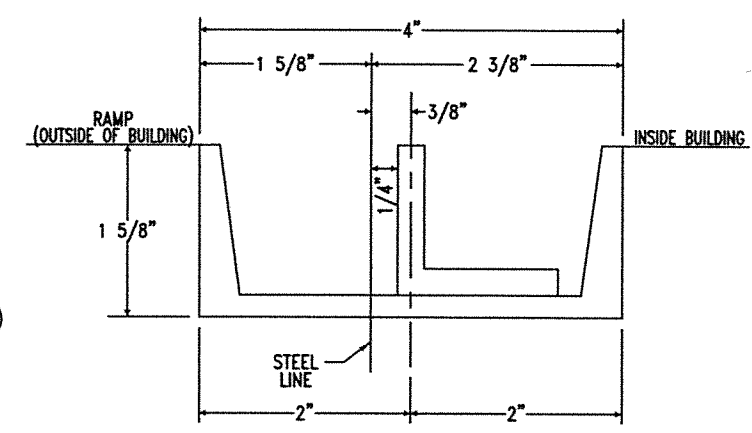


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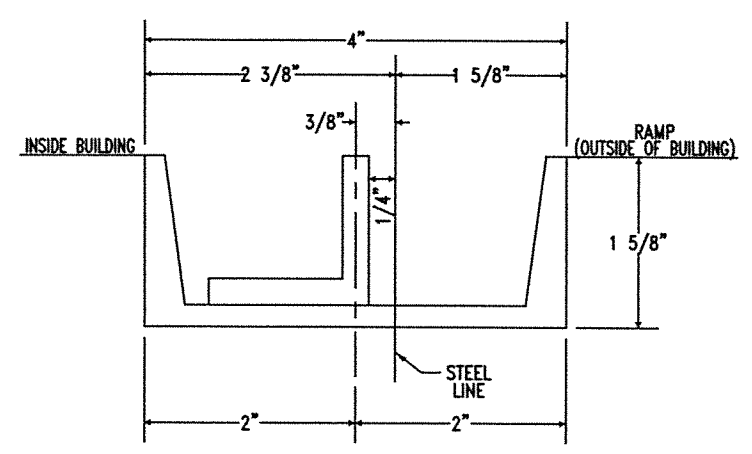
SCALE:	JOB LOCATION	REVISION
DATE: 7/13/21	PAHRUMP, NV	
DRAWN BY		
ANDREW ROBINSON		MDC
DRAWING NUMBER		
HANGAR		OF



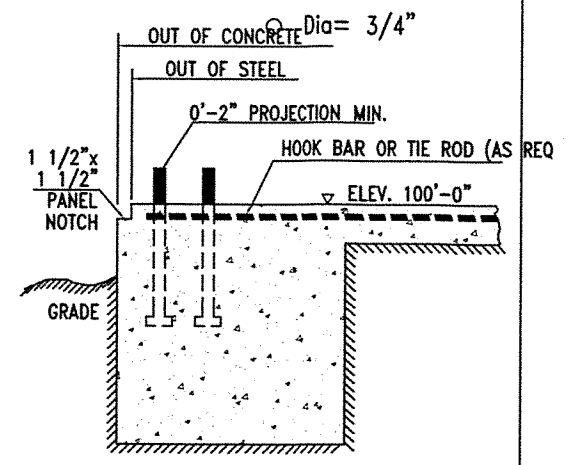
ANCHOR BOLT PLAN
 NOTE: All Base Plates @ 100'-0" (U.N.)



LEFT ENDWALL



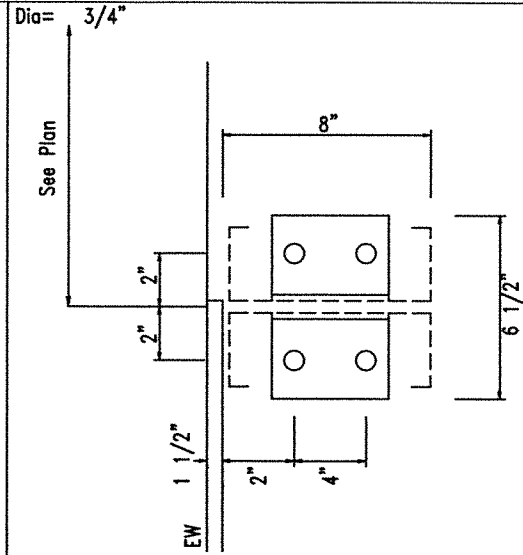
RIGHT ENDWALL
 HORTON STACK DOOR



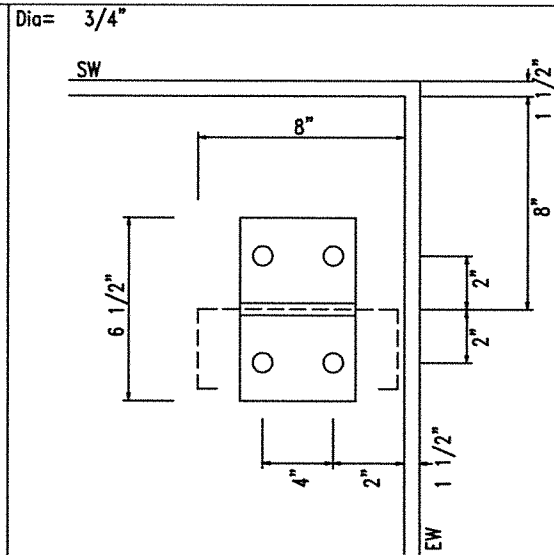
ANCHOR BOLT
 CONCRETE DETAIL W/ PANEL NOTCH

**NOT FOR
 CONSTRUCTION**

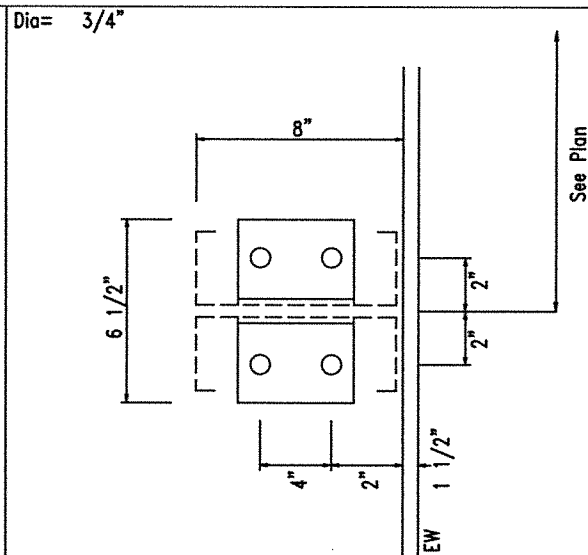
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SCALE:		JOB LOCATION				REVISION	
DATE: 7/13/21		PAHRUMP, NV					
ANDREW ROBINSON						DRAWN BY MDC	
HANGAR						DRAWING NUMBER OF	



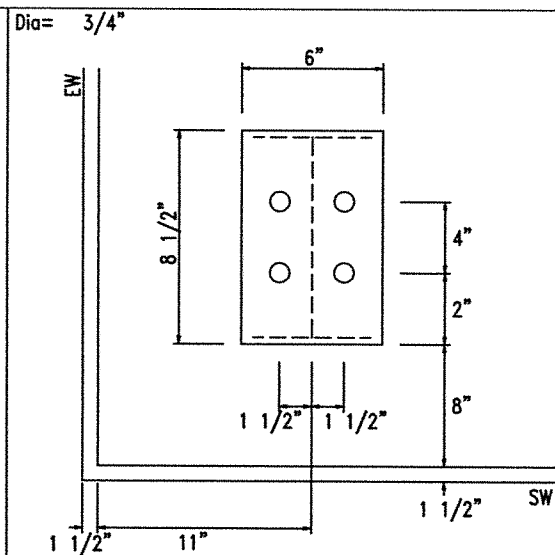
DETAIL A



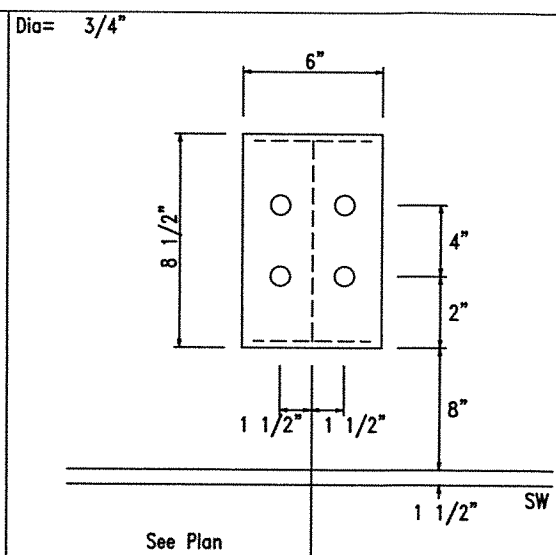
DETAIL B



DETAIL C



DETAIL D



DETAIL E



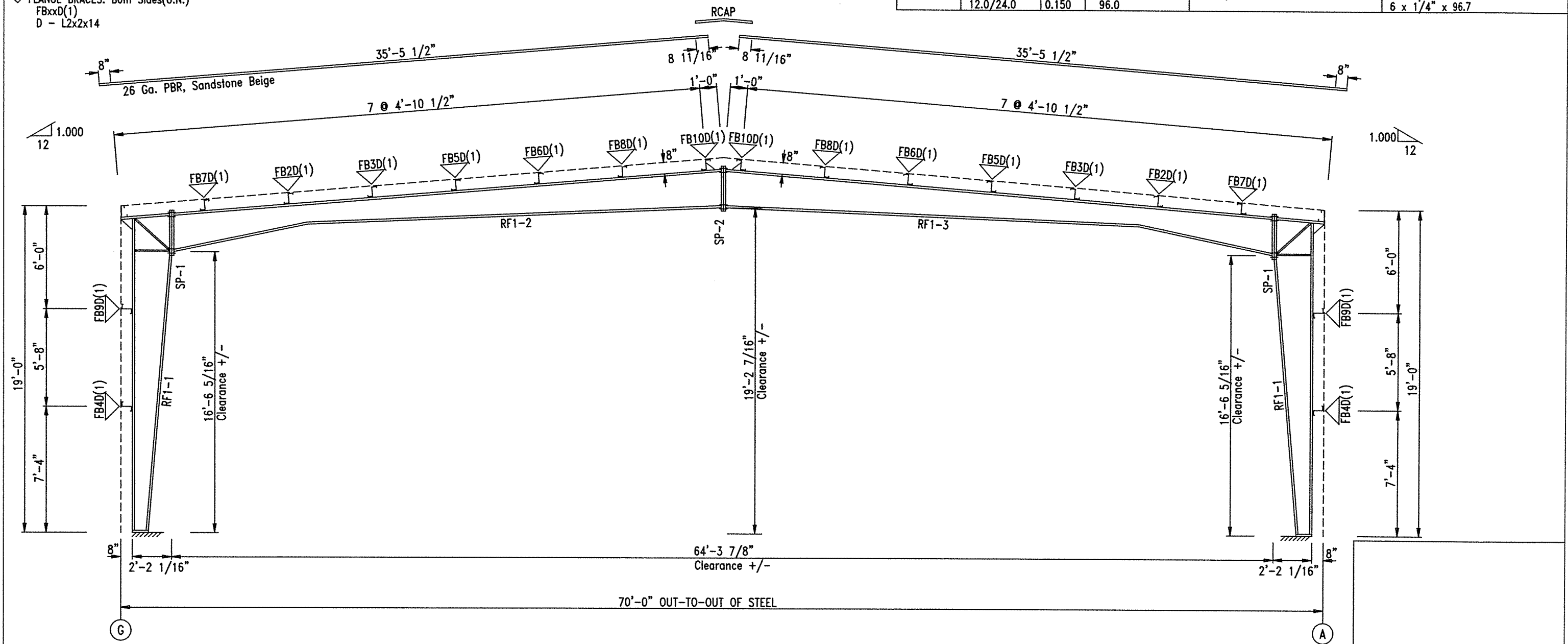
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SPLICE PLATE & BOLT TABLE									
Mark	Qty Top	Qty Bot	Int	Type	Dia	Length	Width	Thick	Length
SP-1	4	4	0	A325	0.750	2.00	6"	1/2"	2'-6 7/8"
SP-2	4	4	0	A325	0.750	2.00	6"	1/2"	2'-6 3/4"

FLANGE BRACES: Both Sides(U.N.)
FBxxD(1)
D - L2x2x14

MEMBER TABLE					
Mark	Web Depth Start/End	Web Plate Thick	Web Plate Length	Outside Flange W x Thk x Length	Inside Flange W x Thk x Length
RF1-1	8.0/25.6	0.150	222.0	6 x 1/4" x 219.9 6 x 1/4" x 33.9 6 x 1/4" x 386.0	6 x 1/4" x 195.3
RF1-2	24.0/12.0 12.0/23.9	0.150 0.150	96.0 292.0	6 x 1/4" x 386.0	6 x 1/4" x 96.7 6 x 1/4" x 290.3
RF1-3	23.9/12.0 12.0/24.0	0.150 0.150	292.0 96.0	6 x 1/4" x 386.0	6 x 1/4" x 290.3 6 x 1/4" x 96.7



RIGID FRAME ELEVATION: FRAME LINE 1

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DATE: 7/13/21	ANDREW ROBINSON HANGAR	

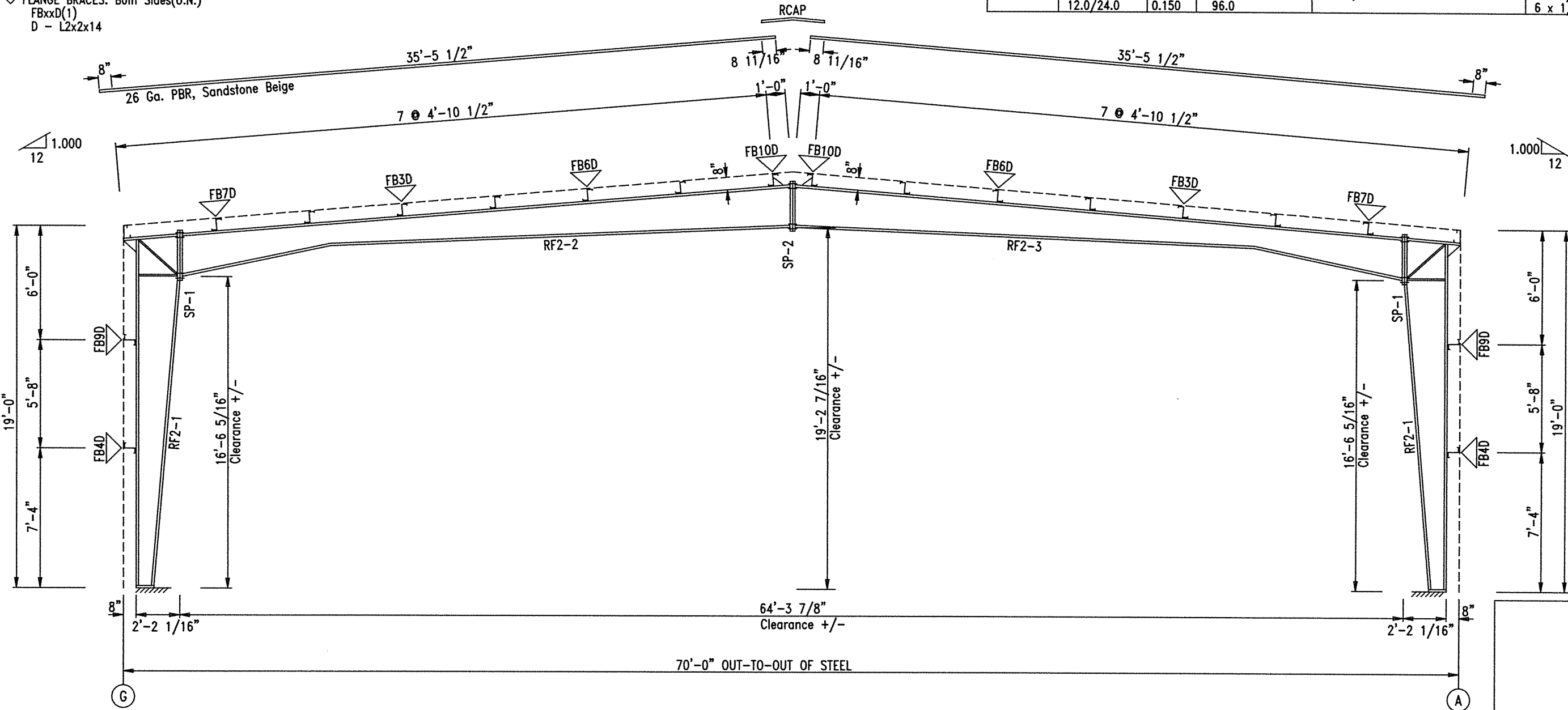
SPLICE PLATE & BOLT TABLE

Mark	Qty	Top	Bot	Int	Type	Dia	Length	Width	Thick	Length
SP-1	4	4	0	0	A325	0.750	2.00	6"	1/2"	2'-6 7/8"
SP-2	4	4	0	0	A325	0.750	2.00	6"	1/2"	2'-6 3/4"

FLANGE BRACES: Both Sides(U.N.)
FBxxD(1)
D - L2x2x14

MEMBER TABLE

Mark	Web Depth	Web Plate	Outside Flange	Inside Flange
	Start/End	Thick	Length	W x Thk x Length
RF2-1	8.0/25.6	0.150	222.0	6 x 1/4" x 219.9
				6 x 1/4" x 33.9
				6 x 1/4" x 386.0
RF2-2	24.0/12.0	0.150	96.0	6 x 1/4" x 96.7
	12.0/23.9	0.150	292.0	6 x 1/4" x 290.3
RF2-3	23.9/12.0	0.150	292.0	6 x 1/4" x 290.3
	12.0/24.0	0.150	96.0	6 x 1/4" x 96.7



RIGID FRAME ELEVATION: FRAME LINE 2



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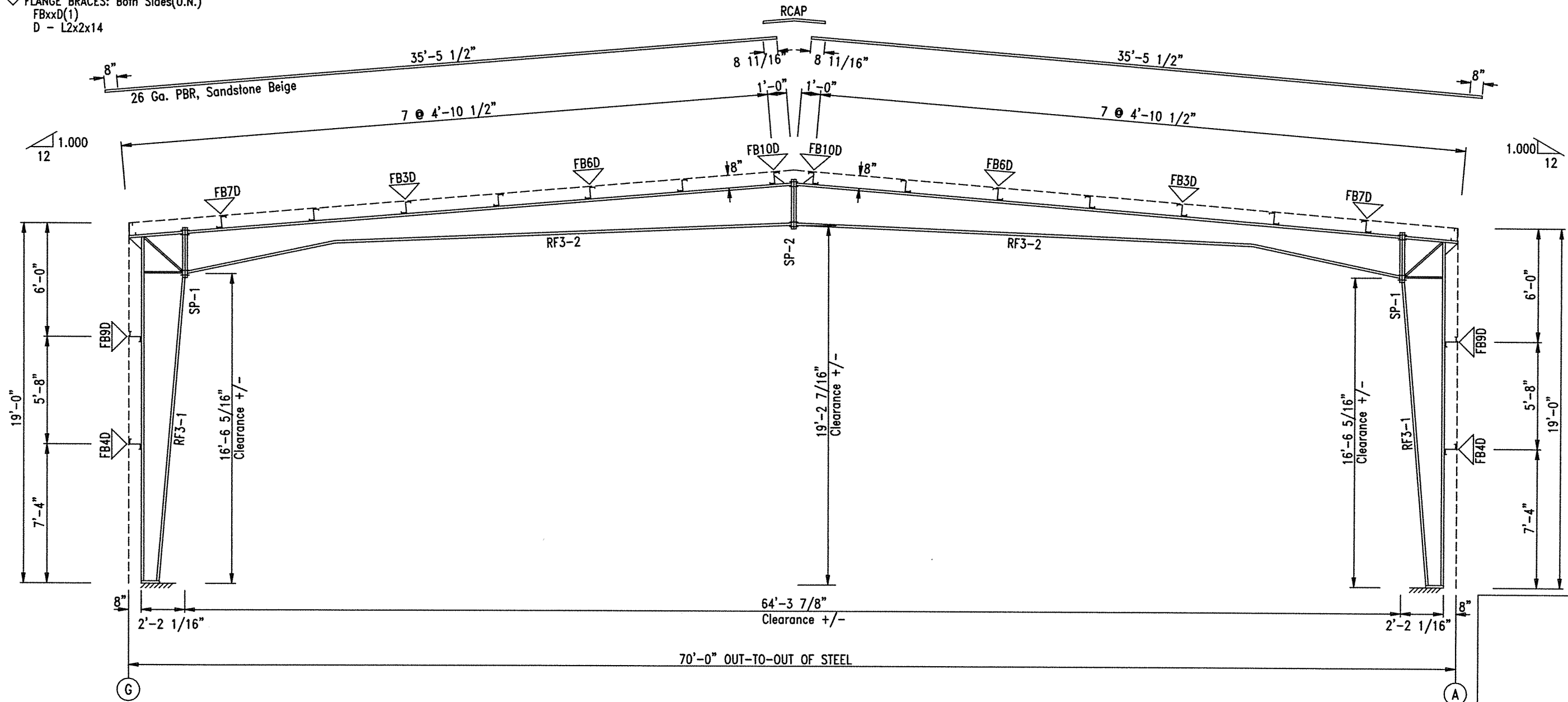
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ANDREW ROBINSON	DRAWN BY	MDC
HANGAR	DRAWING NUMBER	OF

SPLICE PLATE & BOLT TABLE									
Mark	Qty Top	Qty Bot	Int	Type	Dia	Length	Width	Thick	Length
SP-1	4	4	0	A325	0.750	2.00	6"	1/2"	2'-6 7/8"
SP-2	4	4	0	A325	0.750	2.00	6"	1/2"	2'-6 3/4"

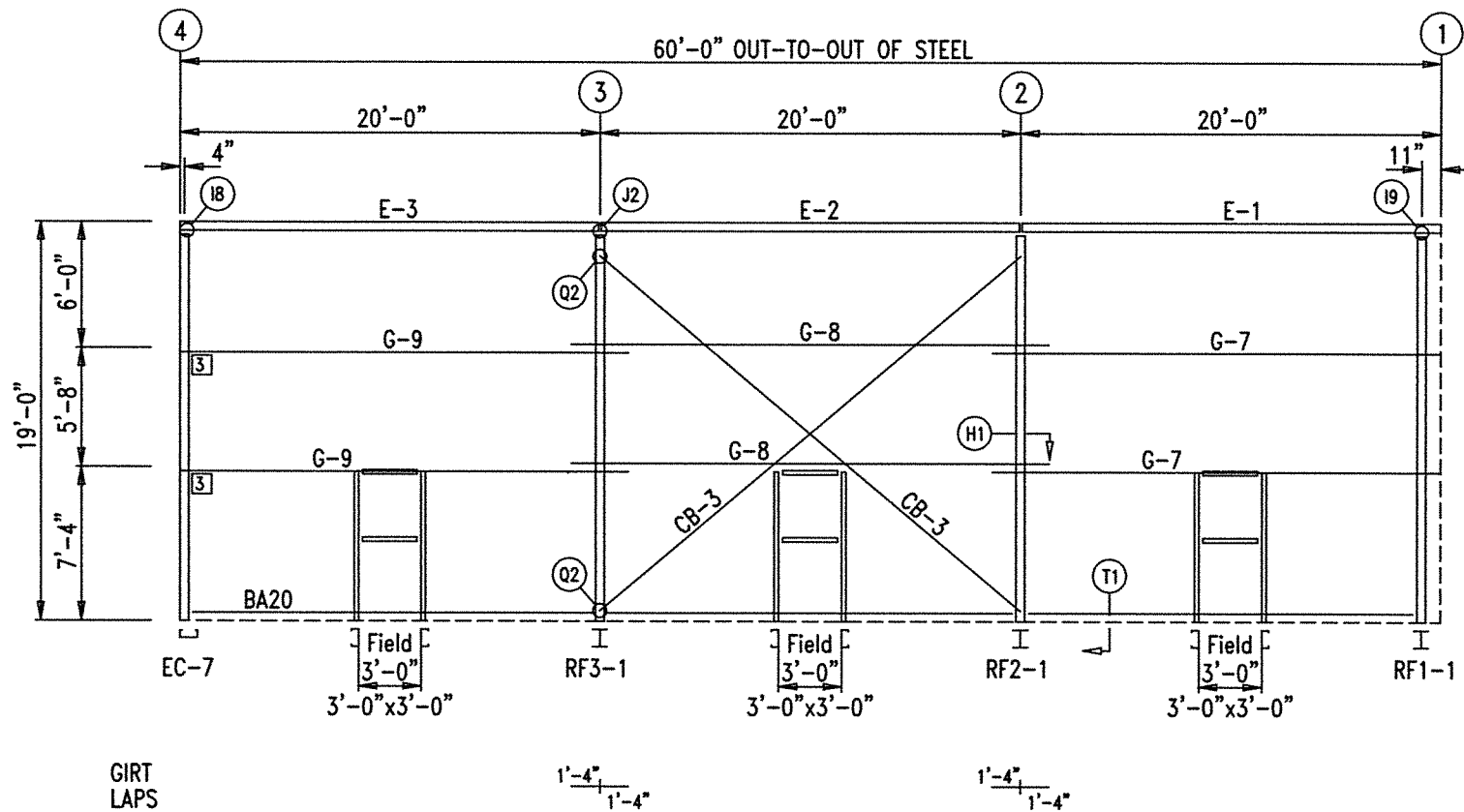
MEMBER TABLE					
Mark	Web Depth Start/End	Web Plate Thick	Web Plate Length	Outside Flange W x Thk x Length	Inside Flange W x Thk x Length
RF3-1	8.0/25.6	0.150	222.0	6 x 1/4" x 219.9 6 x 1/4" x 33.9	6 x 1/4" x 195.3
RF3-2	24.0/12.0 12.0/23.9	0.150 0.150	96.0 292.0	6 x 1/4" x 386.0	6 x 1/4" x 96.7 6 x 1/4" x 290.3

FLANGE BRACES: Both Sides(U.N.)
FBxxD(1)
D - L2x2x14

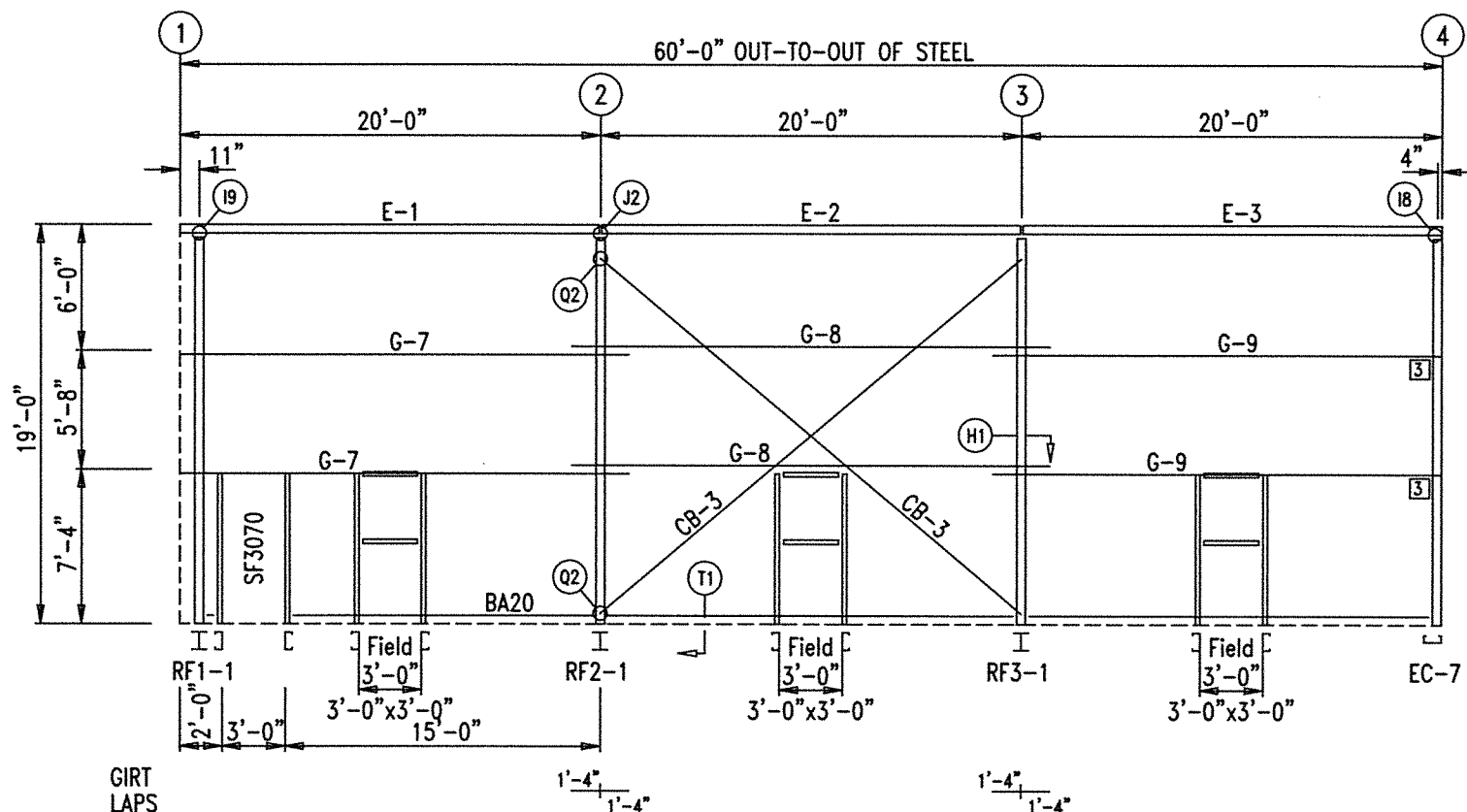


RIGID FRAME ELEVATION: FRAME LINE 3

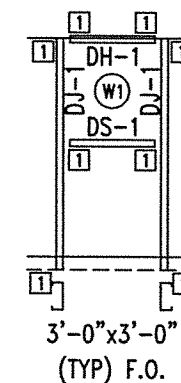
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		DRAWN BY MDC
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ANDREW ROBINSON HANGAR		



SIDEWALL FRAMING: GRID G



SIDEWALL FRAMING: GRID A



MEMBER TABLE GRID A & G		
MARK	PART	LENGTH
DJ-1	8x25C16	7'-4"
DH-1	8x25C16	3'-0"
DS-1	8x25C16	3'-0"
E-1	80x5E14	19'-11 3/4"
E-2	80x5E14	19'-11 1/2"
E-3	80x5E14	19'-11 1/2"
G-7	8x25Z16	21'-4"
G-8	8x25Z16	22'-8"
G-9	8x25Z16	21'-4"
CB-3	5/16EHS	26'-0"

CONNECTION PLATES GRID A & G	
ID	MARK/PART
1	CA7
3	SWC-N

INSTALL SIDEWALL FLANGE BRACE
AS PER RIGID FRAME CROSS SECTION



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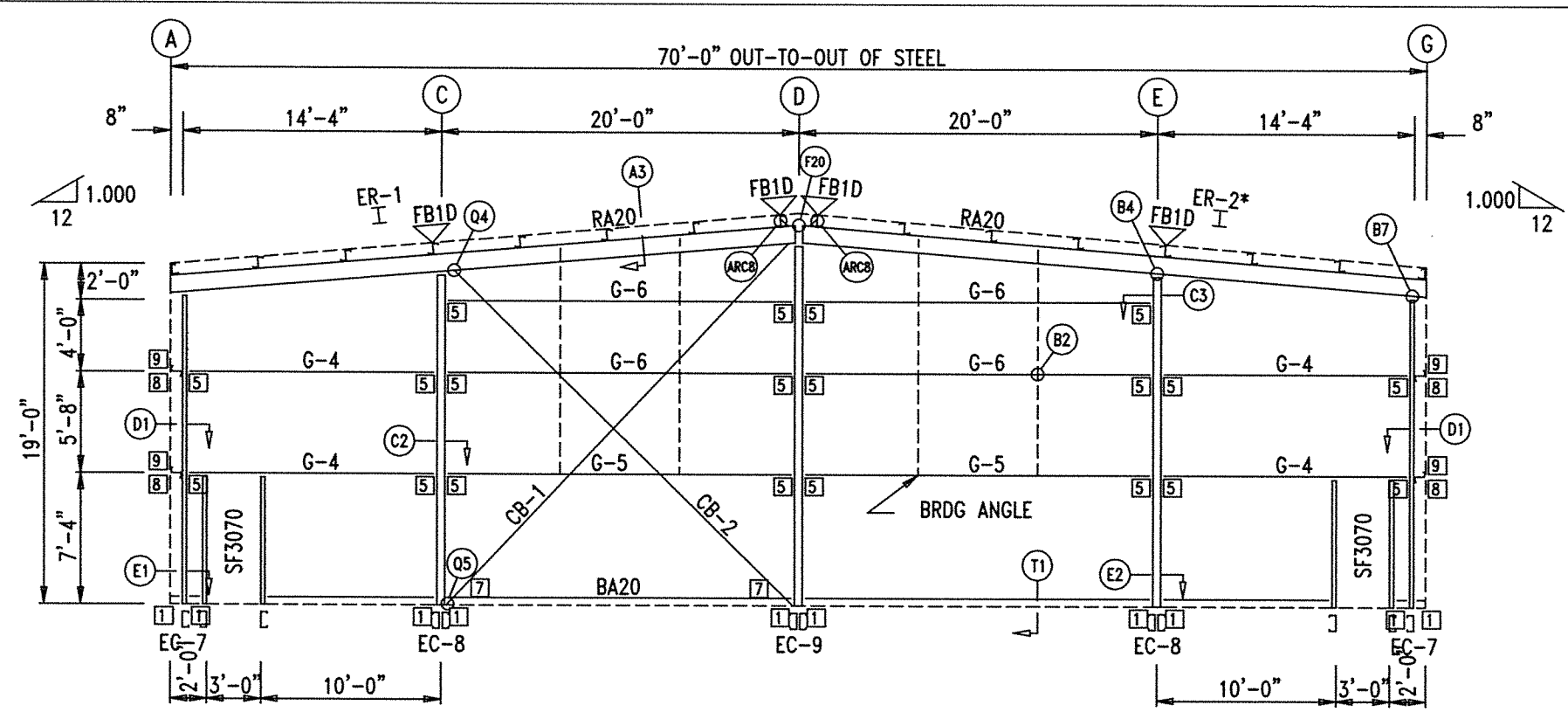
SCALE:	JOB LOCATION	REVISION
DATE: 7/13/21	PAHRUMP, NV	
DRAWN BY ANDREW ROBINSON		DRAWING NUMBER MDC
HANGAR		OF

CONNECTION PLATES GRID 1 & 4	
ID	MARK/PART
1	CA3
2	g2
3	g1
4	n1
5	CA52
6	BBPLATE
7	3HXA
8	SWC-N
9	SA

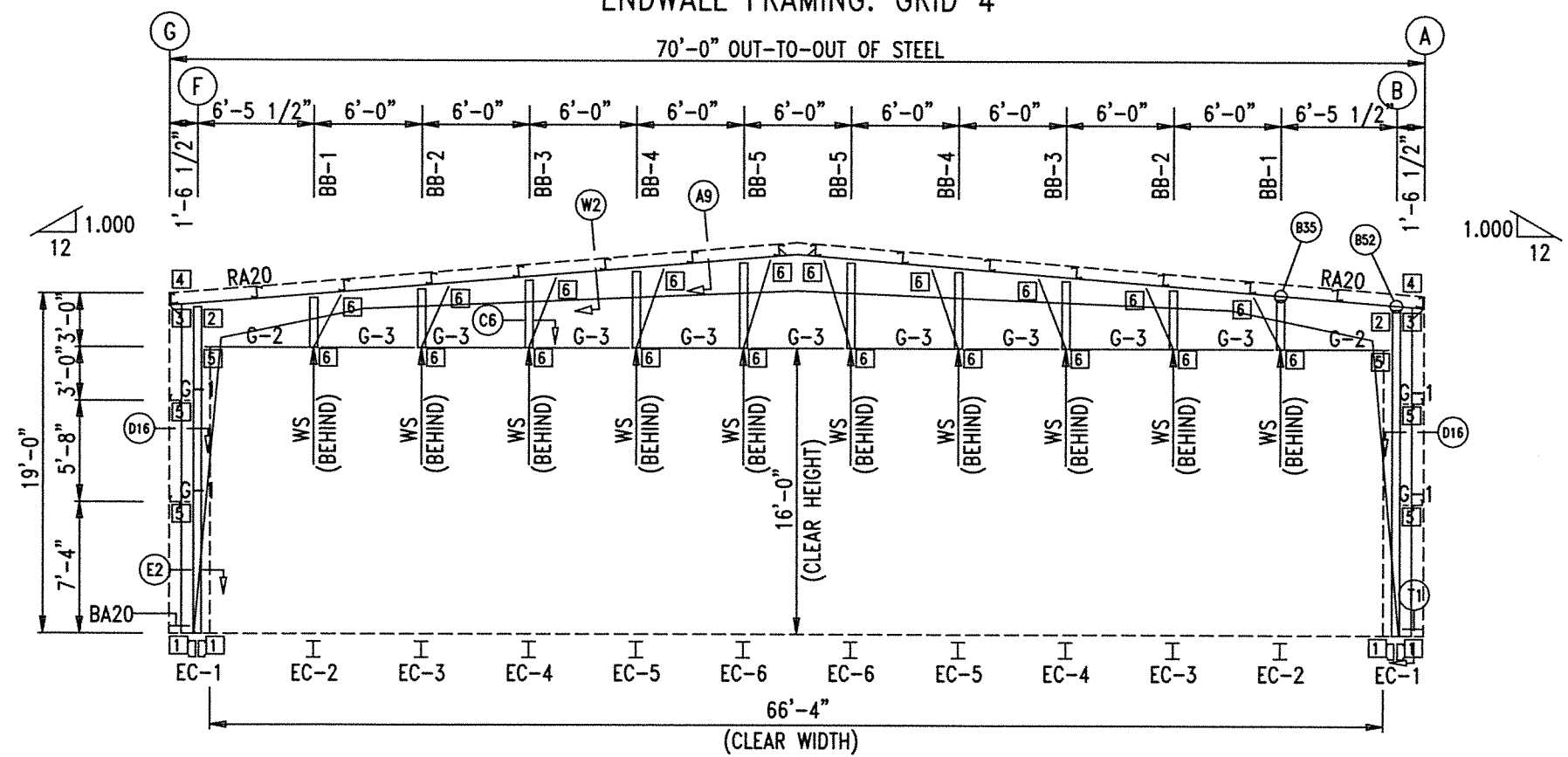
BOLT TABLE GRID 1 & 4				
LOCATION	QUAN	TYPE	DIA	LENGTH
ER-1/ER-2*	6	A325	5/8"	1 3/4"
EC-1/FRAME	6	GR_5	1/2"	1"
EC-2/FRAME	4	GR_5	1/2"	1"
EC-3/FRAME	4	GR_5	1/2"	1"
EC-4/FRAME	4	GR_5	1/2"	1"
EC-5/FRAME	4	GR_5	1/2"	1"
EC-6/FRAME	4	GR_5	1/2"	1"
Cor_Column/Raf	4	GR_5	1/2"	1"
EC-8/ER-1	4	GR_5	1/2"	1"
EC-9/ER-2*	4	GR_5	1/2"	1"
EC-8/ER-2*	4	GR_5	1/2"	1"
Back Braces	2	A325	3/4"	2"

MEMBER TABLE GRID 1 & 4		
MARK	PART	LENGTH
BB-1	D4x5C16	18'-1 3/8"
BB-2	D4x5C16	18'-2 3/16"
BB-3	D4x5C16	18'-3 3/16"
BB-4	D4x5C16	18'-4 3/8"
BB-5	D4x5C16	18'-5 11/16"
EC-1	D8x7C12	18'-5 1/2"
EC-2	W8x10	3'-0"
EC-3	W8x10	3'-6"
EC-4	W8x10	4'-0"
EC-5	W8x10	4'-6"
EC-6	W8x10	5'-0"
EC-7	8x25C15	17'-8 3/4"
EC-8	D8x5C14	18'-11 1/16"
EC-9	D8x5C12	20'-7 1/16"
ER-1	W8x10	35'-2 1/8"
ER-2*	W8x10	35'-2 1/8"
G-1	8x25Z16	1'-2 1/2"
G-2	10x35C12	5'-9 1/2"
G-3	10x35C12	5'-4"
G-4	8x25Z16	13'-8"
G-5	8x25Z15	19'-4"
G-6	8x25Z16	19'-4"
CB-1	1/4EHS	27'-0"
CB-2	1/4EHS	26'-0"

FLANGE BRACE TABLE GRID 1 & 4		
ID	MARK	LENGTH
1	FB1D	1'-4 3/4"



ENDWALL FRAMING: GRID 4



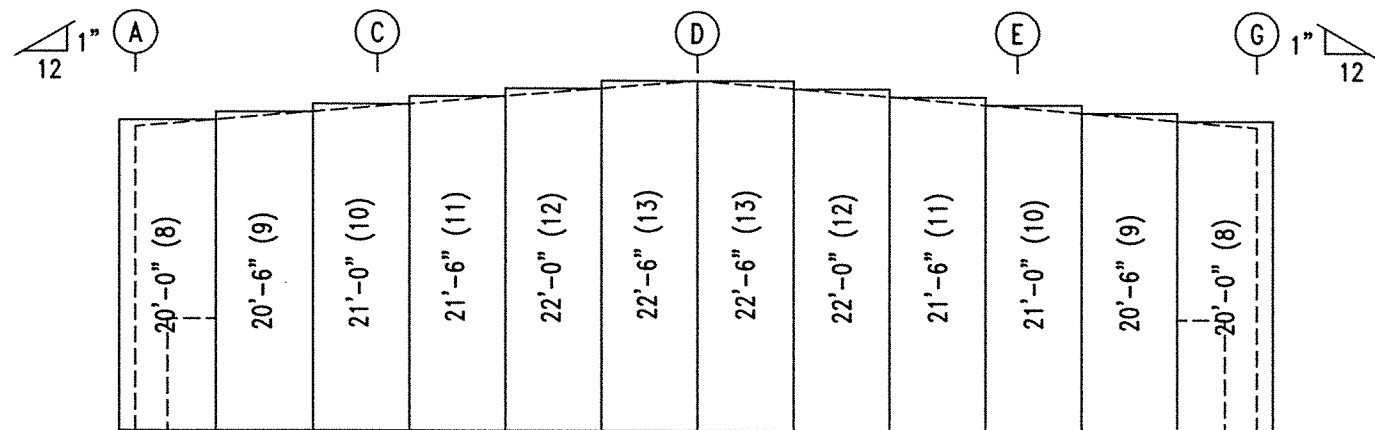
ENDWALL FRAMING: GRID 1

INSTALL ENDWALL FLANGE BRACE



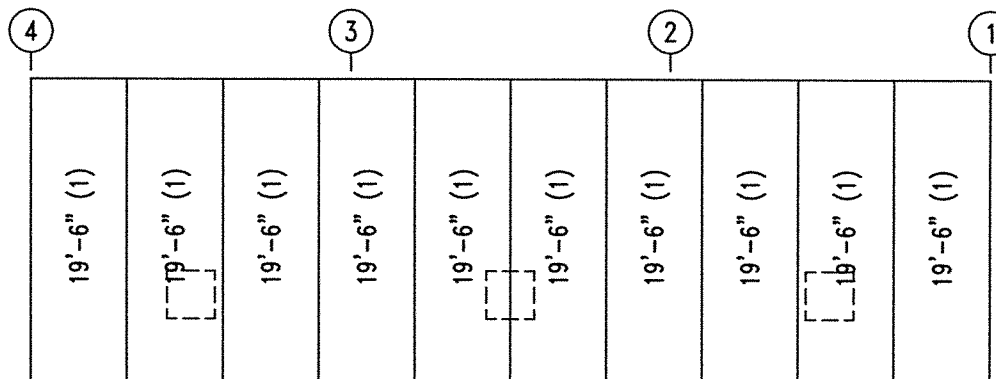
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		OF



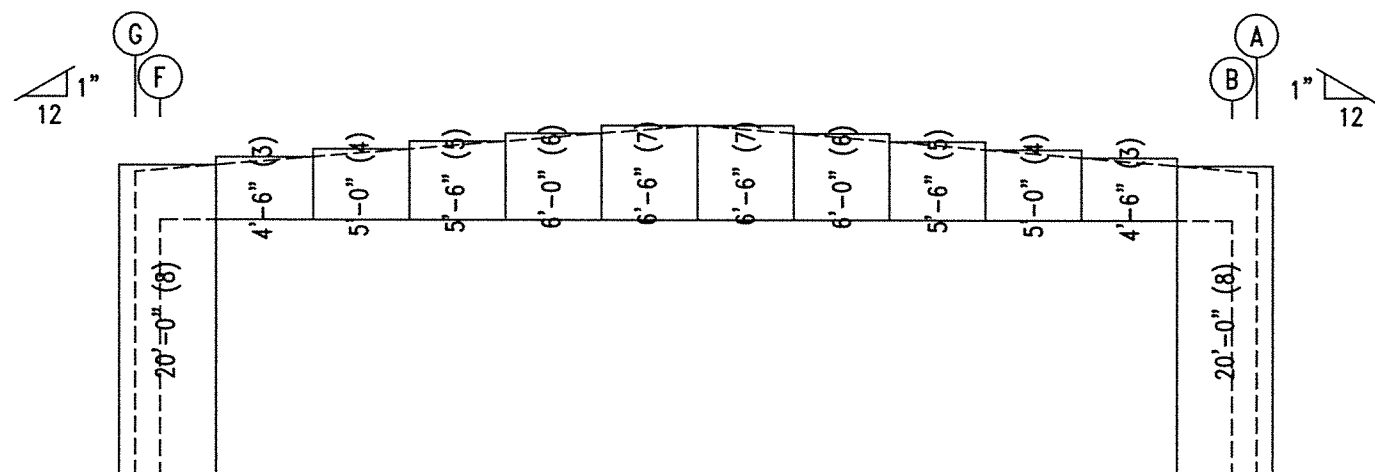
ENDWALL INSULATION: GRID 4

INSULATION: (R-13) 4" VRR



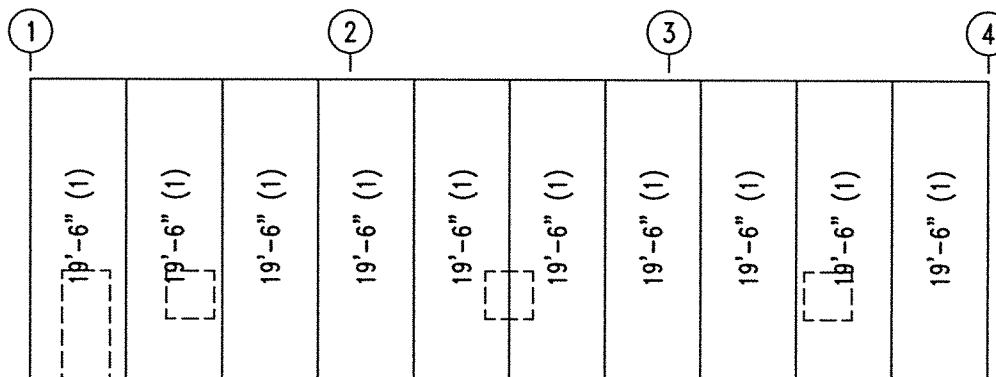
SIDEWALL INSULATION: GRID G

INSULATION: (R-13) 4" VRR



ENDWALL INSULATION: GRID 1

INSULATION: (R-13) 4" VRR



SIDEWALL INSULATION: GRID A

INSULATION: (R-13) 4" VRR

INSULATION TABLE				
ROOF PLAN: (R-19) 6" VRR				
ROLL	QUAN	MARK	WIDTH	LENGTH
1	10	RI-1	6'-0"	71'-6"

INSULATION TABLE				
GRID 1 A 4 G				
ROLL	QUAN	MARK	WIDTH	LENGTH
1	20	WI-1	6'-0"	19'-6"
3	2	WI-3	6'-0"	4'-6"
4	2	WI-4	6'-0"	5'-0"
5	2	WI-5	6'-0"	5'-6"
6	2	WI-6	6'-0"	6'-0"
7	2	WI-7	6'-0"	6'-6"
8	4	WI-8	6'-0"	20'-0"
9	2	WI-9	6'-0"	20'-6"
10	2	WI-10	6'-0"	21'-0"
11	2	WI-11	6'-0"	21'-6"
12	2	WI-12	6'-0"	22'-0"
13	2	WI-13	6'-0"	22'-6"

LEGEND:
19'-6" (1)
Length (Roll #)

NOTE:

AS ENERGY SAVING REQUIREMENTS ESCALATE, MORE AND MORE CUSTOMERS ASK TO PROVIDE R-19 (6 INCH FACED INSULATION) FOR THE WALL AND/OR ROOF OF STEEL BUILDINGS.

WHILE PROVIDING THE ADDITIONAL R-VALUES, THIS CAN BE A COMPLICATED ISSUE AS IT IS DIFFICULT TO COMPRESS 6 INCHES OF INSULATION BETWEEN THE WALL PANELS AND GIRTS. (OR ROOF PANELS AND PURLINS) NOT ONLY CAN IT BE TIME CONSUMING, BUT INCONSISTANT COMPRESSION MAY BE VISABLE AND IN SOME CASES THE PANELS WILL DIMPLE AS THE SCREWS ARE BEING TIGHTENED.

TO ALLEVIATE THESE ISSUES, SUGGEST THE REMOVAL OF A SMALL AMOUNT OF THE FIBERGLASS AT EACH GIRT LINE. (OR PURLIN LINE) A 6" WIDE BY 1 1/2" THICK PIECE OF FIBERGLASS IS CUT FROM THE PRE-HUNG INSULATION AND REMOVED ALONG EACH GIRT.

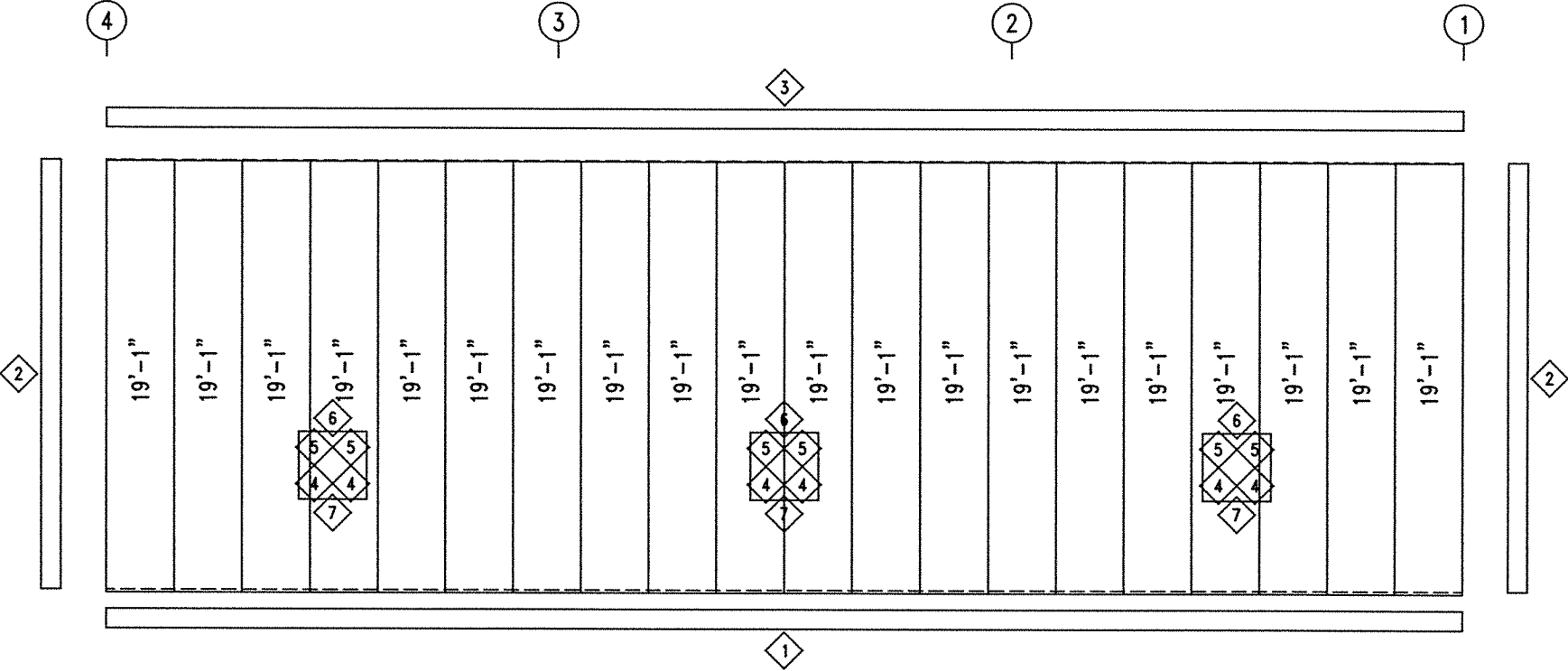


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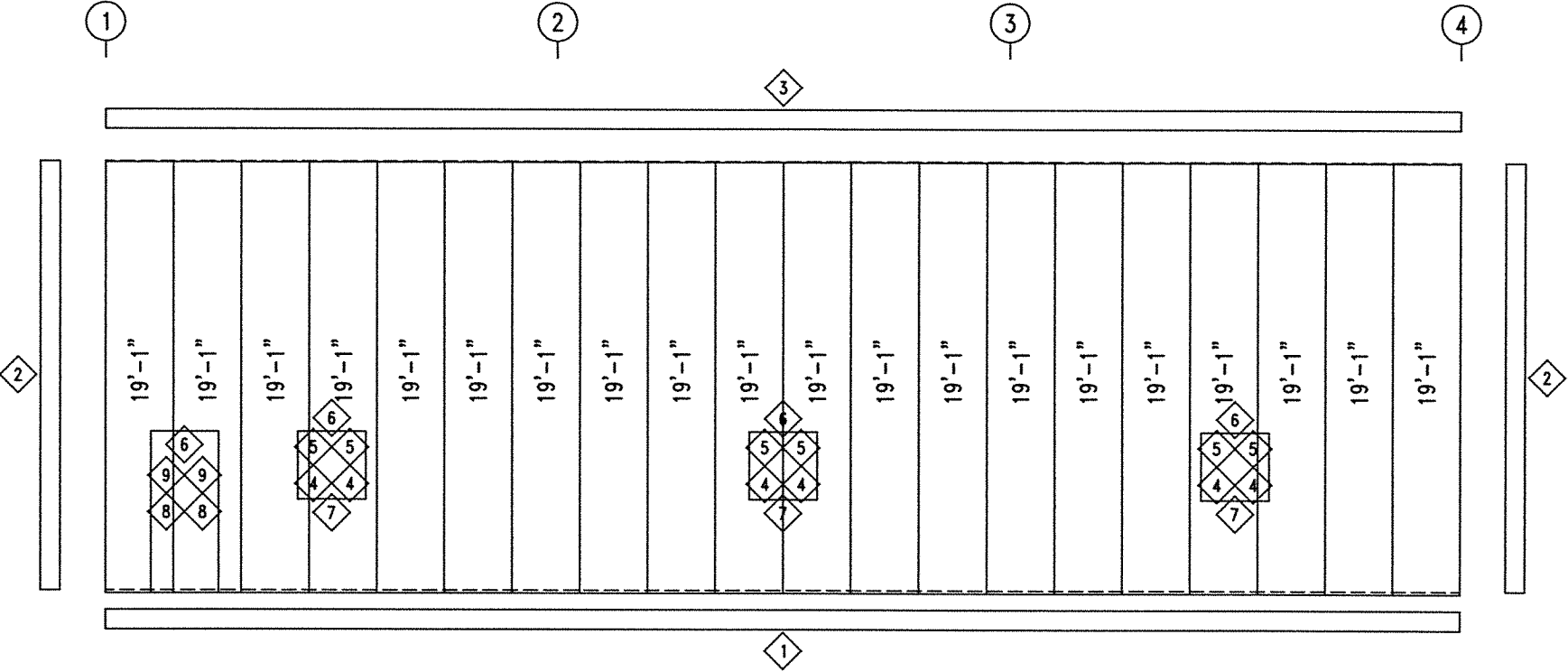
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TRIM TABLE		
FRAME LINE		A & G
◊ID	MARK	LENGTH
1	BT2	31'-6"
2	S-11	19'-0"
3	S-17	31'-6"
4	JMBTRM	3'-1"
5	JMBSTF	3'-1"
6	HEDTRM	4'-0"
7	SILTRM	4'-0"
8	JMBTRM	7'-4"
9	JMBSTF	7'-4"



SIDEWALL SHEETING: GRID G
PANELS: 26 Ga. PBR - Sandstone Beige



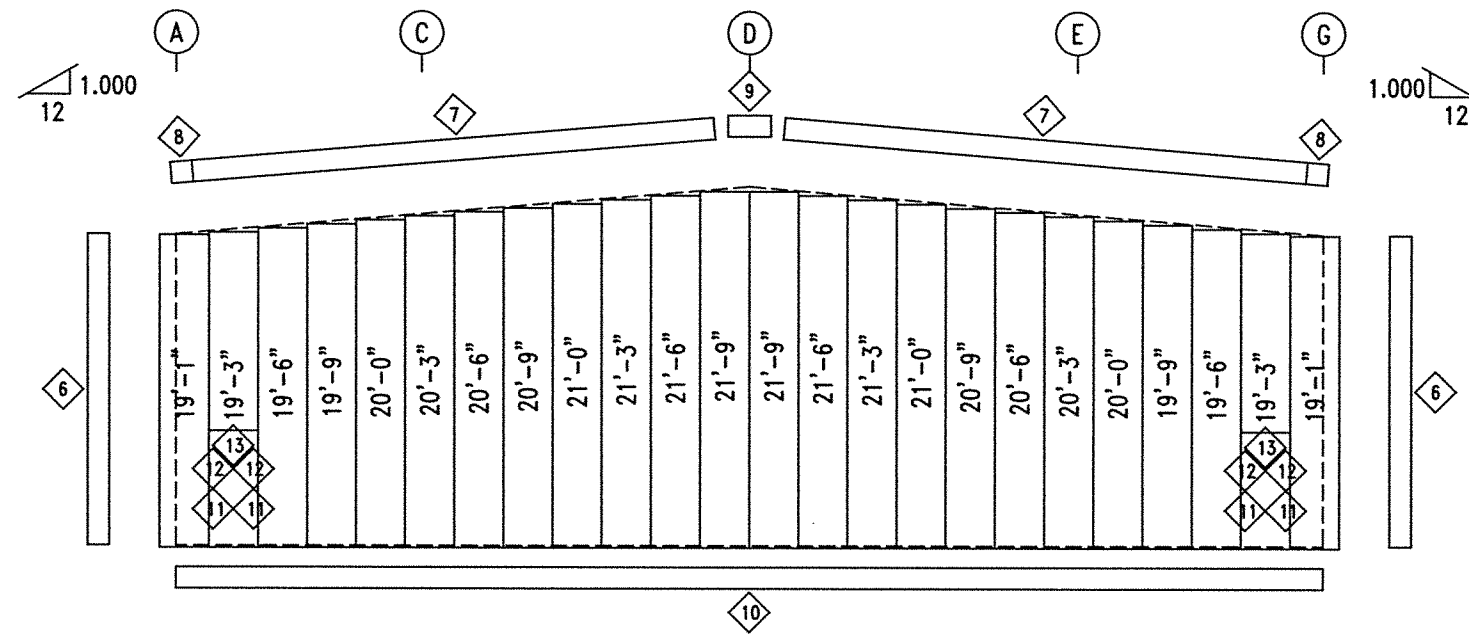
SIDEWALL SHEETING: GRID A
PANELS: 26 Ga. PBR - Sandstone Beige



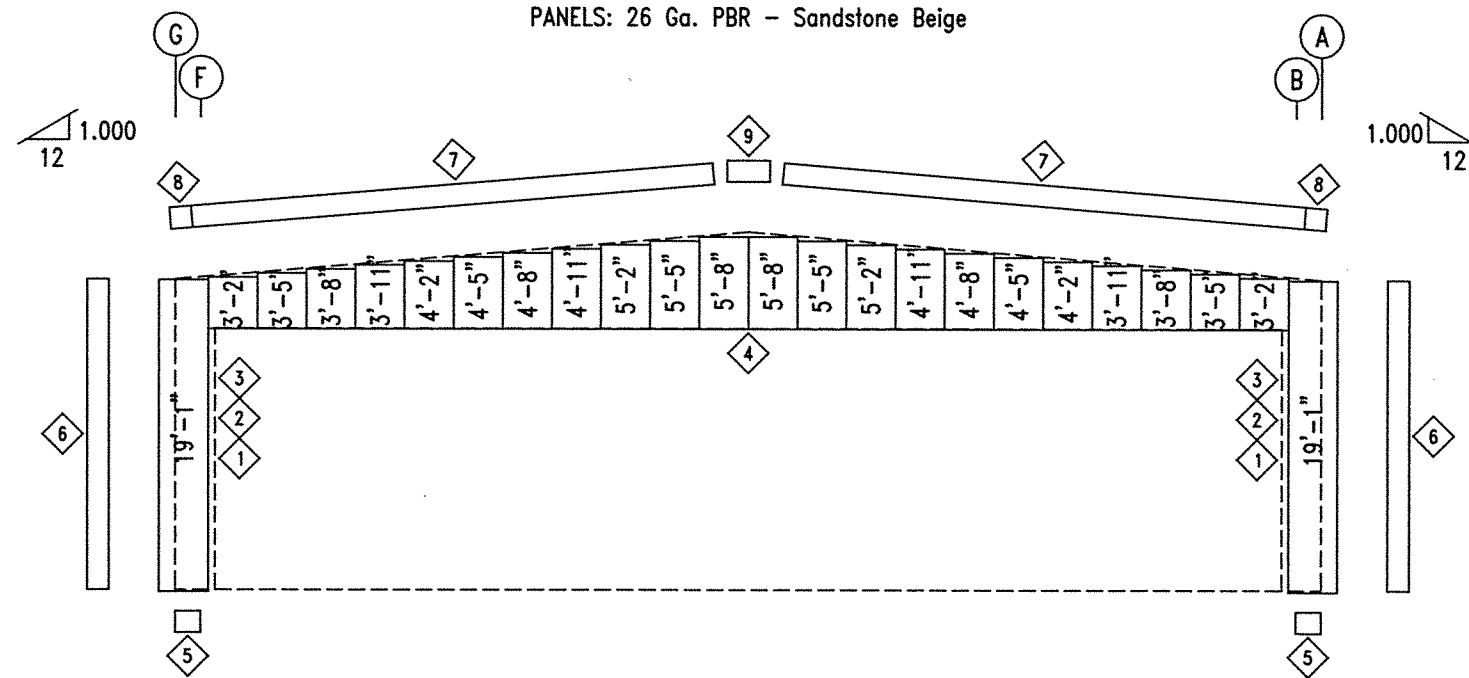
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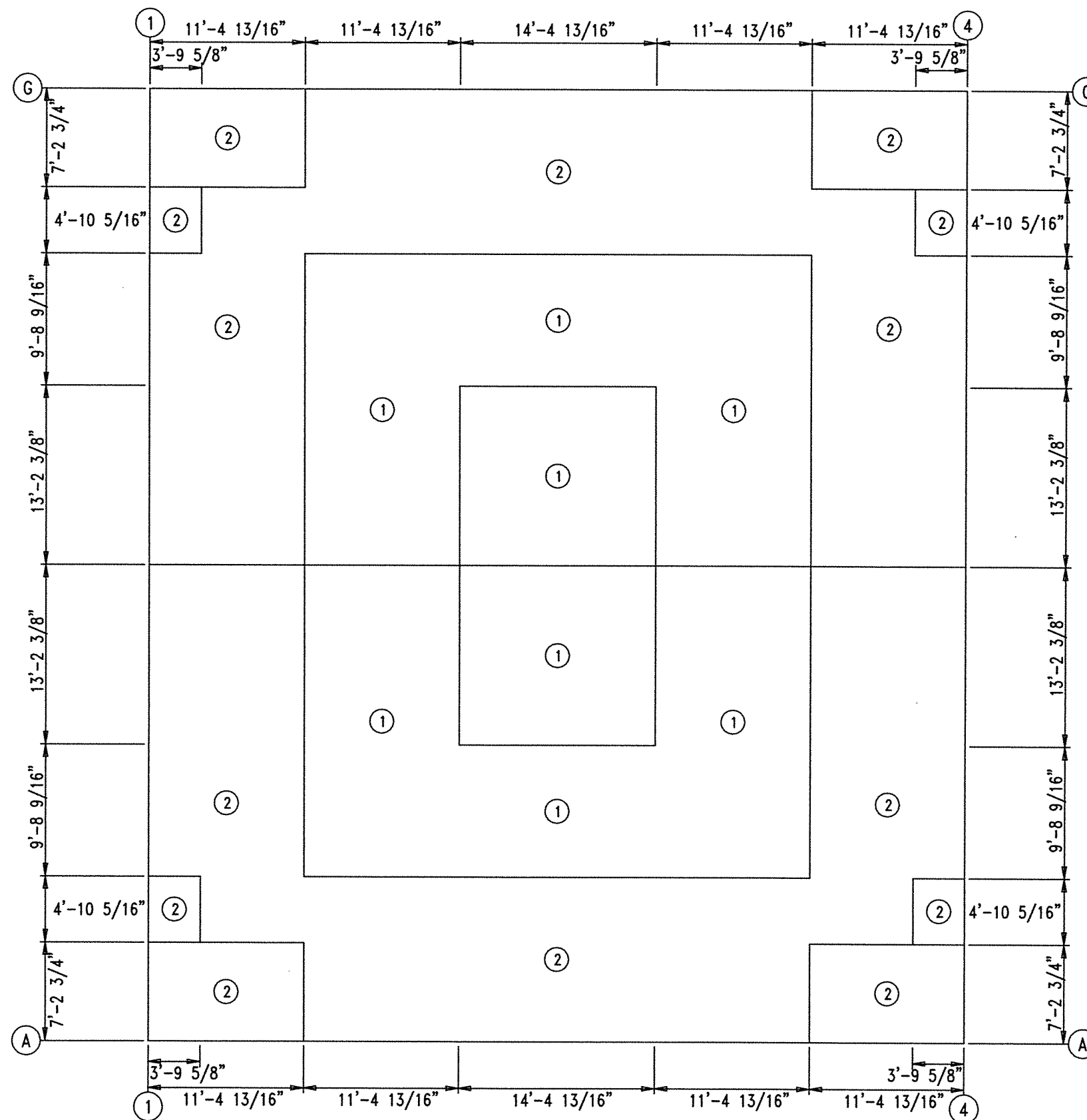
ENDWALL SHEETING: GRID 4
PANELS: 26 Ga. PBR - Sandstone Beige



ENDWALL SHEETING: GRID 1
PANELS: 26 Ga. PBR - Sandstone Beige

TRIM TABLE		
FRAME LINE		1 & 4
ID	MARK	LENGTH
1	JMBTRM	16'-6"
2	JMBSTF	16'-6"
3	S-58	16'-6"
4	HEDTRM	23'-0"
5	BT2	4'-0"
6	S-11	19'-0"
7	S-188	18'-6"
8	S188EC	3'-6 3/4"
9	PK BOX	2'-6"
10	BT2	24'-6"
11	JMBTRM	7'-4"
12	JMBSTF	7'-4"
13	HEDTRM	4'-0"

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HANGAR		OF



PANEL ZONE LAYOUT
(Minimum Fastener Spacing)

FASTENER TABLE		
○ ID	SCREW PART	SPACE (in)
1	#12L	12.0
2	#12L	6.0

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HANGAR		