WALL OPENING SCHEDULE

DOOR	WIDTH	HEIGHT	TYPE	HEADER GIRT	JAMBS
1 - 2	10'-0"	10'-0"	ROLL UP DOOR	SINGLE	C4X3.5 X16
3	3'-7½"	7'-6"	PERSONNEL DOOR	SINGLE	---
4 - 8	4'-0"	4'-0"	WINDOW	SEE NOTE #4	CHN6X 2.57X14

NOTES:
1) JAMB MEMBERS SHOWN AS "CHN" ARE CHANNEL MEMBERS (WITHOUT STIFFENER LIPS) AND THOSE SHOWN AS "C" ARE CEE MEMBERS. FIRST NUMBER IS WEB DEPTH IN INCHES, SECOND NUMBER IS FLANGE WIDTH IN INCHES, AND THIRD NUMBER IS MATERIAL THICKNESS (GAUGE).
2) SEE DETAILS J/9 AND K/9 FOR OPENING FRAMING INFORMATION.
3) SIZE OF HEADER GIRT MEMBER TO BE SAME AS SIDEWALL OR ENDWALL GIRT, AS APPROPRIATE, PER ELEVATIONS. AT WINDOWS, INSTALL HEADER GIRT SPECIFIED ABOVE AND BELOW WINDOWS, U.N.O.
4) AT OPENINGS NOTED, INSTEAD OF ATTACHING DOOR JAMBS TO HEADER GIRT PER DETAIL L1/10 ATTACH DOOR JAMBS TO UNDERSIDE OF EAVE PURLIN PER DETAIL L2/10.
5) ALL OPENINGS AND ACCESSORIES SHALL BE CAPABLE OF SUPPORTING ALL WIND PRESSURES PERPENDICULAR TO THE SURFACE (GENERATED BY WINDS AT THE SPEED AND EXPOSURE INDICATED ABOVE) BY SPANNING BETWEEN THE JAMBS.

PROJECT DESIGN CRITERIA

GOVERNING CODE: IBC 2021
RISK CATEGORY: II
ROOF DEAD LOAD: 3 psf
ROOF COLLATERAL LOAD: 2 psf
GROUND SNOW LOAD: 30 psf Ct = 1.2
ROOF SNOW LOAD: 25.2 psf
ROOF LIVE LOAD: 20 psf (REDUCIBLE)
WIND ENCLOSURE: ENCLOSED
WIND SPEED: 109 mph
WIND EXPOSURE: C
SOIL BEARING PRESSURE: 1500 psf
Ss: 0.153 Sds: 0.163
S1: 0.048 Sd1: 0.076
SEISMIC DESIGN CATEGORY: A
R=3, OMEGA=3, Cd=3

WIND DESIGN OF LATERAL FORCE-RESISTING SYSTEMS IS BASED ON THE DIRECTIONAL DESIGN PROCEDURE OF ASCE 7-16, CHAPTER 27.

SEISMIC DESIGN OF LATERAL FORCE-RESISTING SYSTEMS ARE AS FOLLOWS:

-- TRANSVERSE & LONGITUDINAL: NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE (ASCE 7, TABLE:12.2-1)

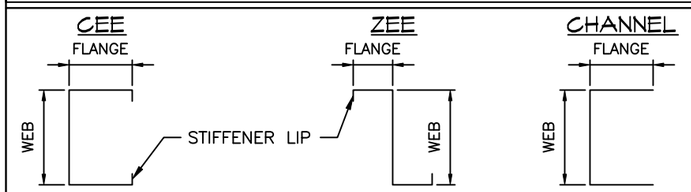
DESIGN BASE SHEAR: IS SHOWN ON CALCULATION SHEET M2.

IMPORTANT: IN ADDITION TO THESE ENGINEERING PLANS (WHICH ALWAYS TAKE PRECEDENCE), YOU SHOULD HAVE THE FOLLOWING FROM ACT BUILDING SYSTEMS:

- CONSTRUCTION PACKAGE
- INSTALLATION MANUALS
- CONSTRUCTION VIDEOS

PLEASE CONTACT YOUR SALES REP IF YOU HAVE NOT RECEIVED THESE PRIOR TO STARTING CONSTRUCTION.

COMPONENT DIAGRAM



TYP. = TYPICAL U.N.O. = UNLESS NOTED OTHERWISE

DEFLECTION LIMITS

PURLINS:	L/150 (STD)
GIRTS:	L/90 (STD)
EW WIND COLUMNS:	L/120 (STD)
WALL PANEL:	L/60 (STD)

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engsupport@actbuildingsystems.com

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JOB NO.: ESOU1040322725
SHEET: 1 OF 14

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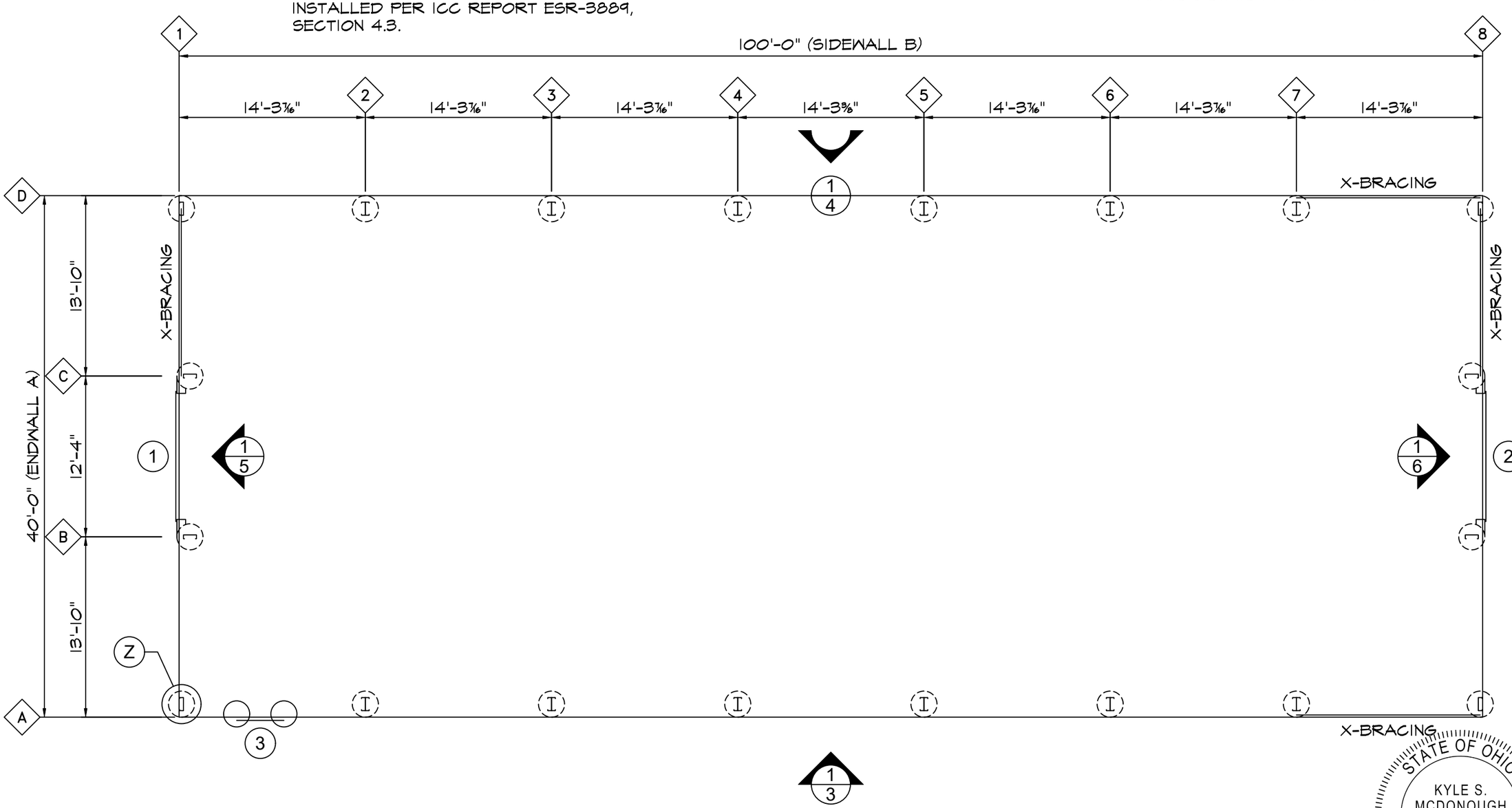
E-92579
REGISTERED PROFESSIONAL ENGINEER
Kyle McDonough
6 / 12 / 2026

NOTE: USE ½" X 3" DEWALT 'SCREW-BOLT+' ANCHOR IN 3½" DEEP HOLES AT ANCHOR LOCATIONS PER BASE DETAIL F/9, INSTALLED PER ICC REPORT ESR-3889, SECTION 4.3.

NOTE: SEE "TYP. FRAME CROSS-SECTION" DETAIL ON SHEET 12 FOR SPECIFIC FRAME DETAIL INFORMATION.



1/2 FOUNDATION PLAN

SCALE: 1/8" = 1'-0"

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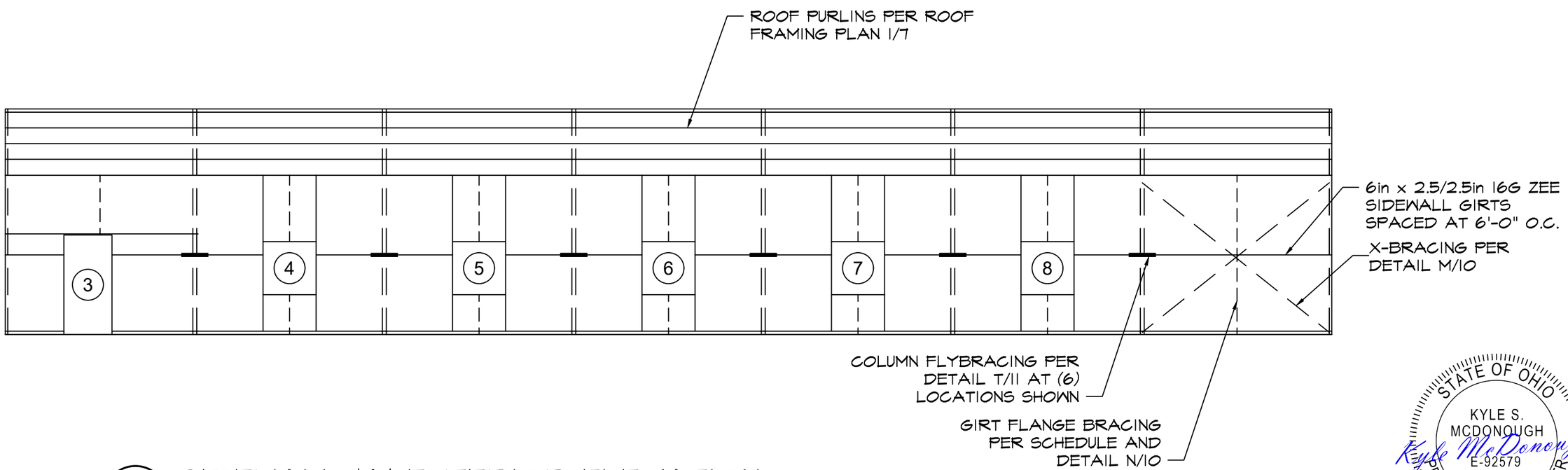
GIRT FLANGE BRACING SCHEDULE

	BAY #1	BAY #2	BAY #3	BAY #4	BAY #5	BAY #6	BAY #7
Sidewall 'A'	M/S	M/S	M/S	M/S	M/S	M/S	M/S

M/S = MIDSPAN



1/3 SIDEWALL 'A' EXTERIOR ELEVATION

SCALE: 1/8" = 1'-0"

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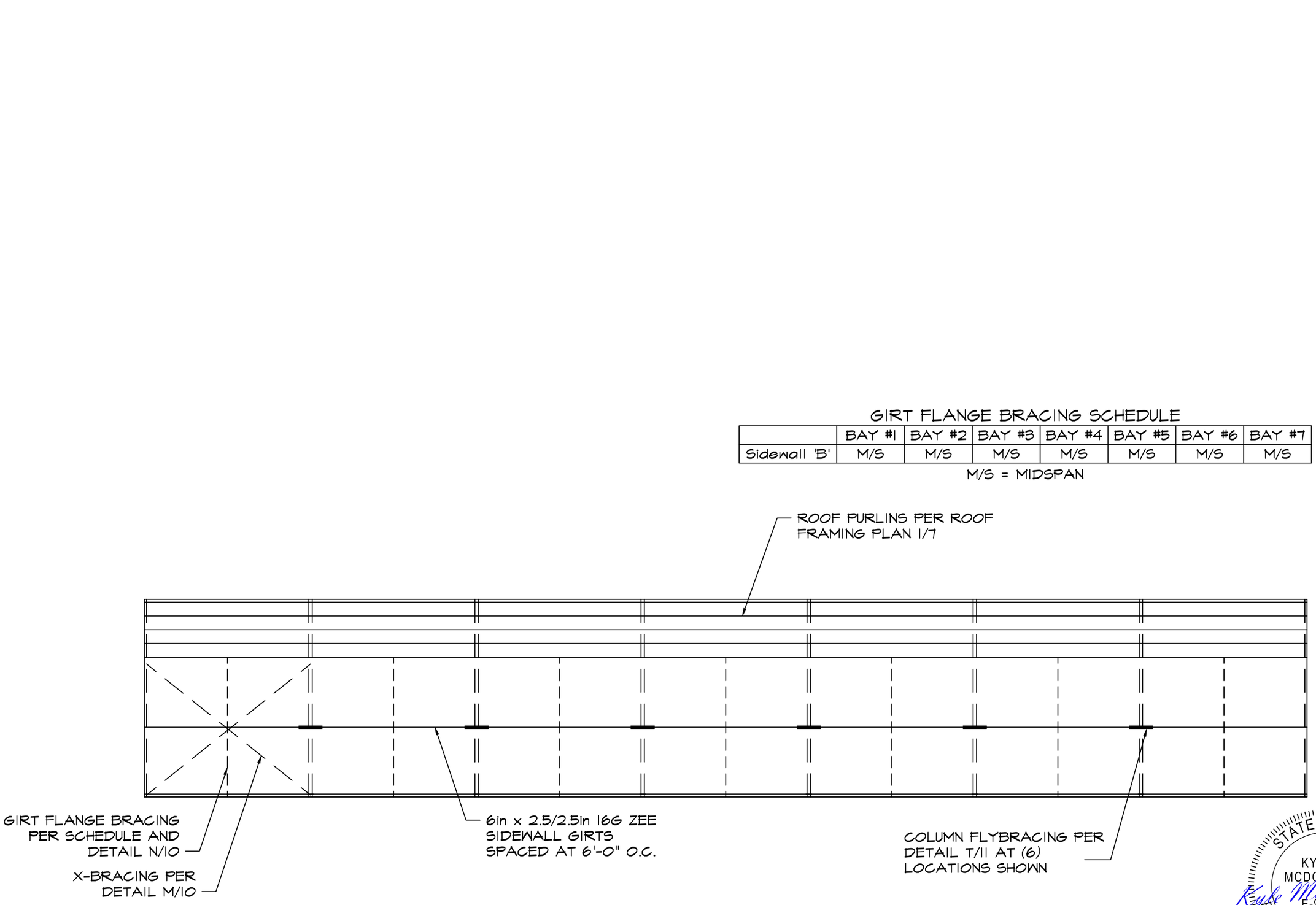
SHEET 3 OF 14

GIRT FLANGE BRACING SCHEDULE

	BAY #1	BAY #2	BAY #3	BAY #4	BAY #5	BAY #6	BAY #7
Sidewall 'B'	M/S	M/S	M/S	M/S	M/S	M/S	M/S

M/S = MIDSPAN



1/4 SIDEWALL 'B' EXTERIOR ELEVATION

SCALE: 1/8" = 1'-0"

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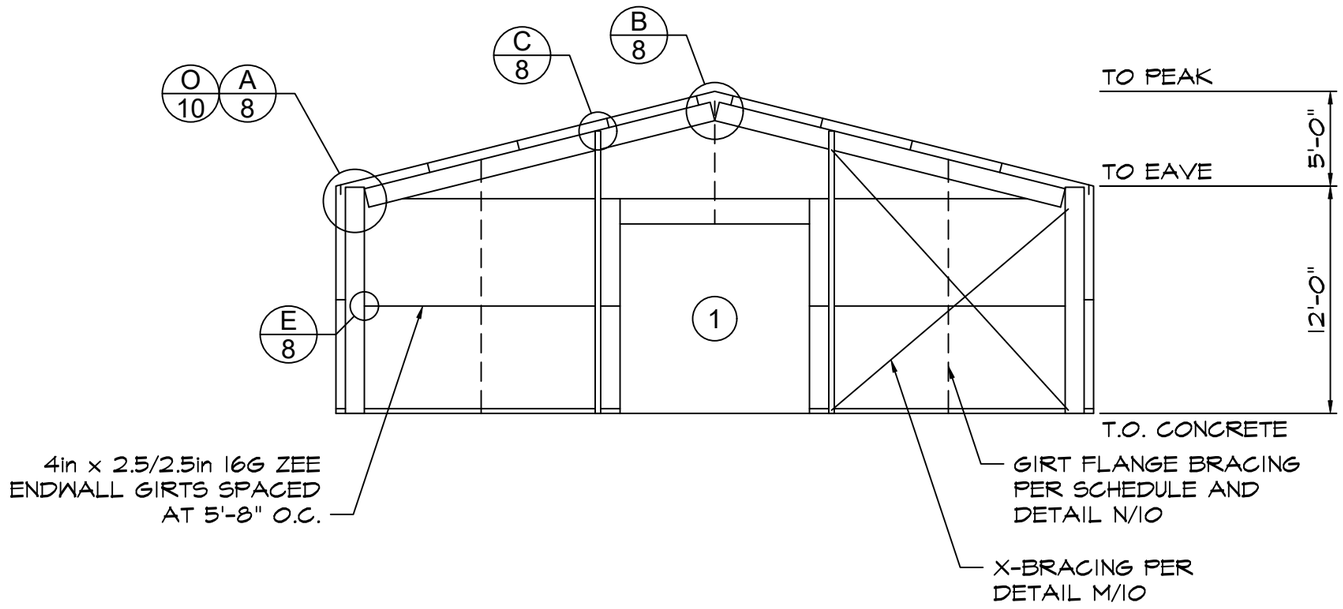
JOB NO.: ESOU1040322725
SHEET: 4 OF 14

GIRT FLANGE BRACING SCHEDULE

	BAY #1	BAY #2	BAY #3
Endwall 'A'	M/S	M/S	M/S

M/S = MIDSPAN



1/5 ENDWALL 'A' INTERIOR ELEVATION

SCALE: 1/8" = 1'-0" FRAME #1

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SHEET 5 OF 14

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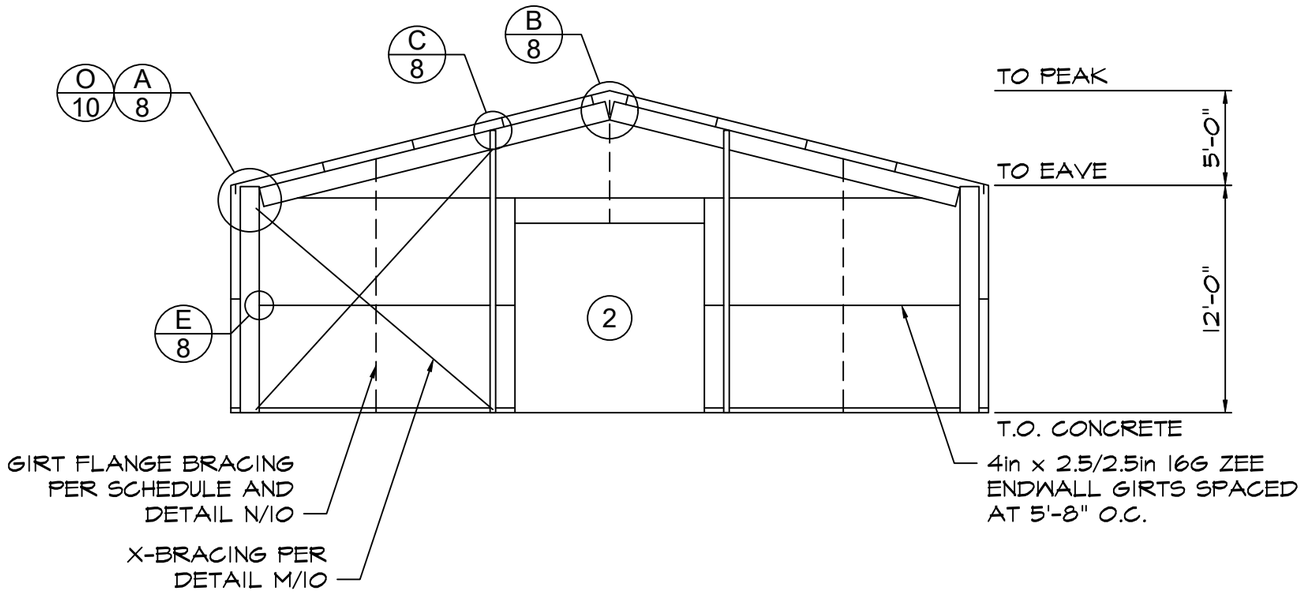
6/12/2026

GIRT FLANGE
BRACING SCHEDULE

	BAY #1	BAY #2	BAY #3
Endwall 'B'	M/S	M/S	M/S

M/S = MIDSPAN



1/6 ENDWALL 'B' INTERIOR ELEVATION

SCALE: 1/8" = 1'-0"

FRAME #8

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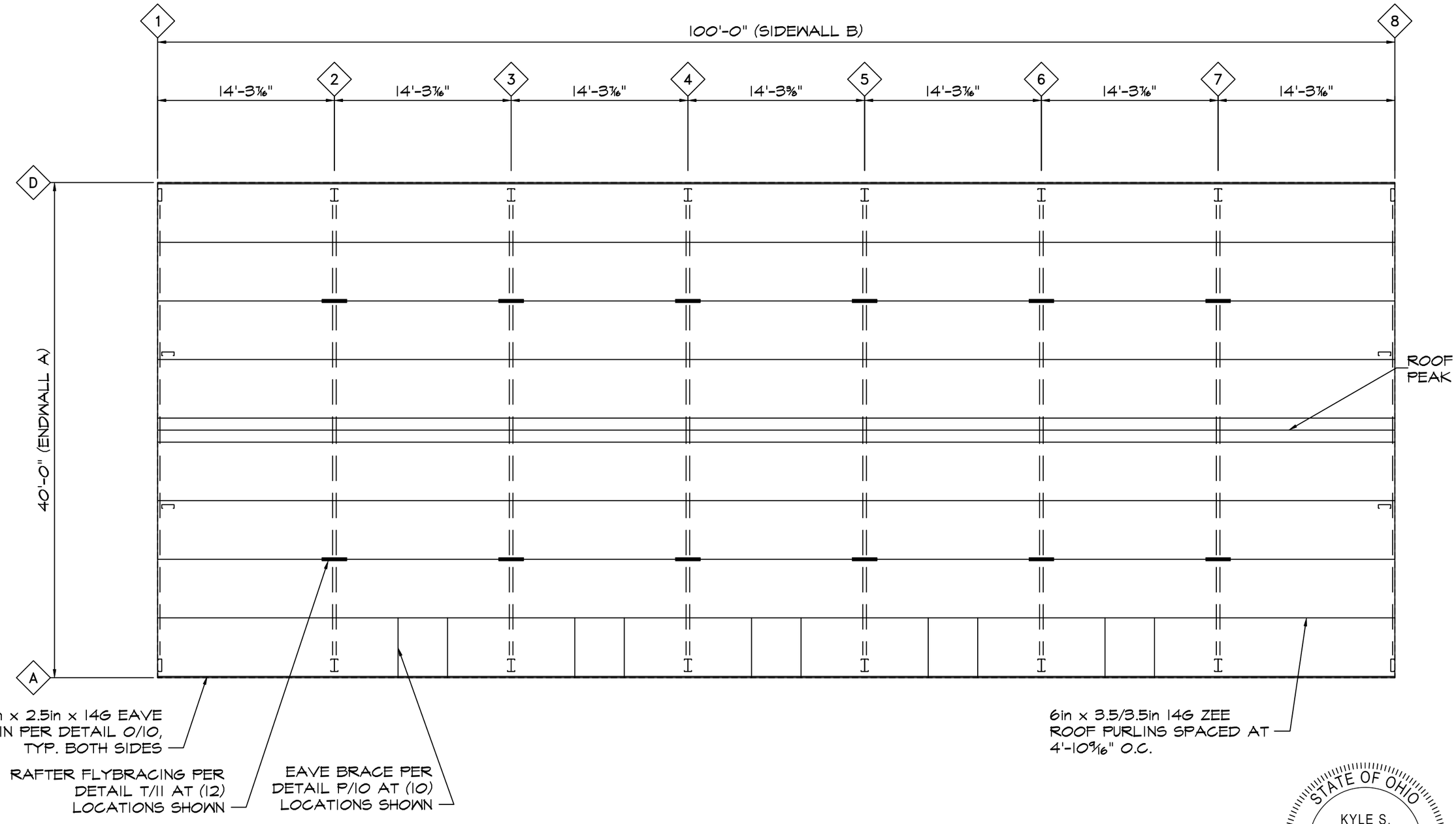
Kyle McDonough

6/12/2026

ROOF DIAPHRAGM NOTE

ROOF SHEETING IS USED AS DIAPHRAGM TO BRACE THE BUILDING AND IS NOT TO BE CUT UNDER ANY CIRCUMSTANCES



1/7 ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"

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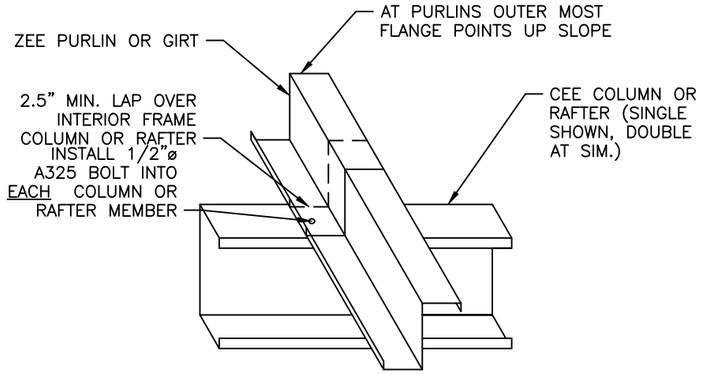
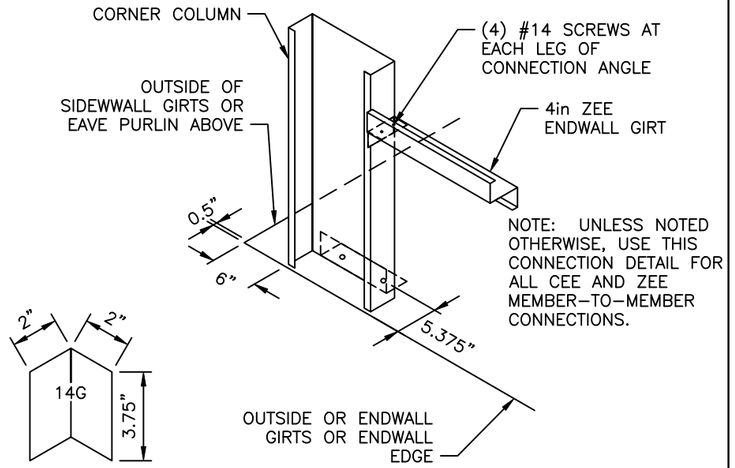
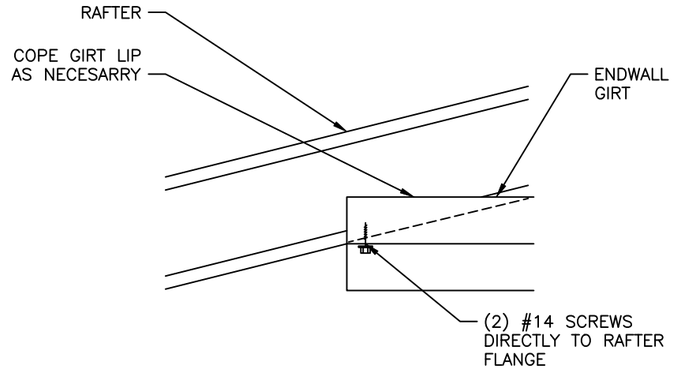


D ZEE PURLIN/GIRT CONNECTION

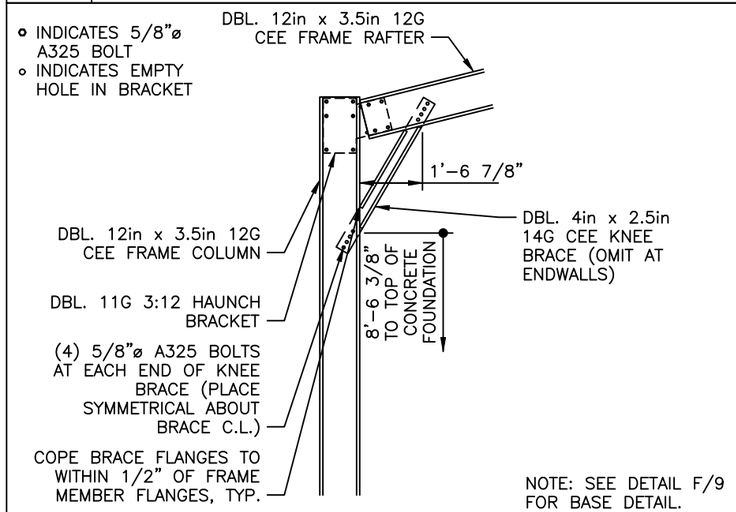


TYP. CONNECTION ANGLE

E ENDWALL GIRT AT CORNER COLUMN

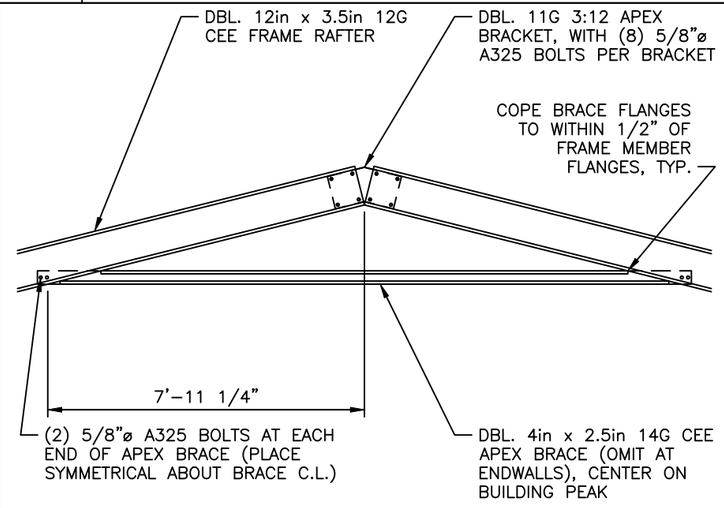


E2 END GIRT TO RAFTER



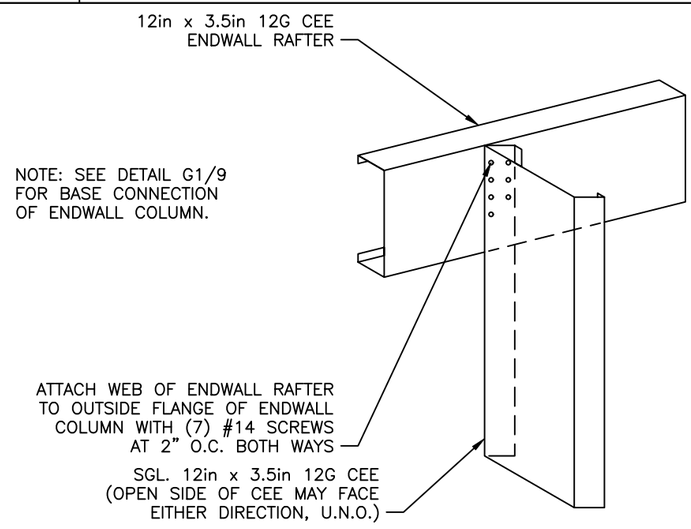
NOTE: ALL COMPONENTS NOTED AS 'DBL.' SHALL BE 'SGL.' AT ENDWALLS.

A HAUNCH CONNECTION



NOTE: ALL COMPONENTS NOTED AS 'DBL.' SHALL BE 'SGL.' AT ENDWALLS.

B APEX CONNECTION



C ENDWALL COLUMN TO RAFTER

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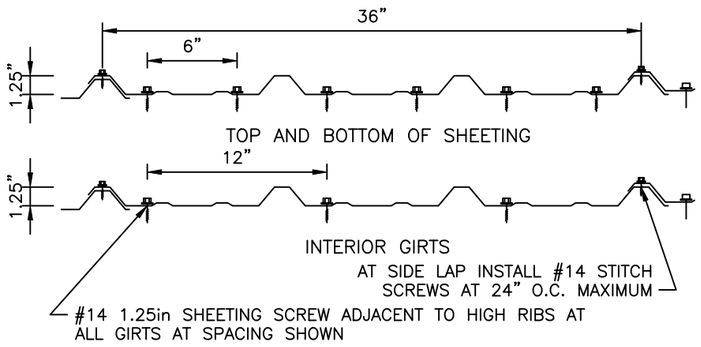
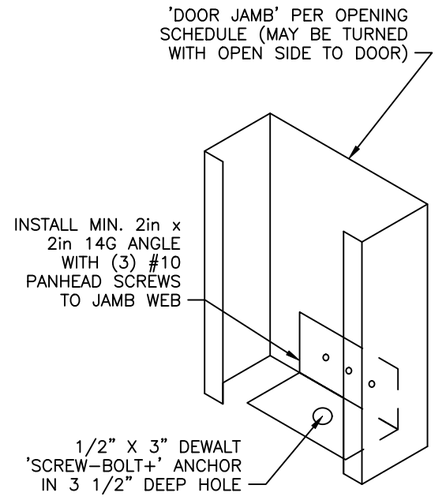
NOTE: ONLY STRUCTURAL INFORMATION IS INCLUDED IN THIS DETAIL. CONSULT PANEL MANUFACTURER FOR ADDT'L WEATHERTIGHTNESS RECOMMENDATIONS.



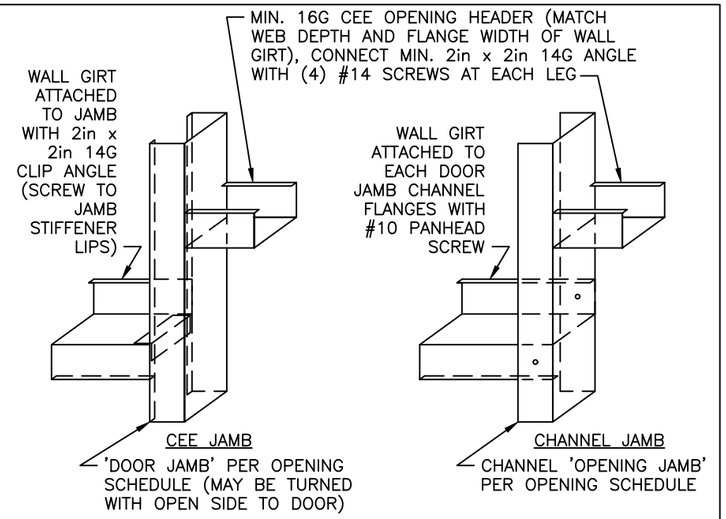
Engineering Services & Products Company
PBR–R–Loc 26G

Ix(t) = 0.0367 In^4/ft
Sx(t) = 0.0367 In^3/ft
Fy = 80 ksi
Ix(b) = 0.0317 In^4/ft
Sx(b) = 0.0458 In^3/ft

I WALL SHEETING



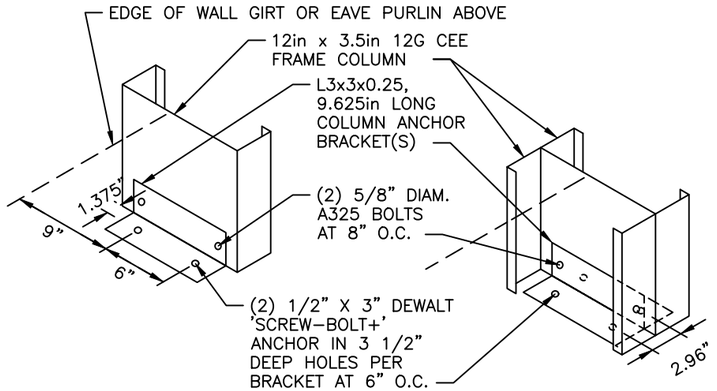
J OPENING JAMB BASE CONNECTION



K OPENING JAMB GIRT CONNECTION

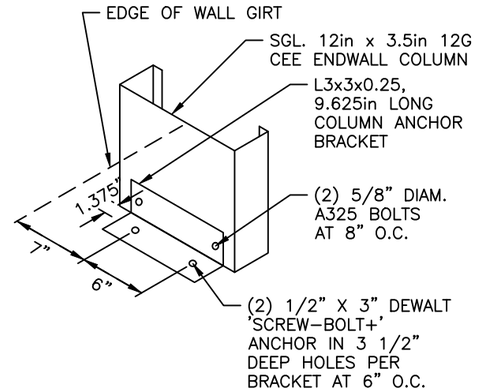
SINGLE CEE CORNER COLUMN

DOUBLE CEE FRAME COLUMN



NOTE: CENTER ALL BOLTS ON COLUMN ANCHOR BRACKET LENGTHS. AT SINGLE FRAME COLUMN, BRACKET MAY BE PLACED ON EITHER SIDE OF COLUMN. EXCEPT AT CORNER COLUMN, BRACKET MUST BE INSTALLED ON SIDE OF COLUMN FURTHEST FROM SLAB EDGE.

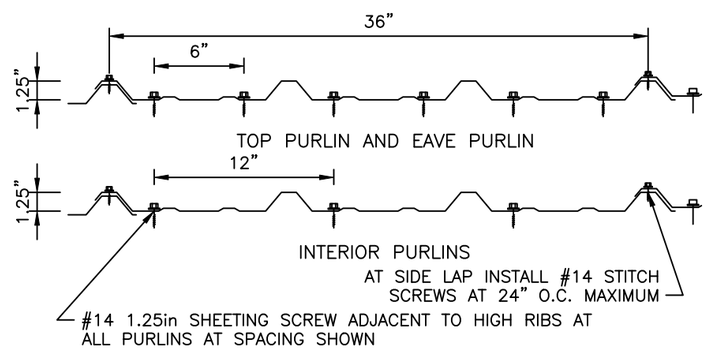
F FRAME COLUMN BASE DETAIL



NOTE: CENTER ALL BOLTS ON COLUMN ANCHOR BRACKET LENGTHS. BRACKET MAY BE PLACED ON EITHER SIDE OF COLUMN.

G1 ENDWALL COLUMN BASE DETAIL

NOTE: ONLY STRUCTURAL INFORMATION IS INCLUDED IN THIS DETAIL. CONSULT PANEL MANUFACTURER FOR ADDT'L WEATHERTIGHTNESS RECOMMENDATIONS.



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Sx(t) = 0.0367 In^3/ft
Fy = 80 ksi
Ix(b) = 0.0317 In^4/ft
Sx(b) = 0.0458 In^3/ft

H ROOF SHEETING

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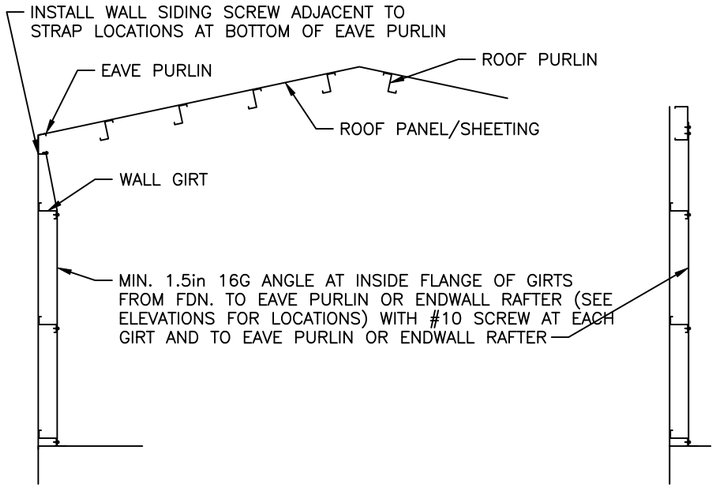
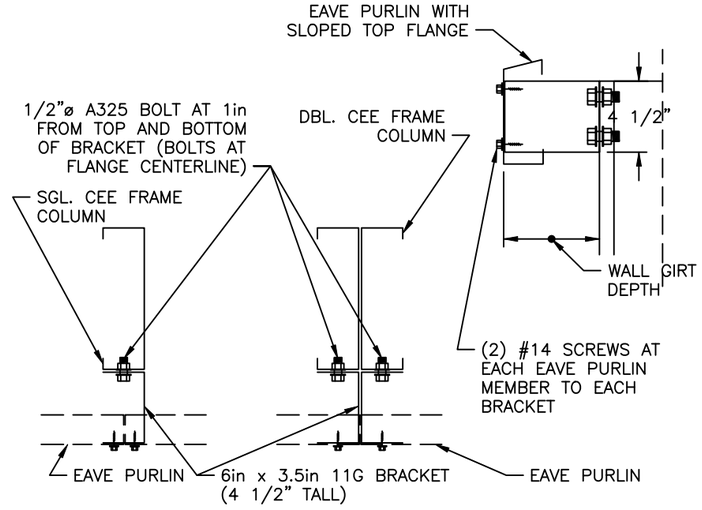
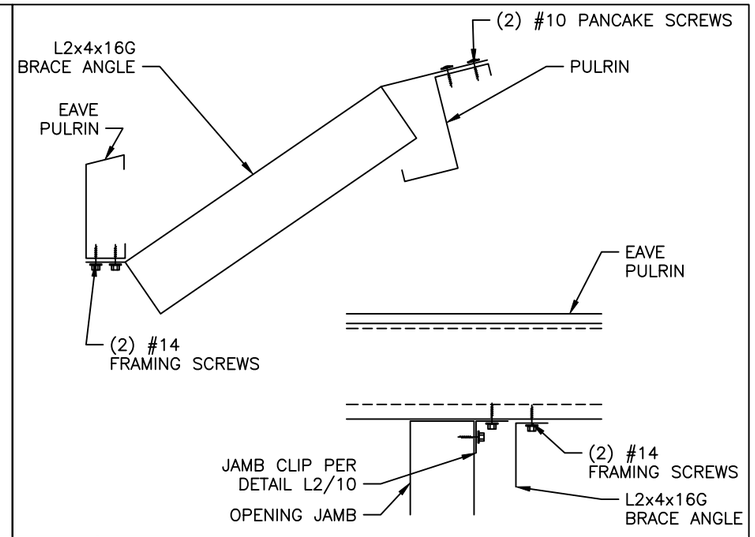


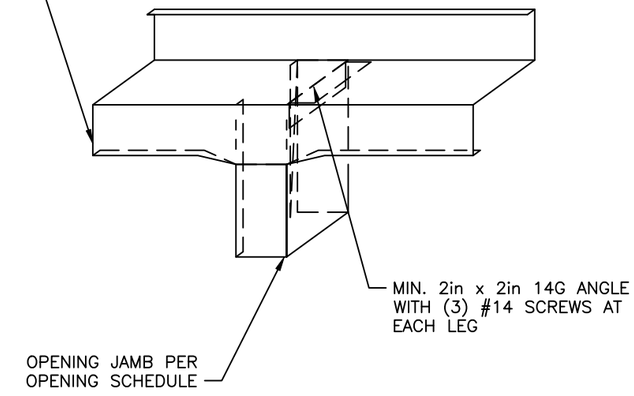
N GIRT FLANGE BRACING



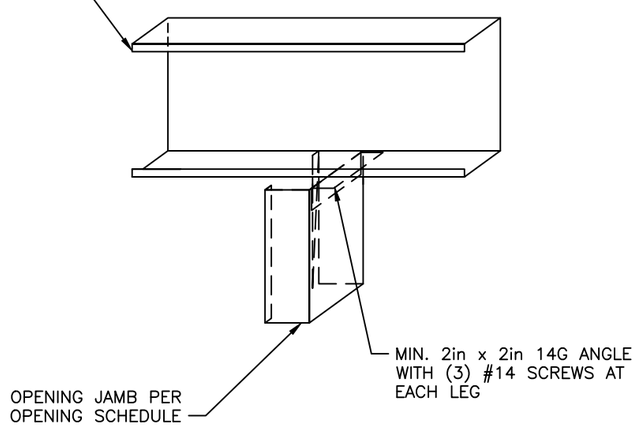
O EAVE PURLIN BRACKET



P EAVE PURLIN BRACE

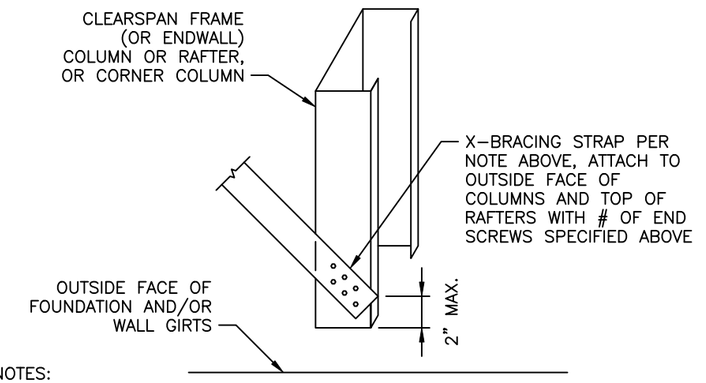


L1 JAMB TO HEADER GIRT CONNECTION



L2 JAMB TO CEE CONNECTION

ENDWALLS: SGL. 2in 14G STRAP WITH (6) #14 SCREWS AT EACH END
SIDEWALLS: SGL. 2in 14G STRAP WITH (6) #14 SCREWS AT EACH END



NOTES:
1) CONNECT STRAP AT TOP OF ADJACENT COLUMN OR RAFTER IN SAME MANNER.
2) IF DOUBLE STRAPS ARE SPECIFIED ABOVE, INSTALL SIDE-BY-SIDE, NOT ON TOP OF EACH OTHER.

M WALL X-BRACING CONNECTION

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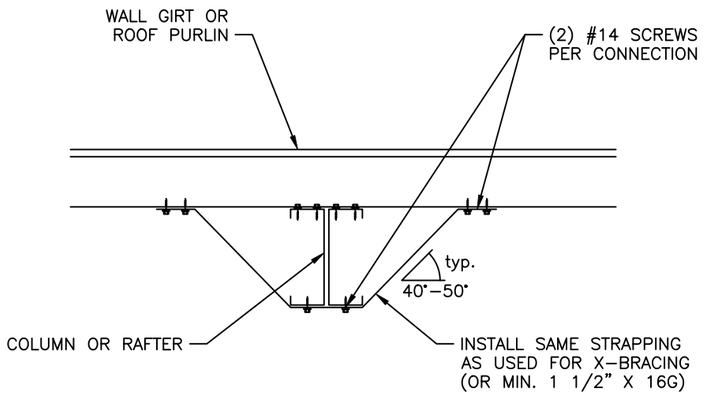
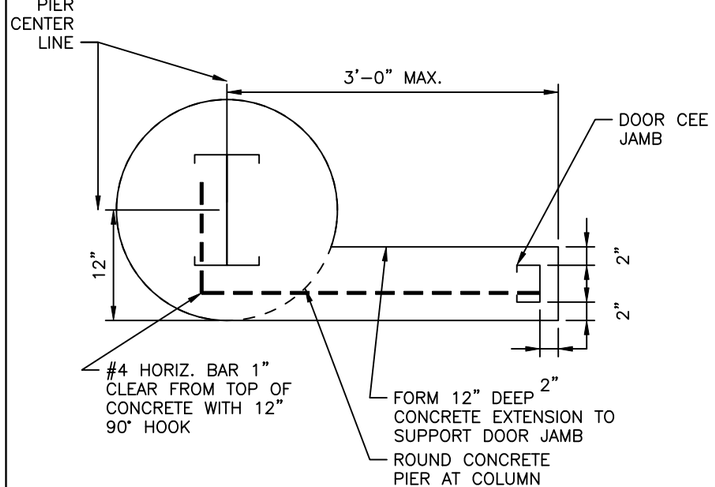
Kyle McDonough
6 / 12 / 2026

NOTE: SEE ROOF FRAMING PLAN AND ELEVATIONS FOR LOCATIONS OF FLYBRACING.

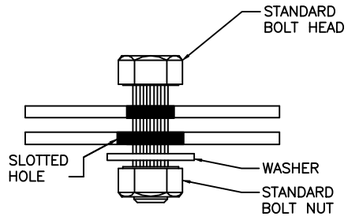


T FLYBRACING CONNECTION

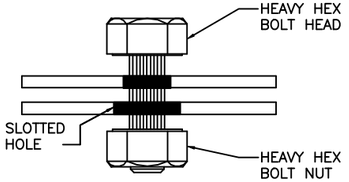


U PIER EXTENSION DETAIL

OPTION 1

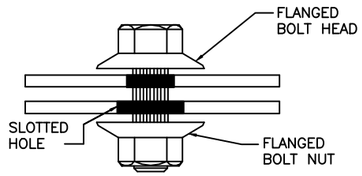


OPTION 2



NOTE: NO ADDITIONAL WASHER REQUIRED

OPTION 3



NOTE: NO ADDITIONAL WASHER REQUIRED

NOTES

1. AT HOLE–TO–HOLE CONNECTIONS, NO WASHER IS REQUIRED FOR ANY SPECIFIED BOLT ASSEMBLY WHERE SLOTS ARE NOT USED.

2. WHERE ANY CONNECTION USES A SLOTTED HOLE/S ANY ONE OF THE THREE BOLT ASSEMBLY OPTIONS SHOWN IN THIS DETAIL ARE REQUIRED TO BE USED OVER THE SLOTTED HOLE SIDE OF THE CONNECTION.

V BOLT OPTIONS

STATE OF OHIO
KYLE S. MCDONOUGH
E-92579
REGISTERED
PROFESSIONAL ENGINEER
Kyle McDonough
6 / 12 / 2026

Structural Engineering by:
Metal Building Engineering, LLC
Fountain Inn, SC 29644
engsupport@actbuildingsystems.com

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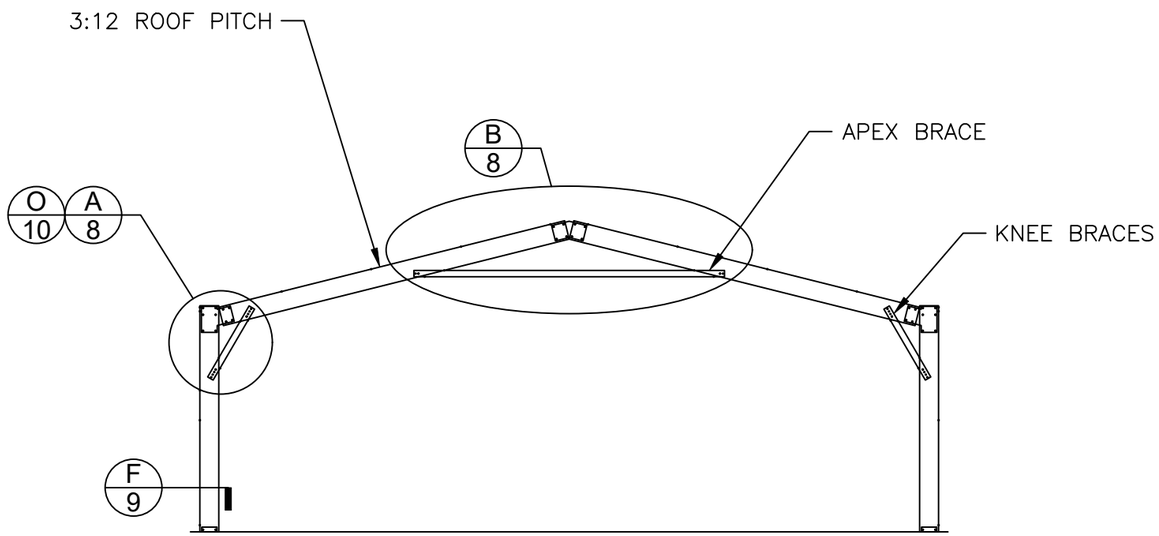
DATE 6/11/2026
JOB NO. ESOU1040322725
SHEET 11 OF 14



1/12 TYP. FRAME CROSS-SECTION

SCALE: 1/8" = 1'-0" FRAMES 2-7

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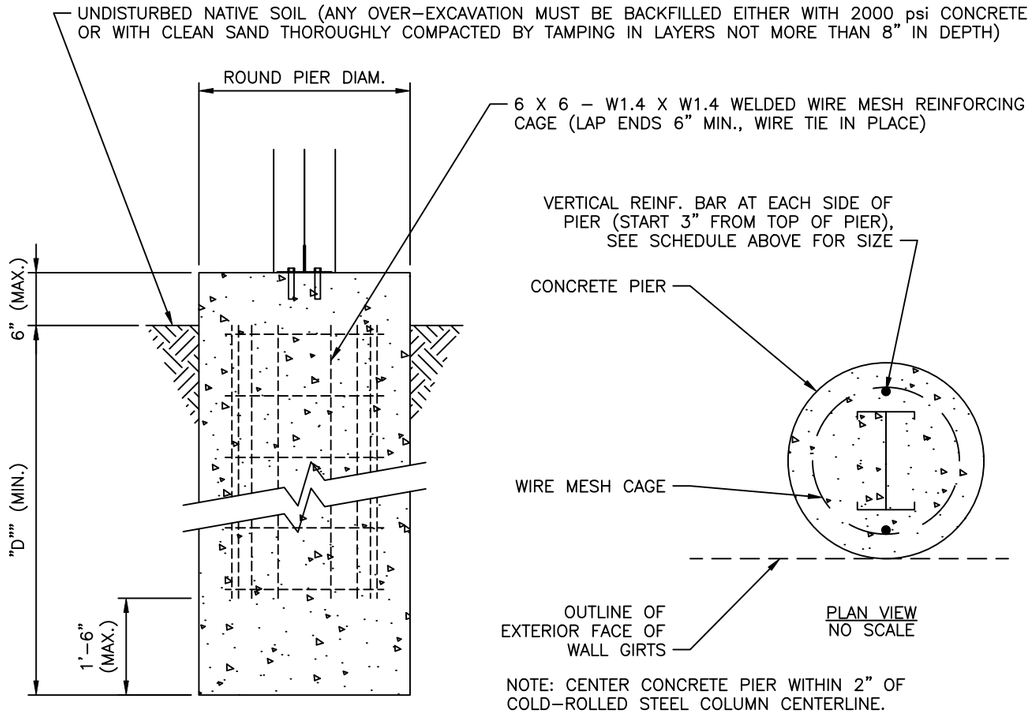
SHEET 12 OF 14

STATE OF OHIO
KYLE S. MCDONOUGH
E-92579
REGISTERED PROFESSIONAL ENGINEER

Kyle McDonough

6/12/2026

LOCATION	DIAM.	"D"	VERT. REINFORCING
SIDEWALLS	24"	6'-8"	(1)-#4
ENDWALLS	24"	4'-2"	(1)-#4
DOOR JAMBS	24"	3'-6"	---



Y | ROUND CONC. PIER FOUNDATION | SCALE: NO SCALE

STATE OF OHIO
KYLE S. MCDONOUGH
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JOB NO.: ESOU1040322725
SHEET: 13 OF 14

STRUCTURAL GENERAL NOTES

1. DRAWING USAGE:
ENGINEERING SEAL IS VALID FOR THE CONSTRUCTION OF A SINGLE BUILDING AT THE JOB ADDRESS SHOWN IN DRAWING TITLEBLOCK. ANY OTHER USE OF THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM ENGINEERING SERVIES & PRODUCTS COMPANY (ESP) AND METAL BUILDING ENGINEERING, LLC IS PROHIBITED.

2. DRAWING SEAL REQUIREMENTS:
THESE DRAWINGS SHALL BE SIGNED AND SEALED BY THE PROFESSIONAL ENGINEER FROM THE FIRM SHOWN IN THE TITLEBLOCK, IN ACCORDANCE WITH THE REQUIREMENTS OF THE JOBSITE JURISDICTION (WET, DIGITAL, OR IMPRINT.). IF THIS DRAWING SET HAS BEEN RECEIVED WITHOUT THE SEAL AND SIGNATURE THEY SHALL BE CONSIDERED INVALID AND NOT FOR PERMITTING OR CONSTRUCTION. THE PROFESSIONAL ENGINEER ACCEPTS NO LIABILITY OR RESPONSIBILITY FOR DRAWINGS MODIFIED WITHOUT THE SEAL AND SIGNATURE.

3. CONTRACTOR RESPONSIBILITIES:
CONTRACTOR SHALL VERIFY AND CONFIRM ALL EXISTING CONDITIONS AND DIMENSIONS. METAL BUILDING ENGINEERING, LLC (ENGINEER) SHALL BE NOTIFIED OF ANY DISCREPANCIES BETWEEN DRAWINGS AND EXISTING CONDITIONS PRIOR TO START OF WORK.
CONTRACTOR MUST SUBMIT IN WRITING ANY REQUEST FOR MODIFICATION TO THE PLANS AND/OR SPECIFICATIONS AND NO STRUCTURAL CHANGES FROM THE APPROVED PLANS SHALL BE MADE IN THE FIELD UNLESS, PRIOR TO MAKING CHANGES, WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. SHOP DRAWINGS SUBMITTED TO THE ENGINEER FOR REVIEW DO NOT CONSTITUTE "IN WRITING" UNLESS IT IS NOTED THAT SPECIFIC CHANGES ARE BEING REQUESTED. IF CHANGES ARE MADE WITHOUT WRITTEN APPROVAL, SUCH CHANGES SHALL BE THE LEGAL AND FINANCIAL RESPONSIBILITY OF THE CONTRACTOR OR SUB-CONTRACTORS INVOLVED AND IT SHALL BE THEIR FULL RESPONSIBILITY TO REPLACE OR REPAIR THE CONDITION AS DIRECTED BY THE ENGINEER.
CONTRACTOR SHALL PROVIDE ALL TEMPORARY BRACING, SHORING, GUYING, OR OTHER MEANS TO AVOID EXCESSIVE STRESSES AND TO HOLD STRUCTURAL ELEMENTS IN PLACE DURING ERECTION. THESE TEMPORARY PROVISIONS SHALL REMAIN IN PLACE UNTIL SUFFICIENT PERMANENT MEMBERS ARE ERECTED TO INSURE THE SAFETY OF PARTIALLY ERECTED STRUCTURES. CONTRACTOR IS RESPONSIBLE FOR MEETING ALL LAWS REGULATING THE ERECTION OF STEEL BUILDINGS.
THESE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. BUILDING IS NOT CONSIDERED COMPLETE UNTIL THE INSTALLATION OF ALL COMPONENTS AND DETAILS SHOWN HEREIN ARE INSTALLED ACCORDING TO THE DRAWINGS.

4. ENGINEERING:
THIS METAL BUILDING SHOWN ON THESE PLANS HAS BEEN REVIEWED BY METAL BUILDING ENGINEERING, LLC FOR CONFORMITY ONLY TO THE STRUCTURAL DESIGN PORTIONS OF THE GOVERNING CODE, ONLY ENGINEERED TO THE CODE AND NO KNOWLEDGE OF ADDITIONAL ITEMS ADDED..... THE BUILDING OWNER IS RESPONSIBLE TO SEEK PROFESSIONAL ADVICE OR ADDITIONAL LICENSED PROFESSIONALS IN ADDRESSING ANY OTHER CODE REQUIREMENTS (INCLUDING, BUT NOT LIMITED TO, FIRE AND LIFE SAFETY, ENVIRONMENTAL, ACCESSIBILITY, HVAC, PLUMBING, OR ELECTRICAL) THAT MAY APPLY TO THIS PROJECT. AS THESE ADDITIONAL REQUIREMENTS FALL OUTSIDE THE STRUCTURAL DESIGN, METAL BUILDING ENGINEERING, LLC SHALL NOT ACT AS THE ENGINEER OR ARCHITECT OF RECORD OR THE DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE FOR THE ENTIRETY OF THE PROJECT.
DRAWINGS SCALES INDICATED ON DRAWINGS ARE APPROXIMATE AND INTENDED TO BE USED FOR REFERENCE ONLY. DO NOT SCALE DRAWINGS FOR CONSTRUCTION PURPOSES.
THESE DOCUMENTS ARE STAMPED ONLY AS TO THE COMPONENTS FURNISHED BY ESP. IT IS THE RESPONSIBILITY OF THE PURCHASER TO COORDINATE DRAWINGS PROVIDED BY METAL BUILDING ENGINEERING, LLC WITH OTHER PLANS AND/OR OTHER COMPONENTS THAT ARE PART OF THE OVERALL PROJECT. IN CASES OF DISCREPANCIES, DRAWINGS PROVIDED BY METAL BUILDING ENGINEERING, LLC SHALL GOVERN. THE UNDERSIGNED ENGINEER WILL NOT SUPERVISE THE FABRICATION OR ERECTION OF THIS STRUCTURE

5. INSPECTIONS:
ALL PROJECT INSPECTIONS AND TESTING REQUESTED BY BUILDING DEPARTMENT SHALL BE AT OWNER'S EXPENSE. THE INSPECTION AND/OR TESTING AGENCIES SHALL BE ACCREDITED AND APPROVED BY THE BUILDING DEPARTMENT. METAL BUILDING ENGINEERING, LLC SHALL NOT BE ONSITE NOR INVOLVED IN THE PROJECT INSPECTIONS, OTHER THAN BEING FURNISHED THE INSPECTION / TESTING REPORTS WHEN IT WILL IMPACT THE CURRENT BUILDING DESIGN.

6. SOIL REQUIREMENTS:
ALLOWABLE SOIL BEARING VALUE INDICATED ON DRAWING SHEET 1 OCCURS AT 12" BELOW FINISH GRADE, OR EXISTING NATURAL GRADE, OR AT FROST DEPTH SPECIFIED BY BUILDING DEPARTMENT, WHICHEVER IS THE LOWEST ELEVATION. FOUNDATION DESIGN SHOWN ASSUMES BOTTOM OF FOOTING BEARS ON NATIVE SOILS.
FOUNDATION DESIGN SHOWN DOES NOT ACCOUNT FOR EXPANSIVE SOIL CONDITIONS OR FOR CONCRETE THAT WILL BE EXPOSED TO SULFATE CONTAINING SOLUTIONS OR CHLORIDES. OWNER SHALL CONTACT ENGINEER PRIOR TO CONSTRUCTION IF ANY OF THESE CONDITIONS EXIST.

7. CONCRETE REQUIREMENTS:
ALL CONCRETE SHALL HAVE A MIN. 28-DAY STRENGTH OF 2500 psi. HIGHER STRENGTH CONCRETE MAY BE USED, AT OWNER'S DISCRETION, FOR FINISH AND DURABILITY PURPOSES. CEMENT SHALL COMPLY WITH ASTM C150, TYPE 2, AND SHALL CONTAIN NO FLYASH.
ALL CONCRETE PLACEMENT SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE", WHICH IS HEREBY MADE A PART OF THESE DOCUMENTS.
CONCRETE REINFORCING SHALL CONFORM TO ASTM A615, GRADE 60 FOR #4 BARS AND LARGER, GRADE 40 FOR #3 BARS. WELDED WIRE MESH SHALL CONFORM TO ASTM A185 (Fy MIN. OF 70 ksi). ALL FOOTING REINFORCING BARS TO BE CONTINUOUS AROUND CORNERS. LAP SPLICE FOOTING REINFORCING MIDWAY BETWEEN COLUMNS. ALL LAP SPLICES TO BE 48 BAR DIAMETERS MIN., U.N.O.
CONCRETE GRADE BEAMS, THICKENED SLAB EDGES, PIERS, AND SPREAD FOOTINGS SHALL BE POURED ONTO UNDISTURBED, NATIVE SOIL WHICH IS FREE FROM ANY MATERIAL THAT WILL ADVERSELY AFFECT THE MIN. ALLOWABLE SOIL BEARING PRESSURE SPECIFIED ON SHEET 1.
CONCRETE ANCHOR INSTALLATION SHALL BE DONE IN ACCORDANCE WITH ICC REPORT ESR-3889, SECTION 4.3.

8. STRUCTURAL STEEL REQUIREMENTS:
ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 (Fy MIN. OF 36000 psi), U.N.O. ALL BOLTS SHALL CONFORM TO ASTM A325, U.N.O. BOLT HOLE DIAMETERS SHALL BE 1/16" LARGER THAN NOMINAL BOLT DIAMETER. ALL INSTALLATION SHALL BE IN ACCORDANCE WITH AISC "CODE OF STANDARD PRACTICE".
NO WELDING IS REQUIRED ON THIS JOB.

9. LIGHT GAUGE STRUCTURAL STEEL REQUIREMENTS:
ALL LIGHT GAUGE STEEL FRAMING MATERIAL AND ERECTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN IRON AND STEEL INSTITUTE (AISI) "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS".
ALL LIGHT GAUGE STEEL MATERIAL SHALL CONFORM TO ASTM A653 HAVING A MINIMUM YIELD STRENGTH OF 55000 psi. THE GRADE AND ASTM SPECIFICATION NUMBER SHALL BE INDICATED BY PAINTING, DECAL, TAGGING, OR OTHER SUITABLE MEANS, ON EACH LIFT OR BUNDLE OF FABRICATED ELEMENTS.
UNLESS NOTED OTHERWISE, CEE, ZEE, AND CHANNEL MEMBERS' WEB AND FLANGE DIMENSIONS (IN INCHES) SHALL BE AS NOTED IN DETAILS IN THE FOLLOWING FORMAT: [WEB DEPTH]in x [FLANGE WIDTH]in [GAUGE]G. FOR ZEES WITH UNEQUAL FLANGES, THE WIDTHS FOR BOTH FLANGES WILL BE LISTED, SEPARATED BY A " /". MIN. FLANGE STIFFENER LIPS SHALL BE 0.813" FOR 12G CEES, 0.813" FOR 14G CEES, 0.813" FOR 16G CEES, 0.750" FOR 12G ZEES, 0.750" FOR 14G ZEES, AND 0.750" FOR 16G ZEES. ALL BEND RADIUSES SHALL BE .1875". FOR ANGLES, THE FIRST TWO NUMBERS ARE THE LEG DIMENSIONS.
DECIMAL THICKNESS OF THE DELIVERED LIGHT GAUGE STEEL MATERIAL, ACCORDING TO NOMINAL GAUGES, SHALL MEET OR EXCEED 95% THE FOLLOWING DESIGN VALUES

GAUGE NO.	DECIMAL THICKNESS, IN.	GAUGE NO.	DECIMAL THICKNESS, IN.	GAUGE NO.	DECIMAL THICKNESS, IN.
10	0.135	14	0.070	18	0.048
12	0.105	16	0.059	20	0.036

EXCEPT AS SHOWN ON DRAWINGS, CEE COLUMN AND RAFTER MEMBERS SHALL NOT BE DRILLED OR NOTCHED WITHOUT PRIOR APPROVAL OF THE ENGINEER. DOOR JAMB, ROOF PURLIN, AND WALL GIRT ENDS MAY HAVE FLANGES COPED 3" MAX. IF CONNECTION IS MADE TO PERPENDICULAR MEMBER PER DETAIL E/8. ROUND HOLES MAY BE DRILLED THROUGH ANY GIRT OR PURLIN MEMBER WITHIN THE MIDDLE THIRD OF THE DEPTH OF THAT MEMBER AND NOT WITHIN 24" OF MEMBER END (FIELD-DRILLED BOLT HOLES INDICATED AT ENDS OF KNEE OR APEX BRACE WEBS AND SHOP-PUNCHED HOLES IN BRACE FLANGES EXCEPTED).
ALL BOLTS USED TO CONNECT LIGHT GAUGE MATERIAL SHALL CONFORM TO ASTM A325. BOLTS TO BE SNUG TIGHT PER THE RCSC AND AISC SPECIFICATIONS, UNLESS SPECIFICALLY NOTED OTHEREWISE. BOLTS SHALL BE SPACED NO LESS THAN 3 BOLT DIAMETERS BETWEEN CENTERS. DISTANCE FROM BOLT CENTER TO THE END OR EDGE OF ANY LIGHT GAUGE MEMBER SHALL BE A MIN. OF 1.5 BOLT DIAMETERS. ALL SCREWS USED TO CONNECT LIGHT GAUGE MATERIAL SHALL BE SELF-DRILLING SCREWS AND SHALL HAVE A MIN. TENSILE BREAKING STRENGTH OF 100,000 psi. SCREWS SHALL BE SPACED NO LESS THAN 3 TIMES THE NOMINAL SCREW DIAMETER ON CENTER. EDGE AND END DISTANCE FROM THE CENTER OF A SCREW TO THE EDGE OR END OF ANY CONNECTED PART SHALL NOT BE LESS THAN 1.5 TIMES THE NOMINAL SCREW DIAMETER, PER AISI S100, SECTION J4. UNLESS NOTED OTHERWISE, ALL REFERENCES TO 'SCREWS' CONNECTING MATERIAL THICKER THAN 20 ga. SHALL BE MIN. #14 SCREWS AND SHALL HAVE MIN. 14 THREADS PER INCH.
SCREW ROOT DIAMETERS SHALL NOT BE LESS THAN: #14 SCREW: .200" #12 SCREW: .177" #10 SCREW: .153"

10. STEEL ROOF AND WALL PANELS (CLADDING):
LIGHT GAUGE STEEL ROOF AND WALL PANELS SHALL CONFORM TO ASTM A653 AND THE STEEL DECK INSTITUTE SPECIFICATIONS AND HAVE A MIN. YIELD STRENGTH OF 80000 psi.
DECIMAL THICKNESSES, ACCORDING TO NOMINAL GAUGES, SHALL MEET OR EXCEED THE FOLLOWING:

GAUGE NO.	DECIMAL THICKNESS, IN.	GAUGE NO.	DECIMAL THICKNESS, IN.	GAUGE NO.	DECIMAL THICKNESS, IN.
22	0.0299	26	0.0179	29	0.0134
24	0.0239	28	0.0149	30	0.0120

SEE DETAILS H/9 AND I/9 FOR ROOF AND WALL PANEL FASTENER TYPES AND SPACINGS.

STATE OF OHIO
KYLE S. MCDONOUGH
E-92579
REGISTERED PROFESSIONAL ENGINEER
Kyle McDonough
6 / 12 / 2026

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JOB NO.: ESOU1040322725
SHEET: 14 OF 14

Generic Temporary Bracing Information

The installation of temporary bracing is critical to avoid building collapse or damaging structural movement during construction. This collapse can occur with no notice and as such the installation of appropriate temporary bracing is critical to avoid damage, injury, and possible death. Determination, procurement, and correct installation of temporary bracing is the responsibility of the builder / primary contractor / installer.

Bracing Materials

The constructor / installer is to supply suitably sized materials for temporary bracing. These materials are generally capable of tension, but in some circumstances will need to be capable of tension and compression. Load rated ratchet strapping of an appropriate size can be used to temporarily 'x-brace' bays in both directions, until the final bracing systems are fullyinstalled. This is especially critical for buildings where X Bracing is not required in the final structure due to the use of moment frames or diaphragm bracing.

Temporary Bracing Location

The location of Temporary bracing will depend on the installation method used. Installation should be completed in accordance with the Construction Package, Engineering Plans, and Instruction Manuals. If the Frame First Method (most common) is used, then the use of tension only bracing and creating temporarily braced bays as per Fig 1 and Fig 2. can be used. As a basic guide, a minimum of every 4th bay should have temporary bracing installed as per Fig 2.

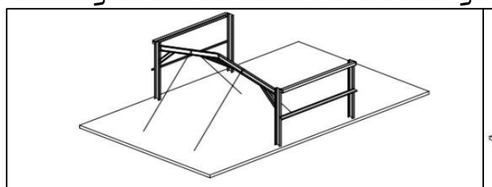


Fig 1. Frame First Temporary Bracing on First Rafter Installed

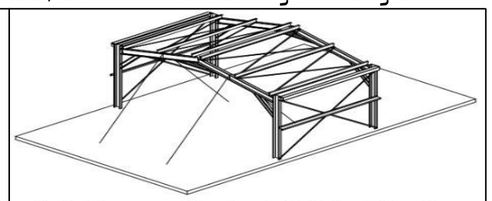


Fig 2. Temporary Bracing Installed as X Bracing

If the Tilt Up Method is used (where walls are constructed on the ground And then tilted into place), then the tops of columns are braced with a tension and compression brace in the same direction Fig 3. Then rafters and purlins can be installed with temporary bracing holding rafters in place (similar to Fig 1) until final bracing of diaphragm sheeting is installed.

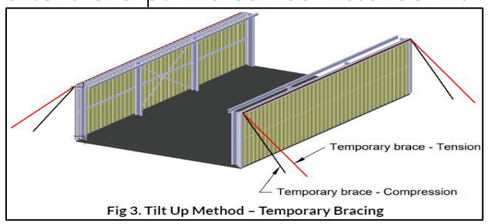


Fig 3. Tilt Up Method – Temporary Bracing

Typically, braces should be positioned diagonally across the structure from the top to the bottom, intersecting near the midpoint to provide stability, optimally at a 45-degree angle but no less than a 20-degree angle. The connection strength of temporary bracing is a critical consideration and these connections must be capable of resisting the potentially substantial temporary bracing loads ? whether this connection point be to the building, the foundations or to the ground. Dependent upon building size this may include heavy angles and post installed concrete anchors. The temporary bracing methods used must be capable of fully stabilising the structure during the construction process.

Additional Temporary Bracing

The temporary bracing described is a minimum requirement for a standard-sized building in average conditions. Additional consideration should be given to larger building spans and/or challenging site conditions. There may also be an increased risk in relation to partially completed buildings and exposed sites. It is recommended that extra temporary bracing is utilized if moderate wind speeds are expected on site. Additional support elements, such as steel cables may need to be introduced that can be attached to the building's framework and anchored to the ground or other stable structures to provide extra stability. The frame should remain rigid throughout and such responsibility lies with the constructor. Buildings should not be left in a partially completed state longer than necessary.

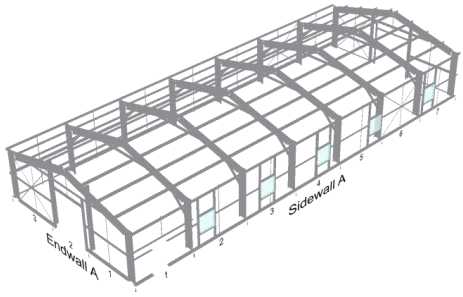
Bracing Removal

The temporary bracing should not be removed until all purlins, girts and permanent cross bracing, diaphragm bracing or moment frames where used are installed. The temporary bracing is to remain in place where possible, until the roof and wall cladding is fully installed. If you need any further information regarding the installation of temporary bracing or are at all unsure of the necessary requirements for this specific building, there are guides available through various industry bodies:
https://www.aisc.org/ https://www.metal-buildings-institute.org/

Support is also available at support@actbuildingsystems.com.
THE ABOVE INFORMATION REGARDING TEMPORARY BRACING DOES NOT FORM PART OF THE ENGINEERING CERTIFICATION FOR THIS DESIGN AND IS PROVIDED AS A GUIDE TO AID INSTALLATION ONLY.

1440 Field of Dreams Way, Dyersville, Iowa 52040

Website: www.clearspan.com Phone: 866.643.1010



BUILDING SPECIFICATIONS

Building Site Address

7298 Lake Rd E, Madison, OH 44057
Madison, OH, 44057

Building Dimensions

Width: 40' - 0"
Length: 100' - 0"
Eave Height: 12' - 0"
Roof Pitch: 3:12
Sidewall Bays: 7
Endwall Bays: 3

Building and Site Requirement

Ground Snow Load: 30 psf
Design Roof Snow Load: 25 psf
Wind Load/Exposure: 109 mph C
Soil Bearing Capacity: 1500 psf
Building Code: 2021 IBC
Building Occupancy Category: II
Building Heating: Unheated
Extra Roof Dead Load: 2 psf
Extra Wall Dead Load: N/A

Leanto A Details

Span: N/A
Bays: N/A
Drop: N/A
Roof Pitch:N/A
Eave Height: N/A

Leanto B Details

Span: N/A
Bays: N/A
Drop: N/A
Roof Pitch: N/A
Eave Height: N/A

Liner Panel Details

Liner Type: None
Liner Color: N/A
Walls Lined:

Mezzanine Details

Floor Height: N/A Bays: N/A
Live Load: N/A Joist Spacing: N/A

Sheeting and Trim Details

Roof Type: PBR-Panel R-Loc 26G Galvalume
Roof Color: Galvalume
Wall Type: PBR-Panel R-Loc 26G Painted
Wall Color: Tan
Eave Trim/Gutter Type: Eave Trim, Long Eave Trim
Trim Color: Polar White

Opening Details

Personnel doors: (1) One - 36"X84" COMMERCIAL GRADE OUTSWING DOOR(RIGHT HAND) WITH 6" SUB-JAMB SERIES 20
Drive Doors: White 10X10 COIL SHEET DOOR W/WEATHER KIT (actual opening size 120h x 120w) in Center of bay 2 of Endwall A

White 10X10 COIL SHEET DOOR W/WEATHER KIT (actual opening size 120h x 120w) in Center of bay 2 of Endwall B
Windows: None
Framed Openings: (5) Five - 4'x4' framed openings for Window
Open Bays: None
Translucent Panels: None

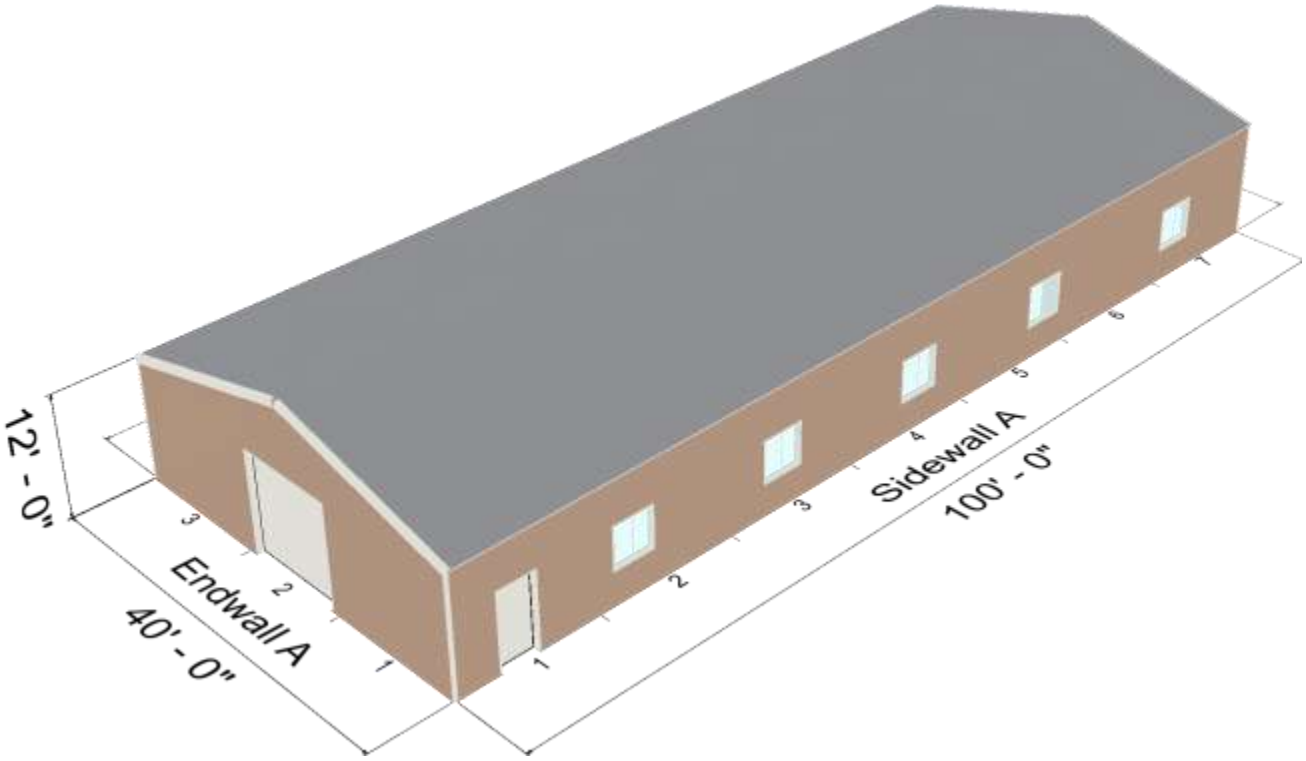
Insulation Details

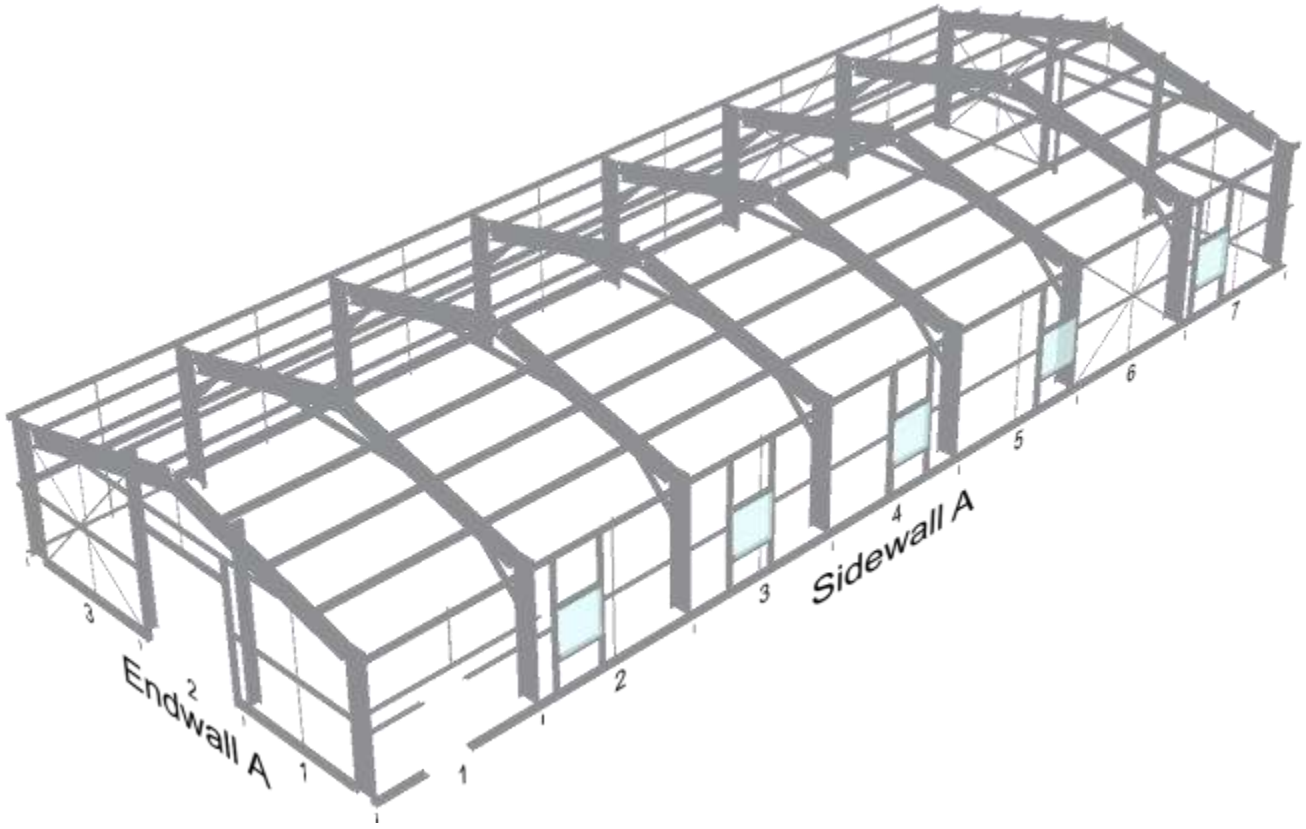
MBI Reinforced Vapor Barrier (R-10), White, 4'-0" Wide, 3" Thick added in the follow areas: Roof

Extra Options

N/A

Building Weight: 24603.72 lbs





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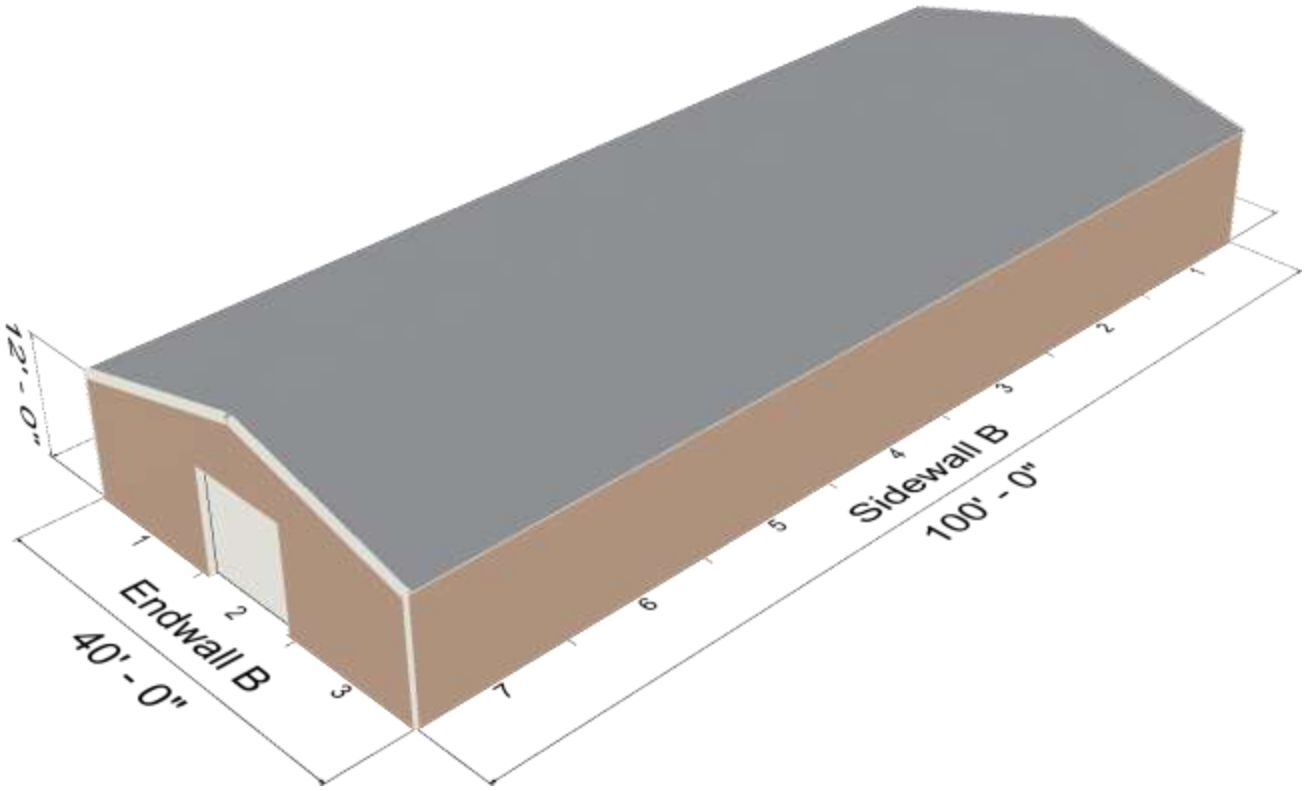
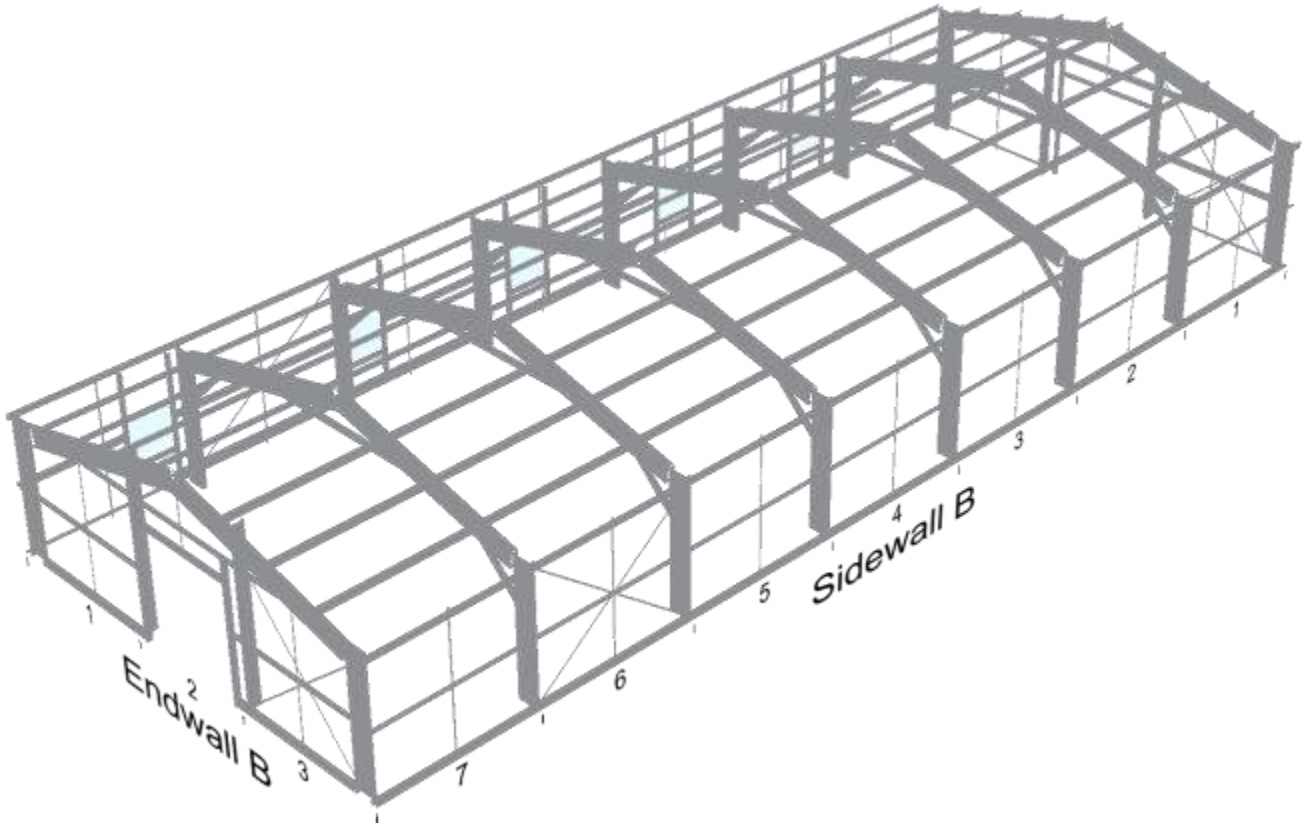

12' - 0"
Endwall B
40' - 0"
Sidewall B
100' - 0"
1
2
3
4
5
6
7


Endwall B
Sidewall B
1
2
3
4
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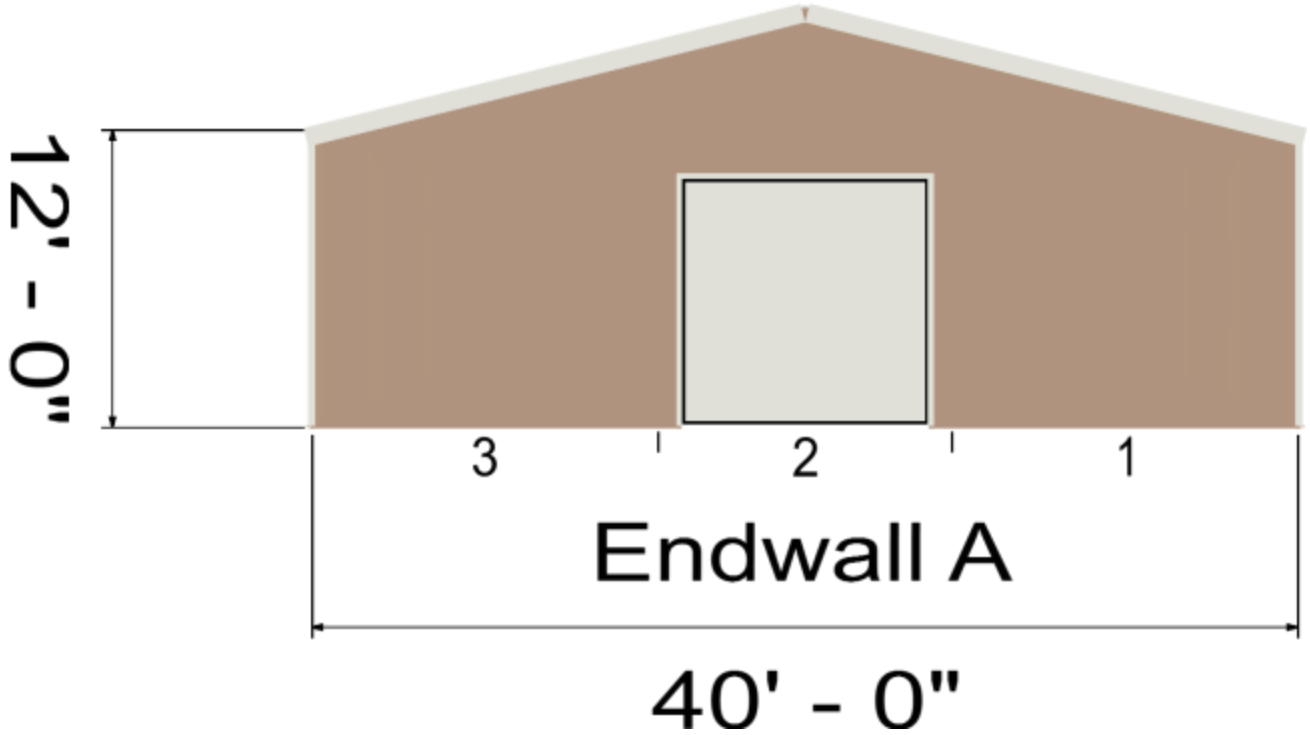
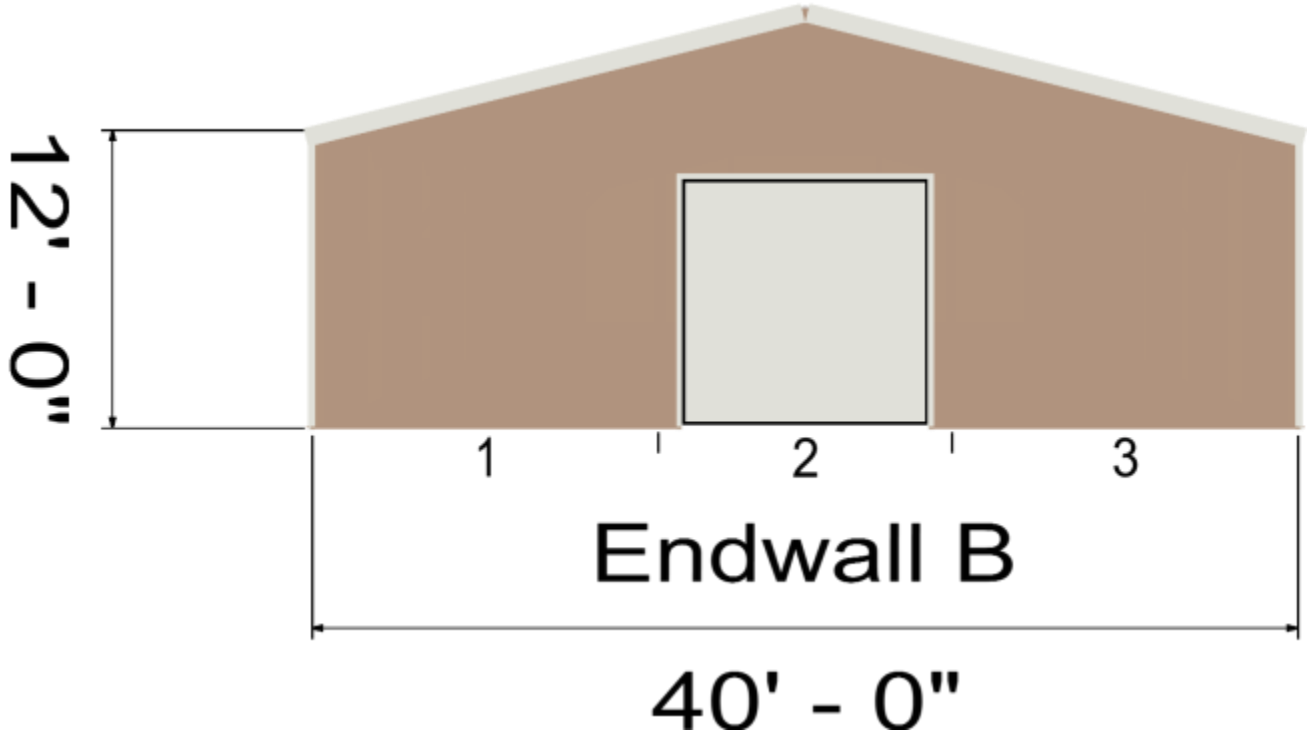
ClearSpan





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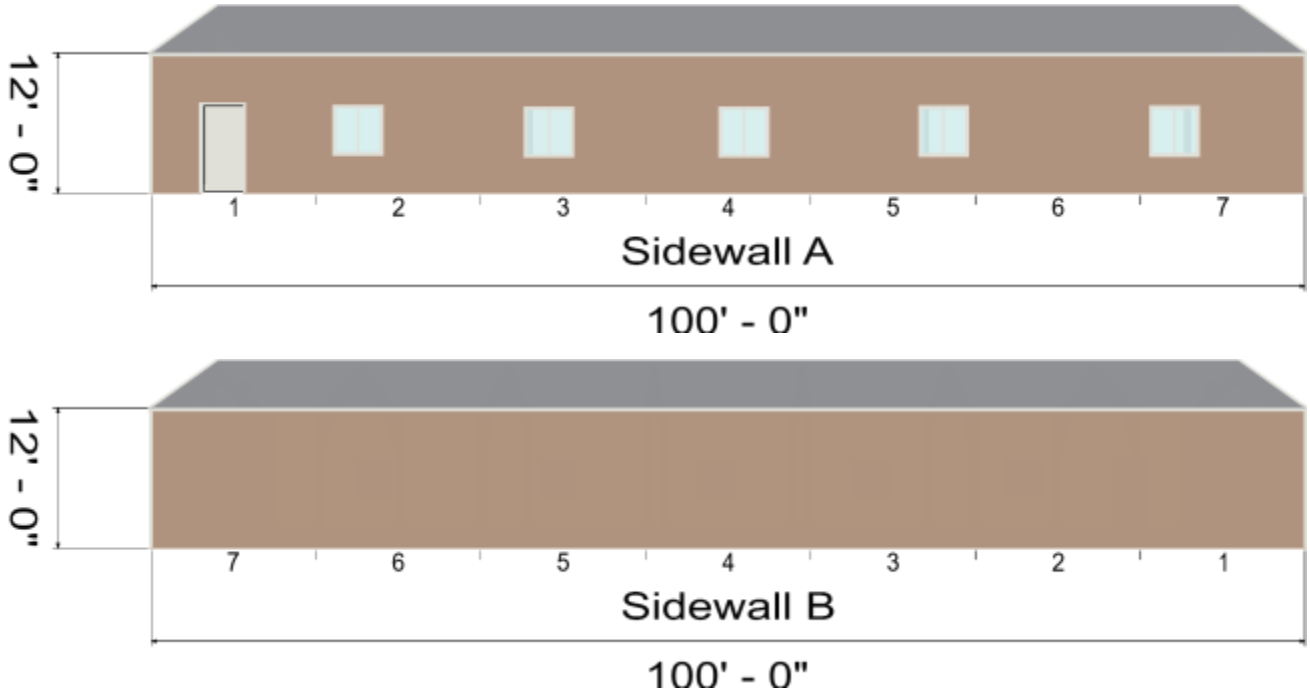
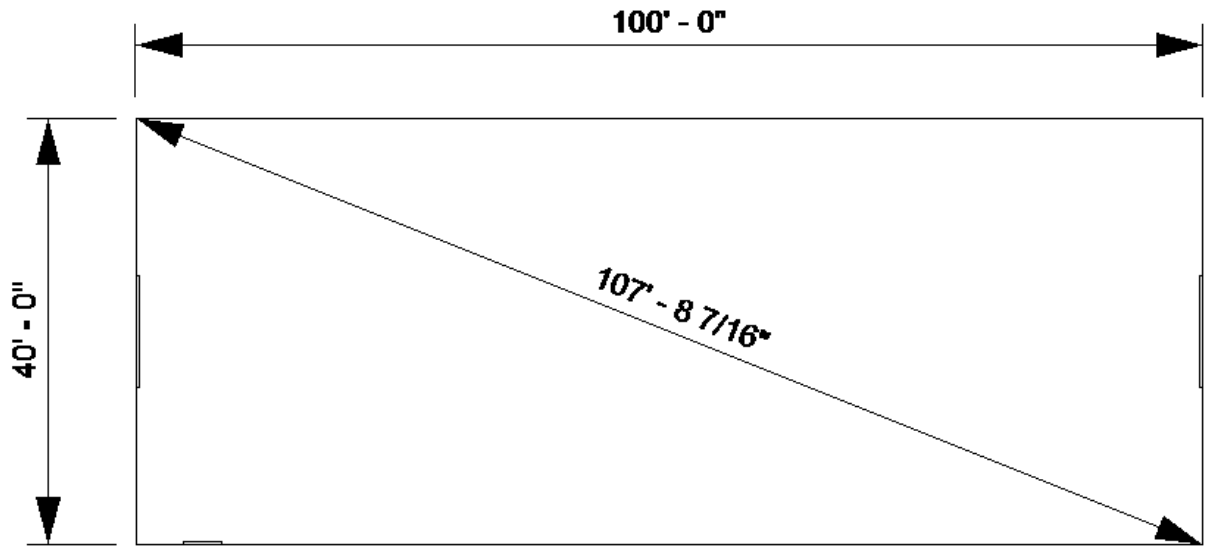

12' - 0"
1
2
3
4
5
6
7
Sidewall A
100' - 0"
12' - 0"
7
6
5
4
3
2
1
Sidewall B
100' - 0"

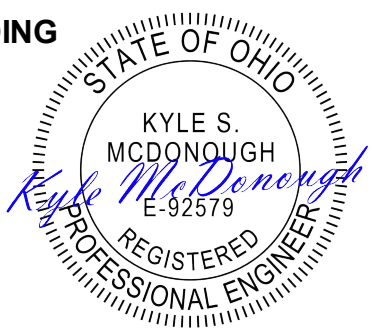

100' - 0"
40' - 0"
107' - 8 7/16"

STRUCTURAL CALCULATIONS FOR:

7955721 Building
7298 Lake Rd E, Madison, OH 44057
Madison, OH 44057

Job # ESOU1040322725

**(40' WIDE X 100' LONG BUILDING
WITH 12' EAVE HEIGHT
AND 3:12 ROOF PITCH)**



INDEX TO CALCULATIONS

Distributor:
ClearSpan

Structural Engineering by:
Metal Building Engineering, LLC

Fountain Inn, SC 29644
engsupport@actbuildingsystems.com

JOB INFORMATION:

JOB NAME: 7955721
JOB ADDRESS: 7298 Lake Rd E, Madison, OH
Madison, OH 44057
JOB NUMBER: ESOU1040322725

MAIN BUILDING FRAME WIDTH (ft.):	40.00
OVERALL ENCLOSED BUILDING WIDTH (ft.):	40.00
BUILDING LENGTH (ft.):	100.00
BUILDING FRAME EAVE HEIGHT (ft.):	12.00
BUILDING FRAME ROOF SLOPE (?/12):	3.00
Corner Wall Zones (ft):	8.00
Sidewall Interior Zone (ft):	84.00

MATERIAL SPECIFICATIONS:

CONCRETE: 2500 psi (28-day Strength)
CONCRETE REINFORCING: ASTM A615, Grade 60 (Fy = 60,000 psi)
STRUCTURAL BOLTS: ASTM A325
METAL ROOF PANELS: ASTM A653, Grade 80 (Fy = 80,000 psi min.)
METAL WALL PANELS: ASTM A653, Grade 80 (Fy = 80,000 psi min.)
CEE AND ZEE COLD-FORMED STEEL: ASTM A1011, Grade 55 (Fy = 55,000 psi min.)

PROJECT PARAMETERS:

SITE CLASS:	D
RISK CATEGORY:	II

GOVERNING CODES: -- 2021 International Building Code (Load Combinations per 2021 IBC Section 1605.3.1)
-- AISI S100 (North American Specification for the Design of Cold-Formed Steel Structural Members)

VERTICAL LOADS:

DEAD LOADS:

METAL ROOF PANEL:	1.0	psf
PURLINS:	1.0	psf
MISC.:	2.0	psf
STEEL FRAMES:	1.0	psf
TOTAL ROOF DEAD LOAD:	5.0	psf
WALL DEAD LOAD:	3.0	psf

ROOF LIVE LOADS:

ROOF LIVE LOAD REDUCTION FACTORS (R1 x R2):	0.63	
DESIGN LIVE LOAD FOR CLEARSPAN FRAMES:	12.6	psf
DESIGN LIVE LOAD FOR PURLINS AND OTHER ELEMENTS:	20.0	psf

ROOF SNOW LOADS:

GROUND SNOW LOAD:	30.0	psf
SNOW LOAD IMPORTANCE FACTOR, Is:	1.00	
Ce, Exposure Factor:	1.00	
Ct, Thermal Factor:	1.20	
Cs, Slope Factor:	1.00	
DESIGN SLOPED ROOF SNOW LOAD:	25.2	psf

LATERAL LOADS:

SEISMIC LOADS:

(Based on ASCE 7-16, Chapter 12, using Site Class "D" and Risk Category "II")

	'Short' Period			1-sec. Period	
	PERP. TO SIDEWALL (TRANSVERSE)	PERP. TO ENDWALL (LONGITUDINAL)		PERP. TO SIDEWALL	PERP. TO ENDWALL
Ss:	0.153	0.153	S1:	0.048	0.048
Fa:	1.600	1.600	Fv:	2.400	2.400
$S_{MS} = (F_a \times S_s) =$	0.245	0.245	$S_{M1} =$	0.115	0.115
$S_{DS} =$	0.164	0.164	$S_{D1} =$	0.076	0.076
R =	3.0	3.0		3.0	3.0
REDUNDANCY FACTOR, rho =	1.00	1.30		1.00	1.30
SEISMIC IMPORTANCE FACTOR, Ie =	1.00	1.00		1.00	1.00
Cs =	0.054	0.054		0.025	0.025
Eh = Cs x W x rho=	0.054 W	0.0702 W		0.025 W	0.0325 W
Eh (ASD) = Eh * .7 =	0.037 W	0.049 W		0.017 W	0.022 W
W =TOTAL SEISMIC DESIGN DEAD LOAD (lbs.) =	26240	26240		26240	26240
LATERAL SYSTEM SEISMIC SHEAR EFFECT, Eh (lbs.) =	**971**	**1286**		**446**	**577**
SEISMIC DESIGN CATEGORY (FOR BOTH PERIODS PER SEC. 1613.5.6.1):	A				
.8 x Ts =	0.37		(ASCE 11.4.6)		
Ta (sec.) =	0.27	0.17	(ASCE 12.8.2.1)		

WIND LOADS:

ULTIMATE WIND SPEED (mph) = 109
EXPOSURE = C
BUILDING ENCLOSURE TYPE: ENCLOSED

MEAN ROOF HEIGHT (ft.): 14.50

VELOCITY EXPOSURE COEFFICIENT, Kz = 0.850
WIND TOPOGRAPHICAL FACTOR, Kt = 1.000
WIND DIRECTIONALITY FACTOR, Kd = 0.850
GROUND ELEVATION FACTOR, Ke = 0.979

ULTIMATE WIND PRESSURE (psf): 21.51

MAIN FORCE RESISTING SYSTEM (MFRS) DESIGN WIND PRESSURES (Perp. to Sidewall):

	G * Cp ± Gcpi	ULTIMATE WIND PRESSURE (psf):	
Coefficient for Windward Wall Ballooning:	0.500	10.75	(pressure)
Coefficient for Leeward Wall Ballooning:	-0.605	-13.01	(suction)
Coefficient for Windward Roof Upward Ballooning:	-0.714	-15.36	(suction)
Coefficient for Leeward Roof Upward Ballooning:	-0.587	-12.62	(suction)
Coefficient for Windward Roof Downward Ballooning:	0.000	0.00	
Coefficient for Leeward Roof Downward Ballooning:	-0.587	-12.62	(suction)
Coefficient for Windward Wall Deflation:	0.860	18.50	(pressure)
Coefficient for Leeward Wall Deflation:	-0.245	-5.27	(suction)
Coefficient for Windward Roof Upward Deflation:	-0.354	-7.62	(suction)
Coefficient for Leeward Roof Upward Deflation:	-0.227	-4.88	(suction)
Coefficient for Windward Roof Downward Deflation:	0.095	2.04	(pressure)
Coefficient for Leeward Roof Downward Deflation:	-0.227	-4.88	(suction)

ALLOWABLE STRESS LATERAL SYSTEM WIND FORCE PERP. TO SIDEWALLS, W (lbs.) = 9474

MAIN FORCE RESISTING SYSTEM (MFRS) DESIGN WIND PRESSURES (Perp. to Endwall):

Int. Zone Wall Pressure Horiz. Coefficient: 1.105
Int. Zone Endwall Ultimate Wind Pressure (psf): 23.77

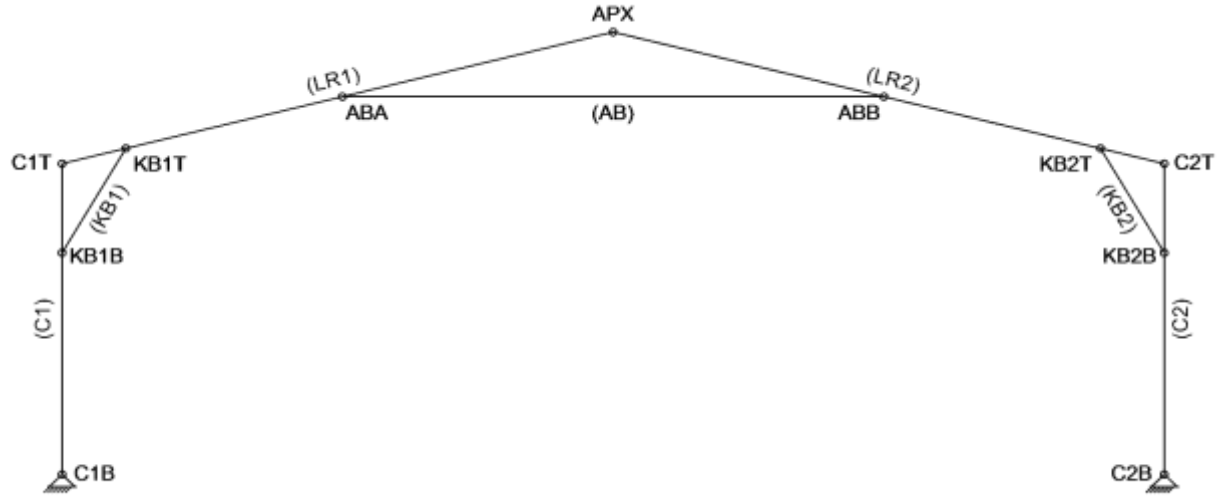
ALLOWABLE STRESS LATERAL SYSTEM WIND FORCE PERP. TO ENDWALLS, W (lbs.) = 3256

CLADDING AND COMPONENT ALLOWABLE STRESS DESIGN WIND PRESSURES:

	GCp ± Gcpi (FIELD)		Pressures (psf)	
Element	**INWARD**	**OUTWARD**	**INWARD**	**OUTWARD**
Roof Purlins:	0.517	-1.017	6.67	13.12
Sidewall Girts:	1.015	-1.115	13.10	14.39
Endwall Girts:	1.022	-1.122	13.19	14.48
Endwall Columns:	0.952	-1.052	12.29	13.58

CLEARSPAN FRAME ANALYSIS:

Analysis & Design Software:	ACT Dimensions version 2.32.1.1 by ACT Building Systems
Applicable Frame Numbers:	2-7
Overall Nominal Frame Width:	40' - 0"
Nominal Eave Height:	12' - 0"
Roof Pitch:	3:12
Tributary Width:	14' - 3 7/16"
Design Roof Snow Load:	25.20 psf
Roof Live Load:	20.00 psf
Wind Speed AndAlso Exposure:	109 mph, C



X - JOINT LABEL (SEE RISA ANALYSIS NEXT PAGE)
(X) - MEMBER LABEL (SEE RISA ANALYSIS NEXT PAGE)

FRAME NODE AND MEMBER DIAGRAM

Cold Formed Steel Properties

	Label	E[psi]	G[psi]	Nu	Therm(/1E5 F)	Density[lb/ft^3]	Yield[psi]	Fu[psi]
1	CF_STL	29500000	11300000	0.3	0.65	490	55000	70000

Joint Coordinates

	Label	X[ft]	Y[ft]
1	C1B	1.000	0.000
2	C1T	1.000	11.220
3	C2B	39.002	0.000
4	C2T	39.002	11.220
5	APX	20.001	15.970
6	KB1B	1.000	8.001
7	KB1T	3.200	11.770
8	KB2B	39.002	8.001
9	KB2T	36.802	11.770
10	ABA	10.667	13.636
11	ABB	29.335	13.636

Member Primary Data

	Label	I Joint	J Joint	Shape	Type	DesignList	Material	DesignRules
1	C1	C1B	C1T	2-12in x 3.5in 12G CEE -BB	Beam	CS	CF_STL	Typical
2	C2	C2B	C2T	2-12in x 3.5in 12G CEE -BB	Beam	CS	CF_STL	Typical
3	KB1	KB1B	KB1T	2-4in x 2.5in 14G CEE -BB	Beam	CS	CF_STL	Typical
4	KB2	KB2B	KB2T	2-4in x 2.5in 14G CEE -BB	Beam	CS	CF_STL	Typical
5	AB	ABA	ABB	2-4in x 2.5in 14G CEE -BB	Beam	CS	CF_STL	Typical
6	LR1	C1T	APX	2-12in x 3.5in 12G CEE -BB	Beam	CS	CF_STL	Typical
7	LR2	C2T	APX	2-12in x 3.5in 12G CEE -BB	Beam	CS	CF_STL	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[ft]	J Offset[ft]	Physical
1	C1		PIN	0.000	0.000	Yes
2	C2		PIN	0.000	0.000	Yes
3	KB1	PIN	PIN	0.000	0.000	
4	KB2	PIN	PIN	0.000	0.000	
5	AB	PIN	PIN	0.000	0.000	
6	LR1		PIN	0.499	0.000	Yes
7	LR2		PIN	0.499	0.000	Yes

Cold Formed Steel Design Parameters

	Label	Shape	Length[ft]	Lb y-y [ft]	Lcomp top[ft]	Lcomp bottom[ft]	L-Torque [ft]	K-in
1	C1	2-12in x 3.5in 12G CEE -BB	11.220	5.750	6.000	5.750	5.750	0.8
2	C2	2-12in x 3.5in 12G CEE -BB	11.220	5.750	5.750	6.000	5.750	0.8
3	KB1	2-4in x 2.5in 14G CEE -BB	4.364	4.364	4.364	4.364	4.364	
4	KB2	2-4in x 2.5in 14G CEE -BB	4.364	4.364	4.364	4.364	4.364	
5	AB	2-4in x 2.5in 14G CEE -BB	18.669	18.669	18.669	18.669	18.669	
6	LR1	2-12in x 3.5in 12G CEE -BB	19.586	4.878	9.834	4.878	4.878	0.8
7	LR2	2-12in x 3.5in 12G CEE -BB	19.586	4.878	4.878	9.834	4.878	0.8

Basic Load Cases

	BLC Description	Category	Joint	Point	Distributed
1	Roof Dead	DL	0	0	2
2	Roof Snow	SL	0	0	2
3	Roof Live	RLL	0	0	2
4	Wall Dead	DL	0	0	0
5	Floor Dead	DL	0	0	0
6	Floor Live	LL	0	0	0
7	Wind To Right - Upward Balooning	OL1	0	0	6
8	Wind To Right - Upward Deflation	OL2	0	0	6
9	Wind To Right - Downward Balooning	OL3	0	0	4
10	Wind To Right - Downward Deflation	OL4	0	0	6
11	Wind To Left - Upward Balooning	OL5	0	0	6
12	Wind To Left - Upward Deflation	OL6	0	0	6
13	Wind To Left - Downward Balooning	OL7	0	0	4
14	Wind To Left - Downward Deflation	OL8	0	0	6
15	Earthquake+	None	0	0	4
16	Earthquake-	None	0	0	4
17	Roof Collateral	None	0	0	0

Member Distributor Loads (BLC 1 : Roof Dead)

	Member Label	Direction	Start Mag[lb/ft]	End Mag[lb/ft]	Start Loc[ft/%]	End Loc[ft/%]
1	LR1	Y	-71.428	-71.428	-0.000	19.586
2	LR2	Y	-71.428	-71.428	-0.000	19.586

Member Distributor Loads (BLC 2 : Roof Snow)

	Member Label	Direction	Start Mag[lb/ft]	End Mag[lb/ft]	Start Loc[ft/%]	End Loc[ft/%]
1	LR1	Y	-349.251	-349.251	-0.000	19.586
2	LR2	Y	-349.251	-349.251	-0.000	19.586

Member Distributor Loads (BLC 3 : Roof Live)

	Member Label	Direction	Start Mag[lb/ft]	End Mag[lb/ft]	Start Loc[ft/%]	End Loc[ft/%]
1	LR1	Y	-174.230	-174.230	-0.000	19.586
2	LR2	Y	-174.230	-174.230	-0.000	19.586

Member Distributor Loads (BLC 7 : Wind To Right - Upward Balooning)

	Member Label	Direction	Start Mag[lb/ft]	End Mag[lb/ft]	Start Loc[ft/%]	End Loc[ft/%]
1	C1	X	153.414	153.414	0.000	11.220
2	C2	X	185.631	185.631	0.000	11.220
3	LR1	X	-53.154	-53.154	-0.000	19.586
4	LR1	Y	212.614	212.614	-0.000	19.586
5	LR2	X	43.681	43.681	-0.000	19.586
6	LR2	Y	174.724	174.724	-0.000	19.586

Member Distributor Loads (BLC 8 : Wind To Right - Upward Deflation)

	Member Label	Direction	Start Mag[lb/ft]	End Mag[lb/ft]	Start Loc[ft/%]	End Loc[ft/%]
1	C1	X	263.873	263.873	0.000	11.220
2	C2	X	75.173	75.173	0.000	11.220
3	LR1	X	-26.363	-26.363	-0.000	19.586
4	LR1	Y	105.454	105.454	-0.000	19.586
5	LR2	X	16.891	16.891	-0.000	19.586
6	LR2	Y	67.564	67.564	-0.000	19.586

Member Distributor Loads (BLC 9 : Wind To Right - Downward Balooning)

	Member Label	Direction	Start Mag[lb/ft]	End Mag[lb/ft]	Start Loc[ft/%]	End Loc[ft/%]
1	C1	X	153.414	153.414	0.000	11.220
2	C2	X	185.631	185.631	0.000	11.220
3	LR2	X	43.681	43.681	-0.000	19.586
4	LR2	Y	174.724	174.724	-0.000	19.586

Member Distributor Loads (BLC 10 : Wind To Right - Downward Deflation)

	Member Label	Direction	Start Mag[lb/ft]	End Mag[lb/ft]	Start Loc[ft/%]	End Loc[ft/%]
1	C1	X	263.873	263.873	0.000	11.220
2	C2	X	75.173	75.173	0.000	11.220
3	LR1	X	7.064	7.064	-0.000	19.586
4	LR1	Y	-28.258	-28.258	-0.000	19.586
5	LR2	X	16.891	16.891	-0.000	19.586
6	LR2	Y	67.564	67.564	-0.000	19.586

Member Distributor Loads (BLC 11 : Wind To Left - Upward Balooning)

	Member Label	Direction	Start Mag[lb/ft]	End Mag[lb/ft]	Start Loc[ft/%]	End Loc[ft/%]
1	C1	X	-185.631	-185.631	0.000	11.220
2	C2	X	-153.414	-153.414	0.000	11.220
3	LR1	X	-43.681	-43.681	-0.000	19.586
4	LR1	Y	174.724	174.724	-0.000	19.586
5	LR2	X	53.154	53.154	-0.000	19.586
6	LR2	Y	212.614	212.614	-0.000	19.586

Member Distributor Loads (BLC 12 : Wind To Left - Upward Deflation)

	Member Label	Direction	Start Mag[lb/ft]	End Mag[lb/ft]	Start Loc[ft/%]	End Loc[ft/%]
1	C1	X	-75.173	-75.173	0.000	11.220
2	C2	X	-263.873	-263.873	0.000	11.220
3	LR1	X	-16.891	-16.891	-0.000	19.586
4	LR1	Y	67.564	67.564	-0.000	19.586
5	LR2	X	26.363	26.363	-0.000	19.586
6	LR2	Y	105.454	105.454	-0.000	19.586

Member Distributor Loads (BLC 13 : Wind To Left - Downward Balooning)

	Member Label	Direction	Start Mag[lb/ft]	End Mag[lb/ft]	Start Loc[ft/%]	End Loc[ft/%]
1	C1	X	-185.631	-185.631	0.000	11.220
2	C2	X	-153.414	-153.414	0.000	11.220
3	LR1	X	-43.681	-43.681	-0.000	19.586
4	LR1	Y	174.724	174.724	-0.000	19.586

Member Distributor Loads (BLC 14 : Wind To Left - Downward Deflation)

	Member Label	Direction	Start Mag[lb/ft]	End Mag[lb/ft]	Start Loc[ft/%]	End Loc[ft/%]
1	C1	X	-75.173	-75.173	0.000	11.220
2	C2	X	-263.873	-263.873	0.000	11.220
3	LR1	X	-16.891	-16.891	-0.000	19.586
4	LR1	Y	67.564	67.564	-0.000	19.586
5	LR2	X	-7.064	-7.064	-0.000	19.586
6	LR2	Y	-28.258	-28.258	-0.000	19.586

Member Distributor Loads (BLC 15 : Earthquake+)

	Member Label	Direction	Start Mag[lb/ft]	End Mag[lb/ft]	Start Loc[ft/%]	End Loc[ft/%]
1	C1	X	2.331	2.331	0.000	11.220
2	C2	X	2.331	2.331	0.000	11.220
3	LR1	X	3.886	3.886	-0.000	19.586
4	LR2	X	3.886	3.886	-0.000	19.586

Member Distributor Loads (BLC 16 : Earthquake-)

	Member Label	Direction	Start Mag[lb/ft]	End Mag[lb/ft]	Start Loc[ft/%]	End Loc[ft/%]
1	C1	X	-2.331	-2.331	0.000	11.220
2	C2	X	-2.331	-2.331	0.000	11.220
3	LR1	X	-3.886	-3.886	-0.000	19.586
4	LR2	X	-3.886	-3.886	-0.000	19.586

Load Combinations

	Description	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	DL ONLY	DL	1						
2	FLL ONLY	LL	1						
3	IBC 16-9	DL	1	LL	1				
4	IBC 16-10 (a)	DL	1	RLL	1				
5	IBC 16-10 (b)	DL	1	SL	1				
6	IBC 16-11 (a)	DL	1	LL	0.75	RLL	0.75		
7	IBC 16-11 (b)	DL	1	LL	0.75	SL	0.75		
8	IBC 16-12 (a) 1	DL	1	OL1	0.6				
9	IBC 16-12 (a) 2	DL	1	OL2	0.6				
10	IBC 16-12 (a) 3	DL	1	OL3	0.6				
11	IBC 16-12 (a) 4	DL	1	OL4	0.6				
12	IBC 16-12 (a) 5	DL	1	OL5	0.6				
13	IBC 16-12 (a) 6	DL	1	OL6	0.6				
14	IBC 16-12 (a) 7	DL	1	OL7	0.6				
15	IBC 16-12 (a) 8	DL	1	OL8	0.6				
16	IBC 16-12 (b) 1	DL	1	15	0.7				
17	IBC 16-12 (b) 2	DL	1	16	0.7				
18	IBC 16-13 (a) 1	DL	1	LL	0.75	RLL	0.75	OL1	0.45
19	IBC 16-13 (a) 2	DL	1	LL	0.75	RLL	0.75	OL2	0.45
20	IBC 16-13 (a) 3	DL	1	LL	0.75	RLL	0.75	OL3	0.45
21	IBC 16-13 (a) 4	DL	1	LL	0.75	RLL	0.75	OL4	0.45
22	IBC 16-13 (a) 5	DL	1	LL	0.75	RLL	0.75	OL5	0.45
23	IBC 16-13 (a) 6	DL	1	LL	0.75	RLL	0.75	OL6	0.45
24	IBC 16-13 (a) 7	DL	1	LL	0.75	RLL	0.75	OL7	0.45
25	IBC 16-13 (a) 8	DL	1	LL	0.75	RLL	0.75	OL8	0.45
26	IBC 16-13 (b) 1	DL	1	LL	0.75	SL	0.75	OL1	0.45
27	IBC 16-13 (b) 2	DL	1	LL	0.75	SL	0.75	OL2	0.45
28	IBC 16-13 (b) 3	DL	1	LL	0.75	SL	0.75	OL3	0.45
29	IBC 16-13 (b) 4	DL	1	LL	0.75	SL	0.75	OL4	0.45
30	IBC 16-13 (b) 5	DL	1	LL	0.75	SL	0.75	OL5	0.45
31	IBC 16-13 (b) 6	DL	1	LL	0.75	SL	0.75	OL6	0.45
32	IBC 16-13 (b) 7	DL	1	LL	0.75	SL	0.75	OL7	0.45
33	IBC 16-13 (b) 8	DL	1	LL	0.75	SL	0.75	OL8	0.45
34	IBC 16-14 (a) 1	DL	1	LL	0.75	SL	0.75	15	0.525
35	IBC 16-14 (a) 2	DL	1	LL	0.75	SL	0.75	16	0.525
36	IBC 16-15 (a) 1	DL	0.6	OL1	0.6				
37	IBC 16-15 (a) 2	DL	0.6	OL2	0.6				

Load Combinations (continued)

	Description	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
38	IBC 16-15 (a) 3	DL	0.6	OL3	0.6				
39	IBC 16-15 (a) 4	DL	0.6	OL4	0.6				
40	IBC 16-15 (a) 5	DL	0.6	OL5	0.6				
41	IBC 16-15 (a) 6	DL	0.6	OL6	0.6				
42	IBC 16-15 (a) 7	DL	0.6	OL7	0.6				
43	IBC 16-15 (a) 8	DL	0.6	OL8	0.6				
44	IBC 16-16 (a) 1	DL	0.6	15	0.7				
45	IBC 16-16 (a) 2	DL	0.6	16	0.7				

Envelope Joint Reactions

	Joint		X[lb]	LC	Y[lb]	LC	Moment[ft-lb]	LC
1	C1B	max	3344	32	8029	5	0	9
2	C1B	min	-1574	36	-1804	36	-0	41
3	C2B	max	1574	40	8029	5	0	14
4	C2B	min	-3344	28	-1804	40	-0	40
5	Total	max	2783	42	16058	5	0	14
6	Total	min	-2783	10	-2800	40	-0	40

Envelope Member Section Forces

	Member	Sec		Axial[lb]	LC	Shear[lb]	LC	Moment[ft-lb]	LC
1	C1	1	max	8029	5	3344	32	0	9
2		1	min	-1804	36	-1574	36	-0	41
3	C1	2	max	5055	38	3144	36	0	43
4		2	min	-11563	33	-8003	5	-0	11
5	C2	1	max	8029	5	1574	40	0	14
6		1	min	-1804	40	-3344	28	-0	40
7	C2	2	max	5055	42	8003	5	0	36
8		2	min	-11563	29	-3144	40	-0	10
9	KB1	1	max	22261	5	0	45	0	1
10		1	min	-7310	36	0	1	0	1
11	KB1	2	max	22261	5	0	45	0	1
12		2	min	-7310	36	0	1	0	1
13	KB2	1	max	22261	5	0	45	0	1
14		1	min	-7310	40	0	1	0	1
15	KB2	2	max	22261	5	0	45	0	1
16		2	min	-7310	40	0	1	0	1
17	AB	1	max	1481	40	0	45	0	1
18		1	min	-11486	5	0	1	0	1
19	AB	2	max	1481	40	0	45	0	1
20		2	min	-11486	5	0	1	0	1
21	LR1	1	max	4144	36	9367	33	0	8
22		1	min	-10479	5	-4247	38	-0	43
23	LR1	2	max	14267	5	3567	5	0	36
24		2	min	-2598	36	-1084	42	-0	5
25	LR2	1	max	4144	40	4247	42	0	10
26		1	min	-10479	5	-9367	29	-0	39
27	LR2	2	max	14267	5	1084	38	0	40
28		2	min	-2598	40	-3567	5	-0	5

AISI S100-16 : ASD Cold Formed Steel Code Checks

	Member	Shape	H1.2-1 Check	Loc[ft]	LC	H2-1 Check	Loc[ft]	LC
1	C1	2-12in x 3.5in 12G CEE -BB	0.97	8.000	4	0.84	8.000	4
2	C2	2-12in x 3.5in 12G CEE -BB	0.97	8.000	4	0.84	8.000	4
3	KB1	2-4in x 2.5in 14G CEE -BB	0.88	4.364	4	0.00	4.364	1
4	KB2	2-4in x 2.5in 14G CEE -BB	0.88	4.364	4	0.00	4.364	1
5	AB	2-4in x 2.5in 14G CEE -BB	0.54	18.668	39	0.00	18.668	1
6	LR1	2-12in x 3.5in 12G CEE -BB	0.84	9.963	4	0.52	9.963	32
7	LR2	2-12in x 3.5in 12G CEE -BB	0.84	9.963	4	0.52	9.963	32

AISI S100-16 : ASD Cold Formed Steel Allowable Member Load

	Member	Shape	Pn/Om[lb]	Tn/Om[lb]	Mn/Om[lb-ft]	Cb	Cm
1	C1	2-12in x 3.5in 12G CEE -BB	61093	128384	30573	1	1
2	C2	2-12in x 3.5in 12G CEE -BB	61093	128384	30573	1	1
3	KB1	2-4in x 2.5in 14G CEE -BB	25228	43539	4699	1	1
4	KB2	2-4in x 2.5in 14G CEE -BB	25228	43539	4699	1	1
5	AB	2-4in x 2.5in 14G CEE -BB	2755	43539	1088	1	1
6	LR1	2-12in x 3.5in 12G CEE -BB	45041	128384	30573	1	1
7	LR2	2-12in x 3.5in 12G CEE -BB	45041	128384	30573	1	1

Metal Building Engineering, LLC

FRAME BRACE END SCREW CONNECTION DESIGN

Brace results apply at Frames 2-7

Gable Frame Columns: Double 12in x 3.5in 12G CEE
Gable Frame Rafters: Double 12in x 3.5in 12G CEE
Gable Frame Typ. Knee Braces: Double 4in x 2.5in 14G CEE
Gable Frame Apex Braces: Double 4in x 2.5in 14G CEE
Knee Brace Vert. Intersection Dimension per Detail A/2 (ft.): 8' - 6 1/4"
Knee Brace Horiz. Intersection Dimension per Detail A/2 (ft.): 1' - 6 7/8"
Apex Brace Horiz. Intersection Dimension per Detail B/2 (ft.): 7' - 11 1/4"

Screw Size: #14
Ultimate Single Shear Screw Strength (lbs.): 2450
Ω = 2.5

	n Screws	R3d (group effect factor)	V single screw (lbs.)	P (design allowable, lbs.)
Knee Brace	22	0.63	518	11406
Apex Brace	11	0.68	552	6073

MAX. KNEE BRACE FORCE (lbs.): **11130** (INSTALL (22) #14 SCREWS AT EACH END OF EACH KNEE BRACE)

MAX. APEX BRACE FORCE (lbs.): **5743** (INSTALL (11) #14 SCREWS AT EACH END OF EACH APEX BRACE)

FRAME BRACE END ALTERNATE BOLT CONNECTION DESIGN

NOTATIONS

Fu = Tensile strength of connected part (psi)
Fy = Yield strength of connected part (psi)
db = Nominal bolt diameter (in.)
g1 = Nominal gauge of thinnest connected part (in.)
t1 = Thickness of thinnest connected part (in.)
Pn = Nominal bearing strength per bolt (lbs.)

ALLOWABLE SHEAR BASED ON CONNECTED MATERIALS:

Fu (psi) = 70000 db = 0.625
Fy (psi) = 55000 g1 = 14
d/t = 8.93 t1 = 0.07
C = 3.00
Pn = 9188

Allowable shear based on connected material bearing (lbs.): 3700

Bolt Grade: A325
Allowable shear based on A325 bolt in shear (lbs.): 8283

Allowable Shear on Each Bolt (lbs.): 3700

*** MAX. KNEE BRACE FORCE (lbs.):** **11130** (USE MIN. (4) 5/8" DIAM. A325 BOLTS AT EACH END OF EACH KNEE BRACE)

*** MAX. APEX BRACE FORCE (lbs.):** **5743** (USE MIN. (2) 5/8" DIAM. A325 BOLTS AT EACH END OF EACH APEX BRACE)

LATERAL FORCE RESISTANCE X-BRACING AND DIAPHRAGM ANALYSIS

Reports verifying diaphragm capacity available upon request.

'ENDWALL A' X-BRACING TOTAL SHEAR FORCE, ASD, LBS.:	**880**	(X-BRACING USED TO RESIST LOAD) WIND LOAD GOVENS
BAY #	3	
X-BRACING WIDTH (ft.):	12.33	
HEIGHT (ft.):	13.91	
SHEAR FORCE, ASD (lbs.):	880	
BASE UPLIFT TENSION, ASD (lbs.):	993	
X-BRACING TENSION, ASD (lbs.):	1327	
STRAP SIZE:	(1) 2" x 14ga. Strap	

'ENDWALL B' X-BRACING TOTAL SHEAR FORCE, ASD, LBS.:	**880**	(X-BRACING USED TO RESIST LOAD) WIND LOAD GOVENS
BAY #	3	
X-BRACING WIDTH (ft.):	12.33	
HEIGHT (ft.):	13.91	
SHEAR FORCE, ASD (lbs.):	880	
BASE UPLIFT TENSION, ASD (lbs.):	993	
X-BRACING TENSION, ASD (lbs.):	1327	
STRAP SIZE:	(1) 2" x 14ga. Strap	

'SIDEWALL A' X-BRACING TOTAL SHEAR FORCE, ASD, LBS.:	**1628**	(X-BRACING USED TO RESIST LOAD) WIND LOAD GOVENS
BAY #	7	
X-BRACING WIDTH (ft.):	14.29	
HEIGHT (ft.):	11.94	
SHEAR FORCE, ASD (lbs.):	1628	
BASE UPLIFT TENSION, ASD (lbs.):	1360	
X-BRACING TENSION, ASD (lbs.):	2122	
STRAP SIZE:	(1) 2" x 14ga. Strap	

'SIDEWALL B' X-BRACING TOTAL SHEAR FORCE, ASD, LBS.:	**1628**	(X-BRACING USED TO RESIST LOAD) WIND LOAD GOVENS
BAY #	7	
X-BRACING WIDTH (ft.):	14.29	
HEIGHT (ft.):	11.94	
SHEAR FORCE, ASD (lbs.):	1628	
BASE UPLIFT TENSION, ASD (lbs.):	1360	
X-BRACING TENSION, ASD (lbs.):	2122	
STRAP SIZE:	(1) 2" x 14ga. Strap	

'ROOF' TOTAL SHEAR FORCE, ASD, LBS.:	**1090**	(SHEETING DIAPHRAGM ACTION USED TO RESIST LOAD)
PANEL #:	1	
PANEL WIDTH (ft.):	100.00	
PANEL WIDTH RELATIVE STIFFNESS:	10000	
HEIGHT (ft.):	20.62	
MAX. PANEL SHEAR FORCE, ASD (lbs.):	1090	
PANEL SHEAR, ASD (plf):	11	
ALLOWABLE PANEL SHEAR, ASD (plf):	172	
	OK	
REACTION AT PANEL END, ASD:	225	

ROOF PURLIN DESIGN

MEMBER SIZE USED -->	6in x 3.5/3.5in 14G ZEE	
	ALL BAYS	
SPAN (ft.):	14.29	
DOWNWARD LOAD TRIB. WIDTH (ft.):	4.88	
DOWNWARD DISTRIBUTED LOAD (lbs./ft.):	138	
UPWARD LOAD TRIB. WIDTH (ft.):	4.88	
UPWARD DISTRIBUTED LOAD (lbs./ft.):	54	
DESIGN DOWNWARD BENDING MOMENT, Mu (ft.-lbs.):	5887	
DESIGN DOWNWARD END SHEAR (lbs.):	987	
DESIGN UPWARD BENDING MOMENT, Mu (ft.-lbs.):	2416	
DESIGN UPWARD END SHEAR (lbs.):	454	
PURLIN BRACING LOCATIONS:	---	
INSIDE FLANGE UNBRACED LENGTH (FT.):	14.12	
(Mn values from NASPEC Section C3.1) -->		
+Mn allow (ft.-lbs.):	6490	
-Mn allow (ft.-lbs.):	3634	
	OK	
DOWNWARD DEFLECTION (in.):	0.73 = (L/232)	
UPWARD DEFLECTION (in.):	0.28 = (L/593)	
	6in x 2.5in x 2.5in 14G Eave Strut LoPt Typ. OK	

WALL GIRT DESIGN

	SIDEWALL 'A' AND 'B' GIRT DESIGN
MEMBER SIZE USED -->	6in x 2.5/2.5in 16G ZEE
	ALL BAYS
BAY WIDTH (ft.):	14.29
MAX. GIRT SPAN (ft.):	14.29
TRIB. WIDTH (ft.):	6.00
INWARD DISTRIBUTED LOAD (lbs./ft.):	79
OUTWARD DISTRIBUTED LOAD (lbs./ft.):	86
DESIGN INWARD BENDING MOMENT, Mu (ft.-lbs.):	3413
DESIGN INWARD END SHEAR (lbs.):	594
DESIGN OUTWARD BENDING MOMENT, Mu (ft.-lbs.):	3705
DESIGN OUTWARD END SHEAR (lbs.):	653
GIRT BRACING LOCATIONS:	M/S
INSIDE FLANGE UNBRACED LENGTH (FT.):	7.14
(Mn values from NASPEC Section C3.1) -->	
+Mn allow (ft.-lbs.):	4536
-Mn allow (ft.-lbs.):	4293
	OK
INWARD DEFLECTION (in.):	0.61
	= (L/277)
OUTWARD DEFLECTION (in.):	0.67
	= (L/252)

	ENDWALL 'A' GIRT DESIGN		
MEMBER SIZE USED -->	4in x 2.5/2.5in 16G ZEE		
	BAY #1	BAY #2	BAY #3
BAY WIDTH (ft.):	12.33	12.33	12.33
MAX. GIRT SPAN (ft.):	12.33	12.33	12.33
TRIB. WIDTH (ft.):	5.67	5.67	5.67
INWARD DISTRIBUTED LOAD (lbs./ft.):	75	75	75
OUTWARD DISTRIBUTED LOAD (lbs./ft.):	82	82	82
DESIGN INWARD BENDING MOMENT, Mu (ft.-lbs.):	2433	2373	2433
DESIGN INWARD END SHEAR (lbs.):	493	461	493
DESIGN OUTWARD BENDING MOMENT, Mu (ft.-lbs.):	2672	2605	2672
DESIGN OUTWARD END SHEAR (lbs.):	541	506	541
GIRT BRACING LOCATIONS:	M/S	M/S	M/S
INSIDE FLANGE UNBRACED LENGTH (FT.):	6.17	6.17	6.17
(Mn values from NASPEC Section C3.1) -->			
+Mn allow (ft.-lbs.):	2826	2826	2826
-Mn allow (ft.-lbs.):	2764	2764	2764
	OK	OK	OK
INWARD DEFLECTION (in.):	0.82	0.82	0.82
	= (L/179)	= (L/179)	= (L/179)
OUTWARD DEFLECTION (in.):	0.90	0.90	0.90
	= (L/163)	= (L/163)	= (L/163)

	ENDWALL 'B' GIRT DESIGN		
	4in x 2.5/2.5in 16G ZEE		
	BAY #1	BAY #2	BAY #3
	12.33	12.33	12.33
	12.33	12.33	12.33
	5.67	5.67	5.67
	75	75	75
	82	82	82
	2433	2373	2433
	493	461	493
	2672	2605	2672
	541	506	541
	M/S	M/S	M/S
	6.17	6.17	6.17
	2826	2826	2826
	2764	2764	2764
	OK	OK	OK
	0.82	0.82	0.82
	= (L/179)	= (L/179)	= (L/179)
	0.90	0.90	0.90
	= (L/163)	= (L/163)	= (L/163)

ENDWALL COLUMN DESIGN

LOCATION:	ENDWALL 'A' (LEFT ENDWALL)		*
COLUMN #:	1-2	2-3	
END BAY (Y/N?):	Y	Y	
DISTANCE FROM BLDG. CORNER:	13.83	26.17	
BAY WIDTH TO SIDE 1 (ft.):	13.83	12.33	
BAY WIDTH TO SIDE 2 (ft.):	12.33	13.83	
MAX. ENDWALL COLUMN HT. (ft.):	14.94	14.94	
MAX. TRIB. WIDTH (ft.):	12.58	12.58	
MAX. DISTRIBUTED LOAD (plf):	171	171	
MAX DESIGN MOMENT, with Ωf = 1.67 (ft.-lbs.):	7964	7964	
V horiz. (lbs.):	1277	1277	
# OF #14 TOP END CONN. SCREWS:	6	6	
COMPOSITE DESIGN (Y/N)?	N	N	
* ENDWALL COLUMN MEMBER -->	Sgl. 12in x 3.5in 12G CEE	Sgl. 12in x 3.5in 12G CEE	
DESIGN SECTION -->	12in x 3.5in 12G CEE	12in x 3.5in 12G CEE	
FLYBRACING ELEV. (ft.):	---	---	
INSIDE FLANGE UNBRACED LENGTH (FT.):	14.94	14.94	
(Mn values from NASPEC Section C3.1) -->			
+Mn allow =	28671	28671	
-Mn allow =	12327	12327	
	OK	OK	
DEFLECTION :	0.15	0.15	
DEFLECTION (L/?):	(> L/1000)	(> L/1000)	
	OK	**OK**	

LOCATION:	ENDWALL 'B' (RIGHT ENDWALL)		
COLUMN #:	1-2	2-3	
END BAY (Y/N?):	Y	Y	
DISTANCE FROM BLDG. CORNER:	13.83	26.17	
BAY WIDTH TO SIDE 1 (ft.):	13.83	12.33	
BAY WIDTH TO SIDE 2 (ft.):	12.33	13.83	
MAX. ENDWALL COLUMN HT. (ft.):	14.94	14.94	
MAX. TRIB. WIDTH (ft.):	12.58	12.58	
MAX. DISTRIBUTED LOAD (plf):	171	171	
MAX DESIGN MOMENT, with Ωf = 1.67 (ft.-lbs.):	7964	7964	
V horiz. (lbs.):	1277	1277	
# OF #14 TOP END CONN. SCREWS:	6	6	
COMPOSITE DESIGN (Y/N)?	N	N	
* ENDWALL COLUMN MEMBER -->	Sgl. 12in x 3.5in 12G CEE	Sgl. 12in x 3.5in 12G CEE	
DESIGN SECTION -->	12in x 3.5in 12G CEE	12in x 3.5in 12G CEE	
FLYBRACING ELEV. (ft.):	---	---	
INSIDE FLANGE UNBRACED LENGTH (FT.):	14.94	14.94	
(Mn values from NASPEC Section C3.1) -->			
+Mn allow =	28671	28671	
-Mn allow =	12327	12327	
	OK	OK	
DEFLECTION :	0.15	0.15	
DEFLECTION (L/?):	(> L/1000)	(> L/1000)	
	OK	**OK**	

OPENING FRAMING DESIGN

OPENING #	WALL LOCATION	BAY #	DESIGN WIND PRESSURE (psf):	BAY WIDTH (ft.)	MAX. DIST. FROM EDGE OF BAY TO OPENING C.L.	OPENING WIDTH (ft.)	OPENING HEIGHT (ft.)	DESIGN JAMB HEIGHT (ft.)	JAMB MOMENT (ft.-lbs.)	JAMB MEMBER	ALLOWABLE MOMENT FOR JAMB MEMBER (ft.-lbs.)		HEADER GIRT LENGTH (ft.)	HEADER GIRT MOMENT (ft.-lbs.)		HEADER GIRT MEMBER	HEADER GIRT MEMBER (SINGLE OR DOUBLE)	ALLOWABLE MOMENT FOR HEADER GIRT (ft.-lbs.)	BRACING (ft.)		OPENING #
1	Endwall A	2	14.67	12.33	6.17	10.00	10.00	11.33	2192	4in x 3.5in 16G CEE	3376	OK	12.33	2277		4in x 2.5/2.5in 16G ZEE	SGL.	2764	5.00	OK	1
2	Endwall B	2	14.67	12.33	6.17	10.00	10.00	11.33	2192	4in x 3.5in 16G CEE	3376	OK	12.33	2277		4in x 2.5/2.5in 16G ZEE	SGL.	2764	5.00	OK	2
3	Sidewall A	1	15.19	14.29	8.06	3.63	7.50			---			14.10	3865		6in x 2.5/2.5in 16G ZEE	SGL.	4305	6.24	OK	3
4	Sidewall A	2	14.88	14.29	7.14	4.00	4.00	11.23	1788	6in x 2.57in 14G CHANNEL	4253	OK	---								4
5	Sidewall A	3	14.88	14.29	7.14	4.00	4.00	11.23	1788	6in x 2.57in 14G CHANNEL	4253	OK	---								5
6	Sidewall A	4	14.88	14.29	7.14	4.00	4.00	11.23	1788	6in x 2.57in 14G CHANNEL	4253	OK	---								6
7	Sidewall A	5	14.88	14.29	7.14	4.00	4.00	11.23	1788	6in x 2.57in 14G CHANNEL	4253	OK	---								7
8	Sidewall A	6	14.88	14.29	7.14	4.00	4.00	11.23	1788	6in x 2.57in 14G CHANNEL	4253	OK	---								8

ROUND CONCRETE PIER DESIGN

CONCRETE STRENGTH (f'c):	2500	psi
REINF. YIELD STRENGTH:	60000	psi
ALLOW. VERT. SOIL PRESSURE:	1500	psf
ALLOW. LATERAL SOIL PRESSURE:	300	pcf

TYPICAL CLEARSPAN FRAME AND CORNER COLUMN PIERS:

PIER DIAMETER	24	IN.	
PIER DEPTH	6.67	FT. (GOVERNED BY PERPENDICULAR LOAD)	
MAX. LOAD ON PIER (DOWN)	8452	LBS.	
(INCREASE ALLOW. SOIL PRESSURE BY 20% FOR EACH ADDITIONAL FOOT OF DEPTH BELOW 1'-0", MAX. 4500 PSF)			
DESIGN LOAD AT SOIL SURFACE	11593	LBS.	
DESIGN SOIL PRESSURE	4215	PSF	
AREA REQUIRED	2.75	FT.^2	
AREA PROVIDED	3.14	FT.^2	**OK**
FTG. HOLDOWN	3377	LBS.	
SOIL HOLDOWN	2928	LBS.	
MAX. UPLIFT ON FTG.	1641	LBS.	**OK**

LATERAL RESISTANCE CHECK(EMBEDMENT LENGTH)

DIRECTION RELATIVE TO WALL -->	PERP. DIR.	PARALLEL DIR.		
RIGID SURFACE (Y/N):	N	N		
MAX. THRUST AT BASE =	3344	1628	LBS.	
HT. OF LOAD ABOVE GRADE =	0.50	0.50	FT.	
ALLOWABLE LAT. BR'NG. =	300	300	PSF/FT. (ALLOWING 1/2" HORIZ. MOVEMENT)	
TRIAL DEPTH =	6.67	6.67	FT.	
A =	5.87	2.86		
d MIN. (LATERAL) =	6.37	3.33	FT.	**OK**

**** USE 24" DIAM. ROUND CLEARSPAN FRAME AND CORNER COLUMN PIERS WITH A DEPTH OF 6'-8" ****

DESIGN MOMENT:	15473	5651	FT-LBS	
a=	0.62	0.51		(A.C.I. FLEXURE TABLES)
ADD'TL As REQ.	0.19	0.15	IN.^2	

PLACE (1) #4 @ (2) SIDES OF PIERS
IN ADDITION TO ONE LAYER (HOOP) OF 6 X 6-W1.4 X W1.4 WIRE MESH

ROUND CONCRETE PIER DESIGN

CONCRETE STRENGTH (f'c):	2500	psi
REINF. YIELD STRENGTH:	60000	psi
ALLOW. VERT. SOIL PRESSURE:	1500	psf
ALLOW. LATERAL SOIL PRESSURE:	300	pcf

TYPICAL ENDWALL AND CORNER COLUMN PIERS:

PIER DIAMETER	24	IN.	
PIER DEPTH	4.17	FT. (GOVERNED BY PERPENDICULAR LOAD)	
MAX. LOAD ON PIER (DOWN)	2445	LBS.	
(INCREASE ALLOW. SOIL PRESSURE BY 20% FOR EACH ADDITIONAL FOOT OF DEPTH BELOW 1'-0", MAX. 4500 PSF)			
DESIGN LOAD AT SOIL SURFACE	4408	LBS.	
DESIGN SOIL PRESSURE	2672	PSF	
AREA REQUIRED	1.65	FT.^2	
AREA PROVIDED	3.14	FT.^2	**OK**
FTG. HOLDOWN	2199	LBS.	
SOIL HOLDOWN	1144	LBS.	
MAX. UPLIFT ON FTG.	999	LBS.	**OK**

LATERAL RESISTANCE CHECK(EMBEDMENT LENGTH)

DIRECTION RELATIVE TO WALL -->	PERP. DIR.	PARALLEL DIR.		
RIGID SURFACE (Y/N):	N	N		
MAX. THRUST AT BASE =	1277	880	LBS.	
HT. OF LOAD ABOVE GRADE =	0.50	0.50	FT.	
ALLOWABLE LAT. BR'NG. =	300	300	PSF/FT. (ALLOWING 1/2" HORIZ. MOVEMENT)	
TRIAL DEPTH =	4.17	4.17	FT.	
A =	3.58	2.47		
d MIN. (LATERAL) =	4.07	2.93	FT.	**OK**

**** USE 24" DIAM. ROUND ENDWALL AND CORNER COLUMN PIERS WITH A DEPTH OF 4'-2" ****

DESIGN MOMENT:	4099	2119	FT-LBS	
a=	0.16	0.19		(A.C.I. FLEXURE TABLES)
ADD'TL As REQ.	0.02	0.03	IN.^2	

PLACE (1) #4 @ (2) SIDES OF PIERS
IN ADDITION TO ONE LAYER (HOOP) OF 6 X 6-W1.4 X W1.4 WIRE MESH

ROUND CONCRETE PIER DESIGN

CONCRETE STRENGTH (f'c):	2500	psi
REINF. YIELD STRENGTH:	60000	psi
ALLOW. VERT. SOIL PRESSURE:	1500	psf
ALLOW. LATERAL SOIL PRESSURE:	300	pcf

TYPICAL OPENING JAMB PIERS:

PIER DIAMETER	24	IN.	
PIER DEPTH	3.50	FT.	
MAX. LOAD ON PIER (DOWN)	500	LBS.	
(INCREASE ALLOW. SOIL PRESSURE BY 20% FOR EACH ADDITIONAL FOOT OF DEPTH BELOW 1'-0", MAX. 4500 PSF)			
DESIGN LOAD AT SOIL SURFACE	2149	LBS.	
DESIGN SOIL PRESSURE	2366	PSF	
AREA REQUIRED	0.91	FT.^2	
AREA PROVIDED	3.14	FT.^2	**OK**
FTG. HOLDOWN	1885	LBS.	
SOIL HOLDOWN	807	LBS.	
MAX. UPLIFT ON FTG.	500	LBS.	**OK**

LATERAL RESISTANCE CHECK(EMBEDMENT LENGTH)

DIRECTION RELATIVE TO WALL -->	PERP. DIR.	PARALLEL DIR.		
RIGID SURFACE (Y/N):	N	N		
MAX. THRUST AT BASE =	300	300	LBS.	
HT. OF LOAD ABOVE GRADE =	0.50	0.50	FT.	
ALLOWABLE LAT. BR'NG. =	300	300	PSF/FT. (ALLOWING 1/2" HORIZ. MOVEMENT)	
TRIAL DEPTH =	3.50	3.50	FT.	
A =	1.00	1.00		
d MIN. (LATERAL) =	1.39	1.39	FT.	**OK**

**** USE 24" DIAM. ROUND OPENING JAMB PIERS WITH A DEPTH OF 3'-6" ****

DESIGN MOMENT:	850	638	FT-LBS	
a=	0.03	0.06		(A.C.I. FLEXURE TABLES)
ADD'TL As REQ.	-0.03	-0.02	IN.^2	

PROVIDE ONE LAYER (HOOP) OF 6 X 6-W1.4 X W1.4 WIRE MESH

CONCRETE ANCHOR DESIGN PER ACI 318-19, CHAPTER 17

ANCHOR LOCATION: SIDEWALL C.S. FRAME COLUMNS

DESIGN LOADS (from RISA analysis), ALLOWABLE STRESS LEVELS :	SIDE #1	SIDE #2
D.L. SHEAR FORCE (LBS.), POSITIVE SHEAR LOADS ARE TOWARD EDGE OF SLAB:	**547**	**547**
D.L. VERTICAL FORCE (LBS.):	**-1363**	**-1363**
F.L.L. SHEAR FORCE (LBS.):	**0**	**0**
F.L.L. VERTICAL FORCE (LBS.):	**0**	**0**
RLL SHEAR FORCE (LBS.):	**1333**	**1333**
RLL VERTICAL FORCE (LBS.):	**-3325**	**-3325**
SL SHEAR FORCE (LBS.):	**2673**	**2673**
SL VERTICAL FORCE (LBS.):	**-6666**	**-6666**
WIND L-R SHEAR FORCE (LBS.):	**-1902**	**272**
WIND L-R VERTICAL FORCE (LBS.):	**2622**	**1814**
WIND R-L SHEAR FORCE (LBS.):	**272**	**-1902**
WIND R-L VERTICAL FORCE (LBS.):	**1814**	**2622**
SEISMIC SHEAR FORCE (LBS.):	**70**	**-70**
SEISMIC VERTICAL FORCE (LBS.):	**-43**	**43**

CONCRETE ANCHOR MANUFACTURER AND TYPE: DEWALT 'SCREW-BOLT+' ANCHOR
(VALUES FROM ICC REPORT ESR-3889, EFF. THRU 11/2026)
STEEL CONCRETE ANCHOR TENSILE STRENGTH: 115000 PSI
NORMAL WT. CONCRETE STRENGTH (f'c): 2500 PSI
CONCRETE ANCHOR TENSION REINFORCING PROVIDED? **N**
CONCRETE ANCHOR SHEAR REINFORCING PROVIDED? **N**

ACI 318-19 Table 5.3.1:	(Eqn. 9-2)	(Eqn. 9-3)	(Eqn. 9-4)	(Eqn. 9-5)	(Eqn. 9-6)	(Eqn. 9-7)
GOVERNING LOAD COMB. EQUATION:	(9-2b.2)	(9-3d.2)	(9-4b.2)	(9-5a.1)	(9-6b.2)	(9-7a.1)
ULT. SHEAR FORCE (LBS.), Vu:	**1993**	**5018**	**2163**	**1291**	**-1410**	**592**
ULT. TENSION FORCE (LBS.), Tu:	**0**	**0**	**0**	**0**	**1395**	**0**
CONCRETE ANCHOR TYPE (diam. x length):	**.5X3.0**					
CONCRETE ANCHOR DIAM. (IN.):	**0.500**	**0.500**	**0.500**	**0.500**	**0.500**	**0.500**
CONCRETE ANCHOR LENGTH (IN.):	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**
NUMBER OF CONCRETE ANCHORS:	**4**	**4**	**4**	**4**	**4**	**4**
SPECIAL INSPECTION REQUIRED?	**N**	**N**	**N**	**N**	**N**	**N**
X' CONCRETE ANCHOR SPACING:	**6.00**	**6.00**	**6.00**	**6.00**	**6.00**	**6.00**
'Y' CONCRETE ANCHOR SPACING:	**2.96**	**2.96**	**2.96**	**2.96**	**2.96**	**2.96**
EFFECTIVE EMBEDMENT:	**2.17**	**2.17**	**2.17**	**2.17**	**2.17**	**2.17**
LOAD EDGE DISTANCE, c1:	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**
PERP. EDGE DISTANCE, c2:	**10.1**	**10.1**	**10.1**	**10.1**	**10.1**	**10.1**
DEPTH OF CONCRETE EDGE (IN.):	**80.0**	**80.0**	**80.0**	**80.0**	**80.0**	**80.0**
CRACKED CONCRETE CONDITION (Y/N)?	**N**	**N**	**N**	**N**	**N**	**N**
e eccentricity (IN.) =	0.00	0.00	0.00	0.00	0.00	0.00
psi [ec,N] ((Eqn. 17.4.2.5a)) =	1.00	1.00	1.00	1.00	1.00	1.00
psi [ed,N] ((Eqn. 17.4.2.7a, 17.4.2.7b)) =	1.00	1.00	1.00	1.00	1.00	1.00
psi [c,N] ((Sec. 17.4.2.6)) =	1.40	1.40	1.40	1.40	1.40	1.40
psi [cp,N] (Eqn.17.4.2.7b, 17.4.3.1) =	1.00	1.00	1.00	1.00	1.00	1.00
psi [c,P] (Sec. 17.4.3.6) =	1.40	1.40	1.40	1.40	1.40	1.40
V eccentricity (IN.) =	0.00	0.00	0.00	0.00	0.00	0.00
psi [ec,V] (Eqn. 17.5.2.5) =	1.00	1.00	1.00	1.00	1.00	1.00
psi [ed,V] (Eqn. 17.5.2.6a, 17.5.2.6b) =	0.95	0.95	0.95	0.95	0.95	0.95
psi [c,V] (Sec. 17.5.2.7) =	1.40	1.40	1.40	1.40	1.40	1.40
ANo (IN.^2) =	42.4	42.4	42.4	42.4	42.4	42.4
AN (IN.^2) =	61.6	61.6	61.6	61.6	61.6	61.6
Nb (LBS.) =	3836	3836	3836	3836	3836	3836
Ncbg (LBS.) =	7812	7812	7812	7812	7812	7812
Ns (LBS.) =	81900	81900	81900	81900	81900	81900
Npn (LBS.) =	0	0	0	0	0	0
SEISMIC TENSION DUCTILITY FACTOR:	1.00	1.00	1.00	0.40	1.00	0.40
ΦNn (LBS.) =	**7812**	**7812**	**7812**	**3125**	**7812**	**3125**
	0.00%	0.00%	0.00%	0.00%	17.85%	0.00%
Avc (IN.^2) =	337.7	337.7	337.7	337.7	337.7	337.7
Avco (IN.^2) =	288.0	288.0	288.0	288.0	288.0	288.0
Vb (LBS.) =	7511	7511	7511	7511	7511	7511
Vcbg (LBS.) =	11755	11755	11755	11755	11755	11755
Vs (LBS.) =	35440	35440	35440	35440	35440	35440
SEISMIC SHEAR DUCTILITY FACTOR:	1.00	1.00	1.00	0.40	1.00	0.40
ΦVn (LBS.) =	**11755**	**11755**	**11755**	**4702**	**11755**	**4702**
	16.95%	42.69%	18.40%	27.46%	11.99%	12.60%
MAX. UNITY VALUE (Sec. 17.6):	0.17	0.43	0.18	0.27	0.18	0.13

MAX. UNITY: 0.43

USE -----> (4) - 1/2" DIAM. X 3" LONG DEWALT 'SCREW-BOLT+' ANCHOR CONCRETE ANCHORS IN 3.5 IN. DEEP HOLES

#DIV/0!

CONCRETE ANCHOR DESIGN PER ACI 318-19, CHAPTER 17

ANCHOR LOCATION: ENDWALL COLUMNS

DESIGN LOADS AT ALLOWABLE STRESS LEVELS :

D.L. SHEAR FORCE (LBS.), POSITIVE SHEAR LOADS ARE TOWARD EDGE OF SLAB:	**1**
D.L. TENSION FORCE (LBS.):	**-508**
F.L.L. SHEAR FORCE (LBS.):	**0**
F.L.L. TENSION FORCE (LBS.):	**0**
SL (RLL) SHEAR FORCE (LBS.):	**0**
SL (RLL) TENSION FORCE (LBS.):	**-2033**
WIND SHEAR FORCE (LBS.):	**1277**
WIND TENSION FORCE (LBS.):	**1334**
SEISMIC SHEAR FORCE (LBS.):	**11**
SEISMIC TENSION FORCE (LBS.):	**0**

CONCRETE ANCHOR MANUFACTURER AND DEWALT 'SCREW-BOLT+' ANCHOR (VALUES FROM ICC REPORT ESR-3889, EFF. THRU 11/2026)

STEEL ANCHOR TENSILE STRENGTH:	115000	PSI
NORMAL WT. CONCRETE STRENGTH:	2500	PSI
ANCHOR TENSION REINFORCING PROVIDED?	N	
ANCHOR SHEAR REINFORCING PROVIDED?	N	

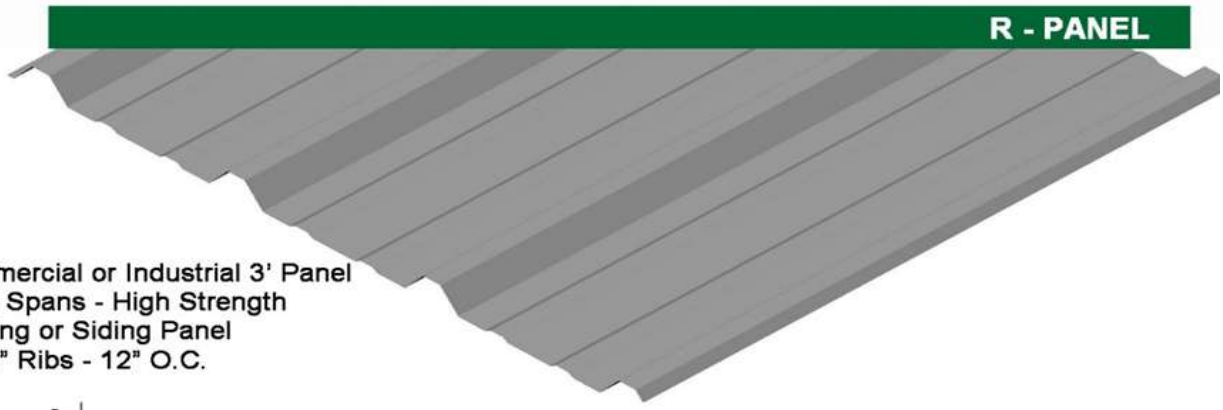
ACI 318-19 Table 5.3.1:	(EQ. 9-2)	(EQ. 9-3)	(EQ. 9-4)	(EQ. 9-5)	(EQ. 9-6)	(EQ. 9-7)
ULT. SHEAR FORCE (LBS.), Vu:	**1**	**1022**	**1278**	**12**	**1277**	**12**
ULT. TENSION FORCE (LBS.), Tu:	**0**	**0**	**0**	**0**	**876**	**0**
ANCHOR TYPE (diam. x length):	**.5X3.0**					
ANCHOR DIAM. (IN.):	**0.500**	**0.500**	**0.500**	**0.500**	**0.500**	**0.500**
ANCHOR LENGTH (IN.):	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**
NUMBER OF ANCHORS:	**2**	**2**	**2**	**2**	**2**	**2**
SPECIAL INSPECTION REQUIRED?	**N**	**N**	**N**	**N**	**N**	**N**
X' ANCHOR SPACING:	**6.00**	**6.00**	**6.00**	**6.00**	**6.00**	**6.00**
EFFECTIVE EMBEDMENT:	**2.17**	**2.17**	**2.17**	**2.17**	**2.17**	**2.17**
LOAD EDGE DISTANCE, c1:	**8.59**	**8.59**	**8.59**	**8.59**	**8.59**	**8.59**
PERP. EDGE DISTANCE, c2:	**8.49**	**8.49**	**8.49**	**8.49**	**8.49**	**8.49**
DEPTH OF CONCRETE EDGE (IN.):	**50.0**	**50.0**	**50.00**	**50.00**	**50.00**	**50.00**
CRACKED CONCRETE CONDITION (Y/N)?	**N**	**N**	**N**	**N**	**N**	**N**
e eccentricity (IN.) =	0.00	0.00	0.00	0.00	0.00	0.00
psi [ec,N] ((Eqn. 17.4.2.5a)) =	1.00	1.00	1.00	1.00	1.00	1.00
psi [ed,N] ((Eqn. 17.4.2.7a, 17.4.2.7b)) =	1.00	1.00	1.00	1.00	1.00	1.00
psi [c,N] ((Sec. 17.4.2.6)) =	1.40	1.40	1.40	1.40	1.40	1.40
psi [cp,N] (Eqn.17.4.2.7b, 17.4.3.1) =	1.00	1.00	1.00	1.00	1.00	1.00
psi [c,P] (Sec. 17.4.3.6) =	1.40	1.40	1.40	1.40	1.40	1.40
V eccentricity (IN.) =	0.00	0.00	0.00	0.00	0.00	0.00
psi [ec,V] (Eqn. 17.5.2.5) =	1.00	1.00	1.00	1.00	1.00	1.00
psi [ed,V] (Eqn. 17.5.2.6a, 17.5.2.6b) =	0.90	0.90	0.90	0.90	0.90	0.90
psi [c,V] (Sec. 17.5.2.7) =	1.40	1.40	1.40	1.40	1.40	1.40
ANo (IN.^2) =	42.4	42.4	42.4	42.4	42.4	42.4
AN (IN.^2) =	42.4	42.4	42.4	42.4	42.4	42.4
Nb (LBS.) =	3836	3836	3836	3836	3836	3836
Ncbg (LBS.) =	5370	5370	5370	5370	5370	5370
Ns (LBS.) =	40950	40950	40950	40950	40950	40950
Npn (LBS.) =	0	0	0	0	0	0
SEISMIC TENSION DUCTILITY FACTOR:	1.00	1.00	1.00	0.40	1.00	0.40
ΦNn (LBS.) =	**5370**	**5370**	**5370**	**2148**	**5370**	**2148**
	0.00%	0.00%	0.00%	0.00%	16.31%	0.00%
Avc (IN.^2) =	352.5	352.5	352.5	352.5	352.5	352.5
Avco (IN.^2) =	331.7	331.7	331.7	331.7	331.7	331.7
Vb (LBS.) =	8351	8351	8351	8351	8351	8351
Vcbg (LBS.) =	11209	11209	11209	11209	11209	11209
Vs (LBS.) =	17720	17720	17720	17720	17720	17720
SEISMIC SHEAR DUCTILITY FACTOR:	1.00	1.00	1.00	0.40	1.00	0.40
ΦVn (LBS.) =	**11209**	**11209**	**11209**	**4484**	**11209**	**4484**
	0.01%	9.12%	11.40%	0.26%	11.40%	0.26%
MAX. UNITY VALUE (Sec. 17.6):	0.00	0.09	0.11	0.00	0.16	0.00

MAX. UNITY: 0.16

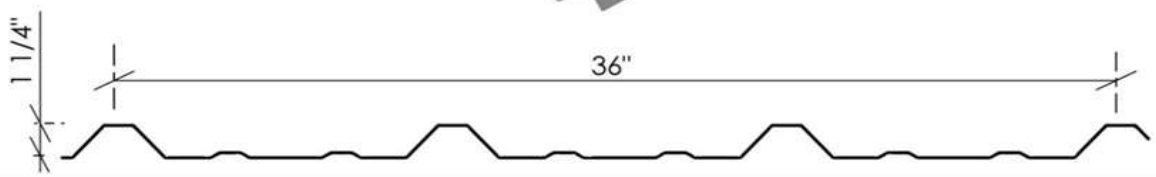
USE -----> (2) - 1/2" DIAM. X 3" LONG DEWALT 'SCREW-BOLT+' ANCHOR ANCHORS IN 3.5 IN. DEEP HOLES

#DIV/0!

R - PANEL



Commercial or Industrial 3' Panel
Long Spans - High Strength
Roofing or Siding Panel
1 1/4" Ribs - 12" O.C.



CSC R-Panel					SECTION PROPERTIES			
				Top in Compression		Bottom in Compression		
	Width	Yield	Weight	IXX	Se	IXX	Se	
Ga	Inches	ksi	psf	in^4	in^3	in^4	in^3	
26	36	80	0.799	0.03000	0.02846	0.02014	0.03042	
	Live	Wind In	Wind Out					
Span ft.	Load psf	Load psf	Load psf					
1.5	554	738	786					
2.0	311	415	397					
2.5	199	266	254					
3.0	138	184	176					
3.5	101	134	129	Notes				
4.0	67	90	90	1. Theoretical section properties have been calculated per AISI 2007				
5.0	34	46	46	2. Allowable load is calculated in accordance with AISI 2007, 3 or more equal spans.				
6.0	20	26	26	3. Deflection is limited by a maximum deflection ratio of L/180 of span.				
7.0	12	16	16	4. Wind reduction factor is .75				

SCREW CONNECTION DESIGN

NOTATIONS

ds = Nominal screw diameter (in.)
Ω Omega = 3.0
Pns = Nominal shear stength per screw (lbs.)
Pnt = Nominal tension strength per screw (lbs.)
Pnot = Nominal pull-out strength per screw (lbs.)
Pnov = Nominal pull-over strength per screw (lbs.)
g1 = nominal gauge of member in contact with the screw head (in.)
t1 = Thickness of member in contact with the screw head (in.)
g2 = nominal gauge of member NOT in contact with the screw head (in.)
t2 = Thickness of member NOT in contact with the screw head (in.)
Fu1 = Tensile strength of member in contact with the screw head (lbs.)
Fu2 = Tensile strength of member NOT in contact with the screw head (lbs.)

	ROOF PANEL (PBR-R-Loc 26G)		WALL PANEL (PBR-R-Loc 26G)	
g1 =	26	g1 =	26
g2 =	14	g2 =	16
t1 =	0.0179	t1 =	0.0179
t2 =	0.0747	t2 =	0.057
Fu1 =	80000	Fu1 =	80000
Fu2 =	67000	Fu2 =	67000
Screw # =	12	Screw # =	12
ds (in.) =	0.216	ds (in.) =	0.216
ALLOWABLE SHEAR BASED ON CONNECTED MATERIALS:			
t2/t1 =	4.17	t2/t1 =	3.18
Pns (eq. E4.3.1-4) =	835	Pns (eq. E4.3.1-4) =	835
Allowable Shear per Screw (Ω Omega = 3.0):	278	Allowable Shear per Screw =	278
ALLOWABLE SHEAR BASED ON SCREW:			
Allowable Shear per Screw =	625	Allowable Shear per Screw =	625
Design Shear per Screw =	**278**	**Design Shear per Screw =**	**278**
ALLOWABLE TENSION BASED ON CONNECTED MATERIALS:			
Pullout Strength, Pnot (eq. E4.4.1.1) =	919		701
Pullover Strength, Pnov (eq. E4.4.2.1) =	537		537
Allowable Tension per Screw (lbs.) =	**179**		**179**
Nominal Screw Tension Strength (lbs) =	860		860