

### 1) DESIGN CRITERIA

- A. STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE FOLLOWING CODES AND CRITERIA:
- 2006 INTERNATIONAL BUILDING CODE
  - ASCE 7-05, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
  - AISC360-05, AMERICAN INSTITUTE OF STEEL CONSTRUCTION
  - NDS 2005, NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION
  - AISI S100-01, NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS
- B. BUILDING CLASSIFICATION  
BUILDING OCCUPANCY CLASSIFICATION: A-3  
OCCUPANT LOAD NOT TO EXCEED 300
- C. DEAD LOADS  
5 PSF + STEEL SELF WEIGHT
- D. LIVE LOADS  
ROOF = 20.0 PSF (REDUCIBLE)  
FLOOR = 50.0 PSF  
FLOOR DESIGNED BY OTHERS
- E. WIND LOADS DESIGN CRITERIA
- |                               |   |          |
|-------------------------------|---|----------|
| DESIGN WIND SPEED, $V_{ULT}$  | = | 140 MPH  |
| NOMINAL WIND SPEED, $V_{ASD}$ | = | 109 MPH  |
| RISK CATEGORY                 | = | II       |
| EXPOSURE CATEGORY             | = | C        |
| INTERNAL PRESSURE, $GC_{pl}$  | = | +/- 0.18 |
| VELOCITY PRESSURE, $K_d$      | = | 0.85     |
- F. SEISMIC DESIGN CRITERIA
- |                          |   |      |
|--------------------------|---|------|
| DESIGN CATEGORY          | = | B    |
| IMPORTANCE FACTOR, $I_e$ | = | 1.00 |
- MAPPED SPECTRAL RESPONSE ACCELERATION:
- |       |   |         |
|-------|---|---------|
| $S_s$ | = | 0.116 g |
| $S_1$ | = | 0.051 g |
- SITE CLASS = D
- SPECTRAL RESPONSE COEFFICIENTS:
- |          |   |         |
|----------|---|---------|
| $S_{DS}$ | = | 0.124 g |
| $S_{D1}$ | = | 0.082 g |
- SEISMIC FORCE RESISTING SYSTEM:  
STEEL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
- |       |   |       |
|-------|---|-------|
| R     | = | 3.00  |
| $C_s$ | = | 0.041 |
- ANALYSIS PROCEDURE USED:  
EQUIVALENT LATERAL FORCE
- G. SNOW LOADS
- |                             |   |          |
|-----------------------------|---|----------|
| GROUND SNOW LOAD, $P_g$     | = | 15.0 PSF |
| FLAT ROOF SNOW LOAD, $P_f$  | = | 12.6 PSF |
| SNOW EXPOSURE FACTOR, $C_e$ | = | 1.00     |
| THERMAL FACTOR, $C_t$       | = | 1.20     |

### 2) FOUNDATIONS

- A. REFER TO FOUNDATION DRAWINGS FOR FOUNDATION REQUIREMENTS AND GENERAL NOTES

### 3) STRUCTURAL STEEL

- A. MATERIAL
- HOT ROLLED STRUCTURAL MEMBERS. ALL HOT ROLLED STEEL PLATES, SHAPES, SHEET PILING, AND BARS SHALL BE NEW STEEL CONFORMING TO ASTM SPECIFICATION A6.
  - ASTM SPECIFICATION AND GRADE UNLESS NOTED OTHERWISE ON THE DRAWINGS, STRUCTURAL STEEL SHALL BE AS FOLLOWS:

a) STRUCTURAL ANGLES:	A572, Gr. 50
b) STRUCTURAL ROD:	A572, Gr. 50
c) W-SHAPES:	A992
d) PLATE:	A36
e) S, C, M, AND MC SHAPES:	A36
f) HSS, RECTANGULAR:	A500, Gr. C - Fy = 50 ksi
g) HSS, ROUND:	A500, Gr. C - Fy = 46 ksi
h) PIPE:	A53, Gr. B
- B. STRUCTURAL BOLTS AND THREADED FASTENERS
- ASTM A325 or SAE J429 GRADE 5 BOLTS U.N.O.
  - ALL BOLTS TO BE BEARING TYPE BOLTS WITH THREADS ASSUMED TO BE IN BEARING SURFACE (TYPE N)
  - ALL BOLTS TO BE TIGHTENED TO THE "PRETENSIONED JOINTS" REQUIREMENTS PER RCSC SPECIFICATION SECTION 4.2 UNLESS NOTED OTHERWISE. ANY OF THE INSTALLATION METHODS SPECIFIED IN SECTION 8.2 OF THE RCSC ARE PERMITTED (TURN OF NUT, CALIBRATED WRENCH, ETC.)
- C. WELDING
- UNLESS NOTED OTHERWISE, ELECTRODES FOR WELDING SHALL CONFORM TO E70XX
  - ALL WELDING SHALL CONFORM TO AWS (AMERICAN WELDING SOCIETY) SPECIFICATION D1.1

### 4) COLD-FORMED STEEL METAL FRAMING

- A. ALL ROOF AND WALL SHEET METAL SHALL BE 29 GA., 80-KSI MINIMUM, PANEL-LOC PLUS™ OR EQUIVALENT WITH THE FOLLOWING MINIMUM SECTION PROPERTIES:
- |               |   |                            |
|---------------|---|----------------------------|
| $I_{x(T)MIN}$ | = | 0.0110 in <sup>4</sup> /ft |
| $I_{x(B)MIN}$ | = | 0.0073 in <sup>4</sup> /ft |
| $S_{x(T)MIN}$ | = | 0.0181 in <sup>3</sup> /ft |
| $S_{x(B)MIN}$ | = | 0.0160 in <sup>3</sup> /ft |
- B. ROOF PURLINS: C6"x1 $\frac{5}{8}$ "x20 ga
- |               |   |                        |
|---------------|---|------------------------|
| $I_{x_{min}}$ | = | 1.7929 in <sup>4</sup> |
| $S_{x_{min}}$ | = | .59764 in <sup>3</sup> |
- C. WALL GIRTS: C6"x1 $\frac{5}{8}$ "x20 ga
- |               |   |                        |
|---------------|---|------------------------|
| $I_{x_{min}}$ | = | 1.7929 in <sup>4</sup> |
| $S_{x_{min}}$ | = | .59764 in <sup>3</sup> |
- D. ALL FRAMING MEMBERS SHALL BE FORMED FROM CORROSION-RESISTANT STEEL, CORRESPONDING TO THE REQUIREMENTS OF ASTM A446, WITH A MINIMUM YIELD STRENGTH OF 50 KSI AS INDICATED.
- E. ALL MEMBERS SHOWN ARE STANDARD DESIGNATIONS OF THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA)

### F. CONNECTIONS

- FASTENING OF COMPONENTS SHALL BE BY SELF-DRILLING SCREWS OR BY WELDING AS DEFINED BELOW U.N.O. ON THE DRAWINGS
- SELF DRILLING SCREW CONNECTIONS
  - A MINIMUM OF THREE (3) EXPOSED THREADS SHALL PENETRATE THROUGH ALL JOINED MATERIALS

### 5) TIMBER DESIGN

- A. LIMITATIONS
- ALL WOOD CONSTRUCTION IS TO BE PROVIDED BY OTHERS. PROVIDE BRIDGING AS REQUIRED
- B. MATERIAL
- ALL DIMENSIONAL LUMBER FRAMING MEMBERS ARE TO BE #2 YELLOW SOUTHERN PINE. ALTERNATIVELY LUMBER FRAMING SHALL MEET THE FOLLOWING MINIMUM BASE DESIGN VALUES IN ACCORDANCE WITH THE REFERENCED ISSUE OF THE NDS:

1.1.1.	$F_b$	=	1,500 psi
1.1.2.	$E$	=	1,600,000 psi
1.1.3.	$F_v$	=	175 psi
1.1.4.	$F_c  $	=	1,650 psi
  - LUMBER WITH MOISTURE CONTENT NOT EXCEEDING 19%. LUMBER SHALL BE GRADE STAMPED WITH THE APPROPRIATE WWPA OR SPIB STAMP INDICATING COMPLIANCE WITH PS-20 LUMBER DEFECTS OCCURRING IN THE CONNECTOR PLATE
- C. CONNECTIONS
- PROVIDE A MINIMUM OF 1 $\frac{1}{2}$ " PENETRATION INTO CROSS SECTION OF EACH MEMBER BEING JOINED. SIZE SCREWS ACCORDINGLY

### 6) MISCELLANEOUS

- A. WALK DOORS AND WINDOWS
- WALK DOORS AND WINDOWS MAY BE FIELD LOCATED. NO WIND ROD BRACING OR COLUMN CHORD BRACING SHALL BE CUT TO ACCOMMODATE WINDOWS OR DOOR
- B. INSPECTION REQUIREMENTS
- AS BUILDING IS A UTILITY BUILDING THAT IS ACCESSORY TO A RESIDENCE, BUILDING IS EXEMPT FROM SPECIAL INSPECTIONS PER SECTION 1704.2 OF THE INTERNATIONAL BUILDING CODE

### 7) LEGEND

- |      |   |   |
|------|---|---|
| EL   | = | RELATIVE ELEVATION W/ RESPECT TO GROUND FLOOR |
| C/C  | = | CENTER TO CENTER                              |
| C/L  | = | CENTERLINE                                    |
| CONT | = | CONTINUOUS                                    |
| PSF  | = | POUNDS PER SQUARE FOOT                        |
| TYP  | = | TYPICAL                                       |
| UNO  | = | UNLESS NOTED OTHERWISE                        |
| CB   | = | CHORD BRACING                                 |
| EXT  | = | EXTENSION                                     |
| MEZZ | = | MEZZANINE                                     |
| EWC  | = | ENDWALL COLUMN                                |
| OHD  | = | OVERHEAD DOOR                                 |



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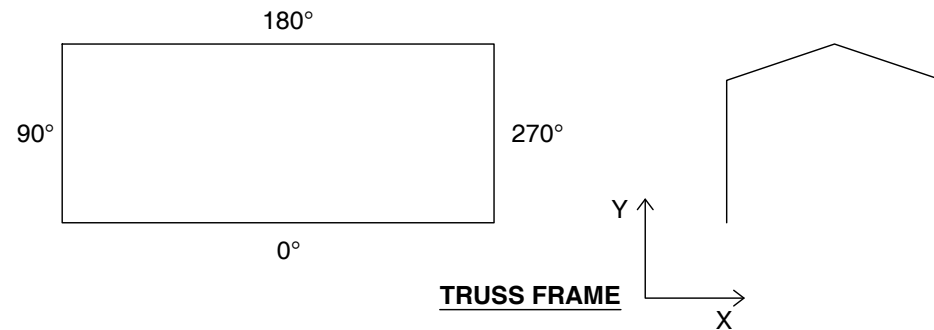
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E1.0

TRUSS FRAME COLUMN REACTIONS GL 1-4			END WALL COLUMNS
LOAD CASE	HORIZONTAL REACTION, X-DIR. (KIP)	VERTICAL REACTION, Y-DIR. (KIP)	HORIZONTAL REACTION, X-DIR. (KIP)
DEAD LOAD	0.78	2.01	~
SNOW LOAD	1.96	5.07	~
LIVE LOAD	~	3.03	~
ROOF LIVE	1.87	4.83	~
WIND 0°	8.90	-12.6	2.27
WIND 90°	2.38	-14.8	2.27
WIND 180°	8.90	-12.6	2.52
WIND 270°	2.38	-14.8	2.52

TRUSS FRAME COLUMN REACTIONS GL 5-7		
LOAD CASE	HORIZONTAL REACTION, X-DIR. (KIP)	VERTICAL REACTION, Y-DIR. (KIP)
DEAD LOAD	0.01	3.11
SNOW LOAD	0.03	7.84
LIVE LOAD	~	3.03
ROOF LIVE	0.03	7.46
WIND 0°	7.73	-14.3
WIND 90°	0.99	-16.5
WIND 180°	7.73	-14.3
WIND 270°	0.99	-16.5

TRUSS FRAME COLUMN REACTIONS GL 8-9		
LOAD CASE	HORIZONTAL REACTION, X-DIR. (KIP)	VERTICAL REACTION, Y-DIR. (KIP)
DEAD LOAD	0.75	2.01
SNOW LOAD	1.89	5.07
LIVE LOAD	~	~
ROOF LIVE	1.80	4.83
WIND 0°	8.25	-12.5
WIND 90°	2.35	-14.8
WIND 180°	8.25	-12.5
WIND 270°	2.35	-14.8



**NOTES:**

- ALL REACTIONS ARE SERVICE LEVEL (UNFACTORED)
- END WALL COLUMNS ARE DESIGNED AS PIN-ROLLER, THEREFORE, ONLY HORIZONTAL REACTIONS ARE PROVIDED
- NEGATIVE VERTICAL REACTION (Y-AXIS) INDICATES UPLIFT
- ALL WIND AND SEISMIC REACTIONS ARE REVERSIBLE
- ALL WIND REACTIONS ARE PROVIDED AT  $V_{ULT}$
- ROD BRACING REACTIONS OCCUR AT COLUMNS LOCATIONS WHERE 'WIND ROD BRACING' IS CALLED OUT ON PLAN VIEWS
- ALL SEISMIC REACTIONS TO BE MULTIPLIED BY APPROPRIATE  $\Omega_0$  FACTORS FOR ANCHORAGE AND FOUNDATION DESIGN

ROD BRACING REACTIONS		
LOAD CASE	HORIZONTAL REACTION, X-DIR. (KIP)	VERTICAL REACTION, Y-DIR. (KIP)
SEISMIC LOAD	4.80	7.39
WIND LOAD	0.47	0.73



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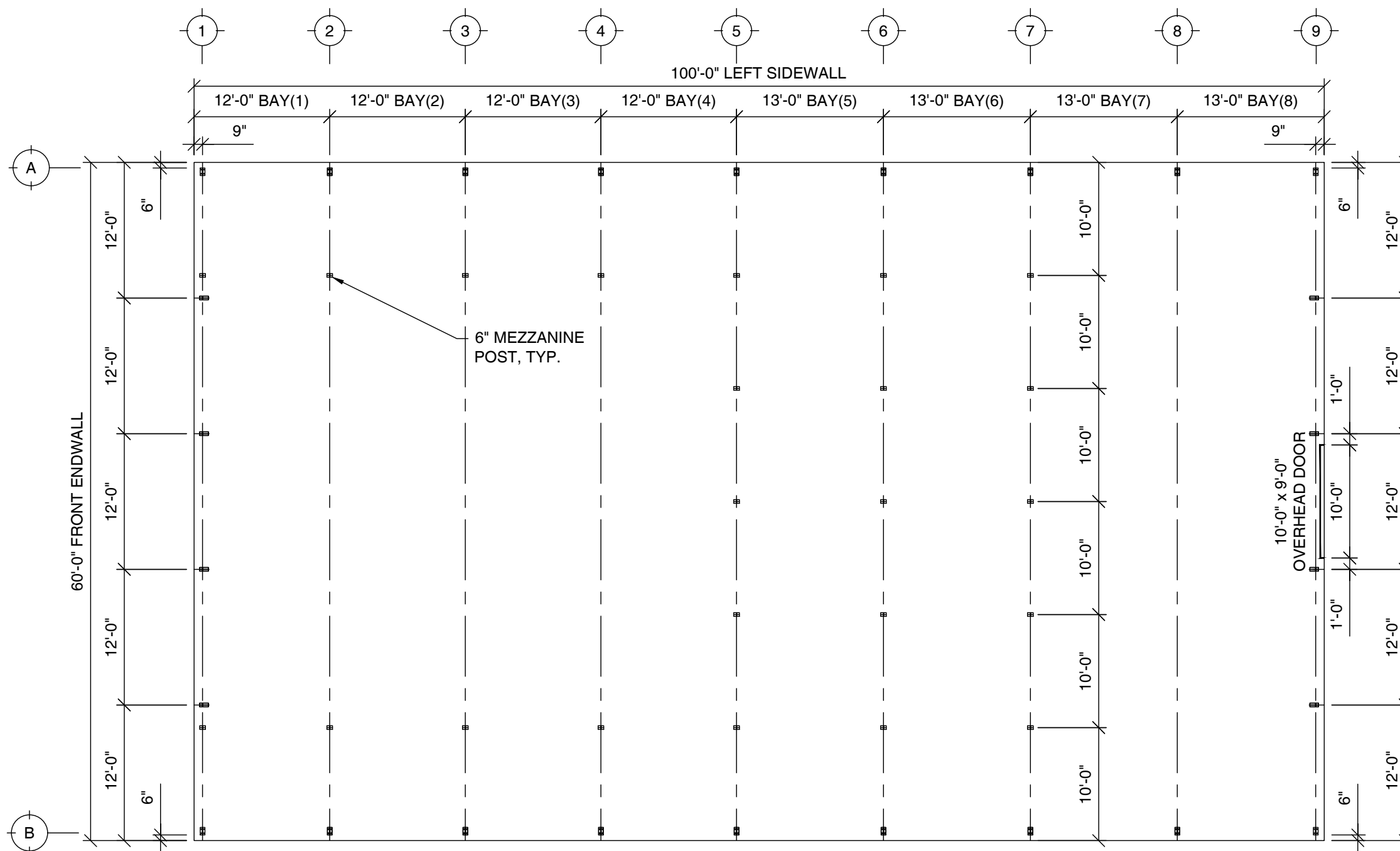
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**E1.1**



**1** ANCHOR BOLT SETTING PLAN  
SCALE: 3/32" = 1'-0"

**NOTES, ANCHOR BOLT SETTING PLAN:**

- REFER TO FOUNDATION DRAWINGS FOR FOUNDATION REQUIREMENTS AND GENERAL NOTES



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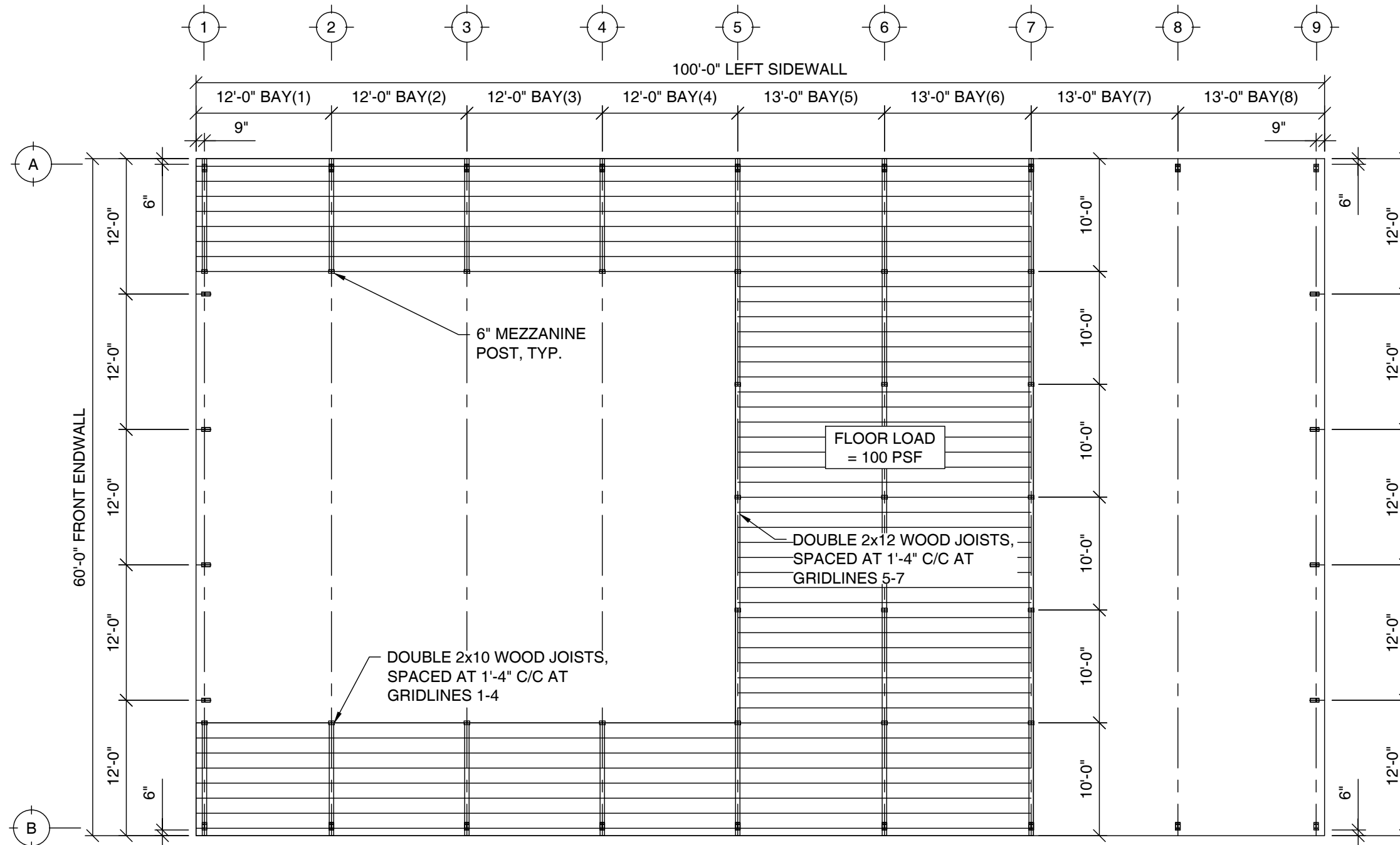
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**E2.0**



**1** BAR JOIST PLAN  
SCALE: 3/32" = 1'-0"

**BAR JOIST NOTES:**

- FLOOR DECKING TO BE 3/4" PLYWOOD, NAILED TO TIMBER JOISTS AT 9" C/C WITH 10d NAILS



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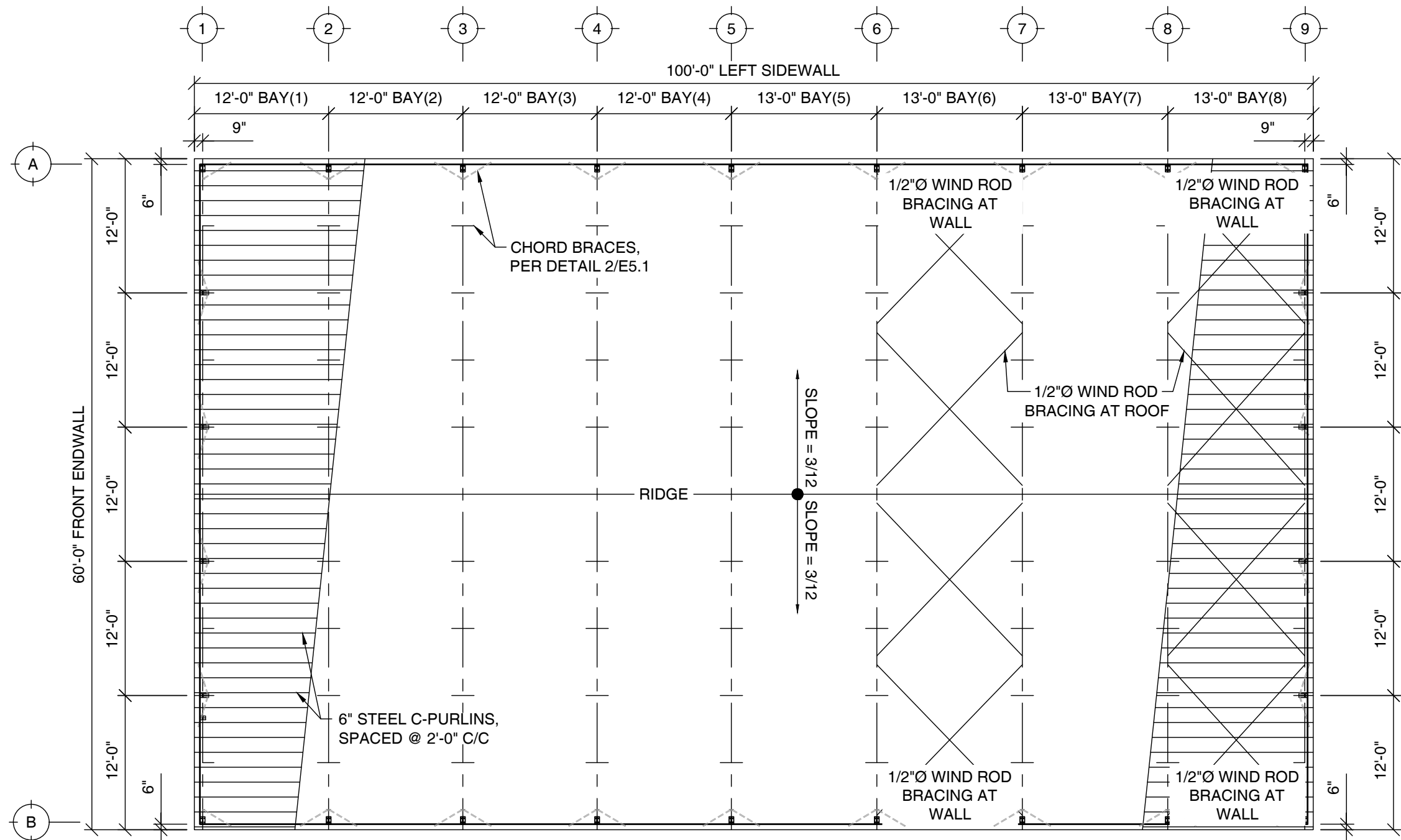
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**E2.1**



1 ROOF FRAMING PLAN  
SCALE: 3/32" = 1'-0"

NOTES, ROOF FRAMING PLAN:

1. BOTTOM CHORD BRACING (MARKED WITH '-' ON PLANS) IS VITAL TO THE STABILITY OF THE STEEL FRAMES AND SHALL NOT BE REMOVED, RELOCATED, OR MODIFIED IN ANY WAY. ERECTOR SHALL CONFIRM THAT BRACING IS INSTALLED PER THESE DRAWINGS BEFORE TURNING THE BUILDING OVER TO THE OWNER. BRACING TO BE PRESENT ON EVERY TRUSS
2. CONNECTIONS ARE VITAL TO THE STABILITY OF THE STEEL FRAMES AND SHALL BE INSTALLED PER TYPICAL CONNECTION DETAILS ON E5.0. BUILDING IS NOT STABLE UNTIL ALL BOLTS ARE TIGHTENED TO REQUIRED TIGHTNESS PER GENERAL NOTES ON E1.0
3. ROOF DECKING AND PURLINS ARE VITAL THE STABILITY OF THE STEEL BUILDING. BUILDING IS NOT STABLE UNTIL ALL DECKING IS INSTALLED. SEE ATTACHMENT PATTERN ON E5.1



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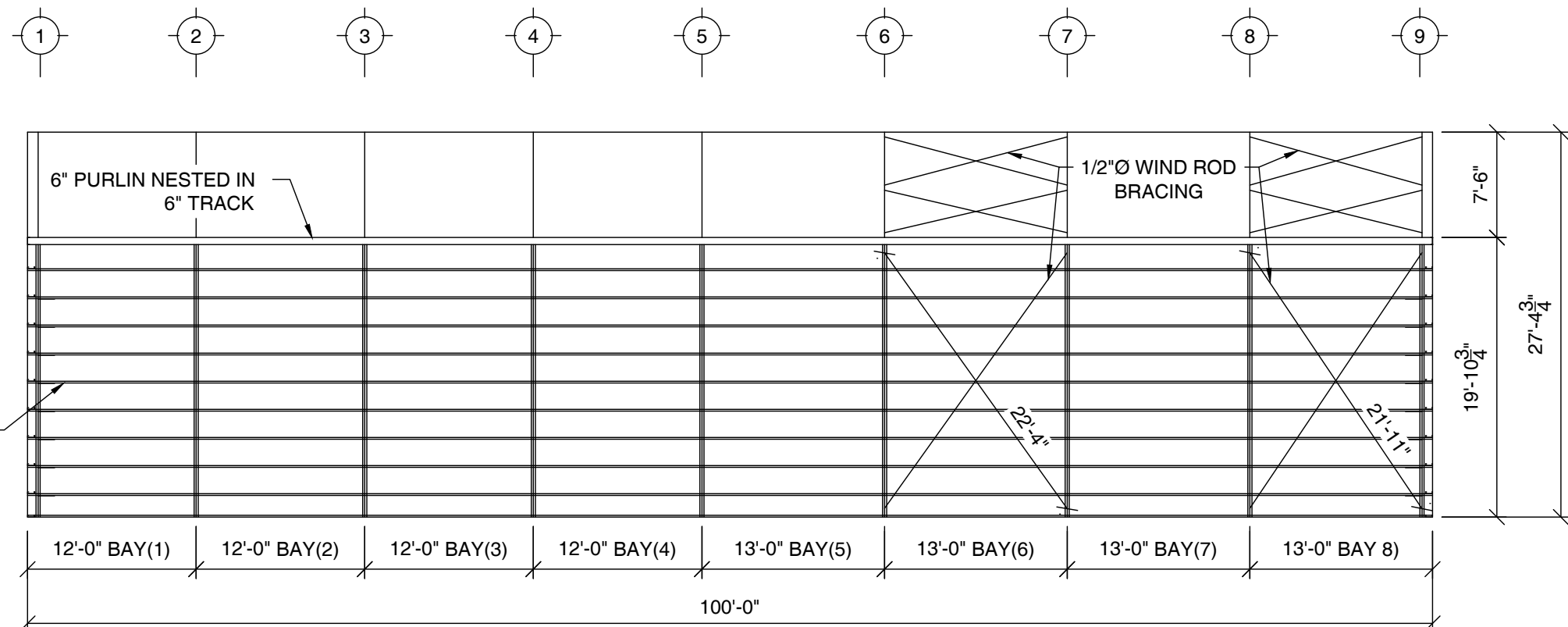
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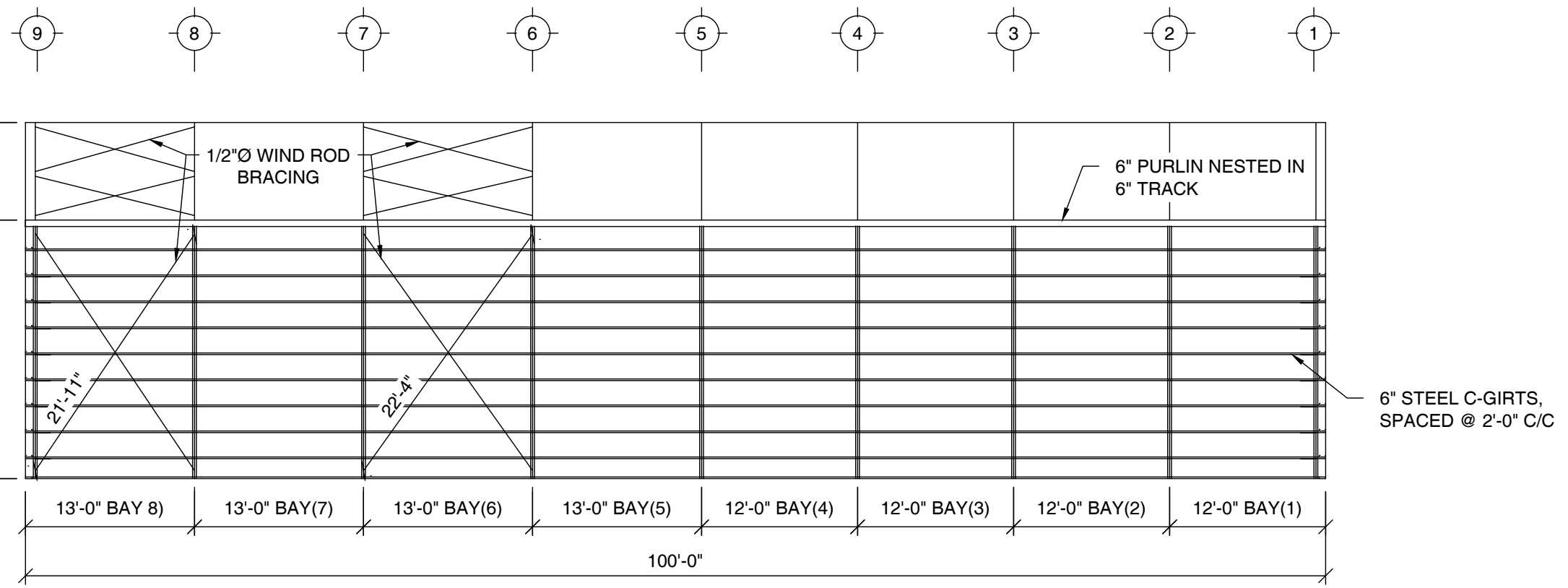
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E2.2



1 ELEVATION AT RIGHT SIDEWALL  
SCALE: 3/32" = 1'-0"



2 ELEVATION AT LEFT SIDEWALL  
SCALE: 3/32" = 1'-0"

NOTES, WALL ELEVATIONS:

1. COLUMN CHORD BRACING IS VITAL TO THE STABILITY OF THE STEEL FRAMES AND SHALL NOT BE REMOVED, RELOCATED, OR MODIFIED IN ANY WAY. ERECTOR SHALL CONFIRM THAT BRACING IS INSTALLED PER THESE DRAWINGS BEFORE TURNING THE BUILDING OVER TO THE OWNER. BRACING TO BE PRESENT ON EVERY TRUSS
2. WALL DECKING AND GIRTS ARE VITAL THE STABILITY OF THE STEEL BUILDING. BUILDING IS NOT STABLE UNTIL ALL DECKING IS INSTALLED. SEE ATTACHMENT PATTERN ON E5.1



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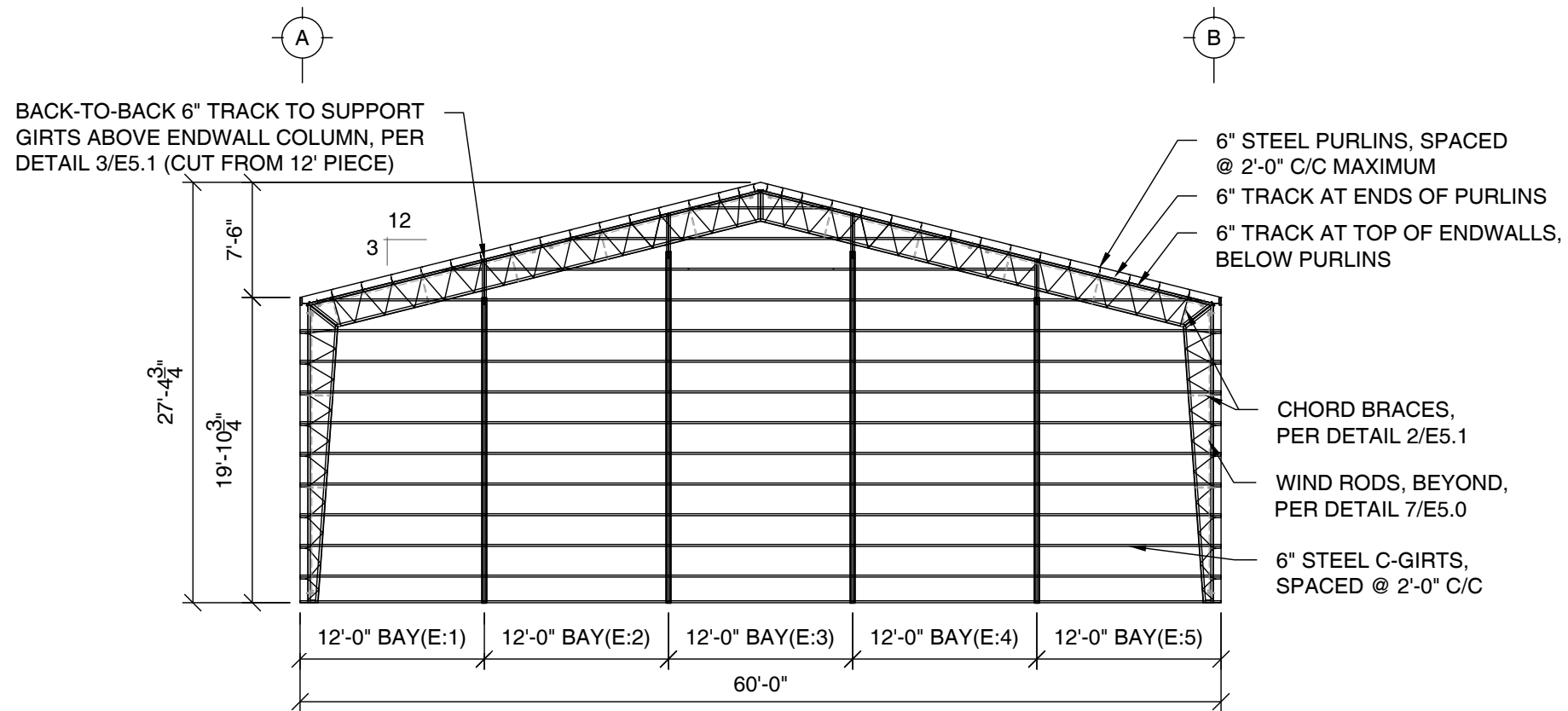


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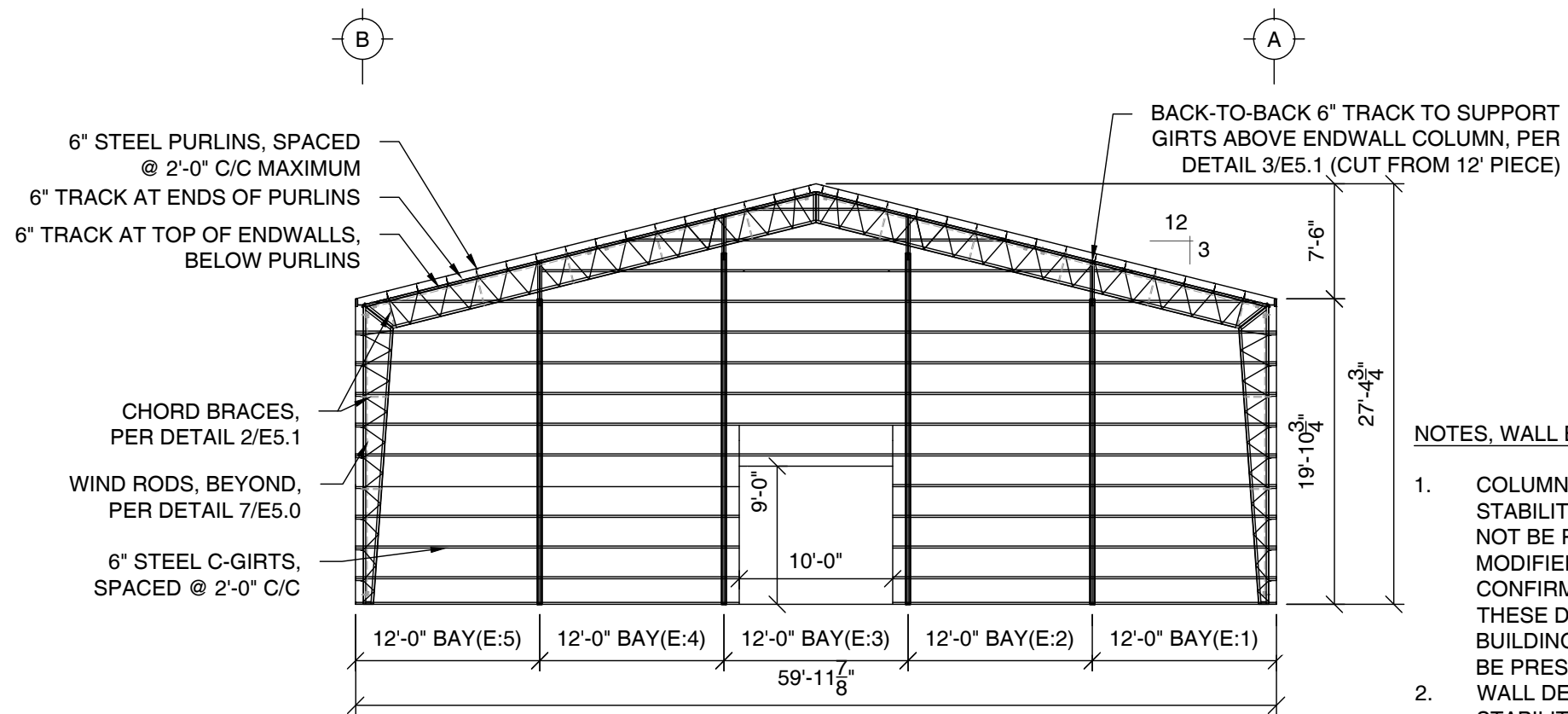
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E3.0



1 ELEVATION AT FRONT ENDWALL  
SCALE: 3/32" = 1'-0"



2 ELEVATION AT REAR ENDWALL  
SCALE: 3/32" = 1'-0"

NOTES, WALL ELEVATIONS:

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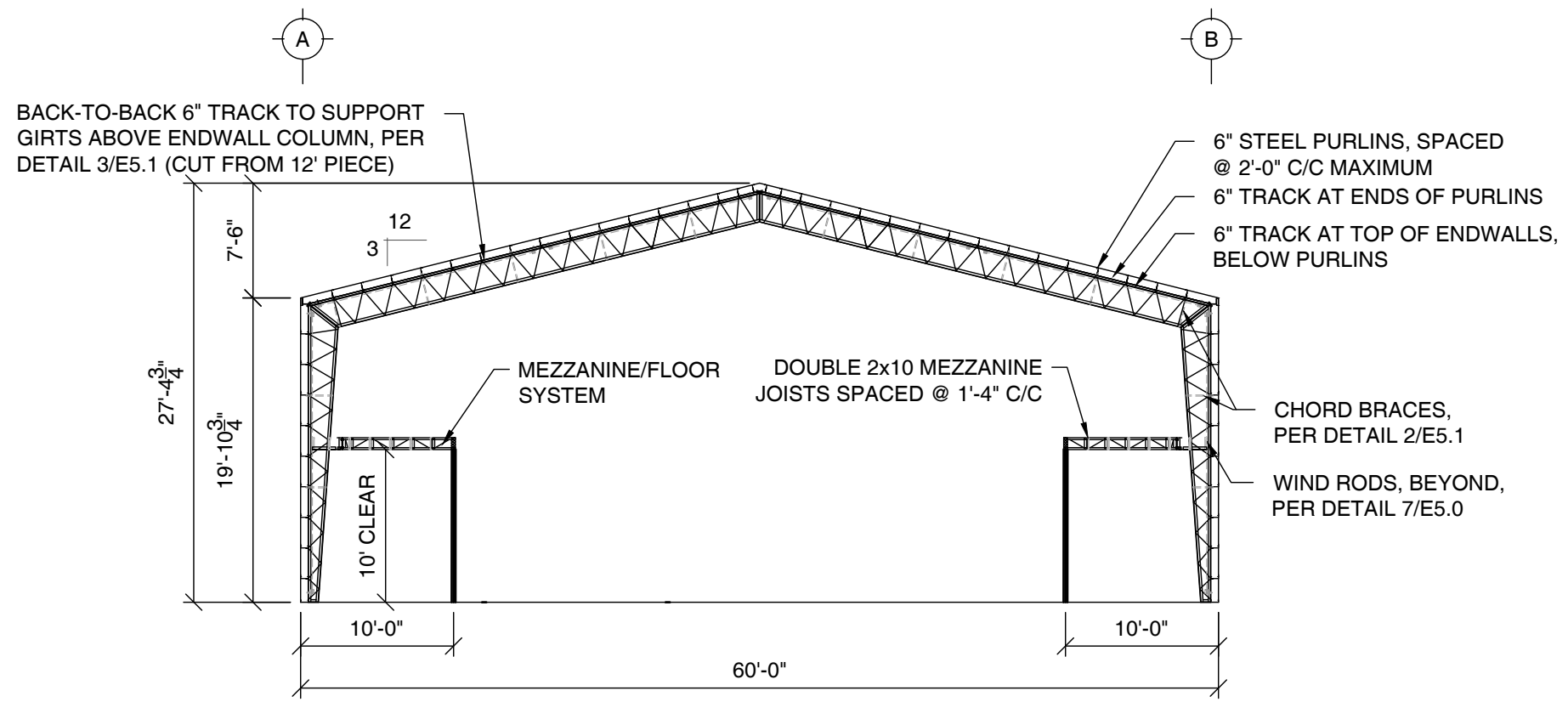
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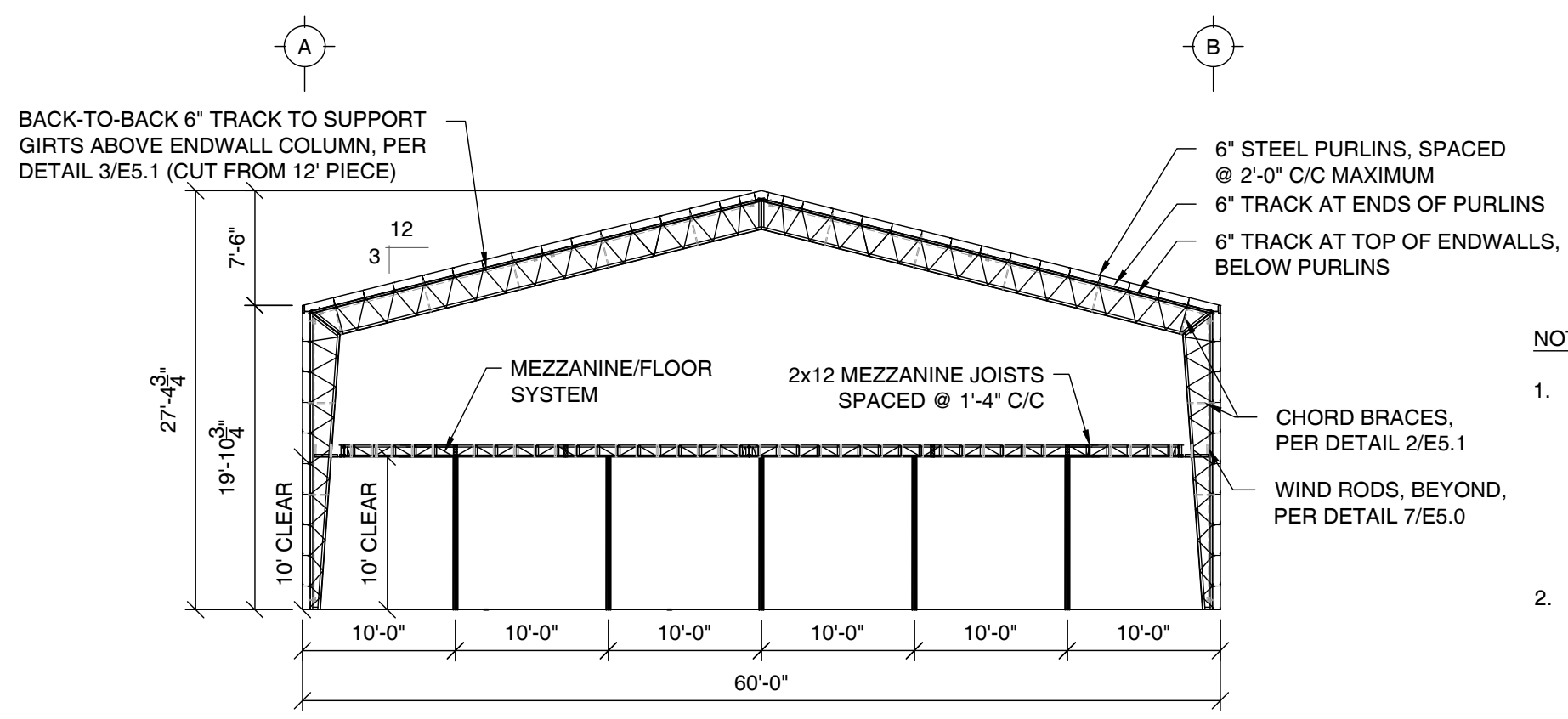
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E4.0



1 MEZZANINE SECTION - GRIDLINES 1-4  
SCALE: 3/32" = 1'-0"



2 MEZZANINE SECTION - GRIDLINES 5-7  
SCALE: 3/32" = 1'-0"

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3. FLOOR DECKING TO BE 3/4" PLYWOOD, NAILED TO TIMBER JOISTS AT 9" C/C WITH 10d NAILS



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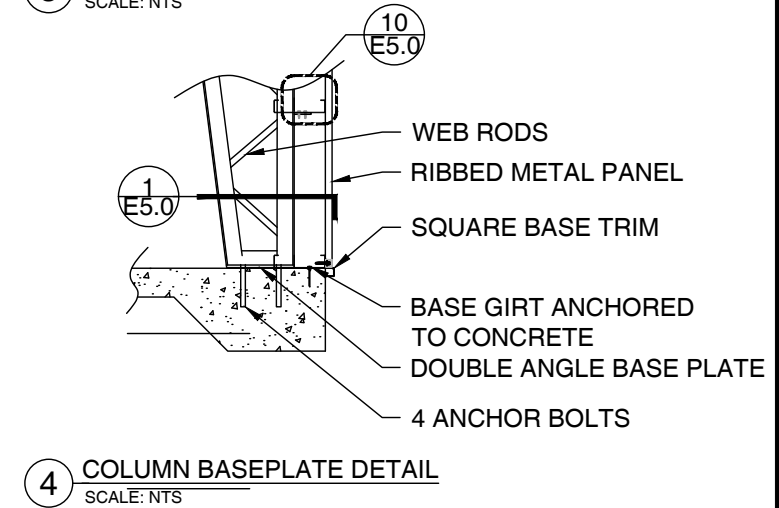
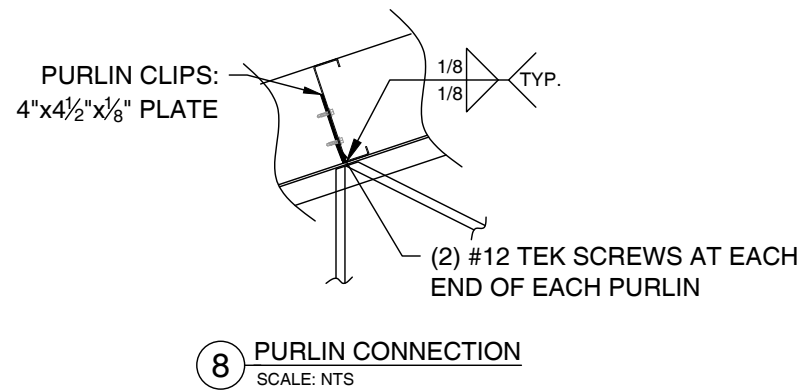
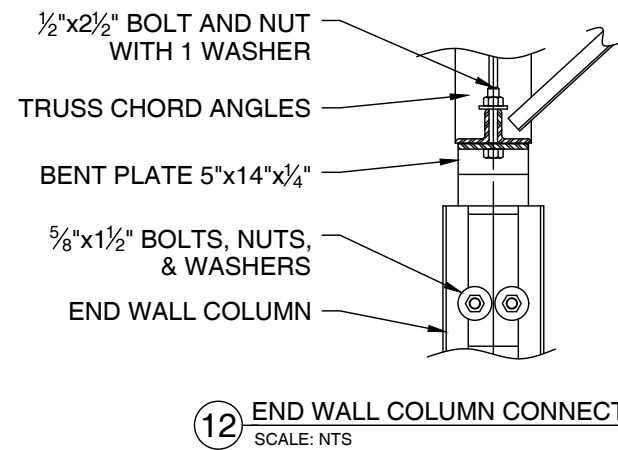
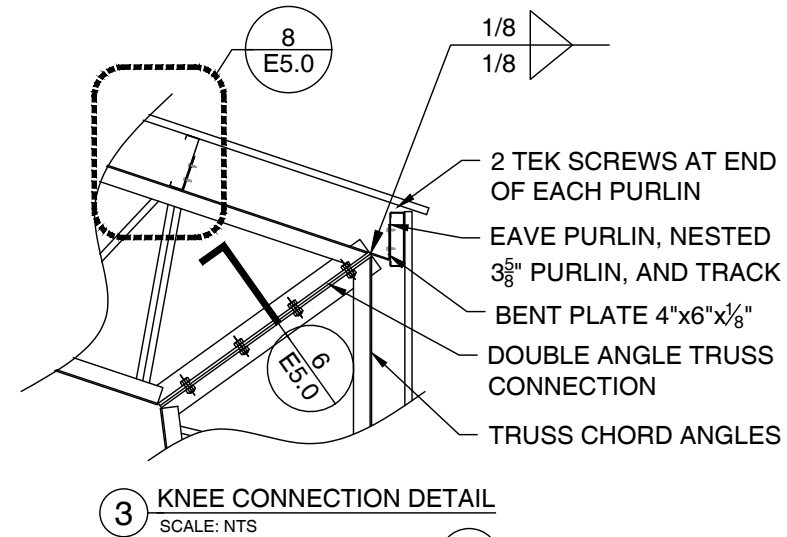
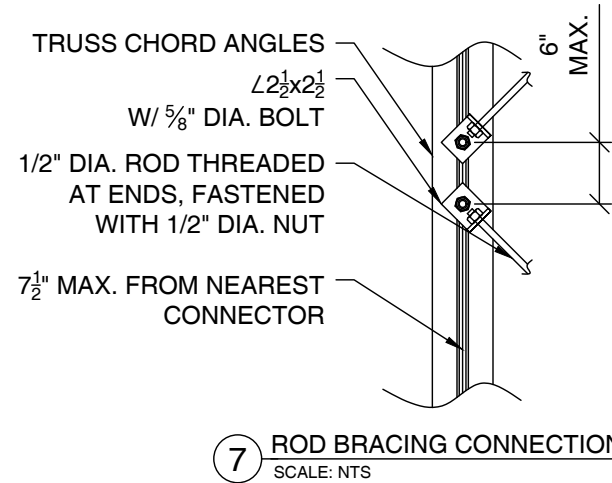
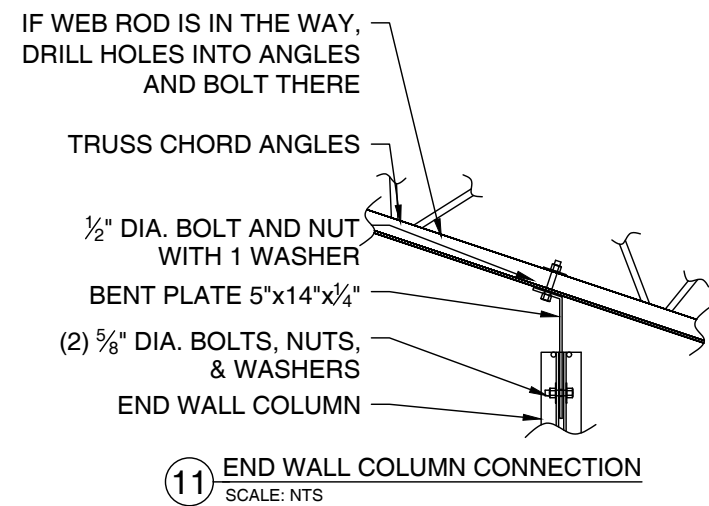
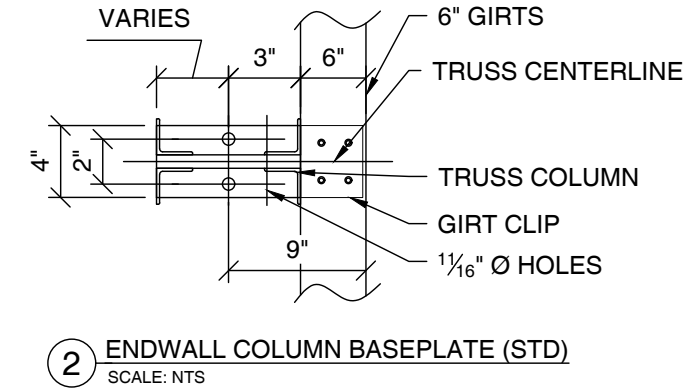
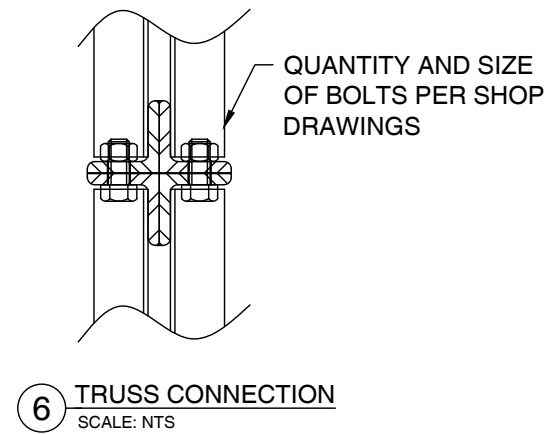
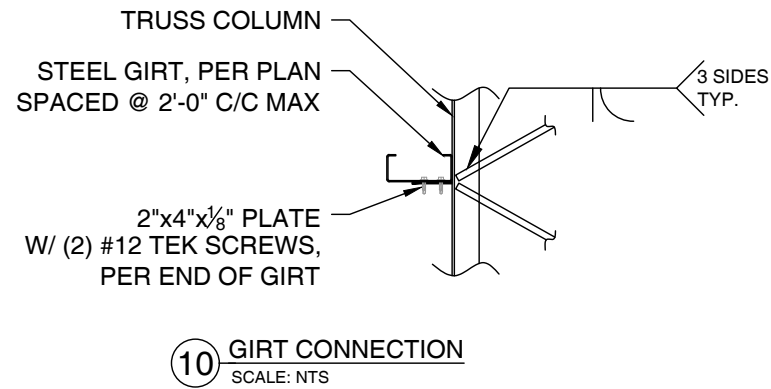
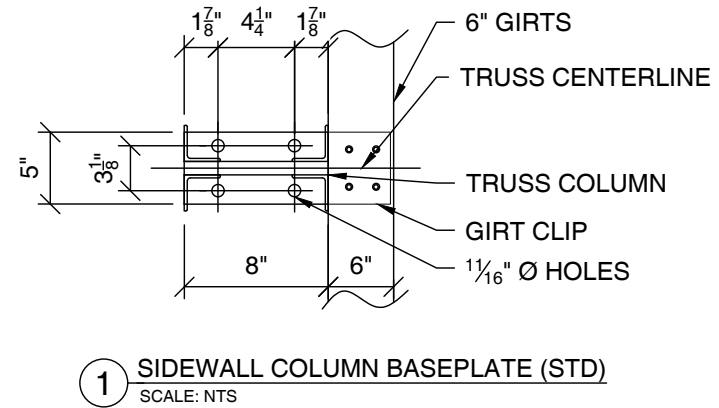
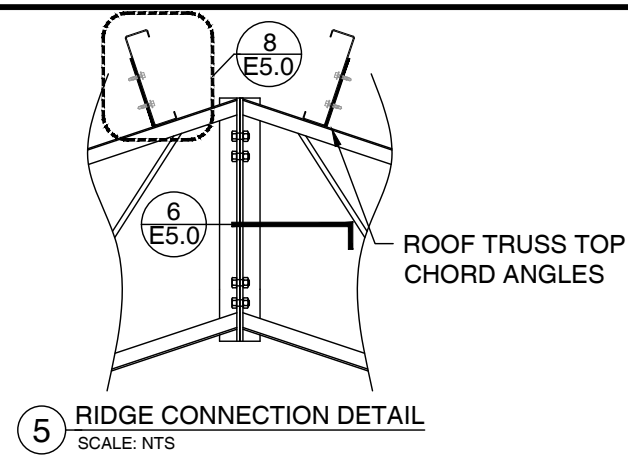
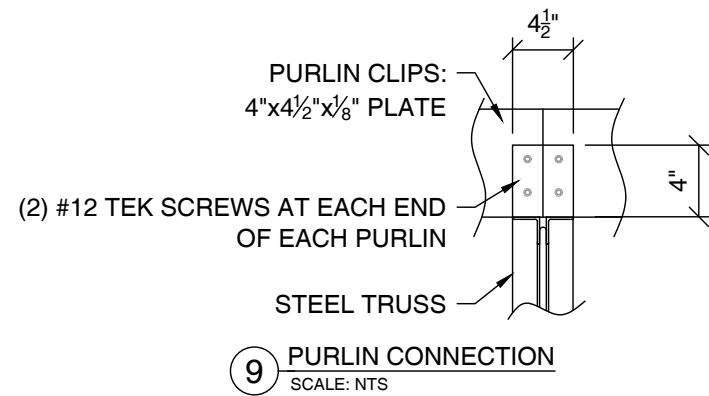


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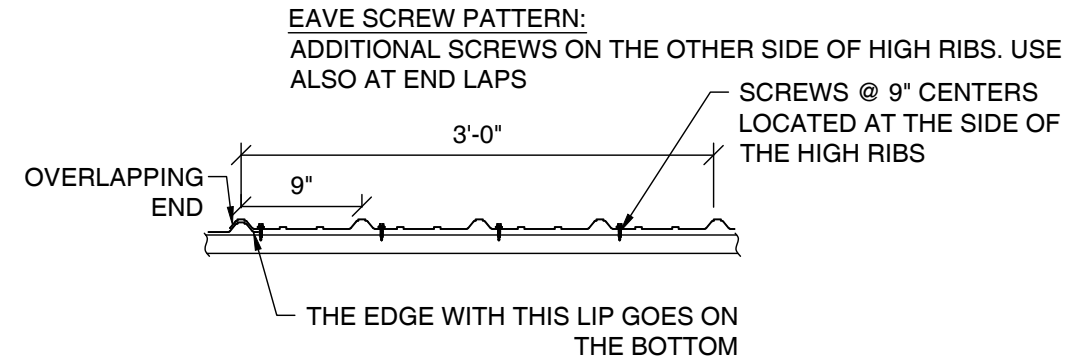
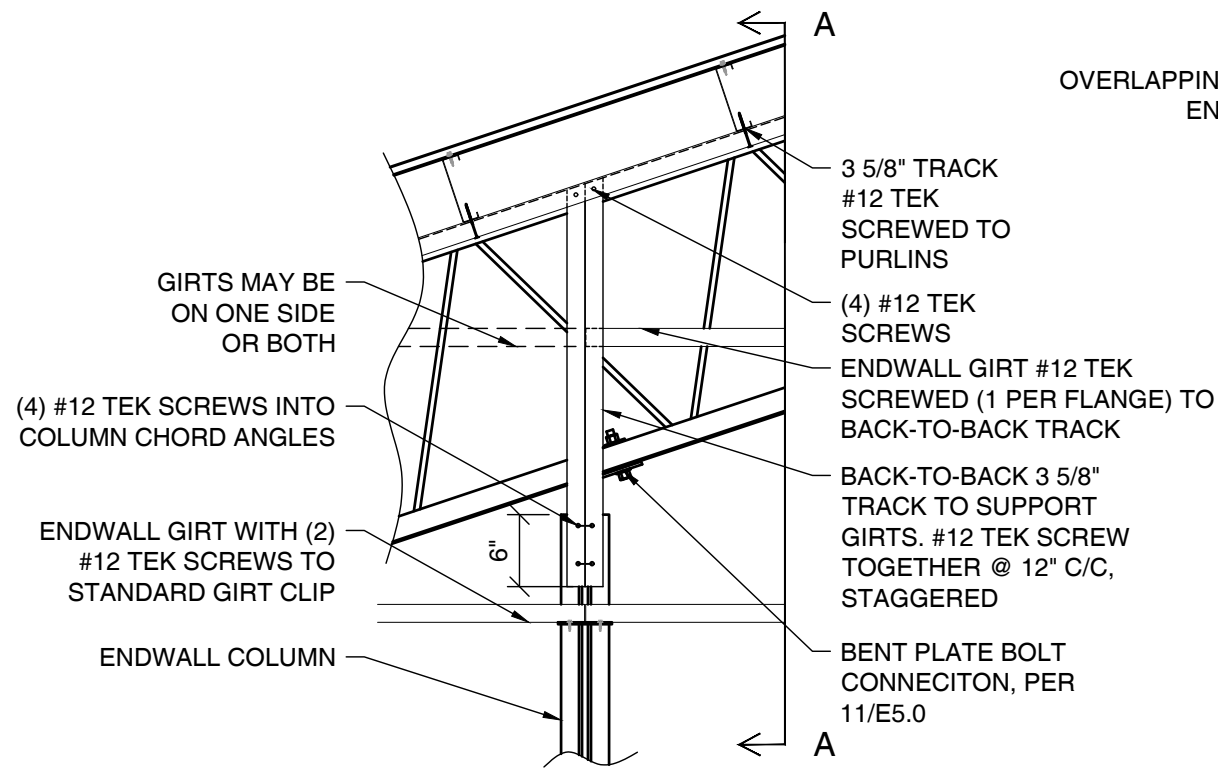


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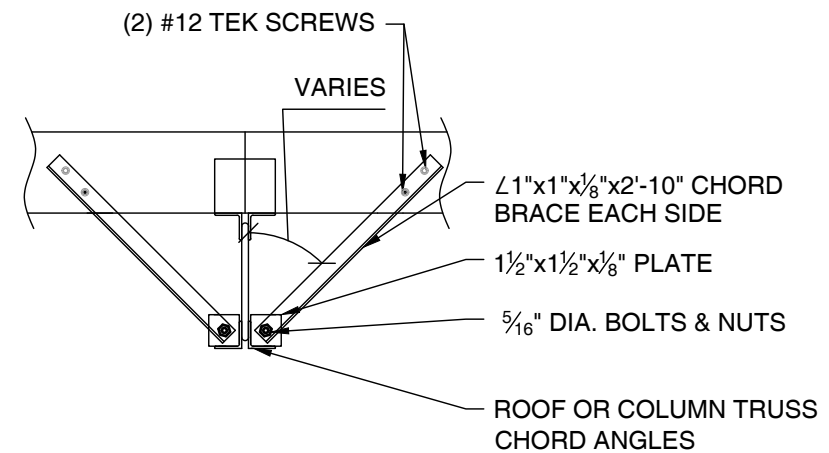
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SHEET  
**E5.0**



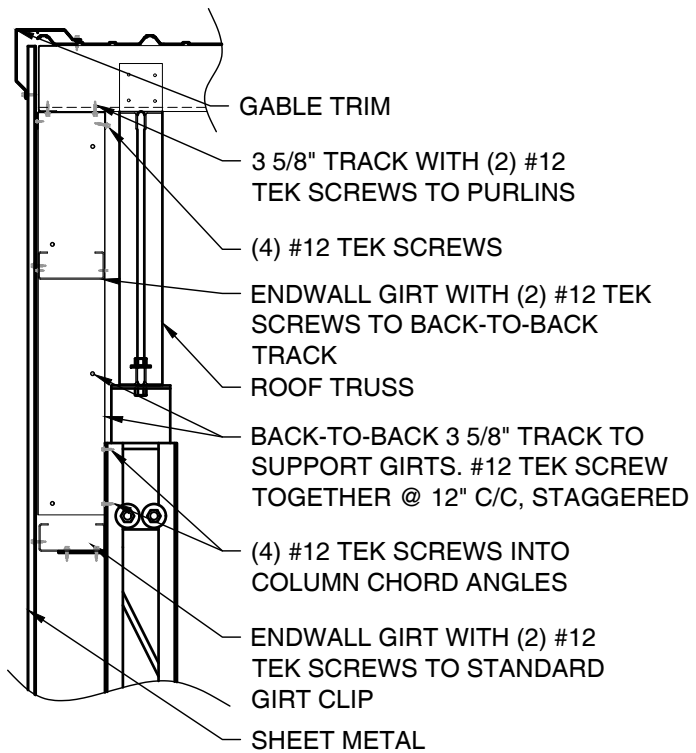
SHEET METAL FOR ROOF AND WALLS ATTACH WITH #10 TEK SCREWS

**1 STANDARD SHEET METAL CONNECTION**  
SCALE: NTS



**NOTES:**  
1. BRACE AT LOCATIONS SHOWN ON TRUSS SECTIONS  
2. WHERE BRACES ARE CROWDED BY DOOR, FIELD CUT ANGLE TO PLACE THE END AS CLOSE TO THE DOOR JAMB AS POSSIBLE

**2 CHORD BRACE DETAIL**  
SCALE: NTS



**3 GIRT SUPPORT ABOVE ENDWALL COLUMN**  
SCALE: NTS



Worldwide Steel Buildings  
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**Drew Manuel**

59380 Boe Drive  
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WWSB Project #70-79

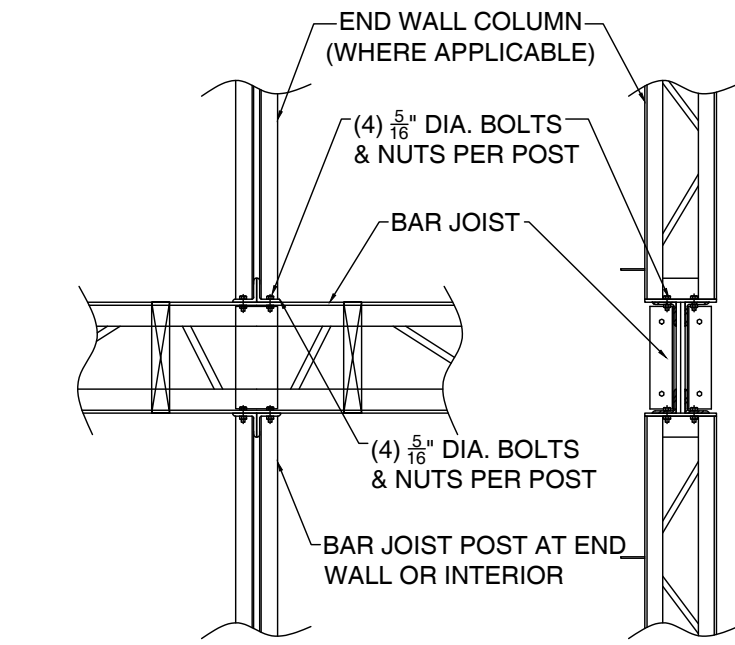
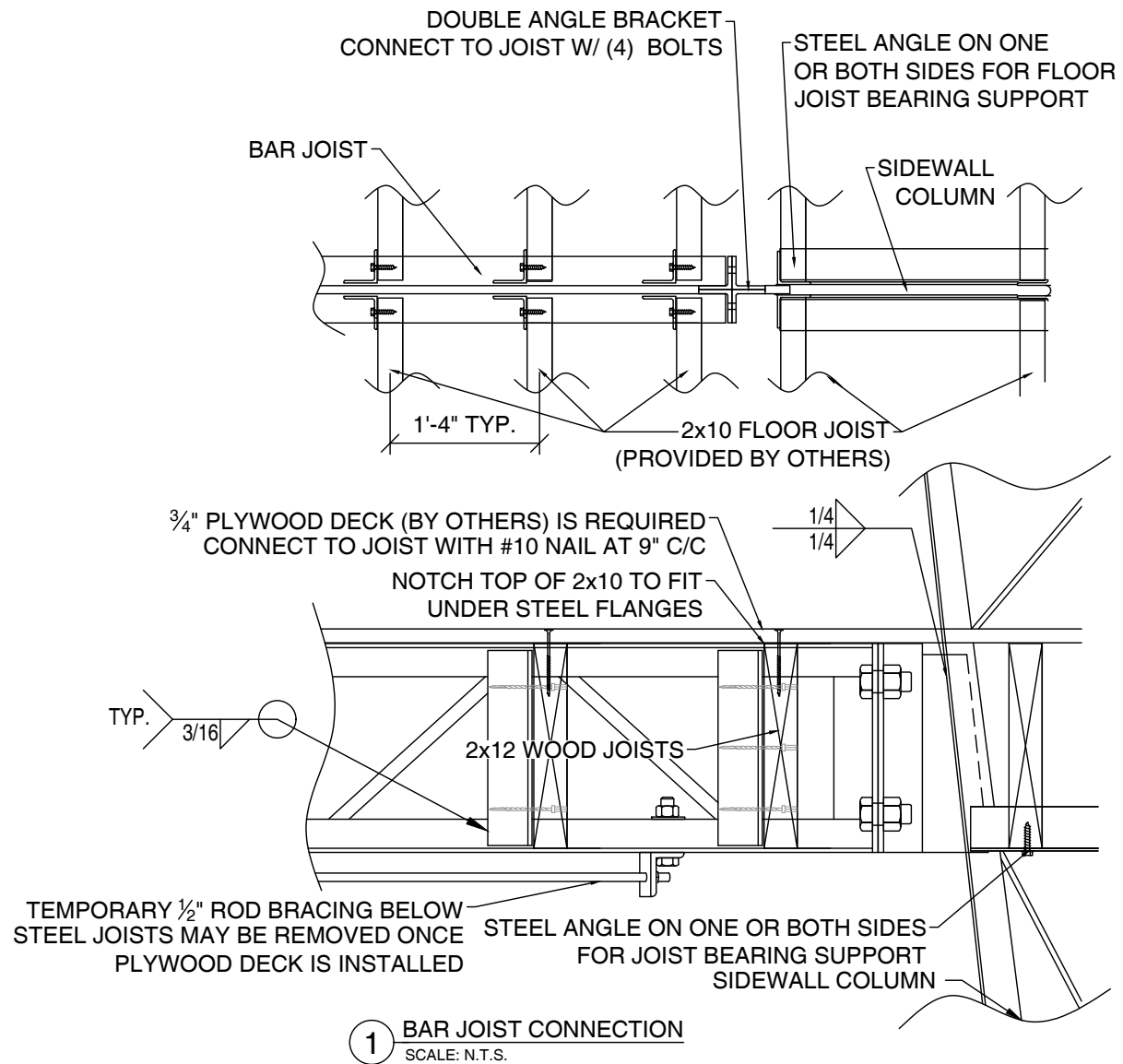


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CHECKED	DML
DATE	7/23/2021
REVISIONS	

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SHEET  
**E5.1**



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SHEET

E5.2