

Design of a Metal Building System

It is the responsibility of the Manufacturer, through the Manufacturer's Engineer, to design the Metal Building System to meet the specifications including the design criteria and design loads incorporated by the Builder into the Order Documents. The Manufacturer is not responsible for making an independent determination of any local codes or any other requirements not part of the Order Documents.

The Manufacturer is responsible only for the structural design of the Metal Building System it sells to the Builder. The Manufacturer or the Manufacturer's Engineer is not the Design Professional or Engineer of Record for the Construction Project. The Manufacturer is not responsible for the design of any components or materials not sold by it or their interface and connection with the Metal Building System unless such design responsibility is specifically required by the Order Documents. Therefore, it is highly recommended that the End Customer hire a Design Professional or Engineer of Record (EOR) who would be responsible for specifying the design criteria for the Metal Building System to be used by the Builder and Manufacturer including all the applicable design loads. The EOR is also typically responsible for the design of any components or materials not sold by the Manufacturer and the interface and connection with the Metal Building System. The EOR can also provide valuable inspection services to the End Customer to ensure that the project is constructed according to the Manufacturer's erection drawings.

While not recommended practice, if the End Customer does not retain a Design Professional or Engineer of Record, the Manufacturer may be asked to specify the design criteria to be used for the Metal Building System including all applicable design loads.

It is the responsibility of the Builder to interpret all aspects of the End Customer's specifications and incorporate the appropriate specifications, design criteria, and design loads into the Order Documents submitted to the Manufacturer.

When specified by the Order Documents, the manufacturer is responsible for supplying adequate evidence of compliance with the specifications, design criteria, and design loads, and other specified information necessary for the Builder or Design Professional to incorporate the Metal Building System into the Construction Project.

In the event of discrepancy between the plans and specifications for the Metal Building System, the plans govern. In the event of discrepancy between scaled dimensions and numerical dimensions on the plans, included as part of the Order Documents, the numerical dimensions govern.

End Customer Responsibility

The End Customer is responsible for identifying all applicable building codes, zoning codes, or other regulations applicable to the Construction Project including the Metal Building System.

It is the responsibility of the End Customer to prepare complete specifications including the applicable design criteria, codes, standards, and regulations, and all the design loads or other requirements which affect the design or erection of the Metal Building System. The following information must be supplied to the Builder by the End Customer or the Design Professional. This information must, in turn, be supplied to the Manufacturer by the Builder.

1. The building geometric requirements such as length, width, height, roof shape and slope, and clearance requirements, both vertical and horizontal.
2. The applicable code or standard that describes the application of design loads to the Metal Building Systems.
3. The applicable design loads including, Live, Snow, Wind, Seismic, Collateral and Auxiliary loads, including information concerning Collateral and Auxiliary loads required by the Manufacturer to enter the order. Unless design loads or conditions are specifically set out in the Order Documents, the Manufacturer assumes that no such loads or conditions exist.
4. All coefficients or factors (for example, Exposure, Importance, Building Use, etc.) necessary to adjust general or commonly used values in the specified design standard or code for the local site conditions and specified design conditions of use.
5. Site and construction that affect design criteria such as conditions causing snow drifting, including location of adjacent structures.
6. Open wall conditions.
7. All information necessary to ensure that the Metal Building System can be designed to comply with the specified code or standard and is compatible with other materials used on the Construction Project.
8. All serviceability criteria limiting vertical or horizontal deflection of components or gross building drift that are necessary to ensure that the stiffness of the Metal Building System is suitable for its specific conditions of use and compatible with materials not included in the Metal Building System.
9. In the design of the Metal Building System, the owner is responsible for providing clearances and adjustments of material furnished by other trades to accommodate all of the tolerances of the Metal Building Systems.

Foundation Design

The Manufacturer is not responsible for the design, materials and workmanship of the foundation. Anchor bolt plans prepared by the Manufacturer are intended to show only location, diameter and spacing of anchor bolts required for the Metal Building System to the foundation. The Manufacturer is responsible for providing to the Builder the loads imposed by the Metal Building System on the foundation. It is the responsibility of the End Customer to ensure the adequate provisions are made for specifying bolt embedment, bearing angles, the rods, and/or other associated items embedded in the concrete foundation, as well as foundation design for the loads imposed on the foundation. The Manufacturer is not responsible for the capacity of the soil and other conditions of the building site. This is typically the responsibility of the Design Professional or Engineer of Record, which is another reason that their involvement in the Construction Project from the outset is highly recommended.

Ventilation, Condensation and Energy Conservation

The Manufacturer does not design or erect ventilation or energy conservation systems required by the Order Documents. The Manufacturer is not responsible for the adequacy of specified ventilation and energy conservation components. The End Customer assures that adequate provisions are made for ventilation, condensation, and energy conservation requirements.

INDACO METALS

STEEL TRUSS

3 AMERICAN WAY SHAWNEE, OKLA. 74804

PHONE (405) 273-9200 FAX (405) 273-9206

PURCHASER: Indaco 20 Truss Express

PROJECT: 20 Truss Express

BUILDING LOADS / DESCRIPTION:

WIDTH: 20 LENGTH: VARIES HEIGHT: VARIES
(BUILDING DIMENSIONS ARE NOMINAL... REFER TO PLANS).

ROOF PANELS:

COLOR: _____

WALL PANELS:

COLOR: _____

TRIM COLORS:

GABLE: _____

CORNER: _____

EAVE: _____

FRAMED OPENINGS: _____

Exposed Openings
The design of openings in accordance with the design loads specified by the Order Documents is the responsibility of the Manufacturer. Design of materials supplied by others to be installed in these openings is the responsibility of the End Customer. It is the responsibility of the End Customer to supply to the Builder's design loads and other requirements which affect the design of the Metal Building System and its compatibility with other materials. The Builder must incorporate these requirements into the Order Documents.

Effect on Existing Building
The Manufacturer does not investigate the influence of the Metal Building System on existing buildings or structures. The End Customer assures that such buildings and structures are adequate to resist snow drifts or other conditions as a result of the presence of the Metal Building System.

Inspection
The Manufacturer is not responsible for inspection of a Construction Project unless this is incorporated into the Order Documents. Typically, a Manufacturer is limited because of logistical constraints as well as not having the expertise in inspection services. Furthermore, a Manufacturer is not in the best position to inspect the work of the Builder who is the Manufacturer's customer. The Manufacturer and End Customer should utilize the inspection services of the Engineer of Record for the project to provide this important function.

Manufacturer's Responsibility

General
The Manufacturer is responsible for the design of the Metal Building System as defined by the Order Documents, and for providing erection and approval drawings, as required by the Order Documents.

Engineering Data
The Manufacturer provides a letter of design certification, design calculations, or other engineering data specified in the Order Documents. The letter of design certification and design calculations are sealed by the Manufacturer's Engineer who is a Registered Professional Engineer in the jurisdiction where the Construction Project is located. Erection drawings are not required to be sealed. In any event, the supplying of sealed engineering data and drawings for the Metal Building System does not imply or constitute an agreement that the Manufacturer or Manufacturer's Engineer is acting as the Engineer of Record or Design Professional for a Construction Project.

The letter of design certification states the order number and lists the design criteria including design codes, standards, loads and other design information supplied to the Manufacturer as provided in Paragraph 3.2 of the Order Documents.

Design calculation includes the information contained in the letter of certification plus structural design data for the framing members and covering of the Metal Building System necessary to show compliance with the Order Documents. The structural design data includes magnitude and location of design loads and support conditions, material properties, and the type and size of major structural members.

Design calculations may be manually or computer generated at the discretion of the Manufacturer, and is in accordance with the Manufacturer's usual procedures and standards unless otherwise specified by the Order Documents.

Approval Documents

When required by Order Documents, approval documents including plans, design calculations, and erection drawings are prepared by the Manufacturer to the Builder for approval. In order for the Manufacturer to proceed with preparation of fabrication drawings and the manufacture of the Metal Building System, the Builder returns one set of approval documents to Manufacturer with a notation of outright approval or approval subject to the Builder's requested changes or corrections.

Approval by the Builder without any changes or corrections affirms that the Manufacturer properly interpreted the Builder's requirements as set forth in the Order Documents.
If there are differences between the approval documents as prepared by the Manufacturer and the Order Documents, the approval documents take precedence.

If the Builder returns the approval documents with requested changes, additions or corrections, the documents shall be considered as a request to modify the Order Documents and must be agreed to by the Manufacturer pursuant to the provisions of Paragraph 2.2. If the approval documents with requested changes, additions or corrections are not returned to the Manufacturer and approved pursuant to the provisions of Paragraph 2.2, the requested changes, additions or corrections are not binding on the Manufacturer.

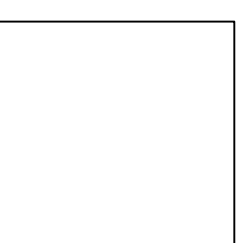
The Builder may incorporate the Manufacturer's approval data into documents submitted for the approval of the Contractor, General Contractor, or End Customer. In this event, only the Builder's approval or the Builder's requested changes and corrections are applicable to the Order Documents.

Plans
When approval documents are not required or the Builder has approved the Manufacturer's erection drawings, the Manufacturer provides the fabrication drawings and provides the Builder with prints of the final anchor bolt plans, erection drawings and erection instructions.

Fabrication Drawings
Fabrication drawings are not furnished by the Manufacturer.

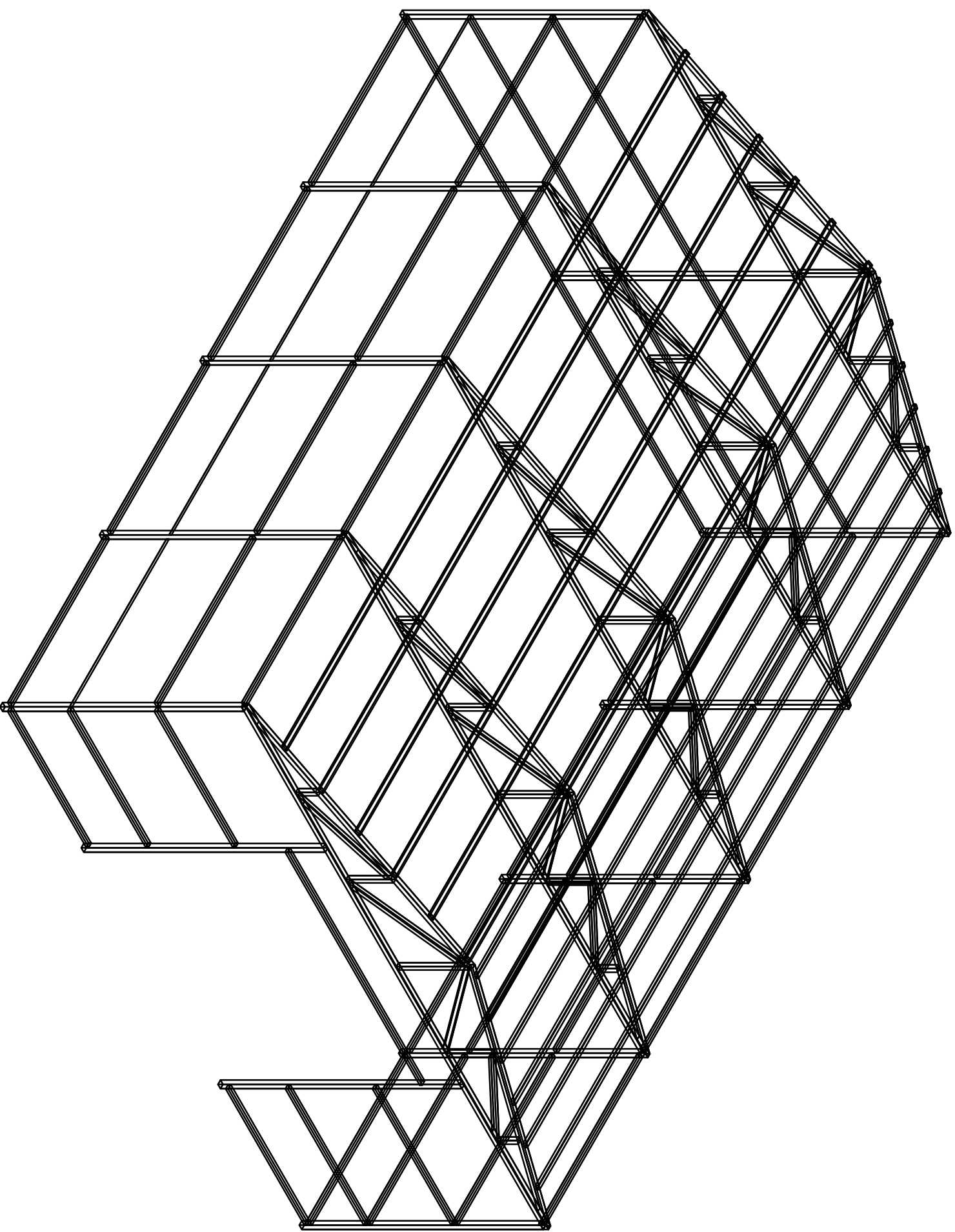
Quality Assurance
Manufacturers are responsible for assuring quality in the Metal Building System. A quality control program verified by an outside inspection agency, similar to the AISI-MB Certification program described in Section VI of this Manual, will satisfy this responsibility.

APPROVAL OF INDACO METALS DRAWINGS INDICATE THAT INDACO METALS CORRECTLY INTERPRETED AND APPLIED THE REQUIREMENTS OF THE CONTRACT DRAWINGS AND SPECIFICATIONS. WHERE DISCREPANCIES EXIST BETWEEN THE B & C STEEL PLANS AND THE PLANS FOR OTHER TRADES, THE STRUCTURAL STEEL PLANS SHALL GOVERN. (SECT. 4.2.1 AISI CODE OF STANDARD PRACTICE 9TH ED.) DESIGN CONSIDERATIONS OF ANY MATERIALS IN THE STRUCTURE WHICH ARE NOT FURNISHED BY INDACO METALS ARE THE RESPONSIBILITY OF THE CONTRACTORS AND ENGINEERS OTHER THAN INDACO METALS UNLESS SPECIFICALLY INDICATED.



Engineer's Seal

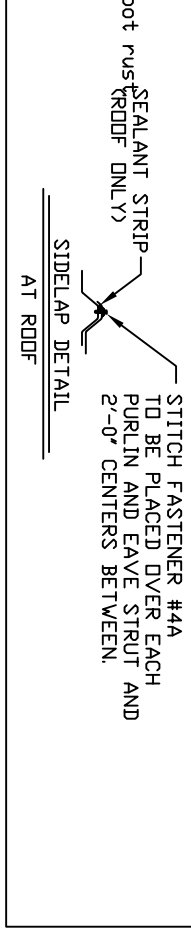
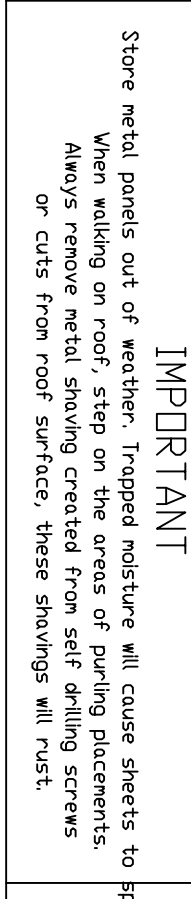
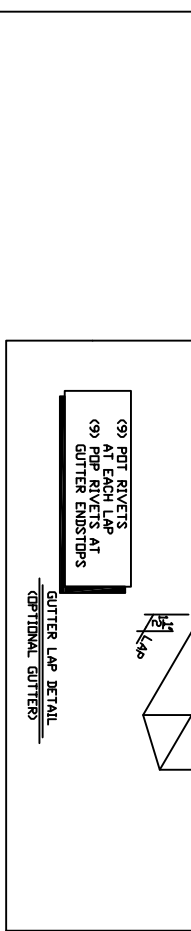
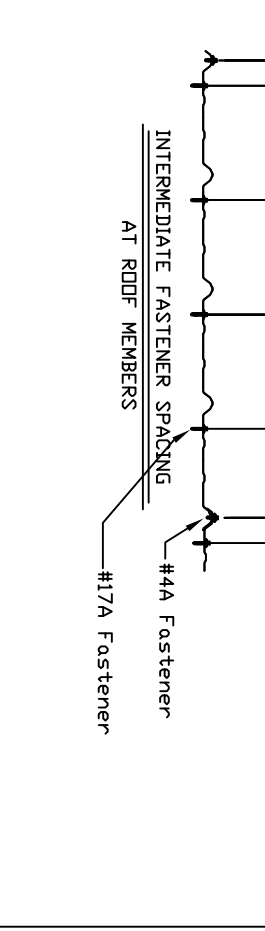
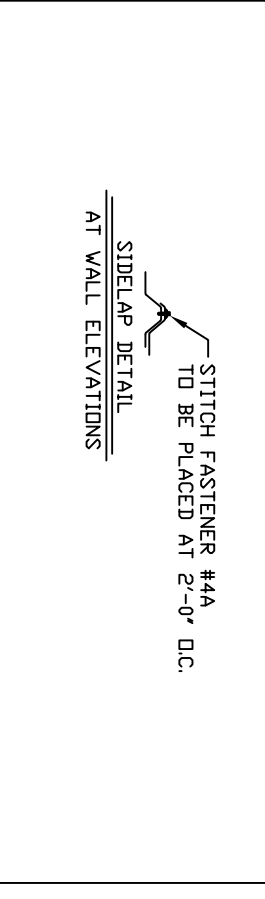
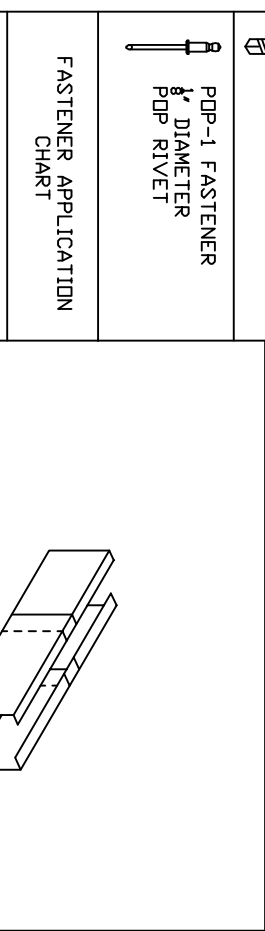
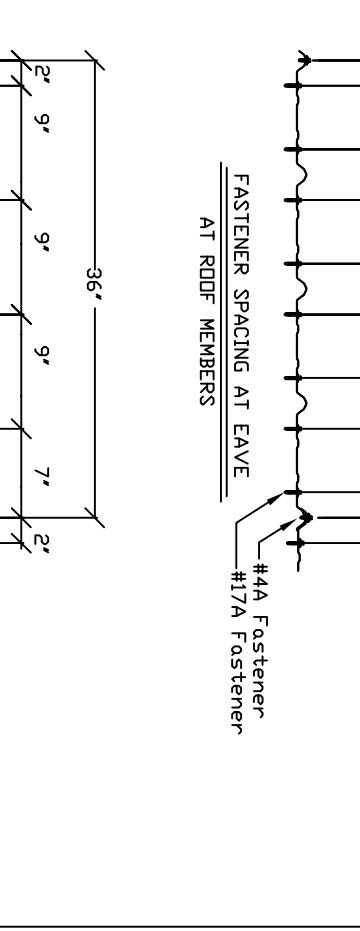
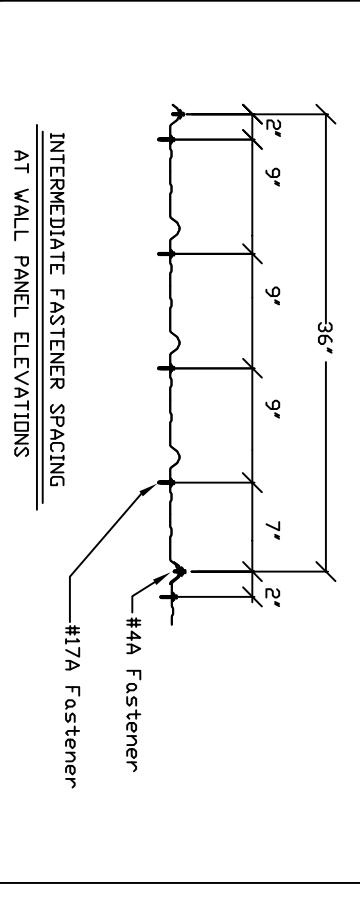
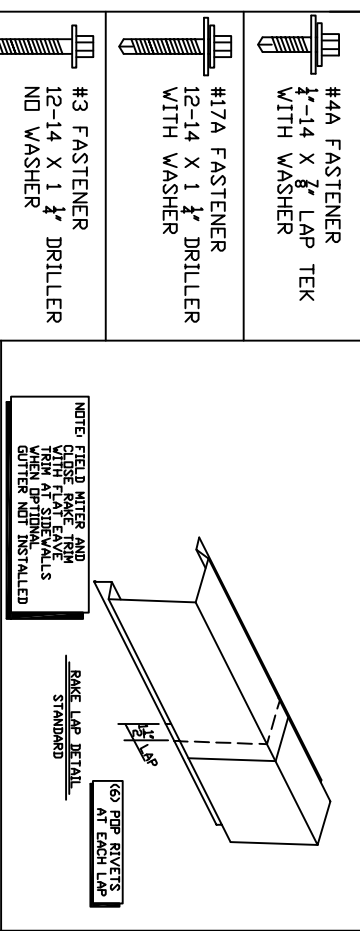
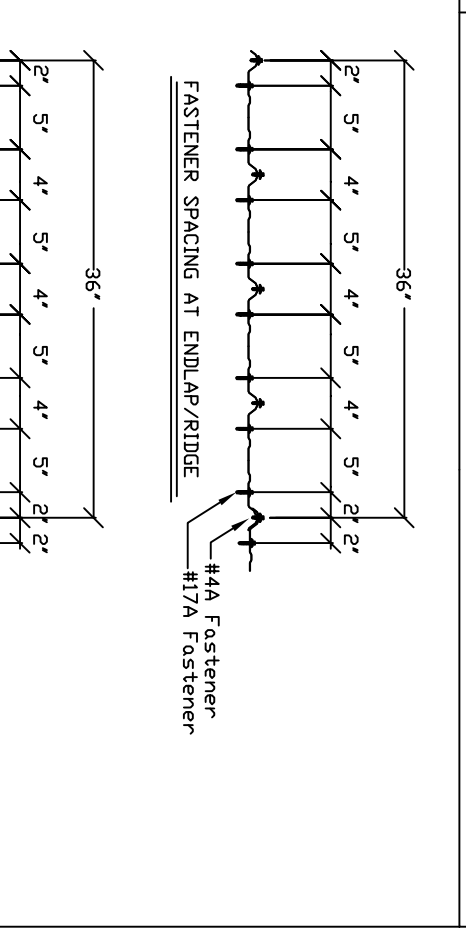
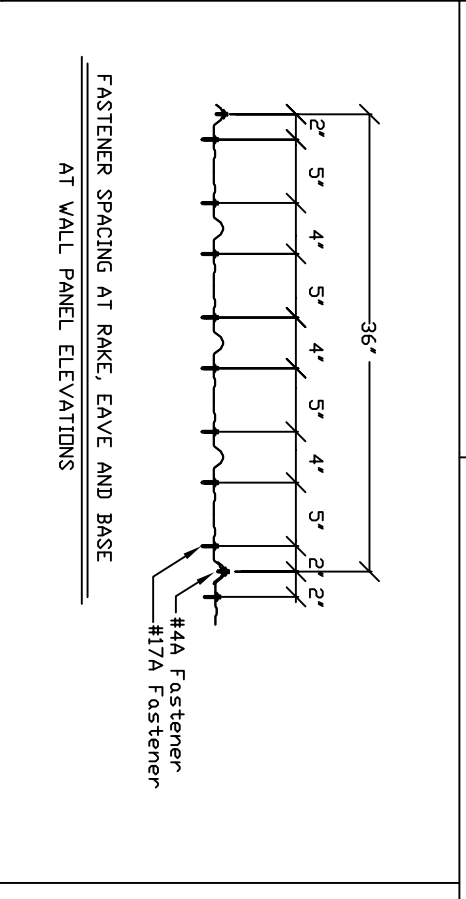
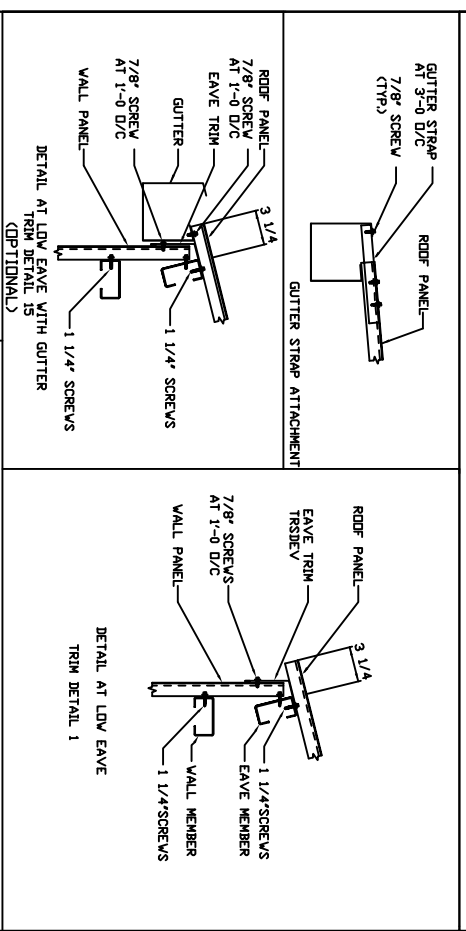
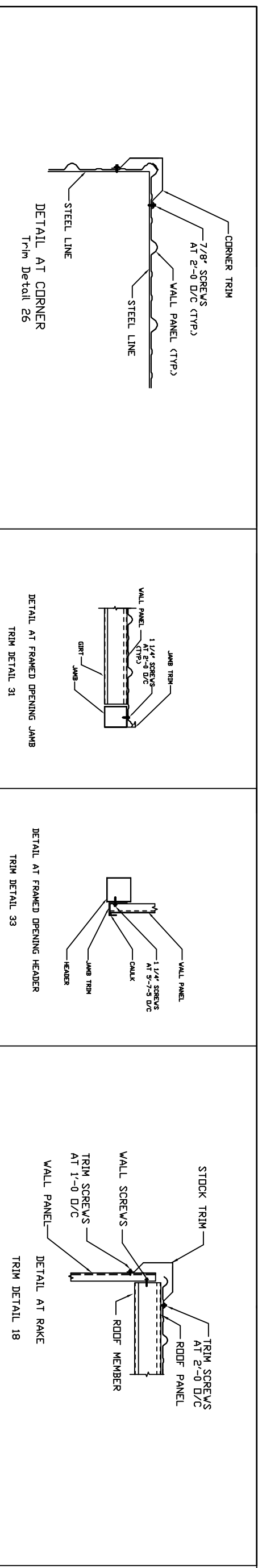
20 Truss Express



INDACO METALS

3 AMERICAN WAY SHAWNEE OK, 74804
 PHONE: (405) 273-9200
 FAX: (405) 273-9206

PROJECT:	20x Truss	DRAWING TAG:	3D FRAMING		
CUSTOMER:	20x Truss	STRUCTURE SIZE:	20.00' x		
LOCATION:	ADDRESS	DRN. BY:	DATE:	SCALE:	JOB NO.
CITY/STATE:	CITY, STATE	mbm	8/30/12	NONE	20x
		CK'D BY:	DATE:		
			8/30/12		
					3D DRAWING



FASTENER APPLICATION CHART

	#44 FASTENER 1/4-14 X 7/8" LAP TEK WITH WASHER
	#17A FASTENER 12-14 X 1 1/4" DRILLER WITH WASHER
#3 FASTENER symbol"/>	#3 FASTENER 12-14 X 1 1/4" DRILLER NO WASHER
	POP-1 FASTENER 1/2" DIAMETER POP RIVET

FASTENER APPLICATION CHART

SAFETY PRECAUTIONS

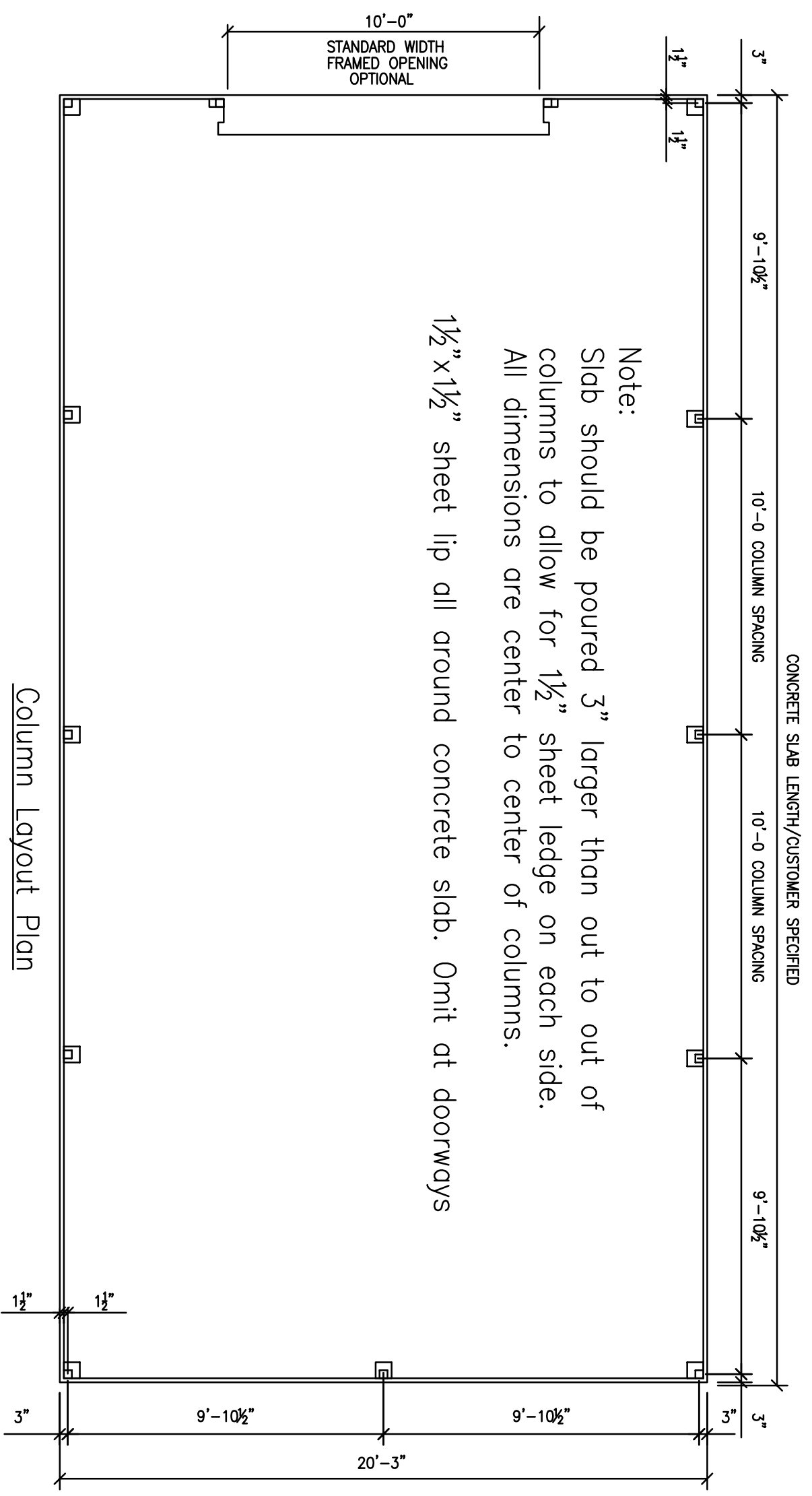
Gloves should be worn to prevent injury while handling steel panels.
 Safety glasses should be worn to prevent eye injury when cutting or drilling steel panels with power tools.
 Use care when walking, sitting or kneeling on a steel roof to avoid fall. Steel panels may become slippery when wet. Do not work on the steel panels when wet or when climatic conditions are not suitable for safe installation.

IMPORTANT

Store metal panels out of weather. Trapped moisture will cause sheets to rust. When walking on roof, step on the areas of purling placements. Always remove metal shavings created from self drilling screws or cuts from roof surface; these shavings will rust.

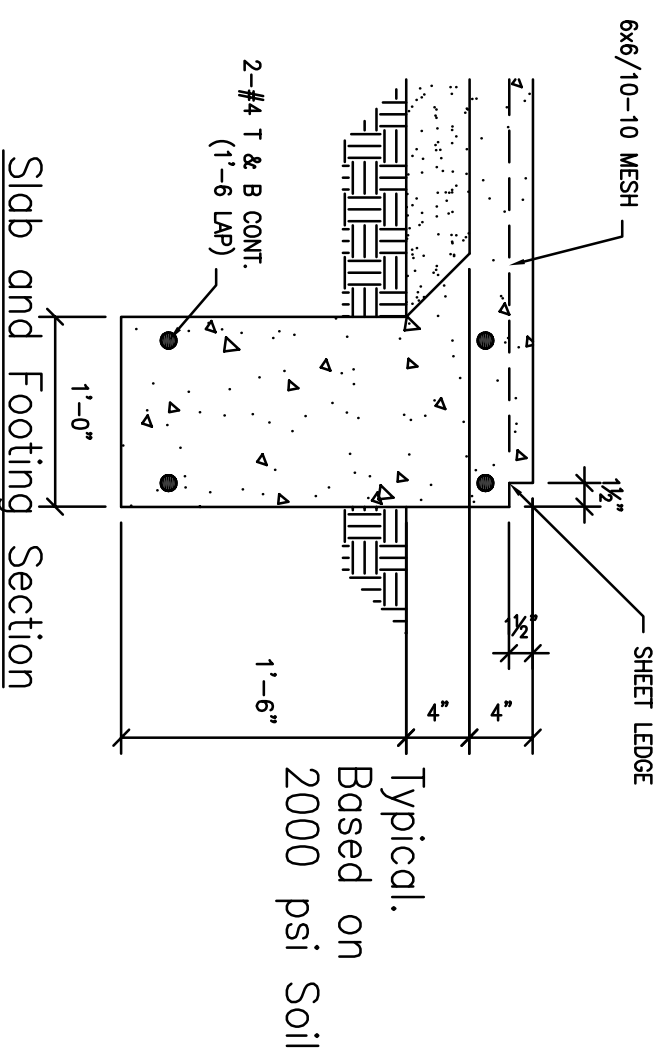
INDACO METALS
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 PHONE: (405) 273-9200
 FAX: (405) 273-9208

PROJECT:	20x Truss	DRAWING TAG:	
CUSTOMER:	20x Truss	STRUCTURE SIZE:	20.0' X
ADDRESS:		DATE:	9/30/12
CITY/STATE:		SCALE:	NONE
		ISSUE NO.:	20x Truss
		SHEET NO.:	1 of 8



Note:
 Slab should be poured 3" larger than out to out of columns to allow for 1 1/2" sheet ledge on each side.
 All dimensions are center to center of columns.
 1 1/2" x 1 1/2" sheet lip all around concrete slab. Omit at doorways

Column Layout Plan

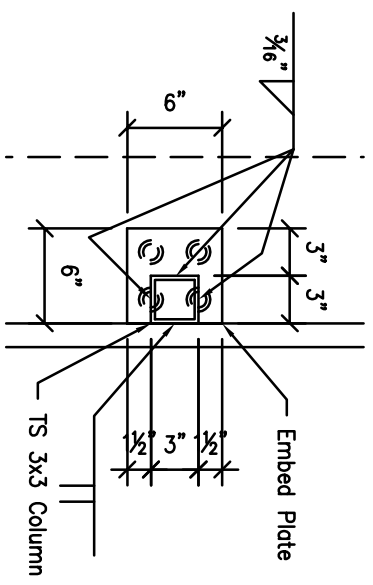


Typical.
 Based on
 2000 psi Soil

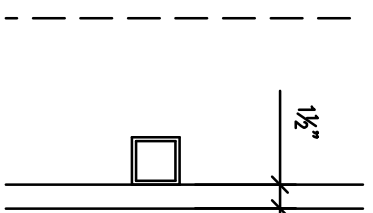
Slab and Footing Section

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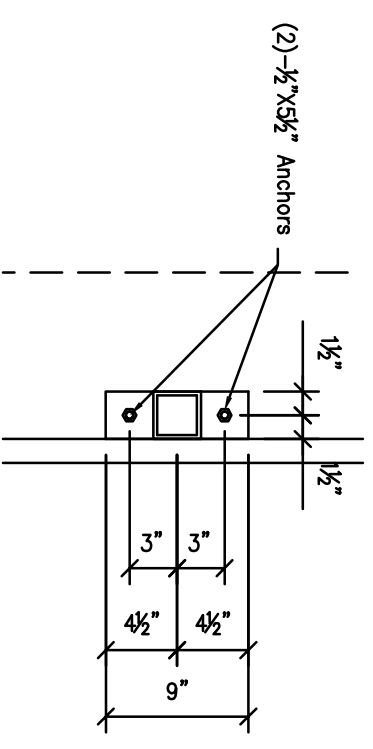
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CUSTOMER:	20x Truss	STRUCTURE SIZE:	20.00' x
LOCATION:	ADDRESS	DRN. BY:	mbm
CITY/STATE:	CITY, STATE	CHK'D BY:	
		DATE:	8/30/12
		SCALE:	NONE
		JOB NO.:	20x
		SHEET NO.:	2 of 8



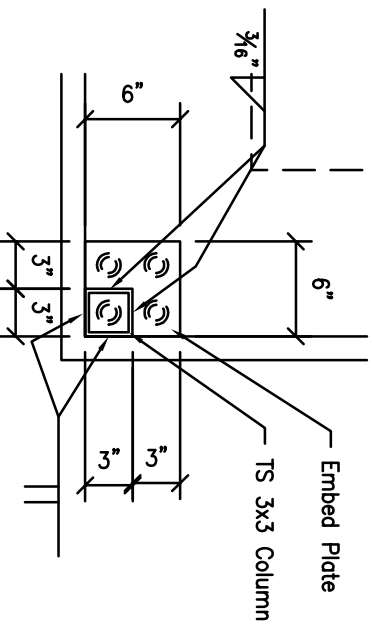
Embed Base Plan @ Sides



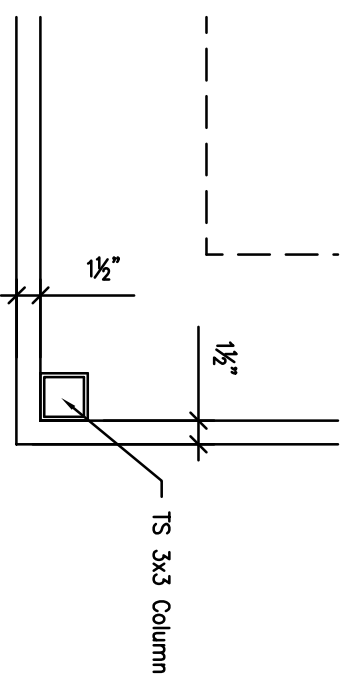
Column Embed Plan @ Side



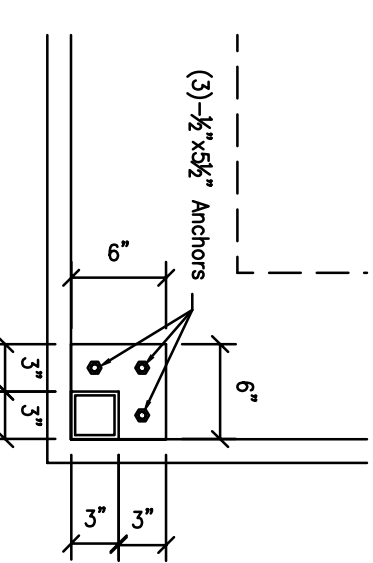
Bolted Base Plan @ Side



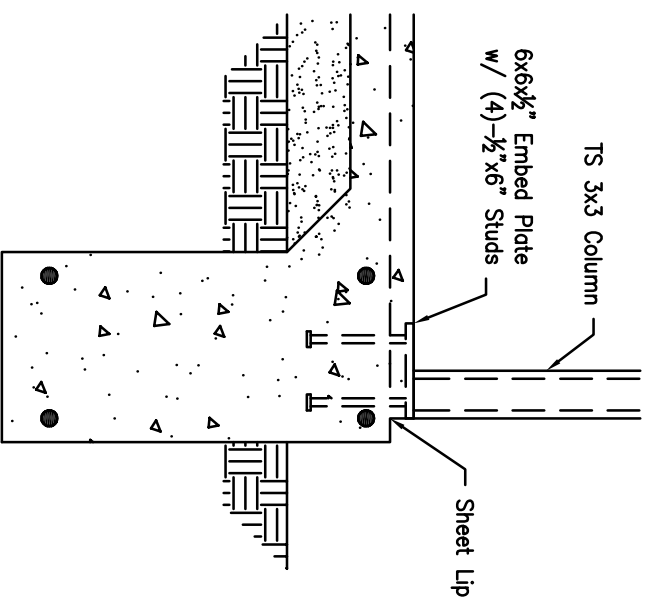
Embed Base Plan @ Corner



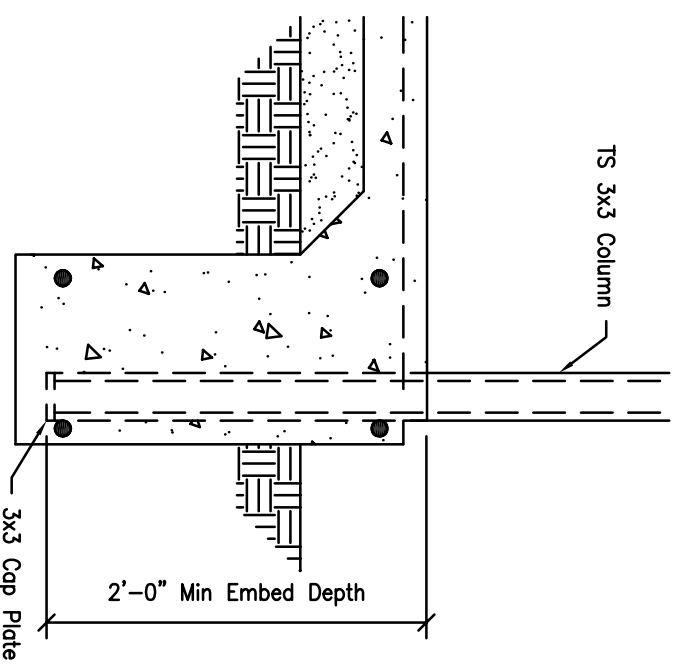
Column Embed Plan @ Corner



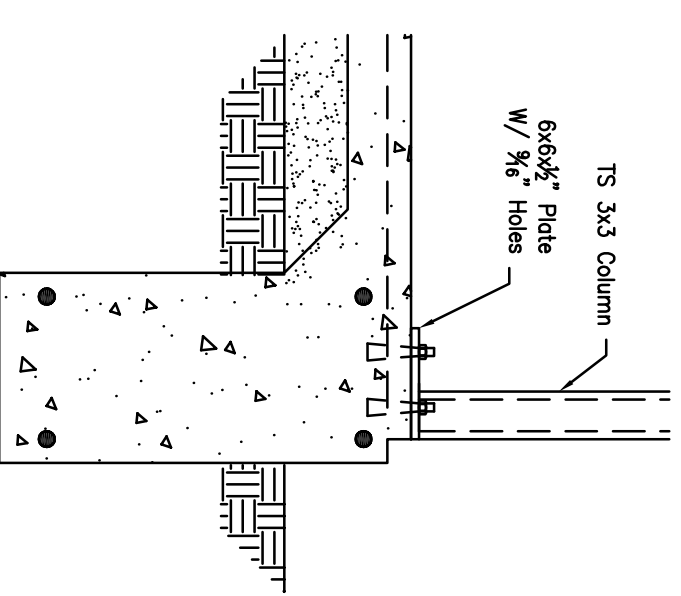
Bolted Base Plan @ Corner



Embed Base Section



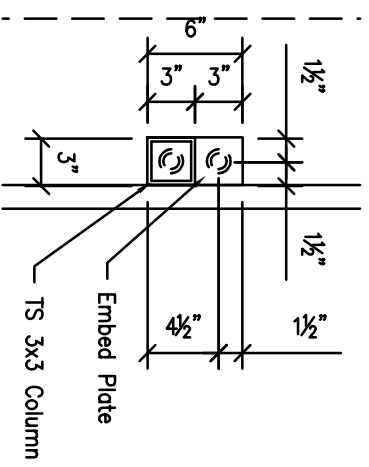
Column Embed Section



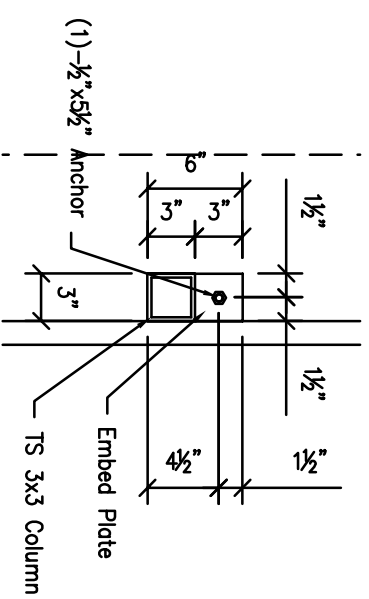
Bolted Base Section

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 FAX: (405) 273-9206

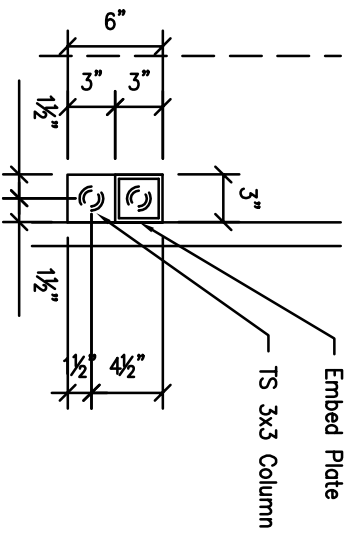
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CUSTOMER:	20x Truss	STRUCTURE SIZE:	20.00' x
LOCATION:	ADDRESS	DRN. BY:	mhm
CITY/STATE:	CITY, STATE	DATE:	8/30/12
		DATE:	8/30/12
		SCALE:	NONE
		JOB NO.:	20x
		SHEET NO.:	3 of 8



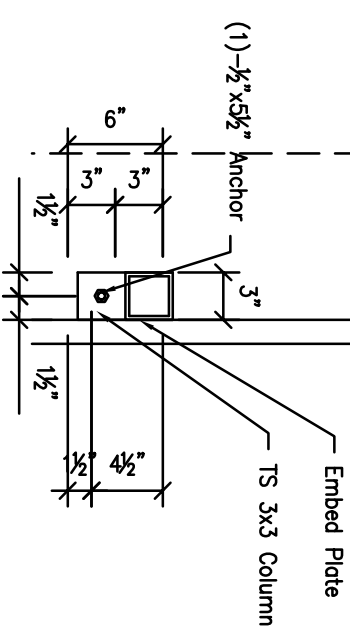
Embed Base Plan @ Right Door Jamb



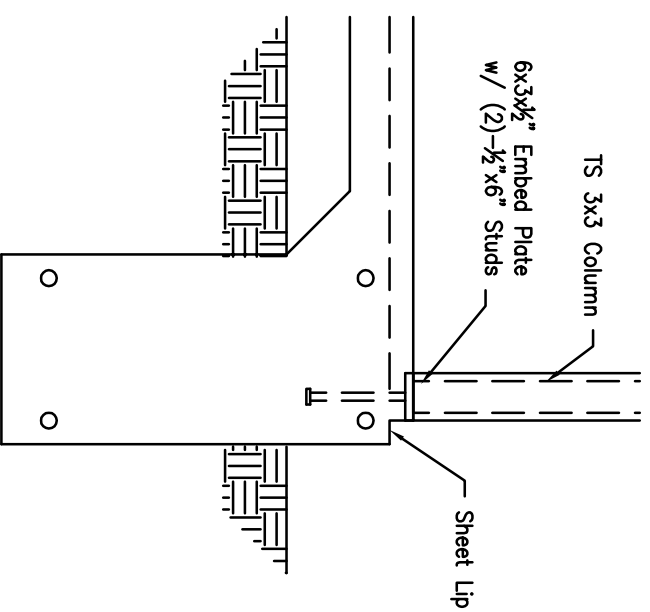
Embed Base Plan @ Right Door Jamb



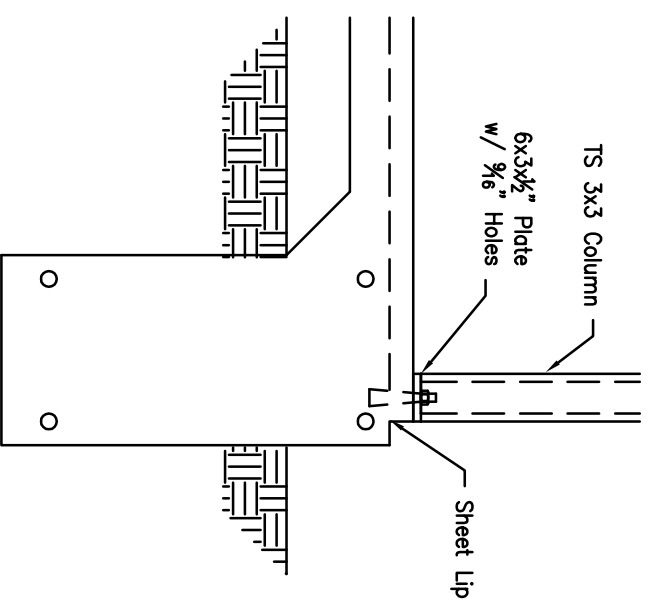
Embed Base Plan @ Left Door Jamb



Embed Base Plan @ Left Door Jamb



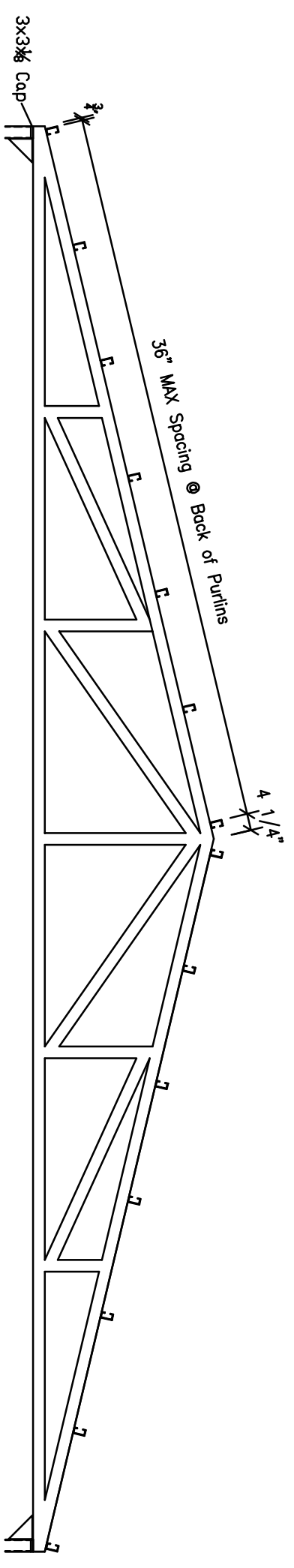
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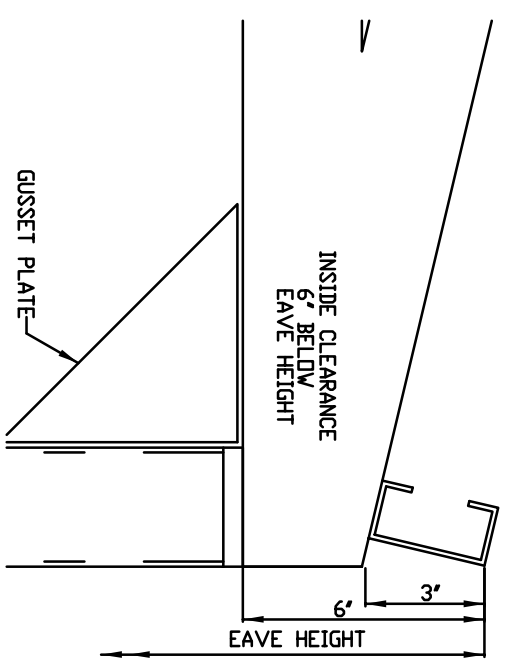
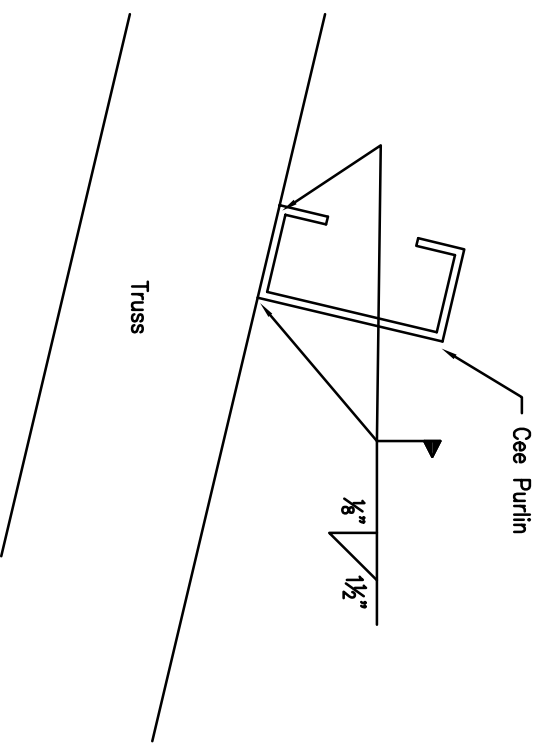
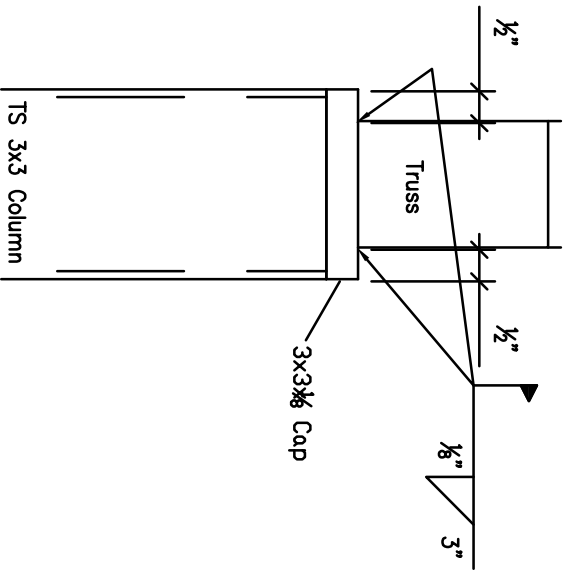
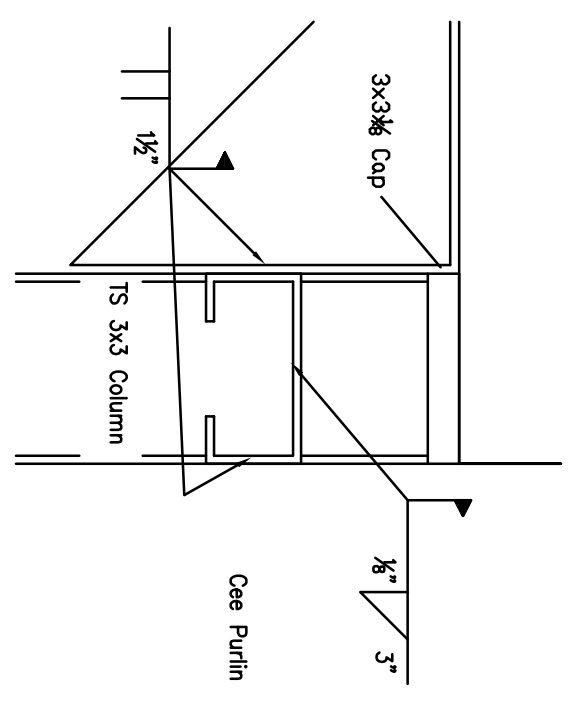
Bolted Base Section

INDACO METALS
 3 AMERICAN WAY SHAWNEE OK, 74804
 PHONE: (405) 273-9200
 FAX: (405) 273-9206

PROJECT:	20x Truss	DRAWING TAG:	BASE DETAIL
CUSTOMER:	20x Truss	STRUCTURE SIZE:	20.00' x
LOCATION:	ADDRESS	DRN. BY:	mbm
CITY/STATE:	CITY, STATE	DATE:	8/30/12
		SCALE:	NONE
		JOB NO.:	20x
		SHEET NO.:	4 of 8

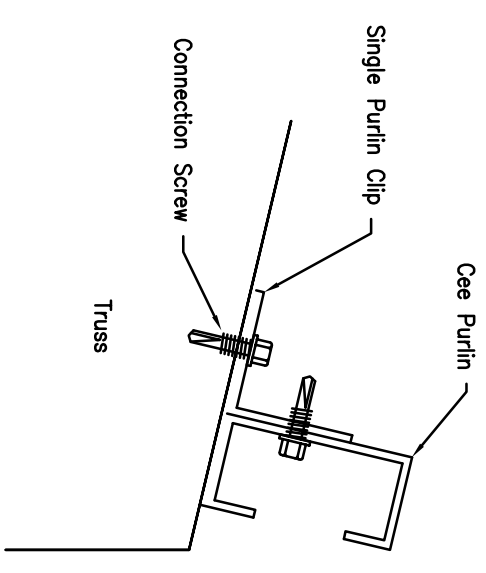
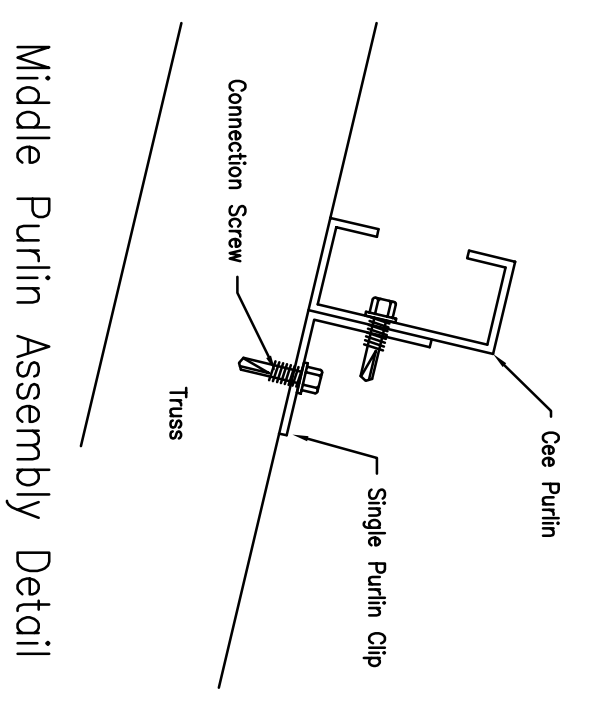
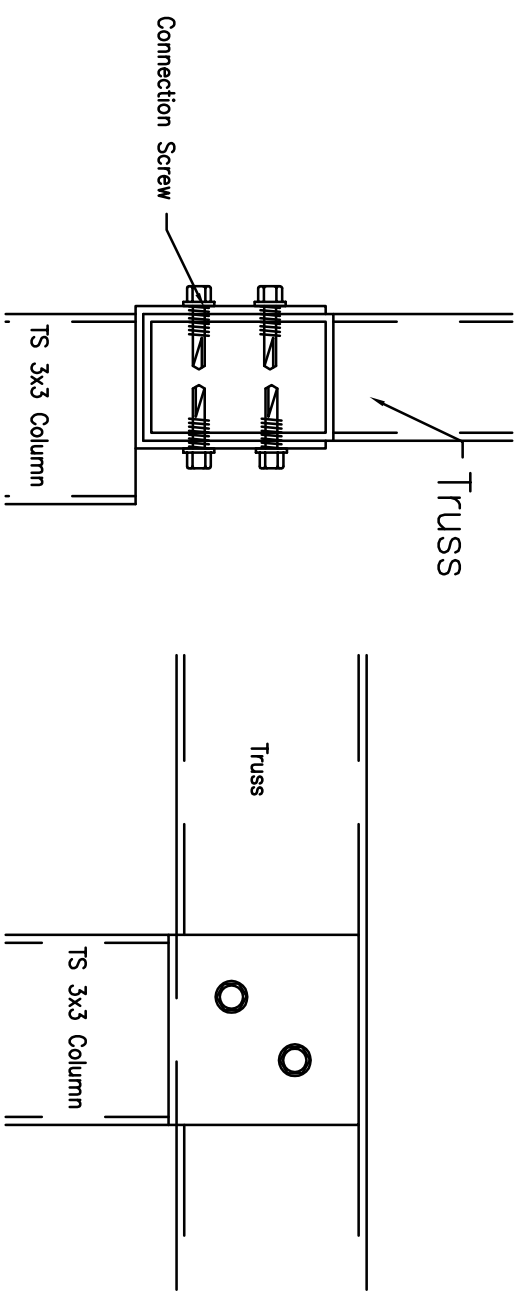
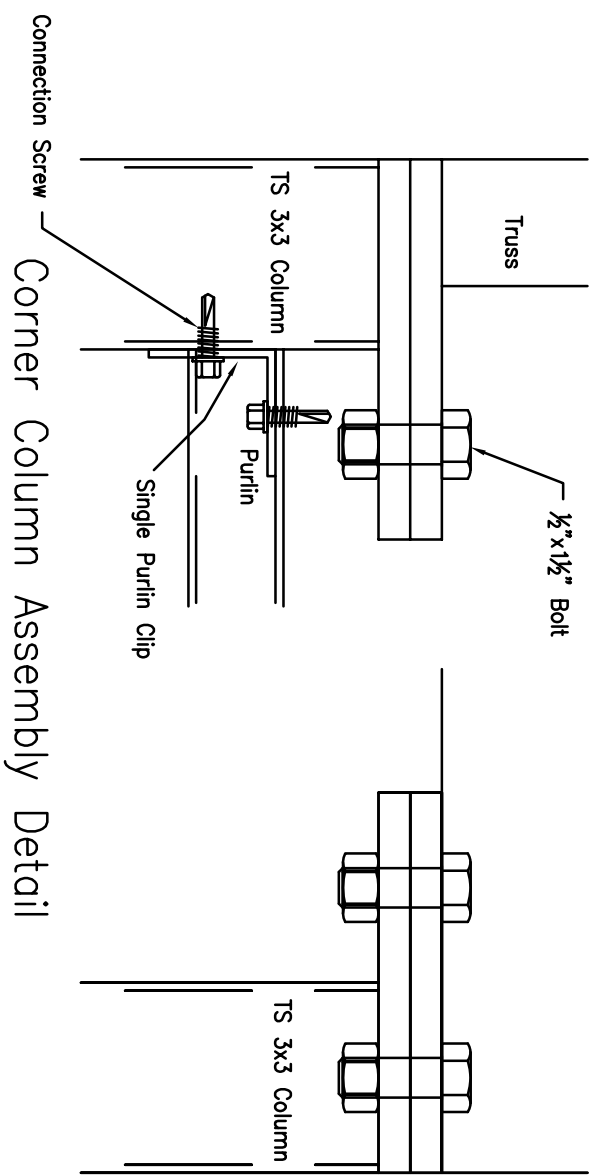
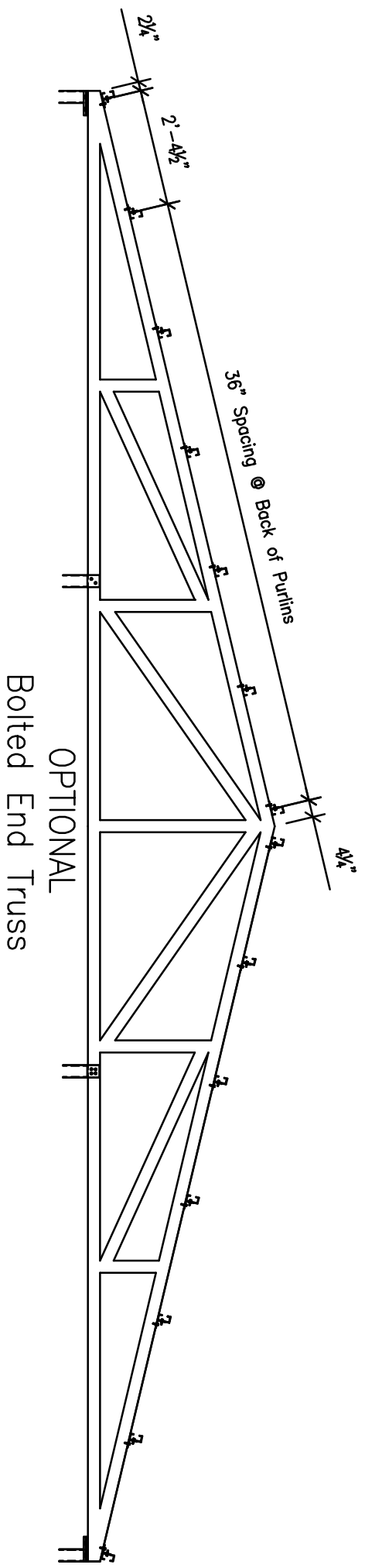


Standard Truss



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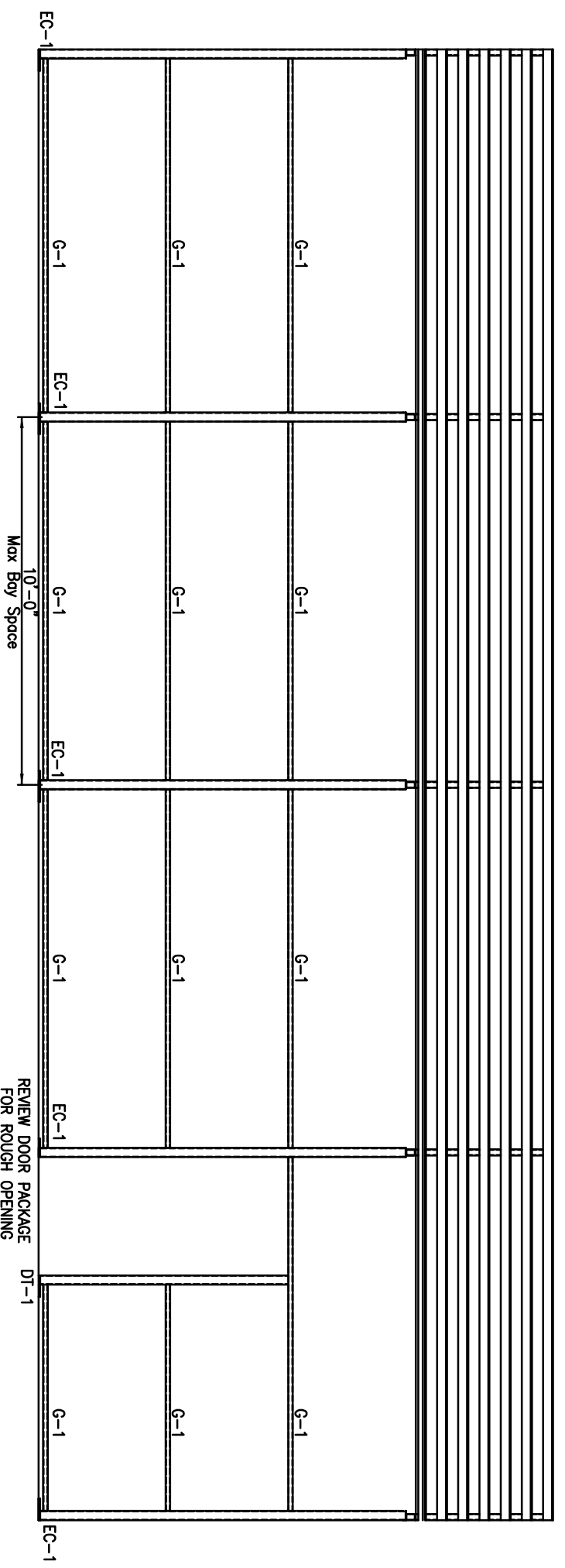
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CUSTOMER:	20x Truss	STRUCTURE SIZE:	20.00' x
LOCATION:	ADDRESS	DRN. BY:	mbm
CITY/STATE:	CITY, STATE	CHK'D BY:	
		DATE:	8/30/12
		SCALE:	NONE
		JOB NO.:	20x
		SHEET NO.:	5 of 8



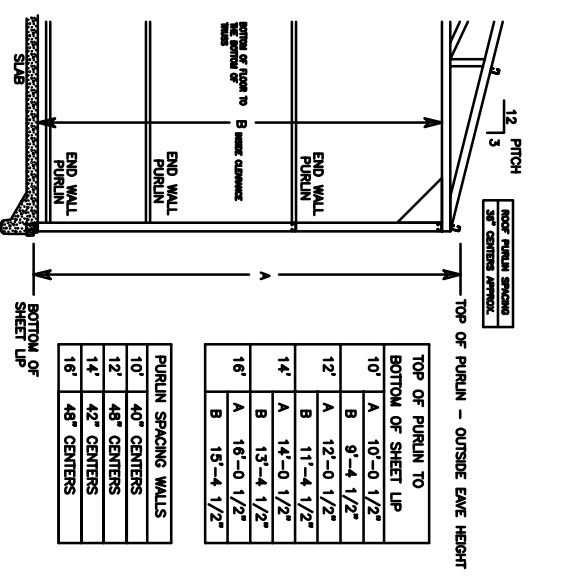
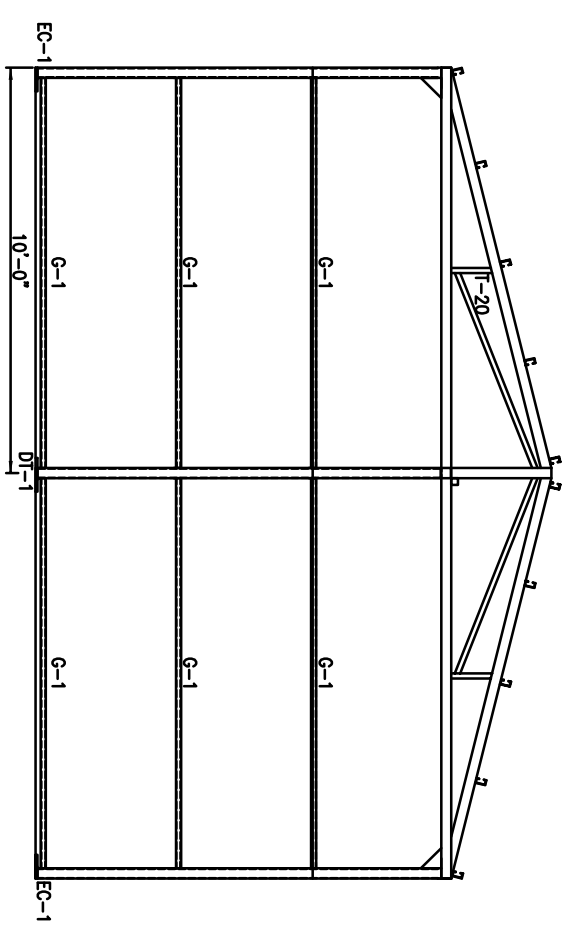
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PROJECT:	20x Truss	DRAWING TAG:	FRAMING
CUSTOMER:	20x Truss	STRUCTURE SIZE:	20.00' x
LOCATION:	ADDRESS	DRN. BY:	DATE:
CITY/STATE:	CITY, STATE	CHK'D BY:	DATE:
			SCALE:
			JOB NO.
			SHEET NO.
			6 of 8

MEMBER TABLE			
FRAME LINE 1			
MARK	PART	LENGTH	
DT-1	3X3TRUBE	FIELD CUT TO LENGTH	
G-1	3"CCE	FIELD CUT TO LENGTH	
EC-1	3X3TRUBE	FIELD CUT TO LENGTH	
T-20	20' TRUSS	20'-0"	

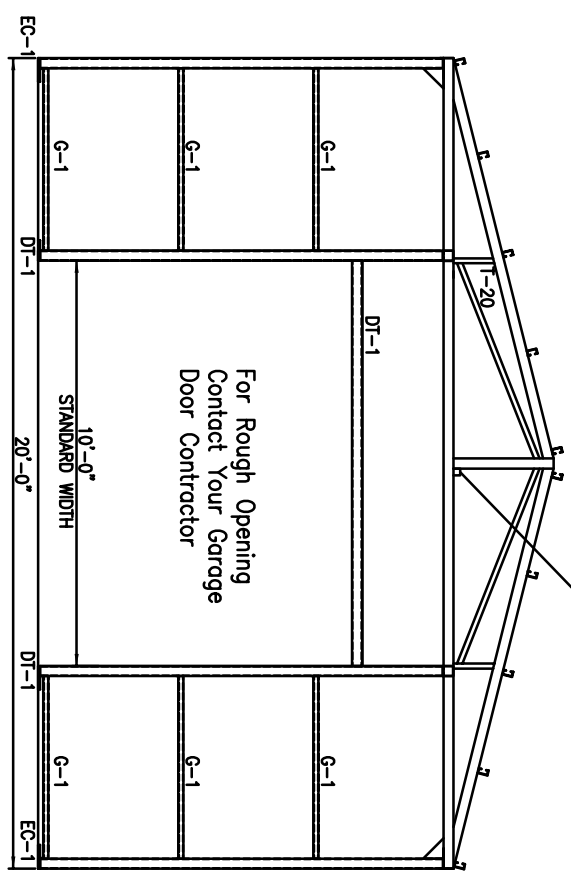


Typical Framing



TOP OF PURLIN TO BOTTOM OF SHEET LP	
10'	A 10'-0 1/2"
	B 9'-4 1/2"
12'	A 12'-0 1/2"
	B 11'-4 1/2"
14'	A 14'-0 1/2"
	B 13'-4 1/2"
16'	A 16'-0 1/2"
	B 15'-4 1/2"

PURLIN SPACING WALLS	
10'	40" CENTERS
12'	48" CENTERS
14'	42" CENTERS
16'	48" CENTERS



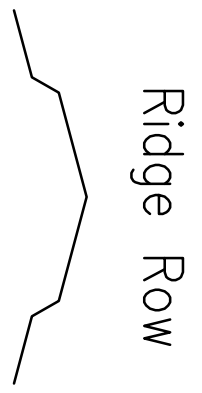
2x2x14 Stiffback
For IBC
ONLY (1) READ FOR
BUILDINGS UNDER 30' WIDE

Typical Overhead Framing

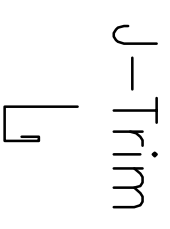
INDACO METALS
3 AMERICAN WAY SHAWNEE OK, 74804
PHONE: (405) 273-9200
FAX: (405) 273-9206

PROJECT:	20x Truss	DRAWING TAG:	FRAMING
CUSTOMER:	20x Truss	STRUCTURE SIZE:	20.00' x
LOCATION:	ADDRESS	DRN. BY:	mbm
CITY/STATE:	CITY, STATE	CHK'D BY:	
		DATE:	8/30/12
		SCALE:	NONE
		JOB NO.:	20X
		SHEET NO.:	7
			of 8

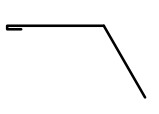
Trim Detail



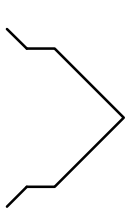
Ridge Row



J-Trim



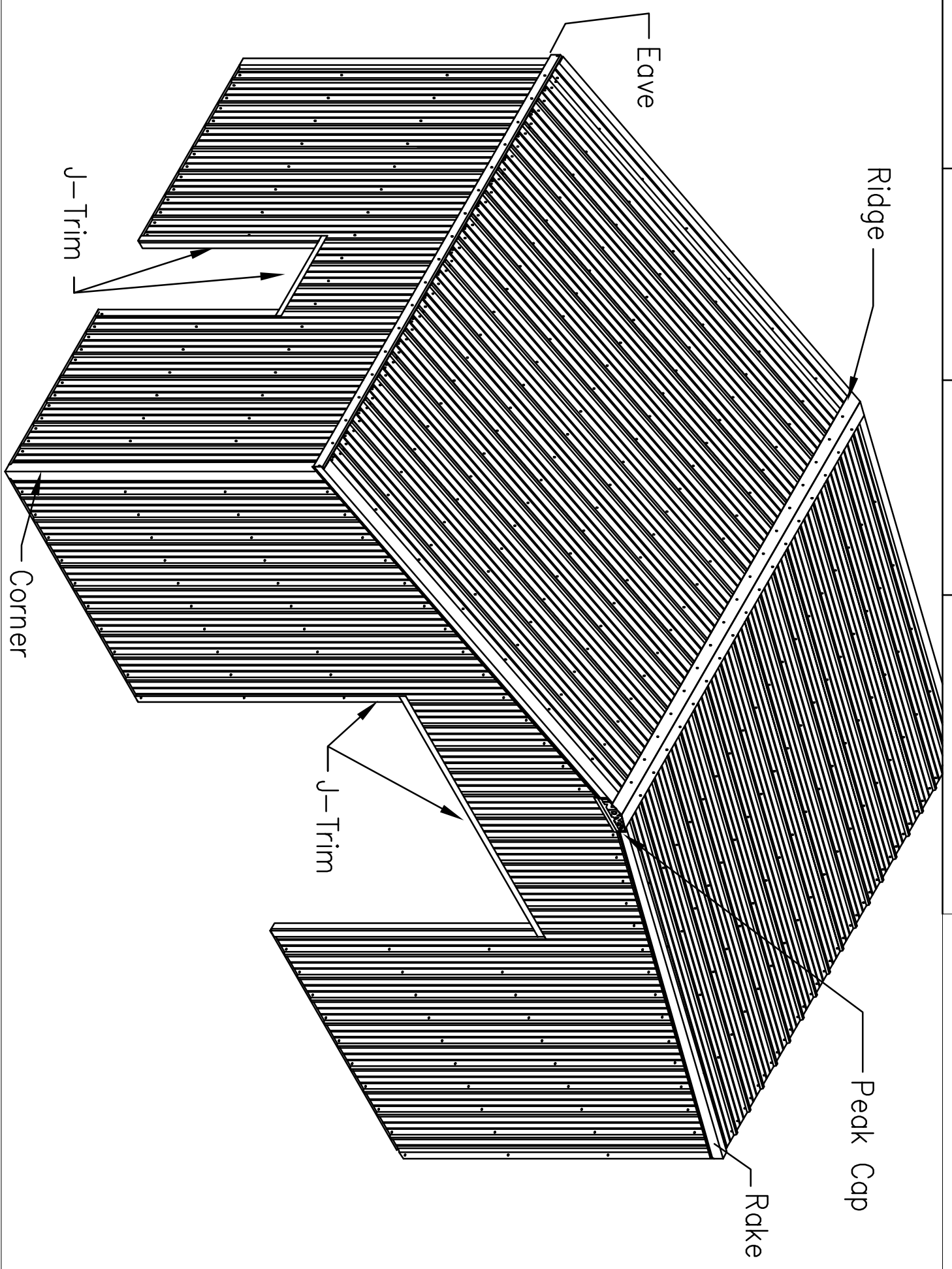
Eave Trim



Rake & Corner



Peak Cap



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PROJECT:	20x Truss	DRAWING TAG:	TRIM DETAIL
CUSTOMER:	20x Truss	STRUCTURE SIZE:	20.00' x
LOCATION:	ADDRESS	DRN. BY:	8/30/12
CITY/STATE:	CITY, STATE	CHK'D BY:	8/30/12
		SCALE:	NONE
		JOB NO.:	20X
		SHEET NO.:	8
			of 8