

RE: Wilmington C Vault Master
 Wilmington C Vault Master

Trenco
 818 Soundside Rd
 Edenton, NC 27932

Site Information:

Customer: D.R. HORTON - RAL - 055 Project Name: Wilmington C Vault Master
 Lot/Block: Model: WILMINGTON / C
 Address: Subdivision:
 City: FUQUAY-VARINA State: NC

General Truss Engineering Criteria & Design Loads (Individual Truss Design Drawings Show Special Loading Conditions):

Design Code: IRC2015/TPI2014 Design Program: MiTek 20/20 8.5
 Wind Code: ASCE 7-10 Wind Speed: 130 mph
 Roof Load: 40.0 psf Floor Load: N/A psf

This package includes 8 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date
1	I47731788	A	9/2/2021
2	I47731789	A1	9/2/2021
3	I47731790	A2	9/2/2021
4	I47731791	A2E	9/2/2021
5	I47731792	AE	9/2/2021
6	I47731793	BE	9/2/2021
7	I47731794	D	9/2/2021
8	I47731795	D1	9/2/2021

The truss drawing(s) referenced above have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by 84 Components - #2383.
 Truss Design Engineer's Name: Sevier, Scott
 My license renewal date for the state of North Carolina is December 31, 2021.
 North Carolina COA: C-0844

IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to TRENCO. Any project specific information included is for TRENCO customers file reference purpose only, and was not taken into account in the preparation of these designs. TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.



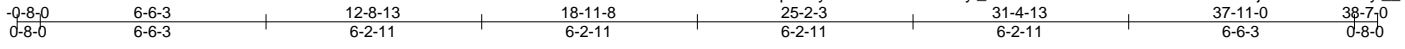
September 02, 2021

Job	Truss	Truss Type	Qty	Ply	Wilmington C Vault Master	147731788
Wilmington C Vault Master	A	Common	6	1		

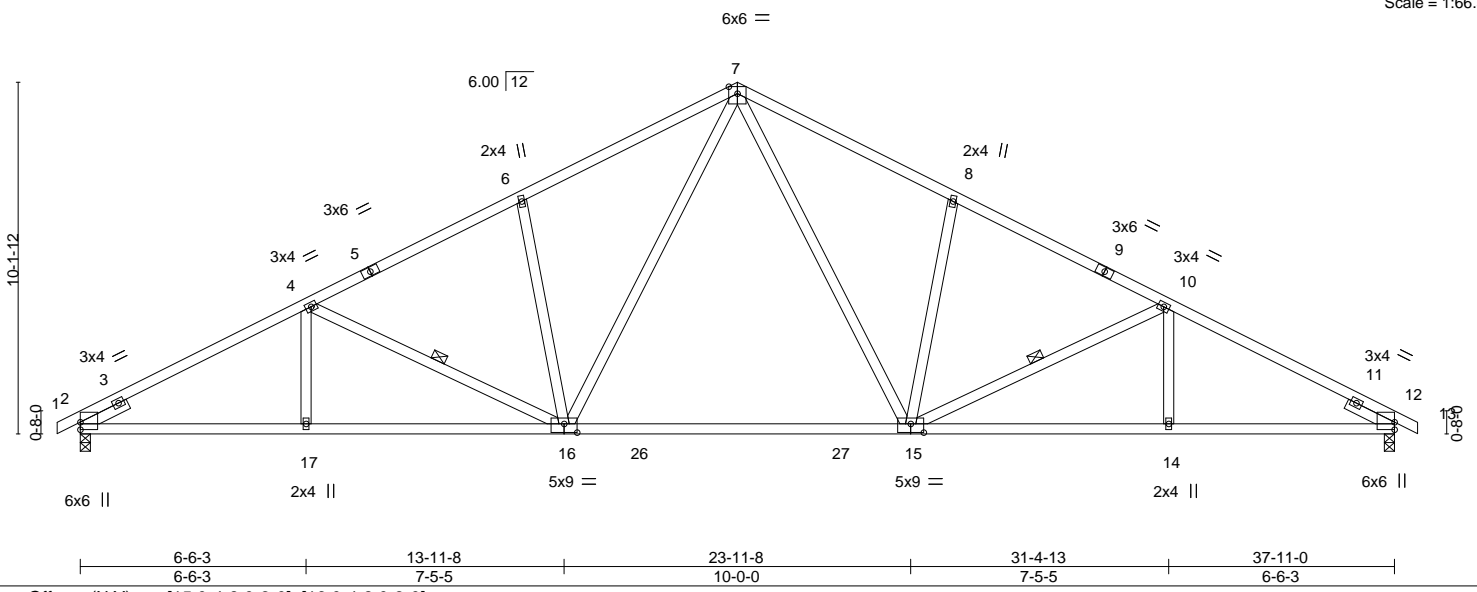
84 Components (Dunn), Dunn, NC - 28334,

8.520 s Aug 27 2021 MiTek Industries, Inc. Wed Sep 1 14:02:55 2021 Page 1

ID:NpT85yB3nXltJasroGEivDyi_fv-W1PIL8eHMI7mLXYFWc1hcll9LBjzh2PcZ2?2HCyi_U



Scale = 1:66.5



LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.77	in (loc) l/defl L/d	MT20	197/144
TCDL 10.0	Plate Grip DOL 1.15	BC 0.81	Vert(LL) -0.41 15-16 >999 240		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.58	Vert(CT) -0.70 15-16 >646 180		
BCDL 10.0	Rep Stress Incr YES	Matrix-MS	Horz(CT) 0.12 12 n/a n/a		
	Code IRC2015/TPI2014			Weight: 211 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2 or 2x4 SPF No.2 *Except* 1-5,9-13: 2x4 SP No.1	TOP CHORD Structural wood sheathing directly applied or 2-3-11 oc purlins.
BOT CHORD 2x4 SP No.1	BOT CHORD Rigid ceiling directly applied or 9-0-8 oc bracing.
WEBS 2x4 SP No.3	WEBS 1 Row at midpt 10-15, 4-16
SLIDER Left 2x4 SP No.3 1-6-0, Right 2x4 SP No.3 1-6-0	

REACTIONS. (size) 2=0-3-8, 12=0-3-8
 Max Horz 2=164(LC 16)
 Max Uplift 2=-191(LC 12), 12=-191(LC 13)
 Max Grav 2=1557(LC 1), 12=1557(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 2-4=-2639/643, 4-6=-2215/599, 6-7=-2155/704, 7-8=-2155/704, 8-10=-2215/599,
 10-12=-2639/643
 BOT CHORD 2-17=-470/2282, 16-17=-470/2282, 15-16=-147/1461, 14-15=-471/2282, 12-14=-471/2282
 WEBS 7-15=-248/866, 8-15=-391/256, 10-15=-439/184, 7-16=-248/866, 6-16=-391/256,
 4-16=-439/184

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
 - One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 12. This connection is for uplift only and does not consider lateral forces.

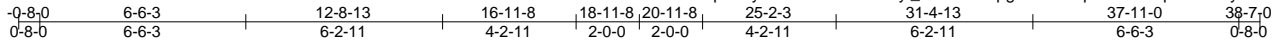


Job	Truss	Truss Type	Qty	Ply	Wilmington C Vault Master	147731789
Wilmington C Vault Master	A1	ROOF TRUSS	6	1	Job Reference (optional)	

84 Components (Dunn), Dunn, NC - 28334,

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ID:NpT85yB3nXItJasroGEivDyi_fv-TPXVmpgXuvNUbjidd049hAqUc?NU9yvv1MU9L5yi__S



3x6 =

Scale = 1:72.9

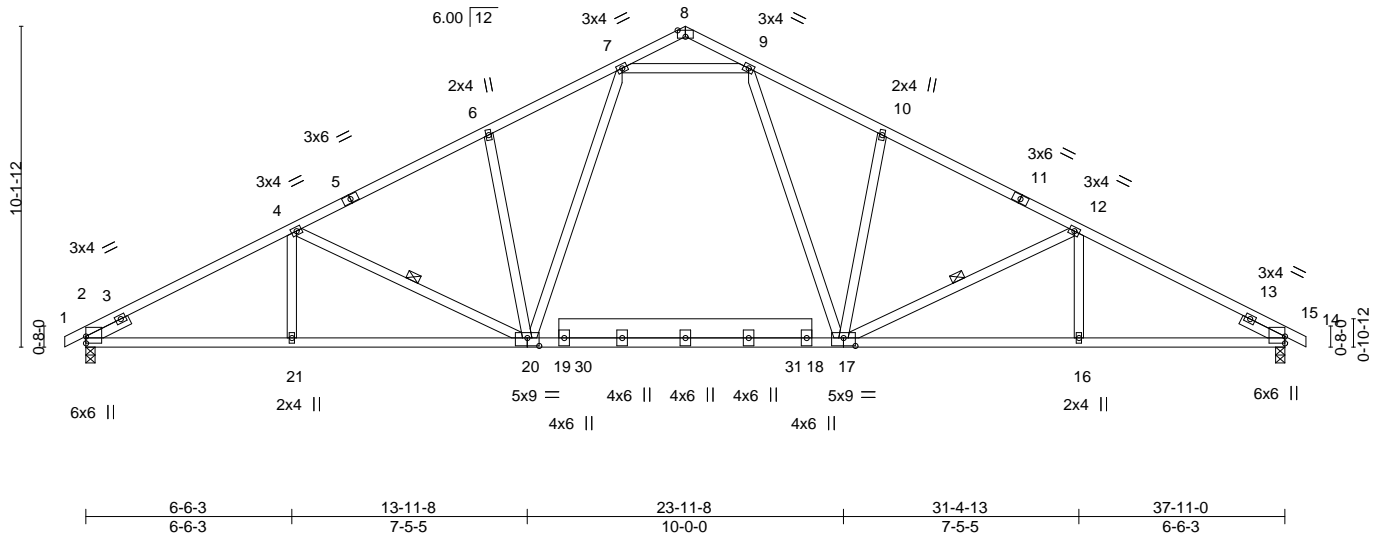


Plate Offsets (X,Y)-- [8:0-3-0,Edge], [17:0-4-8,0-3-0], [20:0-4-8,0-3-0]

LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.85	Vert(LL)	-0.33	20-21	>999	MT20	197/144
TCDL 10.0	Lumber DOL	1.15	BC 0.93	Vert(CT)	-0.51	20-21	>891		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.58	Horz(CT)	0.11	14	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-MS						
								Weight: 237 lb	FT = 20%

LUMBER-
 TOP CHORD 2x4 SP No.2 or 2x4 SPF No.2 *Except*
 1-5,11-15: 2x4 SP No.1
 BOT CHORD 2x4 SP No.1 *Except*
 17-20: 2x4 SP No.2 or 2x4 SPF No.2, 18-19: 2x8 SP No.2
 WEBS 2x4 SP No.3
 SLIDER Left 2x4 SP No.3 1-6-0, Right 2x4 SP No.3 1-6-0

BRACING-
 TOP CHORD Structural wood sheathing directly applied or 2-3-2 oc purlins.
 BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
 WEBS 1 Row at midpt 12-17, 4-20

REACTIONS. (size) 2=0-3-8, 14=0-3-8
 Max Horz 2=164(LC 16)
 Max Uplift 2=-191(LC 12), 14=-191(LC 13)
 Max Grav 2=1557(LC 1), 14=1557(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 2-4=-2646/642, 4-6=-2202/601, 6-7=-2128/683, 9-10=-2128/683, 10-12=-2202/601,
 12-14=-2646/642
 BOT CHORD 2-21=-470/2289, 20-21=-470/2289, 17-20=-200/1600, 16-17=-472/2289, 14-16=-472/2289
 WEBS 9-17=-199/818, 10-17=-425/237, 12-17=-472/187, 7-20=-199/818, 6-20=-425/237,
 4-20=-472/187, 7-9=-1492/557

NOTES-

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 5) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 14. This connection is for uplift only and does not consider lateral forces.
- 6) ATTIC SPACE SHOWN IS DESIGNED AS UNINHABITABLE.



September 2,2021

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see

ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



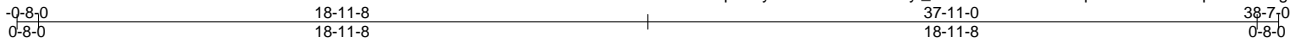
818 Soundside Road
 Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Wilmington C Vault Master	147731791
Wilmington C Vault Master	A2E	GABLE	1	1	Job Reference (optional)	

84 Components (Dunn), Dunn, NC - 28334,

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6x6 =

Scale = 1:71.7

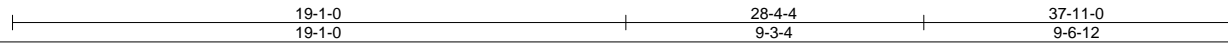
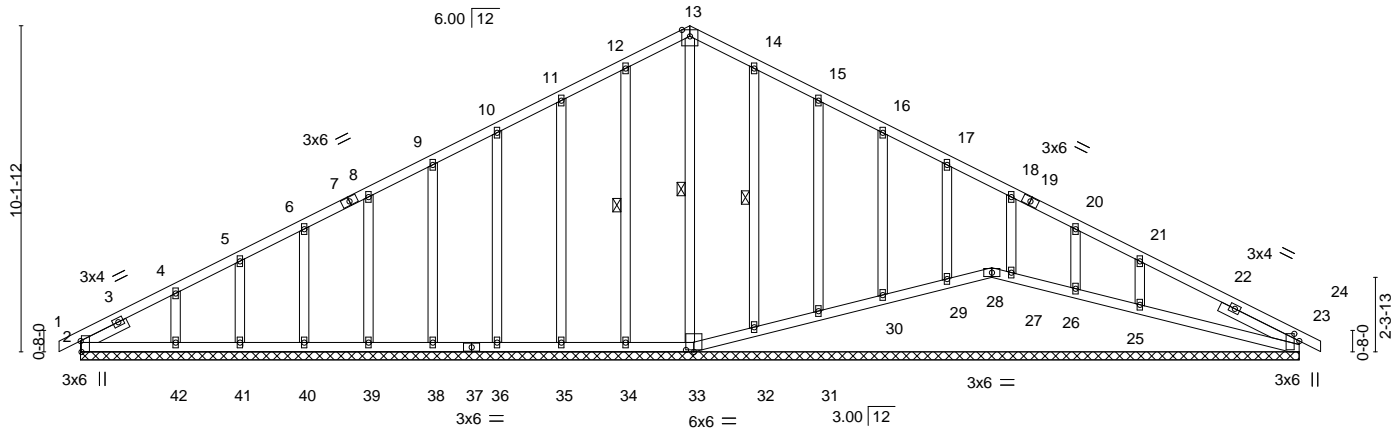


Plate Offsets (X,Y)--	[2:0-4-1,Edge], [23:0-2-11,0-1-14], [33:0-3-0,0-0-12]
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LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.28	Vert(LL)	0.01	24	n/r	MT20	197/144
TCDL 10.0	Lumber DOL	1.15	BC 0.18	Vert(CT)	0.01	24	n/r		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.14	Horz(CT)	0.01	23	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S						
								Weight: 248 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2 or 2x4 SPF No.2	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD 2x4 SP No.2 or 2x4 SPF No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
OTHERS 2x4 SP No.3	WEBS 1 Row at midpt 13-33, 12-34, 14-32
SLIDER Left 2x4 SP No.3 1-7-2, Right 2x4 SP No.3 2-8-14	

REACTIONS. All bearings 37-11-0.
 (lb) - Max Horz 2=164(LC 16)
 Max Uplift All uplift 100 lb or less at joint(s) 2, 23, 34, 35, 36, 38, 39, 40, 41, 32, 31, 30, 29, 27, 26 except 42=-106(LC 12), 25=-136(LC 13)
 Max Grav All reactions 250 lb or less at joint(s) 2, 28, 23, 33, 34, 35, 36, 38, 39, 40, 41, 42, 32, 31, 30, 29, 27, 26 except 25=378(LC 24)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 11-12=-139/285, 12-13=-154/327, 13-14=-155/330, 14-15=-140/288
 WEBS 21-25=-271/199

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - 4) All plates are 2x4 MT20 unless otherwise indicated.
 - 5) Gable requires continuous bottom chord bearing.
 - 6) Gable studs spaced at 2-0-0 oc.
 - 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - 8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
 - 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 32, 31, 30, 29, 27, 26 except (jt=lb) 25=136.
 - 10) N/A
 - 11) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 28, 32, 31, 30, 29, 27, 26, 25.



Job	Truss	Truss Type	Qty	Ply	Wilmington C Vault Master	147731792
Wilmington C Vault Master	AE	GABLE	1	1	Job Reference (optional)	

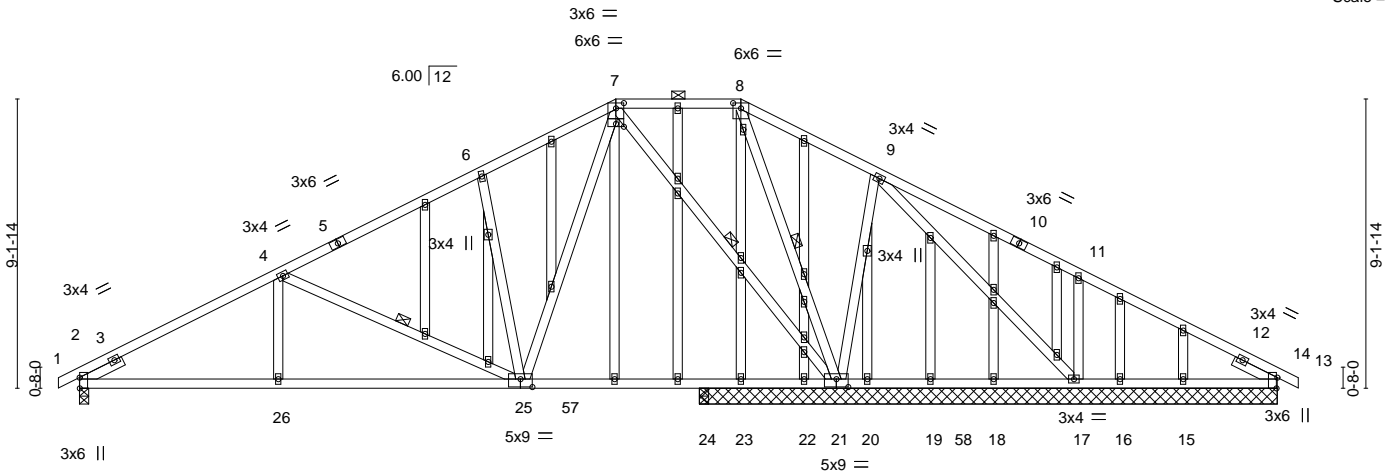
84 Components (Dunn), Dunn, NC - 28334,

8.520 s Aug 27 2021 MiTek Industries, Inc. Wed Sep 1 14:03:02 2021 Page 1

ID:NpT85yB3nXltJasroGEivDyi_fv-pNLOpXjgJR0nhbbbQafKOEYR90A0qDleAeBw0lyi_N

-0-8-0	6-3-8	12-8-13	16-11-12	20-11-4	25-2-3	31-7-8	37-11-0	38-7-0
0-8-0	6-3-8	6-5-5	4-2-15	3-11-8	4-2-15	6-5-5	6-3-8	0-8-0

Scale = 1:72.9



6-3-8	13-11-8	19-11-0	23-11-8	31-7-8	37-11-0
6-3-8	7-8-0	5-11-8	4-0-8	7-8-0	6-3-8

Plate Offsets (X, Y)-- [2:0-4-1,Edge], [7:0-3-0,0-1-1], [7:0-3-0,0-2-0], [8:0-3-0,0-2-0], [13:0-4-1,Edge], [21:0-4-8,0-3-0], [25:0-4-8,0-3-0]

LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.48	Vert(LL)	-0.08 25-26	>999	240	MT20	197/144
TCDL 10.0	Lumber DOL	1.15	BC 0.53	Vert(CT)	-0.19 25-26	>999	180		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.57	Horz(CT)	0.03 21	n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-MS					Weight: 325 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2 or 2x4 SPF No.2	TOP CHORD Structural wood sheathing directly applied or 4-10-5 oc purlins, except
BOT CHORD 2x4 SP No.2 or 2x4 SPF No.2	2-0-0 oc purlins (10-0-0 max.): 7-8.
WEBS 2x4 SP No.3	BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
OTHERS 2x4 SP No.3	WEBS 1 Row at midpt 4-25, 7-21, 8-21
SLIDER Left 2x4 SP No.3 1-6-0, Right 2x4 SP No.3 1-6-0	

REACTIONS. All bearings 18-3-8 except (jt=length) 2=0-3-8, 24=0-3-8.
 (lb) - Max Horz 2=148(LC 12)
 Max Uplift All uplift 100 lb or less at joint(s) 13, 16, 15 except 2=-142(LC 12), 21=-248(LC 12), 17=-183(LC 13), 23=-122(LC 18)
 Max Grav All reactions 250 lb or less at joint(s) 13, 23, 22, 20, 19, 18, 16, 15, 13 except 2=851(LC 1), 21=1552(LC 1), 17=271(LC 24), 24=365(LC 18)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 2-4=-1260/364, 4-6=-704/301, 6-7=-623/386, 7-8=0/334, 8-9=0/528
 BOT CHORD 2-26=-251/1071, 25-26=-251/1071, 24-25=-5/296, 23-24=-5/296, 22-23=-5/296, 21-22=-5/296, 20-21=-388/172, 19-20=-388/172, 18-19=-388/172, 17-18=-388/172
 WEBS 4-26=0/278, 4-25=-572/212, 6-25=-329/224, 7-25=-230/739, 7-21=-866/195, 8-21=-452/44, 9-21=-464/273, 9-17=-145/417, 11-17=-394/270

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - 4) Provide adequate drainage to prevent water ponding.
 - 5) All plates are 2x4 MT20 unless otherwise indicated.
 - 6) Gable studs spaced at 2-0-0 oc.
 - 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - 8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
 - 9) N/A
 - 10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



September 2, 2021

Job	Truss	Truss Type	Qty	Ply	Wilmington C Vault Master	147731793
Wilmington C Vault Master	BE	Common Supported Gable	1	1	Job Reference (optional)	

84 Components (Dunn), Dunn, NC - 28334,

8.520 s Aug 27 2021 MiTek Industries, Inc. Wed Sep 1 14:03:04 2021 Page 1
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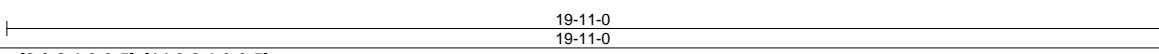
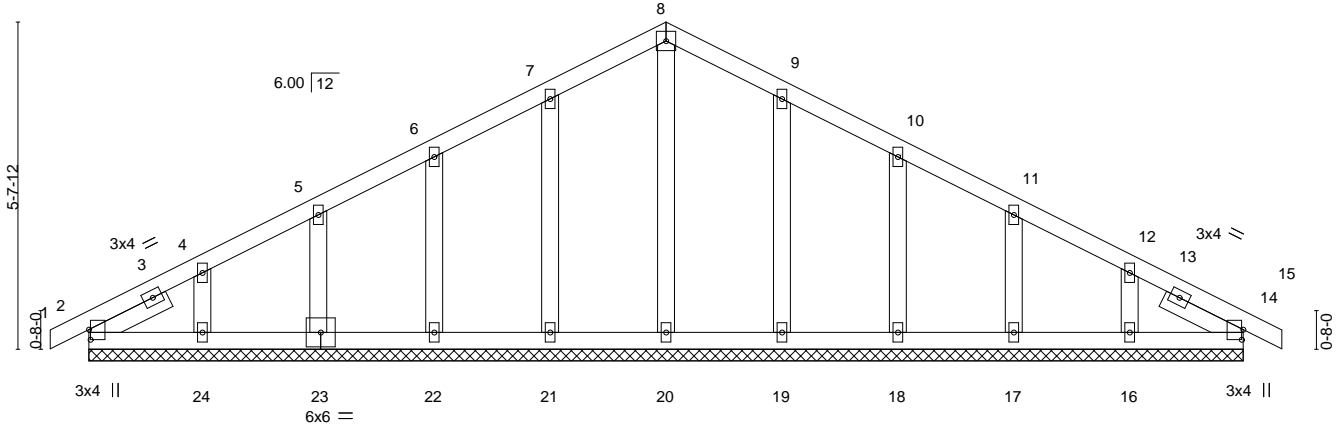


Plate Offsets (X,Y)-- [2:0-2-1,0-0-5], [14:0-2-1,0-0-5]

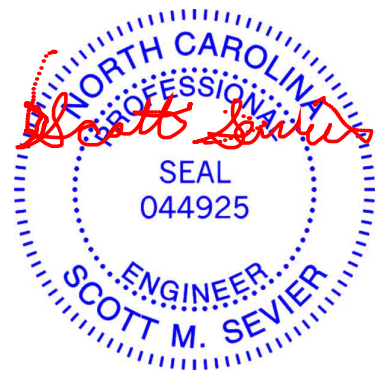
LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.05	Vert(LL)	-0.00	14	n/r	MT20	197/144
TCDL 10.0	Lumber DOL	1.15	BC 0.03	Vert(CT)	0.00	14	n/r		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.06	Horz(CT)	0.00	14	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S						
								Weight: 108 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2 or 2x4 SPF No.2	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD 2x4 SP No.2 or 2x4 SPF No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
OTHERS 2x4 SP No.3	
SLIDER Left 2x4 SP No.3 1-6-0, Right 2x4 SP No.3 1-6-0	

REACTIONS. All bearings 19-11-0.
 (lb) - Max Horz 2=89(LC 12)
 Max Uplift All uplift 100 lb or less at joint(s) 2, 21, 22, 23, 24, 19, 18, 17, 16
 Max Grav All reactions 250 lb or less at joint(s) 2, 20, 21, 22, 23, 24, 19, 18, 17, 16, 14

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - 4) All plates are 2x4 MT20 unless otherwise indicated.
 - 5) Gable requires continuous bottom chord bearing.
 - 6) Gable studs spaced at 2-0-0 oc.
 - 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - 8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.



September 2, 2021

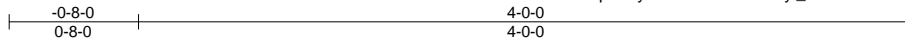
Job	Truss	Truss Type	Qty	Ply	Wilmington C Vault Master
Wilmington C Vault Master	D	Monopitch	8	1	147731794

84 Components (Dunn),

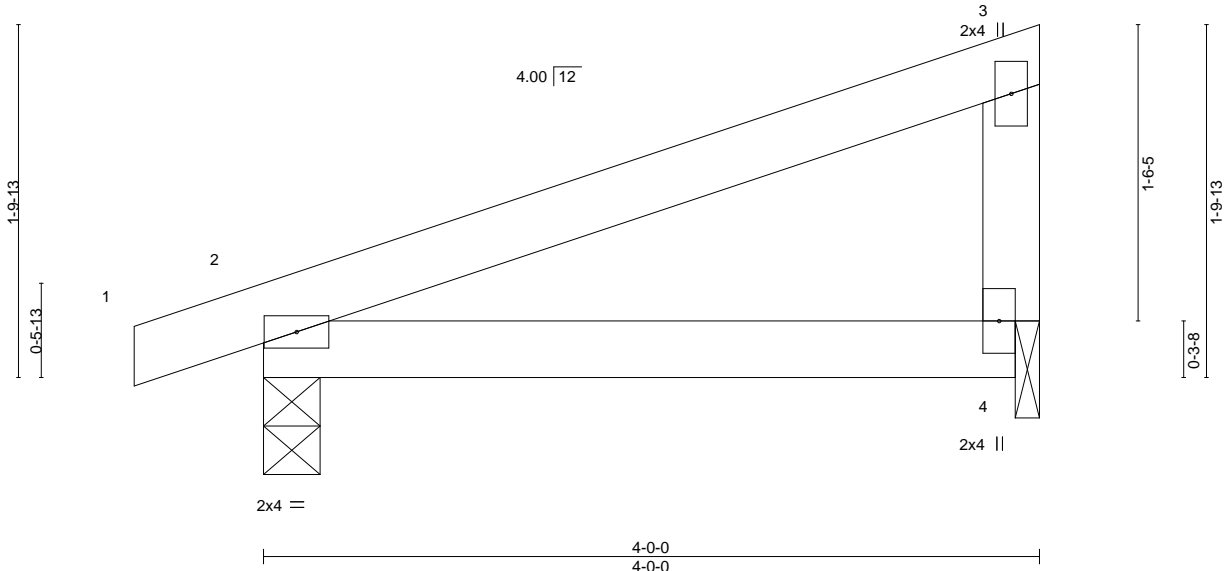
Dunn, NC - 28334,

8.520 s Aug 27 2021 MiTek Industries, Inc. Wed Sep 1 14:03:04 2021 Page 1

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Scale = 1:11.9



LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.21	Vert(LL)	-0.01 4-7	>999	240	MT20	197/144
TCDL 10.0	Lumber DOL	1.15	BC 0.15	Vert(CT)	-0.02 4-7	>999	180		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.00	Horz(CT)	0.00 2	n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-MP					Weight: 15 lb	FT = 20%

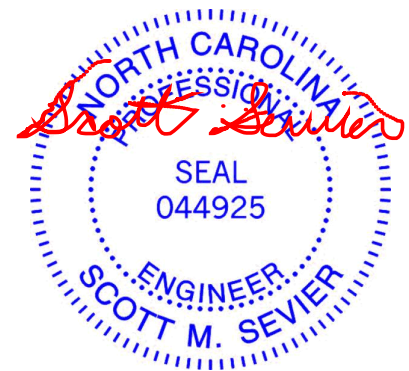
LUMBER-
 TOP CHORD 2x4 SP No.2 or 2x4 SPF No.2
 BOT CHORD 2x4 SP No.2 or 2x4 SPF No.2
 WEBS 2x4 SP No.3

BRACING-
 TOP CHORD Structural wood sheathing directly applied or 4-0-0 oc purlins, except end verticals.
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 2=0-3-8, 4=0-1-8
 Max Horz 2=64(LC 11)
 Max Uplift 2=52(LC 8), 4=33(LC 12)
 Max Grav 2=198(LC 1), 4=151(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

- NOTES-**
- 1) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCCL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - 3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
 - 4) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
 - 5) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
 - 6) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 4. This connection is for uplift only and does not consider lateral forces.



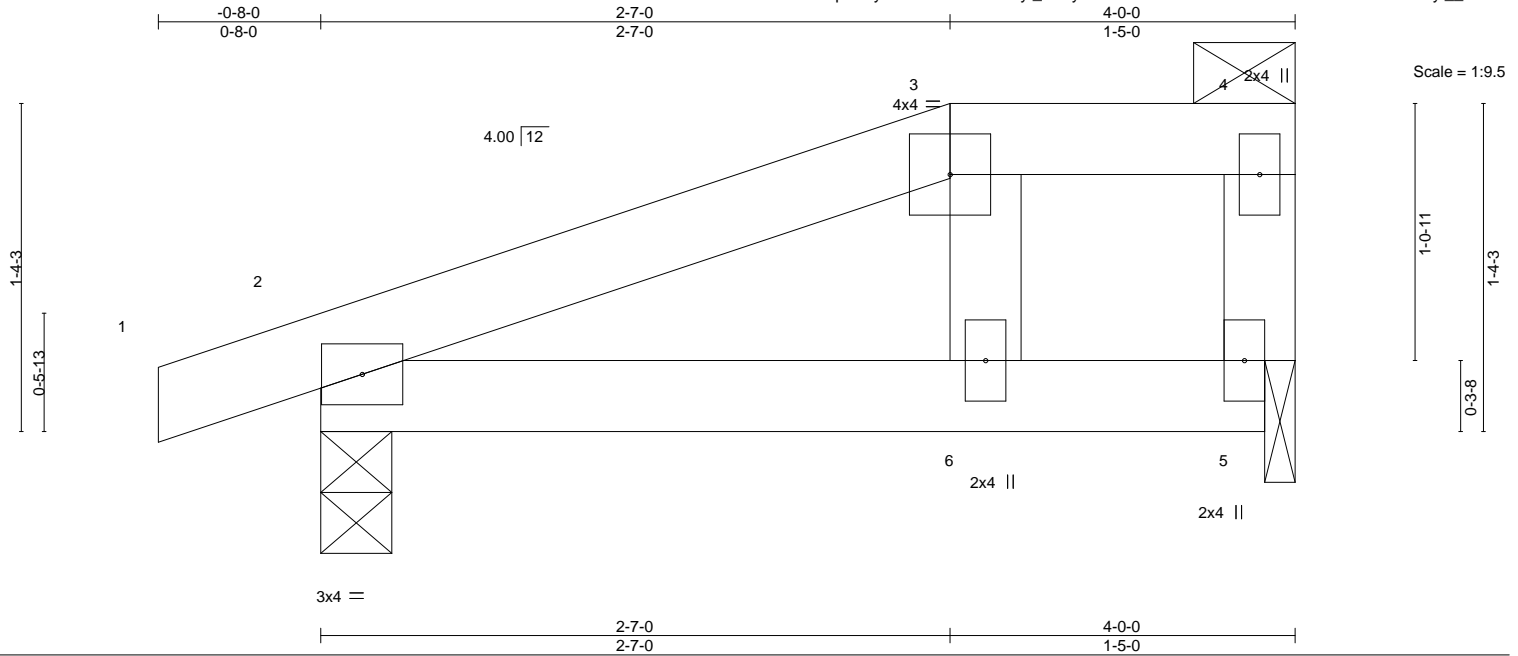
September 2, 2021

Job	Truss	Truss Type	Qty	Ply	Wilmington C Vault Master	147731795
Wilmington C Vault Master	D1	Half Hip	1	1	Job Reference (optional)	

84 Components (Dunn), Dunn, NC - 28334,

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LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.13	Vert(LL)	0.02	6-9	>999	MT20	197/144
TCDL 10.0	Lumber DOL	1.15	BC 0.28	Vert(CT)	-0.03	6-9	>999		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.03	Horz(CT)	0.00	2	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-MP					Weight: 15 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2 or 2x4 SPF No.2	TOP CHORD Structural wood sheathing directly applied or 4-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins: 3-4.
BOT CHORD 2x4 SP No.2 or 2x4 SPF No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x4 SP No.3	

REACTIONS. (size) 2=0-3-8, 5=0-1-8
 Max Horz 2=46(LC 11)
 Max Uplift 2=-54(LC 8), 5=-29(LC 8)
 Max Grav 2=198(LC 1), 5=151(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

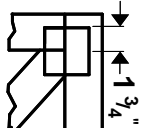
- NOTES-**
- 1) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - 2) Provide adequate drainage to prevent water ponding.
 - 3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - 4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
 - 5) Bearing at joint(s) 5 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
 - 6) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 5.
 - 7) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 5. This connection is for uplift only and does not consider lateral forces.
 - 8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



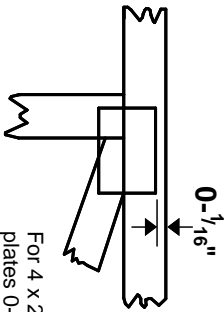
September 2, 2021

Symbols

PLATE LOCATION AND ORIENTATION



Center plate on joint unless x, y offsets are indicated. Dimensions are in ft-in-sixteenths. Apply plates to both sides of truss and fully embed teeth.



For 4 x 2 orientation, locate plates 0- 1/16" from outside edge of truss.



This symbol indicates the required direction of slots in connector plates.

* Plate location details available in **MITek 20/20 software or upon request.**

PLATE SIZE

4 X 4

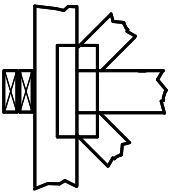
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.

BEARING



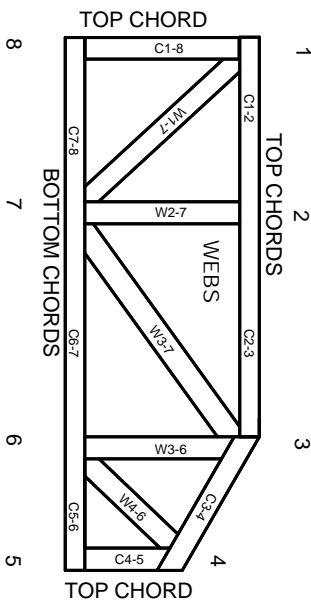
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TFP 1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-89: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

Numbering System

6-4-8
dimensions shown in ft-in-sixteenths
(Drawings not to scale)



JOINTS ARE GENERALLY NUMBERED/LETTERED CLOCKWISE AROUND THE TRUSS STARTING AT THE JOINT FARTHEST TO THE LEFT.

CHORDS AND WEBS ARE IDENTIFIED BY END JOINT NUMBERS/LETTERS.

PRODUCT CODE APPROVALS

ICC-ES Reports:

ESR-1311, ESR-1352, ESR1988
ER-3907, ESR-2362, ESR-1397, ESR-3282

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

Lumber design values are in accordance with ANSI/TFP 1 section 6.3 These truss designs rely on lumber values established by others.

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MITek Engineering Reference Sheet: MII-7473 rev. 5/19/2020



General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TFP 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TFP 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Rewriting pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TFP 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.