

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 19737-19737A
Pinehurst B Vault Master

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by 84 Components - #2383.

Pages or sheets covered by this seal: I35909502 thru I35909509

My license renewal date for the state of North Carolina is December 31, 2019.

North Carolina COA: C-0844



January 22, 2019

Johnson, Andrew

IMPORTANT NOTE: Truss Engineer's responsibility is solely for design of individual trusses based upon design parameters shown on referenced truss drawings. Parameters have not been verified as appropriate for any use. Any location identification specified is for file reference only and has not been used in preparing design. Suitability of truss designs for any particular building is the responsibility of the building designer, not the Truss Engineer, per ANSI/TPI-1, Chapter 2.

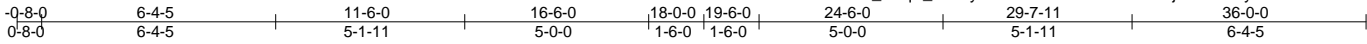
Job 19737-19737A	Truss T1A	Truss Type ROOF TRUSS	Qty 6	Ply 1	Pinehurst B Vault Master	135909502
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84 Components, Dunn, NC - 28334,

8.220 s Nov 16 2018 MiTek Industries, Inc. Tue Jan 22 08:57:06 2019 Page 1

ID:!?7J1fE9KDJT_RLqY_LzZ2yKaGd-7AOu7UciKvKA9i?jXrz5iacUyOVM?x7cKhBrEzsrSX

Job Reference (optional)



Scale = 1:62.6

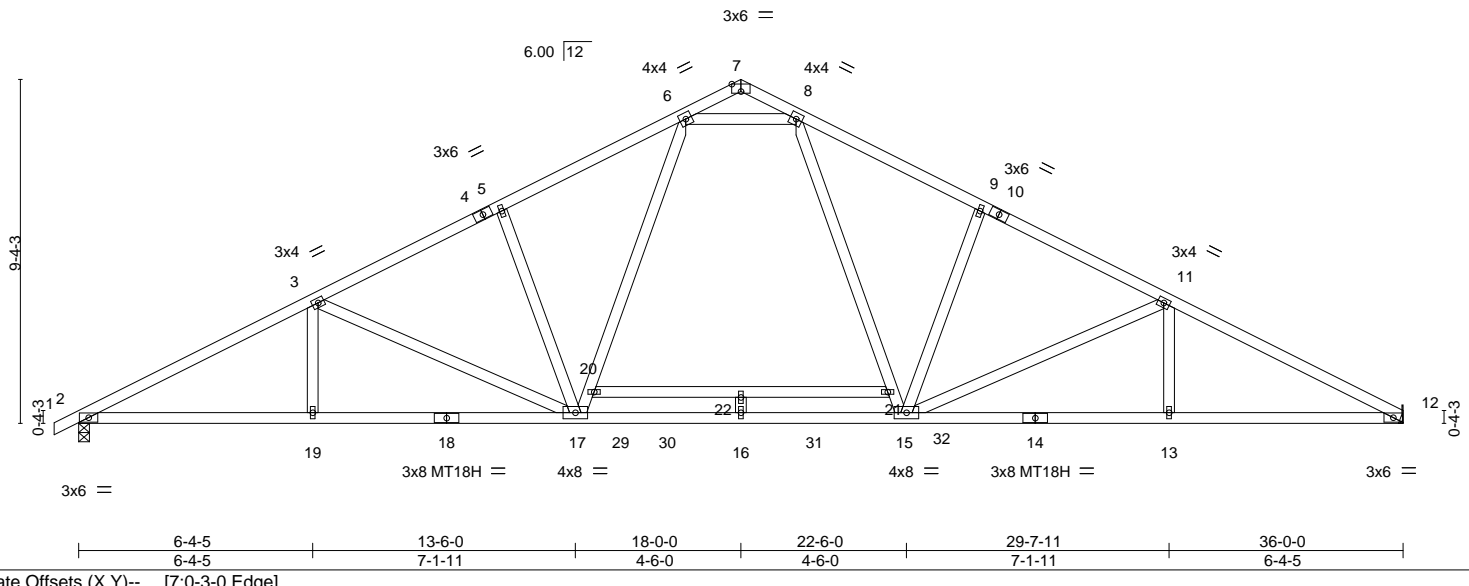


Plate Offsets (X,Y)--	[7:0-3-0,Edge]
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LOADING (psf)	SPACING- 2-0-0	CSI.	DEFL. in (loc) l/defl L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL 1.15	TC 0.79	Vert(LL) -0.24 13-15 >999 240	MT20	244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.84	Vert(CT) -0.42 15-16 >999 180	MT18H	244/190
BCLL 0.0 *	Rep Stress Incr YES	WB 0.68	Horz(CT) 0.13 12 n/a n/a		
BCDL 10.0	Code IRC2015/TPI2014	Matrix-MS		Weight: 206 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied or 2-8-3 oc purlins.
BOT CHORD 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x4 SP No.3 *Except* 20-21: 2x4 SP No.2	

REACTIONS. (lb/size) 2=1480/0-3-8, 12=1440/Mechanical
 Max Horz 2=157(LC 11)
 Max Uplift 2=-89(LC 12), 12=-70(LC 12)
 Max Grav 2=1515(LC 27), 12=1475(LC 30)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 2-3=-2840/442, 3-5=-2255/408, 5-6=-2150/452, 8-9=-2151/452, 9-11=-2256/408,
 11-12=-2844/443
 BOT CHORD 2-19=-321/2477, 17-19=-321/2477, 16-17=-91/1539, 15-16=-91/1539, 13-15=-322/2481,
 12-13=-322/2481
 WEBS 3-19=0/275, 11-13=0/275, 3-17=-581/144, 11-15=-585/146, 5-17=-344/151,
 9-15=-344/150, 17-20=-116/768, 6-20=-106/756, 8-21=-106/757, 15-21=-117/769,
 6-8=-1640/459

NOTES-

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; B=45ft; L=45ft; eave=5ft; Cat. II; Exp B; Enclosed; MWFRS (directional) 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
- All plates are MT20 plates unless otherwise indicated.
- All plates are 1.5x4 MT20 unless otherwise indicated.
- 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.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 12.
- Load case(s) 26, 27, 28, 29, 30 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
- MULTIPLE LOADCASES - This design is the composite result of multiple load cases.
- User moving load cases exist: Review the load cases for details.
- ATTIC SPACE SHOWN IS DESIGNED AS UNINHABITABLE.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard Except:



January 22, 2019

Continued on page 2

<p>WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 BEFORE USE.</p> <p>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, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.</p>	<p>ENGINEERING BY TRENCO A MiTek Affiliate</p> <p>818 Soundside Road Edenton, NC 27932</p>
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Job	Truss	Truss Type	Qty	Ply	Pinehurst B Vault Master	I35909502
19737-19737A	T1A	ROOF TRUSS	6	1	Job Reference (optional)	

84 Components, Dunn, NC - 28334,

8.220 s Nov 16 2018 MiTek Industries, Inc. Tue Jan 22 08:57:06 2019 Page 2
 ID:!!?J1fE9KDJT_RLqY_LzZ2yKaGd-7AOru7UciKvKA9i?jXrz5iacUyOVM?x7cKhBrEzsrssx

LOAD CASE(S) Standard Except:

- 1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-7=-60, 7-12=-60, 23-26=-20
- 26) User defined: Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-7=-60(F), 7-12=-60(F), 23-26=-20(F)
- 27) 1st User Defined Moving Load - User defined: Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-7=-60(F), 7-12=-60(F), 23-29=-20(F), 29-30=-50(F=-20), 26-30=-20(F)
- 28) 2nd User Defined Moving Load - User defined: Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-7=-60(F), 7-12=-60(F), 23-30=-20(F), 16-30=-50(F=-20), 16-26=-20(F)
- 29) 3rd User Defined Moving Load - User defined: Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-7=-60(F), 7-12=-60(F), 16-23=-20(F), 16-31=-50(F=-20), 26-31=-20(F)
- 30) 4th User Defined Moving Load - User defined: Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-7=-60(F), 7-12=-60(F), 23-31=-20(F), 31-32=-50(F=-20), 26-32=-20(F)

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 BEFORE USE.

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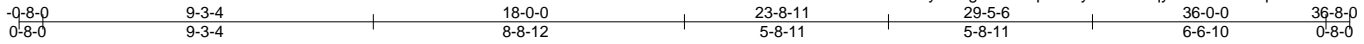
Job 19737-19737A	Truss T1B	Truss Type ROOF TRUSS	Qty 8	Ply 1	Pinehurst B Vault Master	135909503
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84 Components, Dunn, NC - 28334,

8.220 s Nov 16 2018 MiTek Industries, Inc. Tue Jan 22 08:57:08 2019 Page 1

ID:b22ZGPIZud3kUePrMk4H8PyKaEg-4ZWbJpWsEy91QTsNqyuRA7fwf13mqw9Q3eAHw6zsrsv

Job Reference (optional)



Scale = 1:64.6

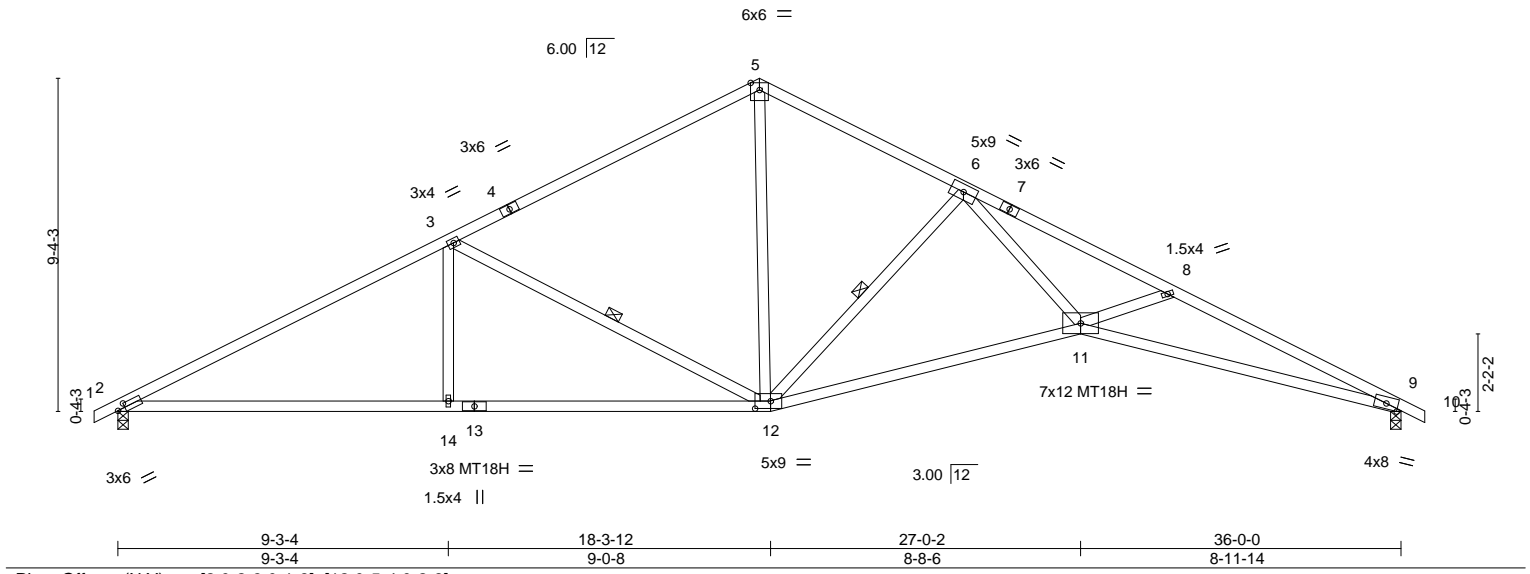


Plate Offsets (X,Y)--	[2:0-2-9,0-1-8], [12:0-5-4,0-2-8]
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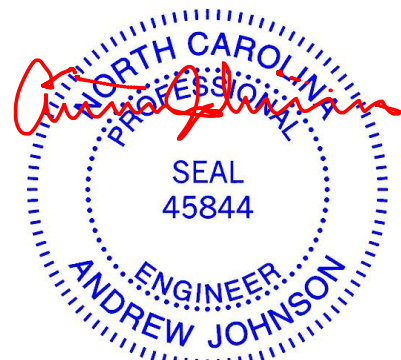
LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP	
TCLL 20.0	Plate Grip DOL	1.15	TC 0.94	Vert(LL)	-0.33	11-12	>999	240	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.91	Vert(CT)	-0.78	11-12	>552	180	MT18H	244/190
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.64	Horz(CT)	0.33	9	n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-MS							
									Weight: 174 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.1	TOP CHORD Structural wood sheathing directly applied.
BOT CHORD 2x4 SP No.1 *Except* 12-13: 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except: 2-2-0 oc bracing: 9-11.
WEBS 2x4 SP No.3 *Except* 6-11: 2x4 SP No.2	WEBS 1 Row at midpt 3-12, 6-12

REACTIONS. (lb/size) 2=1480/0-3-8, 9=1480/0-3-8
 Max Horz 2=-158(LC 10)
 Max Uplift 2=-89(LC 12), 9=-89(LC 12)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 2-3=-2632/433, 3-5=-1745/376, 5-6=-1730/397, 6-8=-4629/675, 8-9=-5029/790
 BOT CHORD 2-14=-272/2267, 12-14=-272/2267, 11-12=-268/2519, 9-11=-647/4581
 WEBS 3-14=0/413, 3-12=-940/253, 5-12=-171/1069, 6-12=-1437/294, 6-11=-256/2602,
 8-11=-390/220

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-10; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; B=45ft; L=45ft; eave=6ft; Cat. II; Exp B; Enclosed; MWFRS (directional) 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
 - All plates are MT20 plates unless otherwise indicated.
 - 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.
 - Bearing at joint(s) 9 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
 - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 9.



January 22, 2019

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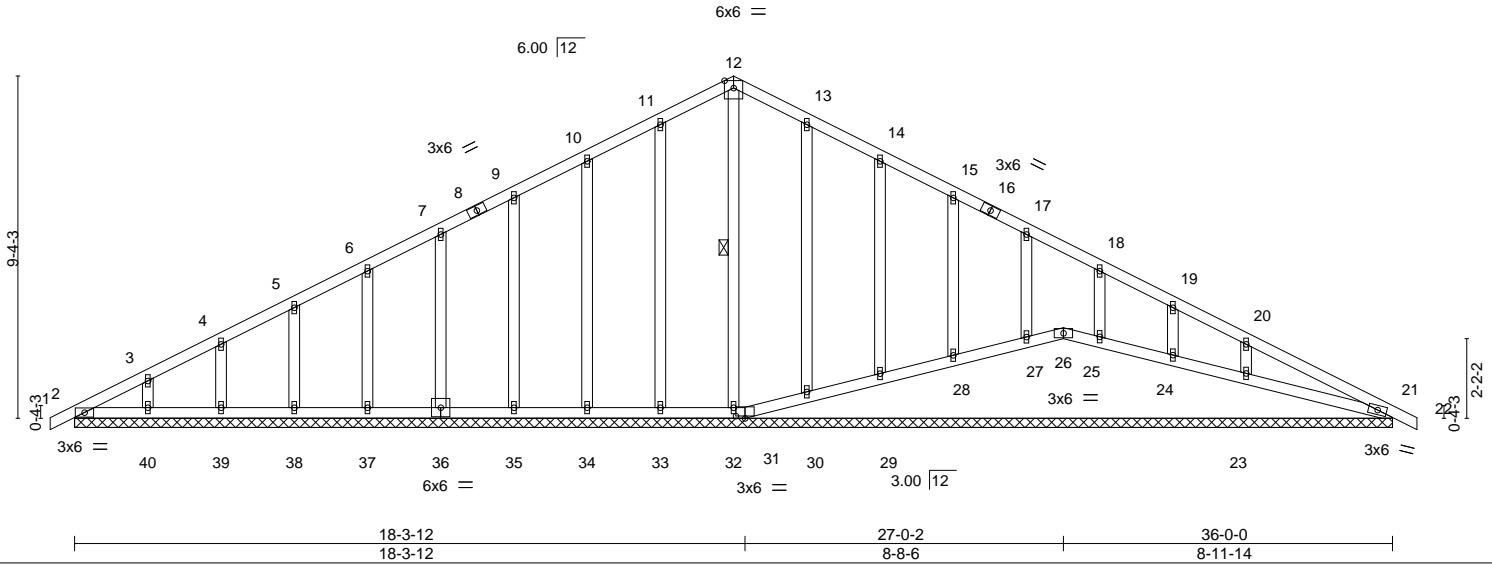
Job 19737-19737A	Truss T1BGE	Truss Type GABLE	Qty 1	Ply 1	Pinehurst B Vault Master	135909504
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84 Components, Dunn, NC - 28334,

8.220 s Nov 16 2018 MiTek Industries, Inc. Tue Jan 22 08:57:10 2019 Page 1
ID:b22ZGPIZud3kUePrMk4H8PyKaEg-0xeLkUX7mZPlfm0myNwvFYkS7Zyalx7jXxfO_?zsrst

0-8-0 18-0-0 36-0-0 36-8-0
0-8-0 18-0-0 18-0-0 0-8-0

Scale = 1:62.9



LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/def	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.17	Vert(LL)	0.00	22	n/r	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.12	Vert(CT)	0.01	22	n/r		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.16	Horz(CT)	0.01	21	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S						
								Weight: 218 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except:
OTHERS 2x4 SP No.3	6-0-0 oc bracing: 23-24.
	WEBS 1 Row at midpt 12-32

REACTIONS. All bearings 36-0-0.
 (lb) - Max Horz 2=158(LC 11)
 Max Uplift All uplift 100 lb or less at joint(s) 2, 31, 26, 21, 33, 34, 35, 36, 37, 38, 39, 40, 30, 29, 28, 27, 25, 24, 23
 Max Grav All reactions 250 lb or less at joint(s) 2, 31, 26, 21, 32, 33, 34, 35, 36, 37, 38, 39, 40, 30, 29, 28, 27, 25, 24 except 23=320(LC 22)

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

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-10; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; B=45ft; L=45ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional) 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
 - 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.
 - All plates are 1.5x4 MT20 unless otherwise indicated.
 - Gable requires continuous bottom chord bearing.
 - Gable studs spaced at 2-0-0 oc.
 - 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.
 - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 31, 26, 21, 33, 34, 35, 36, 37, 38, 39, 40, 30, 29, 28, 27, 25, 24, 23.
 - Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 26, 30, 29, 28, 27, 25, 24, 23.



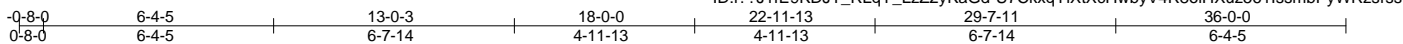
January 22, 2019

Job 19737-19737A	Truss T1C	Truss Type ROOF TRUSS	Qty 3	Ply 1	Pinehurst B Vault Master Job Reference (optional)	135909505
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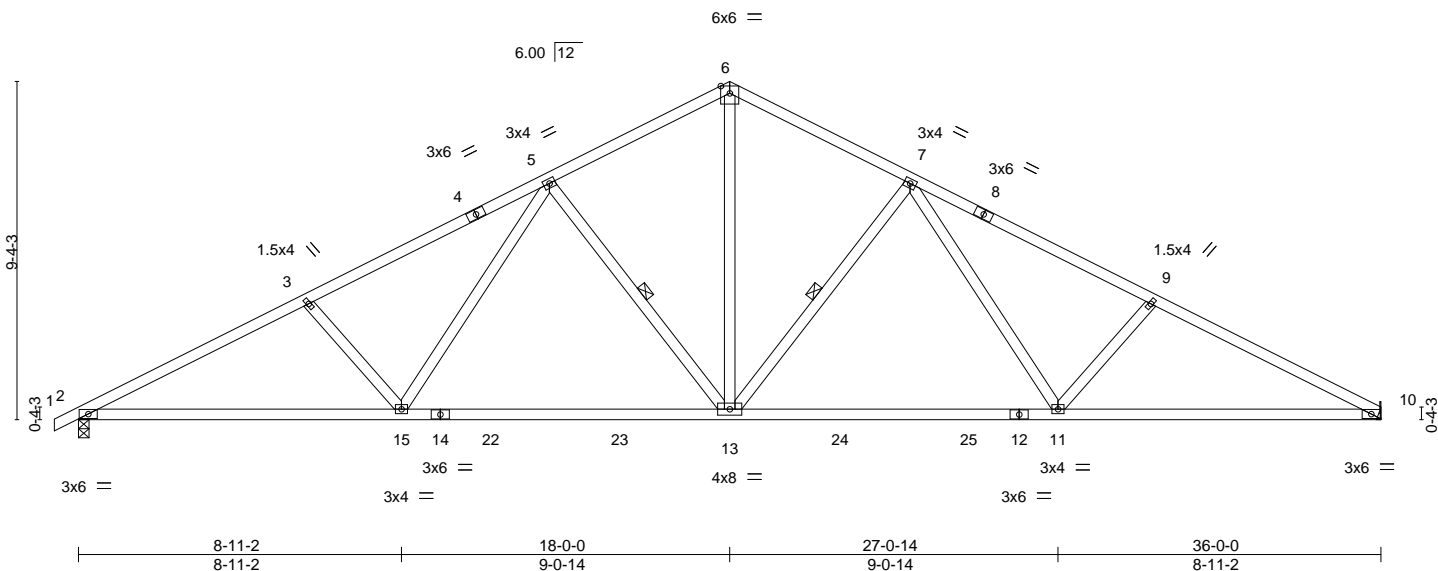
84 Components, Dunn, NC - 28334,

8.220 s Nov 16 2018 MiTek Industries, Inc. Tue Jan 22 08:57:11 2019 Page 1

ID:I??J1fE9KDJT_RLqY_LZZyKaGd-U7CkxqYlXtXcHwbyV4R8olHXuz561IssmbPyWRzsrss



Scale: 3/16"=1'



LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.55	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.94	Vert(LL) -0.25 13-15 >999 240		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.51	Vert(CT) -0.46 13-15 >946 180		
BCDL 10.0	Rep Stress Incr YES	Matrix-MS	Horz(CT) 0.11 10 n/a n/a		
	Code IRC2015/TPI2014			Weight: 185 lb	FT = 20%

LUMBER-
 TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2 *Except*
 12-14: 2x4 SP No.1
 WEBS 2x4 SP No.3

BRACING-
 TOP CHORD Structural wood sheathing directly applied or 2-11-8 oc purlins.
 BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
 WEBS 1 Row at midpt 5-13, 7-13

REACTIONS. (lb/size) 2=1480/0-3-8, 10=1440/Mechanical
 Max Horz 2=157(LC 11)
 Max Uplift 2=89(LC 12), 10=70(LC 12)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 2-3=-2726/468, 3-5=-2497/458, 5-6=-1704/394, 6-7=-1704/394, 7-9=-2499/459,
 9-10=-2728/470
 BOT CHORD 2-15=-347/2467, 13-15=-188/1899, 11-13=-188/1845, 10-11=-348/2402
 WEBS 3-15=-389/200, 5-15=-58/624, 5-13=-660/224, 6-13=-246/1248, 7-13=-661/224,
 7-11=-59/626, 9-11=-391/201

NOTES-

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; B=45ft; L=45ft; eave=5ft; Cat. II; Exp B; Enclosed; MWFRS (directional) 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.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 10.



WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 BEFORE USE.

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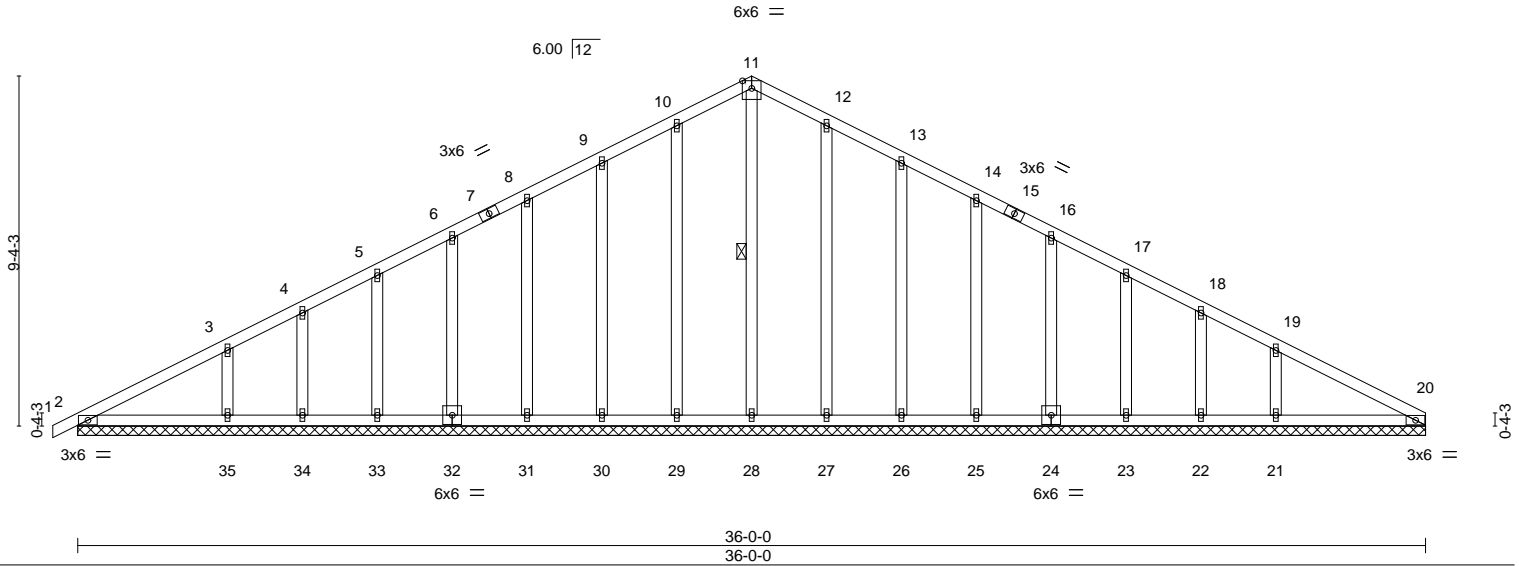
Job	Truss	Truss Type	Qty	Ply	Pinehurst B Vault Master	135909506
19737-19737A	T1GE	ROOF TRUSS	1	1		
Job Reference (optional)						

84 Components, Dunn, NC - 28334,

8.220 s Nov 16 2018 MiTek Industries, Inc. Tue Jan 22 08:57:14 2019 Page 1
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Scale = 1:61.5



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 0.21	Vert(LL)	-0.00	1	n/r	120	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.13	Vert(CT)	0.00	1	n/r	90		
BCLL 0.0 *	Rep Stress Incr	NO	WB 0.16	Horz(CT)	0.01	20	n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S						Weight: 228 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
OTHERS 2x4 SP No.3	WEBS 1 Row at midpt 11-28

REACTIONS. All bearings 36-0-0.
 (lb) - Max Horz 2=157(LC 11)
 Max Uplift All uplift 100 lb or less at joint(s) 29, 30, 31, 32, 33, 34, 35, 27, 26, 25, 24, 23, 22, 21
 Max Grav All reactions 250 lb or less at joint(s) 2, 28, 29, 30, 31, 32, 33, 34, 27, 26, 25, 24, 23, 22, 20
 except 35=320(LC 21), 21=327(LC 22)

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

NOTES-

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=120mph (3-second gust) Vasd=95mph; TCCL=6.0psf; BCDL=6.0psf; h=30ft; B=45ft; L=45ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional) 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
- 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.
- All plates are 1.5x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 29, 30, 31, 32, 33, 34, 35, 27, 26, 25, 24, 23, 22, 21.



Job	Truss	Truss Type	Qty	Ply	Pinehurst B Vault Master	135909507
19737-19737A	T2GE	ROOF TRUSS	1	1	Job Reference (optional)	

84 Components, Dunn, NC - 28334,

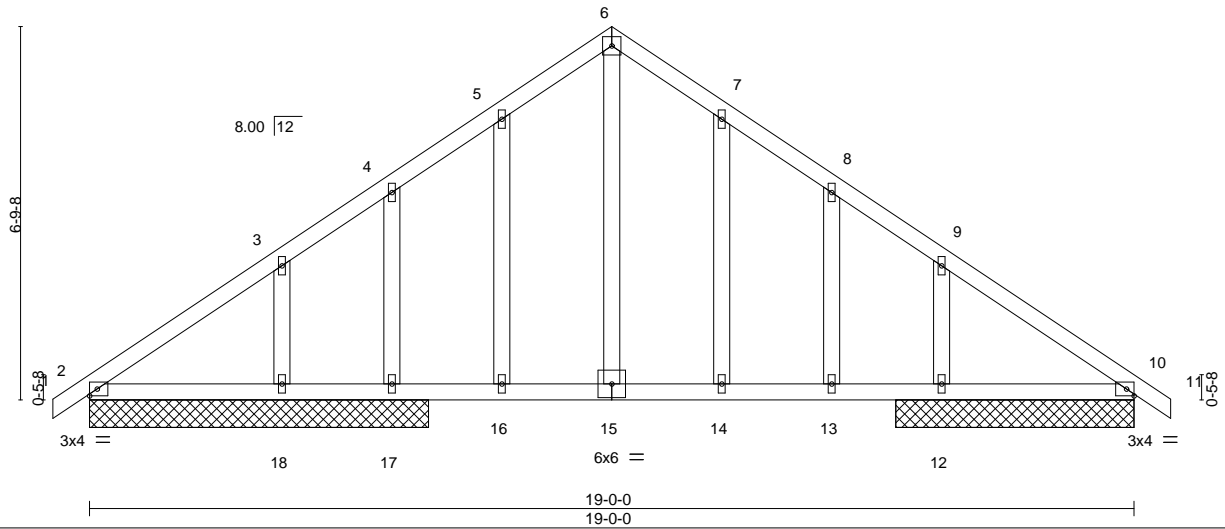
8.220 s Nov 16 2018 MiTek Industries, Inc. Tue Jan 22 08:57:15 2019 Page 1

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4x4 =

Scale = 1:41.9



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 0.33	Vert(LL)	-0.04 13-14	>999	240	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.36	Vert(CT)	-0.07 13-14	>999	180		
BCLL 0.0 *	Rep Stress Incr	NO	WB 0.08	Horz(CT)	0.01 10	n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S					Weight: 106 lb	FT = 20%

LUMBER-
 TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2
 OTHERS 2x4 SP No.3

BRACING-
 TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 6-2-0 except (jt=length) 12=4-4-0, 10=4-4-0.
 (lb) - Max Horz 2=-129(LC 10)
 Max Uplift All uplift 100 lb or less at joint(s) 17, 18, 12
 Max Grav All reactions 250 lb or less at joint(s) 17, 18 except 2=379(LC 1), 12=452(LC 18), 10=336(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 2-3=-436/0, 3-4=-407/0, 4-5=-415/38, 5-6=-378/82, 6-7=-369/79, 7-8=-397/34,
 8-9=-449/0, 9-10=-421/0
 BOT CHORD 2-18=0/307, 17-18=0/307, 16-17=0/307, 15-16=0/307, 14-15=0/307, 13-14=0/307,
 12-13=0/307, 10-12=0/307
 WEBS 9-12=-273/127

NOTES-

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; B=45ft; L=45ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional) 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
- 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.
- All plates are 1.5x4 MT20 unless otherwise indicated.
- Gable studs spaced at 2-0-0 oc.
- 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 17, 18, 12.



January 22, 2019

Job 19737-19737A	Truss T2GR	Truss Type ROOF TRUSS	Qty 1	Ply 3	Pinehurst B Vault Master Job Reference (optional)	135909508
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84 Components, Dunn, NC - 28334,

8.220 s Nov 16 2018 MiTek Industries, Inc. Tue Jan 22 08:57:17 2019 Page 1

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4x8 ||

Scale = 1:41.7

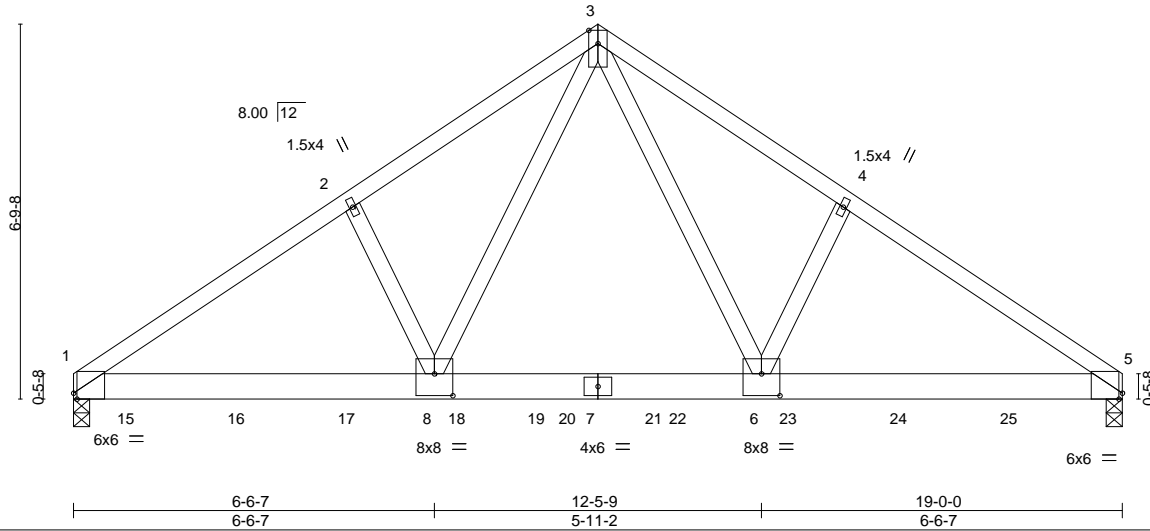


Plate Offsets (X,Y)-- [1:0-0-12,Edge], [5:0-0-12,Edge], [6:0-4-0,0-4-12], [8:0-4-0,0-4-12]

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 0.70	Vert(LL)	-0.10	8-11	>999	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.64	Vert(CT)	-0.21	8-11	>999		
BCLL 0.0 *	Rep Stress Incr	NO	WB 0.80	Horz(CT)	0.03	5	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-MS						
								Weight: 327 lb	FT = 20%

LUMBER-
 TOP CHORD 2x4 SP No.2
 BOT CHORD 2x6 SP DSS
 WEBS 2x4 SP No.3

BRACING-
 TOP CHORD Structural wood sheathing directly applied or 5-10-6 oc purlins.
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (lb/size) 1=7639/0-3-8 (req. 0-4-0), 5=6902/0-3-8 (req. 0-3-10)
 Max Horz 1=121(LC 32)
 Max Uplift 1=423(LC 12), 5=385(LC 12)

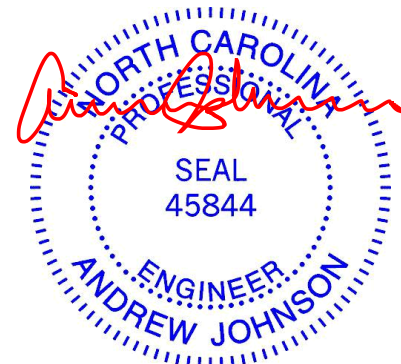
FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 1-2=-9797/621, 2-3=-9709/673, 3-4=-9616/670, 4-5=-9698/617
 BOT CHORD 1-8=-452/8152, 6-8=-241/5558, 5-6=-449/8068
 WEBS 3-6=-357/5649, 4-6=-336/140, 3-8=-363/5827, 2-8=-358/141

NOTES-

- 3-ply truss to be connected together with 10d (0.120"x3") nails as follows:
 Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
 Bottom chords connected as follows: 2x6 - 3 rows staggered at 0-5-0 oc.
 Webs connected as follows: 2x4 - 1 row at 0-9-0 oc.
- All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=120mph (3-second gust) Vasd=95mph; TC DL=6.0psf; BC DL=6.0psf; h=30ft; B=45ft; L=45ft; eave=6ft; Cat. II; Exp B; Enclosed; MWFRS (directional) 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.
- WARNING: Required bearing size at joint(s) 1, 5 greater than input bearing size.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 1=423, 5=385.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 1455 lb down and 90 lb up at 1-0-0, 1455 lb down and 90 lb up at 3-0-0, 1455 lb down and 90 lb up at 5-0-0, 1455 lb down and 90 lb up at 7-0-0, 1455 lb down and 90 lb up at 9-0-0, 1455 lb down and 90 lb up at 11-0-0, 1455 lb down and 90 lb up at 13-0-0, and 1420 lb down and 90 lb up at 15-0-0, and 1420 lb down and 90 lb up at 17-0-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15



January 22, 2019

Continued on page 2

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 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, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.

ENGINEERING BY
TRENCO
 A MiTek Affiliate
 818 Soundside Road
 Edenton, NC 27932

Job 19737-19737A	Truss T2GR	Truss Type ROOF TRUSS	Qty 1	Ply 3	Pinehurst B Vault Master Job Reference (optional)	135909508
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84 Components, Dunn, NC - 28334,

8.220 s Nov 16 2018 MiTek Industries, Inc. Tue Jan 22 08:57:17 2019 Page 2
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LOAD CASE(S) Standard

Uniform Loads (plf)

Vert: 1-3=-60, 3-5=-60, 9-12=-20

Concentrated Loads (lb)

Vert: 15=-1455(F) 16=-1455(F) 17=-1455(F) 18=-1455(F) 20=-1455(F) 22=-1455(F) 23=-1455(F) 24=-1420(F) 25=-1420(F)

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 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/TP1 Quality Criteria, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.



818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Pinehurst B Vault Master	135909509
19737-19737A	T3GE	ROOF TRUSS	1	1	Job Reference (optional)	

84 Components, Dunn, NC - 28334,

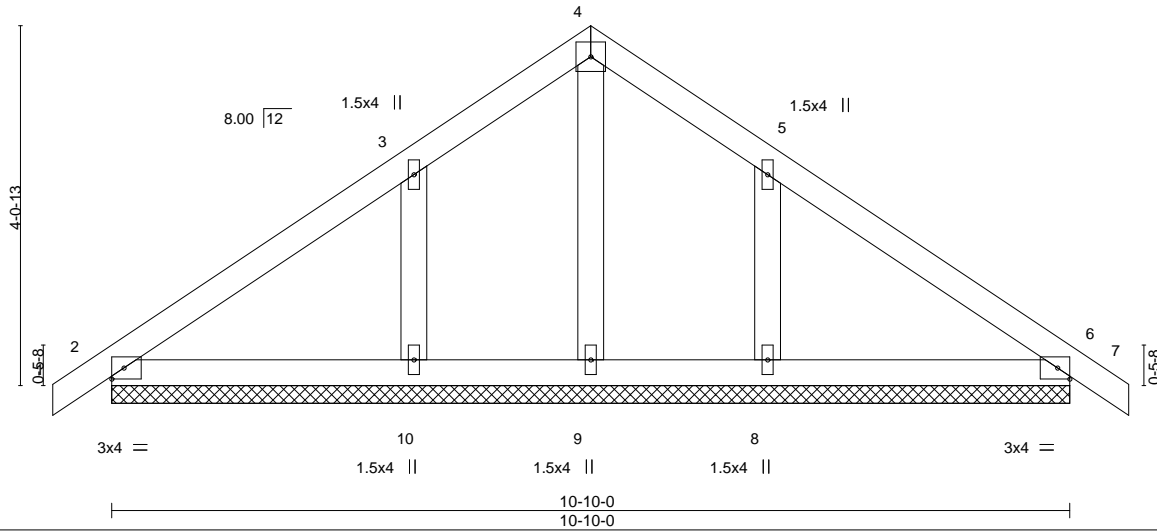
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4x4 =

Scale = 1:26.1



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 0.14	Vert(LL)	0.00	7	n/r	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.09	Vert(CT)	0.01	7	n/r		
BCLL 0.0 *	Rep Stress Incr	NO	WB 0.04	Horz(CT)	0.00	6	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S					Weight: 50 lb	FT = 20%

LUMBER-
 TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2
 OTHERS 2x4 SP No.3

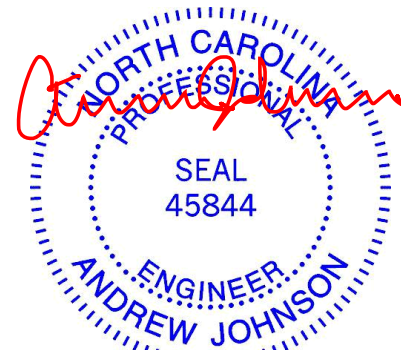
BRACING-
 TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 10-10-0.
 (lb) - Max Horz 2=77(LC 11)
 Max Uplift All uplift 100 lb or less at joint(s) 2, 6, 10, 8
 Max Grav All reactions 250 lb or less at joint(s) 2, 6, 9 except 10=286(LC 17), 8=285(LC 18)

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=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; B=45ft; L=45ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional) 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) Gable requires continuous bottom chord bearing.
- 5) Gable studs spaced at 2-0-0 oc.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) * 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.
- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 6, 10, 8.
- 9) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 6.



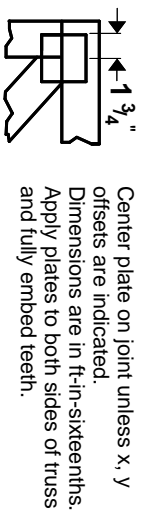
January 22, 2019

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 10/03/2015 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, 218 N. Lee Street, Suite 312, Alexandria, VA 22314.

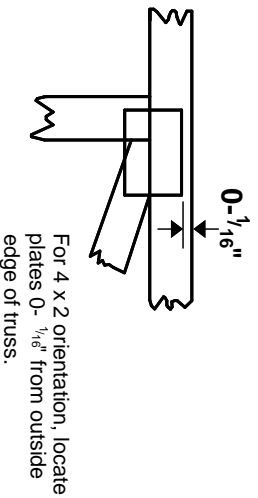
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 Edenton, NC 27932

Symbols

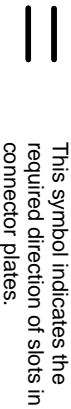
PLATE LOCATION AND ORIENTATION



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- 1/8" from outside edge of truss.



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

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

PLATE SIZE

4 X 4

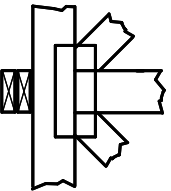
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

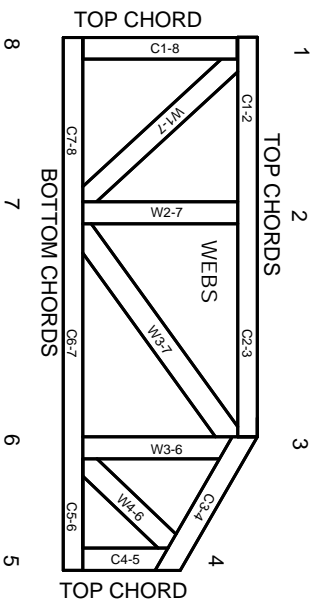


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI 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



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/TPI 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. 10/03/2015



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/TPI 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 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. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TPI 1 Quality Criteria.