

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: Wilmington B Vault
Wilmington B Vault

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: I59742961 thru I59742974

My license renewal date for the state of North Carolina is December 31, 2023.

North Carolina COA: C-0844



July 26, 2023

Gilbert, Eric

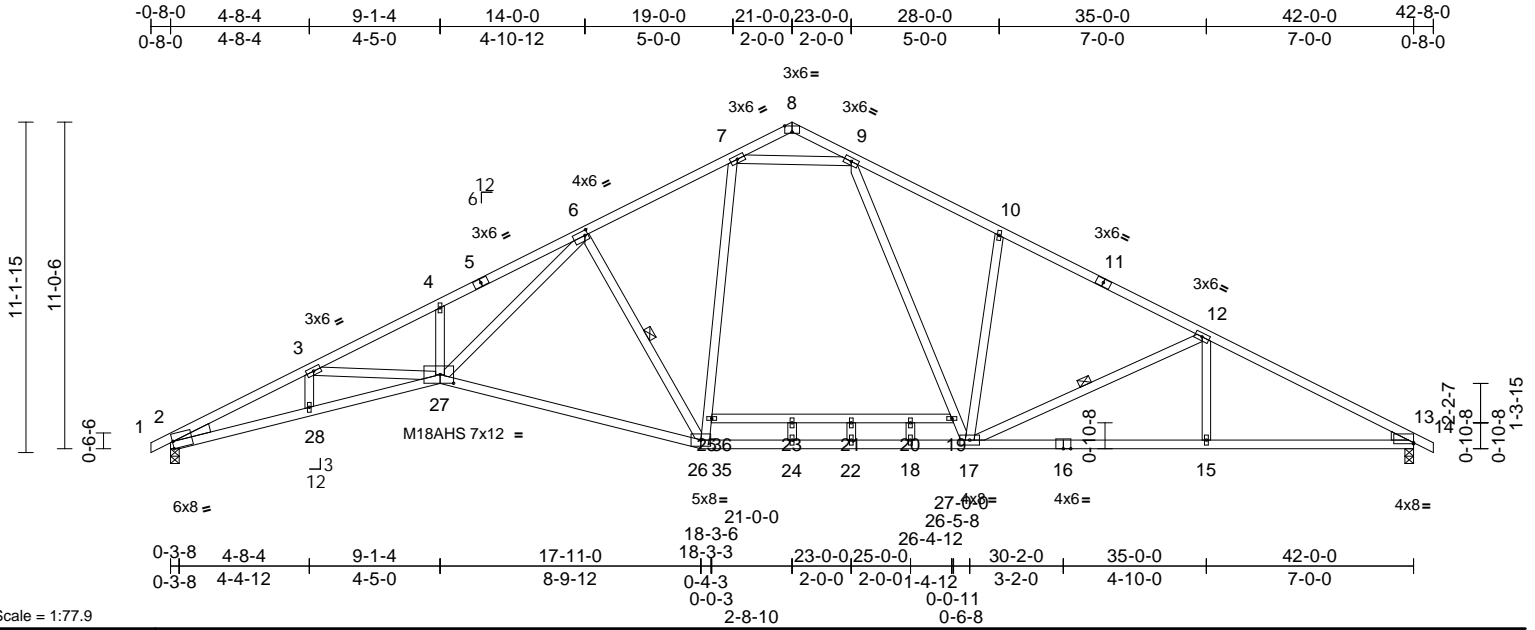
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek or TRENCO. Any project specific information included is for MiTek's or TRENCO's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek or 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.

Job Wilmington B Vault	Truss A1V	Truss Type Roof Special	Qty 1	Ply 1	Wilmington B Vault Job Reference (optional)	I59742961
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84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Tue Jul 25 13:22:51
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Page: 1



Scale = 1:77.9

Plate Offsets (X, Y): [2:0-0-4,Edge], [6:0-1-4,0-2-0], [8:0-3-0,Edge], [13:Edge,0-0-8], [27:0-5-8,0-3-8]

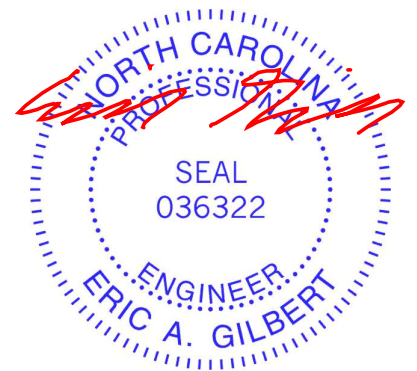
Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.87	Vert(LL)	-0.59	22-24	>852	240	MT20 244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.95	Vert(CT)	-1.09	22-24	>464	180	M18AHS 186/179
BCLL	0.0*	Rep Stress Incr	YES	WB	0.80	Horz(CT)	0.39	13	n/a	n/a	
BCDL	10.0	Code	IRC2015/TPI2014	Matrix-MS							Weight: 250 lb FT = 20%

LUMBER
TOP CHORD 2x4 SP No.1
BOT CHORD 2x4 SP DSS *Except* 27-26,16-13:2x4 SP No.1, 25-19:2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 17-9,17-10,17-12,6-26,6-27,26-7:2x4 SP No.2
WEDGE Left: 2x4 SP No.3 Right: 2x4 SP No.3
BRACING
TOP CHORD Structural wood sheathing directly applied or 1-11-1 oc purlins.
BOT CHORD Rigid ceiling directly applied or 7-4-7 oc bracing.
WEBS 1 Row at midpt 12-17, 6-26
REACTIONS (size) 2=0-3-8, 13=0-3-8
Max Horiz 2=181 (LC 12)
Max Uplift 2=-164 (LC 12), 13=-157 (LC 13)
Max Grav 2=1799 (LC 1), 13=1810 (LC 1)
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/18, 2-3=-5449/1034, 3-4=-5650/1005, 4-6=-5673/1120, 6-7=-2491/577, 7-8=-138/64, 8-9=-158/51, 9-10=-2796/660, 10-12=-2861/553, 12-13=-3290/633, 13-14=0/18
BOT CHORD 2-28=-859/4888, 27-28=-868/4953, 26-27=-344/2898, 24-26=-104/1982, 22-24=-104/1982, 18-22=-104/1982, 17-18=-104/1982, 15-17=-462/2864, 13-15=-462/2864, 23-25=-26/97, 21-23=-26/97, 20-21=-26/97, 19-20=-26/97

WEBS 9-19=-200/1083, 17-19=-233/1018, 10-17=-452/273, 12-17=-570/244, 12-15=0/221, 3-28=-179/78, 3-27=0/316, 4-27=-301/199, 6-26=-1379/380, 6-27=-590/3274, 25-26=-138/859, 7-25=-99/988, 7-9=-2001/561, 23-24=-56/0, 21-22=-48/11, 18-20=-91/0

- NOTES**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=30ft; Cat II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
 - Bearing at joint(s) 2 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 164 lb uplift at joint 2 and 157 lb uplift at joint 13.
 - This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
 - ATTIC SPACE SHOWN IS DESIGNED AS UNINHABITABLE.

LOAD CASE(S) Standard



July 26, 2023

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

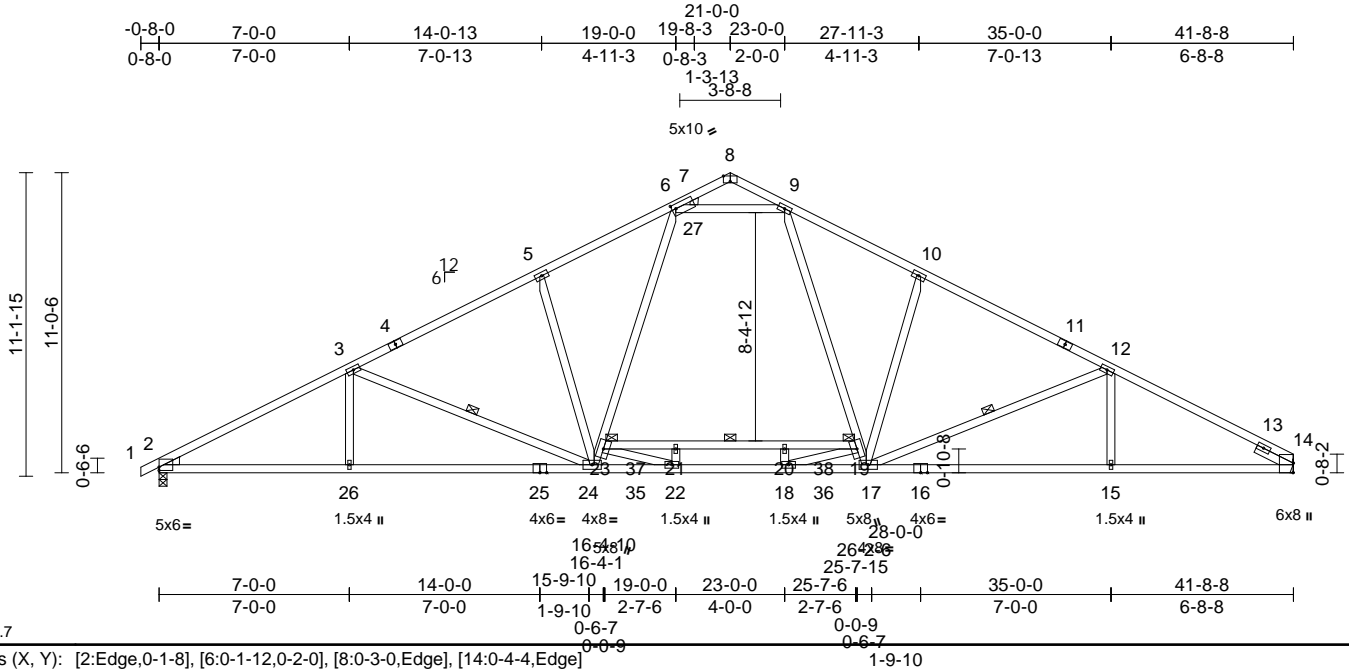
ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job Wilmington B Vault	Truss A2	Truss Type Common	Qty 5	Ply 1	Wilmington B Vault Job Reference (optional)	I59742962
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84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Tue Jul 25 13:22:54
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Page: 1



Scale = 1:84.7

Plate Offsets (X, Y): [2:Edge,0-1-8], [6:0-1-12,0-2-0], [8:0-3-0,Edge], [14:0-4-4,Edge]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.99	Vert(LL)	-0.43	24-26	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.93	Vert(CT)	-0.74	24-26	>676	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.80	Horz(CT)	0.18	14	n/a	n/a		
BCDL	10.0	Code	IRC2015/TPI2014	Matrix-MS							Weight: 255 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 11-14:2x4 SP DSS
BOT CHORD 2x4 SP No.1 *Except* 23-19:2x4 SP No.2
WEBS 2x4 SP No.3 *Except*
17-9,10-17,12-17,24-6,5-24,3-24:2x4 SP No.2
WEDGE Left: 2x4 SP No.3
SLIDER Right 2x4 SP No.3 -- 1-6-0

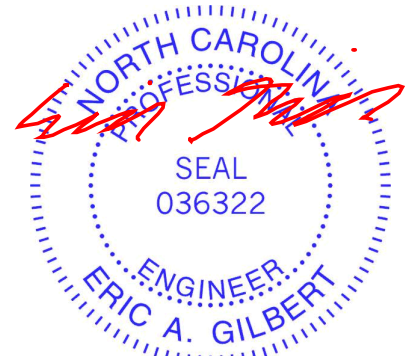
BRACING
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing. Except:
5-7-0 oc bracing: 19-23
WEBS 1 Row at midpt 12-17, 3-24

REACTIONS
(size) 2=0-3-8, 14= Mechanical
Max Horiz 2=190 (LC 12), 14=137 (LC 13)
Max Uplift 2=154 (LC 12), 14=137 (LC 13)
Max Grav 2=1803 (LC 1), 14=1764 (LC 2)

FORCES
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/18, 2-3=-3319/614, 3-5=-2802/543,
5-6=-2710/620, 6-7=-492/140, 7-8=-249/82,
8-9=-308/88, 9-10=-2699/618,
10-12=-2788/540, 12-14=-3187/597
BOT CHORD 2-26=-464/2888, 24-26=-464/2888,
22-24=-88/2005, 18-22=0/2879,
17-18=-82/1981, 15-17=-444/2772,
14-15=-444/2772, 21-23=-1102/0,
20-21=-1102/0, 19-20=-1102/0
WEBS 9-19=-150/1051, 17-19=-245/838,
10-17=-450/252, 12-17=-512/213,
12-15=0/253, 23-24=-247/858,
6-23=-154/1076, 5-24=-449/255,
3-24=-614/234, 3-26=0/284, 6-27=-1809/501,
9-27=-1805/500, 7-27=-132/479,
18-20=-206/0, 18-19=0/1161, 21-22=-197/0,
22-23=0/1143

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCCL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- All plates are 3x6 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 3-06-00 tall by 2-00-00 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 154 lb uplift at joint 2 and 137 lb uplift at joint 14.
- This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- ATTIC SPACE SHOWN IS DESIGNED AS UNINHABITABLE.

LOAD CASE(S) Standard



July 26, 2023

NOTES

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 ANSITPI Quality Criteria, DSB-89 and BCSI Building Component Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



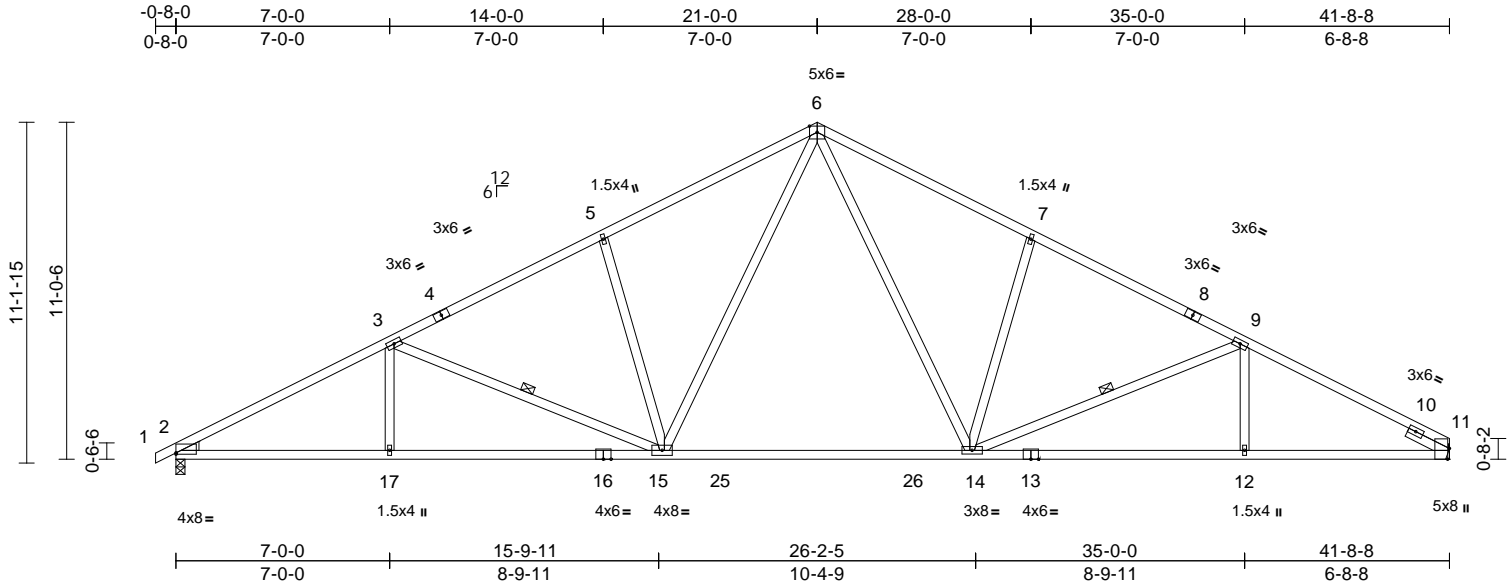
818 Soundside Road
Edenton, NC 27932

Job Wilmington B Vault	Truss A3	Truss Type Common	Qty 5	Ply 1	Wilmington B Vault Job Reference (optional)	I59742963
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84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Tue Jul 25 13:22:54
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Page: 1



Scale = 1:75.5

Plate Offsets (X, Y): [2:Edge,0-0-8], [11:0-4-4,Edge]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.98	Vert(LL)	-0.51	14-15	>977	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.89	Vert(CT)	-0.84	14-15	>593	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.66	Horz(CT)	0.15	11	n/a	n/a		
BCDL	10.0	Code	IRC2015/TPI2014	Matrix-MS							Weight: 230 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 8-11:2x4 SP No.1
BOT CHORD 2x4 SP No.1
WEBS 2x4 SP No.2 *Except* 12-9,17-3:2x4 SP No.3
WEDGE Left: 2x4 SP No.3
SLIDER Right 2x4 SP No.3 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied or 8-2-14 oc bracing.

WEBS
1 Row at midpt 9-14, 3-15

REACTIONS
(size) 2=0-3-8, 11= Mechanical
Max Horiz 2=190 (LC 12)
Max Uplift 2=-211 (LC 12), 11=-194 (LC 13)
Max Grav 2=1709 (LC 1), 11=1668 (LC 1)

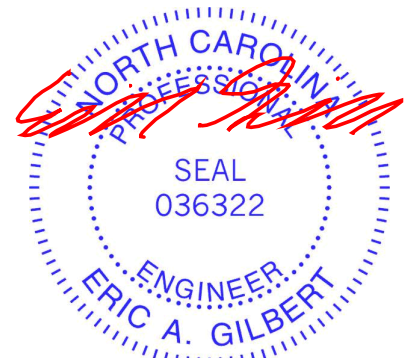
FORCES
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/18, 2-3=-3079/732, 3-5=-2471/668,
5-6=-2373/765, 6-7=-2360/762,
7-9=-2456/664, 9-11=-2945/711
BOT CHORD 2-17=-568/2662, 15-17=-568/2662,
14-15=-179/1625, 12-14=-542/2551,
11-12=-542/2551
WEBS 6-14=-259/922, 7-14=-436/285,
9-14=-500/194, 9-12=0/247, 6-15=-266/945,
5-15=-425/282, 3-15=-595/220, 3-17=0/277

- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 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 211 lb uplift at joint 2 and 194 lb uplift at joint 11.
- This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=130mph (3-second gust)
Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; 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.



July 26, 2023

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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



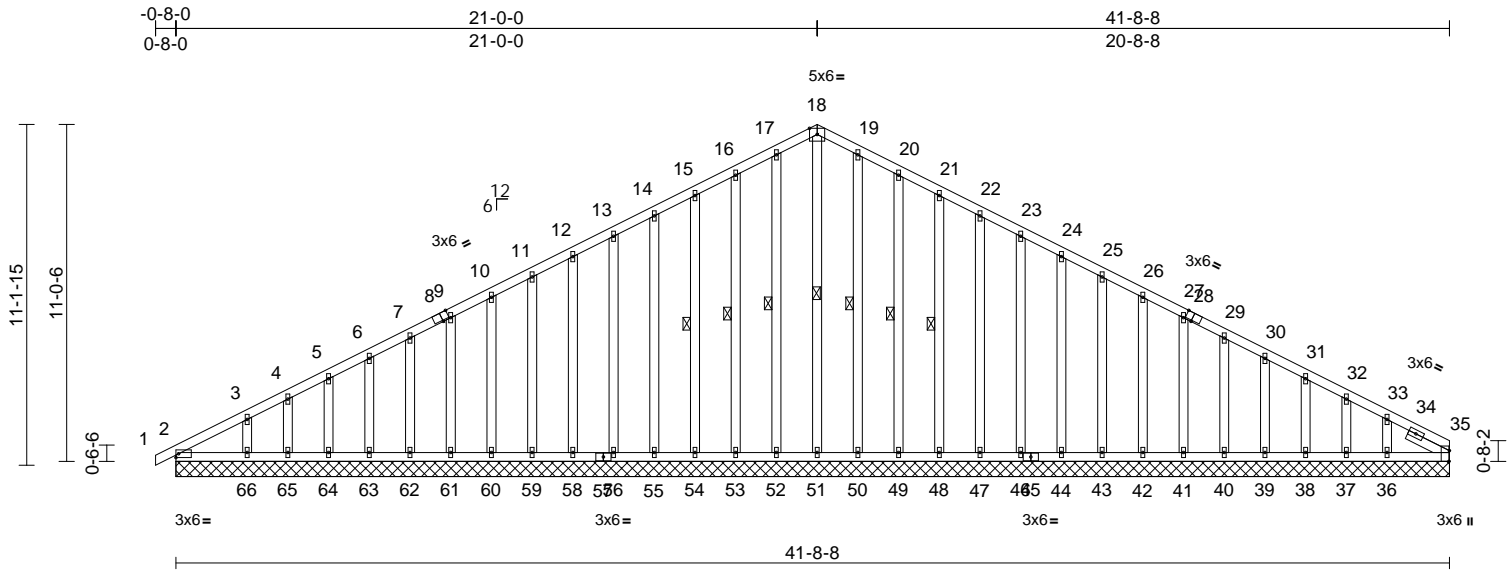
818 Soundside Road
Edenton, NC 27932

Job Wilmington B Vault	Truss A3E	Truss Type Common Supported Gable	Qty 1	Ply 1	Wilmington B Vault Job Reference (optional)	I59742964
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84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Tue Jul 25 13:22:55
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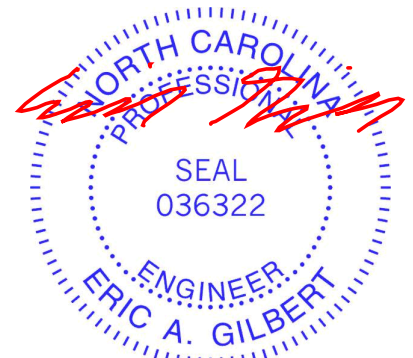
Scale = 1:75.5

Plate Offsets (X, Y): [8:0-2-11,Edge], [28:0-2-11,Edge], [35:0-4-4,Edge]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.01	35	n/a	n/a		
BCDL	10.0	Code	IRC2015/TPI2014	Matrix-MS								
											Weight: 379 lb	FT = 20%

LUMBER		Max Uplift		TOP CHORD	
TOP CHORD	2x4 SP No.2	2=-15 (LC 8), 36=-96 (LC 13),		1-2=0/18, 2-3=-235/80, 3-4=-184/75,	
BOT CHORD	2x4 SP No.2	37=-12 (LC 13), 38=-37 (LC 13),		4-5=-162/87, 5-6=-132/95, 6-7=-110/104,	
OTHERS	2x4 SP No.3 *Except*	39=-32 (LC 13), 40=-33 (LC 13),		7-9=-89/121, 9-10=-70/137, 10-11=-60/153,	
	51-18,52-17,53-16,54-15,55-14,56-13,58-12,	41=-32 (LC 13), 42=-33 (LC 13),		11-12=-58/170, 12-13=-69/186,	
	50-19,49-20,48-21,47-22,46-23,44-24:2x4 SP	43=-32 (LC 13), 44=-33 (LC 13),		13-14=-80/202, 14-15=-91/228,	
	No.2	46=-32 (LC 13), 47=-32 (LC 13),		15-16=-102/260, 16-17=-115/296,	
SLIDER	Right 2x4 SP No.3 -- 1-6-0	48=-33 (LC 13), 49=-42 (LC 13),		17-18=-120/313, 18-19=-120/313,	
BRACING		50=-4 (LC 13), 52=-12 (LC 12),		19-20=-115/296, 20-21=-102/260,	
TOP CHORD	Structural wood sheathing directly applied or	53=-40 (LC 12), 54=-33 (LC 12),		21-22=-91/228, 22-23=-80/196,	
	6-0-0 oc purlins.	55=-32 (LC 12), 56=-32 (LC 12),		23-24=-69/164, 24-25=-58/132,	
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc	58=-33 (LC 12), 59=-32 (LC 12),		25-26=-47/101, 26-27=-36/69, 27-29=-36/50,	
	bracing.	60=-33 (LC 12), 61=-32 (LC 12),		29-30=-48/34, 30-31=-63/25, 31-32=-92/23,	
WEBS	1 Row at midpt	62=-33 (LC 12), 63=-31 (LC 12),		32-33=-115/28, 33-35=-162/53	
	18-51, 17-52, 16-53,	64=-38 (LC 12), 65=-6 (LC 12),			
	15-54, 19-50, 20-49,	66=-97 (LC 12), 67=-15 (LC 8)			
	21-48	Max Grav			
REACTIONS (size)	2=41-8-8, 35=41-8-8, 36=41-8-8,	2=156 (LC 21), 35=109 (LC 22),			
	37=41-8-8, 38=41-8-8, 39=41-8-8,	36=162 (LC 24), 37=88 (LC 1),			
	40=41-8-8, 41=41-8-8, 42=41-8-8,	38=111 (LC 24), 39=106 (LC 1),			
	43=41-8-8, 44=41-8-8, 46=41-8-8,	40=107 (LC 24), 41=107 (LC 1),			
	47=41-8-8, 48=41-8-8, 49=41-8-8,	42=107 (LC 24), 43=106 (LC 1),			
	50=41-8-8, 51=41-8-8, 52=41-8-8,	44=107 (LC 24), 46=107 (LC 24),			
	53=41-8-8, 54=41-8-8, 55=41-8-8,	47=107 (LC 1), 48=107 (LC 1),			
	56=41-8-8, 58=41-8-8, 59=41-8-8,	49=108 (LC 24), 50=108 (LC 24),			
	60=41-8-8, 61=41-8-8, 62=41-8-8,	51=186 (LC 13), 52=108 (LC 23),			
	63=41-8-8, 64=41-8-8, 65=41-8-8,	53=108 (LC 23), 54=107 (LC 1),			
	66=41-8-8, 67=41-8-8, 70=41-8-8	55=107 (LC 1), 56=107 (LC 23),			
Max Horiz	2=190 (LC 12), 67=190 (LC 12)	58=107 (LC 23), 59=106 (LC 1),			
		60=107 (LC 23), 61=107 (LC 1),			
		62=107 (LC 23), 63=105 (LC 1),			
		64=112 (LC 23), 65=81 (LC 1),			
		66=176 (LC 23), 67=156 (LC 21),			
		70=109 (LC 22)			

FORCES (lb) - Maximum Compression/Maximum Tension



July 26, 2023

Continued on page 3

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ANSI/TPI 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 B Vault	I59742964
Wilmington B Vault	A3E	Common Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Tue Jul 25 13:22:55
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Page: 2

BOT CHORD 2-66=-118/156, 65-66=-43/156,
64-65=-43/156, 63-64=-43/156,
62-63=-43/156, 61-62=-43/156,
60-61=-43/156, 59-60=-43/156,
58-59=-43/156, 56-58=-43/156,
55-56=-43/156, 54-55=-43/156,
53-54=-43/156, 52-53=-43/156,
51-52=-43/156, 50-51=-43/156,
49-50=-43/156, 48-49=-43/156,
47-48=-43/156, 46-47=-43/156,
44-46=-43/156, 43-44=-43/156,
42-43=-43/156, 41-42=-43/156,
40-41=-43/156, 39-40=-43/156,
38-39=-43/156, 37-38=-43/156,
36-37=-43/156, 35-36=-43/156

WEBS 18-51=-198/44, 17-52=-82/28, 16-53=-81/66,
15-54=-80/55, 14-55=-80/55, 13-56=-80/55,
12-58=-80/55, 11-59=-80/55, 10-60=-80/55,
9-61=-80/55, 7-62=-80/55, 6-63=-80/55,
5-64=-83/58, 4-65=-66/43, 3-66=-122/93,
19-50=-82/20, 20-49=-81/66, 21-48=-80/55,
22-47=-80/55, 23-46=-80/55, 24-44=-80/55,
25-43=-80/55, 26-42=-80/55, 27-41=-80/55,
29-40=-80/55, 30-39=-80/55, 31-38=-82/57,
32-37=-71/43, 33-36=-111/98

NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=130mph (3-second gust)
Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; 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 1.5x4 MT20 unless otherwise indicated.
- 5) Gable requires continuous bottom chord bearing.
- 6) Gable studs spaced at 1-4-0 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 9) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 52, 53, 54, 55, 56, 58, 59, 60, 61, 62, 63, 64, 65, 66, 50, 49, 48, 47, 46, 44, 43, 42, 41, 40, 39, 38, 37, and 36. This connection is for uplift only and does not consider lateral forces.
- 10) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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



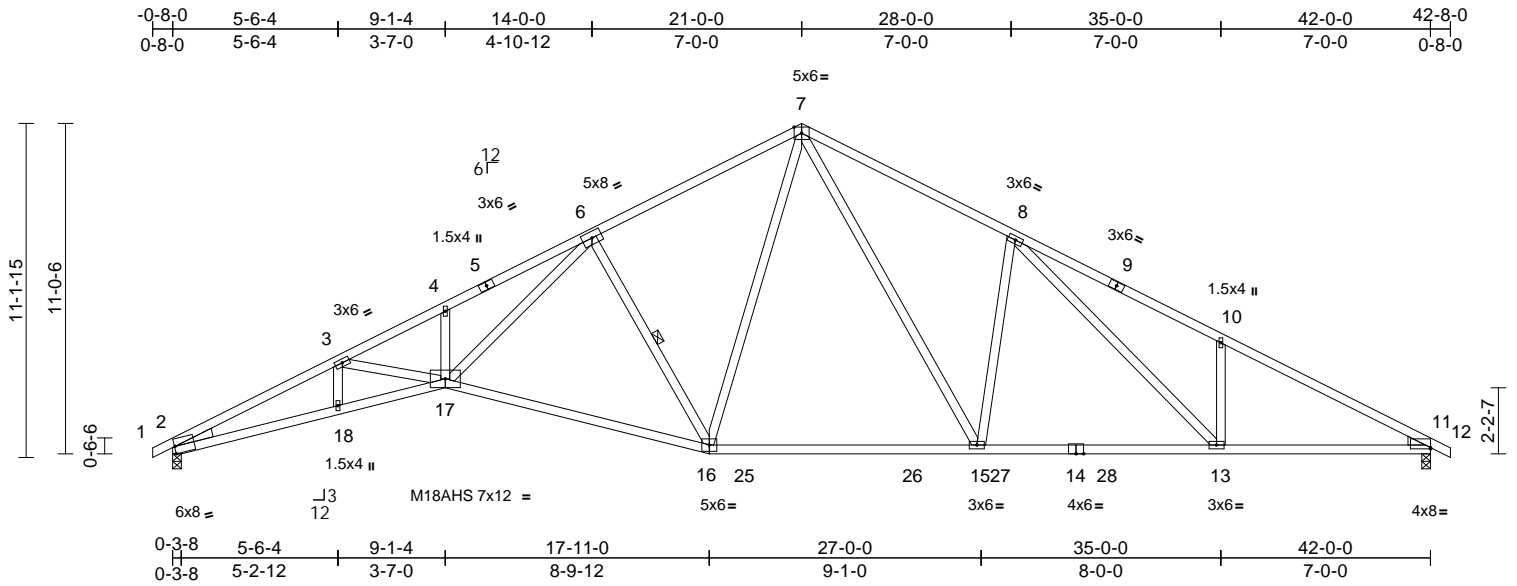
818 Soundside Road
Edenton, NC 27932

Job Wilmington B Vault	Truss AV	Truss Type Roof Special	Qty 8	Ply 1	Wilmington B Vault Job Reference (optional)	159742965
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84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Tue Jul 25 13:22:55
ID:Q5TG5_xqiucKkBPWIIIVIBezBOEB-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:76.9

Plate Offsets (X, Y): [2:0-0-4,Edge], [11:Edge,0-0-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.99	Vert(LL)	-0.51	15-16	>996	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-0.95	15-16	>533	180	M18AHS	186/179
BCLL	0.0*	Rep Stress Incr	YES	WB	0.82	Horz(CT)	0.38	11	n/a	n/a		
BCDL	10.0	Code	IRC2015/TPI2014	Matrix-MS								Weight: 235 lb FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.1 *Except* 2-17:2x4 SP DSS
WEBS 2x4 SP No.2 *Except*
13-10,3-18,3-17,4-17:2x4 SP No.3
WEDGE Left: 2x4 SP No.3
Right: 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied or 6-9-12 oc bracing.
WEBS 1 Row at midpt 6-16

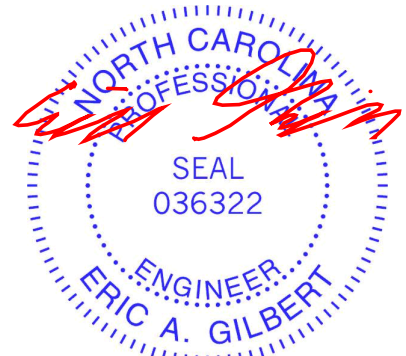
REACTIONS (size) 2=0-3-8, 11=0-3-8
Max Horiz 2=181 (LC 12), 11=211 (LC 13)
Max Uplift 2=-211 (LC 12), 11=-211 (LC 13)
Max Grav 2=1720 (LC 1), 11=1720 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/18, 2-3=-5241/1206, 3-4=-5260/1184,
4-6=-5268/1277, 6-7=-2189/700,
7-8=-2507/808, 8-10=-3078/900,
10-11=-3095/738, 11-12=0/18
BOT CHORD 2-18=-1006/4710, 17-18=-1012/4766,
16-17=-466/2627, 15-16=-165/1649,
13-15=-370/2245, 11-13=-554/2676
WEBS 7-16=-200/804, 7-15=-309/1082,
8-15=-678/383, 8-13=-265/686,
10-13=-380/279, 3-18=-163/74,
3-17=-10/182, 4-17=-241/150,
6-16=-1386/461, 6-17=-635/3086

- Wind: ASCE 7-10; Vult=130mph (3-second gust)
Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Bearing at joint(s) 2 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 211 lb uplift at joint 2 and 211 lb uplift at joint 11.
- This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

- NOTES**
1) Unbalanced roof live loads have been considered for this design.



July 26, 2023

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 B Vault
Wilmington B Vault	AVE	Roof Special Supported Gable	1	1	Job Reference (optional)
84 LUMBER					159742966

8.710 e Jul 10 2023 MiTek Industries, Inc. Wed Jul 26 07:24:02 2023 Page 1
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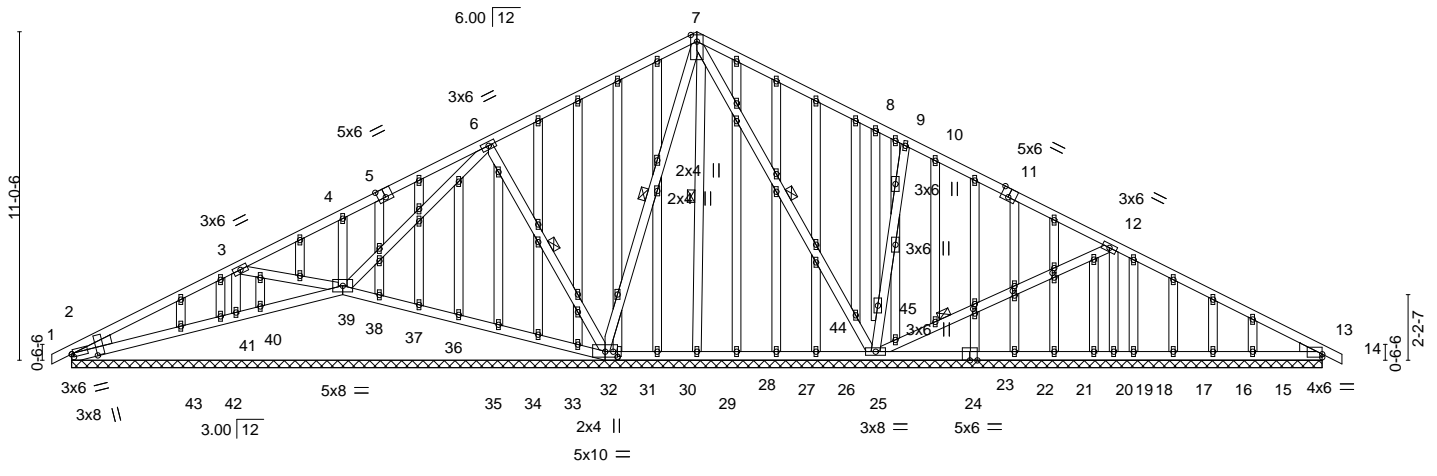
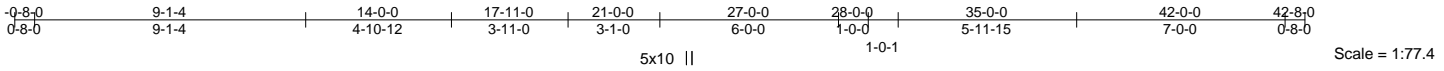


Plate Offsets (X,Y)--	[2:0-3-0,0-10-1], [2:0-0-10,0-1-5], [5:0-3-0,Edge], [11:0-3-0,Edge], [13:0-0-0,0-1-4], [31:0-2-0,0-1-12], [32:0-5-0,0-2-4], [76:0-1-14,0-0-12], [78:0-1-14,0-0-12], [80:0-1-14,0-0-12]
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LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.60	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.36	Vert(LL) 0.01 14 n/r 120		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.28	Vert(CT) 0.02 14 n/r 90		
BCDL 10.0	Rep Stress Incr YES	Matrix-S	Horz(CT) 0.01 13 n/a n/a		
	Code IRC2015/TPI2014			Weight: 450 lb	FT = 20%

LUMBER-
 TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2
 WEBS 2x4 SP No.2 *Except*
 12-19,3-41,3-39,4-39,10-45: 2x4 SP No.3
 OTHERS 2x4 SP No.3 *Except*
 32-48,49-50,28-65,70-71: 2x4 SP No.2

BRACING-
 TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins. [PSA]
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except:
 6-0-0 oc bracing: 42-43.
 WEBS 1 Row at midpt 7-32, 7-25, 6-32, 7-29
 JOINTS 1 Brace at Jt(s): 45

WEDGE
 Left: 2x4 SP No.3, Right: 2x4 SP No.2

REACTIONS. All bearings 42-0-0.
 (lb) - Max Horz 2=181(LC 12)
 Max Uplift All uplift 100 lb or less at joint(s) 2, 13, 42, 16, 15 except 39=-146(LC 12), 32=-195(LC 12), 25=-303(LC 13), 19=-133(LC 13), 41=-156(LC 12)
 Max Grav All reactions 250 lb or less at joint(s) 2, 29, 13, 30, 31, 33, 34, 35, 36, 37, 38, 40, 42, 43, 28, 27, 26, 23, 22, 21, 20, 18, 17, 16, 15 except 39=389(LC 23), 32=403(LC 1), 25=621(LC 1), 19=392(LC 24), 41=330(LC 23)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 WEBS 25-44=-418/276, 12-19=-382/161, 3-41=-298/139, 6-32=-320/227

- 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; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - All plates are 1.5x4 MT20 unless otherwise indicated.
 - Gable requires continuous bottom chord bearing.
 - 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.
 - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 13, 42, 16, 15 except (jt=lb) 39=146, 32=195, 25=303, 19=133, 41=156.
 - Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 39, 41, 33, 34, 35, 36, 37, 38, 40, 42, 43.
 - This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



July 26, 2023

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

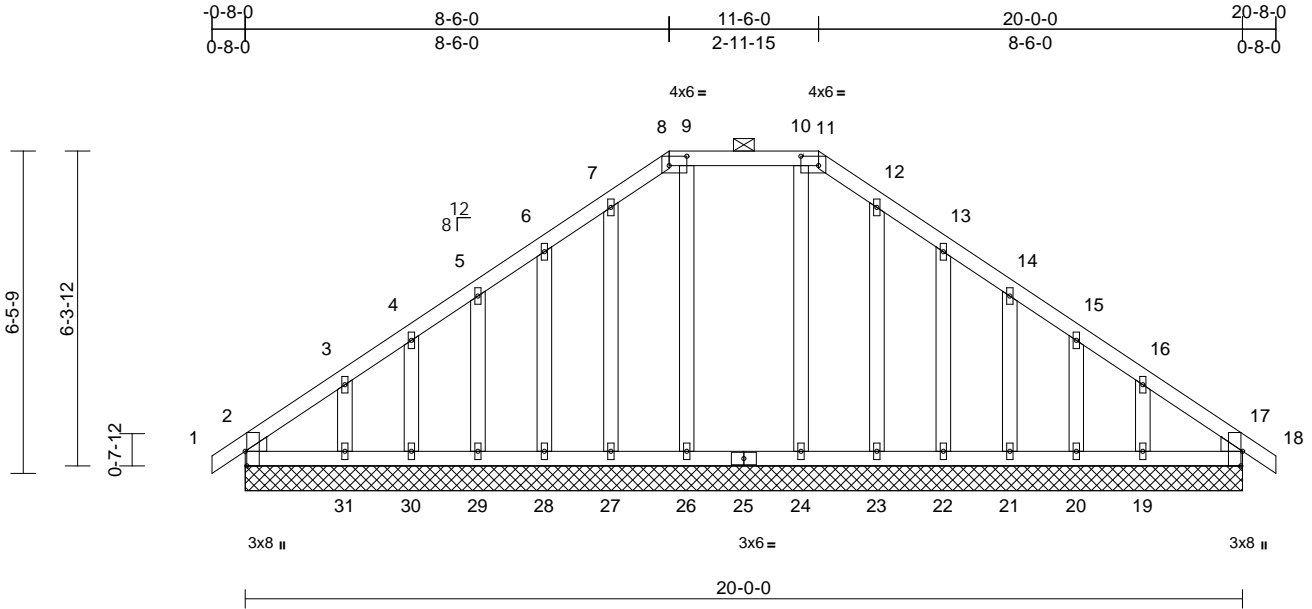
ENGINEERING BY
TRENCO
 A MiTek Affiliate
 818 Soundside Road
 Edenton, NC 27932

Job Wilmington B Vault	Truss BE	Truss Type Hip Supported Gable	Qty 1	Ply 1	Wilmington B Vault Job Reference (optional)	I59742967
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84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Tue Jul 25 13:22:59
ID:nz1ZnbSkN9h_WtnCYdE6euzBO?A-RfC?PsB70Hq3NSgPqL8w3uITXbGKWRCDoi?J4zJC?f

Page: 1



Scale = 1:46.2

Plate Offsets (X, Y): [2:0-3-8,Edge], [8:0-4-4,0-2-4], [11:0-4-4,0-2-4], [17:0-3-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.05	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.00	17	n/a	n/a		
BCDL	10.0	Code	IRC2015/TPI2014	Matrix-MS							Weight: 134 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3
WEDGE Left: 2x4 SP No.3
Right: 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 8-11.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size)
2=20-0-0, 17=20-0-0, 19=20-0-0, 20=20-0-0, 21=20-0-0, 22=20-0-0, 23=20-0-0, 24=20-0-0, 26=20-0-0, 27=20-0-0, 28=20-0-0, 29=20-0-0, 30=20-0-0, 31=20-0-0, 32=20-0-0, 35=20-0-0
Max Horiz 2=-152 (LC 10), 32=-152 (LC 10)
Max Uplift 2=-37 (LC 8), 19=-89 (LC 13), 20=-27 (LC 13), 21=-45 (LC 13), 22=-48 (LC 13), 23=-24 (LC 13), 24=-3 (LC 9), 26=-22 (LC 9), 27=-29 (LC 12), 28=-46 (LC 12), 29=-46 (LC 12), 30=-24 (LC 12), 31=-97 (LC 12), 32=-37 (LC 8)
Max Grav 2=151 (LC 20), 17=131 (LC 1), 19=169 (LC 20), 20=95 (LC 20), 21=116 (LC 20), 22=118 (LC 20), 23=100 (LC 24), 24=186 (LC 22), 26=196 (LC 22), 27=103 (LC 19), 28=116 (LC 19), 29=117 (LC 19), 30=94 (LC 1), 31=179 (LC 19), 32=151 (LC 20), 35=131 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/22, 2-3=-124/112, 3-4=-101/81, 4-5=-91/81, 5-6=-83/100, 6-7=-116/127, 7-8=-137/145, 8-9=-125/139, 9-10=-125/139, 10-11=-125/139, 11-12=-137/145, 12-13=-116/119, 13-14=-80/77, 14-15=-51/40, 15-16=-61/31, 16-17=-85/55, 17-18=0/22
BOT CHORD 2-31=-88/108, 30-31=-58/108, 29-30=-58/108, 28-29=-58/108, 27-28=-58/108, 26-27=-58/108, 24-26=-58/108, 23-24=-58/108, 22-23=-58/108, 21-22=-58/108, 20-21=-58/108, 19-20=-58/108, 17-19=-58/108
WEBS 9-26=-117/47, 10-24=-117/28, 7-27=-89/44, 6-28=-91/63, 5-29=-88/59, 4-30=-77/50, 3-31=-119/86, 12-23=-83/38, 13-22=-92/65, 14-21=-88/59, 15-20=-79/51, 16-19=-120/82

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCCL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; 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 1.5x4 MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 1-4-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 37 lb uplift at joint 2, 22 lb uplift at joint 26, 3 lb uplift at joint 24, 29 lb uplift at joint 27, 46 lb uplift at joint 28, 46 lb uplift at joint 29, 24 lb uplift at joint 30, 97 lb uplift at joint 31, 24 lb uplift at joint 23, 48 lb uplift at joint 22, 45 lb uplift at joint 21, 27 lb uplift at joint 20, 89 lb uplift at joint 19 and 37 lb uplift at joint 2.
11) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



July 26, 2023

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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 ANSITPI Quality Criteria, DSB-89 and BCSI Building Component Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



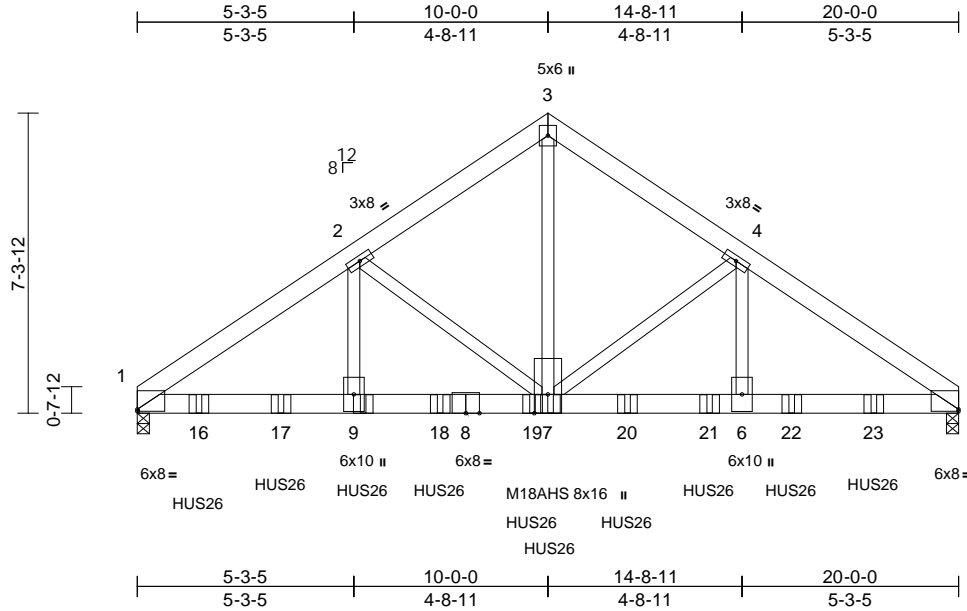
818 Soundside Road
Edenton, NC 27932

Job Wilmington B Vault	Truss BGR	Truss Type Common Girder	Qty 1	Ply 3	Wilmington B Vault Job Reference (optional)	159742968
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84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Tue Jul 25 13:23:00
ID:Kb3SHh35cV_uWZcpT78qfRzBO_O-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:56.1

Plate Offsets (X, Y): [1:Edge,0-0-9], [5:Edge,0-0-9]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.33	Vert(LL)	-0.09	6-7	>999	240	MT20 244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.51	Vert(CT)	-0.17	6-7	>999	180	M18AHS 186/179
BCLL	0.0*	Rep Stress Incr	NO	WB	0.83	Horz(CT)	0.05	5	n/a	n/a	
BCDL	10.0	Code	IRC2015/TPI2014	Matrix-MS							Weight: 419 lb FT = 20%

LUMBER

- TOP CHORD 2x6 SP No.2
- BOT CHORD 2x6 SP DSS
- WEBS 2x4 SP No.3 *Except* 7-3:2x4 SP No.2

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

- (size) 1=0-3-8, 5=0-3-8
- Max Horiz 1=-165 (LC 30)
- Max Uplift 1=-937 (LC 12), 5=-1007 (LC 13)
- Max Grav 1=9634 (LC 1), 5=8926 (LC 1)

FORCES

- (lb) - Maximum Compression/Maximum Tension
- TOP CHORD 1-2=-13524/1427, 2-3=-9614/1145, 3-4=-9609/1145, 4-5=-13167/1551
- BOT CHORD 1-9=-1156/11223, 7-9=-1156/11223, 6-7=-1212/10903, 5-6=-1212/10903
- WEBS 3-7=-1138/10192, 2-7=-4109/471, 2-9=-309/4439, 4-7=-3704/603, 4-6=-459/4015

NOTES

- 3-ply truss to be connected together with 10d (0.148"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 3 rows staggered at 0-8-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, Except member 3-7 2x4 - 1 row at 0-8-0 oc, member 2-9 2x4 - 1 row at 0-4-0 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=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BC DL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone;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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Two H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1 and 5. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Use Simpson Strong-Tie HUS26 (14-10d Girder, 4-10d Truss) or equivalent spaced at 2-3-0 oc max. starting at 1-6-0 from the left end to 17-11-4 to connect truss(es) to back face of bottom chord.
- Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard

- Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-60, 3-5=-60, 10-13=-20
Concentrated Loads (lb)
Vert: 7=-1648 (B), 9=-1744 (B), 16=-1744 (B), 17=-1744 (B), 18=-1744 (B), 19=-1744 (B), 20=-1648 (B), 21=-1648 (B), 22=-1648 (B), 23=-1648 (B)



July 26, 2023

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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



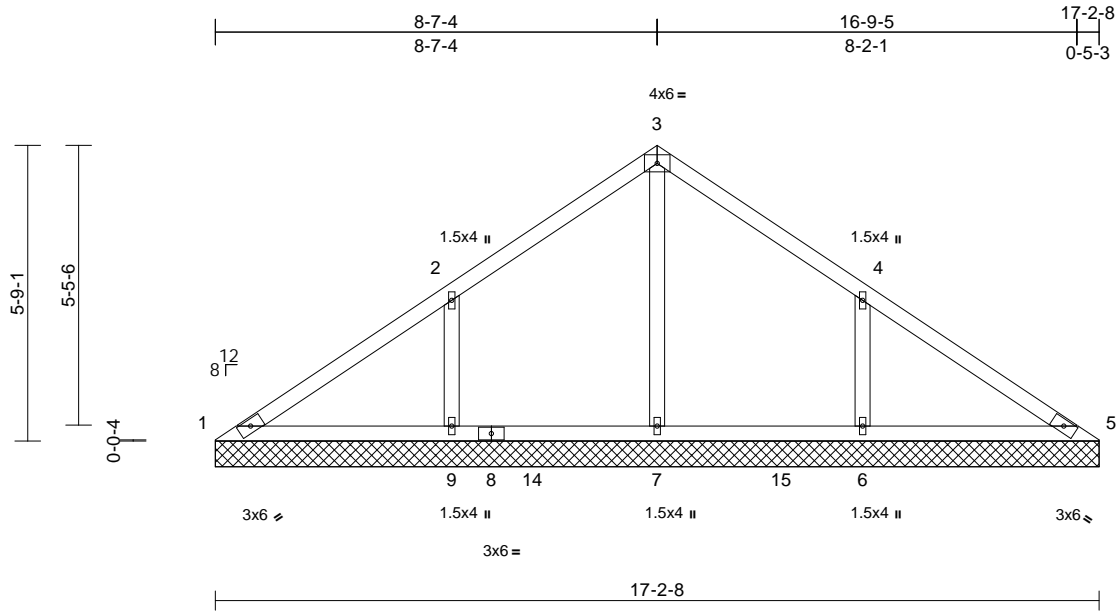
818 Soundside Road
Edenton, NC 27932

Job Wilmington B Vault	Truss BV1	Truss Type Valley	Qty 1	Ply 1	Wilmington B Vault Job Reference (optional)	159742969
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84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Tue Jul 25 13:23:00
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Page: 1



Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.28	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.19	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2015/TPI2014	Matrix-MS							Weight: 70 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 10-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=17-2-8, 5=17-2-8, 6=17-2-8, 7=17-2-8, 9=17-2-8
Max Horiz 1=-138 (LC 8)
Max Uplift 1=-7 (LC 8), 6=-158 (LC 13), 9=-160 (LC 12)
Max Grav 1=102 (LC 23), 5=102 (LC 24), 6=447 (LC 20), 7=478 (LC 19), 9=448 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-126/235, 2-3=-11/180, 3-4=0/171, 4-5=-119/195
BOT CHORD 1-9=-162/132, 7-9=-162/109, 6-7=-162/109, 5-6=-162/109
WEBS 3-7=-330/13, 2-9=-308/195, 4-6=-307/194

- NOTES**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; 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.
 - Gable requires continuous bottom chord bearing.
 - Gable studs spaced at 4-0-0 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 7 lb uplift at joint 1, 160 lb uplift at joint 9 and 158 lb uplift at joint 6.
- This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



July 26, 2023

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



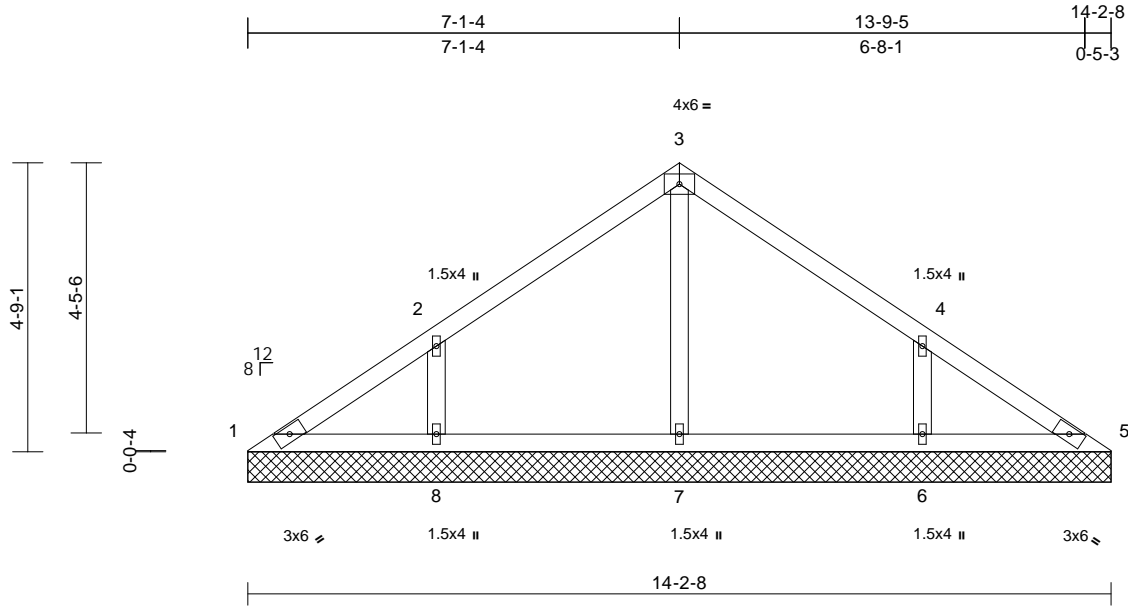
818 Soundside Road
Edenton, NC 27932

Job Wilmington B Vault	Truss BV2	Truss Type Valley	Qty 1	Ply 1	Wilmington B Vault Job Reference (optional)	159742970
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84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Tue Jul 25 13:23:01
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Page: 1



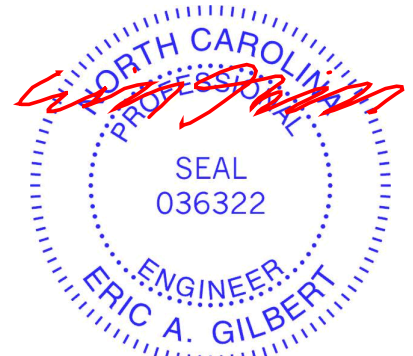
Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.21	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.11	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2015/TPI2014	Matrix-MP							Weight: 56 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 6-0-0 oc bracing.
REACTIONS (size)	
	1=14-2-8, 5=14-2-8, 6=14-2-8, 7=14-2-8, 8=14-2-8
Max Horiz	1=113 (LC 9)
Max Uplift	1=-12 (LC 13), 6=-140 (LC 13), 8=-142 (LC 12)
Max Grav	1=96 (LC 20), 5=83 (LC 1), 6=366 (LC 20), 7=274 (LC 1), 8=368 (LC 19)
FORCES (lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-129/121, 2-3=-94/107, 3-4=-88/97, 4-5=-99/88
BOT CHORD	1-8=-57/111, 7-8=-57/71, 6-7=-57/71, 5-6=-57/79
WEBS	3-7=-195/0, 2-8=-285/183, 4-6=-284/183

- NOTES**
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; 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 4-0-0 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 3-06-00 tall by 2-00-00 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 12 lb uplift at joint 1, 142 lb uplift at joint 8 and 140 lb uplift at joint 6.
- 9) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



July 26, 2023

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

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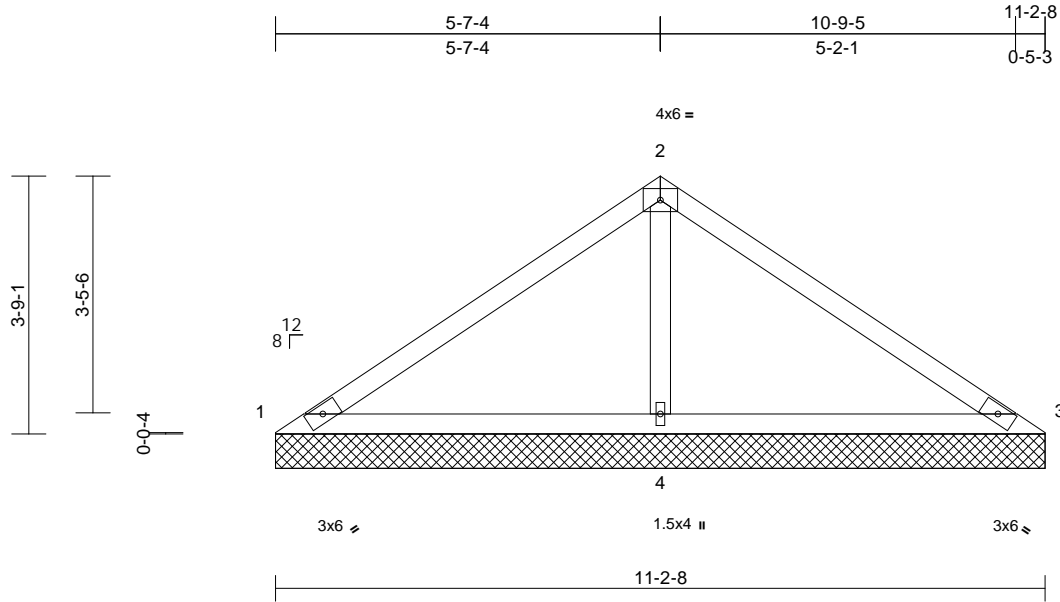
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Wilmington B Vault	159742971
Wilmington B Vault	BV3	Valley	1	1	Job Reference (optional)	

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

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Tue Jul 25 13:23:01
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Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.45	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.37	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.20	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2015/TPI2014	Matrix-MP							Weight: 40 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 10-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size) 1=11-2-8, 3=11-2-8, 4=11-2-8
Max Horiz 1=-89 (LC 8)
Max Uplift 1=-66 (LC 24), 3=-66 (LC 23), 4=-149 (LC 12)
Max Grav 1=46 (LC 23), 3=53 (LC 12), 4=927 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-155/476, 2-3=-155/476
BOT CHORD 1-4=-411/202, 3-4=-411/202
WEBS 2-4=-721/258

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; 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.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 66 lb uplift at joint 1, 66 lb uplift at joint 3 and 149 lb uplift at joint 4.
- This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



July 26, 2023

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

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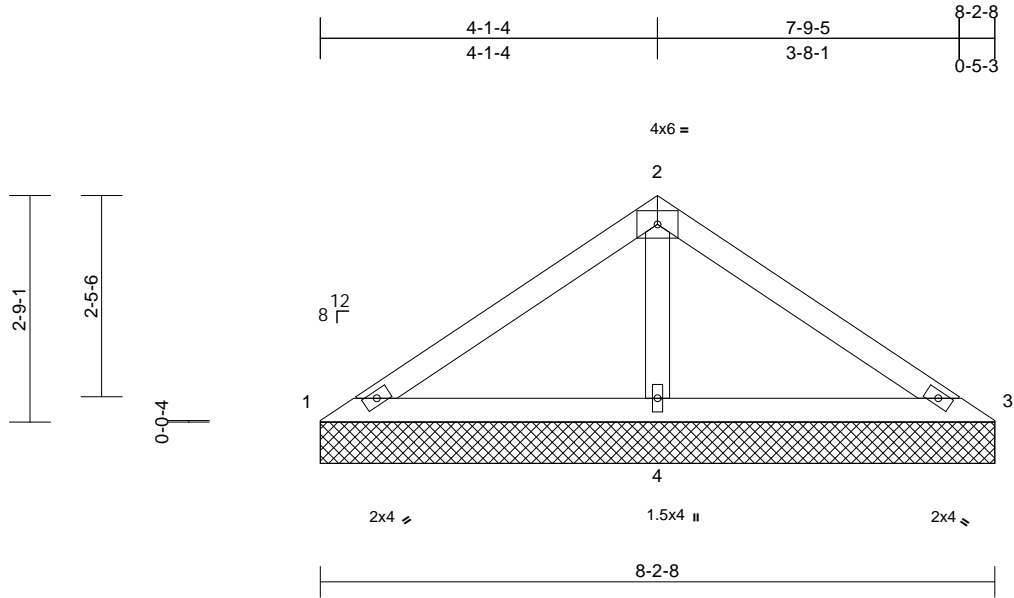
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Wilmington B Vault	159742972
Wilmington B Vault	BV4	Valley	1	1	Job Reference (optional)	

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

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Tue Jul 25 13:23:01
ID:Tms0oX7pYpNTJ1kX2VXdJ2yuWYv-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWrCDoi7J4zJC7f

Page: 1



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Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.21	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.20	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2015/TPI2014	Matrix-MP							Weight: 28 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 8-2-8 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size) 1=8-2-8, 3=8-2-8, 4=8-2-8
Max Horiz 1=-64 (LC 10)
Max Uplift 1=-14 (LC 24), 3=-14 (LC 23),
4=-81 (LC 12)
Max Grav 1=68 (LC 23), 3=68 (LC 24), 4=586 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-75/261, 2-3=-75/261
BOT CHORD 1-4=-227/120, 3-4=-227/120
WEBS 2-4=-424/149

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; 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.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 14 lb uplift at joint 1, 14 lb uplift at joint 3 and 81 lb uplift at joint 4.
- This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



July 26, 2023

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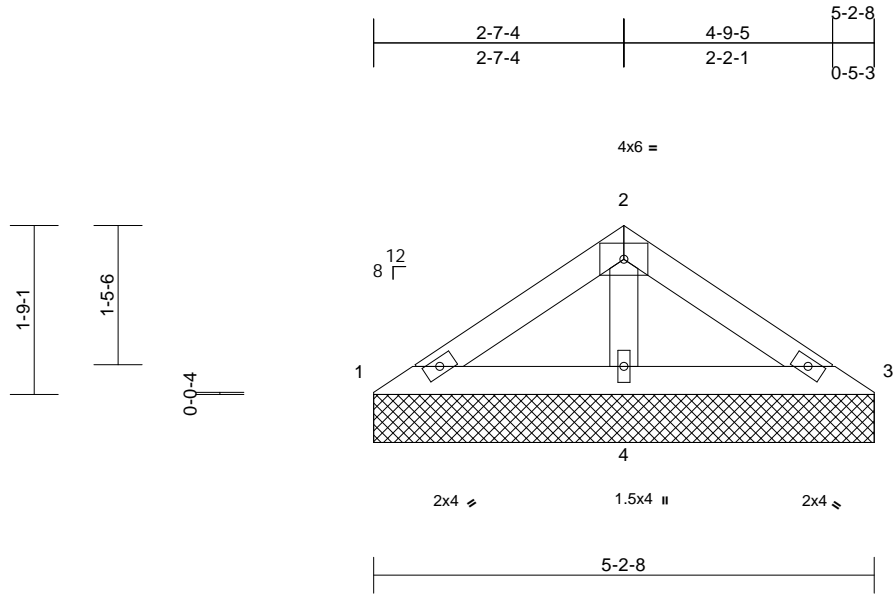
818 Soundside Road
Edenton, NC 27932

Job Wilmington B Vault	Truss BV5	Truss Type Valley	Qty 1	Ply 1	Wilmington B Vault Job Reference (optional)	159742973
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84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Tue Jul 25 13:23:01
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Page: 1



Scale = 1:24

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.08	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2015/TPI2014	Matrix-MP							Weight: 17 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 5-2-8 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size) 1=5-2-8, 3=5-2-8, 4=5-2-8
Max Horiz 1=39 (LC 9)
Max Uplift 1=6 (LC 12), 3=-13 (LC 13), 4=-35 (LC 12)
Max Grav 1=65 (LC 23), 3=65 (LC 24), 4=313 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-62/107, 2-3=-62/107
BOT CHORD 1-4=-96/56, 3-4=-96/56
WEBS 2-4=-196/61

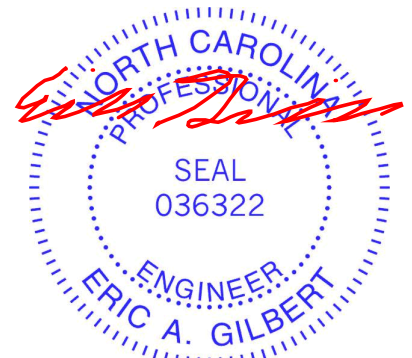
NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; 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.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 6 lb uplift at joint 1, 13 lb uplift at joint 3 and 35 lb uplift at joint 4.
- This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S)

Standard



July 26, 2023

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

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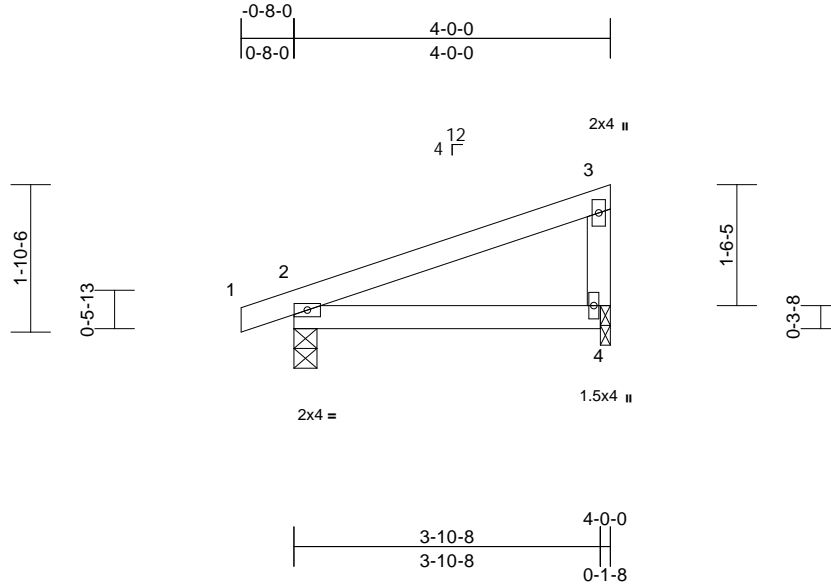
818 Soundside Road
Edenton, NC 27932

Job Wilmington B Vault	Truss D	Truss Type Monopitch	Qty 10	Ply 1	Wilmington B Vault Job Reference (optional)	159742974
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84 Components (Dunn, NC), Dunn, NC - 28334,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Tue Jul 25 13:23:01
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Page: 1



Scale = 1:29.1

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.28	Vert(LL)	0.00	4-7	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	-0.01	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-MR							Weight: 15 lb	FT = 20%

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

7) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

REACTIONS (size) 2=0-3-8, 4=0-1-8
Max Horiz 2=61 (LC 8)
Max Uplift 2=-46 (LC 8), 4=-38 (LC 12)
Max Grav 2=198 (LC 1), 4=151 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/13, 2-3=-112/16, 3-4=-93/83
BOT CHORD 2-4=-73/79

- NOTES**
- 1) Wind: ASCE 7-10; Vult=130mph (3-second gust)
Vasd=103mph; TC DL=6.0psf; BC DL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior (2) zone; 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 3-06-00 tall by 2-00-00 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.



July 26, 2023

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**

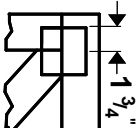
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601

ENGINEERING BY
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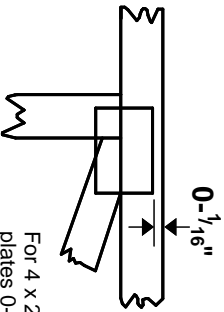
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Symbols

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



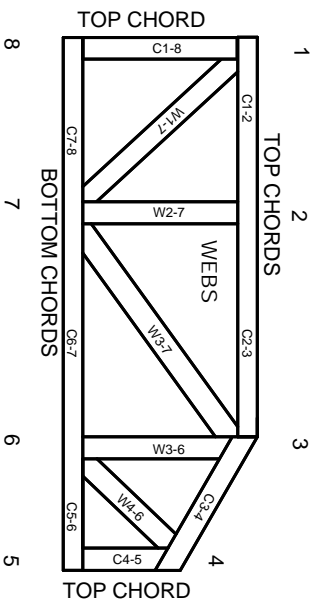
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TP1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-89: Design Standard for Bracing, 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/TP1 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/TP1 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TP1 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/TP1 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.