

RE: 21060021-B
Mckay Dr. -Roof-Duplex

Trenco
818 Soundside Rd
Edenton, NC 27932

Site Information:

Customer: R CHI LLC Project Name: 21060021-B
Lot/Block: 1 Model:
Address: McKay Dr. Subdivision: Waters Edge
City: Spring Lake State: NC

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

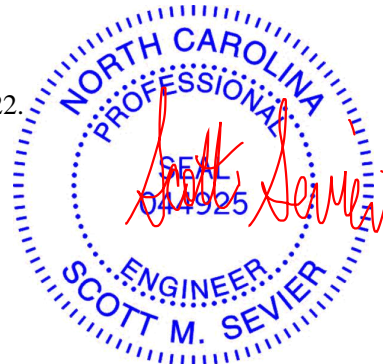
Design Code: IRC2018/TPI2014 Design Program: MiTek 20/20 8.5
Wind Code: ASCE 7-16 Wind Speed: 130 mph
Roof Load: 40.0 psf Floor Load: N/A psf

This package includes 5 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date
1	I47640976	T1	8/27/2021
2	I47640977	T1GE	8/27/2021
3	I47640978	T2	8/27/2021
4	I47640979	T2GE	8/27/2021
5	I47640980	T2SE	8/27/2021

The truss drawing(s) referenced above have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Carter Components (Sanford, NC)).
Truss Design Engineer's Name: Sevier, Scott
My license renewal date for the state of North Carolina is December 31, 2022.
North Carolina COA: C-0844

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

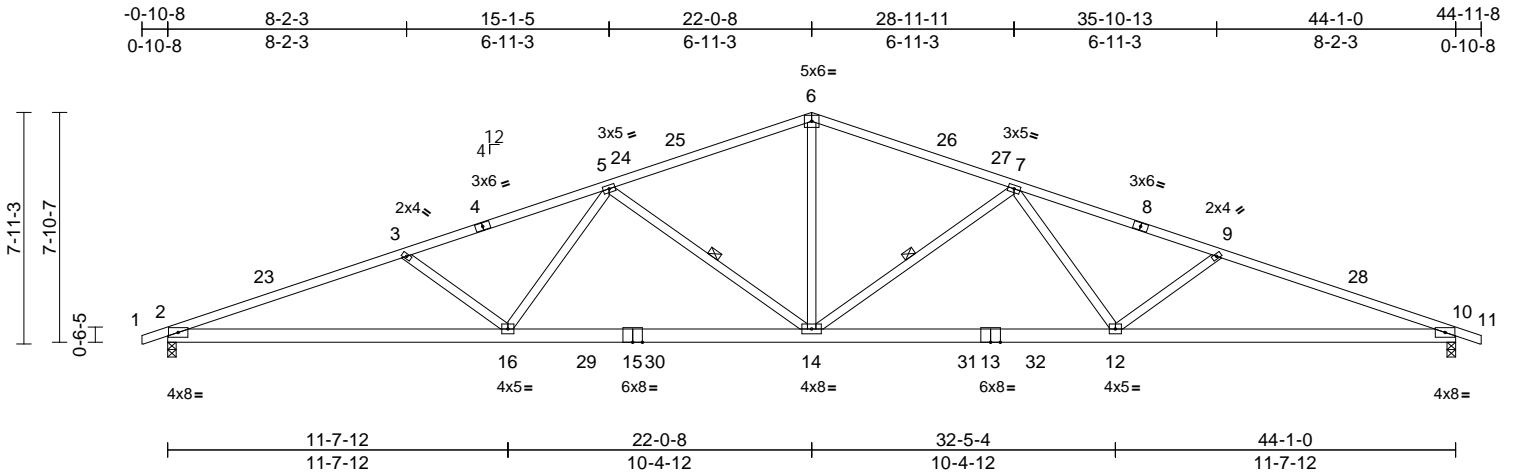


Job 21060021-B	Truss T1	Truss Type Common	Qty 6	Ply 1	Mckay Dr. -Roof-Duplex Job Reference (optional)	147640976
-------------------	-------------	----------------------	----------	----------	--	-----------

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.52 S Aug 18 2021 Print: 8.520 S Aug 18 2021 MiTek Industries, Inc. Thu Aug 26 08:15:55
ID:wQYU_?0IEk9neDU3pTfOTAYnSV-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWRCdoi7J4zJC?f

Page: 1



Scale = 1:78.9

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	0.81	Vert(LL)	-0.37	12-14	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.94	Vert(CT)	-0.69	12-14	>772	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.67	Horz(CT)	0.13	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 241 lb	FT = 20%

LUMBER	
TOP CHORD	2x4 SP No.1
BOT CHORD	2x6 SP 2400F 2.0E *Except* 15-13:2x6 SP No.2
WEBS	2x4 SP No.3
BRACING	
TOP CHORD	Structural wood sheathing directly applied or 2-2-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS	1 Row at midpt 7-14, 5-14
REACTIONS	(lb/size)
	2=1533/0-3-8, 10=1533/0-3-8
	Max Horiz 2=72 (LC 19)
	Max Uplift 2=-16 (LC 11), 10=-16 (LC 12)
	Max Grav 2=1951 (LC 3), 10=1951 (LC 3)
FORCES	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=0/20, 2-3=-4744/710, 3-5=-4406/619, 5-6=-3106/531, 6-7=-3106/531, 7-9=-4406/619, 9-10=-4744/710, 10-11=0/20
BOT CHORD	2-16=-591/4445, 14-16=-440/3696, 12-14=-442/3696, 10-12=-593/4445
WEBS	6-14=-157/1610, 7-14=-1024/235, 7-12=0/791, 9-12=-484/212, 3-16=-484/212, 5-16=0/791, 5-14=-1024/235

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with 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.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 10. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 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 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -0-10-3 to 3-6-11, Interior (1) 3-6-11 to 22-0-8, Exterior(2R) 22-0-8 to 26-5-6, Interior (1) 26-5-6 to 44-11-3 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33



August 27, 2021

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

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see ANSITPI Quality Criteria, DSB-89 and BCSI Building Component Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



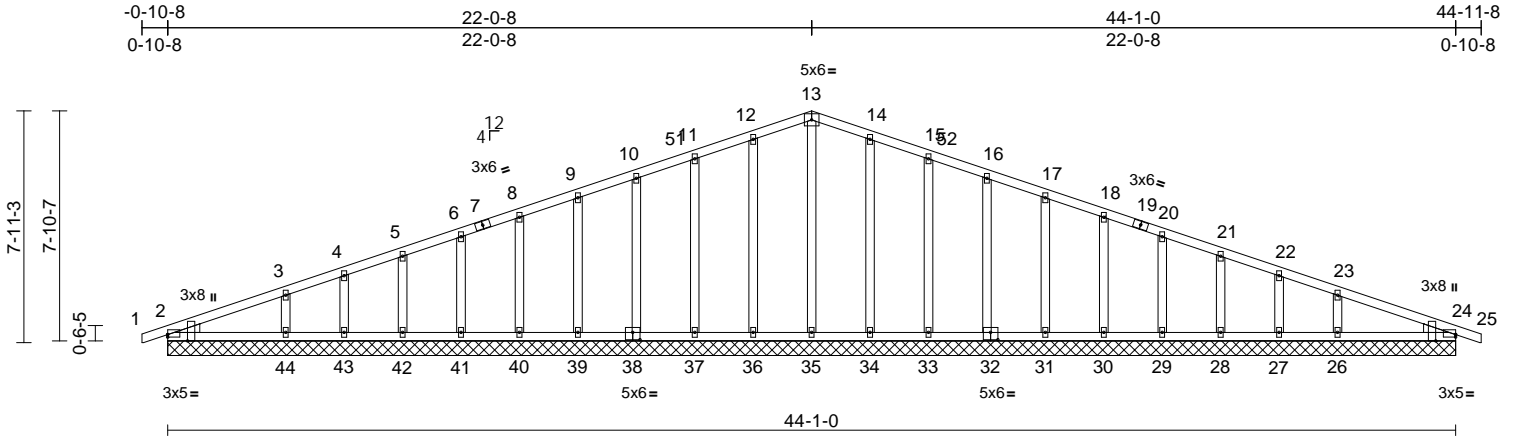
818 Soundside Road
Edenton, NC 27932

Job 21060021-B	Truss T1GE	Truss Type Common Supported Gable	Qty 2	Ply 1	Mckay Dr. -Roof-Duplex Job Reference (optional)	147640977
-------------------	---------------	--------------------------------------	----------	----------	--	-----------

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.52 S Aug 18 2021 Print: 8.520 S Aug 18 2021 MiTek Industries, Inc. Thu Aug 26 08:15:58
ID:FIGDIKRNRYKbFv1JLBD8K4yYnPT-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWRCDoi7J4zJC?

Page: 1



Scale = 1:78.9

Plate Offsets (X, Y): [2:Edge,0-1-1], [2:0-2-10,Edge], [24:Edge,0-1-1], [24:0-2-10,Edge], [32:0-3-0,0-3-0], [38:0-3-0,0-3-0]

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	0.13	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.15	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.00	24	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 258 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.2
Right: 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 (lb/size)
2=169/44-1-0, 24=169/44-1-0,
26=265/44-1-0, 27=81/44-1-0,
28=149/44-1-0, 29=132/44-1-0,
30=137/44-1-0, 31=133/44-1-0,
32=136/44-1-0, 33=137/44-1-0,
34=139/44-1-0, 35=109/44-1-0,
36=139/44-1-0, 37=137/44-1-0,
38=136/44-1-0, 39=133/44-1-0,
40=137/44-1-0, 41=132/44-1-0,
42=149/44-1-0, 43=81/44-1-0,
44=265/44-1-0, 45=169/44-1-0,
48=169/44-1-0
Max Horiz 2=72 (LC 15), 48=72 (LC 15)
Max Uplift 24=9 (LC 12), 26=23 (LC 16),
27=4 (LC 12), 28=10 (LC 16),
29=9 (LC 12), 30=8 (LC 16),
31=10 (LC 16), 32=8 (LC 12),
33=9 (LC 12), 34=7 (LC 16),
36=8 (LC 15), 37=9 (LC 11),
38=8 (LC 11), 39=10 (LC 15),
40=8 (LC 15), 41=9 (LC 11),
42=11 (LC 15), 43=3 (LC 11),
44=27 (LC 15), 45=9 (LC 12)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/20, 2-3=-84/39, 3-4=-83/40,
4-5=-68/52, 5-6=-62/71, 6-8=-54/96,
8-9=-64/120, 9-10=-74/144, 10-11=-86/170,
11-12=-98/195, 12-13=-109/218,
13-14=-109/211, 14-15=-98/181,
15-16=-86/156, 16-17=-74/131,
17-18=-64/106, 18-20=-54/82, 20-21=-53/58,
21-22=-51/33, 22-23=-61/11, 23-24=-66/13,
24-25=0/20
BOT CHORD 2-44=-20/83, 43-44=-20/83, 42-43=-20/83,
41-42=-20/83, 40-41=-20/83, 39-40=-20/83,
37-39=-20/83, 36-37=-19/82, 35-36=-19/82,
34-35=-19/82, 33-34=-19/82, 31-33=-20/83,
30-31=-20/83, 29-30=-20/83, 28-29=-20/83,
27-28=-20/83, 26-27=-20/83, 24-26=-20/83
WEBS 13-35=-92/11, 12-36=-156/108,
11-37=-149/91, 10-38=-123/53,
9-39=-120/53, 8-40=-120/53, 6-41=-118/52,
5-42=-128/56, 4-43=-86/44, 3-44=-206/82,
14-34=-156/108, 15-33=-149/91,
16-32=-123/53, 17-31=-120/53,
18-30=-120/53, 20-29=-118/52,
21-28=-128/56, 22-27=-86/43, 23-26=-206/81

NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner(3E) -0-10-3 to 3-6-11, Exterior(2N) 3-6-11 to 22-0-8, Corner(3R) 22-0-8 to 26-5-6, Exterior(2N) 26-5-6 to 44-11-3 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33
- 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this design.



August 27, 2021

Continued on page 2

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	Truss	Truss Type	Qty	Ply	Mckay Dr. -Roof-Duplex	I47640977
21060021-B	T1GE	Common Supported Gable	2	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.52 S Aug 18 2021 Print: 8.520 S Aug 18 2021 MiTek Industries, Inc. Thu Aug 26 08:15:58
 ID:FIGDiKNRYKbFv1JLBD8tK4yYnPT-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?i

Page: 2

- 6) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
- 7) All plates are 2x4 MT20 unless otherwise indicated.
- 8) Gable requires continuous bottom chord bearing.
- 9) Gable studs spaced at 2-0-0 oc.
- 10) * 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.
- 11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 8 lb uplift at joint 32.

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



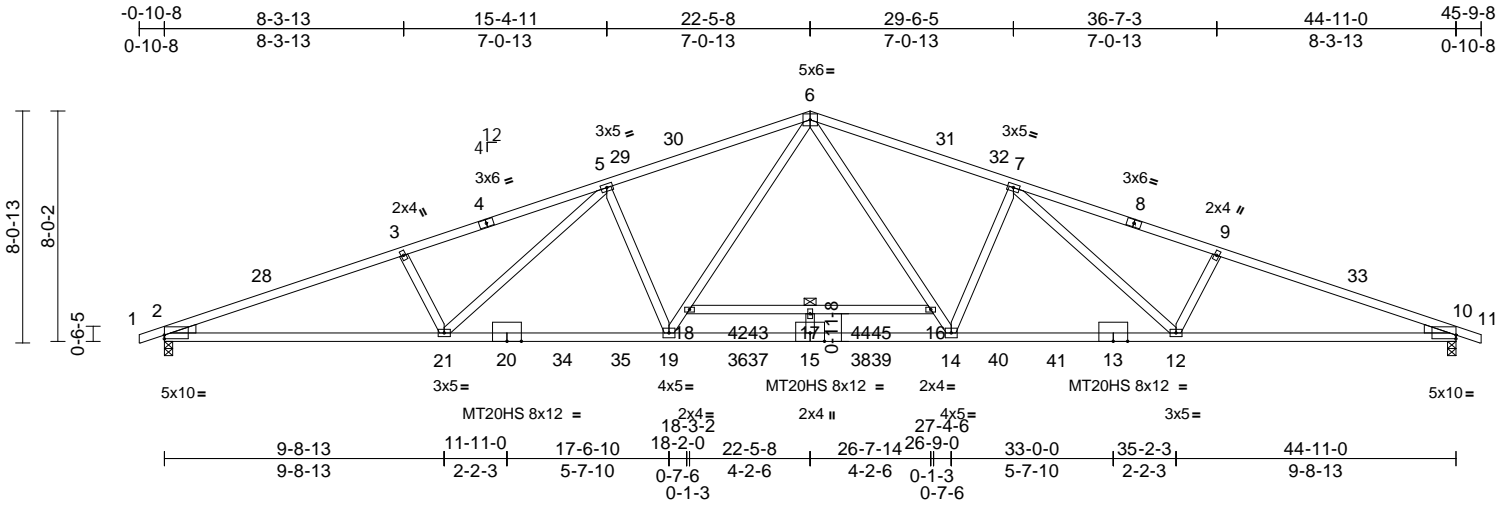
818 Soundside Road
 Edenton, NC 27932

Job 21060021-B	Truss T2	Truss Type Common	Qty 10	Ply 1	Mckay Dr. -Roof-Duplex Job Reference (optional)	147640978
-------------------	-------------	----------------------	-----------	----------	--	-----------

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.52 S Aug 18 2021 Print: 8.520 S Aug 18 2021 MiTek Industries, Inc. Thu Aug 26 08:15:59
ID: xOKFiQFmJQXJ0mpKttDGZjYmZP-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:80.1

Plate Offsets (X, Y): [2:Edge,0-1-9], [10:Edge,0-1-9]

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	0.89	Vert(LL)	-0.65	17	>827	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-1.37	17	>393	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.86	Horz(CT)	0.24	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 231 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP 2400F 2.0E *Except* 18-16:2x4 SP No.2
WEBS 2x4 SP No.3
WEDGE Left: 2x4 SP No.3
Right: 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing. Except:
6-0-0 oc bracing: 16-18

REACTIONS
(lb/size) 2=1749/0-3-8, 10=1749/0-3-8
Max Horiz 2=73 (LC 15)
Max Grav 2=2288 (LC 3), 10=2288 (LC 3)

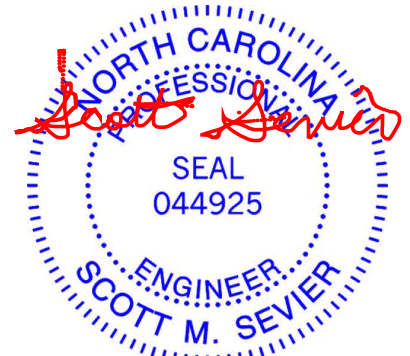
FORCES
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/20, 2-3=-5611/258, 3-5=-5444/258, 5-6=-4686/144, 6-7=-4686/144, 7-9=-5444/258, 9-10=-5611/258, 10-11=0/20
BOT CHORD 2-21=-165/5245, 19-21=0/4633, 14-19=0/3703, 12-14=0/4633, 10-12=-167/5245, 17-18=-159/0, 16-17=-159/0
WEBS 3-21=-382/193, 5-21=-140/695, 5-19=-721/259, 18-19=-23/1362, 6-18=0/1563, 6-16=0/1563, 14-16=-23/1362, 7-14=-721/259, 7-12=-140/695, 9-12=-382/193, 15-17=-90/11

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -0-10-3 to 3-7-11, Interior (1) 3-7-11 to 22-5-8, Exterior(2R) 22-5-8 to 26-11-6, Interior (1) 26-11-6 to 45-9-3 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
- 200.0lb AC unit load placed on the bottom chord, 22-5-8 from left end, supported at two points, 5-0-0 apart.
- All plates are MT20 plates unless otherwise indicated.
- * 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.
- This truss is designed in accordance with the 2018 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.



August 27, 2021

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

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI Quality Criteria, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



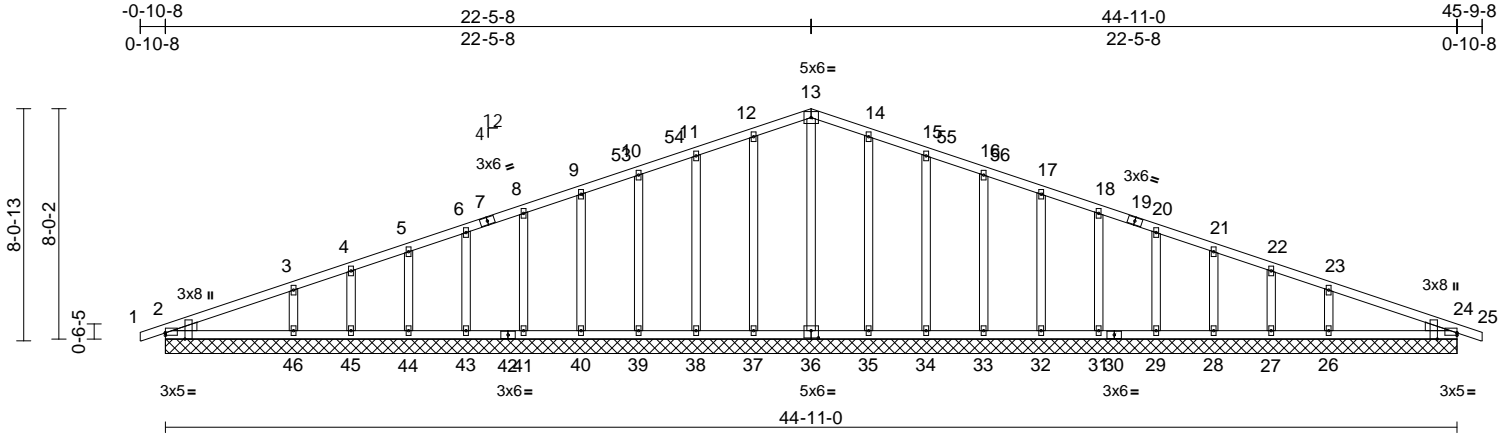
818 Soundside Road
Edenton, NC 27932

Job 21060021-B	Truss T2GE	Truss Type Common Supported Gable	Qty 2	Ply 1	Mckay Dr. -Roof-Duplex Job Reference (optional)	147640979
-------------------	---------------	--------------------------------------	----------	----------	--	-----------

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.52 S Aug 18 2021 Print: 8.520 S Aug 18 2021 MiTek Industries, Inc. Thu Aug 26 08:15:59
ID:1UykAlgzaaLQ7blCmDjYmOW-RfC?PsB70Hq3NSgPqnL8w3uITxBKwRcDoi7J4zJC7f

Page: 1



Scale = 1:80.1

Plate Offsets (X, Y): [2:Edge,0-1-1], [2:0-2-10,Edge], [24:Edge,0-1-1], [24:0-2-10,Edge], [36:0-3-0,0-3-0]

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	0.17	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.18	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.01	24	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 264 lb	FT = 20%

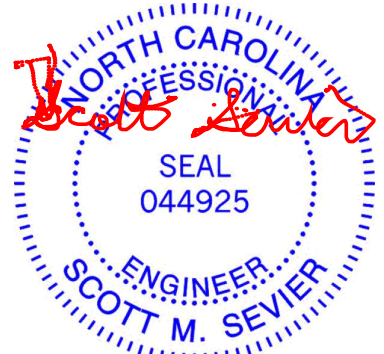
LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3
WEDGE Left: 2x4 SP No.2
Right: 2x4 SP No.2

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 (lb/size)
2=184/44-11-0, 24=184/44-11-0,
26=297/44-11-0, 27=63/44-11-0,
28=154/44-11-0, 29=131/44-11-0,
31=137/44-11-0, 32=135/44-11-0,
33=136/44-11-0, 34=135/44-11-0,
35=139/44-11-0, 36=104/44-11-0,
37=139/44-11-0, 38=135/44-11-0,
39=136/44-11-0, 40=135/44-11-0,
41=137/44-11-0, 43=131/44-11-0,
44=154/44-11-0, 45=63/44-11-0,
46=297/44-11-0, 47=184/44-11-0,
50=184/44-11-0
Max Horiz 2=73 (LC 15), 50=73 (LC 15)
Max Uplift 24=10 (LC 12), 26=25 (LC 16),
27=3 (LC 12), 28=11 (LC 16),
29=8 (LC 12), 31=9 (LC 16),
32=9 (LC 12), 33=8 (LC 16),
34=10 (LC 12), 35=7 (LC 16),
37=8 (LC 15), 38=10 (LC 11),
39=9 (LC 15), 40=9 (LC 11),
41=9 (LC 15), 43=8 (LC 11),
44=11 (LC 15), 45=2 (LC 11),
46=29 (LC 15), 47=10 (LC 12)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD
1-2=0/20, 2-3=-96/37, 3-4=-94/42,
4-5=-77/54, 5-6=-71/78, 6-8=-65/102,
8-9=-74/127, 9-10=-84/151, 10-11=-94/175,
11-12=-105/200, 12-13=-117/223,
13-14=-117/216, 14-15=-105/186,
15-16=-94/161, 16-17=-84/137,
17-18=-74/113, 18-20=-65/88, 20-21=-66/64,
21-22=-63/39, 22-23=-77/19, 23-24=-79/7,
24-25=0/20
BOT CHORD
2-46=14/86, 45-46=-14/82, 44-45=-14/82,
43-44=-14/82, 41-43=-14/82, 40-41=-14/82,
39-40=-14/82, 38-39=-14/82, 37-38=-14/82,
35-37=-14/82, 34-35=-14/82, 33-34=-14/82,
32-33=-14/82, 31-32=-14/82, 29-31=-14/82,
28-29=-14/82, 27-28=-14/82, 26-27=-14/82,
24-26=-14/82
WEBS
13-36=88/16, 12-37=-157/108,
11-38=-150/92, 10-39=-131/53,
9-40=-120/53, 8-41=-121/53, 6-43=-118/52,
5-44=-131/57, 4-45=-73/40, 3-46=-230/90,
14-35=-157/108, 15-34=-150/92,
16-33=-131/53, 17-32=-120/53,
18-31=-121/53, 20-29=-118/52,
21-28=-131/56, 22-27=-73/39, 23-26=-230/90

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner(3E) -0-10-3 to 3-7-11, Exterior(2N) 3-7-11 to 22-5-8, Corner(3R) 22-5-8 to 26-11-6, Exterior(2N) 26-11-6 to 45-9-3 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33
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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.



August 27, 2021

Continued on page 2

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



Job 21060021-B	Truss T2GE	Truss Type Common Supported Gable	Qty 2	Ply 1	Mckay Dr. -Roof-Duplex Job Reference (optional)	I47640979
-------------------	---------------	--------------------------------------	----------	----------	--	-----------

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.52 S Aug 18 2021 Print: 8.520 S Aug 18 2021 MiTek Industries, Inc. Thu Aug 26 08:15:59
ID:1UykAlgzaaLQ7tblCmDjJiyYmOW-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 2

- 6) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
- 7) All plates are 2x4 MT20 unless otherwise indicated.
- 8) Gable requires continuous bottom chord bearing.
- 9) Gable studs spaced at 2-0-0 oc.
- 10) * 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.

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



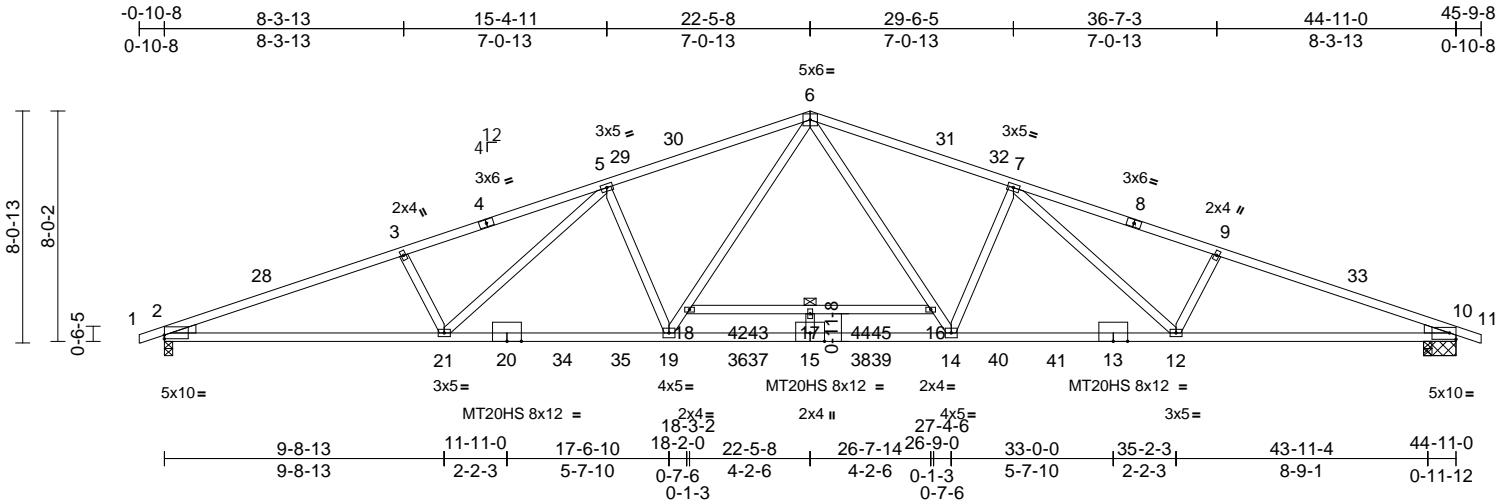
818 Soundside Road
Edenton, NC 27932

Job 21060021-B	Truss T2SE	Truss Type Common	Qty 2	Ply 1	Mckay Dr. -Roof-Duplex Job Reference (optional)	147640980
-------------------	---------------	----------------------	----------	----------	--	-----------

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.52 S Aug 18 2021 Print: 8.520 S Aug 18 2021 MiTek Industries, Inc. Thu Aug 26 08:16:00
ID:g_5?_QCWlBQyit7oQ30ZEUyYmP7-RfC?PsB70Hq3NSgPqL8w3u1TXbGKwRcDoi7J4zJC7f

Page: 1



Scale = 1:80.1

Plate Offsets (X, Y): [2:Edge,0-1-9], [10:Edge,0-2-11]

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	0.89	Vert(LL)	-0.64	17	>843	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-1.35	17	>400	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.86	Horz(CT)	0.23	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 231 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP 2400F 2.0E *Except* 18-16:2x4 SP No.2
WEBS 2x4 SP No.3
WEDGE Left: 2x4 SP No.3
Right: 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-2-0 oc bracing: 2-21.
6-0-0 oc bracing: 16-18

REACTIONS (lb/size) 2=1749/0-3-8, 10=1749/1-1-8
Max Horiz 2=73 (LC 15)
Max Grav 2=2288 (LC 3), 10=2288 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/20, 2-3=-5611/258, 3-5=-5443/258, 5-6=-4686/145, 6-7=-4685/144, 7-9=-5451/259, 9-10=-5605/258, 10-11=0/20
BOT CHORD 2-21=-165/5245, 19-21=0/4633, 14-19=0/3703, 12-14=0/4632, 10-12=-162/5253, 17-18=-159/0, 16-17=-159/0
WEBS 15-17=-90/11, 3-21=-382/193, 9-12=-379/184, 5-21=-140/695, 18-19=-23/1362, 6-18=0/1563, 6-16=0/1561, 14-16=-23/1361, 7-14=-723/262, 7-12=-141/703, 5-19=-721/259

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -0-10-3 to 3-7-11, Interior (1) 3-7-11 to 22-5-8, Exterior(2R) 22-5-8 to 26-11-6, Interior (1) 26-11-6 to 45-9-3 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33
- 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.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
- 200.0lb AC unit load placed on the bottom chord, 22-5-8 from left end, supported at two points, 5-0-0 apart.
- All plates are MT20 plates unless otherwise indicated.
- Gable studs spaced at 2-0-0 oc.
- * 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.
- This truss is designed in accordance with the 2018 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.



August 27, 2021

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

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

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

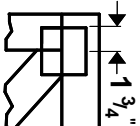
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



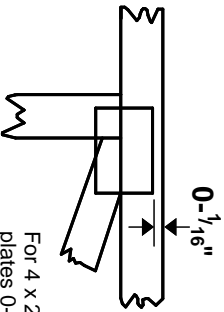
818 Soundside Road
Edenton, NC 27932

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



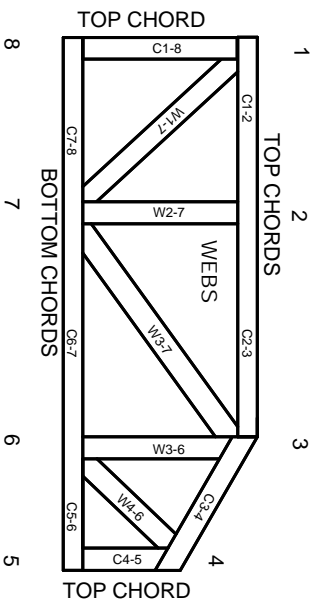
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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.

© 2012 MITteK® All Rights Reserved



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.