

Trenco  
818 Soundside Rd  
Edenton, NC 27932

Re: 20090101  
A&G RESIDENTIAL - 45SV

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Carter Components (Sanford, NC)).

Pages or sheets covered by this seal: E14920662 thru E14920678

My license renewal date for the state of North Carolina is December 31, 2020.

North Carolina COA: C-0844



September 30, 2020

Gilbert, Eric

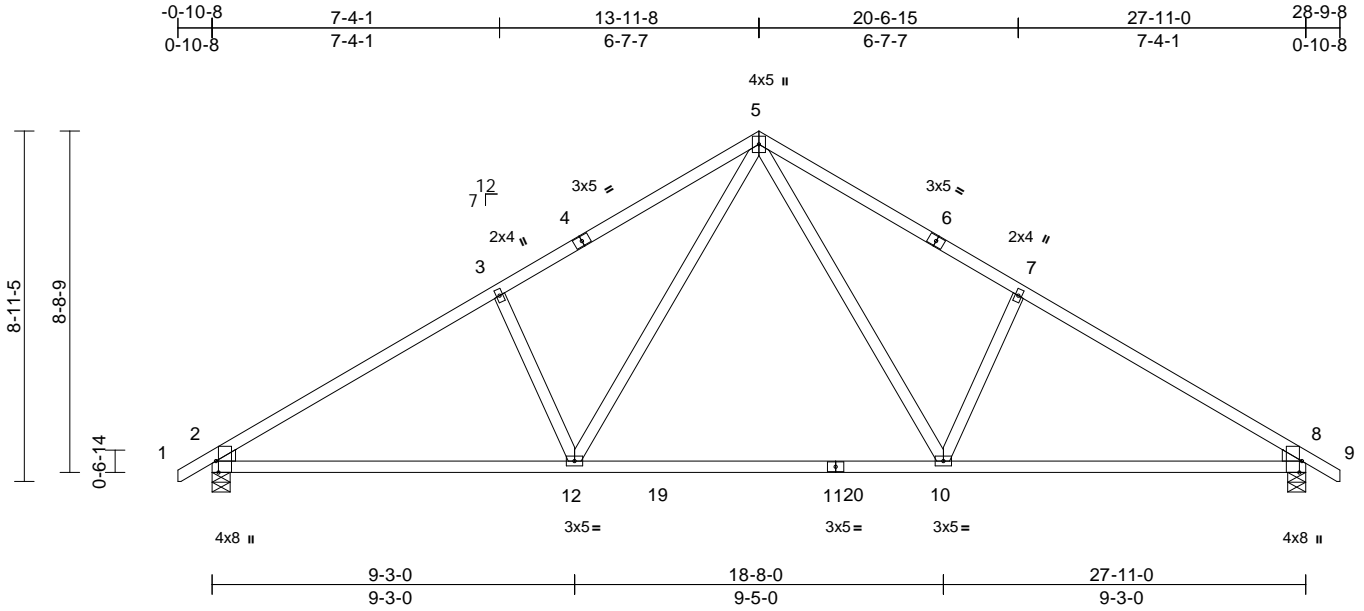
**IMPORTANT NOTE:** The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), 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 20090101	Truss A01	Truss Type Common	Qty 2	Ply 1	A&G RESIDENTIAL - 45SV Job Reference (optional)	E14920662
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.42 S Aug 25 2020 Print: 8.420 S Aug 25 2020 MiTek Industries, Inc. Tue Sep 29 22:08:05  
ID:FthdW7wMPsyOVVLDvhw1EMyYfJ-Mock Me

Page: 1



Scale = 1:58.8

Plate Offsets (X, Y): [2:0-3-8,Edge], [8:0-3-8,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	0.75	Vert(LL)	-0.32	10-12	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	1.00	Vert(CT)	-0.47	10-12	>713	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.19	Horz(CT)	0.05	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 136 lb	FT = 20%

**LUMBER**

TOP CHORD 2x4 SP No.2  
 BOT CHORD 2x4 SP No.2  
 WEBS 2x4 SP No.2 \*Except\* 10-7,12-3:2x4 SP No.3  
 WEDGE Left: 2x4 SP No.3  
 Right: 2x4 SP No.3

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 3-0-12 oc purlins.  
 BOT CHORD Rigid ceiling directly applied or 1-4-12 oc bracing.

**REACTIONS**

(size) 2=0-5-8, 8=0-5-8  
 Max Horiz 2=-162 (LC 13)  
 Max Grav 2=1323 (LC 29), 8=1323 (LC 30)

**FORCES**

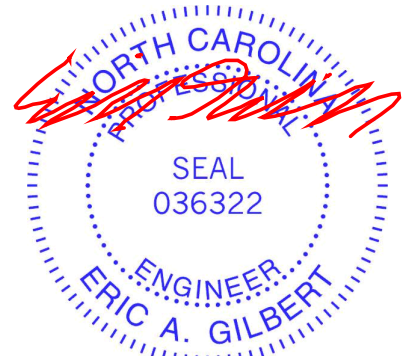
(lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=0/32, 2-3=-1902/0, 3-4=-1780/18,  
 4-5=-1685/54, 5-6=-1685/54, 6-7=-1780/18,  
 7-8=-1902/0, 8-9=0/32  
 BOT CHORD 2-12=-45/1680, 12-19=0/1101, 11-19=0/1101,  
 11-20=0/1101, 10-20=0/1101, 8-10=0/1559  
 WEBS 5-10=-29/856, 7-10=-400/145, 5-12=-29/855,  
 3-12=-400/144

**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  
 Exterior (2) zone; cantilever left and right exposed; end  
 vertical left and right exposed; C-C for members and  
 forces & MWFRS for reactions shown; Lumber  
 DOL=1.60 plate grip DOL=1.33

- 3) 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
- 4) Unbalanced snow loads have been considered for this design.
- 5) 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.
- 6) \* 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.
- 7) 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



September 30, 2020

**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



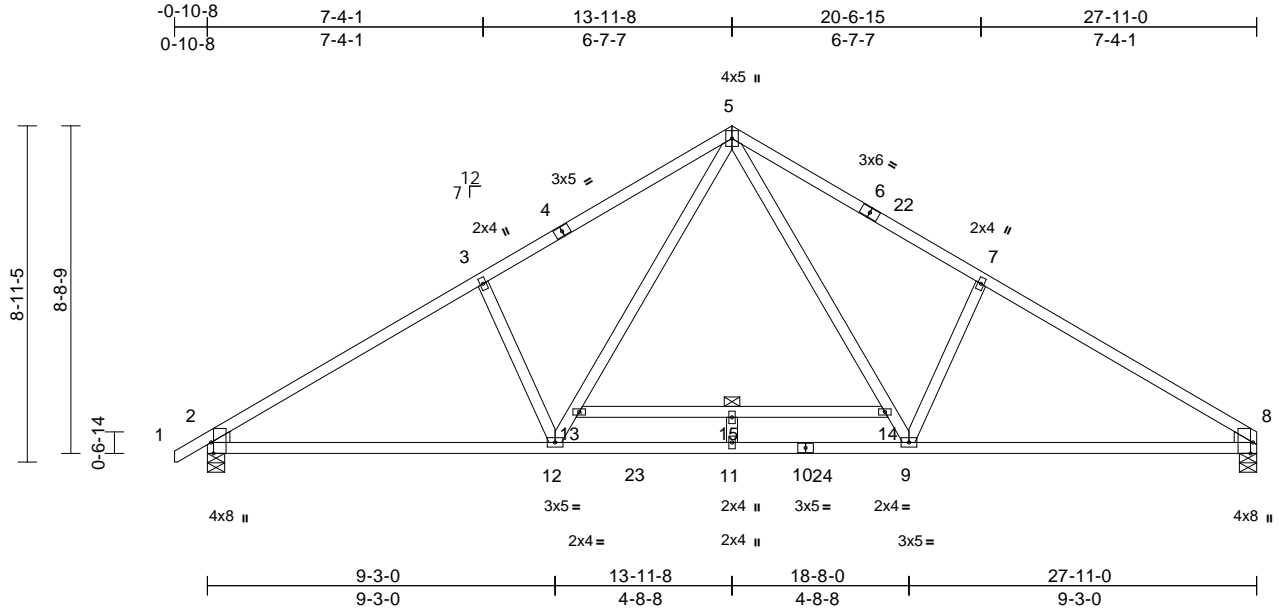
818 Soundside Road  
 Edenton, NC 27932

Job 20090101	Truss A02	Truss Type Common	Qty 1	Ply 1	A&G RESIDENTIAL - 45SV Job Reference (optional)	E14920663
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.42 S Aug 25 2020 Print: 8.420 S Aug 25 2020 MiTek Industries, Inc. Tue Sep 29 22:08:07  
ID:RtXmcoaVuoolx5UHcW\_FWVmyYfdH-Mock Me

Page: 1



Scale = 1:61.3

Plate Offsets (X, Y): [2:0-3-8,Edge], [8:0-3-8,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	0.86	Vert(LL)	-0.06	11-12	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.79	Vert(CT)	-0.35	11	>970	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.56	Horz(CT)	0.05	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 148 lb	FT = 20%

**LUMBER**

TOP CHORD 2x4 SP No.2  
 BOT CHORD 2x4 SP No.2  
 WEBS 2x4 SP No.2 \*Except\* 9-7,12-3,15-11:2x4 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 10-0-0 oc bracing.  
 WEBS 1 Row at midpt 13-14

**REACTIONS**

(size) 2=0-5-8, 8=0-5-8  
 Max Horiz 2=159 (LC 14)  
 Max Grav 2=1268 (LC 2), 8=1216 (LC 2)

**FORCES**

(lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=0/32, 2-3=-1896/0, 3-4=-1737/0,  
 4-5=-1626/0, 5-6=-1629/0, 6-22=-1648/0,  
 7-22=-1739/0, 7-8=-1898/0  
 BOT CHORD 2-12=0/1554, 12-23=0/1095, 11-23=0/1095,  
 10-11=0/1095, 10-24=0/1095, 9-24=0/1095,  
 8-9=0/1557  
 WEBS 5-14=0/759, 9-14=0/705, 7-9=-392/155,  
 12-13=0/701, 5-13=0/755, 3-12=-391/154,  
 13-15=-51/0, 14-15=-51/0, 11-15=0/73

**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  
 Exterior (2) zone; cantilever left and right exposed; end  
 vertical left and right exposed; C-C for members and  
 forces & MWFRS for reactions shown; Lumber  
 DOL=1.60 plate grip DOL=1.33

- 3) 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
- 4) Unbalanced snow loads have been considered for this  
 design.
- 5) 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.
- 6) 200.0lb AC unit load placed on the bottom chord,  
 13-11-8 from left end, supported at two points, 5-0-0  
 apart.
- 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) 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



September 30, 2020

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



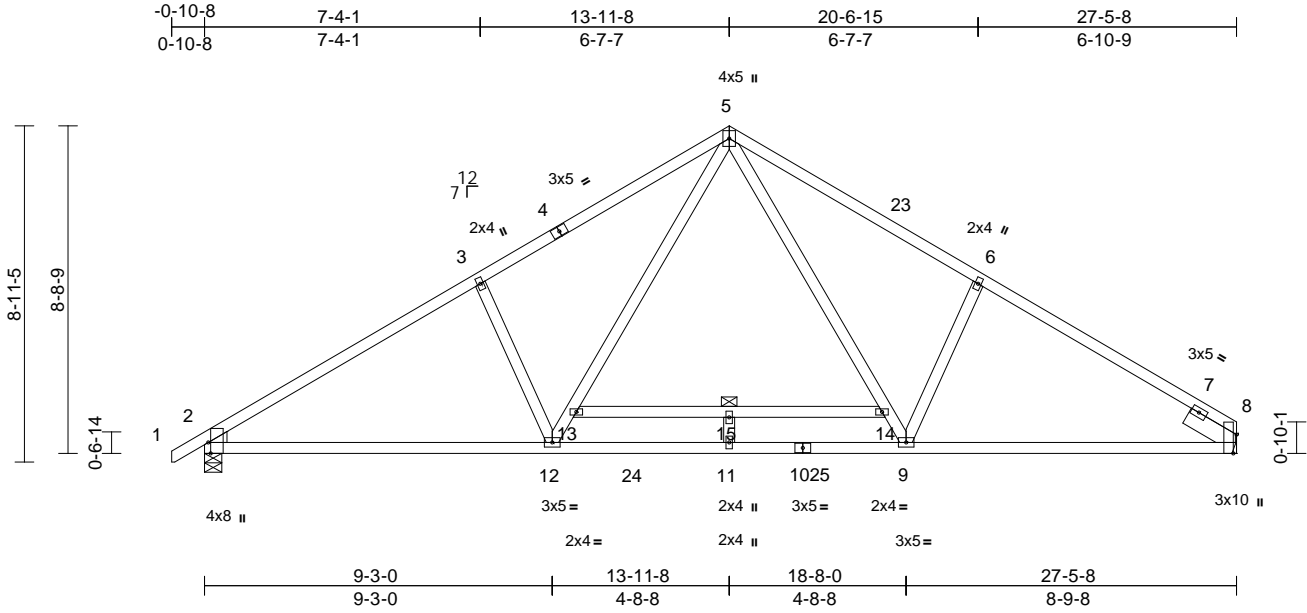
818 Soundside Road  
 Edenton, NC 27932

Job 20090101	Truss A03	Truss Type Common	Qty 6	Ply 1	A&G RESIDENTIAL - 45SV Job Reference (optional)	E14920664
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.42 S Aug 25 2020 Print: 8.420 S Aug 25 2020 MiTek Industries, Inc. Tue Sep 29 22:08:07  
ID:Djns71ZuqLwq?V0S9119YyYfbl-Mock Me

Page: 1



Scale = 1:61.3

Plate Offsets (X, Y): [2:0-3-8,Edge], [8:0-6-0,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)	-0.08	9-11	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.80	Vert(CT)	-0.39	9-11	>846	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.60	Horz(CT)	0.08	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 149 lb	FT = 20%

**LUMBER**

TOP CHORD 2x4 SP No.2  
 BOT CHORD 2x4 SP No.2  
 WEBS 2x4 SP No.2 \*Except\* 9-6,12-3,15-11:2x4 SP No.3  
 WEDGE Left: 2x4 SP No.3  
 SLIDER Right 2x6 SP No.2 -- 1-6-0

**BRACING**

TOP CHORD Structural wood sheathing directly applied.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.  
 WEBS 1 Row at midpt 13-14

**REACTIONS**

(size) 2=0-5-8, 8= Mechanical  
 Max Horiz 2=159 (LC 12)  
 Max Grav 2=1248 (LC 2), 8=1199 (LC 2)

**FORCES**

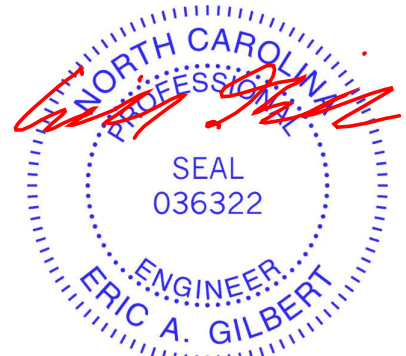
(lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=0/32, 2-3=-1859/0, 3-4=-1700/0,  
 4-5=-1591/0, 5-23=-1529/0, 6-23=-1633/0,  
 6-7=-1773/0, 7-8=-325/0  
 BOT CHORD 2-12=0/1523, 12-24=0/1060, 11-24=0/1060,  
 10-11=0/1060, 10-25=0/1060, 9-25=0/1060,  
 8-9=0/1446  
 WEBS 5-14=0/664, 9-14=0/607, 6-9=-335/159,  
 12-13=0/705, 5-13=0/762, 3-12=-389/154,  
 13-15=-50/0, 14-15=-50/0, 11-15=0/81

**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  
 Exterior (2) zone; cantilever left and right exposed; end  
 vertical left and right exposed; C-C for members and  
 forces & MWFRS for reactions shown; Lumber  
 DOL=1.60 plate grip DOL=1.33

- 3) 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
- 4) Unbalanced snow loads have been considered for this design.
- 5) 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.
- 6) 200.0lb AC unit load placed on the bottom chord, 13-11-8 from left end, supported at two points, 5-0-0 apart.
- 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) Refer to girder(s) for truss to truss connections.
- 9) 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



September 30, 2020

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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



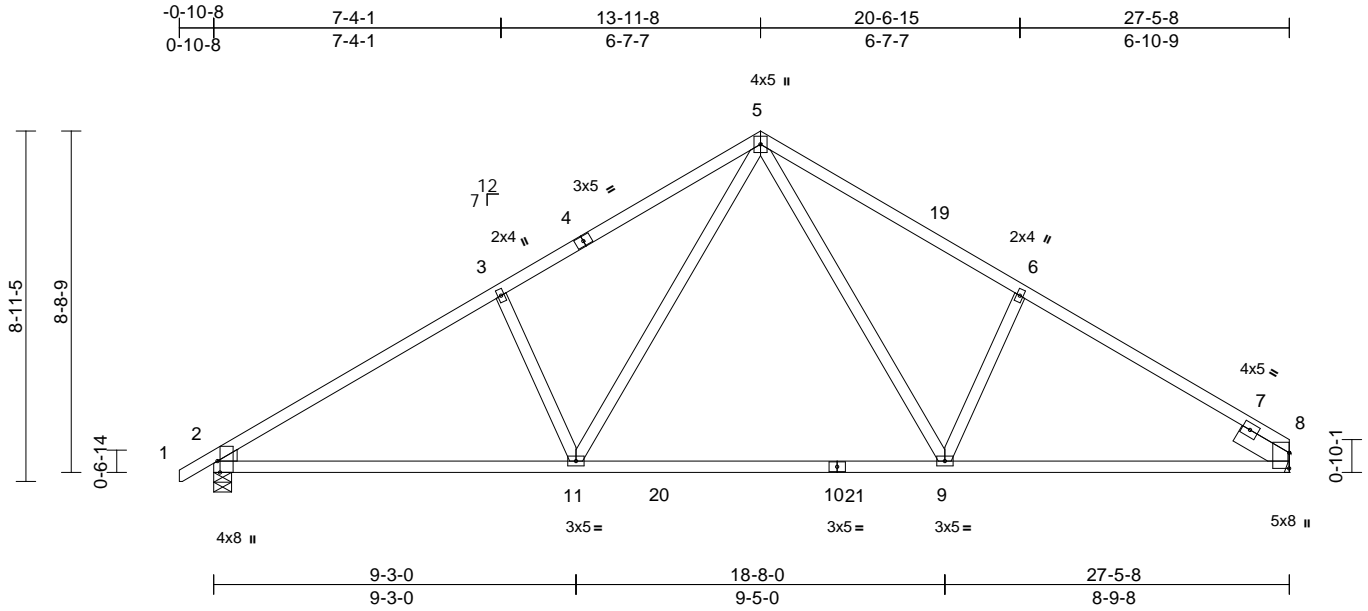
818 Soundside Road  
 Edenton, NC 27932

Job 20090101	Truss A04	Truss Type Common	Qty 6	Ply 1	A&G RESIDENTIAL - 45SV Job Reference (optional)	E14920665
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.42 S Aug 25 2020 Print: 8.420 S Aug 25 2020 MiTek Industries, Inc. Tue Sep 29 22:08:07  
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Page: 1



Scale = 1:58.8

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

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	0.90	Vert(LL)	-0.31	9-11	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.85	Vert(CT)	-0.48	9-11	>690	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.19	Horz(CT)	0.07	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 136 lb	FT = 20%

**LUMBER**

- TOP CHORD 2x4 SP No.2
- BOT CHORD 2x4 SP No.1 \*Except\* 10-8:2x4 SP No.2
- WEBS 2x4 SP No.2 \*Except\* 9-6,11-3:2x4 SP No.3
- WEDGE Left: 2x4 SP No.3
- SLIDER Right 2x6 SP No.2 -- 1-6-0

**BRACING**

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

**REACTIONS**

- (size) 2=0-5-8, 8= Mechanical
- Max Horiz 2=159 (LC 12)
- Max Grav 2=1303 (LC 29), 8=1254 (LC 30)

**FORCES**

- (lb) - Maximum Compression/Maximum Tension
- TOP CHORD 1-2=0/32, 2-3=-1869/0, 3-4=-1746/19, 4-5=-1652/55, 5-19=-1582/57, 6-19=-1671/20, 6-7=-1779/0, 7-8=-498/0
- BOT CHORD 2-11=-52/1644, 11-20=0/1062, 10-20=0/1062, 10-21=0/1062, 9-21=0/1062, 8-9=0/1451
- WEBS 5-9=-32/747, 6-9=-349/143, 5-11=-27/866, 3-11=-396/144

**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 (2) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33
- 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.
- \* 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.
- 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



September 30, 2020

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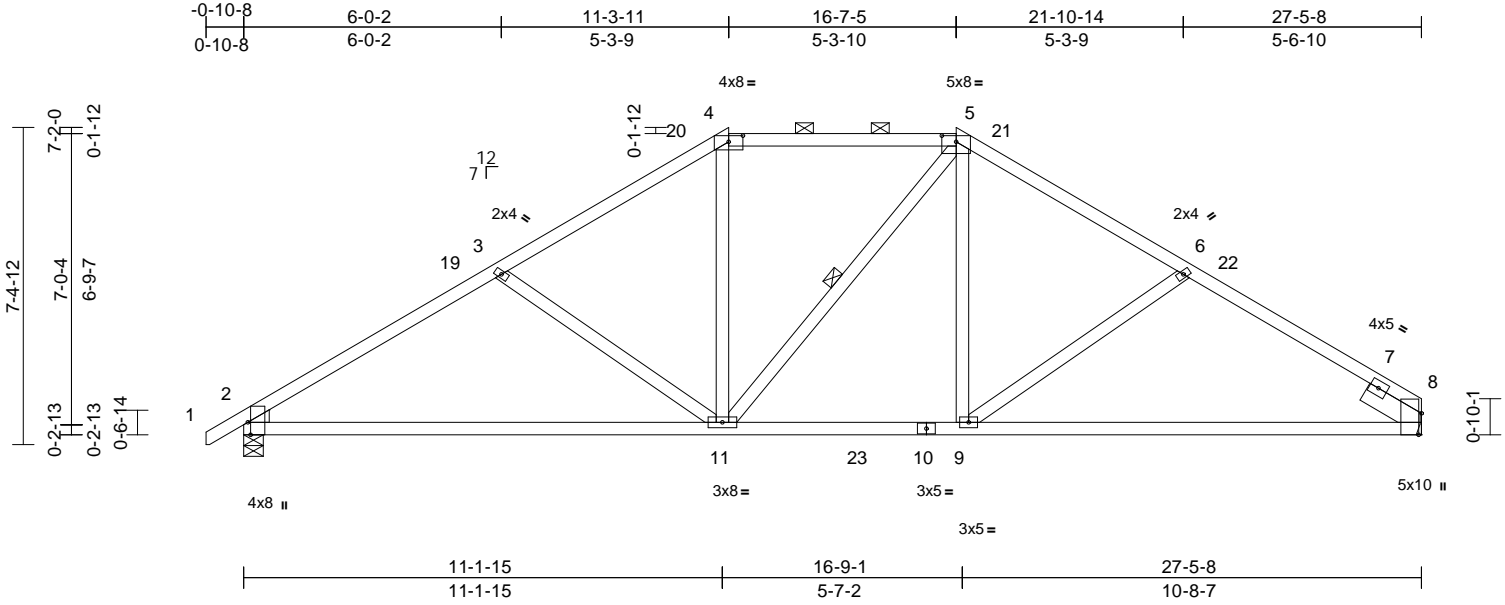
818 Soundside Road  
Edenton, NC 27932

Job 20090101	Truss A05	Truss Type Hip	Qty 2	Ply 1	A&G RESIDENTIAL - 45SV Job Reference (optional)	E14920666
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.42 S Aug 25 2020 Print: 8.420 S Aug 25 2020 MiTek Industries, Inc. Tue Sep 29 22:08:08  
ID:DjnS?1ZuqLwq?V0S9119YyYfbl-Mock Me

Page: 1



Scale = 1:53.7

Plate Offsets (X, Y): [2:0-3-8,Edge], [4:0-4-0,0-1-11], [5:0-4-0,0-1-11], [8:0-6-0,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	0.68	Vert(LL)	-0.26	11-18	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.85	Vert(CT)	-0.54	11-18	>612	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.35	Horz(CT)	0.07	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 143 lb	FT = 20%

**LUMBER**

TOP CHORD 2x4 SP No.2  
 BOT CHORD 2x4 SP No.1  
 WEBS 2x4 SP No.2  
 WEDGE Left: 2x4 SP No.3  
 SLIDER Right 2x6 SP No.2 -- 1-6-0

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 2-11-12 oc purlins, except 2-0-0 oc purlins (4-4-9 max.): 4-5.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

WEBS 1 Row at midpt 5-11

**REACTIONS**

(size) 2=0-5-8, 8= Mechanical  
 Max Horiz 2=128 (LC 12)  
 Max Grav 2=1393 (LC 48), 8=1368 (LC 50)

**FORCES**

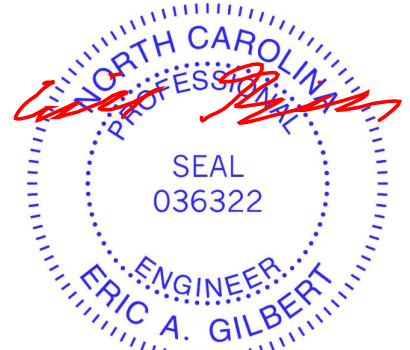
(lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=0/32, 2-19=-1988/0, 3-19=-1822/0, 3-20=-1616/0, 4-20=-1454/0, 4-5=-1296/11, 5-21=-1419/0, 6-21=-1581/0, 6-22=-1743/0, 7-22=-1882/0, 7-8=-937/0  
 BOT CHORD 2-11=-42/1738, 11-23=0/1276, 10-23=0/1276, 9-10=0/1276, 8-9=0/1554  
 WEBS 3-11=-495/112, 4-11=0/543, 5-11=-95/150, 5-9=0/501, 6-9=-400/109

**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 Exterior (2) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33

- 3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 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, Lu=50-0-0
- 4) Unbalanced snow loads have been considered for this design.
- 5) 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.
- 6) Provide adequate drainage to prevent water ponding.
- 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, with BCDL = 10.0psf.
- 8) Refer to girder(s) for truss to truss connections.
- 9) 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.
- 10) 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



September 30, 2020

**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  
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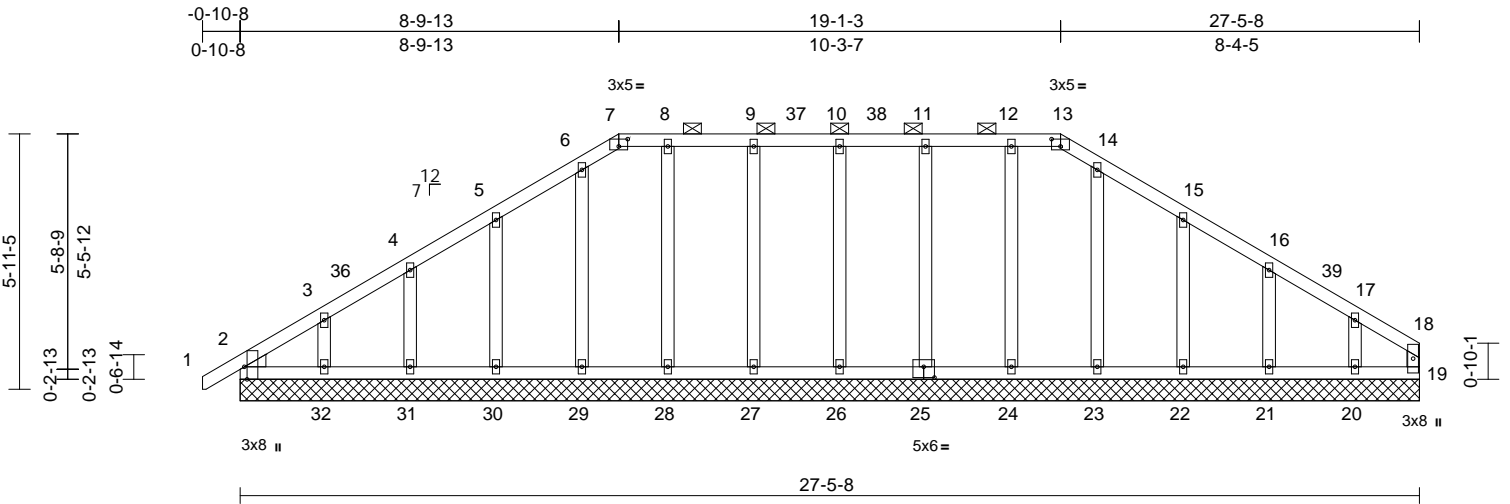
Job 20090101	Truss A06	Truss Type Hip Supported Gable	Qty 2	Ply 1	A&G RESIDENTIAL - 45SV Job Reference (optional)	E14920667
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.42 S Aug 25 2020 Print: 8.420 S Aug 25 2020 MiTek Industries, Inc. Tue Sep 29 22:08:08

Page: 1

ID: bRk42Dk?h86vFgm6DG3MMHyYZ5-Mock Me



Scale = 1:53.6

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

Loading	(psf)	Spacing	1-11-4	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
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	19	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 162 lb	FT = 20%

LUMBER	TOP CHORD	1-2=0/36, 2-3=-93/86, 3-36=-95/58, 4-36=-70/71, 4-5=-88/68, 5-6=-84/72, 6-7=-86/72, 7-8=-76/73, 8-9=-76/73, 9-37=-76/73, 10-37=-76/73, 10-38=-76/73, 11-38=-76/73, 11-12=-77/73, 12-13=-77/73, 13-14=-87/72, 14-15=-77/61, 15-16=-59/30, 16-39=-25/28, 17-39=-57/2, 17-18=-57/36, 18-19=-54/0	5) Unbalanced snow loads have been considered for this design.
TOP CHORD	2x4 SP No.2		
BOT CHORD	2x4 SP No.2		
WEBS	2x4 SP No.3		
OTHERS	2x4 SP No.3 *Except* 26-10,27-9,28-8,25-11,24-12:2x4 SP No.2		
WEDGE	Left: 2x4 SP No.3		
BRACING	TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 7-13.	
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.		
REACTIONS	(size)	2=27-5-8, 19=27-5-8, 20=27-5-8, 21=27-5-8, 22=27-5-8, 23=27-5-8, 24=27-5-8, 25=27-5-8, 26=27-5-8, 27=27-5-8, 28=27-5-8, 29=27-5-8, 30=27-5-8, 31=27-5-8, 32=27-5-8, 33=27-5-8	
Max Horiz	2=109 (LC 14), 33=109 (LC 14)		
Max Uplift	2=-22 (LC 11), 20=-46 (LC 16), 21=-14 (LC 16), 22=-28 (LC 16), 25=-7 (LC 11), 26=-3 (LC 12), 27=-8 (LC 11), 28=-2 (LC 12), 30=-27 (LC 15), 31=-15 (LC 15), 32=-34 (LC 15), 33=-22 (LC 11)		
Max Grav	2=180 (LC 40), 19=71 (LC 54), 20=190 (LC 50), 21=212 (LC 40), 22=211 (LC 40), 23=187 (LC 40), 24=198 (LC 39), 25=210 (LC 39), 26=207 (LC 39), 27=210 (LC 39), 28=198 (LC 39), 29=187 (LC 40), 30=212 (LC 40), 31=207 (LC 40), 32=209 (LC 48), 33=180 (LC 40)		
FORCES	(lb) - Maximum Compression/Maximum Tension		
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 Exterior (2) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33			
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=18.9 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, Lu=50-0-0			
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) Provide adequate drainage to prevent water ponding.			
8) All plates are 2x4 MT20 unless otherwise indicated.			
9) Gable requires continuous bottom chord bearing.			
10) Gable studs spaced at 2-0-0 oc.			
11) * 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.			
12) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at it(s) 2, 26, 27, 28, 30, 31, 32, 25, 22, 21, and 20. This connection is for uplift only and does not consider lateral forces.			
13) 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.			



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



818 Soundside Road  
Edenton, NC 27932

Job 20090101	Truss A06	Truss Type Hip Supported Gable	Qty 2	Ply 1	A&G RESIDENTIAL - 45SV Job Reference (optional)	E14920667
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.42 S Aug 25 2020 Print: 8.420 S Aug 25 2020 MiTek Industries, Inc. Tue Sep 29 22:08:08  
ID:bRk42Dk?h86vFgm6DG3MMHyYfZ5-Mock Me

Page: 2

- 14) 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

**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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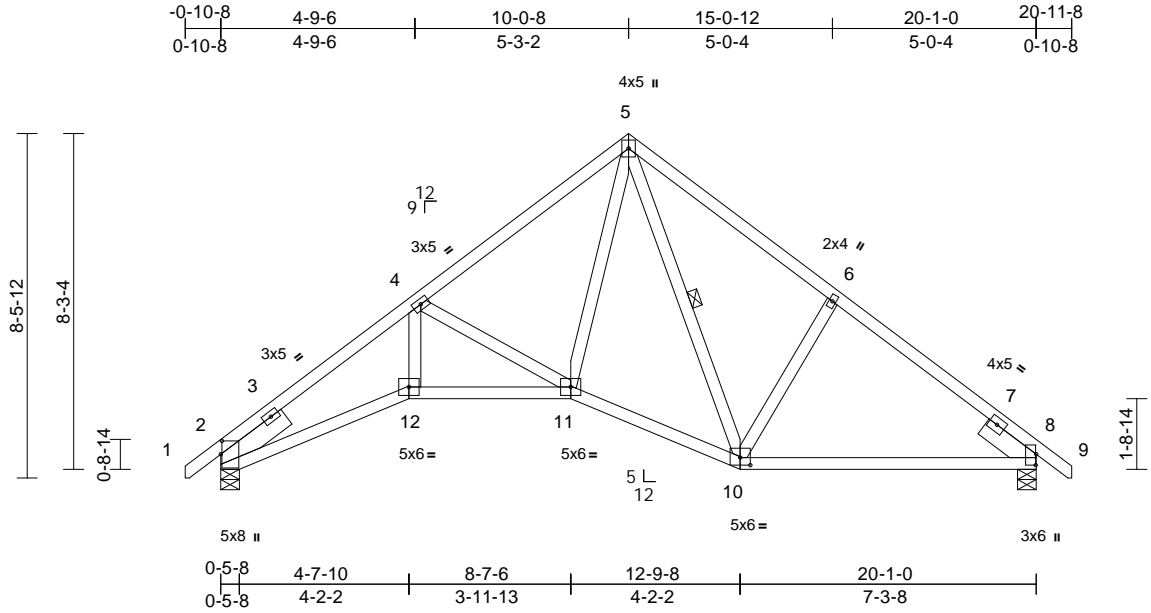


Job 20090101	Truss B01	Truss Type Roof Special	Qty 7	Ply 1	A&G RESIDENTIAL - 45SV Job Reference (optional)	E14920668
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.42 S Aug 25 2020 Print: 8.420 S Aug 25 2020 MiTek Industries, Inc. Tue Sep 29 22:08:09  
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Page: 1



Scale = 1:56.7

Plate Offsets (X, Y): [2:0-3-15,0-0-5], [8:0-3-4,0-0-3], [10:0-3-0,0-2-4]

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	0.58	Vert(LL)	-0.07	11-12	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.89	Vert(CT)	-0.15	11-12	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.26	Horz(CT)	0.10	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 117 lb	FT = 20%

**LUMBER**

TOP CHORD 2x4 SP No.2  
 BOT CHORD 2x4 SP No.2  
 WEBS 2x4 SP No.3 \*Except\* 11-5,10-5:2x4 SP No.2  
 SLIDER Left 2x6 SP No.2 -- 2-0-0, Right 2x6 SP No.2 -- 1-6-0

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 3-5-10 oc purlins.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.  
 WEBS 1 Row at midpt 5-10

**REACTIONS**

(size) 2=0-5-8, 8=0-5-8  
 Max Horiz 2=153 (LC 12)  
 Max Grav 2=853 (LC 2), 8=853 (LC 2)

**FORCES**

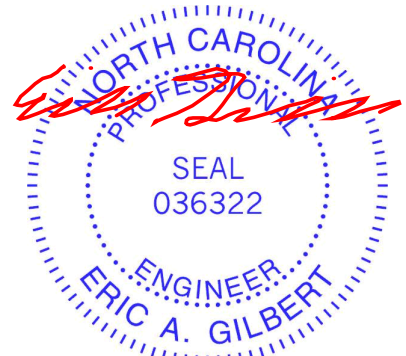
(lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=0/37, 2-3=960/12, 3-4=1733/14, 4-5=1030/27, 5-6=871/63, 6-7=985/11, 7-8=497/0, 8-9=0/37  
 BOT CHORD 2-12=73/1461, 11-12=20/1327, 10-11=0/668, 8-10=0/738  
 WEBS 4-12=0/552, 4-11=658/111, 5-11=0/701, 5-10=116/177, 6-10=263/119

**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 Exterior (2) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33

- 3) 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
- 4) 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.
- 5) \* 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.
- 6) 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.
- 7) 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



September 30,2020

**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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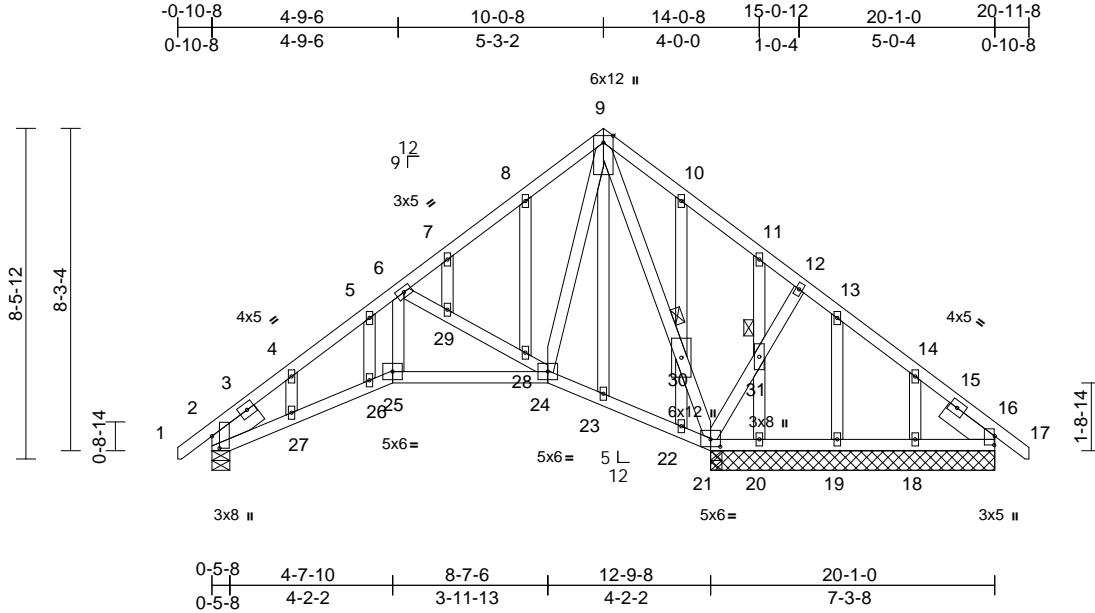
Job 20090101	Truss B02	Truss Type Roof Special Structural Gable	Qty 1	Ply 1	A&G RESIDENTIAL - 45SV Job Reference (optional)	E14920669
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.42 S Aug 25 2020 Print: 8.420 S Aug 25 2020 MiTek Industries, Inc. Tue Sep 29 22:08:09

Page: 1

ID:RZu2YD43ESQXvK1COJ1dh\_yYfW4-Mock Me



Scale = 1:59.1

Plate Offsets (X, Y): [2:0-3-12,0-2-5], [16:0-2-12,0-0-3], [21:0-3-0,0-2-4]

Loading	(psf)	Spacing	1-11-4	CSI	DEFLL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.23	Vert(LL)	-0.02	25	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.25	Vert(CT)	-0.04	24-25	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horz(CT)	0.03	21	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 161 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.3 \*Except\* 24-9,21-9:2x4 SP No.2  
OTHERS 2x4 SP No.3 \*Except\* 23-9:2x4 SP No.2  
SLIDER Left 2x6 SP No.2 -- 1-6-0, Right 2x6 SP No.2 -- 1-6-0

**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.  
JOINTS 1 Brace at Jt(s): 30, 31

**REACTIONS** (size)  
2=0-5-8, 16=7-3-8, 18=7-3-8, 19=7-3-8, 20=7-3-8, 21=7-3-8, 36=7-3-8  
Max Horiz 2=144 (LC 12)  
Max Uplift 16=-141 (LC 31), 18=-36 (LC 14), 19=-19 (LC 14), 20=-31 (LC 14), 36=-141 (LC 31)  
Max Grav 2=446 (LC 2), 16=23 (LC 32), 18=231 (LC 26), 19=101 (LC 32), 20=94 (LC 32), 21=911 (LC 2), 36=23 (LC 32)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/36, 2-3=-540/706, 3-4=-620/14, 4-5=-613/50, 5-6=-551/57, 6-7=-166/54, 7-8=-141/65, 8-9=-181/91, 9-10=0/316, 10-11=0/344, 11-12=0/306, 12-13=0/285, 13-14=0/260, 14-15=0/296, 15-16=0/91, 16-17=0/36

**BOT CHORD** 2-27=-103/571, 26-27=-82/611, 25-26=-74/613, 24-25=-69/534, 23-24=-67/113, 22-23=-62/105, 21-22=-81/118, 20-21=-194/18, 19-20=-194/18, 18-19=-194/18, 16-18=-194/18  
**WEBS** 6-25=0/306, 6-29=-451/91, 28-29=-461/90, 24-28=-538/123, 9-24=-35/444, 9-30=-682/0, 21-30=-826/0, 9-23=-6/48, 8-28=-133/57, 7-29=-22/0, 5-26=0/8, 4-27=-69/32, 10-30=-184/18, 22-30=-55/57, 20-31=-90/52, 13-19=-61/45, 14-18=-167/53, 21-31=-80/10, 12-31=-85/12, 11-31=-86/51

**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 (2) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33
- 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
- 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.
- All plates are 2x4 MT20 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.
- 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.
- One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 16, 20, 19, and 18. 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



September 30, 2020

**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



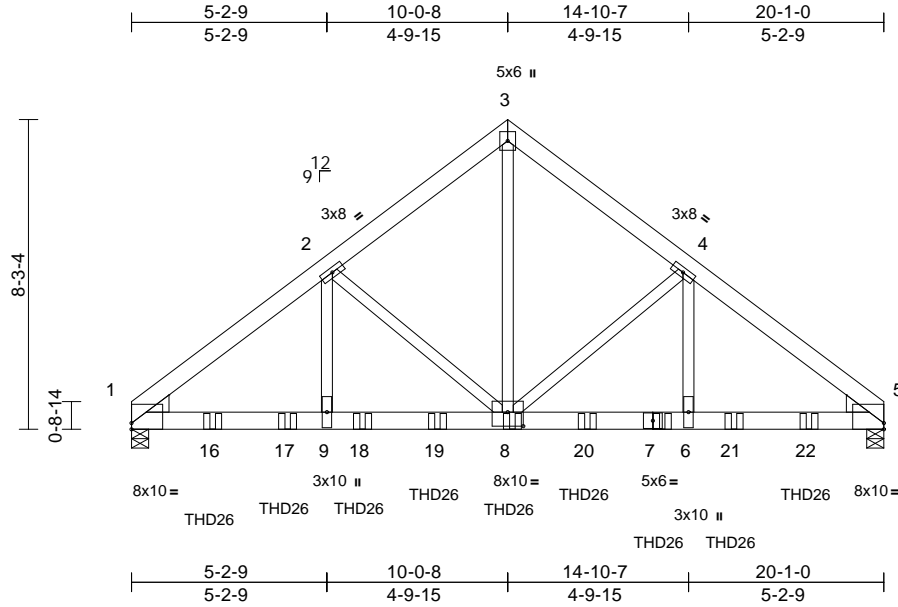
818 Soundside Road  
Edenton, NC 27932

Job 20090101	Truss B03	Truss Type Common Girder	Qty 1	Ply 2	A&G RESIDENTIAL - 45SV Job Reference (optional)	E14920670
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.42 S Aug 25 2020 Print: 8.420 S Aug 25 2020 MiTek Industries, Inc. Tue Sep 29 22:08:10  
ID:V5jjiLFTi3JPCdgsPyo8o8yYfVr-Mock Me

Page: 1



Scale = 1:61.5

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

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.24	Vert(LL)	-0.07	6-8	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	-0.16	6-8	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.77	Horz(CT)	0.04	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 299 lb	FT = 20%

**LUMBER**

TOP CHORD 2x6 SP No.2  
 BOT CHORD 2x6 SP 2400F 2.0E  
 WEBS 2x4 SP No.2 \*Except\* 4-6,2-9:2x4 SP No.3  
 WEDGE Left: 2x6 SP No.2  
 Right: 2x6 SP No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 5-4-13 oc purlins.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 1=0-5-8, 5=0-5-8  
 Max Horiz 1=137 (LC 8)  
 Max Grav 1=5992 (LC 2), 5=5968 (LC 21)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-8047/0, 2-3=-5599/0, 3-4=-5599/0, 4-5=-7873/0  
 BOT CHORD 1-16=0/6354, 16-17=0/6354, 9-17=0/6354, 9-18=0/6354, 18-19=0/6354, 8-19=0/6354, 8-20=0/6234, 7-20=0/6234, 6-7=0/6234, 6-21=0/6234, 21-22=0/6234, 5-22=0/6234  
 WEBS 3-8=0/6284, 4-8=-2604/0, 4-6=0/2950, 2-8=-2517/0, 2-9=0/2872

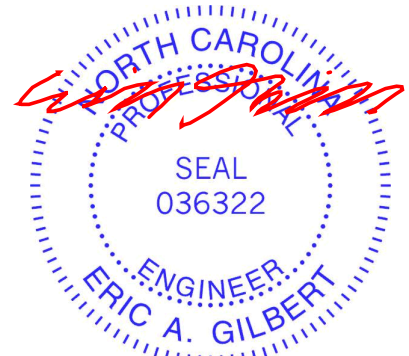
**NOTES**

- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:  
 Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.  
 Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-7-0 oc.  
 Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
- All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope); cantilever left and right exposed; end vertical left and right exposed; 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
- \* 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.
- 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.
- Use USP THD26 (With 18-16d nails into Girder & 12-10d x 1-1/2 nails into Truss) or equivalent spaced at 2-0-0 oc max. starting at 2-2-0 from the left end to 18-1-0 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 + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
 Uniform Loads (lb/ft)  
 Vert: 1-3=-46, 3-5=-46, 10-13=-19  
 Concentrated Loads (lb)  
 Vert: 7=-920 (B), 8=-1022 (B), 16=-1022 (B), 17=-1022 (B), 18=-1022 (B), 19=-1022 (B), 20=-1022 (B), 21=-920 (B), 22=-1294 (B)



September 30, 2020

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818 Soundside Road  
 Edenton, NC 27932

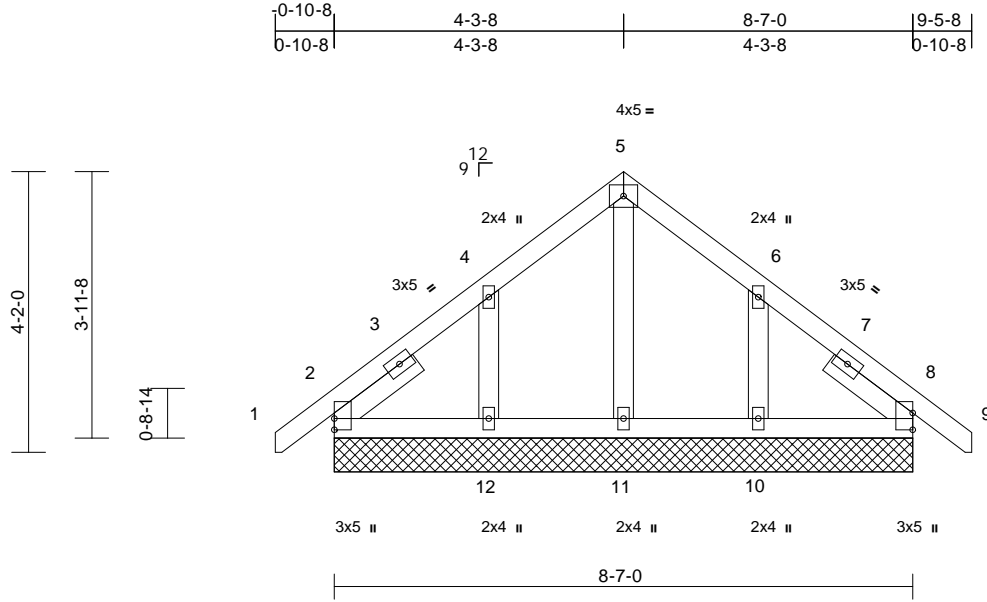
Job 20090101	Truss C01	Truss Type Common Supported Gable	Qty 1	Ply 1	A&G RESIDENTIAL - 45SV Job Reference (optional)	E14920671
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.42 S Aug 25 2020 Print: 8.420 S Aug 25 2020 MiTek Industries, Inc. Tue Sep 29 22:08:10

Page: 1

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Scale = 1:34.2

Loading (psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	Plate Grip DOL	1.15	TC	0.06	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	Lumber DOL	1.15	BC	0.03	n/a	-	n/a	999		
TCDL	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	8	n/a		
BCLL	Code	IRC2018/TPI2014	Matrix-MP							
BCDL									Weight: 48 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
OTHERS 2x4 SP No.3  
SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x4 SP No.3 -- 1-6-0

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

**REACTIONS** (size)  
2=8-7-0, 8=8-7-0, 10=8-7-0, 11=8-7-0, 12=8-7-0, 13=8-7-0, 17=8-7-0  
Max Horiz 2=70 (LC 12), 13=70 (LC 12)  
Max Uplift 2=-2 (LC 14), 10=-50 (LC 14), 12=-52 (LC 13), 13=-2 (LC 14)  
Max Grav 2=158 (LC 2), 8=158 (LC 2), 10=199 (LC 26), 11=89 (LC 28), 12=202 (LC 25), 13=158 (LC 2), 17=158 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/36, 2-3=-56/13, 3-4=-59/41, 4-5=-111/59, 5-6=-110/53, 6-7=-28/25, 7-8=-54/13, 8-9=0/36  
BOT CHORD 2-12=-13/48, 11-12=-13/48, 10-11=-13/48, 8-10=-13/48  
WEBS 5-11=-54/46, 4-12=-150/68, 6-10=-151/66

**NOTES**  
1) 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 (2) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33
- 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
- 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.
- Gable requires continuous bottom chord bearing.
- 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.
- One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 12, 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



September 30, 2020

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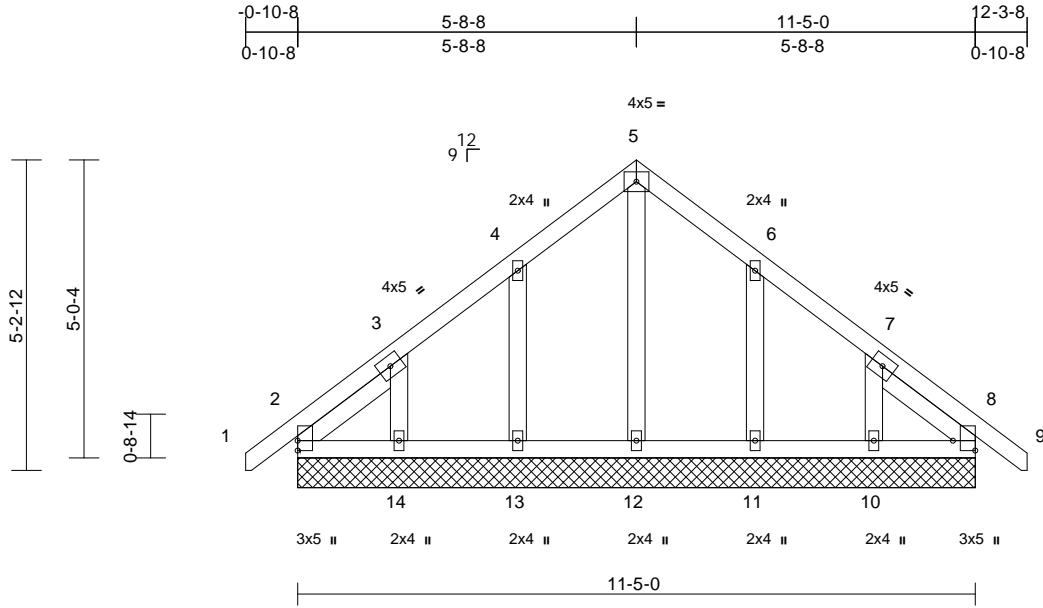
818 Soundside Road  
Edenton, NC 27932

Job 20090101	Truss D01	Truss Type Common Supported Gable	Qty 1	Ply 1	A&G RESIDENTIAL - 45SV Job Reference (optional)	E14920672
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.42 S Aug 25 2020 Print: 8.420 S Aug 25 2020 MiTek Industries, Inc. Tue Sep 29 22:08:11  
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Page: 1



Scale = 1:38.8

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

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
										Weight: 68 lb	FT = 20%	

**LUMBER**

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
OTHERS	2x4 SP No.3
SLIDER	Left 2x4 SP No.3 -- 2-0-1, Right 2x4 SP No.3 -- 2-0-1

**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)	2=11-5-0, 8=11-5-0, 10=11-5-0, 11=11-5-0, 12=11-5-0, 13=11-5-0, 14=11-5-0, 15=11-5-0, 19=11-5-0
Max Horiz	2=89 (LC 12), 15=89 (LC 12)
Max Uplift	2=-17 (LC 9), 10=-44 (LC 14), 11=-31 (LC 14), 13=-31 (LC 13), 14=-46 (LC 13), 15=-17 (LC 9)
Max Grav	2=133 (LC 26), 8=132 (LC 2), 10=152 (LC 26), 11=171 (LC 26), 12=120 (LC 28), 13=172 (LC 25), 14=156 (LC 25), 15=133 (LC 26), 19=132 (LC 2)

**FORCES**

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/36, 2-3=-38/27, 3-4=-78/48, 4-5=-86/67, 5-6=-86/60, 6-7=-56/24, 7-8=-30/24, 8-9=0/36
BOT CHORD	2-14=-36/58, 13-14=-36/58, 12-13=-36/58, 11-12=-36/58, 10-11=-36/58, 8-10=-36/58
WEBS	5-12=-81/9, 4-13=-133/57, 3-14=-115/61, 6-11=-133/56, 7-10=-115/59

**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 (2) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33
- 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
- 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.
- Gable requires continuous bottom chord bearing.
- 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.
- One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 13, 14, 11, 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



September 30, 2020

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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



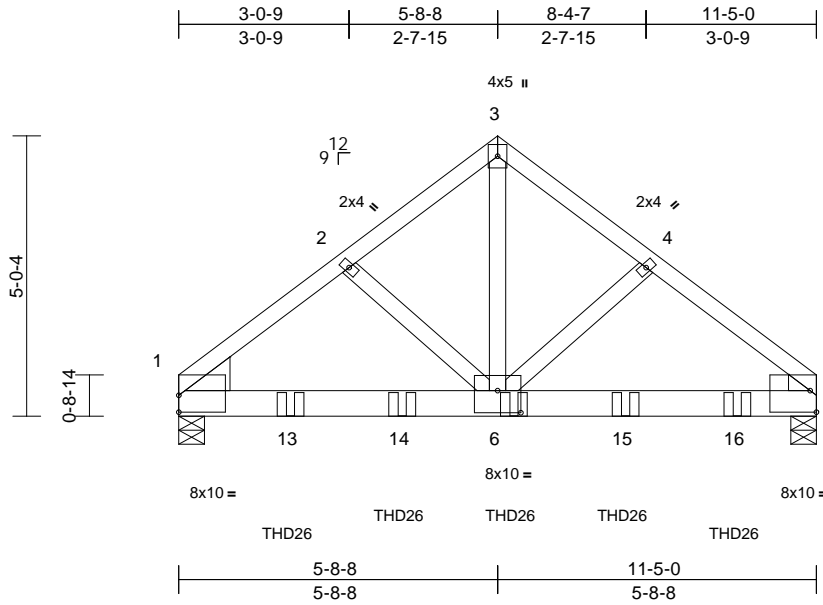
818 Soundside Road  
Edenton, NC 27932

Job 20090101	Truss D02	Truss Type Common Girder	Qty 1	Ply 2	A&G RESIDENTIAL - 45SV Job Reference (optional)	E14920673
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Carter Components (Sanford), Sanford, NC - 27332,

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Page: 1



Scale = 1:41.3

Plate Offsets (X, Y): [1:Edge,0-3-10], [5:Edge,0-4-10], [6:0-5-0,0-4-12]

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.27	Vert(LL)	-0.05	6-9	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	-0.09	6-9	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.81	Horz(CT)	0.01	1	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 136 lb	FT = 20%

**LUMBER**

TOP CHORD 2x4 SP No.2  
 BOT CHORD 2x6 SP 2400F 2.0E  
 WEBS 2x4 SP No.3  
 WEDGE Left: 2x8 SP No.2  
 Right: 2x4 SP No.3

**BRACING**

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

**REACTIONS** (size) 1=0-5-8, 5=0-5-8  
 Max Horiz 1=-78 (LC 30)  
 Max Grav 1=3333 (LC 20), 5=3612 (LC 21)

**FORCES**

(lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=-3641/0, 2-3=-3543/0, 3-4=-3559/0, 4-5=-3659/0  
 BOT CHORD 1-13=-351/2938, 13-14=0/2938, 6-14=0/2938, 6-15=0/2945, 15-16=0/2945, 5-16=0/2945  
 WEBS 3-6=0/4067, 2-6=-145/69, 4-6=-209/47

**NOTES**

- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:  
 Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.  
 Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-7-0 oc.  
 Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
- All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope); cantilever left and right exposed; end vertical left and right exposed; 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
- \* 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.
- 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.
- Use USP THD26 (With 18-16d nails into Girder & 12-10d x 1-1/2 nails into Truss) or equivalent spaced at 2-0-0 oc max. starting at 2-0-0 from the left end to 10-0-0 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 + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
 Uniform Loads (lb/ft)  
 Vert: 1-3=-46, 3-5=-46, 7-10=-19  
 Concentrated Loads (lb)  
 Vert: 6=-920 (B), 13=-1294 (B), 14=-920 (B), 15=-920 (B), 16=-920 (B)



September 30, 2020

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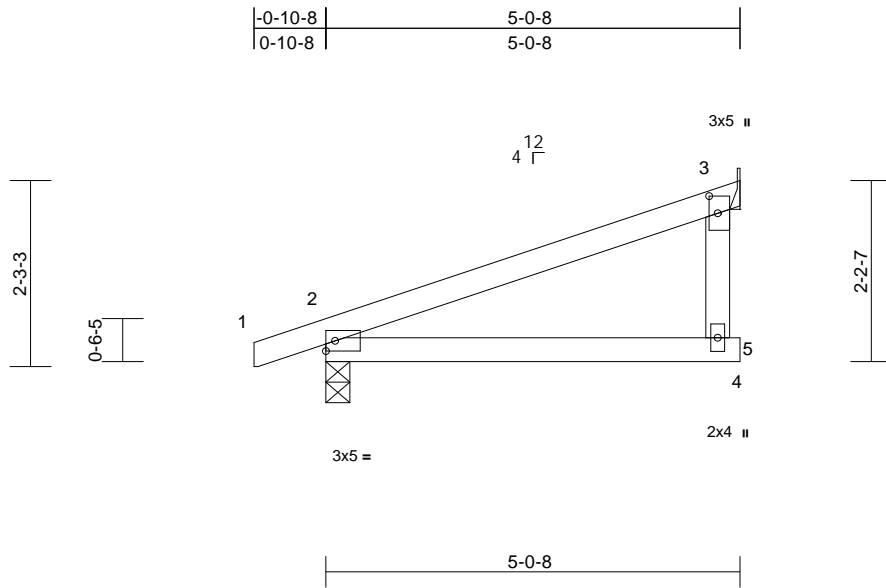
818 Soundside Road  
 Edenton, NC 27932

Job 20090101	Truss J01	Truss Type Monopitch	Qty 5	Ply 1	A&G RESIDENTIAL - 45SV Job Reference (optional)	E14920674
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Carter Components (Sanford), Sanford, NC - 27332,

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Page: 1



Scale = 1:28.1

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

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	0.40	Vert(LL)	0.03	5-8	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.26	Vert(CT)	-0.05	5-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 19 lb	FT = 20%

**LUMBER**

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.3

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 5-0-8 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 2=0-3-8, 3= Mechanical  
Max Horiz 2=57 (LC 14)  
Max Uplift 2=-66 (LC 11), 3=-43 (LC 11)  
Max Grav 2=284 (LC 22), 3=218 (LC 22)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

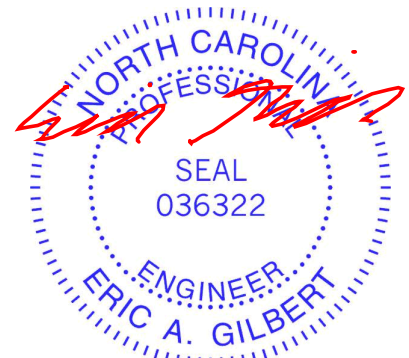
TOP CHORD 1-2=0/20, 2-3=-60/102, 3-5=-13/68  
BOT CHORD 2-5=-45/123, 4-5=0/0

**NOTES**

- 1) 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 (2) zone; cantilever left and right exposed; end vertical left and right exposed; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33
- 2) 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
- 3) Unbalanced snow loads have been considered for this design.
- 4) 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.

- 5) \* 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.
- 6) Refer to girder(s) for truss to truss connections.
- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 43 lb uplift at joint 3.
- 8) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
- 9) 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.
- 10) Gap between inside of top chord bearing and first diagonal or vertical web shall not exceed 0.500in.

**LOAD CASE(S)** Standard



September 30, 2020

**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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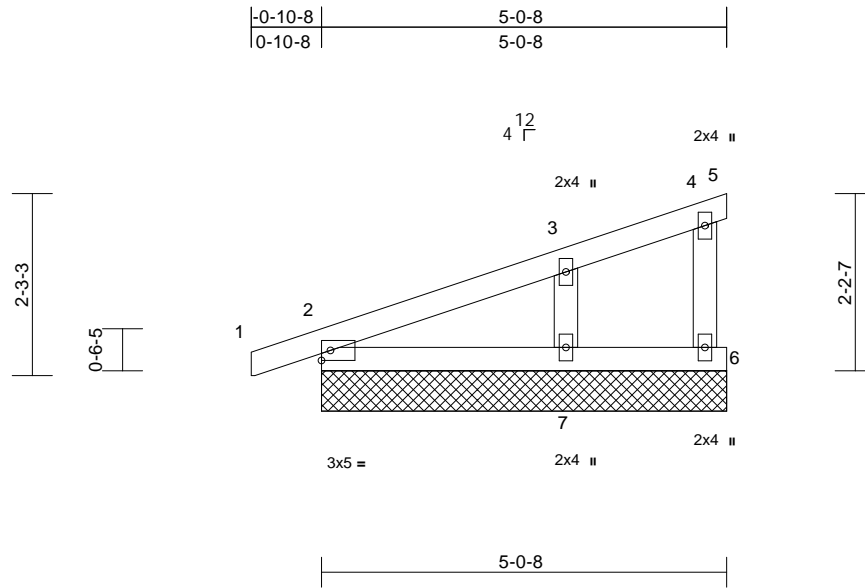
818 Soundside Road  
Edenton, NC 27932

Job 20090101	Truss J02	Truss Type Monopitch Supported Gable	Qty 1	Ply 1	A&G RESIDENTIAL - 45SV Job Reference (optional)	E14920675
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.42 S Aug 25 2020 Print: 8.420 S Aug 25 2020 MiTek Industries, Inc. Tue Sep 29 22:08:11  
ID:qVvdrsPV0RcHxqj6GdTeTTyYfT4-Mock Me

Page: 1



Scale = 1:28.7

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.10	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 21 lb	FT = 20%

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

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 5-0-8 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=5-0-8, 5=5-0-8, 6=5-0-8, 7=5-0-8, 8=5-0-8  
Max Horiz 2=56 (LC 14), 8=56 (LC 14)  
Max Uplift 2=-18 (LC 11), 5=-2 (LC 12), 6=-3 (LC 11), 7=-15 (LC 15), 8=-18 (LC 11)  
Max Grav 2=179 (LC 22), 5=9 (LC 22), 6=47 (LC 22), 7=265 (LC 22), 8=179 (LC 22)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/20, 2-3=-42/67, 3-4=-36/34, 4-5=-3/4, 4-6=-43/10  
BOT CHORD 2-7=-38/64, 6-7=-30/33  
WEBS 3-7=-194/42

**NOTES**  
1) 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 (2) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33  
2) 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.
- Gable requires continuous bottom chord bearing.
- 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.
- One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 6, and 7. This connection is for uplift only and does not consider lateral forces.
- One RT16A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 5. 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



September 30, 2020

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ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate

818 Soundside Road  
Edenton, NC 27932

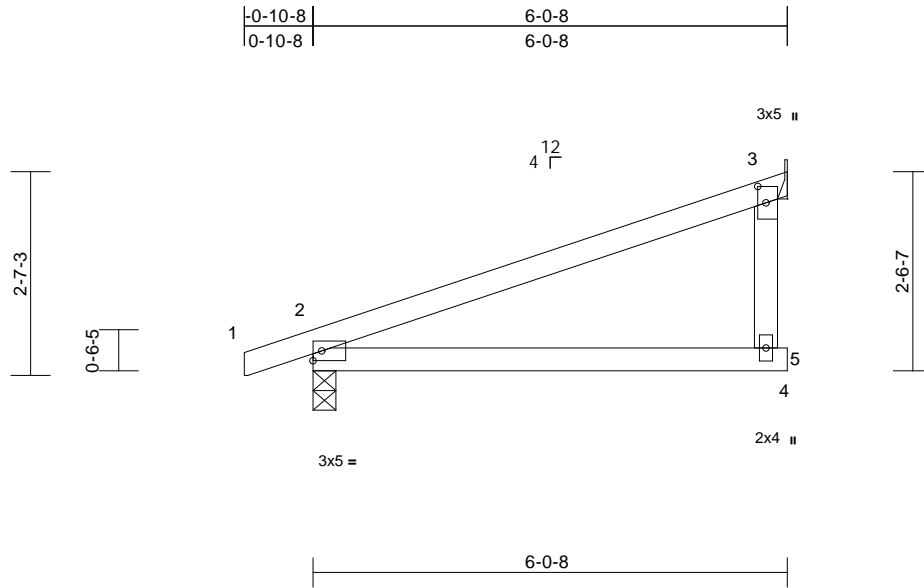


Job 20090101	Truss J03	Truss Type Monopitch	Qty 2	Ply 1	A&G RESIDENTIAL - 45SV Job Reference (optional)	E14920676
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.42 S Aug 25 2020 Print: 8.420 S Aug 25 2020 MiTek Industries, Inc. Tue Sep 29 22:08:12  
ID:q2YU\_Upq?uuS03leGm4dreyYfSY-Mock Me

Page: 1



Scale = 1:29.4

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

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	0.63	Vert(LL)	0.07	5-8	>989	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.41	Vert(CT)	-0.12	5-8	>572	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.02	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 23 lb	FT = 20%

**LUMBER**

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.3

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 2=0-3-8, 3= Mechanical  
Max Horiz 2=67 (LC 14)  
Max Uplift 2=-75 (LC 11), 3=-54 (LC 11)  
Max Grav 2=307 (LC 22), 3=266 (LC 22)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/20, 2-3=-76/133, 3-5=-17/83  
BOT CHORD 2-5=-63/162, 4-5=0/0

**NOTES**

- 1) 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 (2) zone; cantilever left and right exposed; end vertical left and right exposed; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33
- 2) 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
- 3) Unbalanced snow loads have been considered for this design.
- 4) 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.

- 5) \* 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.
- 6) Refer to girder(s) for truss to truss connections.
- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 54 lb uplift at joint 3.
- 8) One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
- 9) 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.
- 10) Gap between inside of top chord bearing and first diagonal or vertical web shall not exceed 0.500in.

**LOAD CASE(S)** Standard



September 30, 2020

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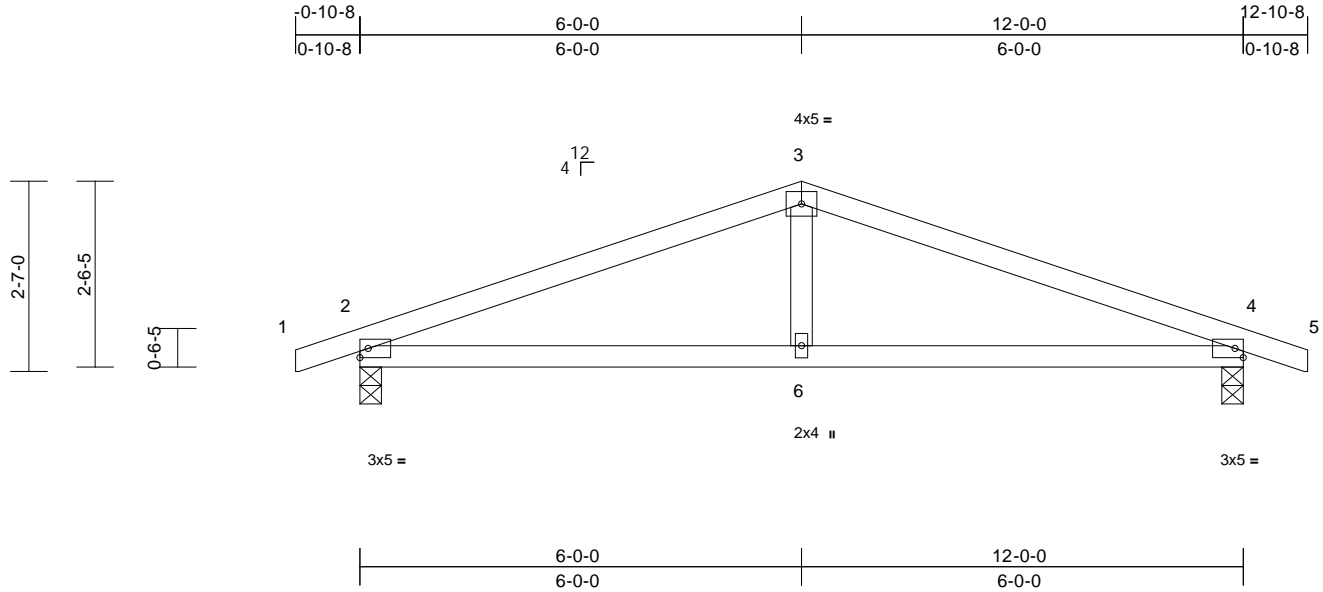
818 Soundside Road  
Edenton, NC 27932

Job 20090101	Truss S01	Truss Type Common	Qty 3	Ply 1	A&G RESIDENTIAL - 45SV Job Reference (optional)	E14920677
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.42 S Aug 25 2020 Print: 8.420 S Aug 25 2020 MiTek Industries, Inc. Tue Sep 29 22:08:12  
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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	0.52	Vert(LL)	-0.04	6-9	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.38	Vert(CT)	-0.07	6-9	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.01	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 43 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.3

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

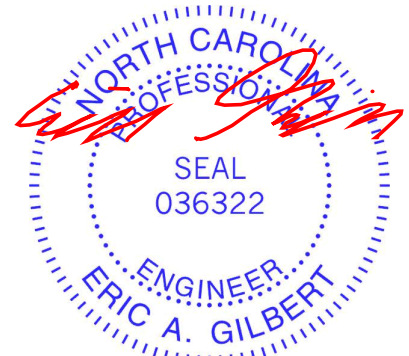
**REACTIONS** (size) 2=0-3-8, 4=0-3-8  
Max Horiz 2=-21 (LC 16)  
Max Uplift 2=-125 (LC 11), 4=-125 (LC 12)  
Max Grav 2=531 (LC 2), 4=531 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/20, 2-3=-815/172, 3-4=-815/172, 4-5=0/20  
BOT CHORD 2-6=-129/718, 4-6=-129/718  
WEBS 3-6=-42/148

- 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.
- One RT7A USP 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.
- 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 (2) zone; cantilever left and right exposed ; end vertical left and right exposed; porch left and right exposed;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.



September 30,2020

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ENGINEERING BY  
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A MiTek Affiliate

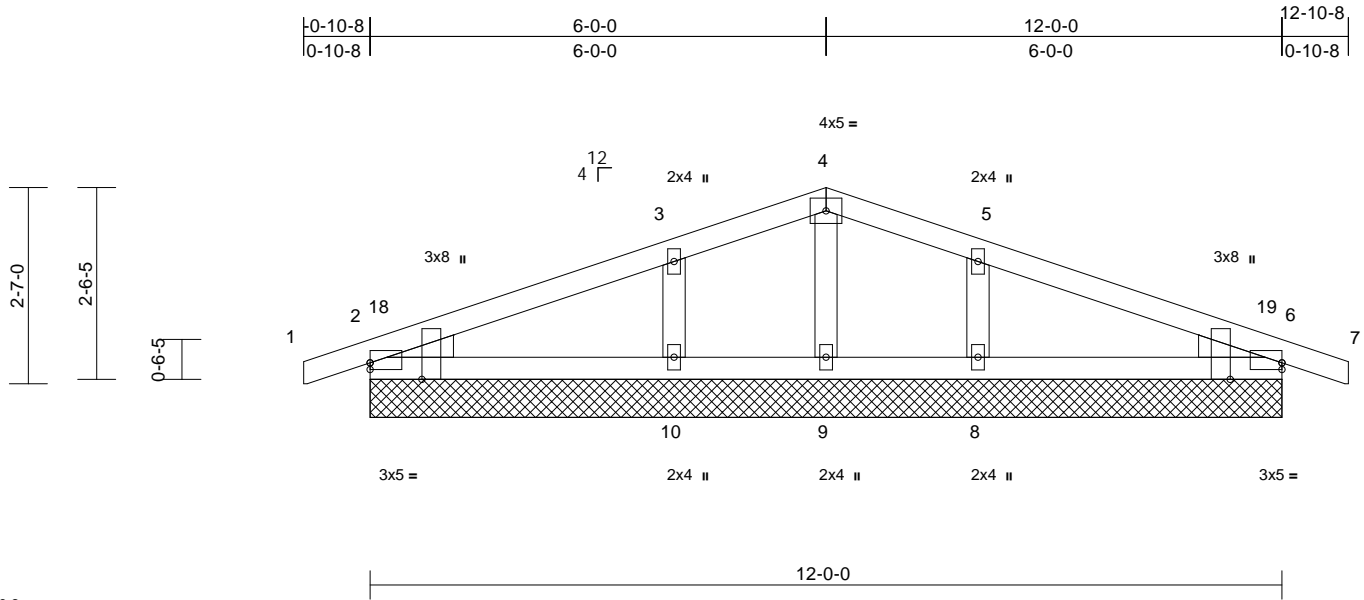
818 Soundside Road  
Edenton, NC 27932

Job 20090101	Truss S02	Truss Type Common Supported Gable	Qty 1	Ply 1	A&G RESIDENTIAL - 45SV Job Reference (optional)	E14920678
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.42 S Aug 25 2020 Print: 8.420 S Aug 25 2020 MiTek Industries, Inc. Tue Sep 29 22:08:12  
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Page: 1



Scale = 1:30.3

Plate Offsets (X, Y): [2:Edge,0-1-1], [2:0-2-10,Edge], [6:Edge,0-1-1], [6:0-2-10,Edge]

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.15	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.17	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
										Weight: 49 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**

(size) 2=12-0-0, 6=12-0-0, 8=12-0-0, 9=12-0-0, 10=12-0-0, 11=12-0-0, 15=12-0-0  
 Max Horiz 2=-21 (LC 16), 11=-21 (LC 16)  
 Max Uplift 2=-23 (LC 11), 6=-26 (LC 12), 8=-18 (LC 16), 9=-19 (LC 23), 10=-19 (LC 15), 11=-23 (LC 11), 15=-26 (LC 12)  
 Max Grav 2=221 (LC 2), 6=221 (LC 2), 8=350 (LC 23), 9=24 (LC 12), 10=350 (LC 22), 11=221 (LC 2), 15=221 (LC 2)

**FORCES**

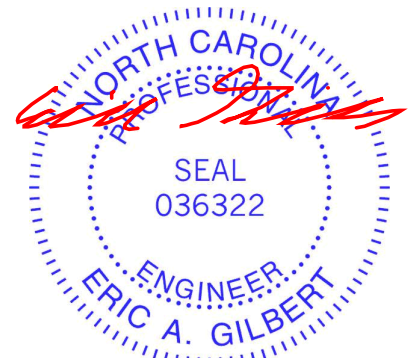
(lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=0/20, 2-18=-98/0, 2-18=-85/0, 2-3=-112/23, 3-4=-126/37, 4-5=-126/35, 5-6=-112/15, 6-19=-85/0, 6-19=-98/0, 6-7=0/20  
 BOT CHORD 2-10=-3/94, 9-10=0/94, 8-9=0/94, 6-8=0/94  
 WEBS 4-9=-5/32, 3-10=-237/46, 5-8=-237/45

**NOTES**

1) 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 (2) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33
- 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.
- Gable requires continuous bottom chord bearing.
- 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.
- One RT7A USP connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 6, 9, 10, and 8. 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



September 30, 2020

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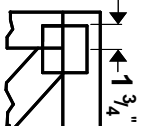
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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



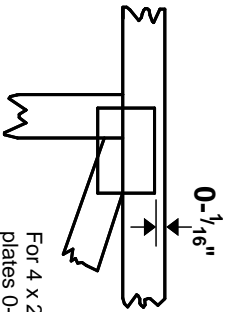
818 Soundside Road  
 Edenton, NC 27932

# 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

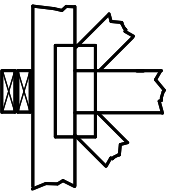
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## 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



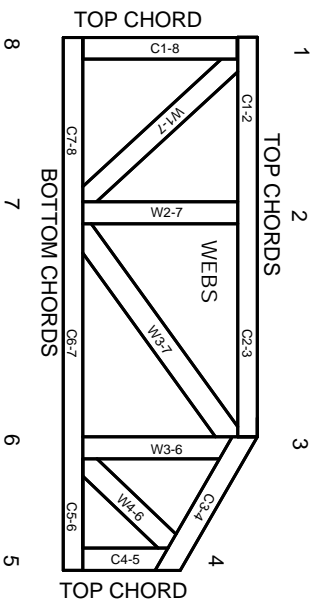
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

### Industry Standards:

ANSI/TPI 1: 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/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

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