ENGINEERING BY TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 22090048
DRB GROUP - 89 FaNC

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: I63018620 thru I63018666

My license renewal date for the state of North Carolina is December 31, 2024.

North Carolina COA: C-0844

January 15,2024

Gilbert, Eric

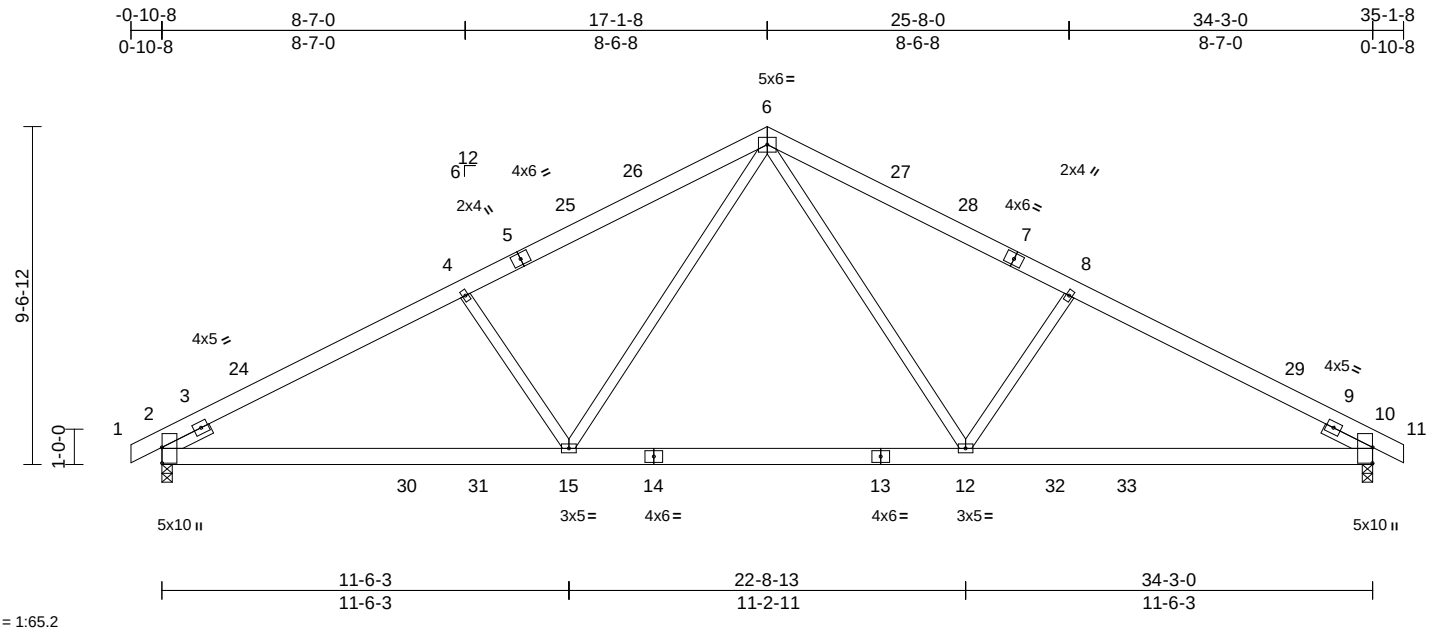
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which 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	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	A01	Common	3	1	Job Reference (optional)	I63018620

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:11
ID:2pftUljVO0arq?1aRhLDo4zw6Pz-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:65.2

Plate Offsets (X, Y): [2:0-5-6,0-0-1], [10:0-5-6,0-0-1]

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	0.73	Vert(LL)	-0.23	12-15	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.77	Vert(CT)	-0.37	12-15	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.31	Horz(CT)	0.07	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 226 lb	FT = 20%

LUMBER

TOP CHORD	2x6 SP No.2
BOT CHORD	2x6 SP No.2
WEBS	2x4 SP No.2 *Except* 4-15,8-12:2x4 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 3-6-8 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 10=0-3-8
Max Horiz 2=-143 (LC 15)
Max Uplift 2=-147 (LC 14), 10=-147 (LC 15)
Max Grav 2=1578 (LC 3), 10=1578 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/23, 2-4=-2459/281, 4-6=-2255/307, 6-8=-2255/307, 8-10=-2459/281, 10-11=0/23
BOT CHORD	2-15=-249/2122, 12-15=-38/1466, 10-12=-136/2122
WEBS	6-15=-117/933, 6-12=-117/933, 4-15=-509/276, 8-12=-509/277

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) exterior zone and C-C Exterior(2E) -0-10-8 to 2-6-10, Interior (1) 2-6-10 to 13-8-6, Exterior(2R) 13-8-6 to 20-6-10, Interior (1) 20-6-10 to 31-8-6, Exterior(2E) 31-8-6 to 35-1-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) 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.
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

January 15,2024

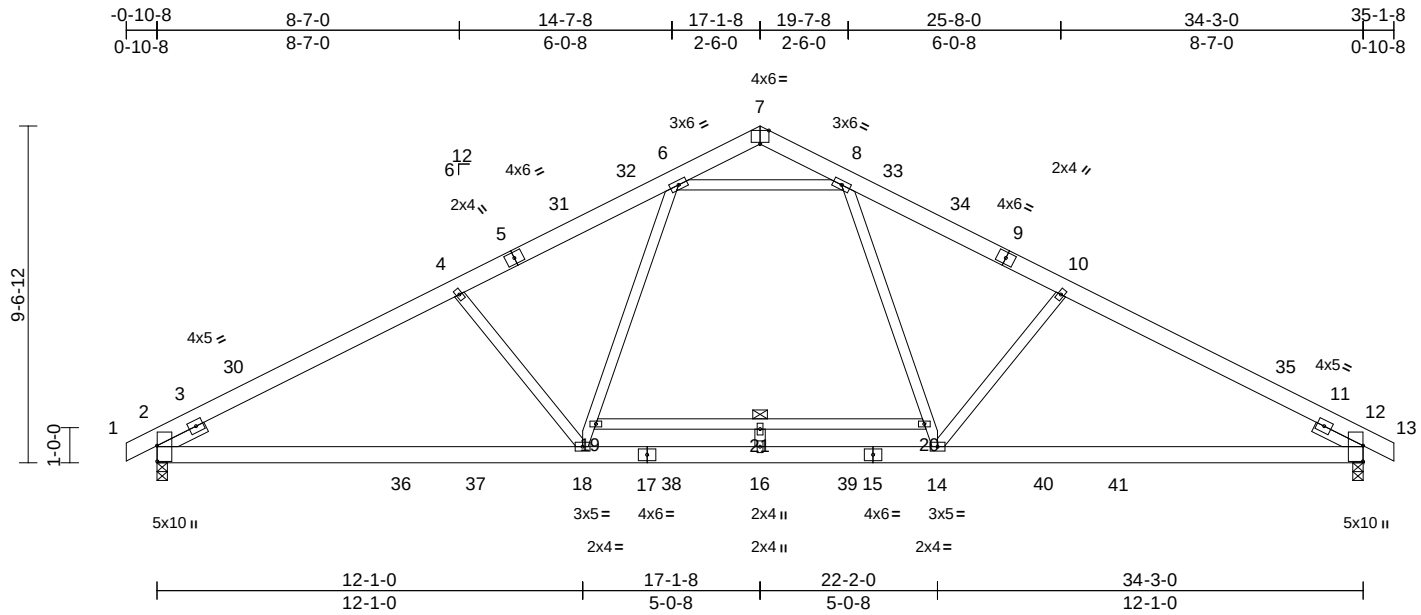
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	A02	Common	2	1	Job Reference (optional)	I63018621

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:14
ID:xD3yk???RbwpYH7yfxF45Rzw6OJ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:65.4

Plate Offsets (X, Y): [2:0-5-6,0-0-1], [7:0-3-0,Edge], [12:0-5-6,0-0-1], [12:0-0-0,0-0-0]

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	0.49	Vert(LL)	-0.21	18-24	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.82	Vert(CT)	-0.32	14-16	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.82	Horz(CT)	0.07	12	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 242 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied or 4-1-2 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 19-20

REACTIONS (size) 2=0-3-8, 12=0-3-8
Max Horiz 2=-143 (LC 15)
Max Uplift 2=-47 (LC 14), 12=-47 (LC 15)
Max Grav 2=1631 (LC 3), 12=1631 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/23, 2-4=-2530/66, 4-6=-2308/66, 6-7=-174/53, 7-8=-174/53, 8-10=-2308/66, 10-12=-2530/66, 12-13=0/23
BOT CHORD	2-18=-151/2179, 16-18=0/1800, 14-16=0/1800, 12-14=-34/2179
WEBS	18-19=0/784, 6-19=0/809, 8-20=0/809, 14-20=0/784, 4-18=-450/289, 10-14=-450/289, 19-21=-49/0, 20-21=-49/0, 16-21=0/26, 6-8=-1672/117

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) exterior zone and C-C Exterior(2E) -0-10-8 to 2-6-10, Interior (1) 2-6-10 to 13-8-6, Exterior(2R) 13-8-6 to 20-6-10, Interior (1) 20-6-10 to 31-8-6, Exterior(2E) 31-8-6 to 35-1-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) 200.0lb AC unit load placed on the bottom chord, 17-1-8 from left end, supported at two points, 5-0-0 apart.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 12. This connection is for uplift only and does not consider lateral forces.
10) 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

January 15,2024

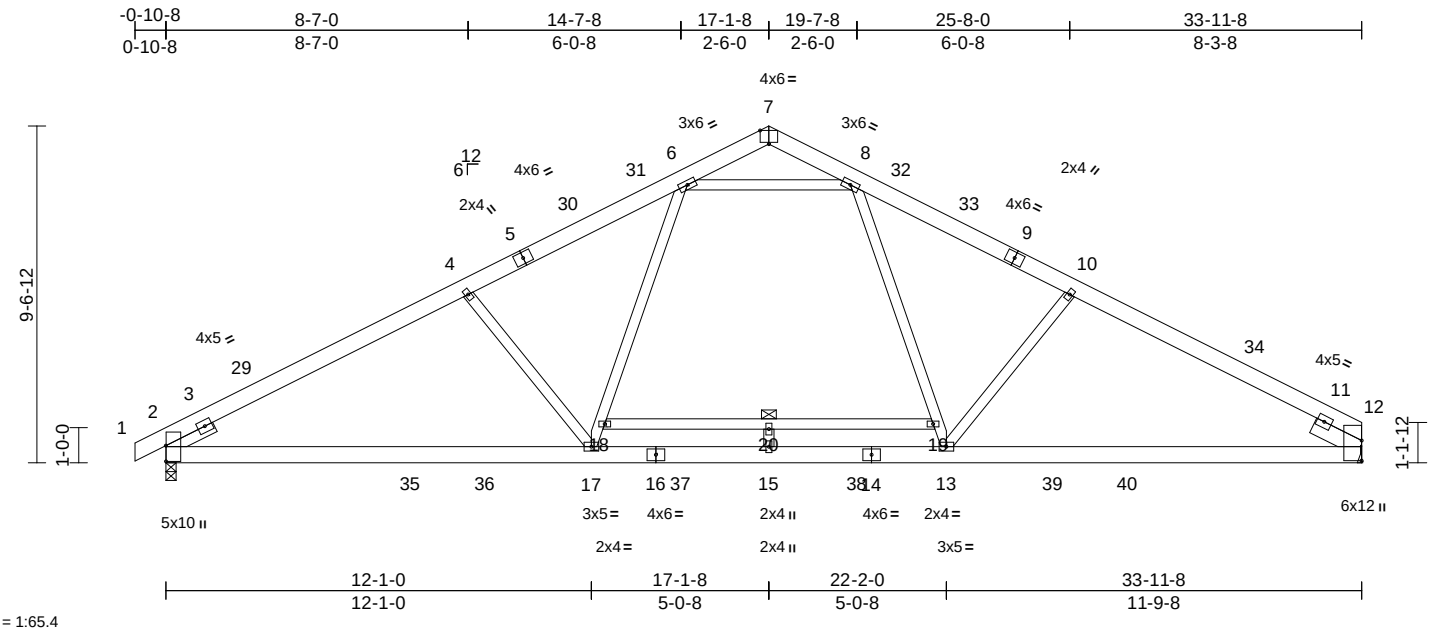
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	I63018622
22090048	A03	Common	5	1	Job Reference (optional)	

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:14
ID:8J0oliOBoQtjIjG?FXoW6Bzw6LD-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:65.4

Plate Offsets (X, Y): [2:0-5-6,0-0-1], [7:0-3-0,Edge], [12:0-6-14,0-0-1]

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	0.67	Vert(LL)	-0.21	17-23	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.87	Vert(CT)	-0.33	15-17	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.81	Horz(CT)	0.08	12	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 239 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-8-8 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 18-19

REACTIONS (size) 2=0-3-8, 12= Mechanical
Max Horiz 2=152 (LC 14)
Max Uplift 2=-48 (LC 14), 12=-27 (LC 15)
Max Grav 2=1618 (LC 3), 12=1576 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-4=-2506/66, 4-6=-2282/67, 6-7=-155/52, 7-8=-170/52, 8-10=-2243/69, 10-12=-2449/69
BOT CHORD 2-17=-160/2158, 15-17=0/1770, 13-15=0/1770, 12-13=-45/2095
WEBS 17-18=0/792, 6-18=0/818, 8-19=0/748, 13-19=0/722, 4-17=-455/288, 10-13=-400/286, 6-8=-1658/118, 18-20=-48/0, 19-20=-48/0, 15-20=0/28

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) exterior zone and C-C Exterior(2E) -0-10-8 to 2-6-4, Interior (1) 2-6-4 to 13-8-12, Exterior(2R) 13-8-12 to 20-6-4, Interior (1) 20-6-4 to 30-6-12, Exterior(2E) 30-6-12 to 33-11-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) 200.0lb AC unit load placed on the bottom chord, 17-1-8 from left end, supported at two points, 5-0-0 apart.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 27 lb uplift at joint 12.
11) One H2.5A Simpson Strong-Tie 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.
12) 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

January 15,2024

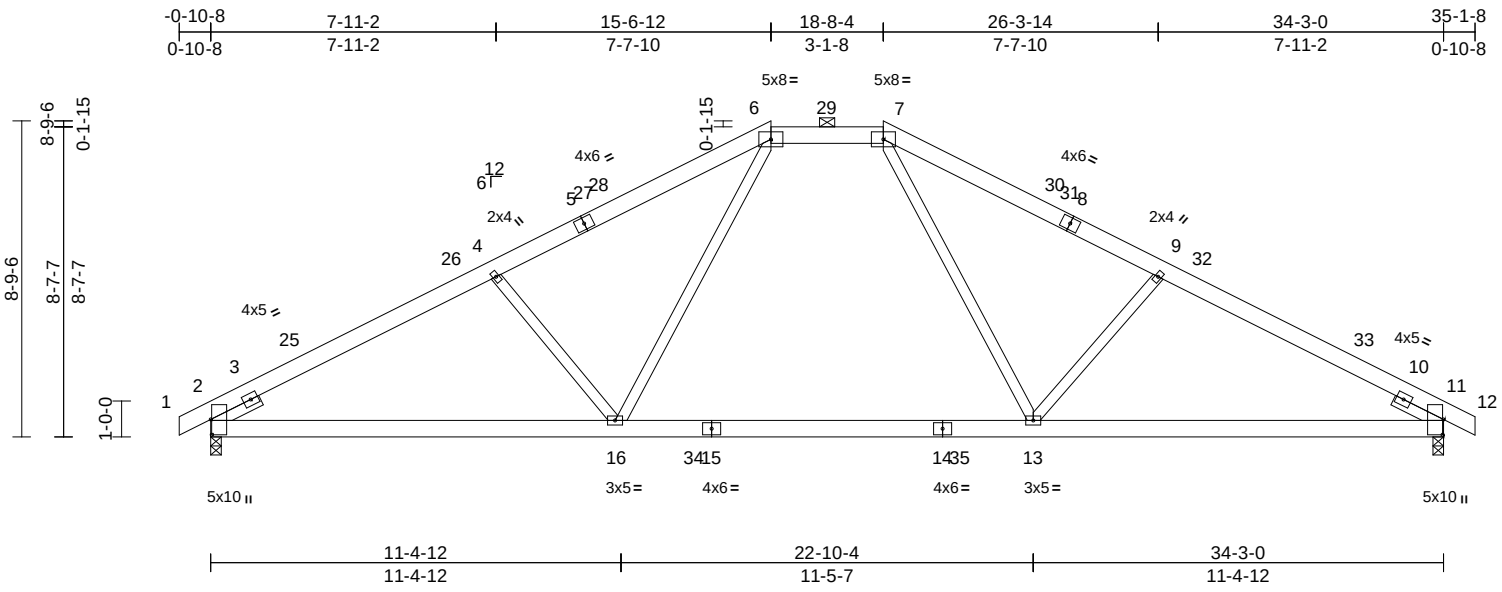
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	A04	Hip	1	1	Job Reference (optional)	I63018623

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:15
ID:asVdAgiN3opl5woWNRC3pFzw6IF-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:64

Plate Offsets (X, Y): [2:0-5-2,0-0-5], [11:0-5-2,0-0-5]

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	0.70	Vert(LL)	-0.31	13-16	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.81	Vert(CT)	-0.47	13-16	>876	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.34	Horz(CT)	0.08	11	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 221 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied or 3-7-4 oc purlins, except 2-0-0 oc purlins (5-3-11 max.): 6-7.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 11=0-3-8
Max Horiz 2=-129 (LC 15)
Max Uplift 2=-151 (LC 14), 11=-151 (LC 15)
Max Grav 2=1703 (LC 45), 11=1703 (LC 45)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/23, 2-4=-2747/276, 4-6=-2514/279, 6-7=-1769/292, 7-9=-2504/277, 9-11=-2744/277, 11-12=0/23
BOT CHORD	2-16=-252/2373, 13-16=-47/1769, 11-13=-137/2371
WEBS	6-16=-74/832, 4-16=-532/275, 7-13=-69/831, 9-13=-536/275

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) exterior zone and C-C Exterior(2E) -0-10-8 to 2-6-10, Interior (1) 2-6-10 to 10-8-10, Exterior(2R) 10-8-10 to 23-6-6, Interior (1) 23-6-6 to 31-8-6, Exterior(2E) 31-8-6 to 35-1-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 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 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 11. This connection is for uplift only and does not consider lateral forces.
10) 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.
11) 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

January 15,2024

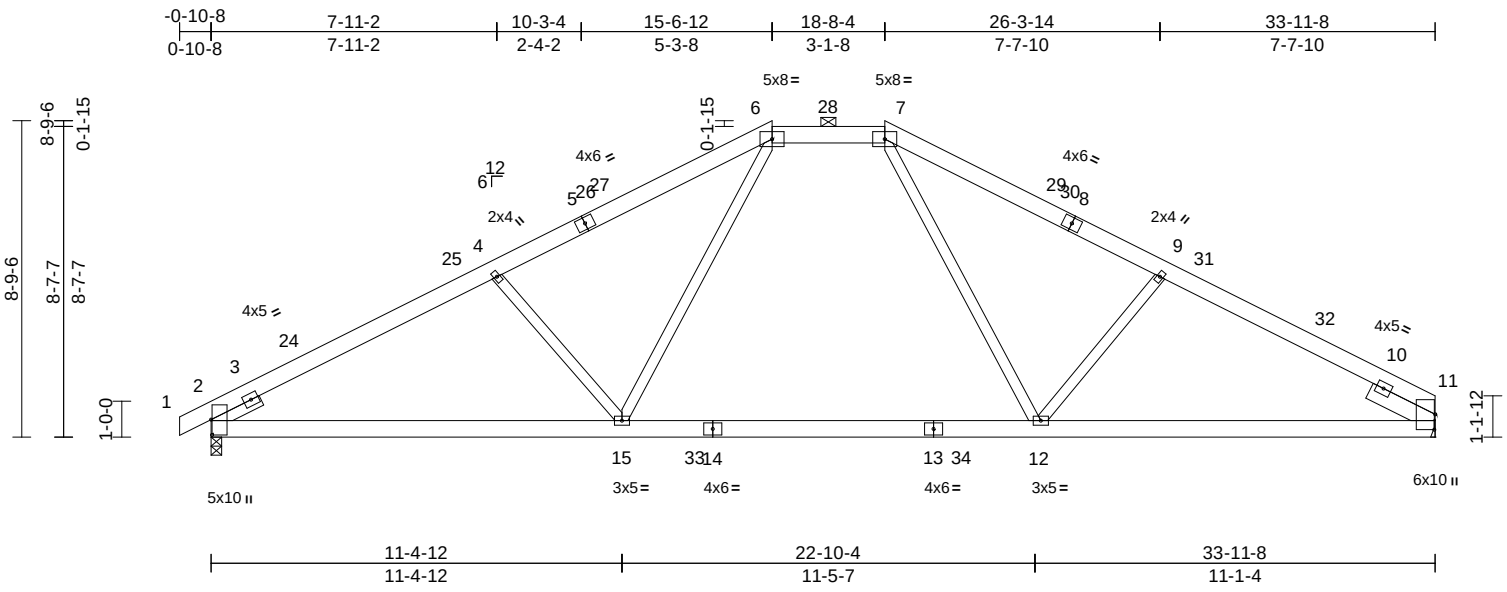
ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	A04A	Hip	1	1	Job Reference (optional)	I63018624

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:15
ID:E_pRODSuD9lp9b6da9rrsXzw6HG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:63.9

Plate Offsets (X, Y): [2:0-5-2,0-0-5], [11:0-5-2,0-0-5]

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	0.70	Vert(LL)	-0.32	12-15	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.82	Vert(CT)	-0.48	12-15	>850	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.35	Horz(CT)	0.09	11	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 220 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied or 3-0-12 oc purlins, except 2-0-0 oc purlins (5-3-13 max.): 6-7.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 11= Mechanical
Max Horiz 2=139 (LC 14)
Max Uplift 2=-151 (LC 14), 11=-131 (LC 15)
Max Grav 2=1689 (LC 45), 11=1648 (LC 45)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/23, 2-4=-2719/275, 4-6=-2478/276, 6-7=-1740/292, 7-9=-2443/278, 9-11=-2649/274
BOT CHORD	2-15=-262/2349, 12-15=-56/1740, 11-12=-161/2280
WEBS	6-15=-68/837, 4-15=-539/275, 7-12=-69/774, 9-12=-488/268

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) exterior zone and C-C Exterior(2E) -0-10-8 to 2-6-4, Interior (1) 2-6-4 to 10-9-2, Exterior(2R) 10-9-2 to 23-5-14, Interior (1) 23-5-14 to 30-6-12, Exterior(2E) 30-6-12 to 33-11-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 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 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 131 lb uplift at joint 11.
11) One H2.5A Simpson Strong-Tie 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.
12) 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.
13) 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

January 15,2024

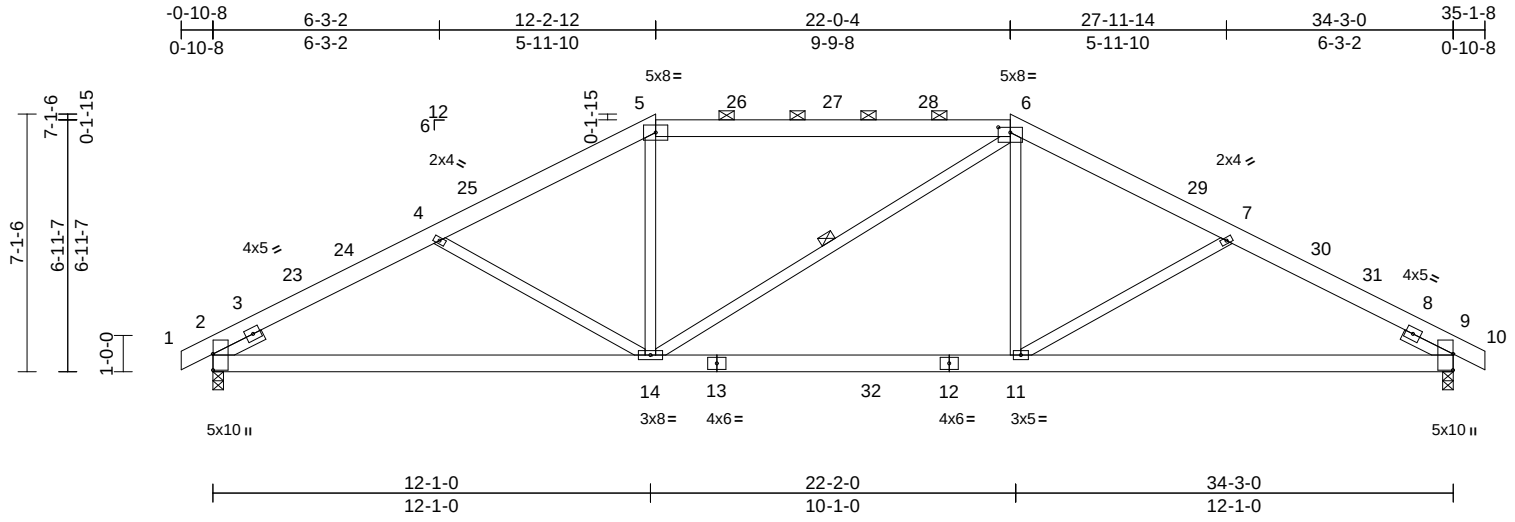
ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	I63018625
22090048	A05	Hip	1	1	Job Reference (optional)	

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:16
ID:yj?VB4C9svR9zzGLeTR8rPzw6GJ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:63.6

Plate Offsets (X, Y): [2:0-5-6,0-0-1], [6:0-4-0,0-1-12], [9:0-5-6,0-0-1]

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	0.47	Vert(LL)	-0.15	11-14	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.80	Vert(CT)	-0.25	11-14	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.38	Horz(CT)	0.07	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 232 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2 *Except* 5-6:2x6 SP 2400F 2.0E
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3 *Except* 6-14:2x4 SP No.2
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 3-11-8 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 5-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 6-14

REACTIONS (size) 2=0-3-8, 9=0-3-8
Max Horiz 2=-103 (LC 15)
Max Uplift 2=-157 (LC 14), 9=-157 (LC 15)
Max Grav 2=1597 (LC 45), 9=1607 (LC 45)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-4=-2502/320, 4-5=-2199/284, 5-6=-1914/298, 6-7=-2221/284, 7-9=-2523/320, 9-10=0/23
BOT CHORD 2-14=-257/2164, 11-14=-78/1932, 9-11=-183/2182
WEBS 5-14=0/554, 4-14=-417/186, 6-11=0/591, 7-11=-418/186, 6-14=-214/217

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) exterior zone and C-C Exterior(2E) -0-10-8 to 2-6-10, Interior (1) 2-6-10 to 7-4-10, Exterior(2R) 7-4-10 to 26-10-6, Interior (1) 26-10-6 to 31-8-6, Exterior(2E) 31-8-6 to 35-1-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 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 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 9. This connection is for uplift only and does not consider lateral forces.
10) 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.
11) 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

January 15,2024

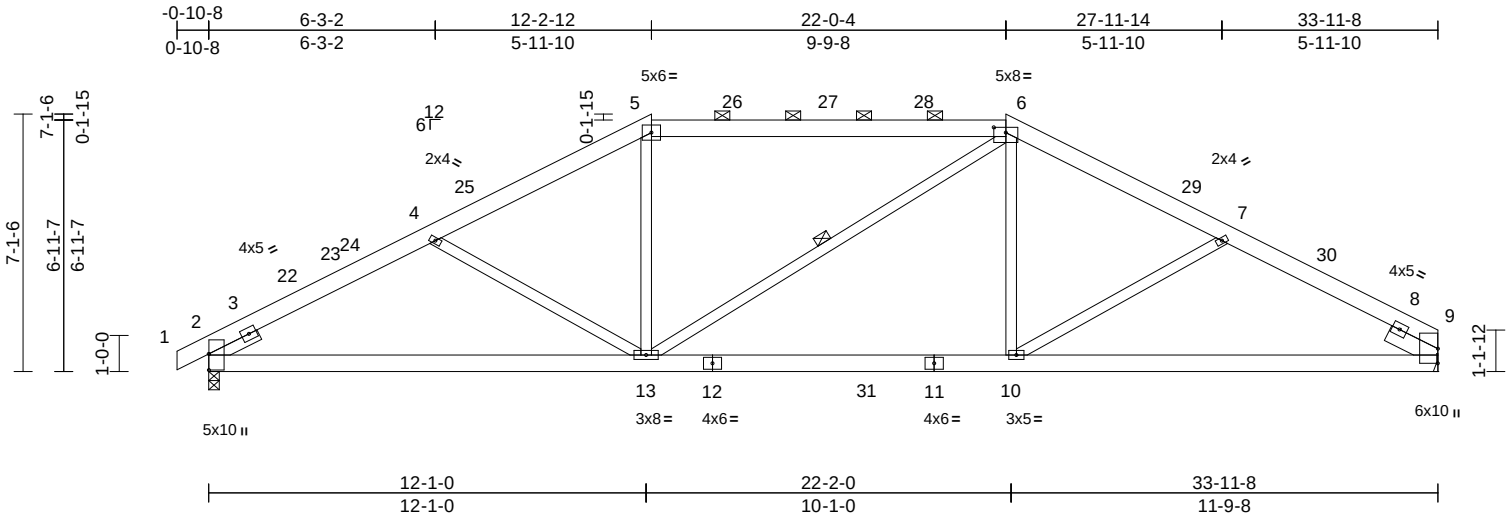
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	A05A	Hip	1	1	Job Reference (optional)	I63018626

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:16
ID:ngx29ZuvRPc4Jk7IUxyWeQzw6FQ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:63.7

Plate Offsets (X, Y): [2:0-5-6,0-0-1], [6:0-4-0,0-1-12], [9:0-4-14,0-0-1]

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	0.62	Vert(LL)	-0.16	10-13	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.81	Vert(CT)	-0.26	10-13	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.37	Horz(CT)	0.08	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 229 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2 *Except* 5-6:2x6 SP 2400F 2.0E
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3 *Except* 6-13:2x4 SP No.2
SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x6 SP No.2 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-8-4 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 5-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 6-13

REACTIONS (size) 2=0-3-8, 9= Mechanical
Max Horiz 2=112 (LC 14)
Max Uplift 2=-156 (LC 14), 9=-137 (LC 15)
Max Grav 2=1589 (LC 45), 9=1558 (LC 45)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-4=-2486/319, 4-5=-2178/283, 5-6=-1894/297, 6-7=-2148/283, 7-9=-2431/316
BOT CHORD 2-13=-267/2149, 10-13=-105/1887, 9-10=-205/2082
WEBS 5-13=0/547, 4-13=-409/186, 6-10=0/545, 7-10=-363/174, 6-13=-191/230

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) exterior zone and C-C Exterior(2E) -0-10-8 to 2-6-4, Interior (1) 2-6-4 to 7-5-2, Exterior(2R) 7-5-2 to 26-9-14, Interior (1) 26-9-14 to 30-6-12, Exterior(2E) 30-6-12 to 33-11-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 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 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 137 lb uplift at joint 9.
11) One H2.5A Simpson Strong-Tie 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.
12) 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.
13) 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

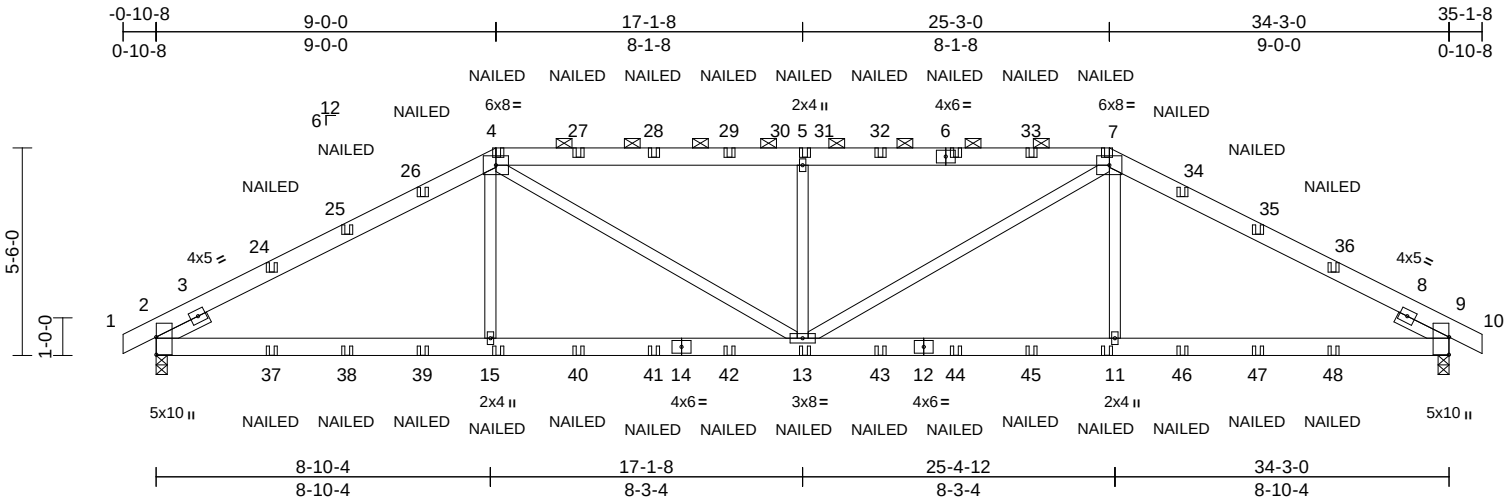
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	A06	Hip Girder	1	2	Job Reference (optional)	I63018627

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:19 Page: 1
ID:nUWKs?VvQ42rwZX6z9NTDAzw6Ed-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:61

Plate Offsets (X, Y): [2:0-5-10,0-0-1], [9:0-5-10,0-0-1]

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	0.58	Vert(LL)	-0.16	13-15	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.80	Vert(CT)	-0.26	13-15	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.35	Horz(CT)	0.08	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 446 lb	FT = 20%

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

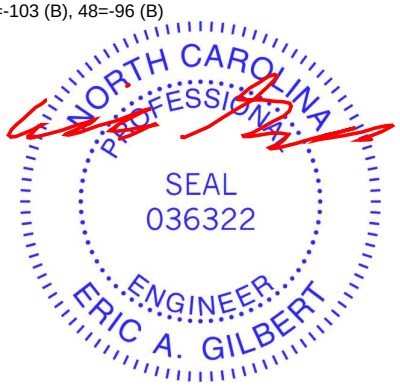
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins (5-10-12 max.): 4-7.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 9=0-3-8
Max Horiz 2=-76 (LC 59)
Max Uplift 2=-877 (LC 12), 9=-877 (LC 13)
Max Grav 2=2910 (LC 37), 9=2913 (LC 37)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-4=-4766/1534, 4-5=-5562/1870, 5-7=-5562/1870, 7-9=-4769/1536, 9-10=0/23
BOT CHORD 2-15=-1321/4117, 13-15=-1321/4105, 11-13=-1253/4108, 9-11=-1254/4120
WEBS 4-15=-30/551, 7-11=-32/554, 5-13=-1429/667, 4-13=-660/1714, 7-13=-658/1710

NOTES
1) 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 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
2) 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.
3) Unbalanced roof live loads have been considered for this design.
4) 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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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
6) Unbalanced snow loads have been considered for this design.
7) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
8) Provide adequate drainage to prevent water ponding.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
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) LGT2 Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 9. This connection is for uplift only and does not consider lateral forces.
12) 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.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
14) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.
15) LGT2 Hurricane ties must have two studs in line below the truss.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-4=-58, 4-7=-58, 7-10=-58, 16-20=-19
Concentrated Loads (lb)
Vert: 6=-159 (B), 15=-51 (B), 11=-51 (B), 5=-159 (B), 13=-51 (B), 4=-159 (B), 7=-159 (B), 24=-119 (B), 25=-55 (B), 26=-5 (B), 27=-159 (B), 28=-159 (B), 29=-159 (B), 32=-159 (B), 33=-159 (B), 34=-5 (B), 35=-55 (B), 36=-119 (B), 37=-96 (B), 38=-103 (B), 39=-167 (B), 40=-51 (B), 41=-51 (B), 42=-51 (B), 43=-51 (B), 44=-51 (B), 45=-51 (B), 46=-167 (B), 47=-103 (B), 48=-96 (B)



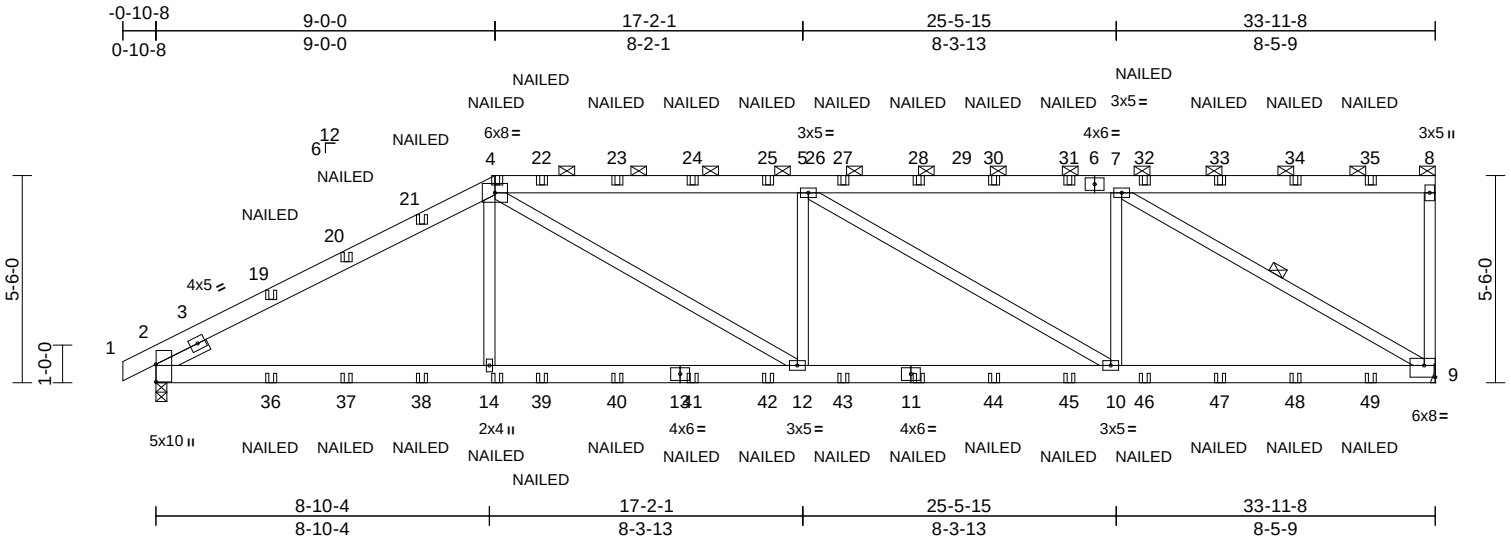
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	I63018628
22090048	A07	Half Hip Girder	1	**2**	Job Reference (optional)	

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:22
ID:gLtYzdN3TC6dZd1xBHgM8Mzw6DV-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:61.2

Plate Offsets (X, Y): [2:0-5-10,0-0-1], [9:Edge,0-3-12]

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	0.65	Vert(LL)	-0.16	12-14	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.82	Vert(CT)	-0.26	12-14	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.92	Horz(CT)	0.08	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 469 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (5-5-14 max.): 4-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 7-9

REACTIONS (size) 2=0-3-8, 9= Mechanical
Max Horiz 2=184 (LC 11)
Max Uplift 2=-942 (LC 12), 9=-1128 (LC 9)
Max Grav 2=2939 (LC 19), 9=3154 (LC 33)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-4=-4835/1665, 4-5=-5508/2004, 5-7=-4171/1529, 7-8=-97/66, 8-9=-503/222
BOT CHORD 2-14=-1528/4181, 12-14=-1527/4168, 10-12=-2045/5508, 9-10=-1558/4171
WEBS 4-14=-33/578, 5-12=-450/344, 4-12=-665/1574, 5-10=-1574/603, 7-10=-303/1205, 7-9=-4814/1756

NOTES
1) 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, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
2) 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.
3) Unbalanced roof live loads have been considered for this design.
4) 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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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
6) Unbalanced snow loads have been considered for this design.
7) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
8) Provide adequate drainage to prevent water ponding.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
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) Refer to girder(s) for truss to truss connections.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1128 lb uplift at joint 9.
13) LGT2 Simpson Strong-Tie 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.
14) 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.
15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
16) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.
17) LGT2 Hurricane ties must have two studs in line below the truss.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-4=-58, 4-8=-58, 9-15=-19
Concentrated Loads (lb)

January 15,2024

Continued on page 2

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

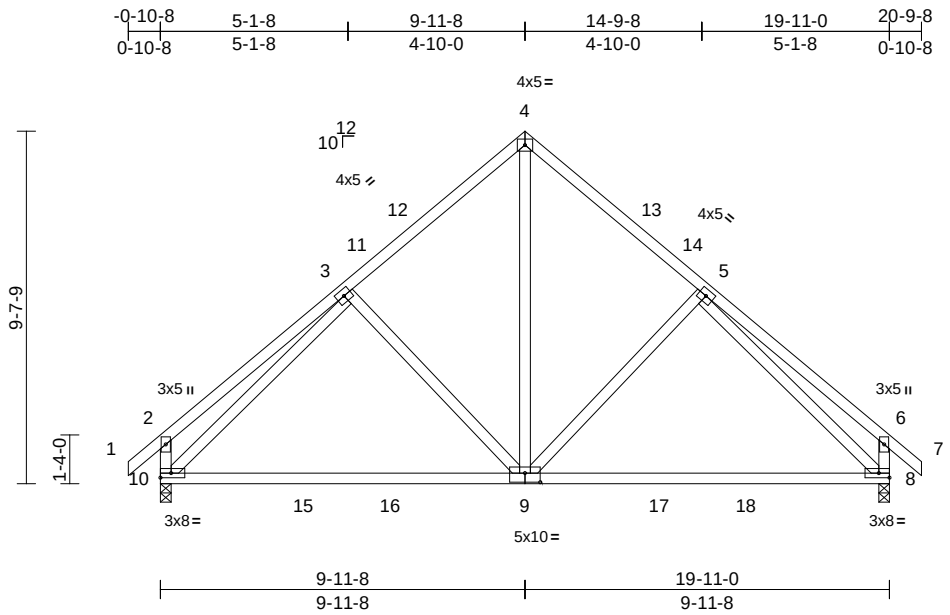
Vert: 14=-51 (F), 4=-159 (F), 11=-51 (F), 19=-119 (F), 20=-55 (F), 21=-5 (F), 22=-159 (F), 23=-159 (F), 24=-159 (F), 25=-159 (F), 27=-159 (F), 28=-159 (F), 30=-159 (F), 31=-159 (F), 32=-159 (F), 33=-159 (F), 34=-159 (F), 35=-159 (F), 36=-96 (F), 37=-103 (F), 38=-167 (F), 39=-51 (F), 40=-51 (F), 41=-51 (F), 42=-51 (F), 43=-51 (F), 44=-51 (F), 45=-51 (F), 46=-51 (F), 47=-51 (F), 48=-51 (F), 49=-51 (F)

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	B01	Common	1	1	Job Reference (optional)	I63018629

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:23

ID:wnJ6dh91TafWhnxYBJ?COAzw6Qi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:62.9

Plate Offsets (X, Y): [9:0-5-0,0-3-0]

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	0.56	Vert(LL)	-0.23	8-9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.79	Vert(CT)	-0.39	8-9	>603	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.70	Horz(CT)	0.02	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 129 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.1
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) 8=0-3-8, 10=0-3-8
Max Horiz 10=250 (LC 13)
Max Uplift 8=-72 (LC 15), 10=-72 (LC 14)
Max Grav 8=956 (LC 6), 10=956 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/39, 2-3=-385/131, 3-4=-796/166, 4-5=-796/166, 5-6=-385/134, 6-7=0/39, 2-10=-395/144, 6-8=-394/145
BOT CHORD 8-10=-95/742
WEBS 4-9=-90/624, 5-9=-234/216, 3-9=-234/216, 3-10=-719/47, 5-8=-719/46

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) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 6-11-8, Exterior(2R) 6-11-8 to 12-11-8, Interior (1) 12-11-8 to 17-9-8, Exterior(2E) 17-9-8 to 20-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 10 and 8. 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.

LOAD CASE(S) Standard

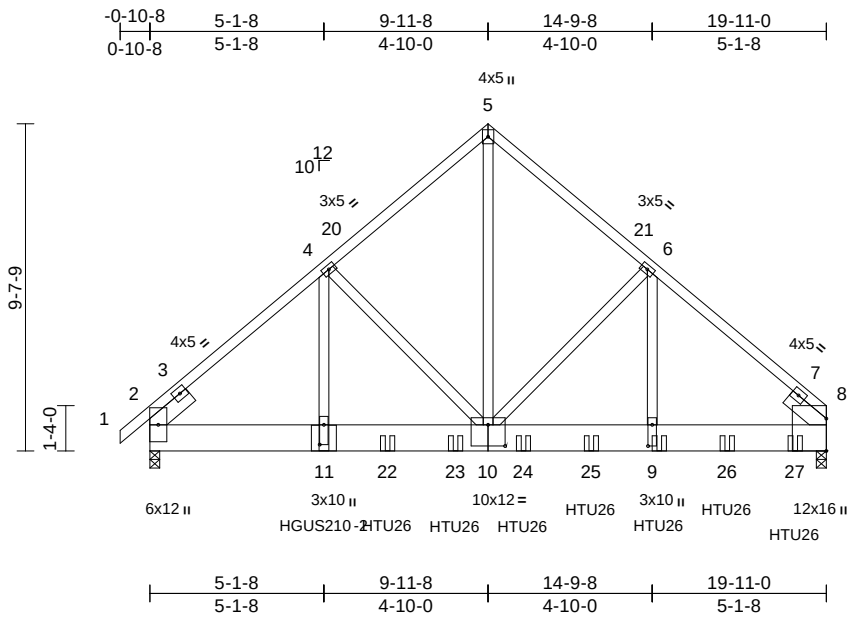
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	B02	Common Girder	1	3	Job Reference (optional)	I63018630

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:24
ID:a?o2ngsDV?cAqXxaucNCdIzw6Ba-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:67.8

Plate Offsets (X, Y): [2:Edge,0-0-0], [9:0-7-8,0-1-8], [10:0-6-0,0-7-8], [11:0-7-0,0-1-8]

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	0.69	Vert(LL)	-0.09	10-11	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.25	Vert(CT)	-0.16	10-11	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.65	Horz(CT)	0.03	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 514 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x10 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 10-5:2x4 SP No.2
SLIDER Left 2x6 SP No.2 -- 1-6-0, Right 2x6 SP No.2 -- 1-4-12

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=0-3-8, 8=0-3-8
Max Horiz 2=200 (LC 9)
Max Uplift 2=-1138 (LC 12), 8=-608 (LC 13)
Max Grav 2=6767 (LC 19), 8=8503 (LC 6)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/33, 2-4=-8054/1372, 4-5=-6498/851, 5-6=-6501/853, 6-8=-8168/720
BOT CHORD 2-11=-1073/6115, 9-11=-1073/6178, 8-9=-489/6178
WEBS 5-10=-970/7891, 6-10=-1870/90, 6-9=0/2344, 4-10=-1711/803, 4-11=-835/2060

NOTES
1) 3-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: 2x10 - 2 rows staggered at 0-5-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, Except member 6-9 2x4 - 2 rows staggered at 0-5-0 oc, Except member 4-11 2x4 - 2 rows staggered at 0-5-0 oc.
2) 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.
3) Unbalanced roof live loads have been considered for this design.
4) 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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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
6) Unbalanced snow loads have been considered for this design.
7) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) LGT3-SDS2.5 Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 8 and 2. This connection is for uplift only and does not consider lateral forces.
11) 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.
12) Use Simpson Strong-Tie HGUS210-2 (46-10d Girder, 16-10d Truss) or equivalent at 5-1-8 from the left end to connect truss(es) to back face of bottom chord.
13) Use Simpson Strong-Tie HTU26 (20-10d Girder, 11-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 7-0-0 from the left end to 19-0-0 to connect truss(es) to back face of bottom chord.
14) Fill all nail holes where hanger is in contact with lumber.
15) LGT3 Hurricane ties must have three studs in line below the truss.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-5=-58, 5-8=-58, 12-16=-19
Concentrated Loads (lb)
Vert: 9=-1439 (B), 11=-3136 (B), 22=-1444 (B), 23=-1538 (B), 24=-1439 (B), 25=-1439 (B), 26=-1439 (B), 27=-1440 (B)

January 15,2024

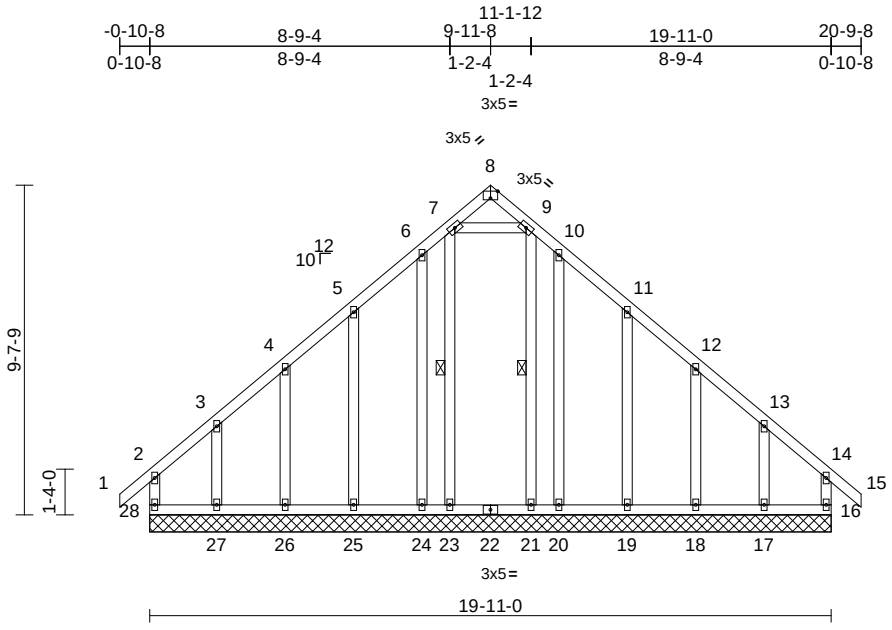
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	B03	Common Supported Gable	1	1	Job Reference (optional)	I63018631

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:24

ID:sdN0vImy?ld3rsUOJbRi5Qzw6RC-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:67.3

Plate Offsets (X, Y): [8:0-2-8,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	0.21	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.18	Horz(CT)	0.00	16	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
OTHERS	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 6-0-0 oc bracing.
WEBS	1 Row at midpt 7-23, 9-21

REACTIONS (size) 16=19-11-0, 17=19-11-0, 18=19-11-0, 19=19-11-0, 20=19-11-0, 21=19-11-0, 23=19-11-0, 24=19-11-0, 25=19-11-0, 26=19-11-0, 27=19-11-0, 28=19-11-0

Max Horiz 28=243 (LC 13)

Max Uplift 16=-118 (LC 11), 17=-139 (LC 15), 18=-58 (LC 15), 19=-86 (LC 15), 20=-27 (LC 15), 24=-28 (LC 14), 25=-86 (LC 14), 26=-56 (LC 14), 27=-146 (LC 14), 28=-141 (LC 10)

Max Grav 16=213 (LC 28), 17=258 (LC 25), 18=182 (LC 25), 19=210 (LC 29), 20=183 (LC 22), 21=205 (LC 26), 23=209 (LC 27), 24=183 (LC 21), 25=210 (LC 24), 26=179 (LC 24), 27=269 (LC 24), 28=231 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	2-28=-173/121, 1-2=0/38, 2-3=-165/164, 3-4=-110/147, 4-5=-96/228, 5-6=-138/316, 6-7=-151/344, 7-8=-101/12, 8-9=-101/13, 9-10=-151/344, 10-11=-138/316, 11-12=-91/228, 12-13=-91/149, 13-14=-142/142, 14-15=0/38, 14-16=-159/107
BOT CHORD	27-28=-117/119, 26-27=-117/119, 25-26=-117/119, 24-25=-117/119, 23-24=-117/119, 21-23=-117/119, 20-21=-117/119, 19-20=-117/119, 18-19=-117/119, 17-18=-117/119, 16-17=-117/119
WEBS	7-23=-159/28, 9-21=-159/28, 6-24=-162/42, 5-25=-167/116, 4-26=-123/103, 3-27=-159/132, 10-20=-162/41, 11-19=-167/117, 12-18=-124/99, 13-17=-154/129, 7-9=-115/311

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) exterior zone and C-C Corner(3E) -0-10-8 to 1-11-8, Exterior(2N) 1-11-8 to 6-11-8, Corner(3R) 6-11-8 to 12-11-8, Exterior (2N) 12-11-8 to 17-9-8, Corner(3E) 17-9-8 to 20-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 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) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
10) Gable studs spaced at 2-0-0 oc.
11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
12) * 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.

January 15,2024

Continued on page 2

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

13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 141 lb uplift at joint 28, 118 lb uplift at joint 16, 28 lb uplift at joint 24, 86 lb uplift at joint 25, 56 lb uplift at joint 26, 146 lb uplift at joint 27, 27 lb uplift at joint 20, 86 lb uplift at joint 19, 58 lb uplift at joint 18 and 139 lb uplift at joint 17.
14) 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.

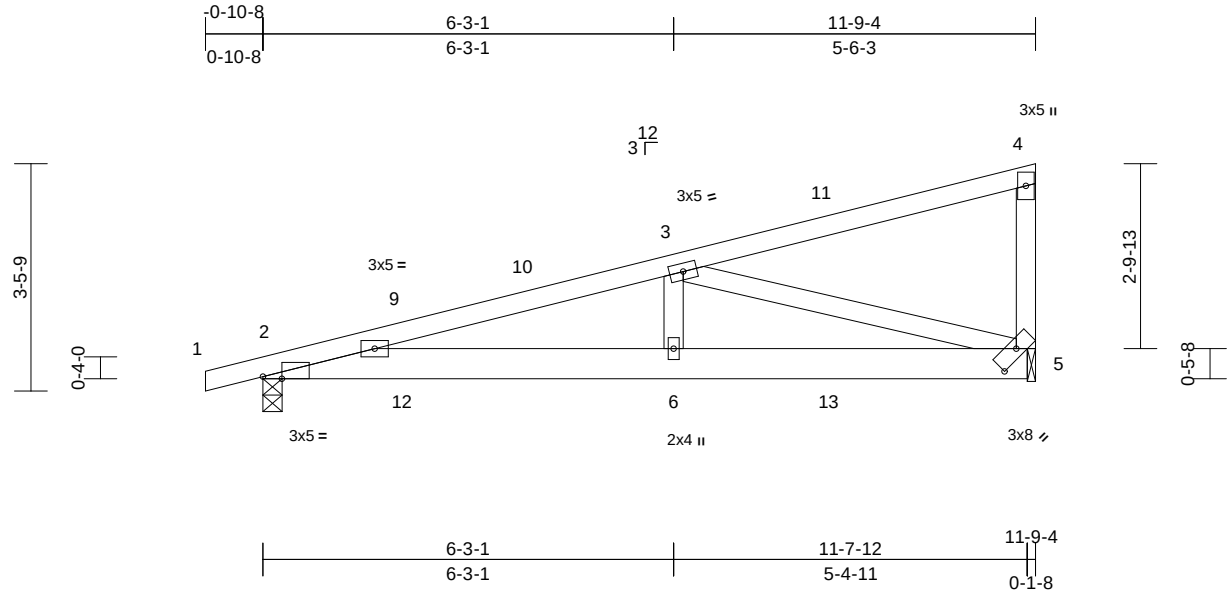
LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	C01	Monopitch	18	1	Job Reference (optional)	I63018632

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:25

ID:QxstrrXaatHFfrem_4YWgkzSoeP-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:35.1

Plate Offsets (X, Y): [2:0-3-7,Edge], [5:0-4-7,0-1-7]

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	0.46	Vert(LL)	0.08	6-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.45	Vert(CT)	-0.09	6-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.73	Horz(CT)	0.01	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 60 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-11-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-6-8 oc bracing.

REACTIONS (size) 2=0-3-8, 5=0-1-8
Max Horiz 2=116 (LC 11)
Max Uplift 2=-206 (LC 10), 5=-177 (LC 10)
Max Grav 2=585 (LC 21), 5=584 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/15, 2-3=-1273/1169, 3-4=-103/56, 4-5=-195/109
BOT CHORD 2-6=-1129/1216, 5-6=-1129/1216
WEBS 3-6=-375/268, 3-5=-1222/1196

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) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 8-7-8, Exterior(2E) 8-7-8 to 11-7-8 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=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any 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.
7) Bearings are assumed to be: Joint 5 SP No.3 crushing capacity of 565 psi.
8) Bearing at joint(s) 5 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 5.
10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 5. This connection is for uplift only and does not consider lateral forces.
11) 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

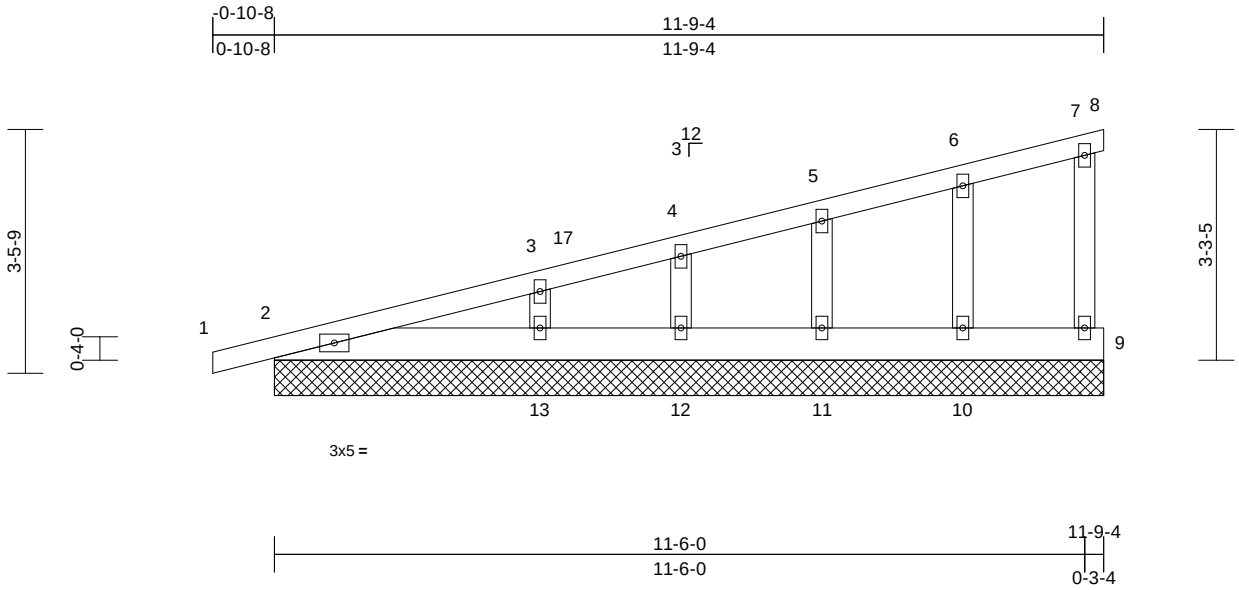
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	C02	Monopitch Supported Gable	2	1	Job Reference (optional)	I63018633

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:25
ID:JzdpF1omeKwGg4lpj_QR09zSoe4-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:32.7

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	0.30	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.47	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.06	Horz(CT)	-0.04	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 58 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x6 SP No.2
WEBS	2x4 SP No.3
OTHERS	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 6-0-0 oc bracing.

REACTIONS (size) 2=11-9-4, 8=11-9-4, 9=11-9-4, 10=11-9-4, 11=11-9-4, 12=11-9-4, 13=11-9-4, 16=11-9-4
Max Horiz 2=116 (LC 11), 16=116 (LC 11)
Max Uplift 2=-19 (LC 1), 8=-76 (LC 1), 9=-19 (LC 11), 10=-34 (LC 10), 11=-55 (LC 10), 12=-311 (LC 1), 13=-168 (LC 10), 16=-19 (LC 1)
Max Grav 2=4 (LC 10), 8=4 (LC 11), 9=151 (LC 21), 10=223 (LC 21), 11=325 (LC 21), 12=72 (LC 10), 13=832 (LC 21), 16=4 (LC 10)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/13, 2-3=-212/218, 3-4=-65/90, 4-5=-52/91, 5-6=-44/80, 6-7=-37/66, 7-8=-24/3, 7-9=-157/57
BOT CHORD	2-13=-198/234, 12-13=-46/79, 11-12=-46/79, 10-11=-46/79, 9-10=-46/79
WEBS	6-10=-178/111, 5-11=-190/129, 4-12=-83/60, 3-13=-255/189

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) exterior zone and C-C Corner(3E) -0-10-8 to 2-1-8, Exterior(2N) 2-1-8 to 11-9-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) 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.
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) All plates are 2x4 MT20 unless otherwise indicated.
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 2-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
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 19 lb uplift at joint 2, 76 lb uplift at joint 8, 19 lb uplift at joint 9, 34 lb uplift at joint 10, 55 lb uplift at joint 11, 311 lb uplift at joint 12, 168 lb uplift at joint 13 and 19 lb uplift at joint 2.
12) 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

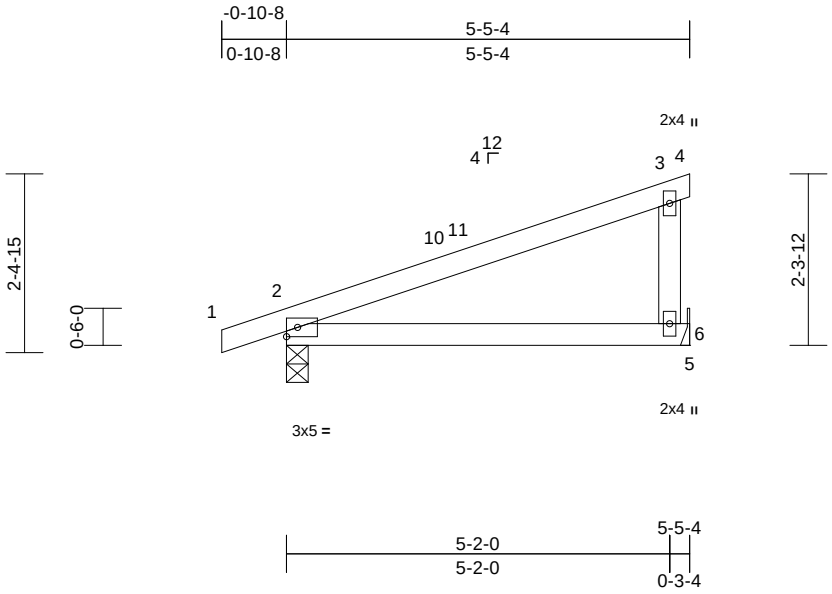
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	D01	Monopitch	8	1	Job Reference (optional)	I63018634

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:25
ID:nrHLnw8uZak3nGEeTS1Hf9zw6TI-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:31.1

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	0.58	Vert(LL)	-0.05	6-9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.38	Vert(CT)	-0.09	6-9	>701	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: 21 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 5-5-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 6= Mechanical
Max Horiz 2=82 (LC 13)
Max Uplift 2=-60 (LC 10), 6=-41 (LC 14)
Max Grav 2=365 (LC 21), 6=305 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/25, 2-3=-166/104, 3-4=-8/0, 3-6=-225/149
BOT CHORD 2-6=-114/117, 5-6=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) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 2-5-4, Exterior(2E) 2-5-4 to 5-5-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any 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.
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 41 lb uplift at joint 6.
9) One H2.5A Simpson Strong-Tie 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.
10) 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

January 15,2024

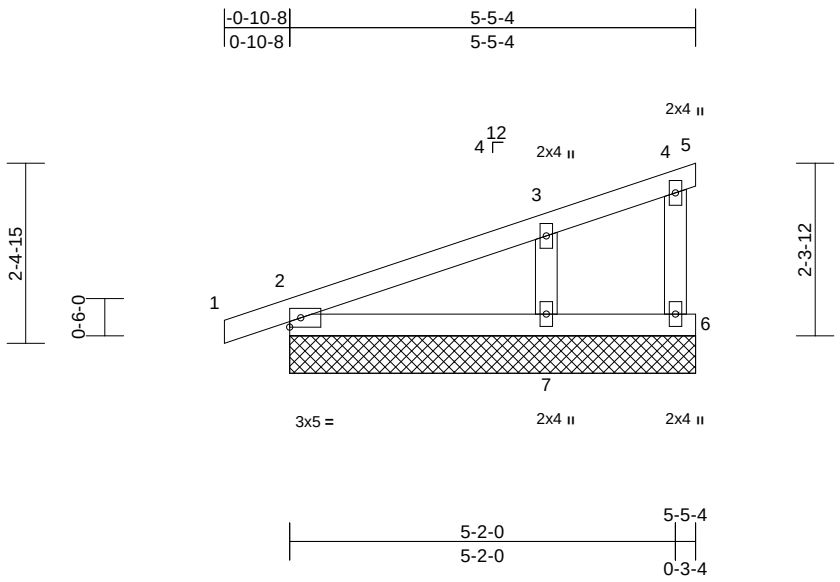
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	D02	Monopitch Supported Gable	2	1	Job Reference (optional)	I63018635

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:26

ID:qq?1yMtf2deqIHIfNc9uREzw6Uw-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:30.9

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	0.20	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.38	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 22 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 5-5-4 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=5-5-4, 5=5-5-4, 6=5-5-4, 7=5-5-4, 8=5-5-4
Max Horiz 2=81 (LC 13), 8=81 (LC 13)
Max Uplift 2=-40 (LC 10), 5=-1 (LC 14), 7=-42 (LC 14), 8=-40 (LC 10)
Max Grav 2=253 (LC 21), 5=40 (LC 21), 6=95 (LC 7), 7=376 (LC 21), 8=253 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/25, 2-3=-125/89, 3-4=-46/39, 4-5=-7/12, 4-6=-4/43
BOT CHORD	2-7=-54/69, 6-7=-25/45
WEBS	3-7=-305/271

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) exterior zone and C-C Corner(3E) -0-10-8 to 2-1-8, Exterior(2N) 2-1-8 to 5-5-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) 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.
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 2-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 40 lb uplift at joint 2, 1 lb uplift at joint 5, 42 lb uplift at joint 7 and 40 lb uplift at joint 2.
11) 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

January 15,2024

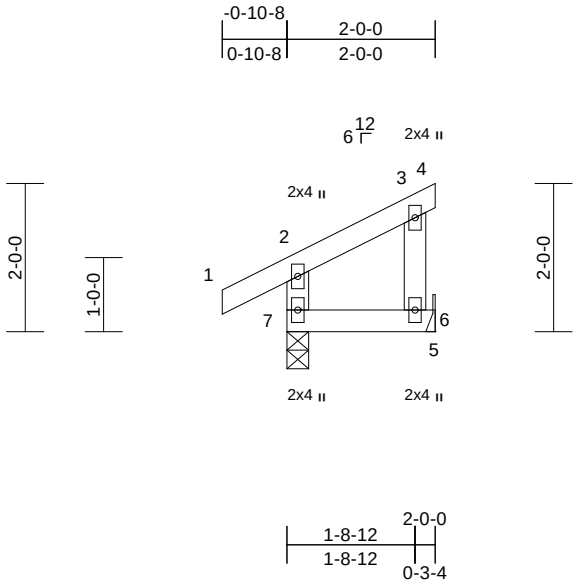
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	I63018636
22090048	E01	Monopitch	9	1	Job Reference (optional)	

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:26
ID:1owaK8MgGzBzfv6bnaEhlNzSoc3-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:31.1

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	0.10	Vert(LL)	0.00	6-7	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	0.00	6-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 11 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 2-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 5= Mechanical, 7=0-3-8
Max Horiz 7=67 (LC 11)
Max Uplift 5=-24 (LC 11), 7=-24 (LC 14)
Max Grav 5=75 (LC 21), 7=212 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/40, 2-3=-46/24, 3-4=-11/0, 3-6=-68/27, 2-7=-183/115
BOT CHORD 6-7=-28/44, 5-6=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) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any 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.
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 24 lb uplift at joint 5.
9) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 7. This connection is for uplift only and does not consider lateral forces.
10) 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

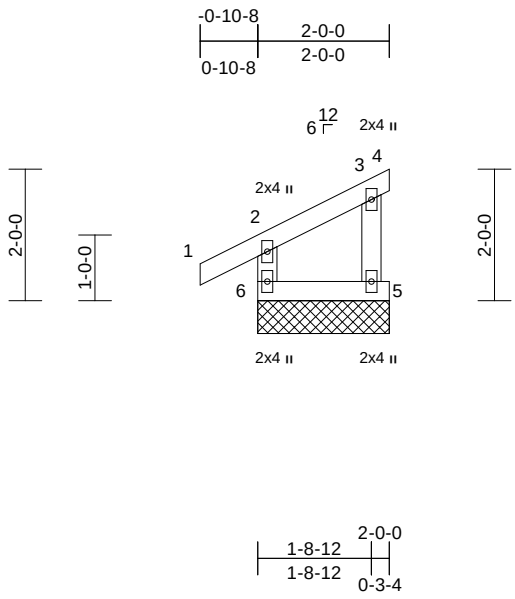
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC
22090048	E02	Monopitch Supported Gable	1	1	I63018637 Job Reference (optional)

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:26 Page: 1
ID:SNbizAOZYuZYWMrASjoON?zSoc0-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:35

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	0.19	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 11 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 2-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 4=2-0-0, 5=2-0-0, 6=2-0-0
Max Horiz 6=66 (LC 11)
Max Uplift 4=-11 (LC 14), 5=-27 (LC 11), 6=-21 (LC 14)
Max Grav 4=5 (LC 7), 5=75 (LC 21), 6=195 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-6=-174/206, 1-2=0/39, 2-3=-40/33, 3-4=-20/3, 3-5=-65/55
BOT CHORD 5-6=-26/50

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) exterior zone and C-C Corner(3E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) 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.
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) Gable requires continuous bottom chord bearing.
7) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
8) Gable studs spaced at 2-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
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 21 lb uplift at joint 6, 11 lb uplift at joint 4 and 27 lb uplift at joint 5.
12) 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

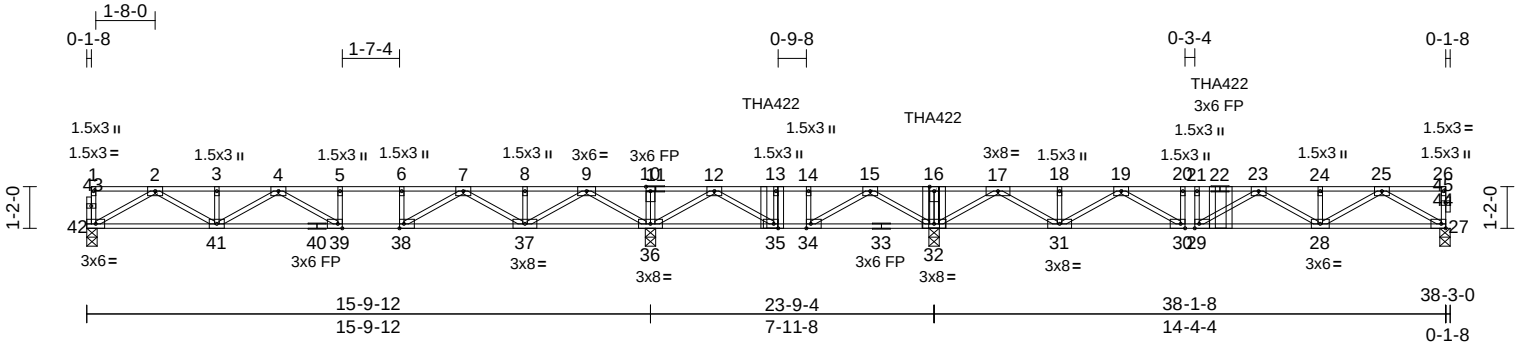
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	F01	Floor Girder	1	1	Job Reference (optional)	I63018638

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:27
ID:xKNI6qcdxn7dKC_lapw9lDzw7GL-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:64.6

Plate Offsets (X, Y): [29:0-1-8,Edge], [30:0-1-8,Edge], [34:0-1-8,Edge], [35:0-1-8,Edge], [38:0-1-8,Edge], [39:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.75	Vert(LL)	-0.16	39-41	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.78	Vert(CT)	-0.22	39-41	>861	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.58	Horz(CT)	0.04	27	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MSH							Weight: 193 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-7-10 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 27=0-3-8, 32=0-3-8, 36=0-3-8, 42=0-3-8
Max Grav 27=665 (LC 13), 32=2427 (LC 11), 36=1358 (LC 3), 42=585 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-42=-56/0, 26-27=-55/0, 1-2=-3/0, 2-3=-1493/0, 3-4=-1493/0, 4-5=-1825/0, 5-6=-1825/0, 6-7=-1825/0, 7-8=-654/36, 8-9=-654/36, 9-10=0/1583, 10-12=0/1583, 12-13=-287/841, 13-14=-287/841, 14-15=-287/841, 15-16=0/1593, 16-17=0/1593, 17-18=-869/0, 18-19=-869/0, 19-20=-2224/0, 20-21=-2224/0, 21-23=-2224/0, 23-24=-1717/0, 24-25=-1717/0, 25-26=0/0
BOT CHORD 41-42=0/896, 39-41=0/1816, 38-39=0/1825, 37-38=0/1315, 36-37=-423/0, 35-36=-1110/0, 34-35=-841/287, 32-34=-1122/0, 31-32=-379/0, 30-31=0/1633, 29-30=0/2224, 28-29=0/2204, 27-28=0/995
WEBS 10-36=-160/0, 16-32=-1194/0, 9-36=-1387/0, 2-42=-1032/0, 9-37=0/1096, 2-41=0/697, 8-37=-152/0, 3-41=-120/0, 7-37=-788/0, 4-41=-377/0, 7-38=0/701, 4-39=-185/213, 5-39=-89/27, 6-38=-254/0, 15-32=-913/0, 12-36=-928/0, 15-34=0/724, 12-35=0/637, 13-35=-315/0, 14-34=-276/0, 17-32=-1517/0, 25-27=-1162/0, 17-31=0/1226, 25-28=0/843, 18-31=-148/0, 24-28=-105/5, 19-31=-911/0, 23-28=-569/0, 19-30=0/780, 23-29=-167/190, 20-30=-200/0, 21-29=-174/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x5 MT20 unless otherwise indicated.
3) 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.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) CAUTION, Do not erect truss backwards.
6) Use Simpson Strong-Tie THA422 (Single Chord Girder) or equivalent at 23-9-4 from the left end to connect truss (es) to front face of top chord.
7) Use Simpson Strong-Tie THA422 (Single Chord Girder) or equivalent spaced at 12-7-0 oc max. starting at 19-2-12 from the left end to 31-9-12 to connect truss(es) to back face of top chord.
8) Fill all nail holes where hanger is in contact with lumber.
9) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 27-42=-8, 1-26=-80
Concentrated Loads (lb)
Vert: 16=-972 (F), 13=-209 (B), 22=-209 (B)

NORTH CAROLINA PROFESSIONAL SEAL 036322 ENGINEER ERIC A. GILBERT

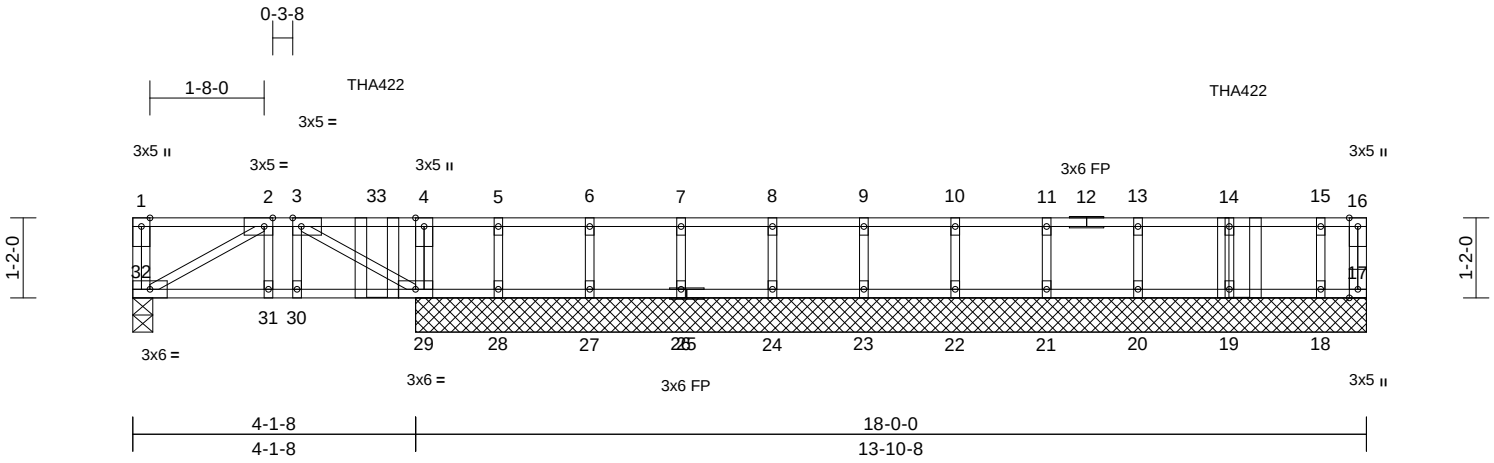
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC
22090048	F02	Floor Girder	1	1	I63018639
					Job Reference (optional)

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:27
ID:hKpSfxHJ3osJCC?l3MS2hkzw7Gl-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:33.6

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

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.76	Vert(LL)	-0.01	29-30	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.27	Vert(CT)	-0.01	29-30	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.12	Horz(CT)	0.00	17	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MSH							Weight: 84 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

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) 17=13-10-8, 18=13-10-8, 19=13-10-8, 20=13-10-8, 21=13-10-8, 22=13-10-8, 23=13-10-8, 24=13-10-8, 26=13-10-8, 27=13-10-8, 28=13-10-8, 29=13-10-8, 32=0-3-8
Max Uplift 28=-47 (LC 4)
Max Grav 17=4 (LC 1), 18=101 (LC 4), 19=527 (LC 3), 20=119 (LC 4), 21=117 (LC 1), 22=118 (LC 4), 23=117 (LC 3), 24=120 (LC 4), 26=110 (LC 3), 27=151 (LC 4), 28=-14 (LC 3), 29=719 (LC 5), 32=222 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-32=-56/0, 16-17=-4/0, 1-2=0/0, 2-3=-303/0, 3-4=0/0, 4-5=0/0, 5-6=0/0, 6-7=0/0, 7-8=0/0, 8-9=0/0, 9-10=0/0, 10-11=0/0, 11-13=0/0, 13-14=0/0, 14-15=0/0, 15-16=0/0
BOT CHORD 31-32=0/303, 30-31=0/303, 29-30=0/303, 28-29=0/0, 27-28=0/0, 26-27=0/0, 24-26=0/0, 23-24=0/0, 22-23=0/0, 21-22=0/0, 20-21=0/0, 19-20=0/0, 18-19=0/0, 17-18=0/0
WEBS 4-29=-510/0, 5-28=0/35, 6-27=-136/0, 7-26=-100/0, 8-24=-109/0, 9-23=-106/0, 10-22=-107/0, 11-21=-106/0, 13-20=-108/0, 14-19=-516/0, 15-18=-92/0, 2-32=-347/0, 3-29=-347/0, 3-30=-159/0, 2-31=0/165

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 MT20 unless otherwise indicated.
3) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
4) Gable studs spaced at 1-4-0 oc.
5) N/A
6) 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.
7) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
8) CAUTION, Do not erect truss backwards.
9) Use Simpson Strong-Tie THA422 (Single Chord Girder) or equivalent spaced at 12-7-0 oc max. starting at 3-6-12 from the left end to 16-1-12 to connect truss(es) to front face of top chord.
10) Fill all nail holes where hanger is in contact with lumber.
11) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 17-32=-8, 1-16=-80
Concentrated Loads (lb)
Vert: 14=-359 (F), 33=-359 (F)

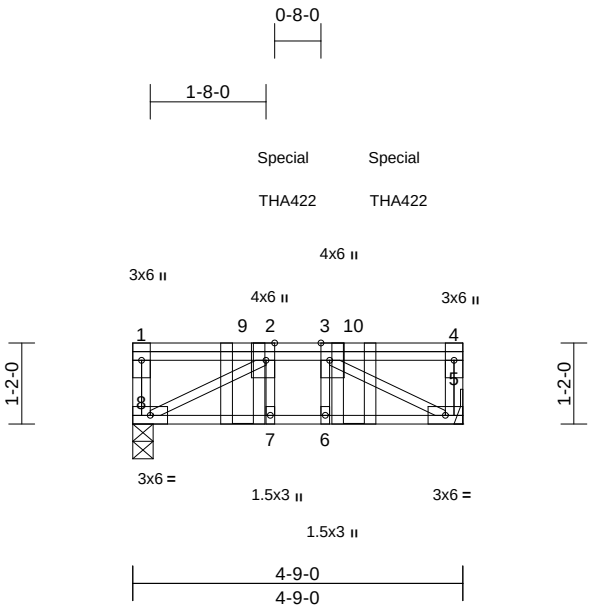
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	F03	Floor Girder	1	1	Job Reference (optional)	I63018640

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:28 Page: 1
ID:MIpsGTu_ny?yYGAokvwhxzzw7MR-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:33.2

Plate Offsets (X, Y): [2:0-3-0,Edge], [3:0-3-0,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.43	Vert(LL)	-0.02	6-7	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.47	Vert(CT)	-0.03	6-7	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.42	Horz(CT)	0.01	5	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MSH							Weight: 34 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-9-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 5= Mechanical, 8=0-3-8
Max Grav 5=1036 (LC 4), 8=1030 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-8=-202/0, 4-5=-208/0, 1-2=0/0, 2-3=-1541/0, 3-4=0/0
BOT CHORD 7-8=0/1541, 6-7=0/1541, 5-6=0/1541
WEBS 3-5=-1742/0, 2-8=-1742/0, 2-7=-4/22, 3-6=-6/22

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Refer to girder(s) for truss to truss connections.
3) 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.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) Use Simpson Strong-Tie THA422 (6-16d Girder, 6-10d Truss) or equivalent spaced at 1-7-3 oc max. starting at 1-7-0 from the left end to 3-2-3 to connect truss(es) to front face of top chord.
6) Fill all nail holes where hanger is in contact with lumber.
7) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 5-8=-8, 1-4=-80
Concentrated Loads (lb)
Vert: 9=-757 (F=-553, B=-204), 10=-757 (F=-553, B=-204)

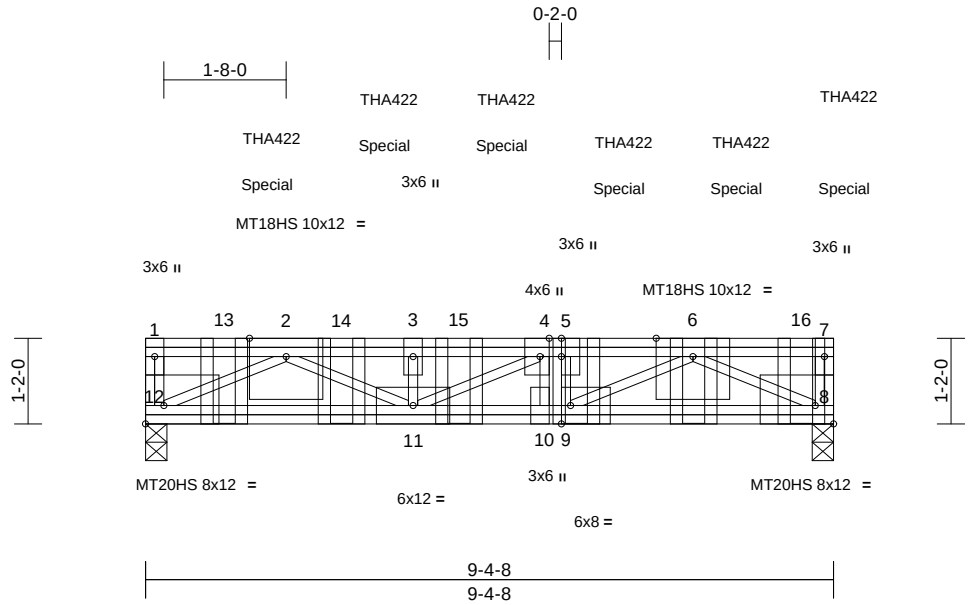
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	F04	Floor Girder	1	1	Job Reference (optional)	I63018641

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:28 Page: 1
ID:2PqMfSOGRMqm7yXvqoh4nKzw7N4-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:31.4

Plate Offsets (X, Y): [4:0-3-0,Edge], [5:0-3-0,Edge], [8:Edge,0-3-0], [9:0-1-8,Edge], [12:Edge,0-3-0]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.79	Vert(LL)	-0.14	10-11	>799	480	MT20HS	187/143
TCDL	10.0	Lumber DOL	1.00	BC	0.87	Vert(CT)	-0.18	10-11	>615	360	MT20	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.82	Horz(CT)	0.03	8	n/a	n/a	MT18HS	244/190
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MSH							Weight: 76 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat) *Except* 8-6,12-2,9-6,11-2:2x4 SP No.2(flat)

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-8-11 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 8=0-3-8, 12=0-3-8
Max Grav 8=3278 (LC 4), 12=2919 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-12=-380/0, 7-8=-820/0, 1-2=0/0, 2-3=-7136/0, 3-4=-7136/0, 4-5=-7061/0, 5-6=-7061/0, 6-7=0/0
BOT CHORD 11-12=0/4892, 10-11=0/7061, 9-10=0/7061, 8-9=0/4753
WEBS 6-8=-5339/0, 2-12=-5496/0, 6-9=0/2689, 2-11=0/2539, 5-9=-790/0, 3-11=-1179/0, 4-11=-140/100, 4-10=-503/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) 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.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) Use Simpson Strong-Tie THA422 (6-16d Girder, 6-10d Truss) or equivalent spaced at 1-7-3 oc max. starting at 1-0-14 from the left end to 8-11-4 to connect truss(es) to back face of top chord.
6) Fill all nail holes where hanger is in contact with lumber.
7) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 8-12=-8, 1-7=-80
Concentrated Loads (lb)
Vert: 6=-819 (F=-205, B=-614), 5=-819 (F=-205, B=-614), 13=-819 (F=-205, B=-614), 14=-819 (F=-205, B=-614), 15=-819 (F=-205, B=-614), 16=-858 (F=-225, B=-633)

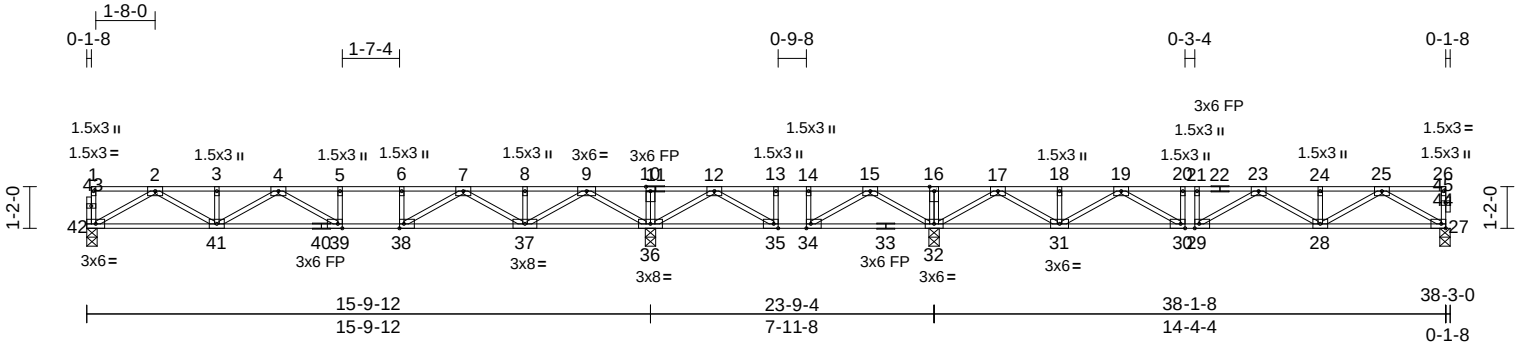
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	I63018642
22090048	F05	Floor	1	1	Job Reference (optional)	

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:28
ID:loOHcF5D5_oAFGilQmFSpGzw7NS-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:64.6

Plate Offsets (X, Y): [29:0-1-8,Edge], [30:0-1-8,Edge], [34:0-1-8,Edge], [35:0-1-8,Edge], [38:0-1-8,Edge], [39:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.59	Vert(LL)	-0.16	39-41	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.77	Vert(CT)	-0.22	39-41	>859	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.51	Horz(CT)	0.04	27	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MSH							Weight: 193 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

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

REACTIONS (size) 27=0-3-8, 32=0-3-8, 36=0-3-8, 42=0-3-8
Max Grav 27=541 (LC 5), 32=1175 (LC 4), 36=1249 (LC 3), 42=598 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-42=-56/0, 26-27=-56/0, 1-2=-3/0, 2-3=-1536/0, 3-4=-1536/0, 4-5=-1921/0, 5-6=-1921/0, 6-7=-1921/0, 7-8=-805/0, 8-9=-805/0, 9-10=0/1394, 10-12=0/1394, 12-13=-163/1063, 13-14=-163/1063, 14-15=-163/1063, 15-16=0/1300, 16-17=0/1300, 17-18=-719/0, 18-19=-719/0, 19-20=-1569/0, 20-21=-1569/0, 21-23=-1569/0, 23-24=-1312/0, 24-25=-1312/0, 25-26=0/0
BOT CHORD 41-42=0/917, 39-41=0/1880, 38-39=0/1921, 37-38=0/1443, 36-37=-253/0, 35-36=-1159/0, 34-35=-1063/163, 32-34=-1093/0, 31-32=-313/0, 30-31=0/1256, 29-30=0/1569, 28-29=0/1569, 27-28=0/786
WEBS 10-36=-166/0, 16-32=-164/0, 9-36=-1364/0, 2-42=-1057/0, 9-37=0/1076, 2-41=0/722, 8-37=-151/0, 3-41=-121/0, 7-37=-762/0, 4-41=-402/0, 7-38=0/662, 4-39=-147/250, 5-39=-102/15, 6-38=-242/0, 15-32=-710/0, 12-36=-735/0, 15-34=-61/474, 12-35=-27/506, 13-35=-201/0, 14-34=-188/1, 17-32=-1254/0, 25-27=-918/0, 17-31=0/960, 25-28=0/614, 18-31=-140/0, 24-28=-129/0, 19-31=-648/0, 23-28=-300/0, 19-30=0/459, 23-29=-191/165, 20-30=-146/0, 21-29=-48/31

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x5 MT20 unless otherwise indicated.
3) 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.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

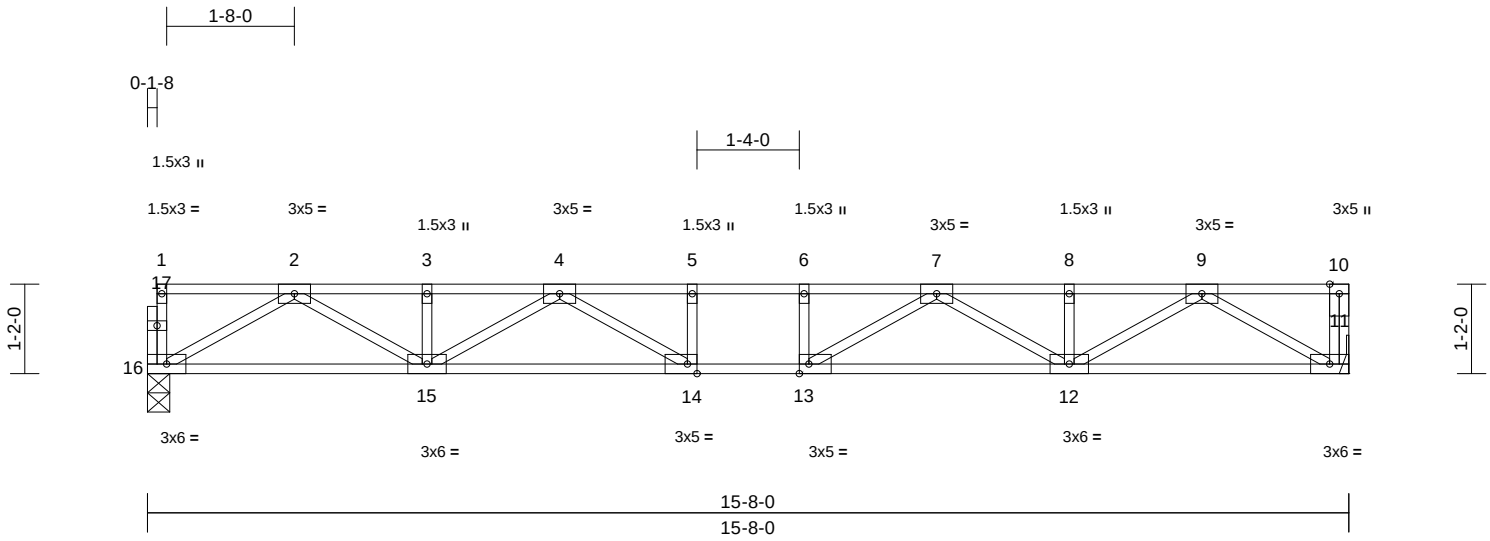
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	F06	Floor	6	1	Job Reference (optional)	I63018643

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:29 Page: 1
ID:xe00MB1SV821XLF84V82Z?zw7NY-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:30

Plate Offsets (X, Y): [13:0-1-8,Edge], [14:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.36	Vert(LL)	-0.16	13-14	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.67	Vert(CT)	-0.22	13-14	>851	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.41	Horz(CT)	0.04	11	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MSH							Weight: 80 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

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) 11= Mechanical, 16=0-3-8
Max Grav 11=678 (LC 1), 16=673 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-16=-57/0, 10-11=-59/0, 1-2=-3/0, 2-3=-1785/0, 3-4=-1785/0, 4-5=-2492/0, 5-6=-2492/0, 6-7=-2492/0, 7-8=-1785/0, 8-9=-1785/0, 9-10=0/0
BOT CHORD 15-16=0/1042, 14-15=0/2258, 13-14=0/2492, 12-13=0/2258, 11-12=0/1043
WEBS 9-11=-1207/0, 2-16=-1201/0, 9-12=0/866, 2-15=0/868, 8-12=-130/0, 3-15=-132/0, 7-12=-552/0, 4-15=-551/0, 7-13=-8/462, 4-14=-8/462, 5-14=-170/0, 6-13=-170/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Refer to girder(s) for truss to truss connections.
3) 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.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

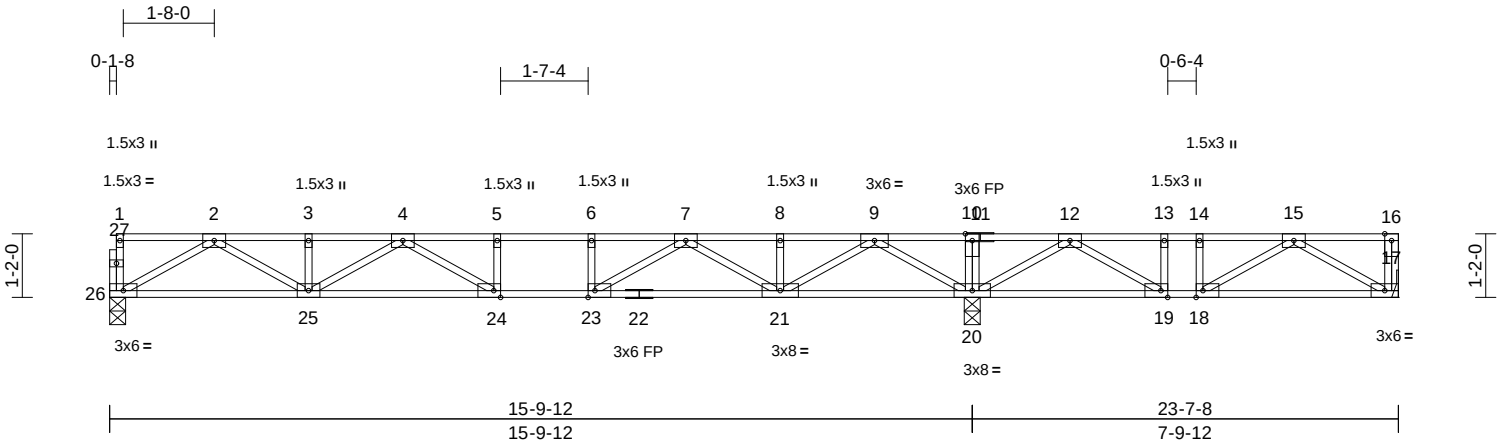
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	F07	Floor	2	1	Job Reference (optional)	I63018644

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:29
ID:agD7JUzJhcQkQaMBHyYtsyzw7Nd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:42.2

Plate Offsets (X, Y): [18:0-1-8,Edge], [19:0-1-8,Edge], [23:0-1-8,Edge], [24:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.59	Vert(LL)	-0.16	24-25	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.77	Vert(CT)	-0.22	24-25	>858	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.52	Horz(CT)	0.03	20	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MSH							Weight: 120 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

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

REACTIONS (size) 17= Mechanical, 20=0-3-8, 26=0-3-8
Max Uplift 17=-92 (LC 3)
Max Grav 17=268 (LC 4), 20=1325 (LC 1), 26=595 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-26=-56/0, 16-17=-55/0, 1-2=-3/0, 2-3=-1526/0, 3-4=-1526/0, 4-5=-1899/0, 5-6=-1899/0, 6-7=-1899/0, 7-8=-773/0, 8-9=-773/0, 9-10=0/1425, 10-12=0/1425, 12-13=-377/497, 13-14=-377/497, 14-15=-377/497, 15-16=0/0
BOT CHORD 25-26=0/912, 24-25=0/1865, 23-24=0/1899, 21-23=0/1415, 20-21=-280/0, 19-20=-920/68, 18-19=-497/377, 17-18=-196/343
WEBS 10-20=-170/0, 9-20=-1368/0, 2-26=-1051/0, 9-21=0/1085, 2-25=0/717, 8-21=-152/0, 3-25=-121/0, 7-21=-764/0, 4-25=-396/0, 7-23=0/661, 4-24=-147/245, 5-24=-100/15, 6-23=-242/0, 12-20=-877/0, 15-17=-397/227, 12-19=0/666, 15-18=-352/40, 13-19=-261/0, 14-18=-22/139

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x5 MT20 unless otherwise indicated.
3) Refer to girder(s) for truss to truss connections.
4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 92 lb uplift at joint 17.
5) 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.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

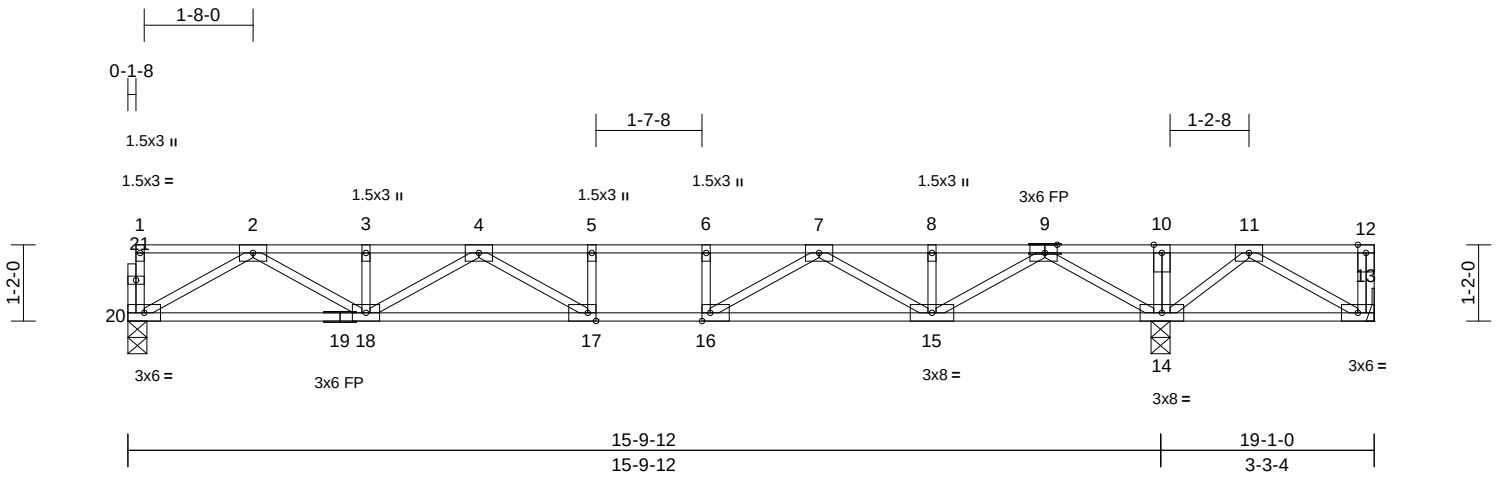
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	F08	Floor	2	1	Job Reference (optional)	I63018645

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:30
ID:aPhikgmfhOH9uzZwntlugMzw7Nu-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:35.3

Plate Offsets (X, Y): [9:0-2-4,Edge], [16:0-1-8,Edge], [17:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.60	Vert(LL)	-0.16	17-18	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.77	Vert(CT)	-0.22	17-18	>849	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.52	Horz(CT)	0.03	14	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MSH							Weight: 98 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

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

REACTIONS (size) 13= Mechanical, 14=0-3-8, 20=0-3-8
Max Uplift 13=-490 (LC 3)
Max Grav 13=-12 (LC 4), 14=1465 (LC 1), 20=581 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-20=-56/0, 12-13=-59/0, 1-2=-3/0, 2-3=-1480/0, 3-4=-1480/0, 4-5=-1795/0, 5-6=-1795/0, 6-7=-1795/0, 7-8=-600/0, 8-10=-600/1549, 10-11=0/1549, 11-12=0/0
BOT CHORD 18-20=0/889, 17-18=0/1796, 16-17=0/1795, 15-16=0/1270, 14-15=-361/0, 13-14=-874/0
WEBS 10-14=-134/0, 9-14=-1392/0, 2-20=-1025/0, 9-15=0/1094, 2-18=0/690, 8-15=-151/0, 3-18=-119/0, 7-15=-783/0, 4-18=-369/0, 7-16=0/663, 4-17=-144/229, 5-17=-95/14, 6-16=-244/0, 11-13=0/1011, 11-14=-964/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x5 MT20 unless otherwise indicated.
3) Refer to girder(s) for truss to truss connections.
4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 490 lb uplift at joint 13.
5) 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.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

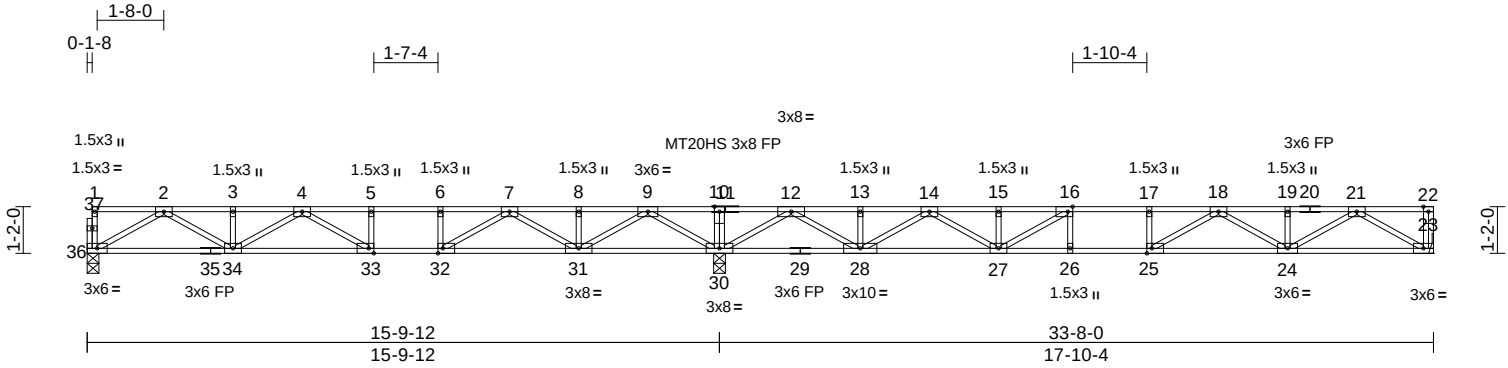
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	F09	Floor	12	1	Job Reference (optional)	I63018646

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:30 Page: 1
ID:2KkeNCZdSTGQzWLrrWT81_zw7O8-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:57.6

Plate Offsets (X, Y): [16:0-1-8,Edge], [25:0-1-8,Edge], [32:0-1-8,Edge], [33:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.84	Vert(LL)	-0.20	25-26	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.88	Vert(CT)	-0.27	25	>796	360	MT20HS	187/143
BCLL	0.0	Rep Stress Incr	YES	WB	0.64	Horz(CT)	0.04	23	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MSH							Weight: 168 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

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

REACTIONS (size) 23= Mechanical, 30=0-3-8, 36=0-3-8
Max Grav 23=675 (LC 4), 30=1780 (LC 1), 36=593 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-36=-56/0, 22-23=-59/0, 1-2=-3/0, 2-3=-1522/0, 3-4=-1522/0, 4-5=-1889/181, 5-6=-1889/181, 6-7=-1889/181, 7-8=-755/876, 8-9=-755/876, 9-10=0/2422, 10-12=0/2422, 12-13=-706/515, 13-14=-706/515, 14-15=-2096/0, 15-16=-2096/0, 16-17=-2456/0, 17-18=-2456/0, 18-19=-1777/0, 19-21=-1777/0, 21-22=0/0
BOT CHORD 34-36=0/910, 33-34=0/1859, 32-33=-181/1889, 31-32=-554/1401, 30-31=-1291/0, 28-30=-1024/0, 27-28=-216/1519, 26-27=0/2456, 25-26=0/2456, 24-25=0/2242, 23-24=0/1040
WEBS 10-30=-167/0, 9-30=-1488/0, 2-36=-1049/0, 9-31=0/1209, 2-34=0/714, 8-31=-161/0, 3-34=-121/0, 7-31=-897/0, 4-34=-393/88, 7-32=0/891, 4-33=-376/43, 5-33=-46/94, 6-32=-321/0, 12-30=-1638/0, 21-23=-1203/0, 12-28=0/1344, 21-24=0/861, 13-28=-140/0, 19-24=-128/0, 14-28=-1028/0, 18-24=-543/0, 14-27=0/743, 18-25=-151/325, 15-27=-151/64, 17-25=-127/30, 16-27=-776/0, 16-26=-16/135

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) All plates are 3x5 MT20 unless otherwise indicated.
4) Refer to girder(s) for truss to truss connections.
5) 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.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

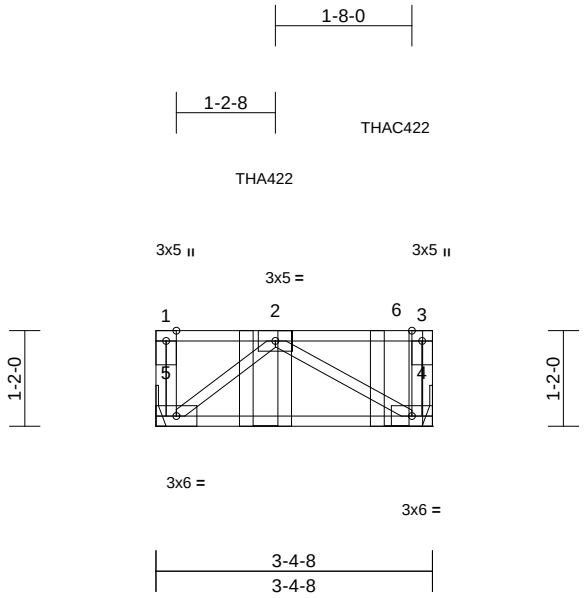
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	F10	Floor Girder	2	1	Job Reference (optional)	I63018647

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:30 Page: 1
ID:dUW5BMK4AKkGZRp?gJ6RDmzw7OS-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:28.1

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.41	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.15	Vert(CT)	-0.01	4-5	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	4	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MP							Weight: 21 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-4-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 4= Mechanical, 5= Mechanical
Max Grav 4=419 (LC 1), 5=273 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-5=-22/0, 3-4=-229/0, 1-2=0/0, 2-3=0/0
BOT CHORD 4-5=0/306
WEBS 2-4=-354/0, 2-5=-388/0

NOTES
1) Refer to girder(s) for truss to truss connections.
2) 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.
3) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
4) Use Simpson Strong-Tie THA422 (Single Chord Girder) or equivalent at 1-4-1 from the left end to connect truss (es) to front face of top chord.
5) Use Simpson Strong-Tie THAC422 (Single Chord Girder) or equivalent at 2-11-4 from the left end to connect truss(es) to front face of top chord.
6) Fill all nail holes where hanger is in contact with lumber.
7) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 4-5=-8, 1-3=-80
Concentrated Loads (lb)
Vert: 2=-199 (F), 6=-218 (F)

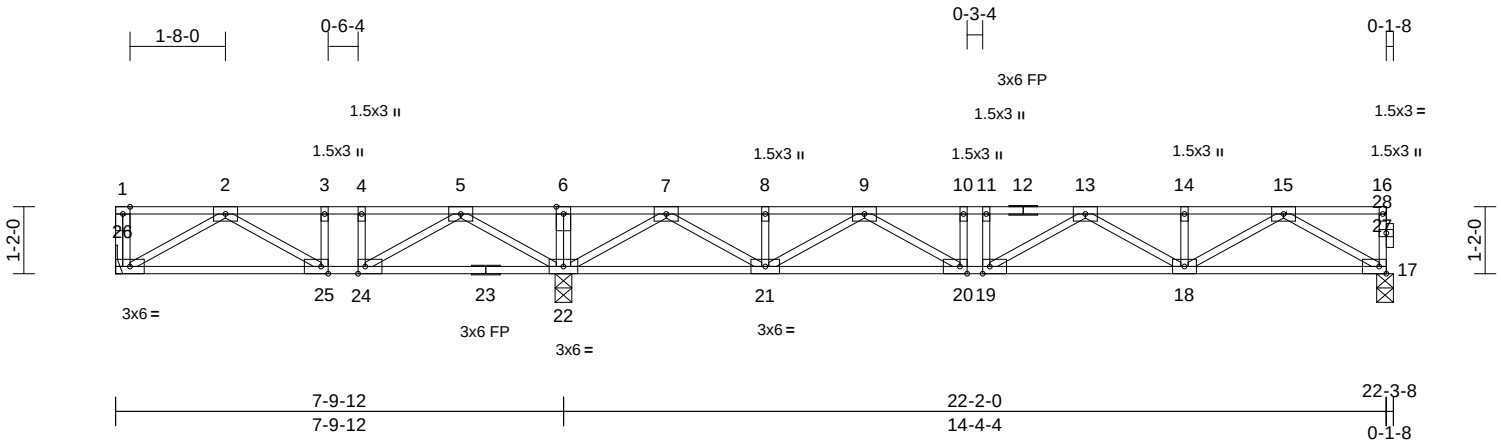
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	F11	Floor	6	1	Job Reference (optional)	I63018648

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:31
ID:HFBmZr3HLZzNw37mOiiHK7zw7Oo-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:40.2

Plate Offsets (X, Y): [19:0-1-8,Edge], [20:0-1-8,Edge], [24:0-1-8,Edge], [25:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.52	Vert(LL)	-0.09	18-19	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.48	Vert(CT)	-0.12	18-19	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.46	Horz(CT)	0.02	17	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MSH							Weight: 115 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

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

REACTIONS (size) 17=0-3-8, 22=0-3-8, 26= Mechanical
Max Uplift 26=-75 (LC 4)
Max Grav 17=538 (LC 4), 22=1252 (LC 1), 26=269 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-26=-55/0, 16-17=-56/0, 1-2=0/0, 2-3=-381/436, 3-4=-381/436, 4-5=-381/436, 5-6=0/1326, 6-7=0/1326, 7-8=-691/0, 8-9=-691/0, 9-10=-1550/0, 10-11=-1550/0, 11-13=-1550/0, 13-14=-1303/0, 14-15=-1303/0, 15-16=0/0
BOT CHORD 25-26=-167/345, 24-25=-436/381, 22-24=-826/73, 21-22=-314/0, 20-21=0/1232, 19-20=0/1550, 18-19=0/1555, 17-18=0/782
WEBS 6-22=-167/0, 5-22=-852/0, 2-26=-399/194, 5-24=0/632, 2-25=-313/42, 3-25=-23/125, 4-24=-249/0, 7-22=-1255/0, 15-17=-913/0, 7-21=0/970, 15-18=0/608, 8-21=-141/0, 14-18=-128/0, 9-21=-649/0, 13-18=-294/0, 9-20=0/458, 13-19=-191/164, 10-20=-149/0, 11-19=-46/32

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x5 MT20 unless otherwise indicated.
3) Refer to girder(s) for truss to truss connections.
4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 75 lb uplift at joint 26.
5) 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.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

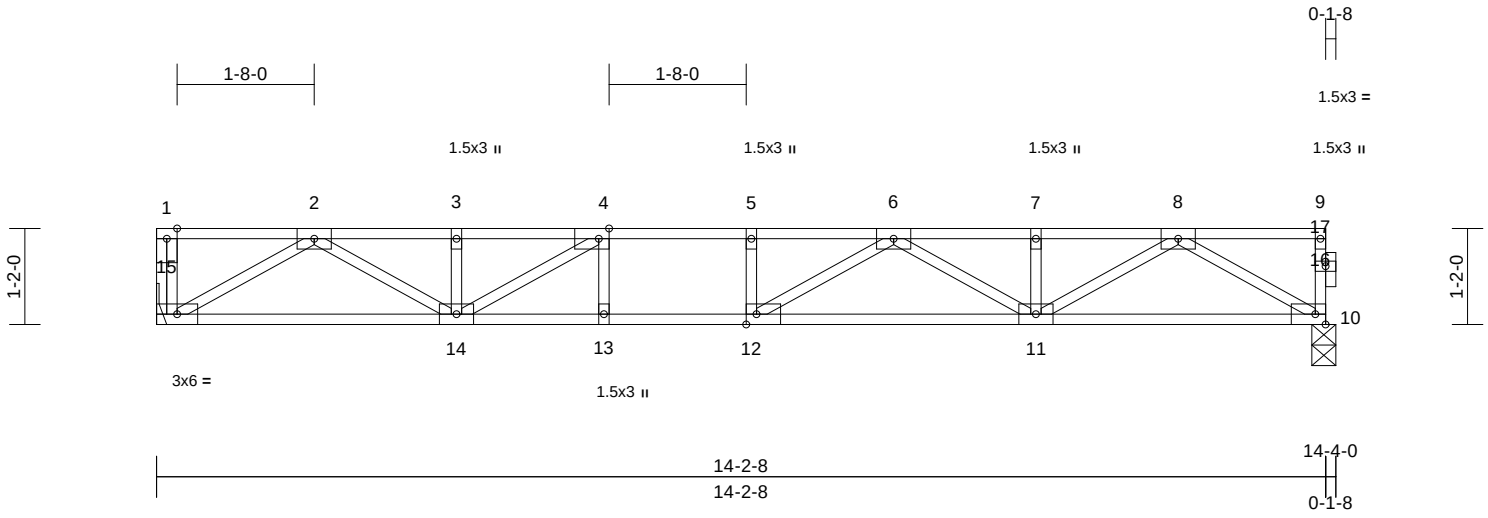
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	F12	Floor	2	1	Job Reference (optional)	I63018649

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:31 Page: 1
ID:S5qVJn_WmjDEC8gd1Rbt4szw7Ou-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:28

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

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.53	Vert(LL)	-0.15	11-12	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.77	Vert(CT)	-0.21	11-12	>800	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.36	Horz(CT)	0.03	10	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MSH							Weight: 72 lb	FT = 20%F, 11%E

LUMBER

TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

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) 10=0-3-8, 15= Mechanical
Max Grav 10=617 (LC 1), 15=617 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-15=-59/0, 9-10=-56/0, 1-2=0/0, 2-3=-1564/0, 3-4=-1564/0, 4-5=-2029/0, 5-6=-2029/0, 6-7=-1564/0, 7-8=-1564/0, 8-9=0/0
BOT CHORD 14-15=0/937, 13-14=0/2029, 12-13=0/2029, 11-12=0/1940, 10-11=0/913
WEBS 8-10=-1066/0, 2-15=-1084/0, 8-11=0/759, 2-14=0/732, 7-11=-123/0, 3-14=-150/44, 6-11=-440/0, 4-14=-649/0, 6-12=-85/327, 4-13=-25/108, 5-12=-123/0

NOTES

1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x5 MT20 unless otherwise indicated.
3) Refer to girder(s) for truss to truss connections.
4) 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.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

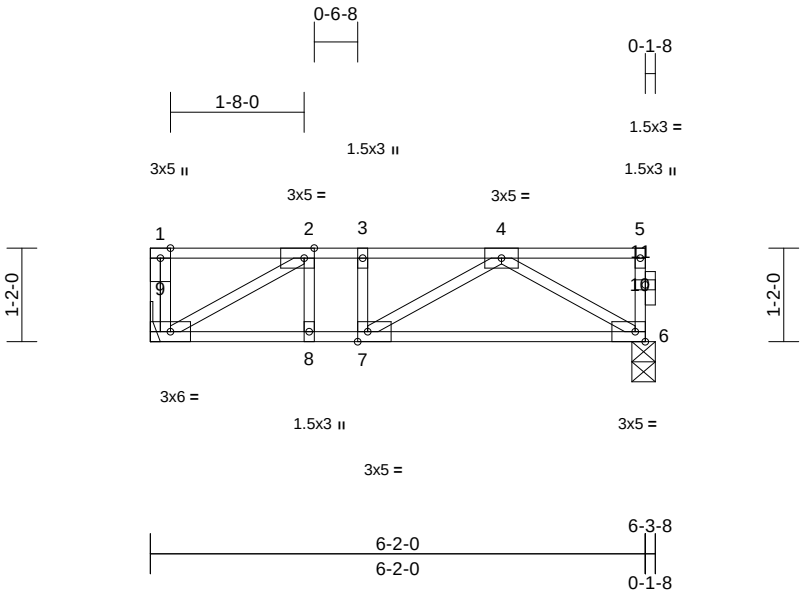
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	I63018650
22090048	F13	Floor	2	1	Job Reference (optional)	

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:31
ID:dxTE2kvlAtS4UDCThAVTqbzw7P_-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:28.7

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

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.18	Vert(LL)	-0.02	6-7	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.20	Vert(CT)	-0.03	6-7	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.00	6	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MSH							Weight: 34 lb	FT = 20%F, 11%E

LUMBER

TOP CHORD	2x4 SP No.2(flat)
BOT CHORD	2x4 SP No.2(flat)
WEBS	2x4 SP No.3(flat)
OTHERS	2x4 SP No.3(flat)

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) 6=0-3-8, 9= Mechanical
Max Grav 6=263 (LC 1), 9=263 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-9=-63/0, 5-6=-52/0, 1-2=0/0, 2-3=-365/0, 3-4=-365/0, 4-5=0/0
BOT CHORD	8-9=0/365, 7-8=0/365, 6-7=0/327
WEBS	4-6=-382/0, 2-9=-418/0, 4-7=-5/102, 2-8=-14/55, 3-7=-18/0

NOTES

1) Unbalanced floor live loads have been considered for this design.
2) Refer to girder(s) for truss to truss connections.
3) 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.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

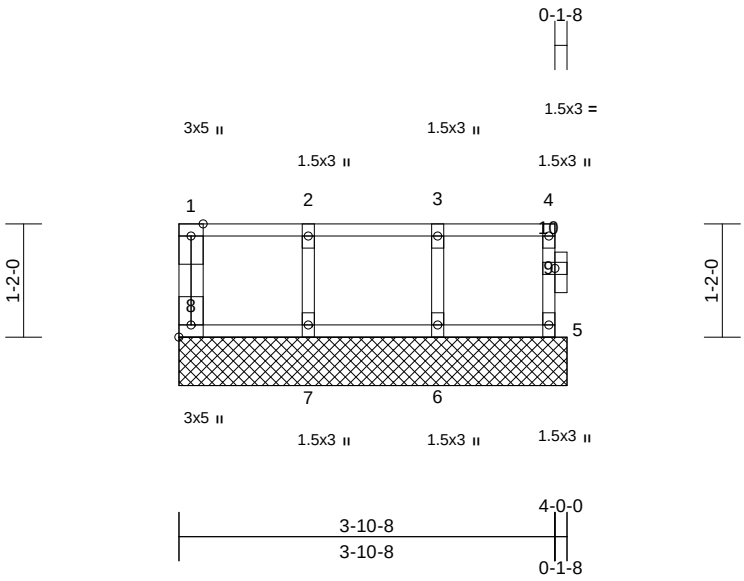
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	FW04	Floor Supported Gable	1	1	Job Reference (optional)	I63018651

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:31
ID:on5znhr_a1ixmIlJKwO3bKzw7P4-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:23.7

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

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.01	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.02	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MR							Weight: 19 lb	FT = 20%F, 11%E

LUMBER

TOP CHORD	2x4 SP No.2(flat)
BOT CHORD	2x4 SP No.2(flat)
WEBS	2x4 SP No.3(flat)
OTHERS	2x4 SP No.3(flat)

BRACING

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

REACTIONS (size) 5=4-0-0, 6=4-0-0, 7=4-0-0, 8=4-0-0
Max Grav 5=46 (LC 1), 6=112 (LC 1), 7=117 (LC 1), 8=48 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-8=-44/0, 4-5=-41/0, 1-2=-7/0, 2-3=-7/0, 3-4=-7/0
BOT CHORD	7-8=0/7, 6-7=0/7, 5-6=0/7
WEBS	2-7=-106/0, 3-6=-104/0

NOTES

1) Gable requires continuous bottom chord bearing.
2) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
3) Gable studs spaced at 1-4-0 oc.
4) 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.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

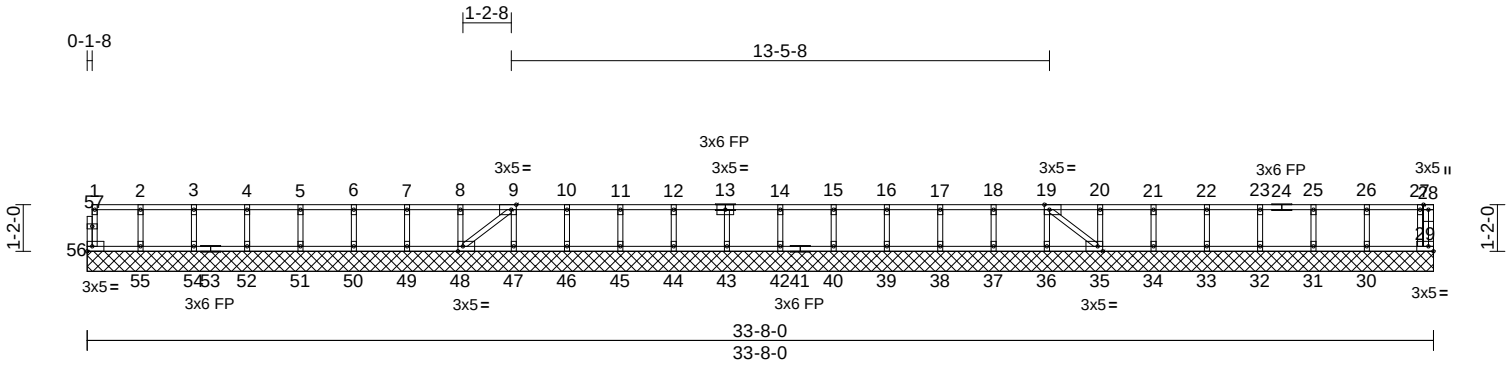
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	I63018652
22090048	FW33	Floor	1	1	Job Reference (optional)	

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:32 ID:Sql4kznrmV4egWtLYNouuHzw7P9-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:57.6

Plate Offsets (X, Y): [9:0-1-8,Edge], [19:0-1-8,Edge], [35:0-1-8,Edge], [48:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.01	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	29	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MSH							Weight: 144 lb	FT = 20%F, 11%E

LUMBER

TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

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) 29=33-8-0, 30=33-8-0, 31=33-8-0, 32=33-8-0, 33=33-8-0, 34=33-8-0, 35=33-8-0, 36=33-8-0, 37=33-8-0, 38=33-8-0, 39=33-8-0, 40=33-8-0, 42=33-8-0, 43=33-8-0, 44=33-8-0, 45=33-8-0, 46=33-8-0, 47=33-8-0, 48=33-8-0, 49=33-8-0, 50=33-8-0, 51=33-8-0, 52=33-8-0, 54=33-8-0, 55=33-8-0, 56=33-8-0

Max Grav 29=70 (LC 1), 30=125 (LC 1), 31=115 (LC 1), 32=118 (LC 1), 33=117 (LC 1), 34=117 (LC 1), 35=110 (LC 1), 36=124 (LC 1), 37=117 (LC 1), 38=117 (LC 1), 39=117 (LC 1), 40=117 (LC 1), 42=120 (LC 1), 43=117 (LC 1), 44=115 (LC 1), 45=118 (LC 1), 46=117 (LC 1), 47=112 (LC 1), 48=123 (LC 1), 49=117 (LC 1), 50=117 (LC 1), 51=117 (LC 1), 52=117 (LC 1), 54=117 (LC 1), 55=122 (LC 1), 56=39 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-56=-35/0, 28-29=0/27, 1-2=-2/0, 2-3=-2/0, 3-4=-2/0, 4-5=-2/0, 5-6=-2/0, 6-7=-2/0, 7-8=-2/0, 8-9=-2/0, 9-10=-9/0, 10-11=-9/0, 11-12=-9/0, 12-14=-9/0, 14-15=-5/0, 15-16=-5/0, 16-17=-5/0, 17-18=-5/0, 18-19=-5/0, 19-20=-14/0, 20-21=-14/0, 21-22=-14/0, 22-23=-14/0, 23-25=-14/0, 25-26=-14/0, 26-27=-14/0, 27-28=-2/0

BOT CHORD 55-56=0/2, 54-55=0/2, 52-54=0/2, 51-52=0/2, 50-51=0/2, 49-50=0/2, 48-49=0/2, 47-48=0/9, 46-47=0/9, 45-46=0/9, 44-45=0/9, 43-44=0/9, 42-43=0/5, 40-42=0/5, 39-40=0/5, 38-39=0/5, 37-38=0/5, 36-37=0/5, 35-36=0/5, 34-35=0/14, 33-34=0/14, 32-33=0/14, 31-32=0/14, 30-31=0/14, 29-30=0/14

WEBS 2-55=-110/0, 3-54=-106/0, 4-52=-107/0, 5-51=-107/0, 6-50=-107/0, 7-49=-107/0, 8-48=-107/0, 9-47=-101/0, 10-46=-106/0, 11-45=-107/0, 12-44=-104/0, 13-43=-107/0, 14-42=-109/0, 15-40=-106/0, 16-39=-107/0, 17-38=-107/0, 18-37=-107/0, 19-36=-114/0, 20-35=-107/0, 21-34=-107/0, 22-33=-107/0, 23-32=-107/0, 25-31=-105/0, 26-30=-112/0, 27-29=-93/0, 19-35=0/11, 9-48=-9/0

NOTES

1) All plates are 1.5x3 MT20 unless otherwise indicated.
2) Gable requires continuous bottom chord bearing.
3) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
4) Gable studs spaced at 1-4-0 oc.
5) 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.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

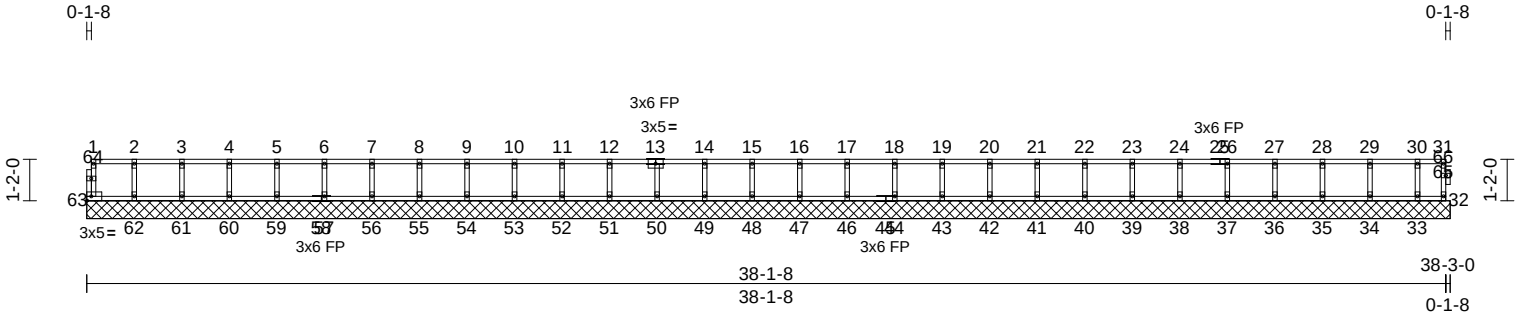
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC
22090048	FW38	Floor Supported Gable	1	1	I63018653 Job Reference (optional)

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:32
ID:CYCpjGFtuHfl?v45WrXpeDzw7Pq-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:64.6

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.01	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	32	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MR							Weight: 156 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

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) 32=38-3-0, 33=38-3-0, 34=38-3-0, 35=38-3-0, 36=38-3-0, 37=38-3-0, 38=38-3-0, 39=38-3-0, 40=38-3-0, 41=38-3-0, 42=38-3-0, 43=38-3-0, 44=38-3-0, 46=38-3-0, 47=38-3-0, 48=38-3-0, 49=38-3-0, 50=38-3-0, 51=38-3-0, 52=38-3-0, 53=38-3-0, 54=38-3-0, 55=38-3-0, 56=38-3-0, 57=38-3-0, 59=38-3-0, 60=38-3-0, 61=38-3-0, 62=38-3-0, 63=38-3-0
Max Grav 32=21 (LC 1), 33=98 (LC 1), 34=121 (LC 1), 35=116 (LC 1), 36=118 (LC 1), 37=117 (LC 1), 38=117 (LC 1), 39=117 (LC 1), 40=117 (LC 1), 41=117 (LC 1), 42=117 (LC 1), 43=117 (LC 1), 44=117 (LC 1), 46=117 (LC 1), 47=117 (LC 1), 48=117 (LC 1), 49=120 (LC 1), 50=117 (LC 1), 51=115 (LC 1), 52=118 (LC 1), 53=117 (LC 1), 54=117 (LC 1), 55=117 (LC 1), 56=117 (LC 1), 57=117 (LC 1), 59=117 (LC 1), 60=117 (LC 1), 61=118 (LC 1), 62=117 (LC 1), 63=43 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-63=-40/0, 31-32=-19/0, 1-2=-6/0, 2-3=-6/0, 3-4=-6/0, 4-5=-6/0, 5-6=-6/0, 6-7=-6/0, 7-8=-6/0, 8-9=-6/0, 9-10=-6/0, 10-11=-6/0, 11-12=-6/0, 12-14=-6/0, 14-15=-2/0, 15-16=-2/0, 16-17=-2/0, 17-18=-2/0, 18-19=-2/0, 19-20=-2/0, 20-21=-2/0, 21-22=-2/0, 22-23=-2/0, 23-24=-2/0, 24-26=-2/0, 26-27=-2/0, 27-28=-2/0, 28-29=-2/0, 29-30=-2/0, 30-31=-2/0
BOT CHORD 62-63=0/6, 61-62=0/6, 60-61=0/6, 59-60=0/6, 57-59=0/6, 56-57=0/6, 55-56=0/6, 54-55=0/6, 53-54=0/6, 52-53=0/6, 51-52=0/6, 50-51=0/6, 49-50=0/2, 48-49=0/2, 47-48=0/2, 46-47=0/2, 44-46=0/2, 43-44=0/2, 42-43=0/2, 41-42=0/2, 40-41=0/2, 39-40=0/2, 38-39=0/2, 37-38=0/2, 36-37=0/2, 35-36=0/2, 34-35=0/2, 33-34=0/2, 32-33=0/2
WEBS 2-62=-105/0, 3-61=-107/0, 4-60=-106/0, 5-59=-107/0, 6-57=-107/0, 7-56=-107/0, 8-55=-107/0, 9-54=-107/0, 10-53=-106/0, 11-52=-107/0, 12-51=-104/0, 13-50=-107/0, 14-49=-109/0, 15-48=-106/0, 16-47=-107/0, 17-46=-107/0, 18-44=-107/0, 19-43=-107/0, 20-42=-107/0, 21-41=-107/0, 22-40=-107/0, 23-39=-107/0, 24-38=-107/0, 26-37=-107/0, 27-36=-107/0, 28-35=-106/0, 29-34=-110/0, 30-33=-90/0

NOTES
1) All plates are 1.5x3 MT20 unless otherwise indicated.
2) Gable requires continuous bottom chord bearing.
3) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
4) Gable studs spaced at 1-4-0 oc.
5) 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.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

NORTH CAROLINA PROFESSIONAL SEAL 036322 ENGINEER ERIC A. GILBERT

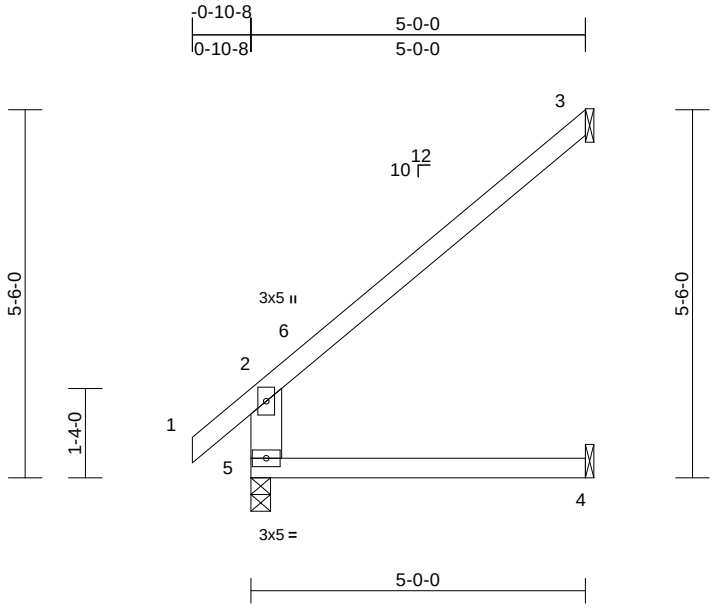
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	J01	Jack-Open	22	1	Job Reference (optional)	I63018654

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:32 Page: 1
ID:Gd1C9yqIND7shNKAPHtMBdzw7QO-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:34.4

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	0.60	Vert(LL)	0.06	4-5	>876	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.54	Vert(CT)	-0.06	4-5	>877	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.09	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 22 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x6 SP No.2

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

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=158 (LC 14)
Max Uplift 3=-116 (LC 14), 4=-11 (LC 14)
Max Grav 3=217 (LC 21), 4=90 (LC 7), 5=345 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-321/86, 1-2=0/42, 2-3=-163/107
BOT CHORD 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) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any 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.
7) Bearings are assumed to be: , Joint 5 User Defined crushing capacity of 425 psi.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 116 lb uplift at joint 3 and 11 lb uplift at joint 4.
10) 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

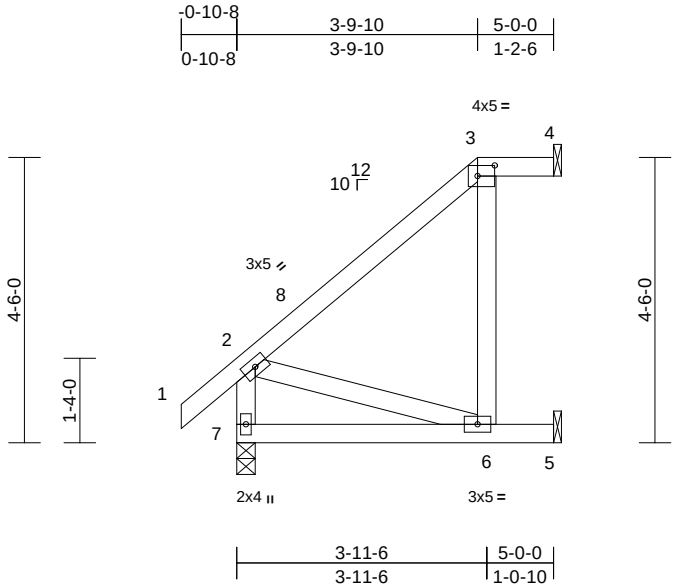
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	J02	Jack-Open	3	1	Job Reference (optional)	I63018655

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:32 Page: 1
ID:gwBwDAfWgwMr0EGTbLd4dgzw7Qc-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:36.3

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

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	0.35	Vert(LL)	0.06	6-7	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.45	Vert(CT)	-0.09	6-7	>668	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.07	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 31 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 5-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins: 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 4= Mechanical, 5= Mechanical, 7=0-3-8
Max Horiz 7=126 (LC 14)
Max Uplift 4=-14 (LC 10), 5=-73 (LC 14)
Max Grav 4=55 (LC 35), 5=186 (LC 36), 7=380 (LC 36)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-296/28, 1-2=0/63, 2-3=-138/78, 3-4=0/0
BOT CHORD 6-7=-224/79, 5-6=0/0
WEBS 3-6=-176/159, 2-6=-77/228

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) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 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 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) Bearings are assumed to be: , Joint 7 User Defined crushing capacity of 425 psi.
10) Refer to girder(s) for truss to truss connections.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 14 lb uplift at joint 4 and 73 lb uplift at joint 5.
12) 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.
13) 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

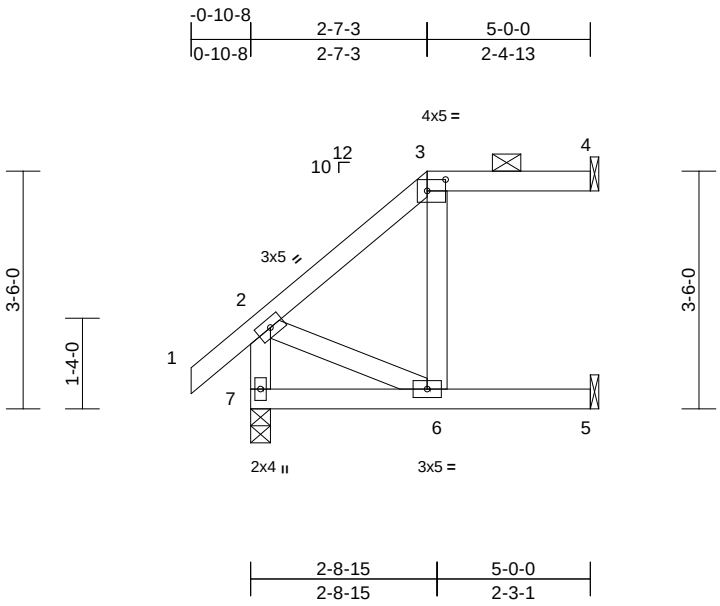
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	J03	Jack-Open	3	1	Job Reference (optional)	I63018656

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:33
ID:8rDtsiSTR0L65m1Pf_LKzIzw7Qs-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:33.9

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

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	0.16	Vert(LL)	0.08	6-7	>708	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.53	Vert(CT)	-0.10	6-7	>556	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.13	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 27 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 5-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins: 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 4= Mechanical, 5= Mechanical, 7=0-3-8
Max Horiz 7=89 (LC 14)
Max Uplift 4=-29 (LC 10), 5=-27 (LC 14), 7=-6 (LC 14)
Max Grav 4=113 (LC 35), 5=122 (LC 35), 7=352 (LC 36)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-245/28, 1-2=0/63, 2-3=-98/45, 3-4=0/0
BOT CHORD 6-7=-168/54, 5-6=0/0
WEBS 3-6=-140/127, 2-6=-53/176

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) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 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 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) Bearings are assumed to be: , Joint 7 User Defined crushing capacity of 425 psi.
10) Refer to girder(s) for truss to truss connections.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 4 and 27 lb uplift at joint 5.
12) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 7. 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.
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

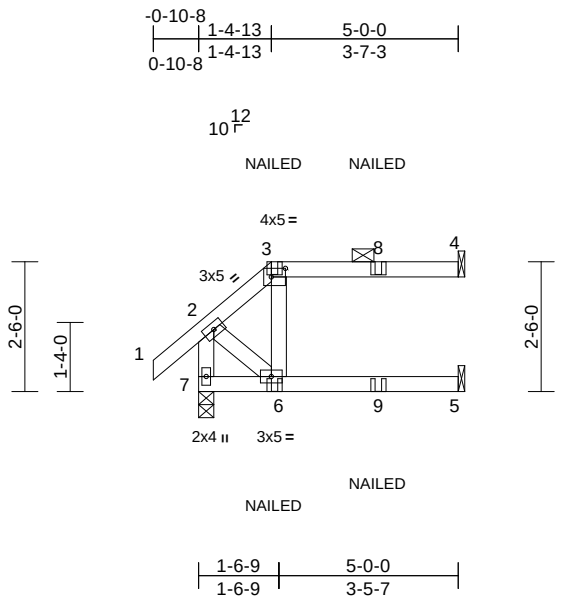
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	J04	Jack-Open Girder	3	1	Job Reference (optional)	I63018657

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:33
ID:8ahRIuFpRnCWY9E89vXLnizw7R7-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:44.4

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

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	0.45	Vert(LL)	-0.07	5-6	>851	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.12	5-6	>471	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.05	Horz(CT)	0.16	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 24 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 5-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins: 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 4= Mechanical, 5= Mechanical, 7=0-3-8
Max Horiz 7=58 (LC 9)
Max Uplift 4=-60 (LC 8), 5=-4 (LC 9), 7=-51 (LC 12)
Max Grav 4=177 (LC 33), 5=124 (LC 7), 7=370 (LC 34)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-215/3, 1-2=0/63, 2-3=-79/14, 3-4=0/0
BOT CHORD 6-7=-60/35, 5-6=0/0
WEBS 3-6=-211/94, 2-6=-44/77

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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 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 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) Bearings are assumed to be: , Joint 7 User Defined crushing capacity of 425 psi.
10) Refer to girder(s) for truss to truss connections.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 60 lb uplift at joint 4 and 4 lb uplift at joint 5.
12) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 7. 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.
14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
15) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.
16) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-60, 2-3=-60, 3-4=-60, 5-7=-20
Concentrated Loads (lb)
Vert: 3=-47 (B), 6=-9 (B), 8=-47 (B), 9=-9 (B)

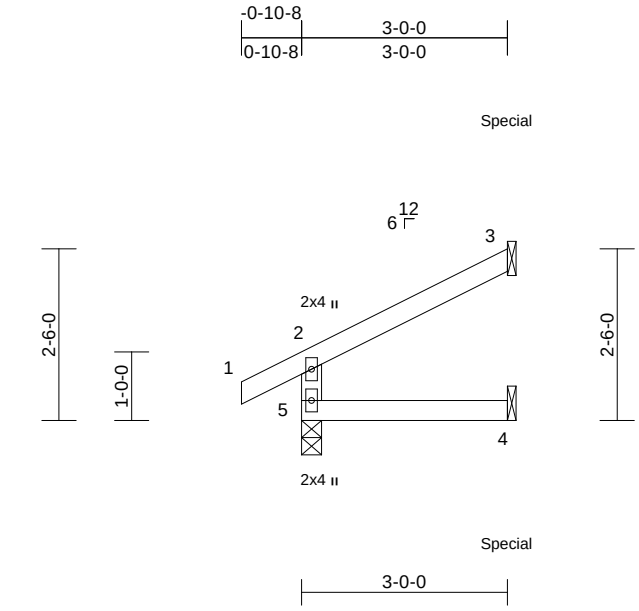
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	J05	Jack-Open	6	1	Job Reference (optional)	I63018658

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:33
ID:cVjOxQ3nCtBodi03DYFb8Kzw7RN-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:33.6

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	0.19	Vert(LL)	0.00	4-5	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.10	Vert(CT)	-0.01	4-5	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 12 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 3-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=58 (LC 14)
Max Uplift 3=-52 (LC 14), 5=-13 (LC 14)
Max Grav 3=107 (LC 21), 4=55 (LC 7), 5=265 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-241/117, 1-2=0/42, 2-3=-66/37
BOT CHORD 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) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any 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.
7) Bearings are assumed to be: , Joint 5 User Defined crushing capacity of 425 psi.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 52 lb uplift at joint 3.
10) One H2.5A Simpson Strong-Tie 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.
11) 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.
12) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 27 lb down and 47 lb up at 2-11-4 on top chord, and 9 lb down and 9 lb up at 2-11-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
13) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-60, 2-3=-60, 4-5=-20
Concentrated Loads (lb)
Vert: 3=-1 (F), 4=2 (F)

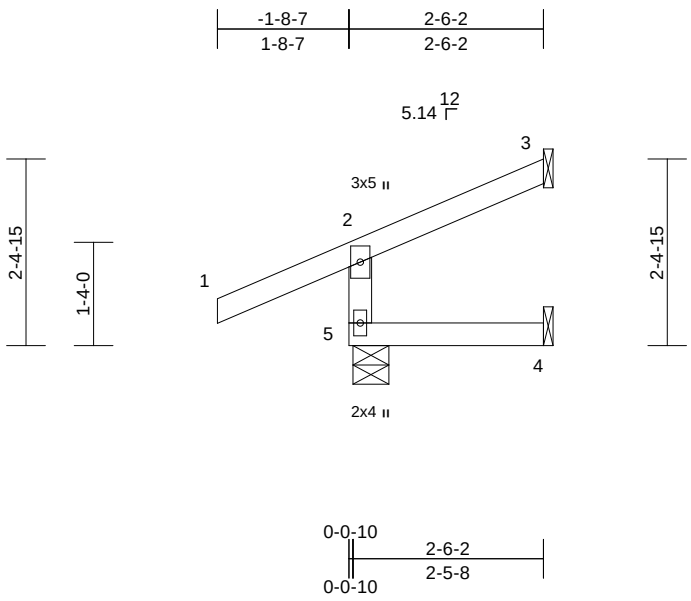
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	K01	Jack-Open	3	1	Job Reference (optional)	I63018659

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:34
ID:faYnN6dBhpevJAG86_c9glzw7Rx-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:29.8

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.36	Vert(LL)	0.00	4-5	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	0.00	4-5	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 12 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 2-6-2 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-5-9
Max Horiz 5=60 (LC 11)
Max Uplift 3=-32 (LC 14), 5=-42 (LC 10)
Max Grav 3=51 (LC 21), 4=40 (LC 7), 5=360 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-323/219, 1-2=0/66, 2-3=-62/23
BOT CHORD 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) exterior zone and C-C Corner (3) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any 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.
7) Bearings are assumed to be: , Joint 5 User Defined crushing capacity of 425 psi.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 32 lb uplift at joint 3.
10) One RT8A MiTek 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.
11) 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

January 15,2024

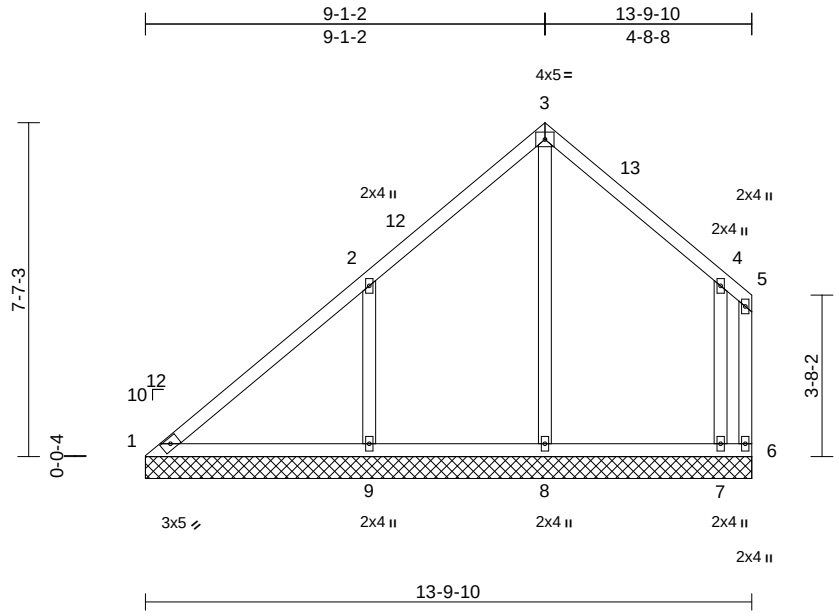
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	V1	Valley	1	1	Job Reference (optional)	I63018660

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:34

ID:bh86E_RnDCl10scFkKqdZazw7SA-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:52.5

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	0.38	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.25	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.25	Horiz(TL)	0.00	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 73 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 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=13-9-10, 6=13-9-10, 7=13-9-10, 8=13-9-10, 9=13-9-10

Max Horiz 1=216 (LC 11)

Max Uplift 1=-47 (LC 10), 6=-286 (LC 6), 7=-185 (LC 15), 8=-19 (LC 11), 9=-207 (LC 14)

Max Grav 1=237 (LC 24), 6=95 (LC 15), 7=623 (LC 6), 8=428 (LC 23), 9=583 (LC 23)

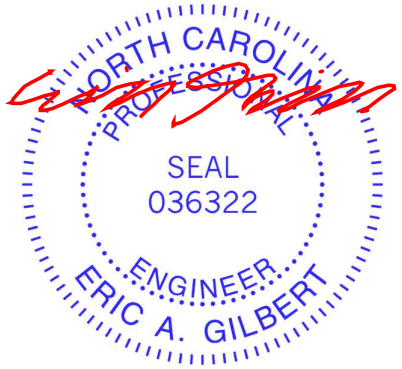
FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-310/214, 2-3=-177/198, 3-4=-154/197, 4-5=-98/164, 5-6=-127/225
BOT CHORD	1-9=-59/198, 8-9=-48/68, 7-8=-48/68, 6-7=-48/68
WEBS	3-8=-247/71, 2-9=-412/238, 4-7=-496/247

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) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 6-1-7, Exterior(2R) 6-1-7 to 10-8-3, Exterior(2E) 10-8-3 to 13-8-3 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 286 lb uplift at joint 6, 47 lb uplift at joint 1, 19 lb uplift at joint 8, 207 lb uplift at joint 9 and 185 lb uplift at joint 7.
11) 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



January 15,2024

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

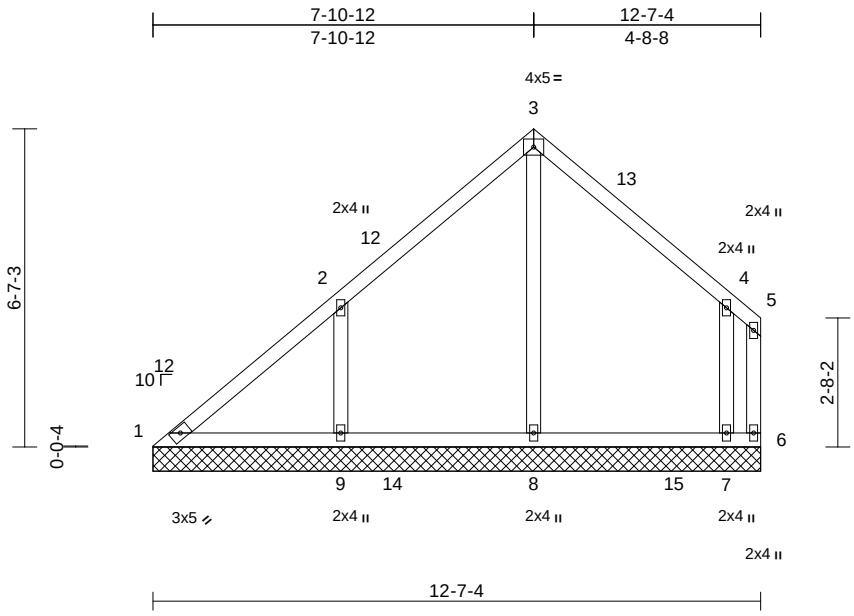
Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	V2	Valley	1	1	Job Reference (optional)	I63018661

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:34

ID:q9f5YFLm5kl92d?jGfhlFuzw7SI-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:47.8

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.34	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.16	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.19	Horiz(TL)	0.00	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 63 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 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=12-7-4, 6=12-7-4, 7=12-7-4, 8=12-7-4, 9=12-7-4

Max Horiz 1=180 (LC 11)

Max Uplift 1=-50 (LC 10), 6=-268 (LC 6), 7=-200 (LC 15), 8=-6 (LC 11), 9=-174 (LC 14)

Max Grav 1=184 (LC 24), 6=106 (LC 15), 7=589 (LC 6), 8=443 (LC 23), 9=481 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-238/182, 2-3=-159/176, 3-4=-157/178, 4-5=-94/165, 5-6=-126/229
BOT CHORD	1-9=-46/142, 8-9=-36/50, 7-8=-36/50, 6-7=-36/50
WEBS	3-8=-252/55, 2-9=-379/220, 4-7=-503/250

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) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 4-11-1, Exterior(2R) 4-11-1 to 9-5-13, Exterior (2E) 9-5-13 to 12-5-13 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 268 lb uplift at joint 6, 50 lb uplift at joint 1, 6 lb uplift at joint 8, 174 lb uplift at joint 9 and 200 lb uplift at joint 7.
11) 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

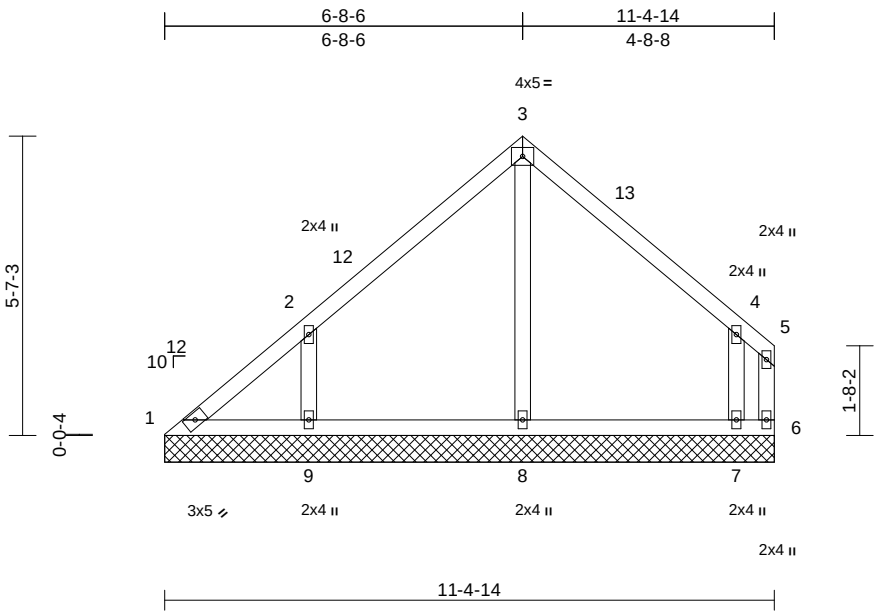
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	V3	Valley	1	1	Job Reference (optional)	I63018662

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:35 ID:QazywDJuppNbBAH8bX82dGzw7SL-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:43.1

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	0.35	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.13	Horiz(TL)	0.00	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 53 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 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=11-4-14, 6=11-4-14, 7=11-4-14, 8=11-4-14, 9=11-4-14
Max Horiz 1=145 (LC 11)
Max Uplift 1=-50 (LC 10), 6=-251 (LC 21), 7=-225 (LC 15), 9=-149 (LC 14)
Max Grav 1=123 (LC 24), 6=131 (LC 15), 7=581 (LC 21), 8=323 (LC 20), 9=431 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-156/150, 2-3=-162/151, 3-4=-166/155, 4-5=-103/161, 5-6=-139/231
BOT CHORD	1-9=-35/80, 8-9=-29/37, 7-8=-29/37, 6-7=-29/37
WEBS	3-8=-238/35, 2-9=-370/222, 4-7=-511/271

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) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 3-8-10, Exterior(2R) 3-8-10 to 8-3-6, Exterior (2E) 8-3-6 to 11-3-6 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 251 lb uplift at joint 6, 50 lb uplift at joint 1, 149 lb uplift at joint 9 and 225 lb uplift at joint 7.
11) 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

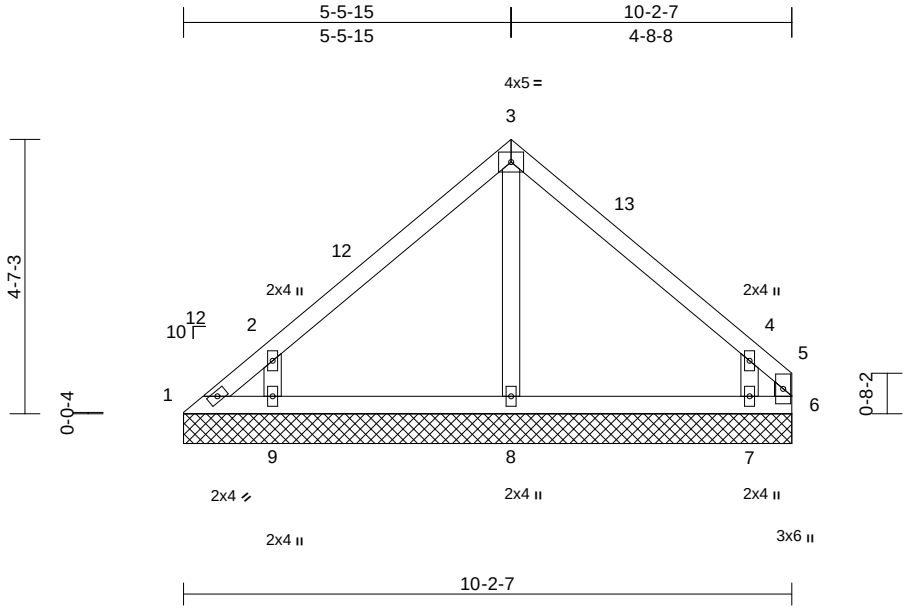
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	V4	Valley	1	1	Job Reference (optional)	I63018663

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:35
ID:0?lpIBG?Wu_0KiYZwOaL?dzw7SO-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:38.6

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	0.36	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.10	Horiz(TL)	0.00	6	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
OTHERS 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) 1=10-2-7, 6=10-2-7, 7=10-2-7, 8=10-2-7, 9=10-2-7
Max Horiz 1=109 (LC 11)
Max Uplift 1=-52 (LC 12), 6=-239 (LC 21), 7=-242 (LC 15), 9=-139 (LC 14)
Max Grav 1=71 (LC 11), 6=171 (LC 15), 7=590 (LC 21), 8=279 (LC 21), 9=443 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-135/114, 2-3=-209/108, 3-4=-199/110, 4-5=-149/143, 5-6=-177/232
BOT CHORD 1-9=-42/59, 8-9=-30/55, 7-8=-30/55, 6-7=-30/55
WEBS 3-8=-195/7, 2-9=-456/279, 4-7=-534/316

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) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 7-1-0, Exterior(2E) 7-1-0 to 10-1-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 239 lb uplift at joint 6, 52 lb uplift at joint 1, 139 lb uplift at joint 9 and 242 lb uplift at joint 7.
11) 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

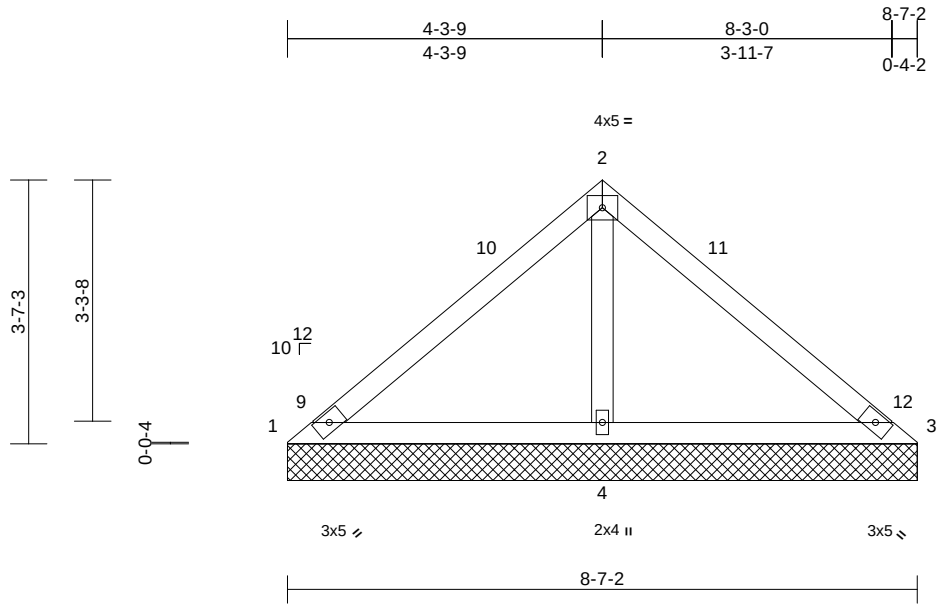
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	V5	Valley	1	1	Job Reference (optional)	I63018664

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:35 Page: 1
ID:XpkR4rGNlbs9jZzNMh36SQzw7SP-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:31.4

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)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.38	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.14	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 32 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 8-7-2 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=8-7-2, 3=8-7-2, 4=8-7-2
Max Horiz 1=80 (LC 11)
Max Uplift 1=-48 (LC 21), 3=-48 (LC 20), 4=-104 (LC 14)
Max Grav 1=87 (LC 20), 3=87 (LC 21), 4=693 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-127/320, 2-3=-127/320
BOT CHORD 1-4=-215/187, 3-4=-215/187
WEBS 2-4=-517/258

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) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 5-7-6, Exterior(2E) 5-7-6 to 8-7-6 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 48 lb uplift at joint 1, 48 lb uplift at joint 3 and 104 lb uplift at joint 4.
11) 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

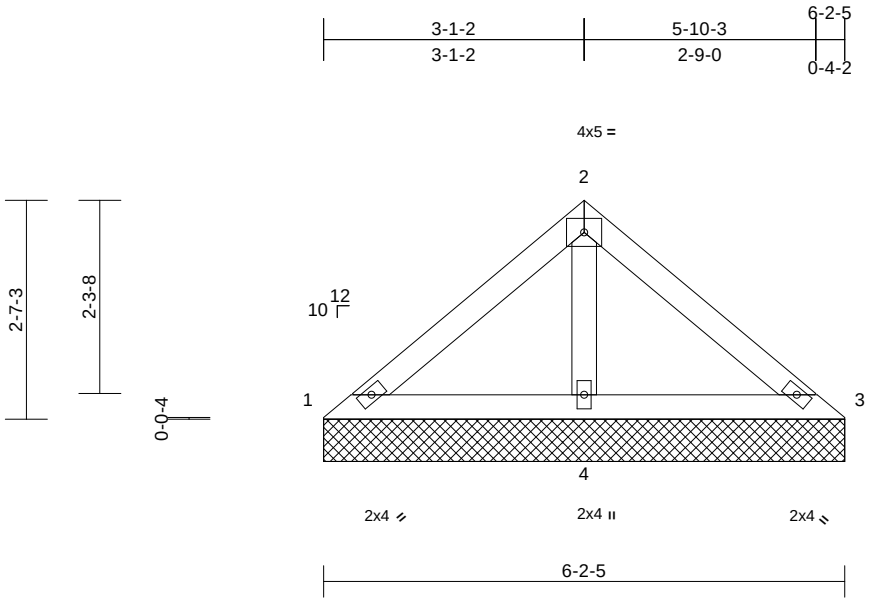
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	V6	Valley	1	1	Job Reference (optional)	I63018665

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:36 Page: 1
ID:7E2JSqDVSgUas5EohZWPrnzw7SS-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:27.4

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	0.17	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.19	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.00	4	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
OTHERS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-2-5 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=6-2-5, 3=6-2-5, 4=6-2-5
Max Horiz 1=-57 (LC 10)
Max Uplift 3=-3 (LC 15), 4=-54 (LC 14)
Max Grav 1=100 (LC 20), 3=100 (LC 21), 4=420 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-88/168, 2-3=-88/168
BOT CHORD 1-4=-123/126, 3-4=-123/126
WEBS 2-4=-285/155

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) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 3 lb uplift at joint 3 and 54 lb uplift at joint 4.
11) 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

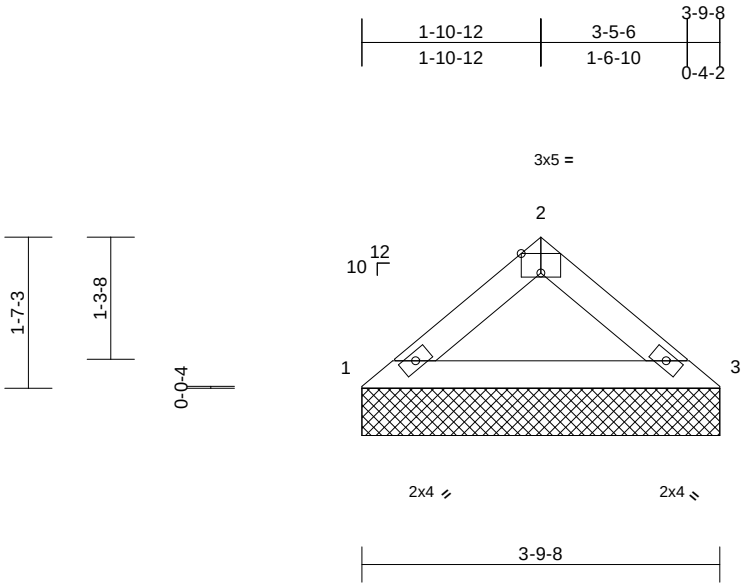
January 15,2024

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

Job	Truss	Truss Type	Qty	Ply	DRB GROUP - 89 FaNC	
22090048	V7	Valley	1	1	Job Reference (optional)	I63018666

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Jan 12 13:47:36 Page: 1
ID:Zvl8HbZVG4moSHQWoMZpwOzw7Vu-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:24.4

Plate Offsets (X, Y): [2:0-2-8,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	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.09	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 12 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-9-8 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=3-9-8, 3=3-9-8
Max Horiz 1=-33 (LC 10)
Max Uplift 1=-12 (LC 14), 3=-12 (LC 15)
Max Grav 1=179 (LC 20), 3=179 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-232/86, 2-3=-232/86
BOT CHORD 1-3=-53/170

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) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 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.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 12 lb uplift at joint 1 and 12 lb uplift at joint 3.
11) 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.

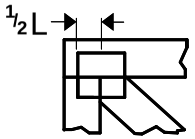
LOAD CASE(S) Standard

January 15,2024

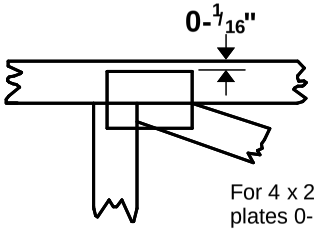
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

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.

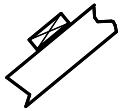
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

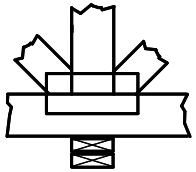
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

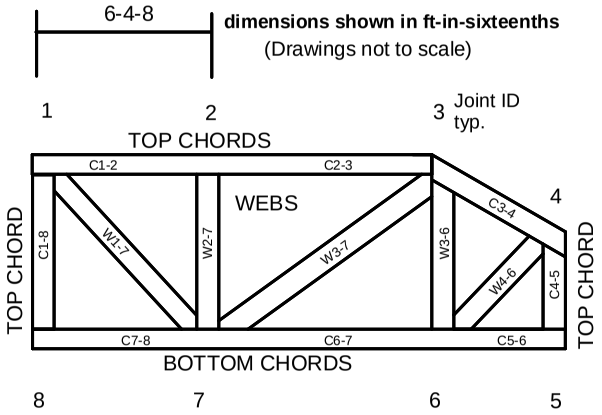


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-22: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



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

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

Product Code Approvals

ICC-ES Reports:

ESR-1988, ESR-2362, ESR-2685, ESR-3282
ESR-4722, ESL-1388

Design General Notes

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.

MiTek®

ENGINEERING BY TRENCO
A MiTek Affiliate

MiTek Engineering Reference Sheet: MII-7473 rev. 1/2/2023

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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