

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 21040028-C
72 Carolina Lakes-2nd Floor-Sterling

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: I46292805 thru I46292817

My license renewal date for the state of North Carolina is December 31, 2021.

North Carolina COA: C-0844



May 26, 2021

Sevier, Scott

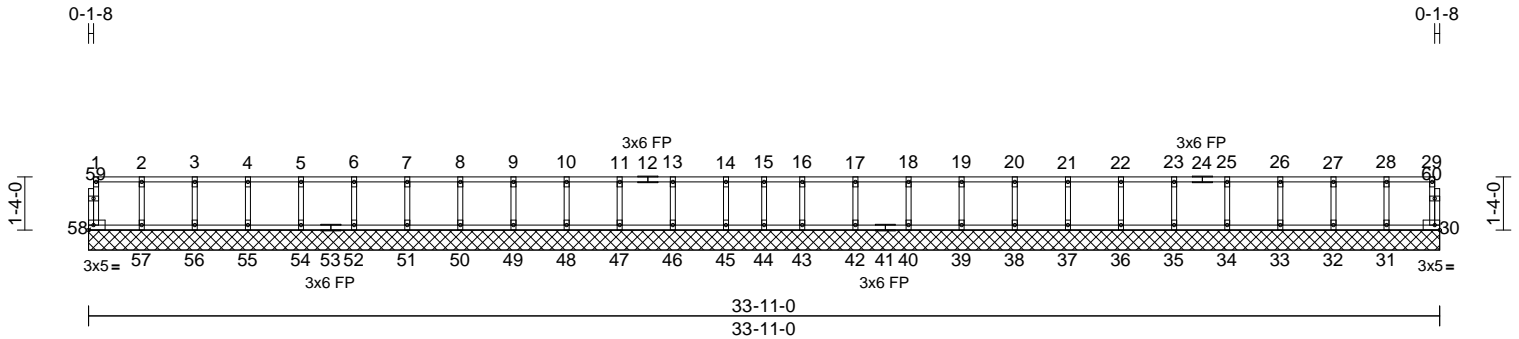
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which 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 21040028-C	Truss F200	Truss Type Floor Supported Gable	Qty 1	Ply 1	72 Carolina Lakes-2nd Floor-Sterling Job Reference (optional)	146292805
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 May 17 2021 Print: 8.500 S May 17 2021 MITek Industries, Inc. Tue May 25 15:05:16
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Page: 1



Scale = 1:57.8

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.16	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	NO	WB	0.06	Horiz(TL)	0.00	30	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MR							Weight: 147 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)	
30=33-11-0, 31=33-11-0, 32=33-11-0, 33=33-11-0, 34=33-11-0, 35=33-11-0, 36=33-11-0, 37=33-11-0, 38=33-11-0, 39=33-11-0, 40=33-11-0, 42=33-11-0, 43=33-11-0, 44=33-11-0, 45=33-11-0, 46=33-11-0, 47=33-11-0, 48=33-11-0, 49=33-11-0, 50=33-11-0, 51=33-11-0, 52=33-11-0, 54=33-11-0, 55=33-11-0, 56=33-11-0, 57=33-11-0, 58=33-11-0	
Max Grav	30=96 (LC 1), 31=248 (LC 1), 32=255 (LC 1), 33=253 (LC 1), 34=253 (LC 1), 35=253 (LC 1), 36=253 (LC 1), 37=253 (LC 1), 38=253 (LC 1), 39=254 (LC 1), 40=252 (LC 1), 42=260 (LC 1), 43=225 (LC 1), 44=157 (LC 1), 45=225 (LC 1), 46=260 (LC 1), 47=252 (LC 1), 48=254 (LC 1), 49=253 (LC 1), 50=253 (LC 1), 51=253 (LC 1), 52=253 (LC 1), 54=253 (LC 1), 55=253 (LC 1), 56=255 (LC 1), 57=248 (LC 1), 58=96 (LC 1)

FORCES	(lb) - Maximum Compression/Maximum Tension

TOP CHORD	
1-58=91/0, 29-30=91/0, 1-2=-14/0, 2-3=-14/0, 3-4=-14/0, 4-5=-14/0, 5-6=-14/0, 6-7=-14/0, 7-8=-14/0, 8-9=-14/0, 9-10=-14/0, 10-11=-14/0, 11-13=-14/0, 13-14=-14/0, 14-15=-14/0, 15-16=-14/0, 16-17=-14/0, 17-18=-14/0, 18-19=-14/0, 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=-14/0, 28-29=-14/0	
BOT CHORD	
57-58=0/14, 56-57=0/14, 55-56=0/14, 54-55=0/14, 52-54=0/14, 51-52=0/14, 50-51=0/14, 49-50=0/14, 48-49=0/14, 47-48=0/14, 46-47=0/14, 45-46=0/14, 44-45=0/14, 43-44=0/14, 42-43=0/14, 40-42=0/14, 39-40=0/14, 38-39=0/14, 37-38=0/14, 36-37=0/14, 35-36=0/14, 34-35=0/14, 33-34=0/14, 32-33=0/14, 31-32=0/14, 30-31=0/14	
WEBS	
2-57=-235/0, 3-56=-242/0, 4-55=-240/0, 5-54=-240/0, 6-52=-240/0, 7-51=-240/0, 8-50=-240/0, 9-49=-240/0, 10-48=-240/0, 11-47=-238/0, 13-46=-246/0, 14-45=-213/0, 28-31=-235/0, 27-32=-242/0, 26-33=-240/0, 25-34=-240/0, 23-35=-240/0, 22-36=-240/0, 21-37=-240/0, 20-38=-240/0, 19-39=-240/0, 18-40=-238/0, 17-42=-246/0, 16-43=-213/0, 15-44=-149/0	

- NOTES**
- All plates are 1.5x3 MT20 unless otherwise indicated.
 - Gable requires continuous bottom chord bearing.
 - Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
 - Gable studs spaced at 1-4-0 oc.
 - 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) 1 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.

- Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 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.
- LOAD CASE(S)** Standard
- Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 30-58=-10, 1-29=-180



May 26, 2021

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

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



818 Soundside Road
Edenton, NC 27932

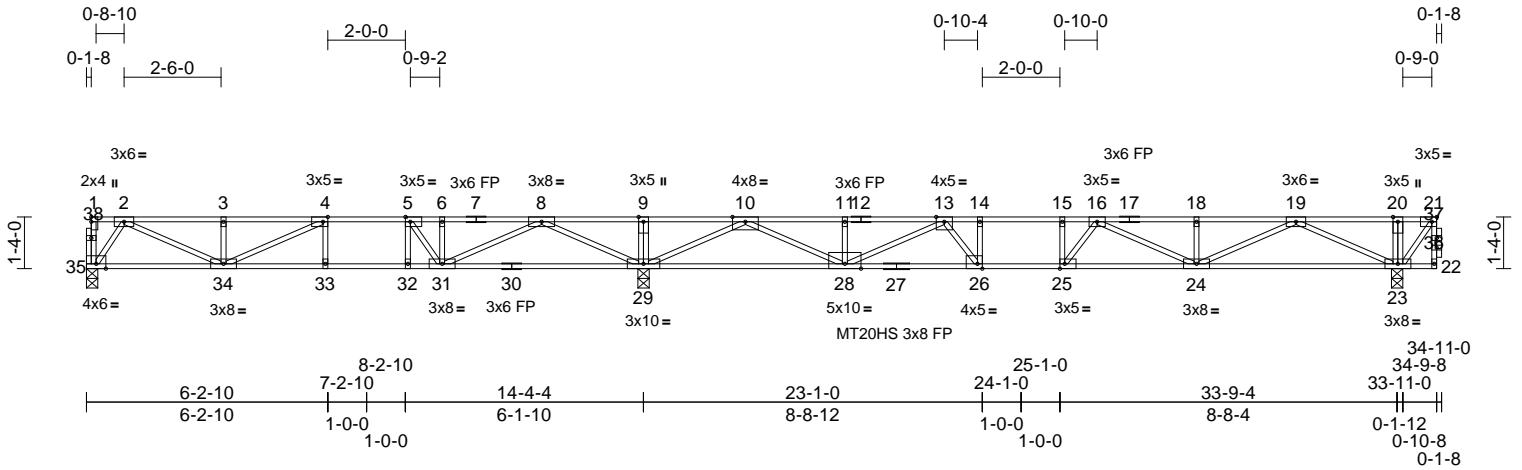
Job 21040028-C	Truss F201	Truss Type Floor	Qty 5	Ply 1	72 Carolina Lakes-2nd Floor-Sterling Job Reference (optional)	146292806
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Carter Components (Sanford), Sanford, NC - 27332,

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Page: 1

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Scale = 1:59.4

Plate Offsets (X, Y): [4:0-1-8,Edge], [5:0-1-8,Edge], [21:0-1-8,Edge], [25:0-1-8,Edge], [26:0-1-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.78	Vert(LL)	-0.30	24-25	>787	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.86	Vert(CT)	-0.39	24-25	>592	360	MT20HS	187/143
BCLL	0.0	Rep Stress Incr	NO	WB	0.88	Horz(CT)	-0.06	29	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MSH								
											Weight: 179 lb	FT = 20%F, 11%E

LUMBER	
TOP CHORD	2x4 SP 2400F 2.0E(flat) *Except* 21-17:2x4 SP No.2(flat), 12-7:2x4 SP No.1(flat)
BOT CHORD	2x4 SP No.1(flat) *Except* 27-30:2x4 SP No.2(flat), 30-35:2x4 SP 2400F 2.0E(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=0-3-8, 29=0-3-8, 35=0-3-8
Max Grav	23=1221 (LC 4), 29=2202 (LC 3), 35=2178 (LC 5)
FORCES	
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	21-22=-22/0, 1-35=-1500/0, 1-2=-77/0, 2-3=-1548/0, 3-4=-1548/0, 4-5=-1793/315, 5-6=-1503/644, 6-8=-1503/644, 8-9=0/2356, 9-10=0/2356, 10-11=-1942/0, 11-13=-1942/0, 13-14=-3217/0, 14-15=-3217/0, 15-16=-3217/0, 16-18=-2795/0, 18-19=-2795/0, 19-20=0/135, 20-21=0/135
BOT CHORD	34-35=0/552, 33-34=-315/1793, 32-33=-315/1793, 31-32=-315/1793, 29-31=-1214/562, 28-29=-413/333, 26-28=0/2914, 25-26=0/3217, 24-25=0/3272, 23-24=0/1661, 22-23=0/0
WEBS	20-23=-235/0, 15-25=-198/278, 14-26=-553/0, 9-29=-280/0, 21-23=-220/0, 19-23=-1911/0, 19-24=0/1260, 18-24=-255/0, 16-24=-531/0, 16-25=-427/291, 10-29=-2484/0, 10-28=0/1858, 11-28=-277/0, 13-28=-1149/0, 13-26=0/836, 4-33=-183/0, 5-32=0/357, 4-34=-270/411, 3-34=-349/0, 2-34=0/1101, 2-35=-830/0, 8-29=-1964/0, 8-31=0/1297, 6-31=-90/221, 5-31=-1057/0

- 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 1.5x3 MT20 unless otherwise indicated.
 - 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) Load case(s) 1 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
 - 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.
 - 8) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 160 lb down at 34-8-12, and 1340 lb down at 0-2-4 on top chord. The design/selection of such connection device (s) is the responsibility of others.
 - 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: 22-35=-10, 1-21=-100
Concentrated Loads (lb)
Vert: 21=-160 (F), 1=-1500 (F=-1340)



May 26, 2021

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

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



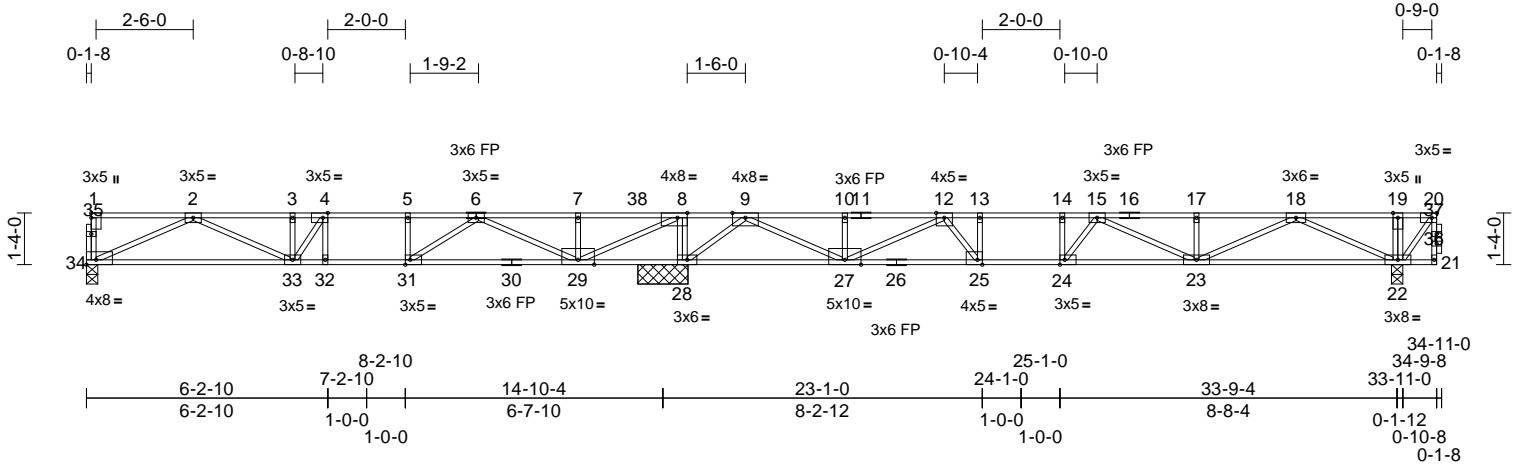
818 Soundside Road
Edenton, NC 27932

Job 21040028-C	Truss F202	Truss Type Floor	Qty 1	Ply 1	72 Carolina Lakes-2nd Floor-Sterling Job Reference (optional)	146292807
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Carter Components (Sanford), Sanford, NC - 27332,

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Page: 1



Scale = 1:59.4

Plate Offsets (X, Y): [4:0-1-8,Edge], [8:0-3-0,Edge], [20:0-1-8,Edge], [24:0-1-8,Edge], [25:0-1-8,Edge], [31:0-1-8,Edge], [34:Edge,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.84	Vert(LL)	-0.27	23-24	>805	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.89	Vert(CT)	-0.36	23-24	>610	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.95	Horz(CT)	0.05	22	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MSH							Weight: 179 lb	FT = 20%F, 11%E

LUMBER
 TOP CHORD 2x4 SP No.1(flat) *Except* 16-20:2x4 SP No.2(flat), 11-16:2x4 SP 2400F 2.0E(flat)
 BOT CHORD 2x4 SP No.1(flat) *Except* 26-30:2x4 SP No.2(flat)
 WEBS 2x4 SP No.3(flat) *Except* 29-8:2x4 SP No.2(flat)
 OTHERS 2x4 SP No.3(flat)

WEBS
 8-28=-1098/0, 13-25=-621/0, 14-24=-109/348, 19-22=-276/0, 18-22=-1812/0, 18-23=0/1165, 17-23=-253/0, 15-23=-429/13, 15-24=-534/154, 20-22=-266/0, 9-28=-1734/0, 9-27=0/1989, 10-27=-288/0, 12-27=-1284/0, 12-25=0/945, 4-32=-282/0, 5-31=-338/0, 2-34=-1422/0, 2-33=-2/694, 3-33=-352/0, 4-33=-53/542, 8-29=0/2129, 7-29=-286/0, 6-29=-1384/0, 6-31=0/874

Vert: 1=-1500, 20=-160 (F)

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) 22=0-3-8, 28=1-3-8, 34=0-3-8
 Max Grav 22=1254 (LC 4), 28=2189 (LC 3), 34=2217 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-34=-1604/0, 20-21=-20/0, 1-2=-83/0, 2-3=-2002/0, 3-4=-2002/0, 4-5=-1996/54, 5-7=-1996/910, 7-8=-474/910, 8-9=0/2288, 9-10=-1424/306, 10-12=-1424/306, 12-13=-2856/0, 13-14=-2856/0, 14-15=-2856/0, 15-17=-2590/0, 17-18=-2590/0, 18-19=0/163, 19-20=0/163
 BOT CHORD 33-34=0/1374, 32-33=-54/1996, 31-32=-54/1996, 29-31=-404/1558, 28-29=-2288/0, 27-28=-925/0, 25-27=0/2487, 24-25=0/2856, 23-24=0/2974, 22-23=0/1542, 21-22=0/0

- NOTES**
- 1) Unbalanced floor live loads have been considered for this design.
 - 2) All plates are 1.5x3 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) Load case(s) 1 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
 - 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.
 - 7) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 160 lb down at 34-8-12 on top chord. The design/selection of such connection device(s) is the responsibility of others.
 - 8) 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: 21-34=-10, 1-19=-100, 19-20=-180 (F=80)
 Concentrated Loads (lb)



May 26, 2021

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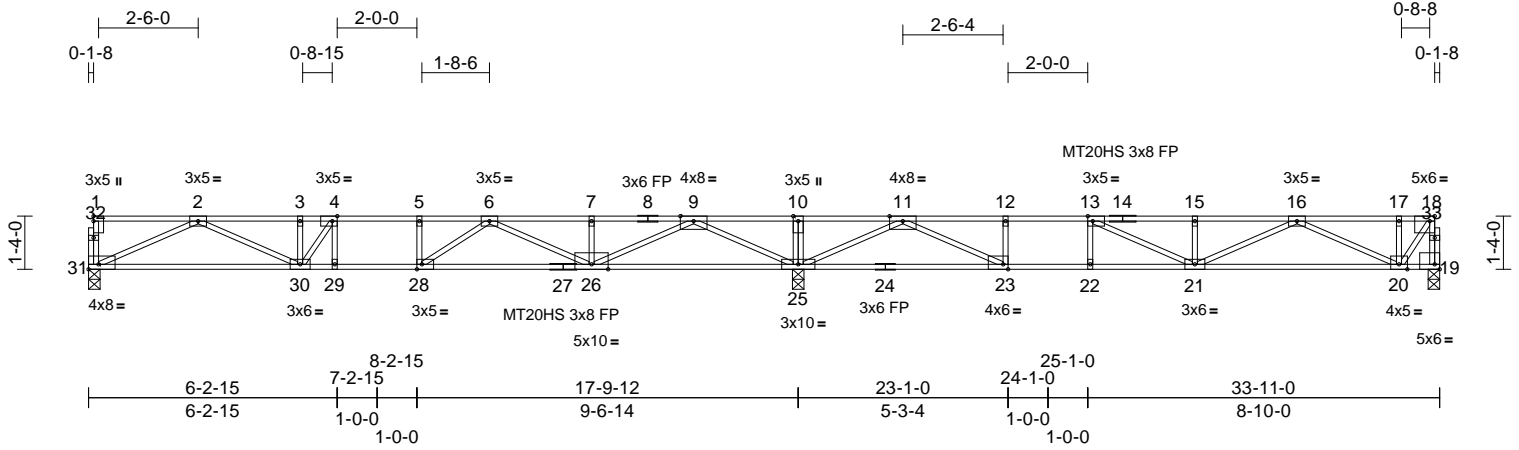
818 Soundside Road
 Edenton, NC 27932

Job 21040028-C	Truss F207	Truss Type Floor	Qty 6	Ply 1	72 Carolina Lakes-2nd Floor-Sterling Job Reference (optional)	146292812
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Carter Components (Sanford), Sanford, NC - 27332,

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Page: 1



Scale = 1:57.8
Plate Offsets (X, Y): [4:0-1-8,Edge], [13:0-1-8,Edge], [18:0-1-8,Edge], [19:Edge,0-1-8], [23:0-1-8,Edge], [28:0-1-8,Edge], [31:Edge,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in (loc)	l/defl	L/d	PLATES	GRIP		
TCLL	40.0	Plate Grip DOL	1.00	TC	0.92	Vert(LL)	-0.32	21-22	>603	480	MT20HS	187/143
TCDL	10.0	Lumber DOL	1.00	BC	0.93	Vert(CT)	-0.42	21-22	>452	360	MT20	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.85	Horz(CT)	0.05	19	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MSH								Weight: 170 lb FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP 2400F 2.0E(flat) *Except* 1-8:2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.1(flat) *Except* 24-19:2x4 SP 2400F 2.0E(flat), 27-24:2x4 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) 19=0-3-8, 25=0-3-8, 31=0-3-8
Max Grav 19=2299 (LC 4), 25=2178 (LC 1), 31=2336 (LC 10)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-31=-1603/0, 18-19=-2305/0, 1-2=-83/0, 2-3=-2498/0, 3-4=-2498/0, 4-5=-2708/0, 5-6=-2708/0, 6-7=-1744/0, 7-9=-1744/0, 9-10=0/2252, 10-11=0/2252, 11-12=-2219/402, 12-13=-2219/402, 13-15=-2543/0, 15-16=-2543/0, 16-17=-684/0, 17-18=-684/0
BOT CHORD 30-31=0/1632, 29-30=0/2708, 28-29=0/2708, 26-28=0/2524, 25-26=-286/275, 23-25=-1159/890, 22-23=-402/2219, 21-22=-402/2219, 20-21=0/1860, 19-20=0/119
WEBS 4-29=-142/136, 5-28=-222/0, 10-25=-318/0, 12-23=-535/0, 13-22=-266/0, 2-31=-1706/0, 2-30=0/958, 3-30=-237/117, 4-30=-570/150, 11-25=-2112/0, 11-23=0/1792, 13-21=0/870, 15-21=-409/0, 16-21=-39/755, 16-20=-1301/0, 17-20=-235/0, 18-20=0/995, 9-25=-2314/0, 9-26=0/1695, 7-26=-264/0, 6-26=-951/0, 6-28=0/546

- Unbalanced floor live loads have been considered for this design.
- All plates are MT20 plates unless otherwise indicated.
- All plates are 1.5x3 MT20 unless otherwise indicated.
- 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) 1 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
- 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.
- CAUTION, Do not erect truss backwards.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 160 lb down at 33-8-12, and 1340 lb down at 0-2-4 on top chord. The design/selection of such connection device (s) is the responsibility of others.
- 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: 19-31=-10, 1-18=-100
Concentrated Loads (lb)
Vert: 1=-1500 (F=-1340), 18=-1500 (F=-160)



May 26, 2021

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI Quality Criteria, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601

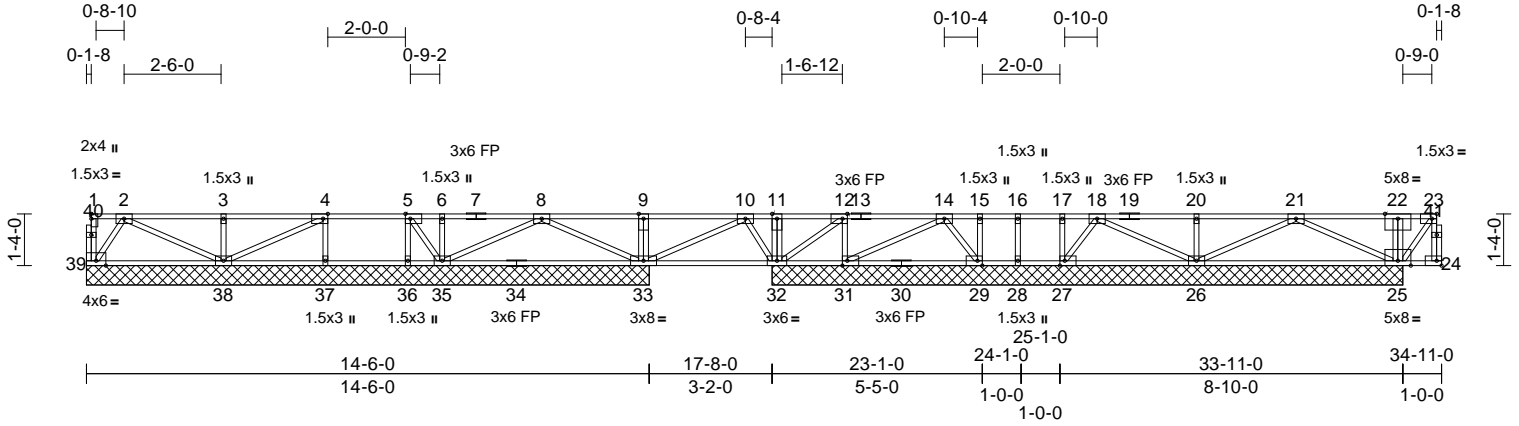
ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job 21040028-C	Truss F208	Truss Type Floor	Qty 1	Ply 1	72 Carolina Lakes-2nd Floor-Sterling Job Reference (optional)	146292813
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 May 17 2021 Print: 8.500 S May 17 2021 MiTek Industries, Inc. Tue May 25 15:05:23
ID:MEf9wZbr?FpYqmsvHahrNezLZdF-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?F

Page: 1



Scale = 1:59.4

Plate Offsets (X, Y): [4:0-1-8,Edge], [5:0-1-8,Edge], [12:0-1-8,Edge], [23:0-1-8,Edge], [27:0-1-8,Edge], [29:0-1-8,Edge], [31:0-1-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.39	Vert(LL)	0.00	25-26	>999	480
TCDL	10.0	Lumber DOL	1.00	BC	0.20	Vert(CT)	-0.04	25-26	>999	360
BCLL	0.0	Rep Stress Incr	NO	WB	0.57	Horz(CT)	0.01	25	n/a	n/a
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MSH						
										Weight: 185 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)

WEBS
11-32=-88/18, 15-29=-30/0, 17-27=-49/0,
22-25=-5102/0, 16-28=-132/0, 9-33=-273/0,
23-25=-75/14, 21-25=-280/0, 21-26=-362/0,
20-26=-264/0, 18-27=-194/0, 18-26=-126/0,
10-33=-126/0, 10-32=-248/15, 12-31=-218/0,
14-31=-84/0, 14-29=-241/0, 4-37=-256/0,
5-36=-17/0, 4-38=0/15, 3-38=-270/0,
2-38=-186/0, 2-39=-163/0, 8-33=-326/0,
8-35=-334/0, 6-35=-192/0, 5-35=-120/0,
12-32=-79/0

Vert: 1=-1500, 22=-4846

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)
25=16-3-0, 26=16-3-0, 27=16-3-0,
28=16-3-0, 29=16-3-0, 31=16-3-0,
32=16-3-0, 33=14-6-0, 35=14-6-0,
36=14-6-0, 37=14-6-0, 38=14-6-0,
39=14-6-0
Max Uplift 36=-8 (LC 5)
Max Grav 25=5294 (LC 5), 26=518 (LC 6),
27=230 (LC 13), 28=125 (LC 6),
29=256 (LC 5), 31=276 (LC 5),
32=307 (LC 4), 33=500 (LC 3),
35=478 (LC 6), 36=7 (LC 3),
37=279 (LC 6), 38=380 (LC 3),
39=1633 (LC 3)

- NOTES**
- 1) Unbalanced floor live loads have been considered for this design.
 - 2) All plates are 3x5 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) One RT7A MiTek connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 36. This connection is for uplift only and does not consider lateral forces.
 - 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) Load case(s) 1 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
 - 8) 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.
 - 9) CAUTION, Do not erect truss backwards.

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-39=-1488/0, 23-24=-16/0, 1-2=-77/0,
2-3=-3/0, 3-4=-3/0, 4-5=0/12, 5-6=0/83,
6-8=0/83, 8-9=0/77, 9-10=0/77, 10-11=0/79,
11-12=0/79, 12-14=-6/22, 14-15=0/78,
15-16=0/78, 16-17=0/78, 17-18=0/78,
18-20=0/76, 20-21=0/76, 21-22=-9/45,
22-23=-9/45
BOT CHORD 38-39=0/170, 37-38=-12/0, 36-37=-12/0,
35-36=-12/0, 33-35=0/219, 32-33=-40/76,
31-32=-22/6, 29-31=0/70, 28-29=-78/0,
27-28=-78/0, 26-27=0/39, 25-26=0/253,
24-25=0/1

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00,
Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 24-39=-10, 1-22=-100, 22-23=-180
Concentrated Loads (lb)



May 26, 2021

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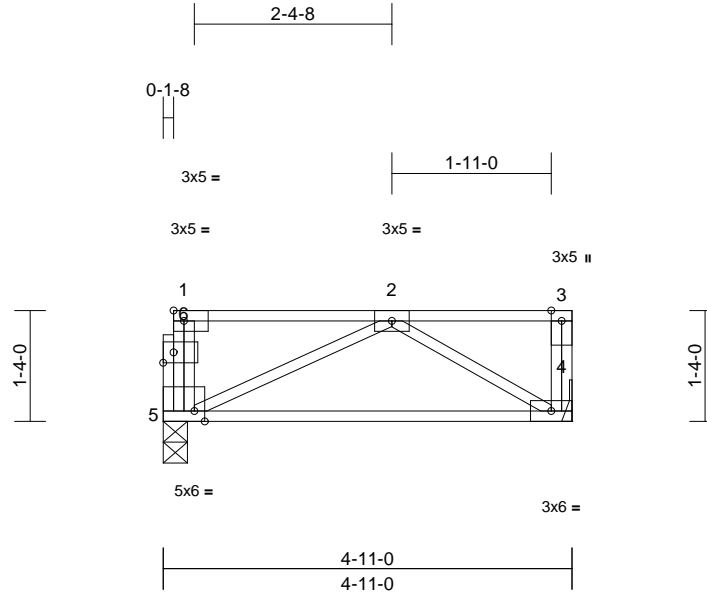
818 Soundside Road
Edenton, NC 27932

Job 21040028-C	Truss F209	Truss Type Floor	Qty 1	Ply 1	72 Carolina Lakes-2nd Floor-Sterling Job Reference (optional)	146292814
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 May 17 2021 Print: 8.500 S May 17 2021 MiTek Industries, Inc. Tue May 25 15:05:24
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Page: 1



Scale = 1:27.7

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.39	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.33	Vert(CT)	-0.08	4-5	>723	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.11	Horz(CT)	0.00	4	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MP							Weight: 29 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 4-11-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

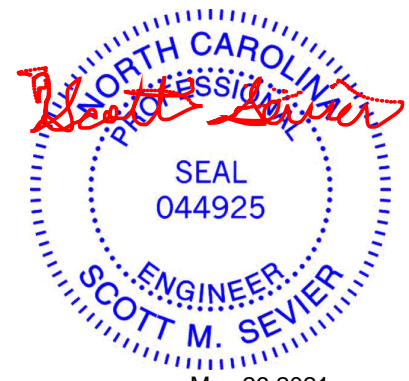
REACTIONS (size) 4= Mechanical, 5=0-3-8
Max Grav 4=314 (LC 1), 5=2346 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-5=-2271/0, 3-4=-71/0, 1-2=-234/0, 2-3=0/0
BOT CHORD 4-5=0/372
WEBS 2-5=-153/0, 2-4=-433/0

- 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) Load case(s) 1 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
 - 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) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 160 lb down at 0-3-0 on top chord. The design/selection of such connection device(s) is the responsibility of others.
 - 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=-10, 1-3=-100
Concentrated Loads (lb)
Vert: 1=-2160 (F=-160)



May 26, 2021

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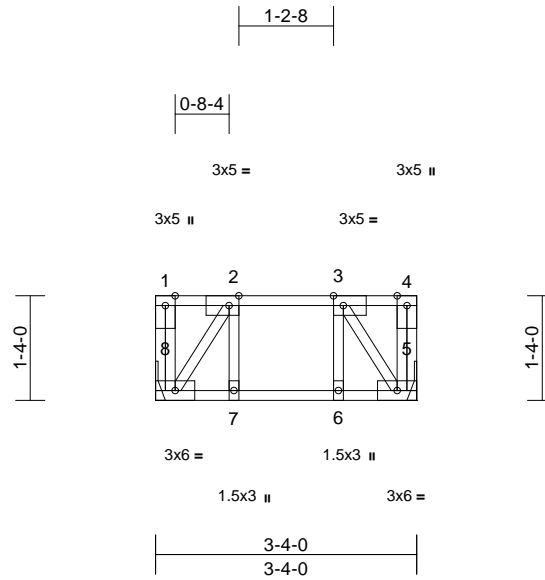


Job 21040028-C	Truss F210	Truss Type Floor	Qty 1	Ply 1	72 Carolina Lakes-2nd Floor-Sterling Job Reference (optional)	I46292815
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 May 17 2021 Print: 8.500 S May 17 2021 MiTek Industries, Inc. Tue May 25 15:05:24
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Page: 1



Scale = 1:29.4

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.14	Vert(LL)	0.00	7	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.07	Vert(CT)	0.00	7	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.07	Horz(CT)	0.00	5	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MSH							Weight: 23 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 3-4-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 5= Mechanical, 8= Mechanical
Max Grav 5=293 (LC 1), 8=293 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-8=-57/0, 4-5=-57/0, 1-2=0/0, 2-3=-171/0, 3-4=0/0

BOT CHORD 7-8=0/171, 6-7=0/171, 5-6=0/171

WEBS 2-8=-291/0, 3-5=-291/0, 2-7=0/23, 3-6=0/23

NOTES

- Unbalanced floor live loads have been considered for this design.
- Refer to girder(s) for truss to truss connections.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Load case(s) 1 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
- 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.

LOAD CASE(S) Standard

- Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 5-8=-10, 1-4=-180



May 26, 2021

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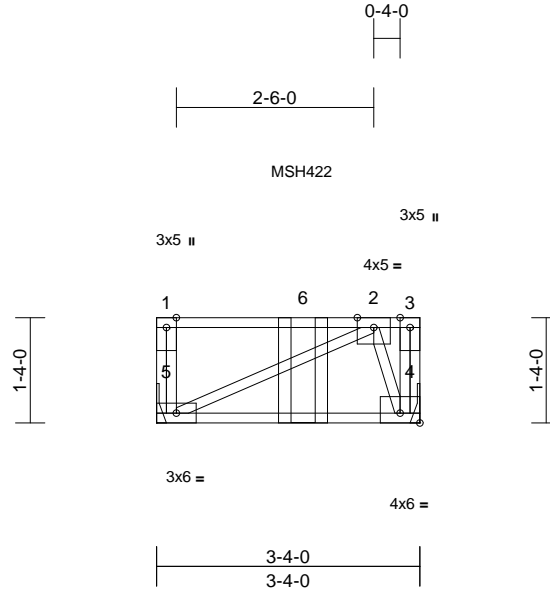
818 Soundside Road
Edenton, NC 27932

Job 21040028-C	Truss F211	Truss Type Floor Girder	Qty 1	Ply 1	72 Carolina Lakes-2nd Floor-Sterling Job Reference (optional)	I46292816
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Carter Components (Sanford), Sanford, NC - 27332,

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Page: 1



Scale = 1:29.2

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.92	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.16	Vert(CT)	-0.01	4-5	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.15	Horz(CT)	0.00	4	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MP							Weight: 22 lb	FT = 20%F, 11%E

LUMBER

Vert: 6=-214 (F)

- 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 3-4-0 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=290 (LC 1), 5=264 (LC 1)

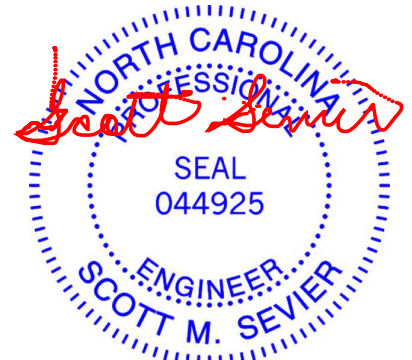
- FORCES** (lb) - Maximum Compression/Maximum Tension
- TOP CHORD 1-5=-144/0, 3-4=0/322, 1-2=0/0, 2-3=0/0
- BOT CHORD 4-5=0/226
- WEBS 2-5=-249/0, 2-4=-638/0

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 MiTek MSH422 (With 10d nails into Girder & 6-10d nails into Truss) or equivalent at 1-10-4 from the left end to connect truss(es) to front face of top chord.
- 5) Fill all nail holes where hanger is in contact with lumber.
- 6) 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=-10, 1-3=-100
Concentrated Loads (lb)



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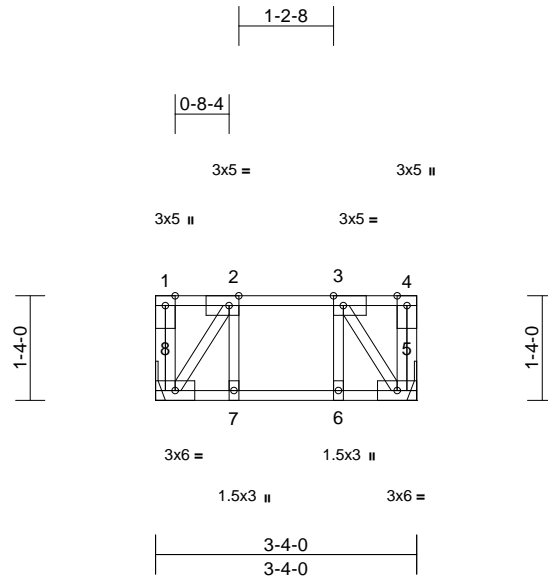
818 Soundside Road
Edenton, NC 27932

Job 21040028-C	Truss F212	Truss Type Floor	Qty 1	Ply 1	72 Carolina Lakes-2nd Floor-Sterling Job Reference (optional)	I46292817
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Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 May 17 2021 Print: 8.500 S May 17 2021 MiTek Industries, Inc. Tue May 25 15:05:24
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Page: 1



Scale = 1:29.4

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.09	Vert(LL)	0.00	6	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.06	Vert(CT)	0.00	7	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.04	Horz(CT)	0.00	5	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MSH							Weight: 23 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 3-4-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 5= Mechanical, 8= Mechanical
Max Grav 5=670 (LC 1), 8=670 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-8=-533/0, 4-5=-533/0, 1-2=0/0, 2-3=-99/0, 3-4=0/0

BOT CHORD 7-8=0/99, 6-7=0/99, 5-6=0/99

WEBS 2-8=-169/0, 3-5=-169/0, 2-7=0/23, 3-6=0/23

NOTES

- Unbalanced floor live loads have been considered for this design.
- Refer to girder(s) for truss to truss connections.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Load case(s) 1 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
- 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.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 500 lb down at 0-1-8, and 500 lb down at 3-2-8 on top chord. The design/selection of such connection device (s) is the responsibility of others.
- 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

- Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 5-8=10, 1-4=100
Concentrated Loads (lb)
Vert: 1=500 (F), 4=500 (F)



May 26, 2021

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

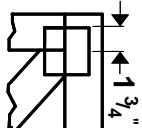
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



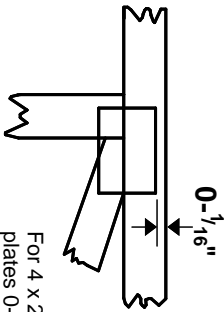
818 Soundside Road
Edenton, NC 27932

Symbols

PLATE LOCATION AND ORIENTATION



Center plate on joint unless x, y offsets are indicated. Dimensions are in ft-in-sixteenths. Apply plates to both sides of truss and fully embed teeth.



For 4 x 2 orientation, locate plates 0- 1/16" from outside edge of truss.



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

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

PLATE SIZE

4 X 4

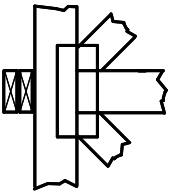
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.

BEARING



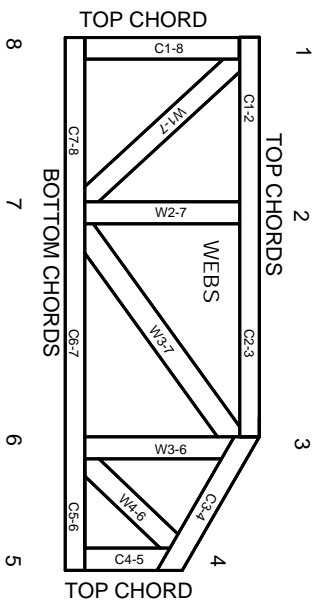
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TP1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-89: Design Standard for Bracing, Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

Numbering System

6-4-8
dimensions shown in ft-in-sixteenths
(Drawings not to scale)



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

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

PRODUCT CODE APPROVALS

ICC-ES Reports:

ESR-1311, ESR-1352, ESR1988
ER-3907, ESR-2362, ESR-1397, ESR-3282

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

Lumber design values are in accordance with ANSI/TP1 section 6.3 These truss designs rely on lumber values established by others.

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MITek Engineering Reference Sheet: Mill-7473 rev. 5/19/2020



General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TP1 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TP1 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TP1 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.