

RE: Callaway Rev 98-1-Floor

**Trenco**

818 Soundside Rd  
Edenton, NC 27932

**Site Information:**

Project Customer: DRB Raleigh Project Name: DRB Raleigh Model Track

Lot/Block: Subdivision:

Model:

Address:

City: State: NC

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

Design Code: IRC2021/TPI2014

Wind Code: ASCE 7-16

Wind Speed: 115 mph

Roof Load: 50.0 psf

Mean Roof Height (feet): 25

Design Program: MiTek 20/20 8.8

Design Method: MWFRS (Envelope)/C-C hybrid Wind ASCE 7-16

Floor Load: N/A psf

Exposure Category: C

No.	Seal#	Truss Name	Date
1	I71267509	2F1D	2/7/25
2		2F6	2/7/25
3	I71267511	2F5	2/7/25
4	I71267512	2FGR1	2/7/25
5	I71267513	2F1	2/7/25
6	I71267514	2FGE1	2/7/25
7	I71267515	2F4	2/7/25
8	I71267516	2F3	2/7/25
9	I71267517	2F2	2/7/25
10	I71267518	2FGR4	2/7/25
11	I71267519	2F7	2/7/25
12	I71267520	2FGE2	2/7/25
13	I71267521	2FGR2	2/7/25
14	I71267522	2FGR3	2/7/25
	I71267523	2F8	2/7/25

The truss drawing(s) referenced above have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Structural, LLC.

Truss Design Engineer's Name: Gilbert, Eric

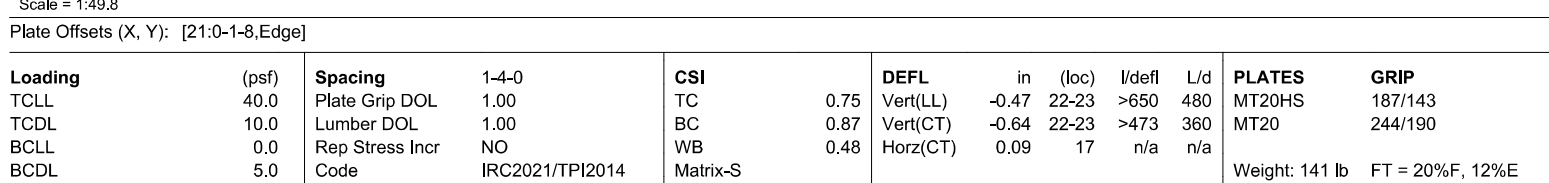
My license renewal date for the state of North Carolina is December 31, 2025.

**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.



February 7, 2025

Structural, LLC, Thurmont, MD - 21788, Run: 8.83 S Feb 1 2025 Print: 8.830 S Feb 1 2025 MiTek Industries, Inc. Thu Feb 06 12:43:39 Page: 1  
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February 7, 2025

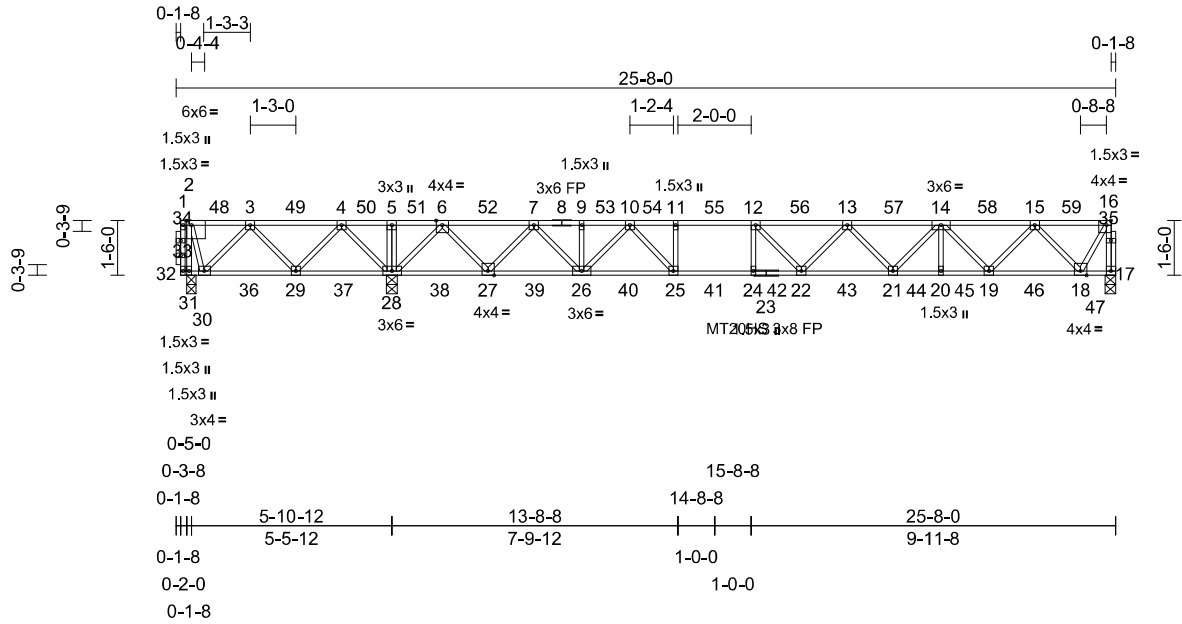
**ENGINEERING BY**  
**TRENCO**  
A MI Tek Affiliate  
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Callaway Rev 98-1-Floor	I71267510
	2F6	Floor	4	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Feb 1 2025 Print: 8.830 S Feb 1 2025 MiTek Industries, Inc. Thu Feb 06 12:43:42  
ID:NrykbOsGlcG4gZYddwgXyFK?D-RFC?PsB70Hq3NSgPqnL8w3uITXbGKWrcDol7J4zJC?f

Page: 1



Scale = 1:63

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

Loading	(psf)	Spacing	1-4-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.63	Vert(LL)	-0.18	22-24	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.60	Vert(CT)	-0.24	22-24	>970	360	MT20HS	187/143
BCLL	0.0	Rep Stress Incr	NO	WB	0.40	Horz(CT)	0.02	17	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 144 lb	FT = 20%F, 12%E

#### LUMBER

TOP CHORD	2x4 SP SS(flat) *Except* 8-1:2x4 SP No.2 (flat)
BOT CHORD	2x4 SP SS(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, Except: 6-0-0 oc bracing: 29-30,28-29,27-28.

REACTIONS	(size) 17=0-3-8, 28=0-3-8, 32=0-3-0
Max Grav	17=629 (LC 4), 28=1330 (LC 1), 32=1024 (LC 44)

FORCES	(lb) - Maximum Compression/Maximum Tension
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TOP CHORD	1-32=-984/0, 16-17=-628/0, 1-2=0/0, 2-3=-110/83, 3-4=-102/616, 4-5=0/1272, 5-6=0/1272, 6-7=-209/219, 7-9=-1073/0, 9-10=-1073/0, 10-11=-1842/0, 11-12=-1842/0, 12-13=-1961/0, 13-14=-1781/0, 14-15=-1221/0, 15-16=-352/0
BOT CHORD	31-32=0/0, 30-31=0/0, 29-30=-348/155, 28-29=-898/0, 27-28=-568/0, 26-27=0/639, 25-26=0/1448, 24-25=0/1842, 22-24=0/1842, 21-22=0/1972, 20-21=0/1581, 19-20=0/1581, 18-19=0/865, 17-18=0/29
WEBS	2-31=-566/158, 5-28=-265/53, 11-25=-314/10, 12-24=-206/98, 4-28=-674/0, 4-29=0/450, 3-29=-430/32, 3-30=-154/386, 2-30=-322/427, 6-28=-1087/0, 6-27=0/845, 7-27=-808/0, 7-26=0/632, 9-26=-261/59, 10-26=-548/0, 10-25=0/654, 12-22=-89/366, 13-22=-165/161, 13-21=-316/34, 14-21=-24/375, 14-20=-61/255, 14-19=-521/0, 15-19=0/529, 15-18=-763/0, 16-18=0/662

#### 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 3x3 (=) MT20 unless otherwise indicated.
- 4) All bearings are assumed to be SP SS.
- 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) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 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.

#### LOAD CASE(S) Standard

- 1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00  
Uniform Loads (lb/ft)  
Vert: 17-32=-7, 1-16=-67  
Concentrated Loads (lb)  
Vert: 1=-800



February 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 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 and DSB-22** available from Truss Plate Institute ([www.tpinst.org](http://www.tpinst.org)) and **BCSI Building Component Safety Information** available from the Structural Building Component Association ([www.sbcacomponents.com](http://www.sbcacomponents.com))

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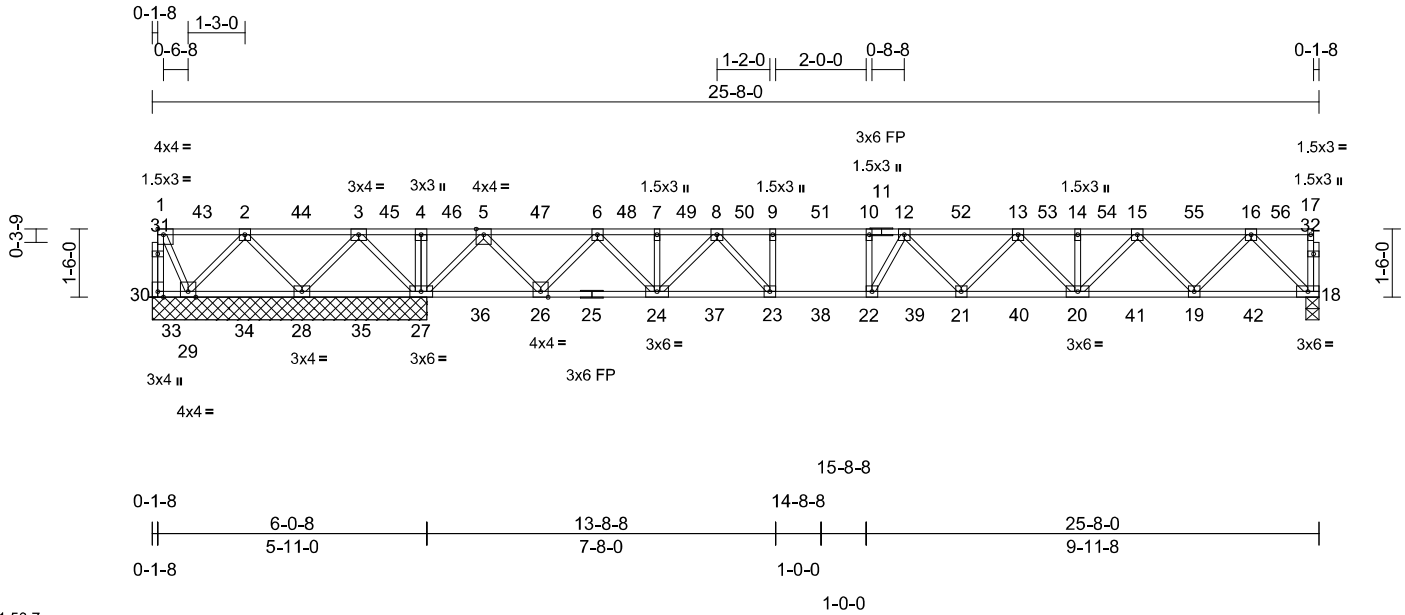
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Callaway Rev 98-1-Floor	I71267511
	2F5	Floor	1	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

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Scale = 1:50.7												
Plate Offsets (X, Y): [1:Edge,0-1-8]												
<b>Loading</b>	(psf)	<b>Spacing</b>	1-4-0	<b>CSI</b>		<b>DEFL</b>	in	(loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL	40.0	Plate Grip DOL	1.00	TC	0.85	Vert(LL)	-0.19	21-22	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.75	Vert(CT)	-0.26	21-22	>892	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.41	Horz(CT)	0.02	18	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 143 lb	FT = 20%F, 12%E

LUMBER	
TOP CHORD	2x4 SP No.2(flat)
BOT CHORD	2x4 SP No.2(flat) *Except* 25-18:2x4 SP SS (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, Except: 6-0-0 oc bracing: 28-29,27-28,26-27.
REACTIONS	
(size)	18=0-3-8, 27=6-0-8, 28=6-0-8, 29=6-0-8, 30=6-0-8
Max Uplift	28=423 (LC 4)
Max Grav	18=618 (LC 4), 27=1505 (LC 1), 28=172 (LC 57), 29=365 (LC 56), 30=469 (LC 55)
FORCES	
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-30=-400/0, 17-18=-258/39, 1-2=0/57, 2-3=0/287, 3-4=0/1385, 4-5=0/1385, 5-6=-140/273, 6-7=-963/0, 7-8=-963/0, 8-9=-1744/0, 9-10=-1744/0, 10-12=-1744/0, 12-13=-1900/0, 13-14=-1622/0, 14-15=-1622/0, 15-16=-988/0, 16-17=-12/2
BOT CHORD	29-30=0/36, 28-29=-141/60, 27-28=-787/0, 26-27=-625/0, 24-26=0/519, 23-24=0/1347, 22-23=0/1744, 21-22=0/1900, 20-21=0/1830, 19-20=0/1367, 18-19=0/589

WEBS	
4-27=-267/56, 9-23=-326/2, 10-22=-100/305, 3-27=-906/0, 3-28=0/775, 2-28=-283/0, 2-29=-149/139, 1-29=-197/0, 5-27=-1097/0, 5-26=0/854, 6-26=-818/0, 6-24=0/644, 7-24=-263/54, 8-24=-557/0, 8-23=0/648, 16-18=-831/0, 16-19=0/593, 15-19=-563/0, 15-20=-27/370, 14-20=-259/62, 13-20=-352/44, 13-21=-79/260, 12-21=-130/213, 12-22=-466/53	

- NOTES**
- 1) Unbalanced floor live loads have been considered for this design.
  - 2) All plates are 3x3 (=) MT20 unless otherwise indicated.
  - 3) Bearings are assumed to be: Joint 29 SP No.3, Joint 18 SP SS.
  - 4) Bearing at joint(s) 30 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
  - 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 423 lb uplift at joint 28.
  - 6) 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.
  - 7) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
  - 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.

- LOAD CASE(S)** Standard
- 1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00  
Uniform Loads (lb/ft)  
Vert: 18-30=-7, 1-17=-67  
Concentrated Loads (lb)

Vert: 1=-317



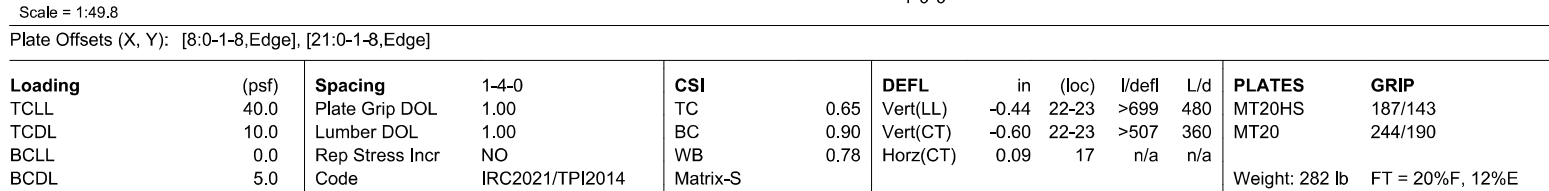
February 7, 2025

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Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)

**ENGINEERING BY**  
**TRENCO**  
A MiTek Affiliate  
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Structural, LLC, Thurmont, MD - 21788, Run: 8.83 S Feb 1 2025 Print: 8.830 S Feb 1 2025 MiTek Industries, Inc. Thu Feb 06 12:43:44 Page: 1  
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- 1) Fasten trusses together to act as a single unit as per standard industry detail, or loads are to be evenly applied to all plies.
- 2) Unbalanced floor live loads have been considered for this design.
- 3) All plates are MT20 plates unless otherwise indicated.
- 4) All bearings are assumed to be SP SS .
- 5) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 6) Recommend 2x6 strongbacks, on edge, spaced at 10'-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.
- 7) Use Simpson Strong-Tie THA422 (Single Chord Girder) or equivalent at 4'-1" from the left end to connect truss(es) to front 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: 17-30=-7, 1-16=-67  
Concentrated Loads (lb)  
Vert: 3=-1983 (F)

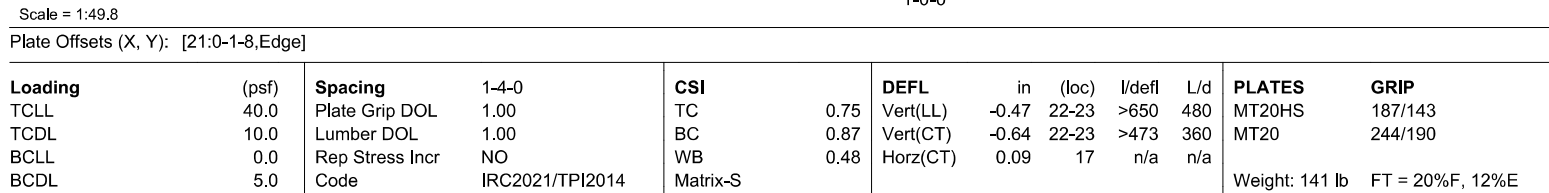
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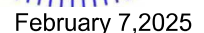
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**NOTES**

- 1) Unbalanced floor live loads have been considered for this design.
- 2) All plates are MT20 plates unless otherwise indicated.

LOAD CASE(S) Standard



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<b>LUMBER</b>		<b>TOP CHORD</b>	1-43=-256/22, 22-23=-102/97, 1-2=-21/3, 2-3=-21/3, 3-4=-21/3, 4-5=-21/3, 5-6=-21/3, 6-7=-21/3, 7-8=-21/3, 8-9=-21/3, 9-10=-21/3, 10-11=-21/3, 11-13=-21/3, 13-14=-21/3, 14-15=-21/3, 15-16=-21/3, 16-17=-21/3, 17-18=-21/3, 18-19=-21/3, 19-20=-21/3, 20-21=-21/3, 21-22=-28/5	7) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
<b>TOP CHORD</b>	2x4 SP No.2(flat)			
<b>BOT CHORD</b>	2x4 SP No.2(flat)			8) Recommend 2x6 strongbacks, on edge, spaced at 10'-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.
<b>WEBS</b>	2x4 SP No.3(flat)			
<b>OTHERS</b>	2x4 SP No.3(flat)			
<b>BRACING</b>		<b>BOT CHORD</b>	42-43=-3/21, 41-42=-3/21, 40-41=-3/21, 39-40=-3/21, 38-39=-3/21, 37-38=-3/21, 36-37=-3/21, 35-36=-3/21, 34-35=-3/21, 33-34=-3/21, 32-33=-3/21, 31-32=-3/21, 30-31=-3/21, 29-30=-3/21, 28-29=-3/21, 27-28=-3/21, 26-27=-3/21, 25-26=-3/21, 24-25=-3/21, 23-24=-3/21, 22-23=-3/21, 21-22=-3/21, 20-21=-3/21, 19-20=-3/21, 18-19=-3/21, 17-18=-3/21, 16-17=-3/21, 15-16=-3/21, 14-15=-3/21, 13-14=-3/21, 12-13=-3/21, 11-12=-3/21, 10-11=-3/21, 9-10=-3/21, 8-9=-3/21, 7-8=-3/21, 6-7=-3/21, 5-6=-3/21, 4-5=-3/21, 3-4=-3/21, 2-3=-3/21, 1-2=-3/21	
<b>TOP CHORD</b>	Structural wood sheathing directly applied or 6'-0" oc purlins, except end verticals.			<b>LOAD CASE(S)</b> Standard
<b>BOT CHORD</b>	Rigid ceiling directly applied or 6'-0" oc purlins, except end verticals.			

**FORCES** (lb) - Maximum Compression/Maximum Tension

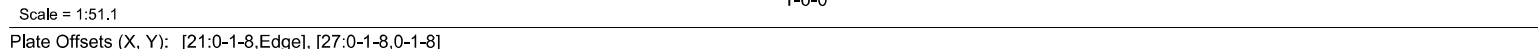
- 1) All plates are 1.5x3 (||) MT20 unless otherwise indicated.
- 2) Gable requires continuous bottom chord bearing.
- 3) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 4) Gable studs spaced at 1-4'-0" oc.
- 5) All bearings are assumed to be SP No.2 .
- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 16 lb uplift at joint 43, 7 lb uplift at joint 23, 9 lb uplift at joint 42, 5 lb uplift at joint 41, 6 lb uplift at joint 40, 6 lb uplift at joint 39, 6 lb uplift at joint 38, 6 lb uplift at joint 37, 6 lb uplift at joint 36, 6 lb uplift at joint 35, 6 lb uplift at joint 33, 8 lb uplift at joint 32, 6 lb uplift at joint 31, 6 lb uplift at joint 30, 6 lb uplift at joint 29, 6 lb uplift at joint 28, 6 lb uplift at joint 27, 6 lb uplift at joint 26, 13 lb uplift at joint 25 and 1 lb uplift at joint 24.



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<b>LUMBER</b>		4) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
TOP CHORD	2x4 SP No.2(flat)	
BOT CHORD	2x4 SP No.2(flat) *Except* 23-16:2x4 SP SS (flat)	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.
WEBS	2x4 SP No.3(flat)	
OTHERS	2x4 SP No.3(flat)	
<b>BRACING</b>		
TOP CHORD	Structural wood sheathing directly applied as	

TOP CHORD	Structural wood sheathing directly applied or 5-6-13 oc purlins, except end verticals.	at their outer ends or restrained by other means.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 2-2-0 oc bracing: 22-24	<b>LOAD CASE(S)</b> Standard

<b>REACTIONS</b>	(size)	16=0-3-8, 26=0-3-8
	Max Grav	16=963 (LC 1), 26=963 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD    1-26=-259/34, 15-16=-259/37, 1-2=-12/2,  
                   2-3=-1634/0, 3-4=-2785/0, 4-5=-2785/0,  
                   5-6=-3465/0, 6-7=-3738/0, 7-8=-3738/0,  
                   8-9=-3738/0, 9-10=-3454/0, 10-12=-2761/0,  
                   12-13=-2761/0, 13-14=-1601/0, 14-15=-12/2

BOT CHORD 25-26=0/964, 24-25=0/2281, 22-24=0/3218,  
21-22=0/3699, 20-21=0/3738, 19-20=0/3684,  
18-19=0/3203, 17-18=0/2254, 16-17=0/926

WEBS 7-21=-438/345, 8-20=-304/211,  
2-26=-1332/0, 2-25=0/995, 3-25=-963/0.



3-24=0/730, 4-24=-259/62, 5-24=-627/0,  
5-22=0/391, 6-22=-444/116, 6-21=-417/597,  
14-16=-1308/0, 14-17=0/1003, 13-17=-971/0,  
13-18=0/735, 12-18=-240/62, 10-18=-640/0,  
10-19=0/374, 9-19=-409/89, 9-20=-295/480

- 1) Unbalanced floor live loads have been considered for this design.
- 2) All plates are MT20 plates unless otherwise indicated.
- 3) Bearings are assumed to be: Joint 26 SP No.2 , Joint 16 SP SS

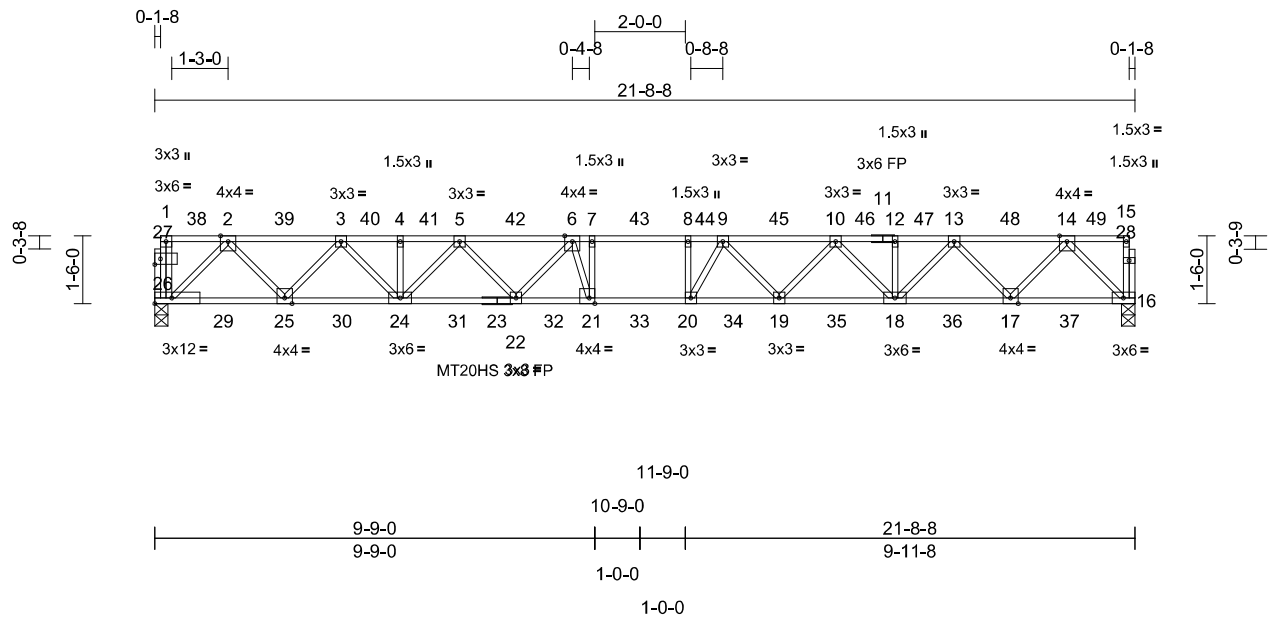


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Job	Truss	Truss Type	Qty	Ply	Callaway Rev 98-1-Floor	I71267516
	2F3	Floor	3	1	Job Reference (optional)	



Scale = 1:51.1

Plate Offsets (X, Y): [21:0-1-8,Edge], [27:0-1-8,0-1-8]

Loading	(psf)	Spacing	1-4-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.61	Vert(LL)	-0.27	20-21	>958	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.94	Vert(CT)	-0.37	20-21	>696	360	MT20HS	187/143
BCLL	0.0	Rep Stress Incr	YES	WB	0.39	Horz(CT)	0.07	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S								
Weight: 121 lb											FT = 20%F, 12%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. Except: 2-2-0 oc bracing: 19-20.

**REACTIONS** (size) 16=0-3-8, 26=0-3-8

Max Grav 16=780 (LC 1), 26=780 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-26=-258/35, 15-16=-258/38, 1-2=-12/2, 2-3=-1323/0, 3-4=-2256/0, 4-5=-2256/0, 5-6=-2807/0, 6-7=-3028/0, 7-8=-3028/0, 8-9=-3028/0, 9-10=-2798/0, 10-12=-2237/0, 12-13=-2237/0, 13-14=-1297/0, 14-15=-12/2

BOT CHORD 25-26=0/781, 24-25=0/1848, 22-24=0/2607, 21-22=0/2996, 20-21=0/3028, 19-20=0/2985, 18-19=0/2595, 17-18=0/1825, 16-17=0/750

WEBS 7-21=-382/367, 8-20=-263/226, 2-26=-1080/0, 2-25=0/806, 3-25=-780/0, 3-24=0/591, 4-24=-257/64, 5-24=-509/0, 5-22=-14/321, 6-22=-352/120, 6-21=-435/500, 14-16=-1060/0, 14-17=0/812, 13-17=-786/0, 13-18=0/597, 12-18=-239/63, 10-18=-517/0, 10-19=-8/331, 9-19=-325/101, 9-20=-307/395

- NOTES**
- Unbalanced floor live loads have been considered for this design.
  - All plates are MT20 plates unless otherwise indicated.
  - All bearings are assumed to be SP No.2 .

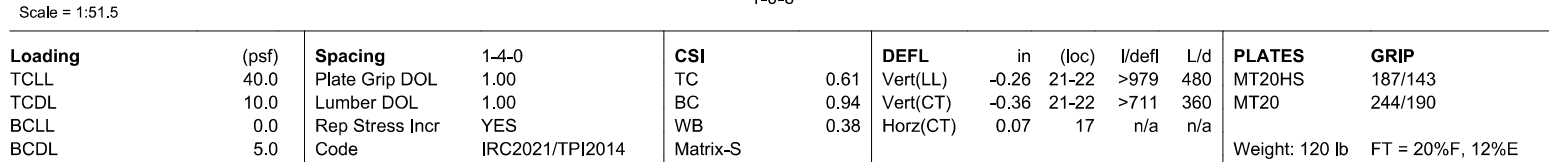
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each 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





Structural, LLC, Thurmont, MD - 21788, Run: 8.83 S Feb 1 2025 Print: 8.830 S Feb 1 2025 MiTek Industries, Inc. Thu Feb 06 12:43:40 Page: 1  
ID:FhXh2U?Zep3BZXsGaa9J8zz1pg-RfC?PsB70Hg3NSgPqnL8w3uJTXbGKWRcDoi7J4zJC?f



- 6) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 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.

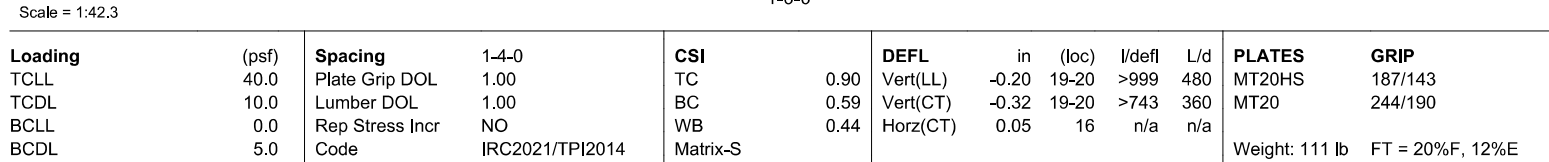
**LOAD CASE(S)** Standard

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 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 1 Quality Criteria and DSB-22** available from Truss Plate Institute ([www.tpinst.org](http://www.tpinst.org)) and **BCSI Building Component Safety Information** available from the Structural Building Component Association ([www.sbccomponents.com](http://www.sbccomponents.com))

**ENGINEERING BY**  
**TRENCO**  
A MiTek Affiliate  
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Structural, LLC, Thurmont, MD - 21788, Run: 8.83 S Feb 1 2025 Print: 8.830 S Feb 1 2025 MiTek Industries, Inc. Thu Feb 06 12:43:45 Page: 1  
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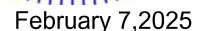


- 5) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened 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) Use Simpson Strong-Tie THA422 (Single Chord Girder) or equivalent at 16-9-4 from the left end to connect truss(es) to front 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: 16-25=-7, 1-44=-67, 15-44=-167  
Concentrated Loads (lb)  
Vert: 44=-39 (F)

- 1) Unbalanced floor live loads have been considered for this design.
- 2) All plates are MT20 plates unless otherwise indicated.
- 3) All bearings are assumed to be SP SS .
- 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.



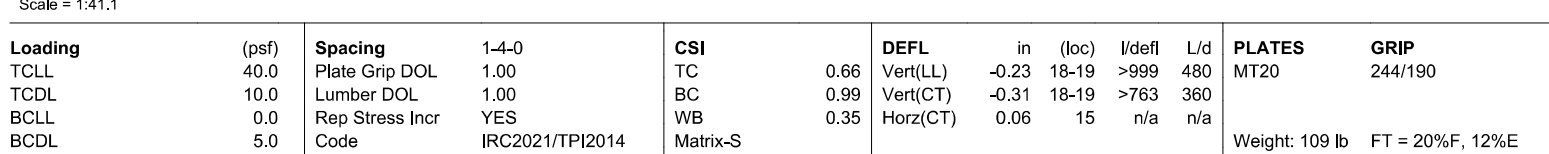
**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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**TRENCO**  
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Structural, LLC, Thurmont, MD - 21788, Run: 8.83 S Feb 1 2025 Print: 8.830 S Feb 1 2025 MiTek Industries, Inc. Thu Feb 06 12:43:43 Page: 1  
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LOAD CASE(S) Standard

WEBS 6-20=282/95, 7-19=186/270, 2-23=972/0,  
2-22=0/726, 3-22=695/0, 3-21=0/504,  
4-21=252/63, 5-21=413/13, 5-20=110/529,  
13-15=971/0, 13-16=0/727, 12-16=699/0,  
12-17=0/509, 11-17=259/62, 9-17=432/0,  
9-18=32/300, 8-18=24/142, 8-19=380/27

February 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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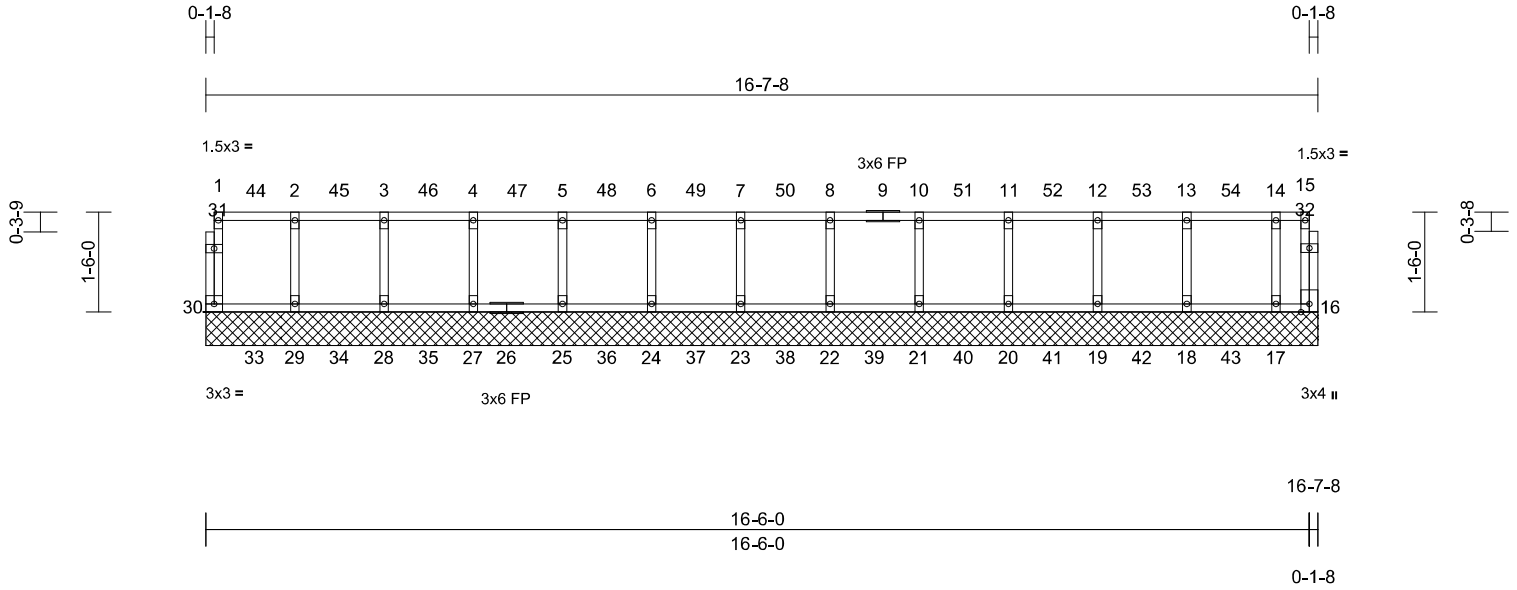
818 Soundside Road  
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Job	Truss	Truss Type	Qty	Ply	Callaway Rev 98-1-Floor	I71267520
	2FGE2	Floor Supported Gable	1	1	Job Reference (optional)	

Structural, LLC, Thumont, MD - 21788,

Run: 8.83 S Feb 1 2025 Print: 8.830 S Feb 1 2025 MiTek Industries, Inc. Thu Feb 06 12:43:44  
ID:RjRRcmPjidl\_mOGE6t3IXJzz4q9-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:34.5

Loading	(psf)	Spacing	1-4-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	Horiz(TL)	0.00	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R						Weight: 78 lb	FT = 20%F, 12%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)  
16=16-7-8, 17=16-7-8, 18=16-7-8,  
19=16-7-8, 20=16-7-8, 21=16-7-8,  
22=16-7-8, 23=16-7-8, 24=16-7-8,  
25=16-7-8, 27=16-7-8, 28=16-7-8,  
29=16-7-8, 30=16-7-8  
Max Uplift 16=70 (LC 43), 17=41 (LC 32),  
18=5 (LC 41), 19=6 (LC 40),  
20=6 (LC 11), 21=6 (LC 38),  
22=6 (LC 37), 23=6 (LC 39),  
24=6 (LC 38), 25=6 (LC 37),  
27=6 (LC 36), 28=8 (LC 35),  
29=7 (LC 34), 30=20 (LC 33)  
Max Grav 16=256 (LC 58), 17=272 (LC 44),  
18=281 (LC 56), 19=279 (LC 55),  
20=280 (LC 54), 21=280 (LC 53),  
22=280 (LC 52), 23=280 (LC 51),  
24=280 (LC 50), 25=280 (LC 49),  
27=280 (LC 48), 28=280 (LC 47),  
29=280 (LC 46), 30=263 (LC 45)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-30=-257/24, 15-16=-228/80, 1-2=-21/5,  
2-3=-21/5, 3-4=-21/5, 4-5=-21/5, 5-6=-21/5,  
6-7=-21/5, 7-8=-21/5, 8-10=-21/5,  
10-11=-21/5, 11-12=-21/5, 12-13=-21/5,  
13-14=-21/5, 14-15=-21/5

**BOT CHORD** 29-30=-5/21, 28-29=-5/21, 27-28=-5/21,  
25-27=-5/21, 24-25=-5/21, 23-24=-5/21,  
22-23=-5/21, 21-22=-5/21, 20-21=-5/21,  
19-20=-5/21, 18-19=-5/21, 17-18=-5/21,  
16-17=-5/21  
**WEBS** 2-29=-267/15, 3-28=-268/13, 4-27=-268/13,  
5-25=-268/13, 6-24=-268/13, 7-23=-268/13,  
8-22=-268/13, 10-21=-268/13,  
11-20=-268/15, 12-19=-268/14,  
13-18=-268/13, 14-17=-253/35

- 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) All bearings are assumed to be SP No.2 .
  - 6) Bearing at joint(s) 16 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
  - 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 20 lb uplift at joint 30, 70 lb uplift at joint 16, 7 lb uplift at joint 29, 8 lb uplift at joint 28, 6 lb uplift at joint 27, 6 lb uplift at joint 25, 6 lb uplift at joint 24, 6 lb uplift at joint 23, 6 lb uplift at joint 22, 6 lb uplift at joint 21, 6 lb uplift at joint 20, 6 lb uplift at joint 19, 5 lb uplift at joint 18 and 41 lb uplift at joint 17.
  - 8) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
  - 9) 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



February 7, 2025

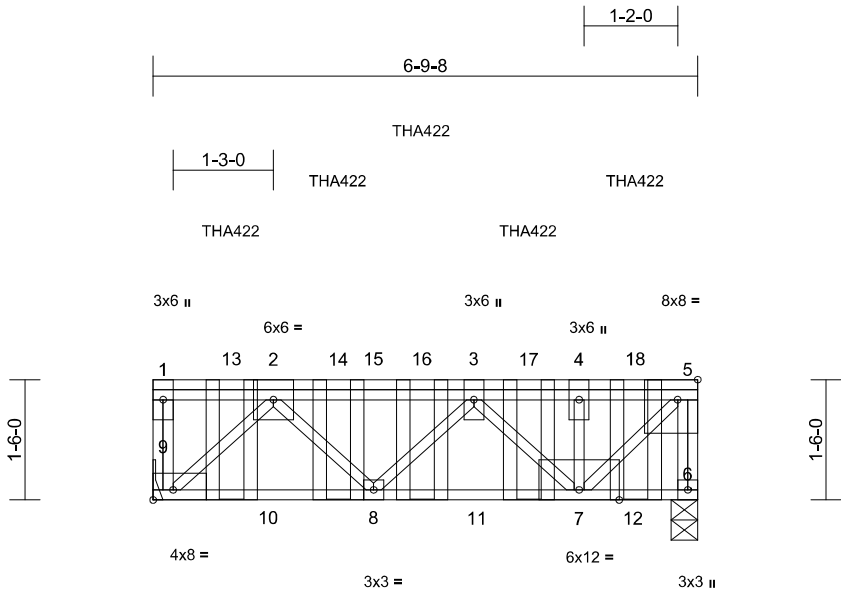
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Job	Truss	Truss Type	Qty	Ply	Callaway Rev 98-1-Floor	
	2FGR2	Floor Girder	1	1	Job Reference (optional)	I71267521



Scale = 1:28.8

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

Loading	(psf)	Spacing	1-4-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.70	Vert(LL)	-0.08	8-9	>941	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.97	Vert(CT)	-0.09	8-9	>841	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.70	Horz(CT)	0.02	6	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-P							Weight: 51 lb	FT = 20%F, 12%E

**LUMBER**

TOP CHORD 2x4 SP No.2(flat)

BOT CHORD 2x4 SP No.2(flat)

WEBS 2x4 SP No.3(flat) \*Except\* 7-5:2x4 SP No.2 (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=0-4-0, 9= Mechanical

Max Grav 6=2112 (LC 1), 9=2027 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-9=-276/17, 5-6=-2104/0, 1-2=0/0, 2-3=-2421/0, 3-4=-1794/0, 4-5=-1794/0

BOT CHORD 8-9=0/2019, 7-8=0/2806, 6-7=0/0

WEBS 2-9=-2791/0, 2-8=0/583, 3-8=-559/0, 3-7=-1432/0, 4-7=-717/0, 5-7=0/2498

- NOTES**
- Bearings are assumed to be: , Joint 6 SP No.2 .
  - Refer to girder(s) for truss to truss connections.
  - This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
  - 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.
  - Use Simpson Strong-Tie THA422 (6-16d Girder, 6-10d Truss) or equivalent spaced at 1-4-0 oc max. starting at 0-11-12 from the left end to 6-0-4 to connect truss(es) to back face of top chord.
  - Fill all nail holes where hanger is in contact with lumber.
  - 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)
- Concentrated Loads (lb)
- Vert: 6-9=-7, 1-5=-67
- Vert: 13=-732 (B), 14=-732 (B), 16=-732 (B), 17=-732 (B), 18=-732 (B)



February 7,2025

**WARNING** - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

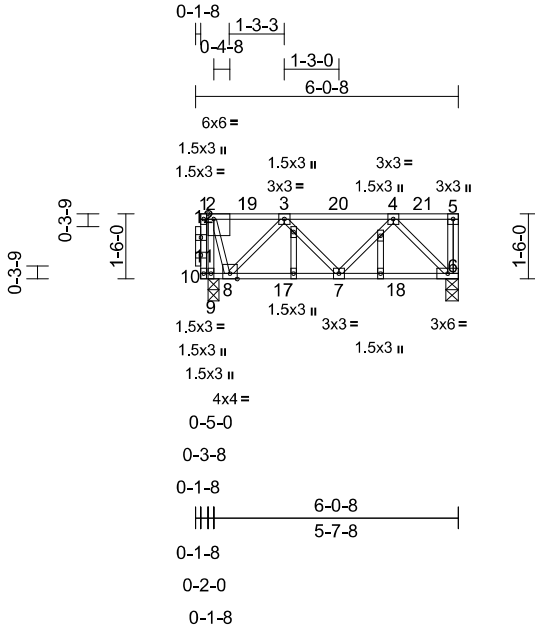
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818 Soundside Road  
Edenton, NC 27932



Job	Truss	Truss Type	Qty	Ply	Callaway Rev 98-1-Floor
	2FGR3	Floor Girder	1	1	Job Reference (optional)



Scale = 1:53  
Plate Offsets (X, Y): [2:0-1-8,Edge]

Loading	(psf)	Spacing	1-4-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.86	Vert(LL)	-0.08	6-7	>833	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.90	Vert(CT)	-0.09	6-7	>762	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.33	Horz(CT)	0.00	6	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 42 lb	FT = 20%F, 12%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, 10=0-3-0  
Max Grav 6=597 (LC 12), 10=840 (LC 7)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-10=-554/0, 5-6=-296/0, 1-2=0/0, 2-3=-236/0, 3-4=-592/0, 4-5=0/0  
BOT CHORD 9-10=0/0, 8-9=0/0, 7-8=0/583, 6-7=0/484  
WEBS 4-6=684/0, 4-7=-24/243, 3-7=-142/124, 3-8=-597/0, 2-8=0/866, 2-9=-904/0

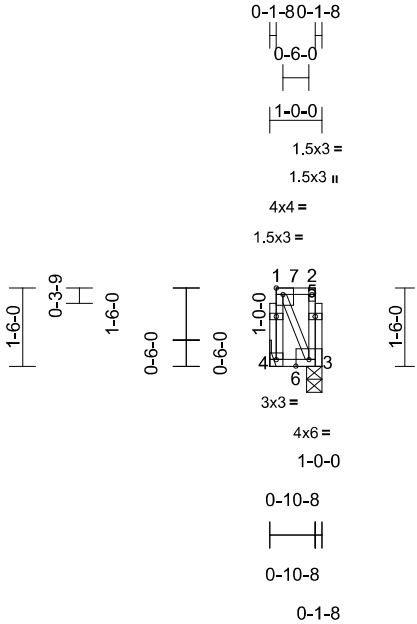
- NOTES**
- 1) Unbalanced floor live loads have been considered for this design.
  - 2) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
  - 3) Gable studs spaced at 2-0-0 oc.
  - 4) All bearings are assumed to be SP No.2 .
  - 5) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 10.
  - 6) 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.
  - 7) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.

- 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.
- LOAD CASE(S)** Standard
- 1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00  
Uniform Loads (lb/ft)  
Vert: 6-10=-7, 1-5=-167  
Concentrated Loads (lb)  
Vert: 1=-244



February 7, 2025

Job	Truss	Truss Type	Qty	Ply	Callaway Rev 98-1-Floor
	2F8	Floor	1	1	I71267523
Job Reference (optional)					



Scale = 1:44.3

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

Loading	(psf)	Spacing	1-4-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.24	Vert(LL)	0.00	3-4	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.23	Vert(CT)	0.00	3-4	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.01	Horz(CT)	0.00	3	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-P							Weight: 12 lb	FT = 20%F, 12%E

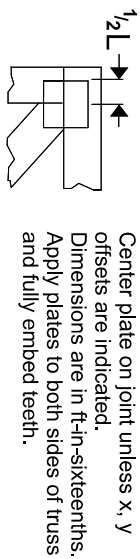
- LUMBER
- TOP CHORD 2x4 SP No.2(flat)
- BOT CHORD 2x4 SP No.2(flat)
- WEBS 2x4 SP No.3(flat)
- OTHERS 2x4 SP No.3(flat)
- BRACING
- TOP CHORD Structural wood sheathing directly applied or 1-0-0 oc purlins, except end verticals.
- BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
- REACTIONS (size) 3=0-3-8, 4= Mechanical
- Max Grav 3=291 (LC 8), 4=298 (LC 3)
- FORCES (lb) - Maximum Compression/Maximum Tension
- TOP CHORD 1-4=-295/0, 2-3=-292/0, 1-2=-13/0
- BOT CHORD 3-4=0/0
- WEBS 1-3=0/28

- NOTES
- 1) Bearings are assumed to be: , Joint 3 SP No.3 .
- 2) Refer to girder(s) for truss to truss connections.
- 3) Bearing at joint(s) 3 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 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) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 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.
- LOAD CASE(S) Standard
- 1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
- Uniform Loads (lb/ft)

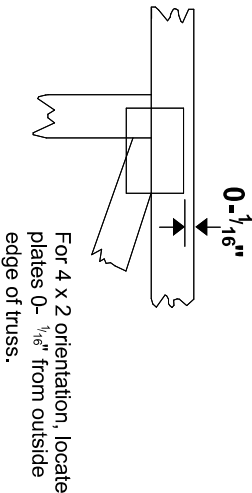


# Symbols

## 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\"/>

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**

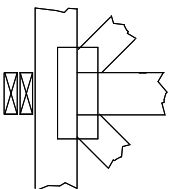
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## 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.

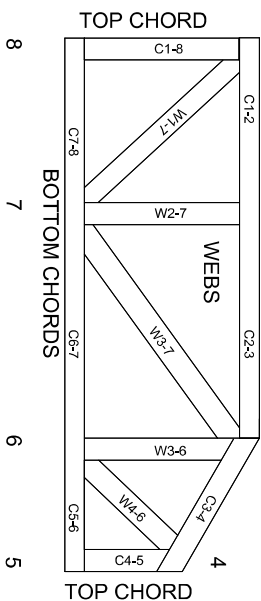
## Industry Standards:

ANSI/TP1: National Design Specification for Metal Plate Connected Wood Truss Construction.  
DSB-22: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

# Numbering System

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

1 2 3 Joint ID typ.



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/TP1 section 6.3. These truss designs rely on Lumber values established by others.

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**MITek**

ENGINEERING BY  
**TRENCO**  
A MITek Affiliate

MITek Engineering Reference Sheet: MIL-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/TP1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TP1.
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 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.