ENGINEERING BY
TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

RE:

Site Information:

Project Customer: DRB Raleigh Project Name: DRB Raleigh Model Track
Lot/Block: Subdivision:
Model:
Address:
City: State:

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: 40.0 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: B

No.	Seal#	Truss Name	Date
1	I71459455	2F2D	2/17/25
2	I71459456	2F2A	2/17/25
3	I71459457	2F6A	2/17/25
4	I71459458	2F6	2/17/25
5	I71459459	2F5	2/17/25
6	I71459460	2F2B	2/17/25
7	I71459461	2F2C	2/17/25
8	I71459462	2F10	2/17/25
9	I71459463	2F9	2/17/25
10	I71459464	2F8A	2/17/25
11	I71459465	2F8	2/17/25
12	I71459466	2F7	2/17/25
13	I71459467	2F4	2/17/25
14	I71459468	2FGE	2/17/25
	I71459469	2FGE1	2/17/25
16	I71459470	2F3	2/17/25
17	I71459471	2F2	2/17/25
18	I71459472	2F1	2/17/25

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 17,2025

Gilbert, Eric

Job	Truss	Truss Type	Qty	Ply	
	2F2D	Floor	1	1	I71459455
					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. Mon Feb 17 10:45:16 Page: 1

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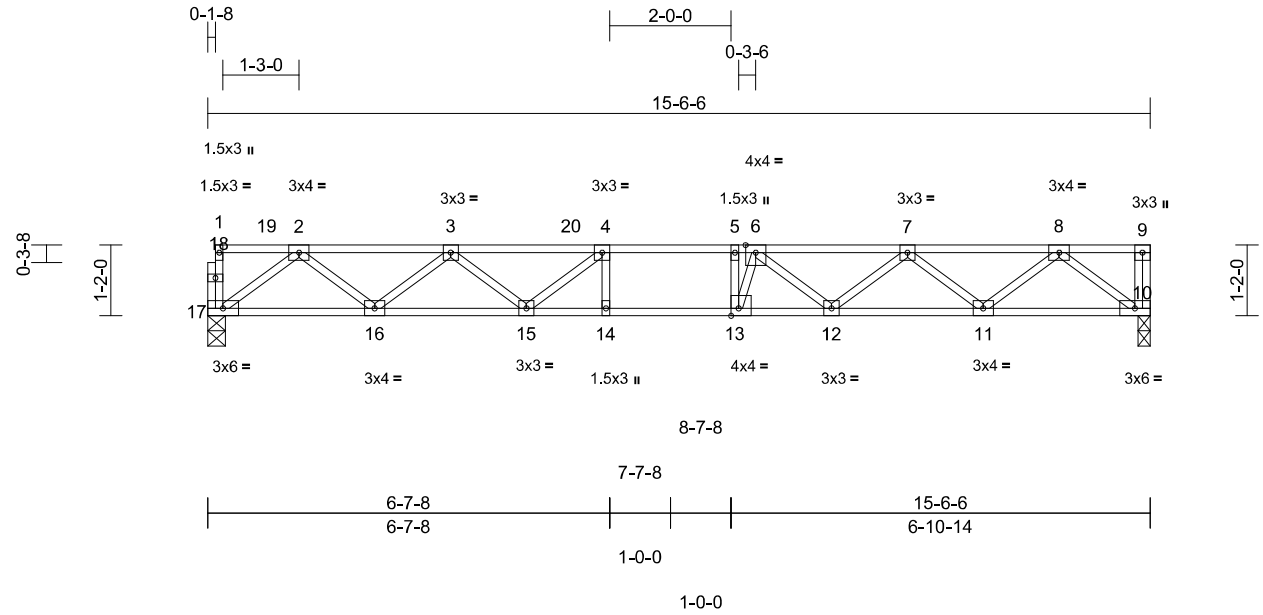

Scale = 1:38

Plate Offsets (X, Y): [13:0-1-8,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	0.55	Vert(LL)	-0.15	13-14	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.95	Vert(CT)	-0.21	13-14	>855	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.36	Horz(CT)	0.04	10	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							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 10-0-0 oc bracing.

REACTIONS (size) 10=0-2-6, 17=0-3-8
Max Grav 10=685 (LC 1), 17=712 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-17=-32/0, 9-10=-34/0, 1-2=-2/0, 2-3=-1470/0, 3-4=-2282/0, 4-5=-2529/0, 5-6=-2529/0, 6-7=-2227/0, 7-8=-1410/0, 8-9=0/0
BOT CHORD 16-17=0/889, 15-16=0/2023, 14-15=0/2529, 13-14=0/2529, 12-13=0/2498, 11-12=0/1945, 10-11=0/846
WEBS 4-14=-87/97, 5-13=-375/139, 4-15=-446/0, 3-15=0/384, 3-16=-720/0, 2-16=0/755, 2-17=-1114/0, 8-10=-1062/0, 8-11=0/733, 7-11=-696/0, 7-12=0/368, 6-12=-400/0, 6-13=-211/504

NOTES

1) Unbalanced floor live loads have been considered for this design.
2) All bearings are assumed to be SP No.2 .
3) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 10.
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.

LOAD CASE(S) Standard

1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 10-17=-8, 1-19=-80, 19-20=-91, 9-20=-80
Concentrated Loads (lb)
Vert: 19=0

February 17,2025

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	
	2F2A	Floor	3	1	I71459456
					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. Mon Feb 17 10:45:15 Page: 1
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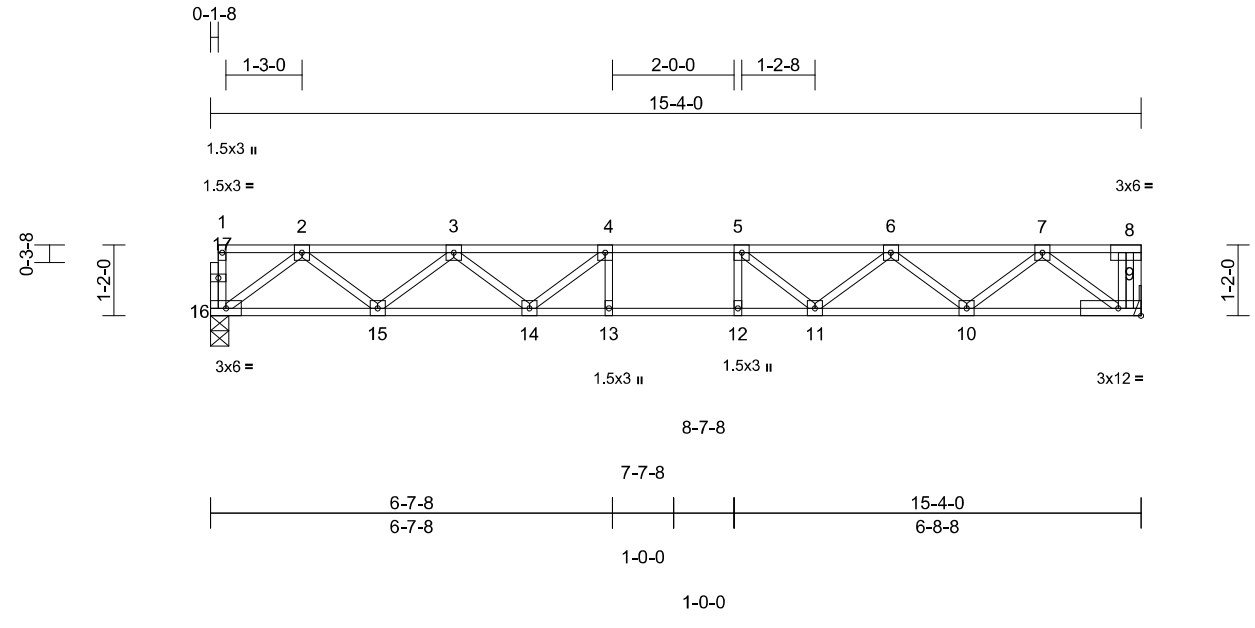

Scale = 1:38

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	0.32	Vert(LL)	-0.12	11-12	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.73	Vert(CT)	-0.16	12-13	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.28	Horz(CT)	0.03	9	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							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 10-0-0 oc bracing.

REACTIONS (size) 9= Mechanical, 16=0-3-8
Max Grav 9=551 (LC 1), 16=547 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-16=-28/0, 8-9=-33/0, 1-2=-2/0, 2-3=-1125/0, 3-4=-1759/0, 4-5=-1965/0, 5-6=-1770/0, 6-7=-1146/0, 7-8=0/0
BOT CHORD 15-16=0/678, 14-15=0/1548, 13-14=0/1965, 12-13=0/1965, 11-12=0/1965, 10-11=0/1564, 9-10=0/706
WEBS 4-13=-84/106, 5-12=-86/107, 4-14=-386/0, 3-14=0/313, 3-15=-551/0, 2-15=0/581, 2-16=-849/0, 7-9=-872/0, 7-10=0/573, 6-10=-543/0, 6-11=0/311, 5-11=-379/0

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 16 SP No.2 .
4) Refer to girder(s) for truss to truss connections.
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

February 17,2025

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Job	Truss	Truss Type	Qty	Ply	
	2F6A	Floor	2	1	I71459457
					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. Mon Feb 17 10:45:18 Page: 1

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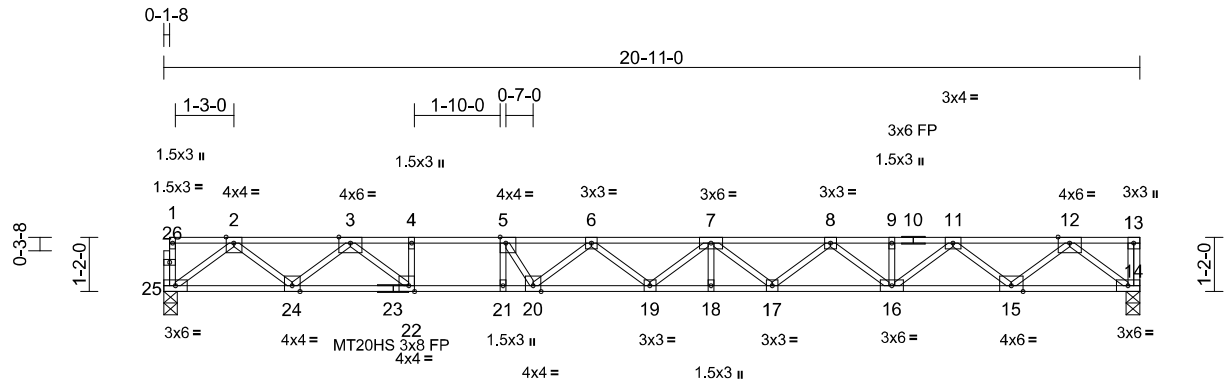

TRUSS MAY EXHIBIT 3/8" DEFLECTION BETWEEN JOINTS 4 AND 5. CONSULT PROJECT ENGINEER OR ARCHITECT FOR AESTHETIC IMPLICATIONS THAT COULD BE CAUSED BY THIS DEFLECTION.

Scale = 1:49.5

Plate Offsets (X, Y): [5:0-1-8,Edge], [22:0-1-8,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)	-0.47	19-20	>526	480	MT20HS	187/143
TCDL	10.0	Lumber DOL	1.00	BC	0.97	Vert(CT)	-0.65	19-20	>383	360	MT20	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.60	Horz(CT)	0.08	14	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 107 lb	FT = 20%F, 12%E

LUMBER

TOP CHORD 2x4 SP SS(flat) *Except* 10-13:2x4 SP No.2 (flat)
BOT CHORD 2x4 SP SS(flat) *Except* 23-14:2x4 SP DSS (flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-3-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-2-0 oc bracing: 21-22.

REACTIONS (size) 14=0-3-8, 25=0-3-8
Max Grav 14=909 (LC 1), 25=904 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-25=-25/3, 13-14=-32/0, 1-2=-2/0, 2-3=-1920/0, 3-4=-3711/0, 4-5=-3711/0, 5-6=-4144/0, 6-7=-4470/0, 7-8=-4181/0, 8-9=-3374/0, 9-11=-3374/0, 11-12=-1968/0, 12-13=0/0
BOT CHORD 24-25=0/1136, 22-24=0/2784, 21-22=0/3711, 20-21=0/3711, 19-20=0/4487, 18-19=0/4456, 17-18=0/4456, 16-17=0/3900, 15-16=0/2766, 14-15=0/1143
WEBS 4-22=-468/0, 5-21=-636/0, 3-22=0/1260, 3-24=-1124/0, 2-24=0/1022, 2-25=-1423/0, 12-14=-1434/0, 12-15=0/1073, 11-15=-1039/0, 11-16=0/776, 9-16=-45/0, 8-16=-672/0, 8-17=0/366, 7-17=-350/0, 7-18=0/14, 7-19=-46/138, 6-19=-113/38, 6-20=-527/30, 5-20=0/934

NOTES

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 25 SP SS , Joint 14 SP DSS .
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

February 17,2025

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Job	Truss	Truss Type	Qty	Ply	
	2F6	Floor	4	1	I71459458
					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. Mon Feb 17 10:45:17 Page: 1
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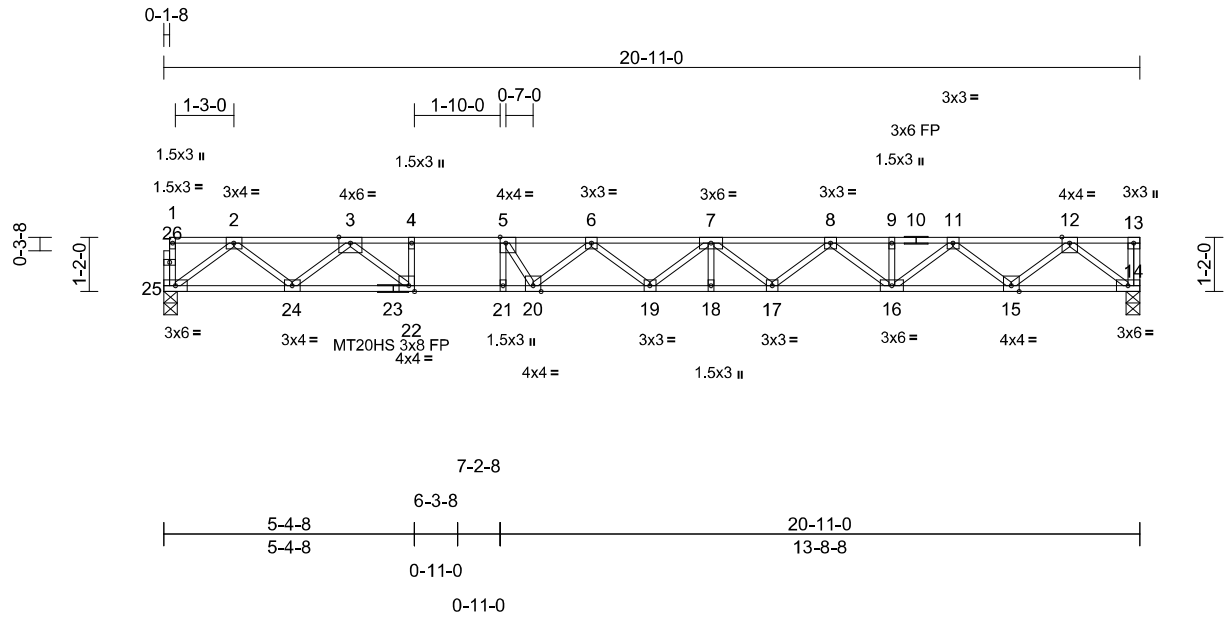

Scale = 1:49.5

Plate Offsets (X, Y): [5:0-1-8,Edge], [22:0-1-8,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	0.59	Vert(LL)	-0.40	19-20	>617	480	MT20HS	187/143
TCDL	10.0	Lumber DOL	1.00	BC	0.91	Vert(CT)	-0.55	19-20	>449	360	MT20	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.50	Horz(CT)	0.07	14	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 107 lb	FT = 20%F, 12%E

LUMBER
TOP CHORD 2x4 SP SS(flat) *Except* 10-13:2x4 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:
2-2-0 oc bracing: 21-22.

REACTIONS (size) 14=0-3-8, 25=0-3-8
Max Grav 14=758 (LC 1), 25=754 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-25=-21/3, 13-14=-26/0, 1-2=-1/0, 2-3=-1601/0, 3-4=-3096/0, 4-5=-3096/0, 5-6=-3453/0, 6-7=-3728/0, 7-8=-3487/0, 8-9=-2813/0, 9-11=-2813/0, 11-12=-1641/0, 12-13=0/0
BOT CHORD 24-25=0/947, 22-24=0/2320, 21-22=0/3096, 20-21=0/3096, 19-20=0/3742, 18-19=0/3715, 17-18=0/3715, 16-17=0/3252, 15-16=0/2306, 14-15=0/953
WEBS 4-22=-397/0, 5-21=-518/0, 3-22=0/1055, 3-24=-935/0, 2-24=0/851, 2-25=-1187/0, 12-14=-1196/0, 12-15=0/895, 11-15=-866/0, 11-16=0/647, 9-16=-38/0, 8-16=-560/0, 8-17=0/305, 7-17=-291/0, 7-18=0/11, 7-19=-37/116, 6-19=-94/32, 6-20=-443/24, 5-20=0/771

NOTES
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) 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

February 17,2025

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818 Soundside Road
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Job	Truss	Truss Type	Qty	Ply	
	2F5	Floor	1	1	I71459459 Job Reference (optional)

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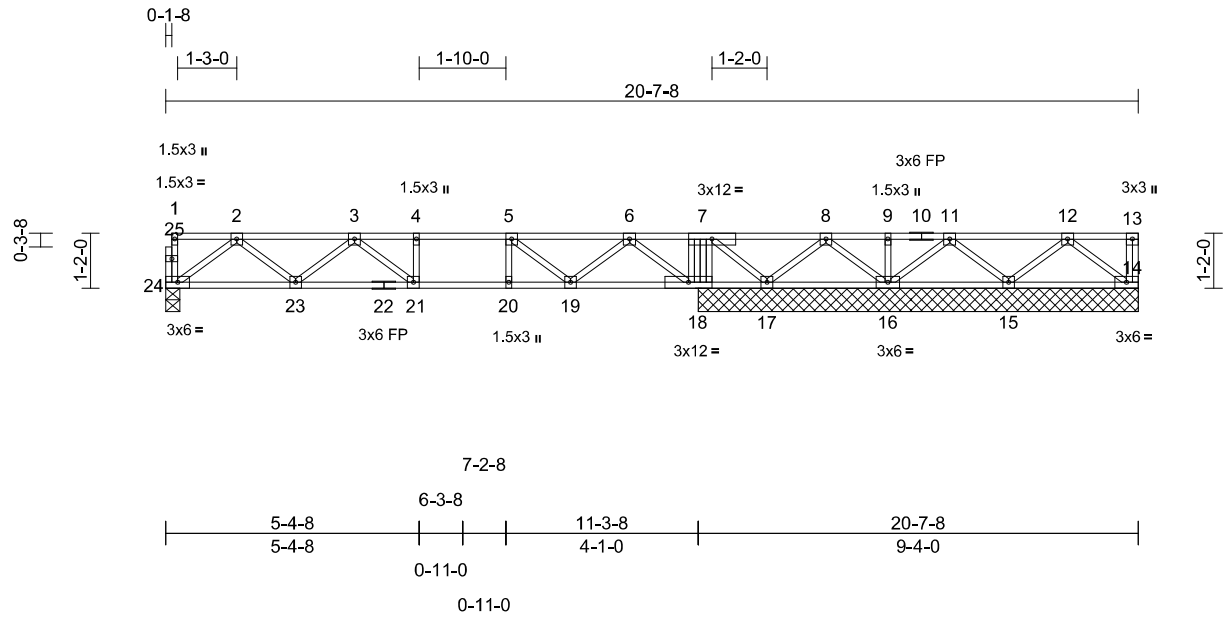

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Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.52	Vert(LL)	-0.12	21-23	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.70	Vert(CT)	-0.14	21-23	>933	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.29	Horz(CT)	0.02	14	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 108 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, Except:
10-0-0 oc bracing: 23-24,14-15.

REACTIONS (size) 14=9-4-0, 15=9-4-0, 16=9-4-0, 17=9-4-0, 18=9-4-0, 24=0-3-8
Max Horiz 24=-9 (LC 6)
Max Uplift 14=-140 (LC 8), 16=-30 (LC 8), 17=-226 (LC 19), 18=-186 (LC 7), 24=-29 (LC 7)
Max Grav 14=201 (LC 25), 15=231 (LC 21), 16=250 (LC 21), 17=222 (LC 25), 18=910 (LC 4), 24=443 (LC 13)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-24=-29/0, 13-14=-29/0, 1-2=-197/197, 2-3=-922/152, 3-4=-1031/0, 4-5=-1189/290, 5-6=-960/523, 6-7=-527/879, 7-8=-368/468, 8-9=-163/187, 9-11=-214/237, 11-12=-181/199, 12-13=-206/206
BOT CHORD 23-24=-127/631, 21-23=-213/1151, 20-21=-290/1189, 19-20=-487/1336, 18-19=-663/754, 17-18=-971/696, 16-17=-320/310, 15-16=-194/209, 14-15=-177/209
WEBS 4-21=-121/105, 5-20=-80/167, 3-21=-281/293, 3-23=-381/142, 2-23=-75/413, 2-24=-677/59, 5-19=-665/193, 6-19=-100/555, 6-18=-799/28, 7-18=-625/362, 12-14=-280/246, 12-15=-329/222, 11-15=-310/244, 11-16=-323/250, 9-16=-50/0, 8-16=-392/362, 8-17=-461/331, 7-17=-649/809

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x3 (=) MT20 unless otherwise indicated.
3) All bearings are assumed to be SP No.2 .
4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 226 lb uplift at joint 17.
5) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 24, 18, 14, and 16. This connection is for uplift only and does not consider lateral forces.
6) This truss has been designed for a total drag load of 150 plf. Lumber DOL=(1.33) Plate grip DOL=(1.33) Connect truss to resist drag loads along bottom chord from 0-0-0 to 20-7-8 for 150.0 plf.
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

February 17,2025

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	
	2F2B	Floor	2	1	I71459460
					Job Reference (optional)

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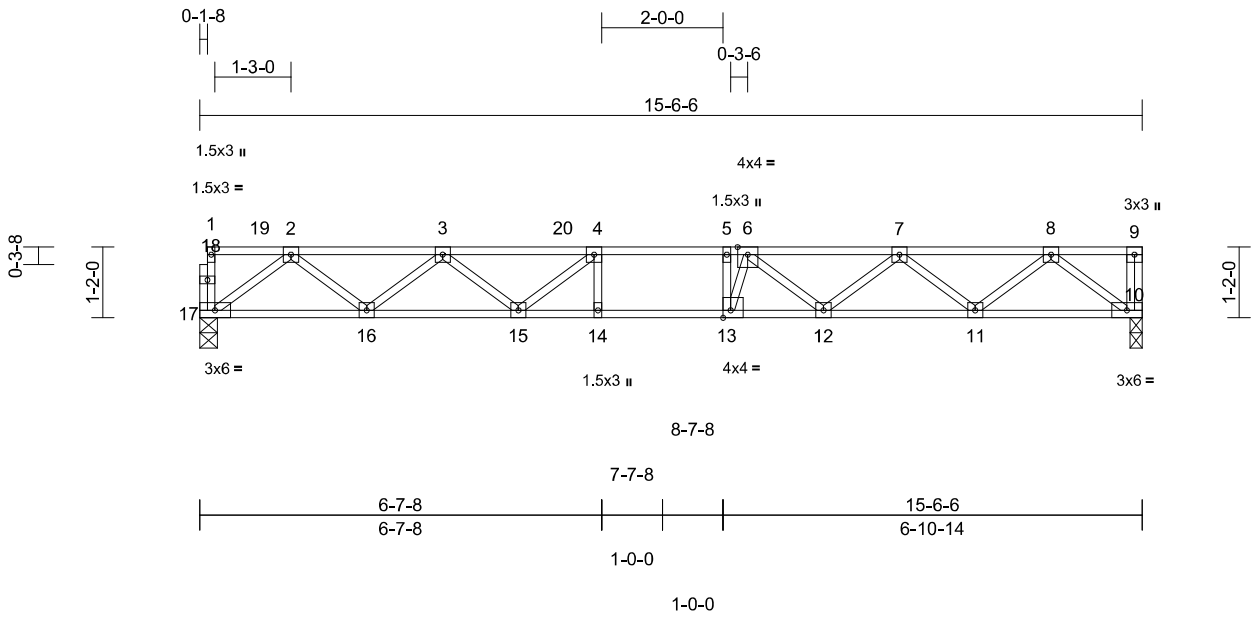


Scale = 1:38

Plate Offsets (X, Y): [13:0-1-8,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	0.43	Vert(LL)	-0.12	13-14	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.77	Vert(CT)	-0.18	13-14	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.29	Horz(CT)	0.04	10	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							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 10-0-0 oc bracing.

REACTIONS (size) 10=0-2-6, 17=0-3-8
Max Grav 10=567 (LC 1), 17=580 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-17=-27/0, 9-10=-28/0, 1-2=-2/0, 2-3=-1198/0, 3-4=-1869/0, 4-5=-2081/0, 5-6=-2081/0, 6-7=-1840/0, 7-8=-1166/0, 8-9=0/0
BOT CHORD 16-17=0/724, 15-16=0/1650, 14-15=0/2081, 13-14=0/2081, 12-13=0/2059, 11-12=0/1608, 10-11=0/701
WEBS 4-14=-69/85, 5-13=-303/125, 4-15=-379/0, 3-15=0/324, 3-16=-588/0, 2-16=0/618, 2-17=-906/0, 8-10=-879/0, 8-11=0/606, 7-11=-575/0, 7-12=0/302, 6-12=-325/0, 6-13=-190/407

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x3 (=) MT20 unless otherwise indicated.
3) All bearings are assumed to be SP No.2 .
4) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 10.
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.

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 10-17=-7, 1-19=-67, 19-20=-73, 9-20=-67

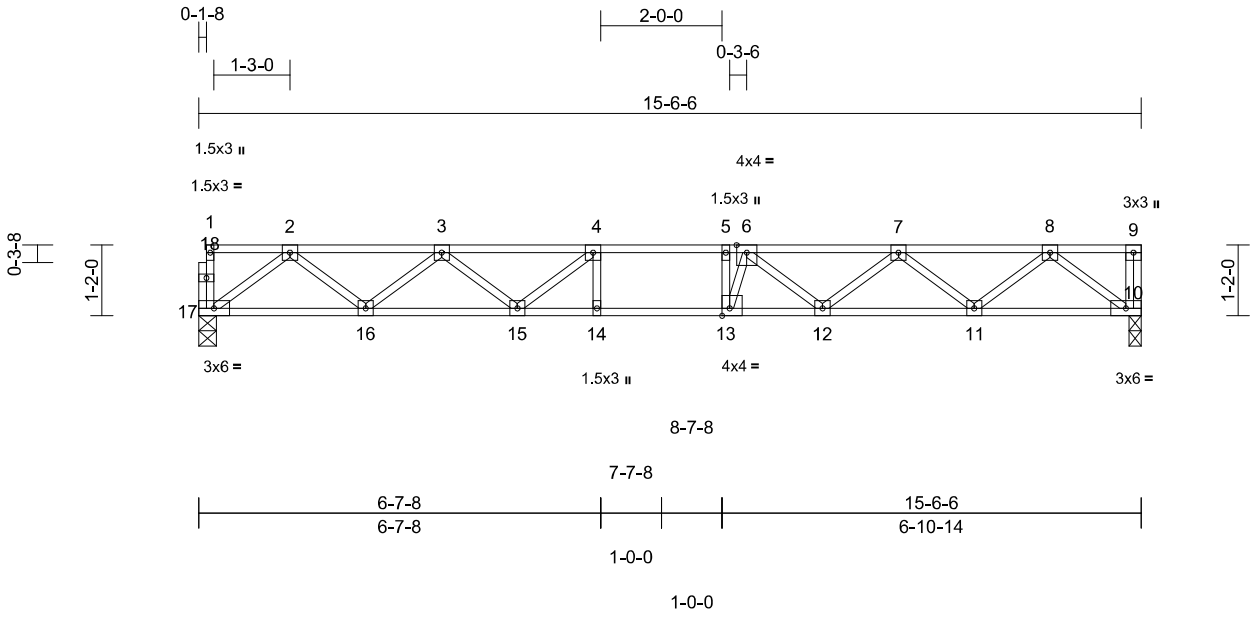
February 17,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F2C	Floor	2	1	I71459461
					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. Mon Feb 17 10:45:16 Page: 1
ID:kSHTjD000QpzoO3DR0BxOVzqBw1-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:38

Plate Offsets (X, Y): [13:0-1-8,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	0.35	Vert(LL)	-0.12	13-14	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.68	Vert(CT)	-0.17	13-14	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.28	Horz(CT)	0.04	10	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							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 10-0-0 oc bracing.

REACTIONS (size) 10=0-2-6, 17=0-3-8
Max Grav 10=560 (LC 1), 17=556 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-17=-28/0, 9-10=-28/0, 1-2=-2/0, 2-3=-1149/0, 3-4=-1807/0, 4-5=-2029/0, 5-6=-2029/0, 6-7=-1807/0, 7-8=-1149/0, 8-9=0/0
BOT CHORD 16-17=0/691, 15-16=0/1583, 14-15=0/2029, 13-14=0/2029, 12-13=0/2015, 11-12=0/1583, 10-11=0/692
WEBS 4-14=-61/92, 5-13=-287/142, 4-15=-393/0, 3-15=0/331, 3-16=-565/0, 2-16=0/595, 2-17=-865/0, 8-10=-868/0, 8-11=0/595, 7-11=-565/0, 7-12=0/292, 6-12=-310/0, 6-13=-214/383

LOAD CASE(S) Standard

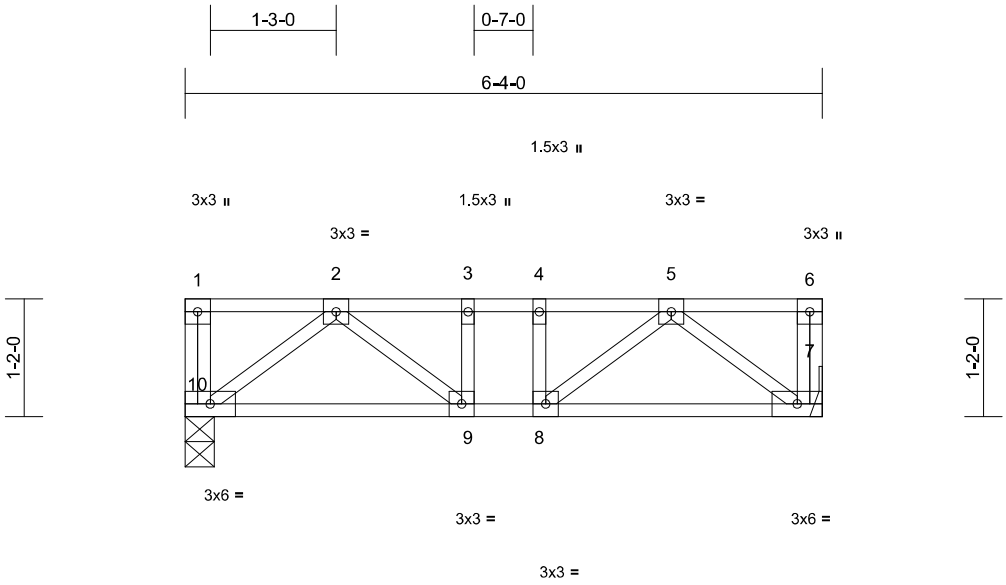
NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x3 (=) MT20 unless otherwise indicated.
3) All bearings are assumed to be SP No.2 .
4) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 10.
5) Recommend 2x6 strongbacks, on edge, 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.

February 17,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F10	Floor	1	1	I71459462 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. Mon Feb 17 10:45:19 Page: 1
ID:HZ1V26FOqz_6btkh2IbxTQzvZBE-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:22.9

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	0.09	Vert(LL)	-0.01	9-10	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.13	Vert(CT)	-0.01	9-10	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.00	7	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 36 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)

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) 7= Mechanical, 10=0-3-8
Max Grav 7=267 (LC 1), 10=267 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-10=-44/0, 6-7=-44/0, 1-2=0/0, 2-3=-393/0, 3-4=-393/0, 4-5=-393/0, 5-6=0/0
BOT CHORD 9-10=0/283, 8-9=0/393, 7-8=0/283
WEBS 5-7=-355/0, 2-10=-355/0, 5-8=0/164, 2-9=0/164, 3-9=-73/0, 4-8=-73/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: Joint 10 SP No.2 .
3) Refer to girder(s) for truss to truss connections.
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.

LOAD CASE(S) Standard

February 17,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F9	Floor	3	1	I71459463 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. Mon Feb 17 10:45:19 Page: 1
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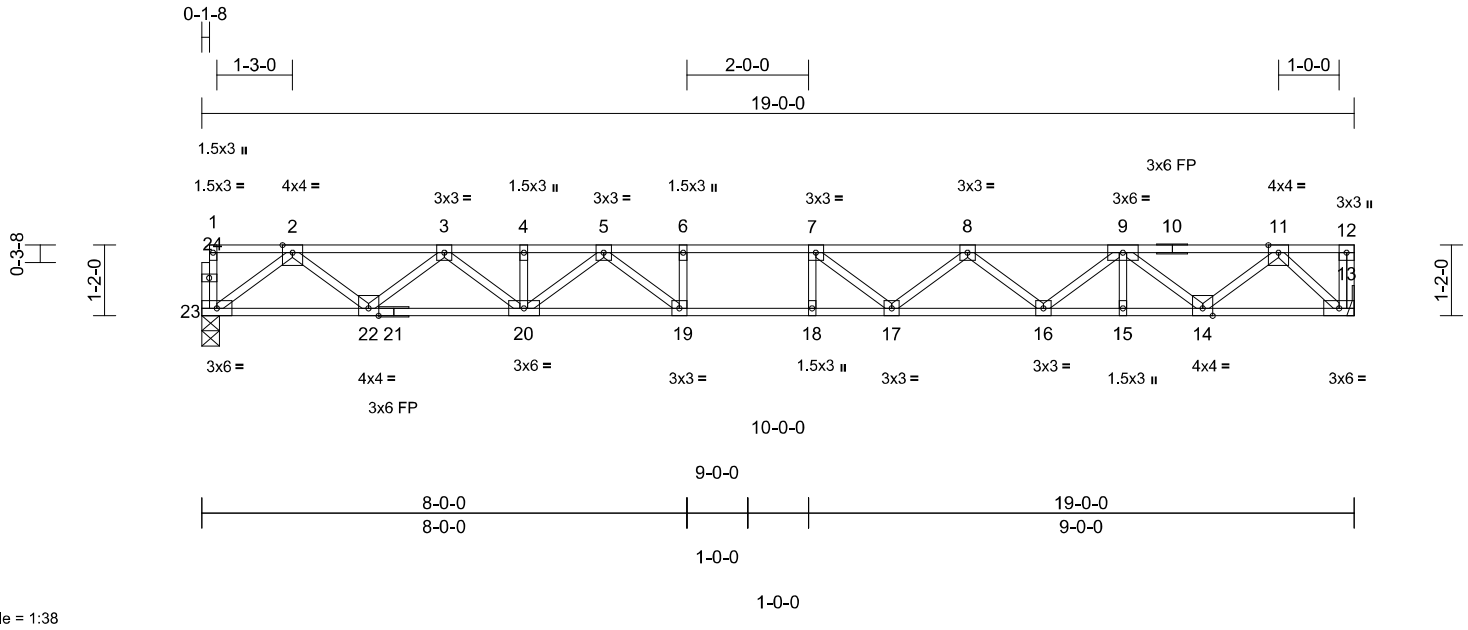

Scale = 1:38

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	0.67	Vert(LL)	-0.31	17-18	>719	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.66	Vert(CT)	-0.43	17-18	>524	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.46	Horz(CT)	0.06	13	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 97 lb	FT = 20%F, 12%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat) *Except* 21-13:2x4 SP SS (flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-8-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 13= Mechanical, 23=0-3-8
Max Grav 13=824 (LC 1), 23=819 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-23=-29/0, 12-13=-17/0, 1-2=-2/0, 2-3=-1758/0, 3-4=-2956/0, 4-5=-2956/0, 5-6=-3664/0, 6-7=-3664/0, 7-8=-3522/0, 8-9=-2871/0, 9-11=-1611/0, 11-12=0/0
BOT CHORD 22-23=0/1033, 20-22=0/2450, 19-20=0/3357, 18-19=0/3664, 17-18=0/3664, 16-17=0/3328, 15-16=0/2376, 14-15=0/2376, 13-14=0/862
WEBS 6-19=-244/0, 7-18=-170/116, 2-23=-1294/0, 2-22=0/943, 3-22=-901/0, 3-20=0/647, 4-20=-82/0, 5-20=-511/0, 5-19=0/630, 7-17=-457/121, 8-17=0/375, 8-16=-595/0, 9-16=0/632, 9-15=0/12, 9-14=-976/0, 11-14=0/976, 11-13=-1174/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: Joint 23 SP No.2 .
3) Refer to girder(s) for truss to truss connections.
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

February 17,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F8A	Floor	5	1	I71459464 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. Mon Feb 17 10:45:19 Page: 1
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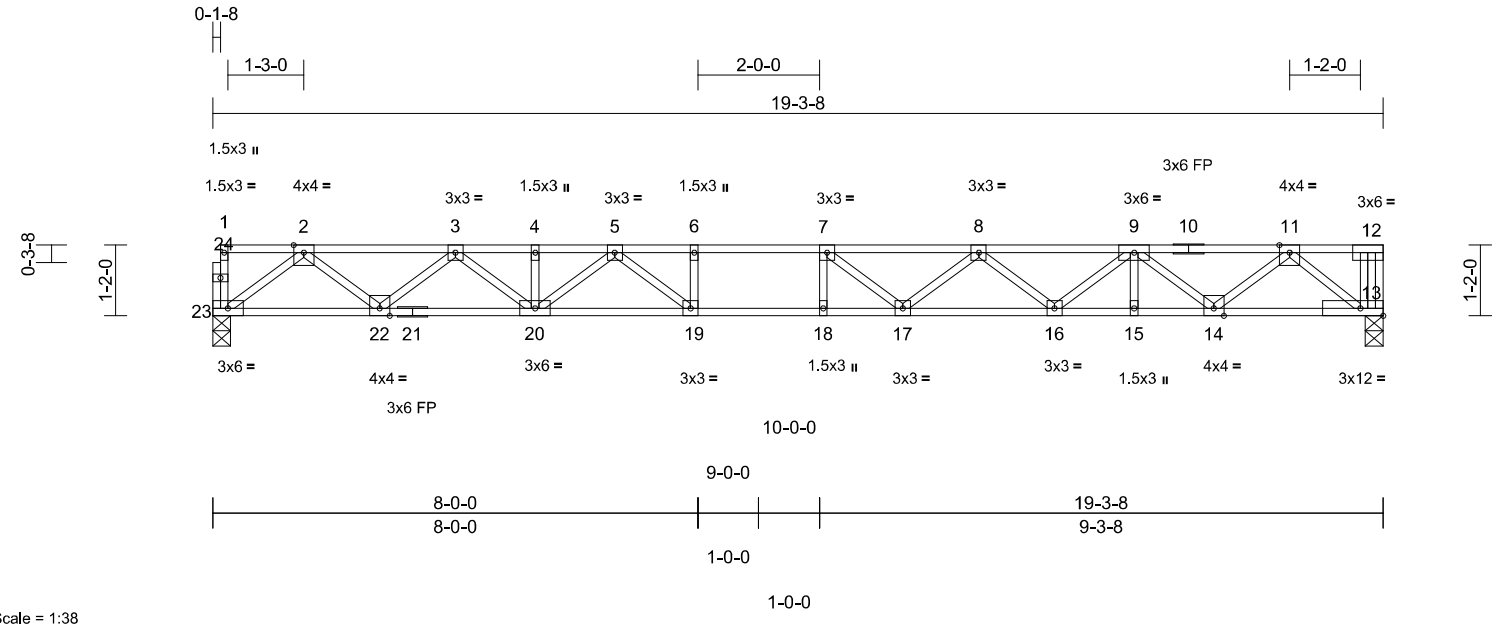


Scale = 1:38

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	0.70	Vert(LL)	-0.33	17-18	>685	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.68	Vert(CT)	-0.46	17-18	>500	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.46	Horz(CT)	0.06	13	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 99 lb	FT = 20%F, 12%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat) *Except* 21-13:2x4 SP SS (flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-4-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 13=0-3-8, 23=0-3-8
Max Grav 13=835 (LC 1), 23=830 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-23=-29/0, 12-13=-31/0, 1-2=-2/0, 2-3=-1783/0, 3-4=-3005/0, 4-5=-3005/0, 5-6=-3749/0, 6-7=-3749/0, 7-8=-3630/0, 8-9=-3003/0, 9-11=-1769/0, 11-12=0/0
BOT CHORD 22-23=0/1046, 20-22=0/2486, 19-20=0/3420, 18-19=0/3749, 17-18=0/3749, 16-17=0/3450, 15-16=0/2520, 14-15=0/2520, 13-14=0/1031
WEBS 6-19=-252/0, 7-18=-181/111, 2-23=-1311/0, 2-22=0/959, 3-22=-915/0, 3-20=0/663, 4-20=-84/0, 5-20=-529/0, 5-19=0/655, 7-17=-444/147, 8-17=0/367, 8-16=-581/0, 9-16=0/616, 9-15=0/12, 9-14=-959/0, 11-14=0/961, 11-13=-1301/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: Joint 23 SP No.2 , Joint 13 SP SS .
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) CAUTION, Do not erect truss backwards.

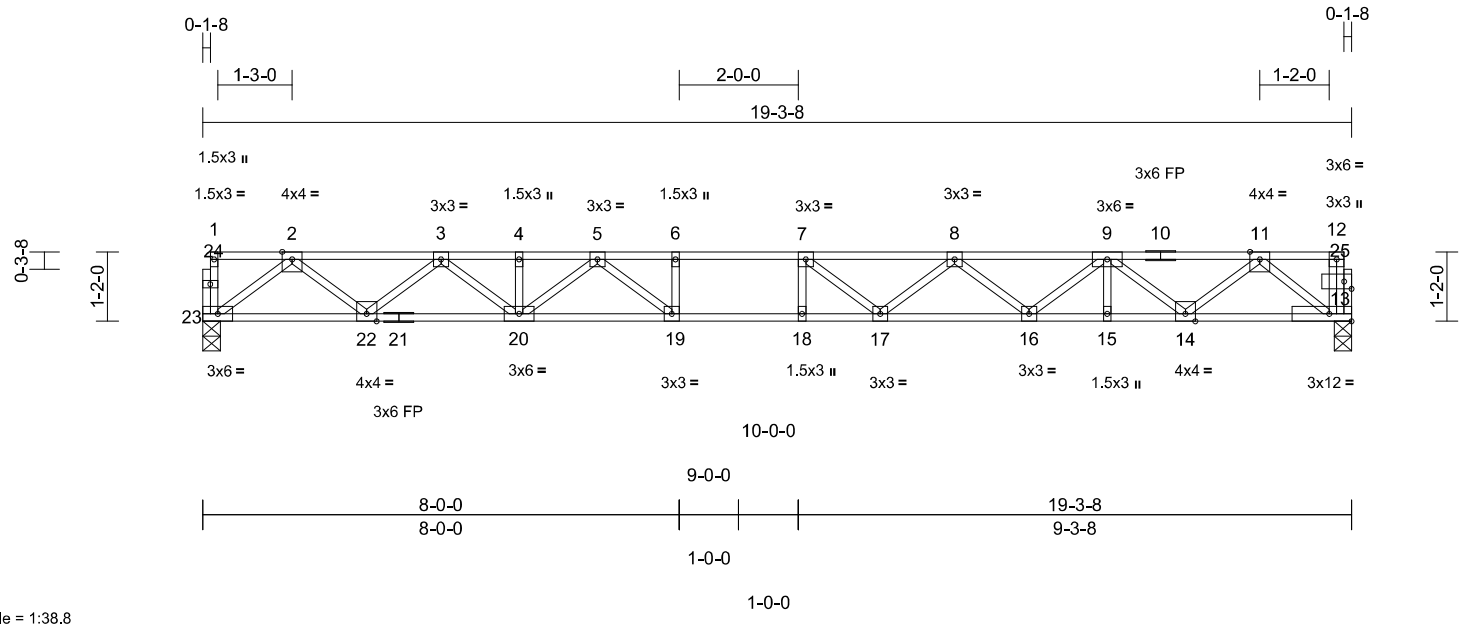
LOAD CASE(S) Standard

February 17,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F8	Floor	5	1	I71459465 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. Mon Feb 17 10:45:18 Page: 1
ID:YO6b8xf9DD0Tw_NZWMmIoHzvZEa-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:38.8

Plate Offsets (X, Y): [25:0-1-8,0-1-8]

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	0.70	Vert(LL)	-0.33	17-18	>685	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.68	Vert(CT)	-0.46	17-18	>500	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.46	Horz(CT)	0.06	13	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 99 lb	FT = 20%F, 12%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat) *Except* 21-13:2x4 SP SS (flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-4-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 13=0-3-8, 23=0-3-8
Max Grav 13=830 (LC 1), 23=830 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-23=-29/0, 12-13=-27/0, 1-2=-2/0, 2-3=-1783/0, 3-4=-3005/0, 4-5=-3005/0, 5-6=-3749/0, 6-7=-3749/0, 7-8=-3630/0, 8-9=-3003/0, 9-11=-1769/0, 11-12=-2/0
BOT CHORD 22-23=0/1046, 20-22=0/2486, 19-20=0/3420, 18-19=0/3749, 17-18=0/3749, 16-17=0/3449, 15-16=0/2520, 14-15=0/2520, 13-14=0/1030
WEBS 6-19=-252/0, 7-18=-181/111, 2-23=-1311/0, 2-22=0/959, 3-22=-915/0, 3-20=0/662, 4-20=-84/0, 5-20=-529/0, 5-19=0/655, 7-17=-444/147, 8-17=0/367, 8-16=-581/0, 9-16=0/616, 9-15=0/12, 9-14=-959/0, 11-14=0/962, 11-13=-1298/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: Joint 23 SP No.2 , Joint 13 SP SS .
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.

LOAD CASE(S) Standard

February 17,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F7	Floor	2	1	I71459466
					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. Mon Feb 17 10:45:18 Page: 1
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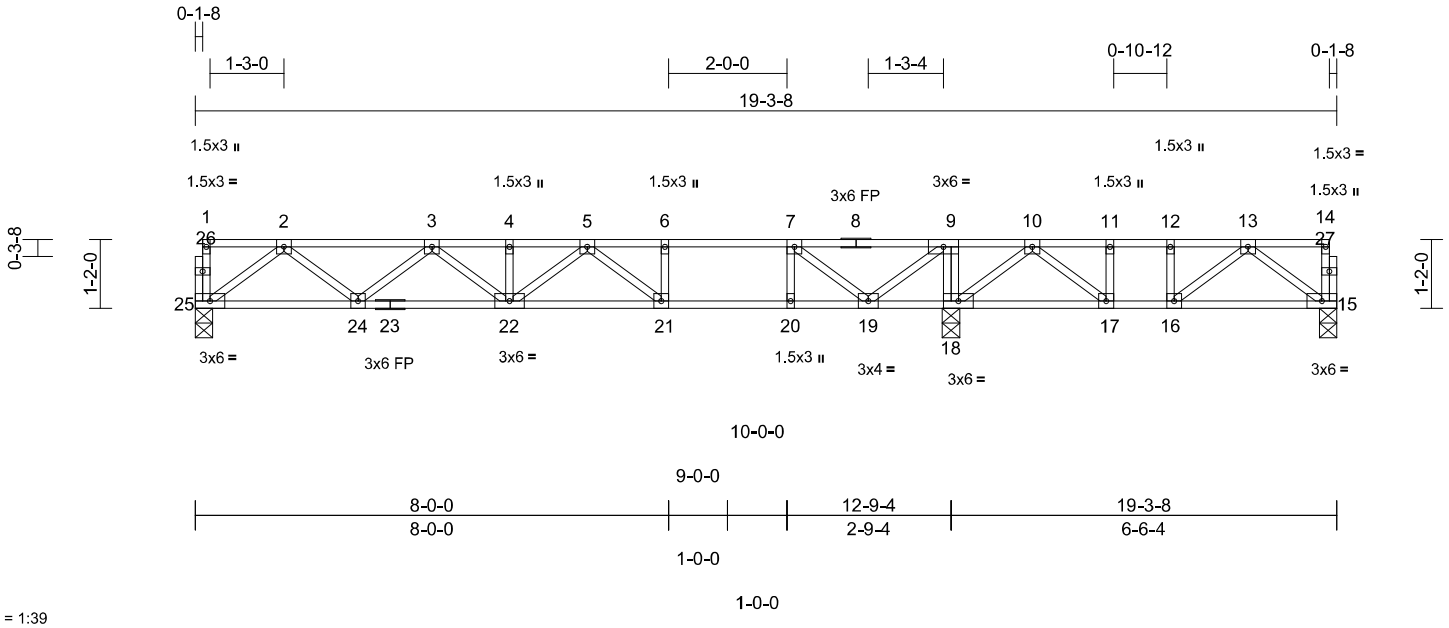

Scale = 1:39

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	0.87	Vert(LL)	-0.20	21-22	>748	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.62	Vert(CT)	-0.28	21-22	>549	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.36	Horz(CT)	0.02	15	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 99 lb	FT = 20%F, 12%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat) *Except* 23-15:2x4 SP SS (flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-1-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 18-19.

REACTIONS (size) 15=0-3-8, 18=0-3-8, 25=0-3-8
Max Grav 15=288 (LC 7), 18=860 (LC 1), 25=549 (LC 10)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-25=-28/0, 14-15=-42/0, 1-2=-2/0, 2-3=-1072/0, 3-4=-1642/0, 4-5=-1642/0, 5-6=-1374/0, 6-7=-1374/0, 7-9=-601/0, 9-10=-62/220, 10-11=-461/0, 11-12=-461/0, 12-13=-461/0, 13-14=-3/0
BOT CHORD 24-25=0/673, 22-24=0/1462, 21-22=0/1660, 20-21=0/1374, 19-20=0/1374, 18-19=-220/62, 17-18=0/366, 16-17=0/461, 15-16=0/315
WEBS 6-21=-19/79, 7-20=0/300, 9-18=-575/0, 2-25=-843/0, 2-24=0/519, 3-24=-508/0, 3-22=0/229, 4-22=-41/0, 5-22=-54/11, 5-21=-400/0, 7-19=-1009/0, 9-19=0/765, 10-18=-395/0, 13-15=-392/0, 10-17=0/263, 13-16=0/187, 11-17=-134/0, 12-16=-93/0

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 25 SP No.2 , Joint 18 SP SS , Joint 15 SP SS .
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

February 17,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F4	Floor	4	1	I71459467
					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. Mon Feb 17 10:45:17 Page: 1
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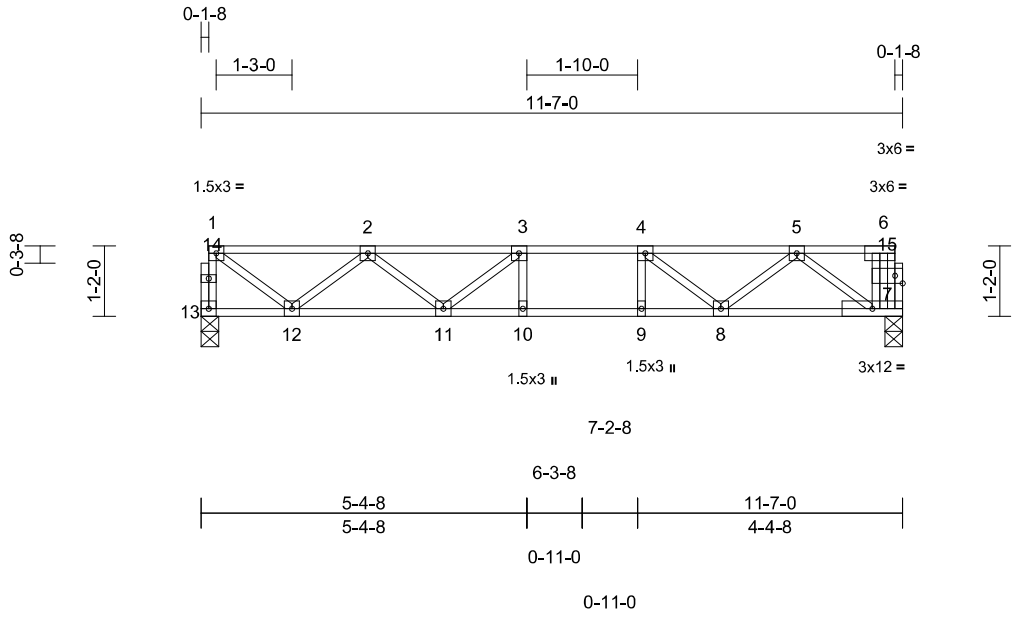


Scale = 1:38.1

Plate Offsets (X, Y): [15:0-1-8,0-1-8]

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	0.37	Vert(LL)	-0.08	10-11	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.67	Vert(CT)	-0.10	10-11	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.31	Horz(CT)	0.02	7	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 61 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) 7=0-3-8, 13=0-3-8
Max Grav 7=488 (LC 1), 13=488 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-13=-483/0, 6-7=-37/0, 1-2=-537/0, 2-3=-1174/0, 3-4=-1298/0, 4-5=-956/0, 5-6=-2/0
BOT CHORD 12-13=0/29, 11-12=0/1004, 10-11=0/1298, 9-10=0/1298, 8-9=0/1298, 7-8=0/635
WEBS 3-10=-107/58, 4-9=-36/126, 3-11=-270/0, 2-11=0/250, 2-12=-609/0, 1-12=0/648, 5-7=-770/0, 5-8=0/418, 4-8=-457/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x3 (=) MT20 unless otherwise indicated.
3) All bearings are assumed to be SP No.2 .
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.

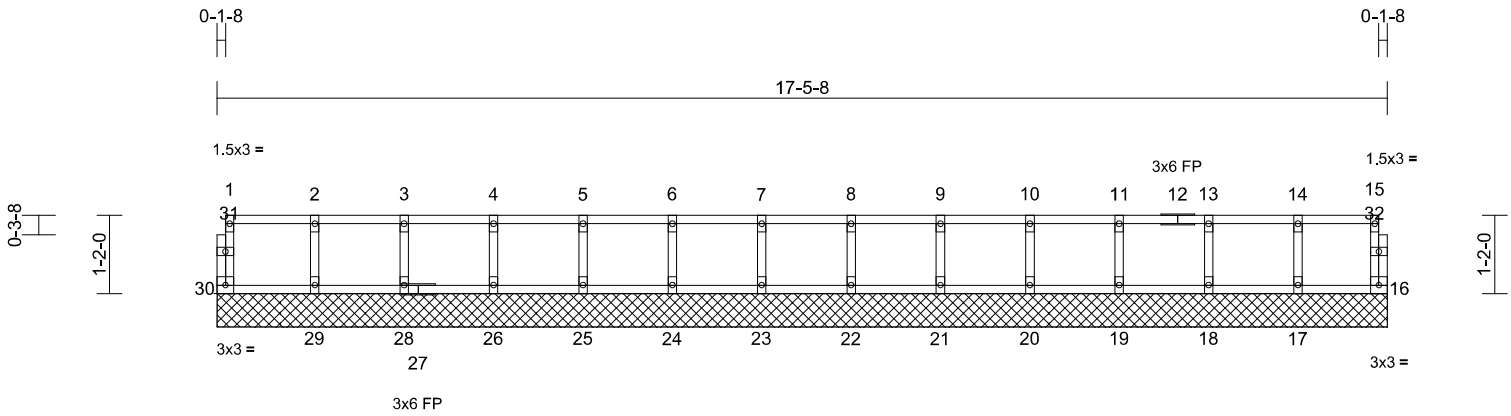
LOAD CASE(S) Standard

February 17,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2FGE	Floor Supported Gable	1	1	I71459468 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. Mon Feb 17 10:45:19 Page: 1
ID:9NOJa1W3SKGMk1VbHl5nFSzvZle-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:34.4

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	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 73 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) 16=17-5-8, 17=17-5-8, 18=17-5-8, 19=17-5-8, 20=17-5-8, 21=17-5-8, 22=17-5-8, 23=17-5-8, 24=17-5-8, 25=17-5-8, 26=17-5-8, 28=17-5-8, 29=17-5-8, 30=17-5-8
Max Grav 16=46 (LC 1), 17=113 (LC 1), 18=119 (LC 1), 19=117 (LC 1), 20=117 (LC 1), 21=117 (LC 1), 22=117 (LC 1), 23=117 (LC 1), 24=117 (LC 1), 25=117 (LC 1), 26=117 (LC 1), 28=116 (LC 1), 29=121 (LC 1), 30=51 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-30=-46/0, 15-16=-41/0, 1-2=-9/0, 2-3=-9/0, 3-4=-9/0, 4-5=-9/0, 5-6=-9/0, 6-7=-9/0, 7-8=-9/0, 8-9=-9/0, 9-10=-9/0, 10-11=-9/0, 11-13=-9/0, 13-14=-9/0, 14-15=-9/0
BOT CHORD 29-30=0/9, 28-29=0/9, 26-28=0/9, 25-26=0/9, 24-25=0/9, 23-24=0/9, 22-23=0/9, 21-22=0/9, 20-21=0/9, 19-20=0/9, 18-19=0/9, 17-18=0/9, 16-17=0/9
WEBS 14-17=-103/0, 13-18=-108/0, 11-19=-106/0, 10-20=-107/0, 9-21=-107/0, 8-22=-107/0, 7-23=-107/0, 6-24=-107/0, 5-25=-107/0, 4-26=-107/0, 3-28=-106/0, 2-29=-110/0

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) All bearings are assumed to be SP No.2 .
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.

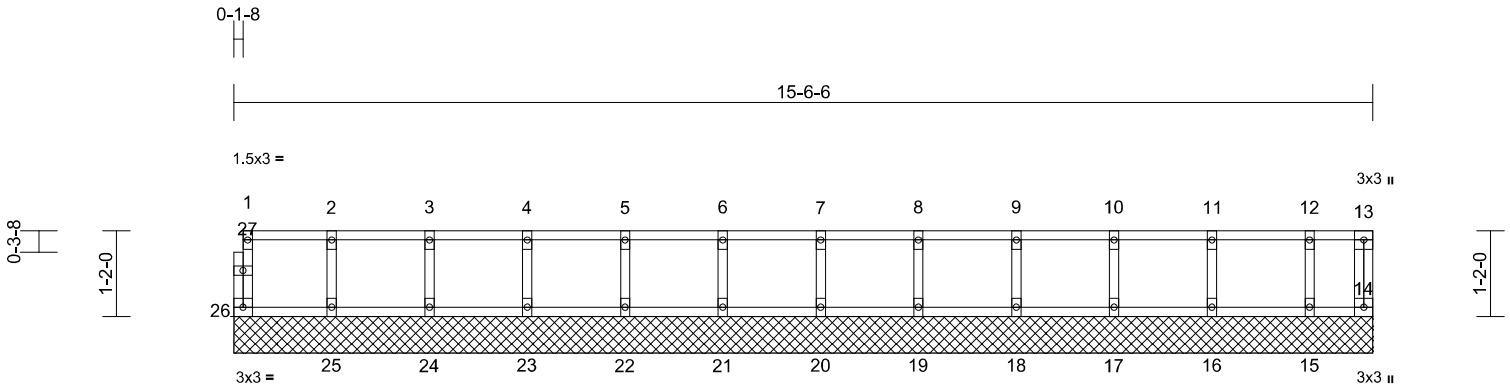
LOAD CASE(S) Standard

February 17,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2FGE1	Floor Supported Gable	1	1	I71459469 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. Mon Feb 17 10:45:20 Page: 1
ID:WcjdBZnsG51ENPBqZNUx85zvZII-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:31.5

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	14	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 66 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) 14=15-6-6, 15=15-6-6, 16=15-6-6, 17=15-6-6, 18=15-6-6, 19=15-6-6, 20=15-6-6, 21=15-6-6, 22=15-6-6, 23=15-6-6, 24=15-6-6, 25=15-6-6, 26=15-6-6
Max Grav 14=28 (LC 1), 15=92 (LC 1), 16=122 (LC 1), 17=116 (LC 1), 18=118 (LC 1), 19=117 (LC 1), 20=117 (LC 1), 21=117 (LC 1), 22=117 (LC 1), 23=117 (LC 1), 24=117 (LC 1), 25=118 (LC 1), 26=42 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 13-14=-22/0, 1-26=-39/0, 1-2=-5/0, 2-3=-5/0, 3-4=-5/0, 4-5=-5/0, 5-6=-5/0, 6-7=-5/0, 7-8=-5/0, 8-9=-5/0, 9-10=-5/0, 10-11=-5/0, 11-12=-5/0, 12-13=-5/0
BOT CHORD 25-26=0/5, 24-25=0/5, 23-24=0/5, 22-23=0/5, 21-22=0/5, 20-21=0/5, 19-20=0/5, 18-19=0/5, 17-18=0/5, 16-17=0/5, 15-16=0/5, 14-15=0/5
WEBS 2-25=-106/0, 3-24=-107/0, 4-23=-106/0, 5-22=-107/0, 6-21=-107/0, 7-20=-107/0, 8-19=-107/0, 9-18=-107/0, 10-17=-106/0, 11-16=-111/0, 12-15=-87/0

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) All bearings are assumed to be SP No.2 .
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.

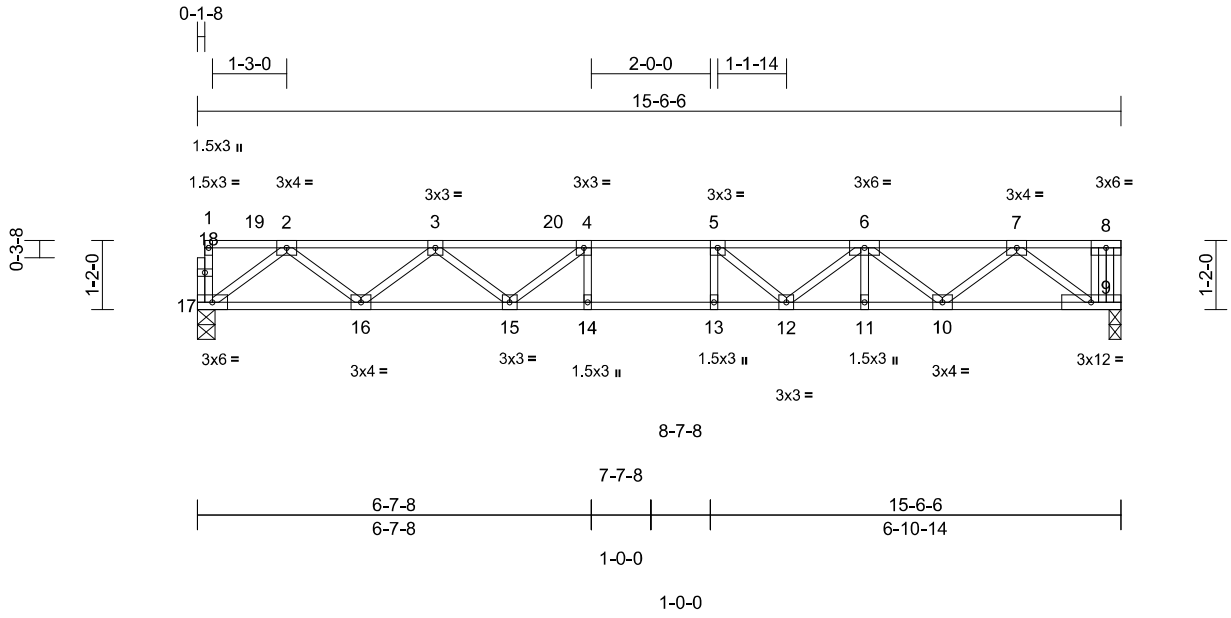
LOAD CASE(S) Standard

February 17,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F3	Floor	7	1	I71459470 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. Mon Feb 17 10:45:16 Page: 1
ID:Cv9rt6f9xpRIKG88A2rMQizvZJk-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:38.8

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	0.43	Vert(LL)	-0.15	12-13	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	1.00	Vert(CT)	-0.20	12-13	>906	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.34	Horz(CT)	0.04	9	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 81 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) 9=0-2-6, 17=0-3-8
Max Grav 9=667 (LC 1), 17=664 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-17=-33/0, 8-9=-41/0, 1-2=-2/0, 2-3=-1369/0, 3-4=-2144/0, 4-5=-2404/0, 5-6=-2191/0, 6-7=-1416/0, 7-8=0/0
BOT CHORD 16-17=0/825, 15-16=0/1884, 14-15=0/2404, 13-14=0/2404, 12-13=0/2404, 11-12=0/1940, 10-11=0/1940, 9-10=0/889
WEBS 4-14=-98/133, 5-13=-117/134, 4-15=-475/0, 3-15=0/384, 3-16=-671/0, 2-16=0/708, 2-17=-1032/0, 7-9=-1083/0, 7-10=0/686, 6-10=-669/0, 6-11=-16/23, 6-12=0/360, 5-12=-448/0

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 9-17=-8, 1-19=-80, 19-20=-81, 8-20=-80

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All bearings are assumed to be SP No.2 .
3) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 9.
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.

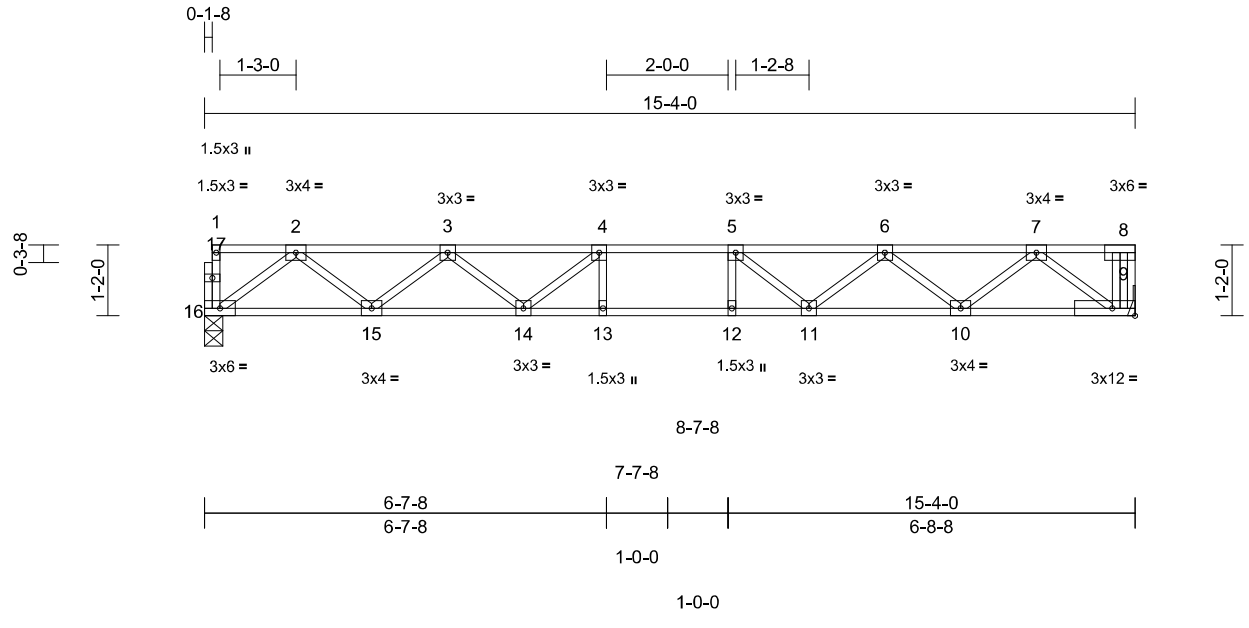
February 17,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F2	Floor	4	1	I71459471 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. Mon Feb 17 10:45:15 Page: 1
ID:cDJYxJVNEWgHf64SM6b4slzvZJy-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:38

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	0.39	Vert(LL)	-0.14	11-12	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.87	Vert(CT)	-0.19	12-13	>937	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.33	Horz(CT)	0.04	9	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							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 10-0-0 oc bracing.

REACTIONS (size) 9= Mechanical, 16=0-3-8
Max Grav 9=660 (LC 1), 16=655 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-16=-33/0, 8-9=-39/0, 1-2=-2/0, 2-3=-1349/0, 3-4=-2109/0, 4-5=-2357/0, 5-6=-2122/0, 6-7=-1375/0, 7-8=0/0
BOT CHORD 15-16=0/813, 14-15=0/1857, 13-14=0/2357, 12-13=0/2357, 11-12=0/2357, 10-11=0/1875, 9-10=0/846
WEBS 4-13=-101/127, 5-12=-104/128, 4-14=-463/0, 3-14=0/376, 3-15=-661/0, 2-15=0/697, 2-16=-1018/0, 7-9=-1045/0, 7-10=0/688, 6-10=-651/0, 6-11=0/373, 5-11=-454/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: Joint 16 SP No.2 .
3) Refer to girder(s) for truss to truss connections.
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

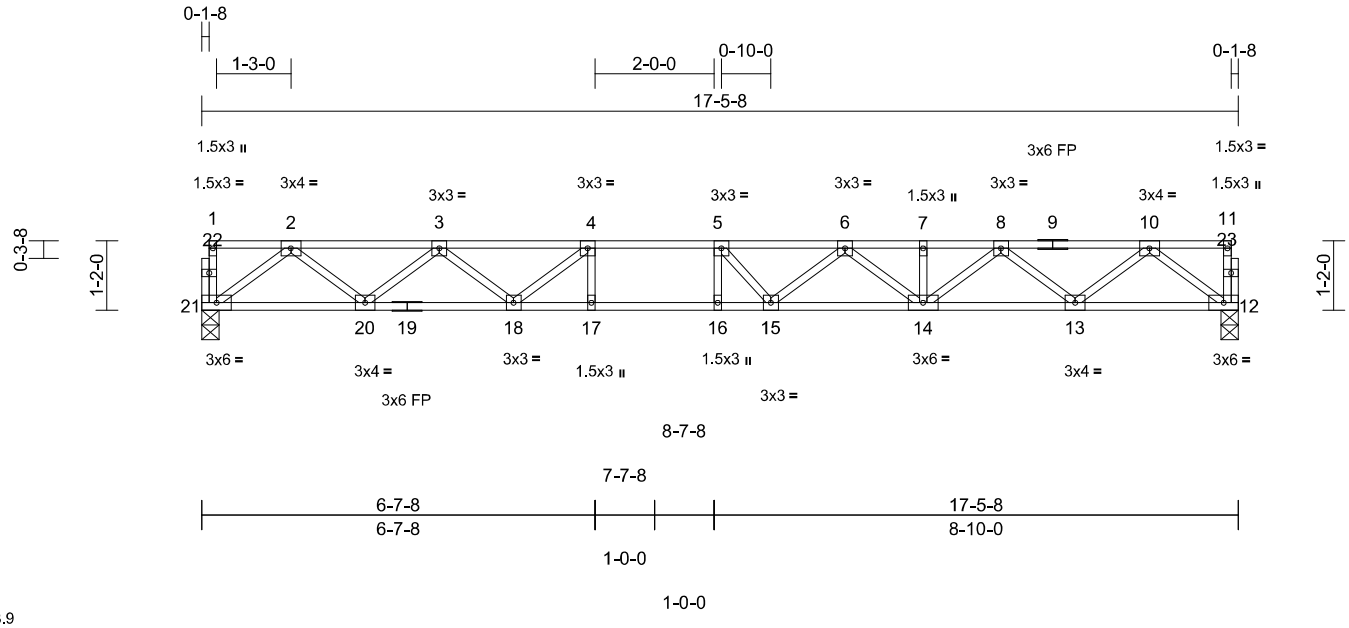
February 17,2025

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

Job	Truss	Truss Type	Qty	Ply	I71459472
	2F1	Floor	7	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. Mon Feb 17 10:45:14 Page: 1

ID:gZgNypGSihHztC7olcIdakzvZKF-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:38.9

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	0.56	Vert(LL)	-0.25	15-16	>840	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.66	Vert(CT)	-0.34	15-16	>611	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.40	Horz(CT)	0.05	12	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 88 lb	FT = 20%F, 12%E

LUMBER

TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat) *Except* 19-12:2x4 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.

REACTIONS (size) 12=0-3-8, 21=0-3-8
Max Grav 12=752 (LC 1), 21=752 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-21=-32/0, 11-12=-28/0, 1-2=-2/0, 2-3=-1590/0, 3-4=-2580/0, 4-5=-3040/0, 5-6=-3058/0, 6-7=-2618/0, 7-8=-2618/0, 8-10=-1587/0, 10-11=-2/0
BOT CHORD 20-21=0/944, 18-20=0/2200, 17-18=0/3040, 16-17=0/3040, 15-16=0/3040, 14-15=0/2959, 13-14=0/2202, 12-13=0/943
WEBS 4-17=-52/240, 5-16=-273/93, 4-18=-701/0, 3-18=0/517, 3-20=-794/0, 2-20=0/841, 2-21=-1182/0, 10-12=-1181/0, 10-13=0/838, 8-13=-801/0, 8-14=0/531, 7-14=-45/0, 6-14=-436/0, 6-15=-12/289, 5-15=-292/257

NOTES

1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: Joint 21 SP No.2 , Joint 12 SP SS .
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.

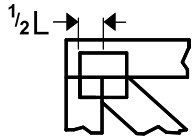
LOAD CASE(S) Standard

February 17,2025

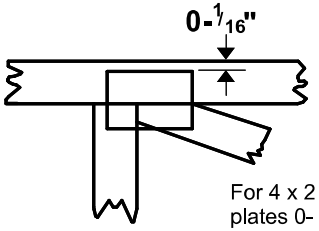
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

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.

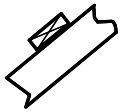
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

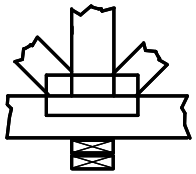
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

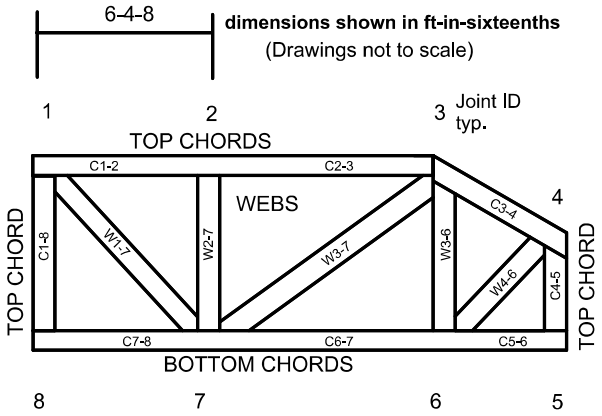


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

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.