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	I71463282	2F1GR	2/18/25
2	I71463283	2F3GR	2/18/25
3	I71463284	2F2GR	2/18/25
4	I71463285	2F1GE	2/18/25
5	I71463286	2F1	2/18/25
6	I71463287	2F2	2/18/25
7	I71463288	2F3	2/18/25
8	I71463289	2F2GE	2/18/25
9	I71463290	2F3GE	2/18/25
10	I71463291	2F16	2/18/25
11	I71463292	2F13	2/18/25
12	I71463293	2F6	2/18/25
13	I71463294	2F15	2/18/25
14	I71463295	2F7	2/18/25
	I71463296	2F8	2/18/25
16	I71463297	F25	2/18/25
17	I71463298	2F9	2/18/25
18	I71463299	2F10	2/18/25
19	I71463300	2F11	2/18/25
20	I71463301	2F12	2/18/25
21	I71463302	2F4GE	2/18/25
22	I71463303	2F5	2/18/25
23	I71463304	2F14	2/18/25
		2F4	2/18/25

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 18,2025
Gilbert, Eric

Job	Truss	Truss Type	Qty	Ply	
	2F1GR	Floor Girder	1	1	I71463282 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 12:18:57 Page: 1
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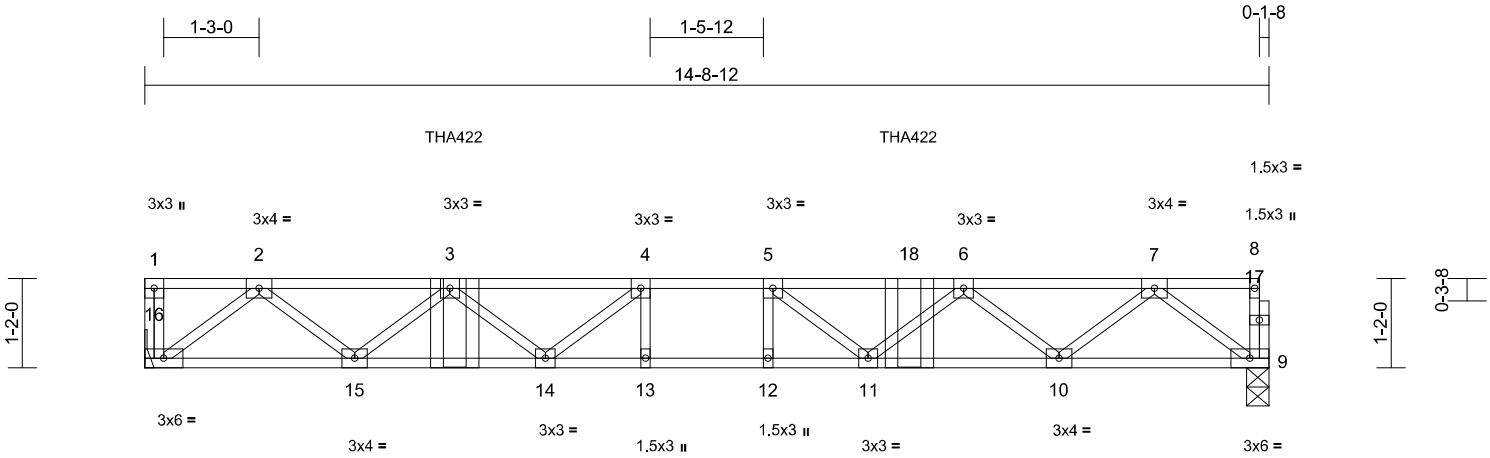

Scale = 1:30.2

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)	-0.13	12-13	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.53	Vert(CT)	-0.18	12-13	>960	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.40	Horz(CT)	0.03	9	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 75 lb	FT = 20%F, 12%E

LUMBER
TOP CHORD 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.

REACTIONS (size) 9=0-3-8, 16= Mechanical
Max Grav 9=732 (LC 1), 16=739 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-16=-36/0, 8-9=-42/0, 1-2=0/0, 2-3=-1547/0, 3-4=-2381/0, 4-5=-2623/0, 5-6=-2404/0, 6-7=-1549/0, 7-8=-3/0
BOT CHORD 15-16=0/918, 14-15=0/2148, 13-14=0/2623, 12-13=0/2623, 11-12=0/2623, 10-11=0/2165, 9-10=0/906
WEBS 7-9=-1133/0, 2-16=-1151/0, 7-10=0/837, 2-15=0/820, 6-10=-803/0, 3-15=-782/0, 6-11=0/387, 3-14=0/398, 5-11=-483/36, 4-14=-526/39, 4-13=-135/199, 5-12=-177/156

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: , Joint 9 SP SS .
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.
6) Use Simpson Strong-Tie THA422 (Single Chord Girder) or equivalent spaced at 5-11-8 oc max. starting at 4-0-12 from the left end to 10-0-4 to connect truss(es) to front face of top chord.
7) Fill all nail holes where hanger is in contact with lumber.
8) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 9-16=-8, 1-8=-80
Concentrated Loads (lb)
Vert: 3=-92 (F), 18=-111 (F)

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Job	Truss	Truss Type	Qty	Ply	
	2F3GR	Floor Girder	1	1	I71463283 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 12:18:58 Page: 1
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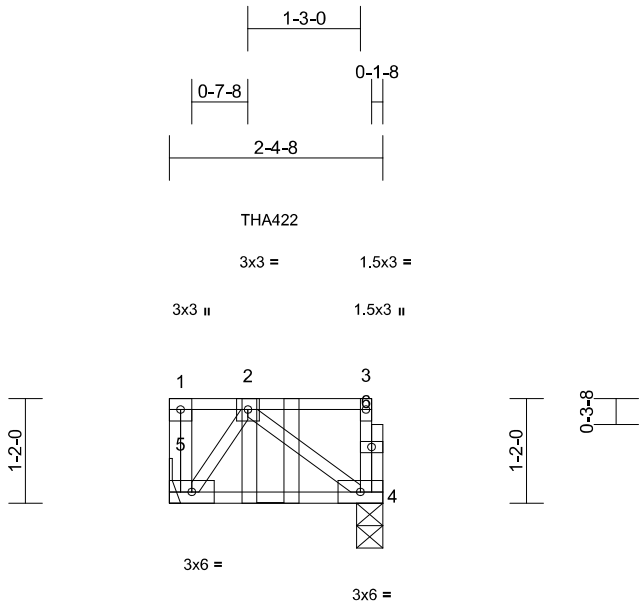

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Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.06	Vert(CT)	0.00	4-5	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.04	Horz(CT)	0.00	4	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-P							Weight: 16 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 2-4-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 4=0-3-8, 5= Mechanical
Max Grav 4=133 (LC 1), 5=175 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-5=-15/0, 3-4=-44/0, 1-2=0/0, 2-3=-3/0
BOT CHORD 4-5=0/109
WEBS 2-4=-133/0, 2-5=-186/0

NOTES
1) Bearings are assumed to be: , Joint 4 SP No.2 .
2) Refer to girder(s) for truss to truss connections.
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.
5) Use Simpson Strong-Tie THA422 (Single Chord Girder) or equivalent at 1-1-8 from the left end to connect truss (es) to back face of top chord.
6) Fill all nail holes where hanger is in contact with lumber.
7) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 4-5=-8, 1-3=-80
Concentrated Loads (lb)
Vert: 2=-126 (B)

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Job	Truss	Truss Type	Qty	Ply	
	2F2GR	Floor Girder	1	1	I71463284 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 12:18:58 Page: 1
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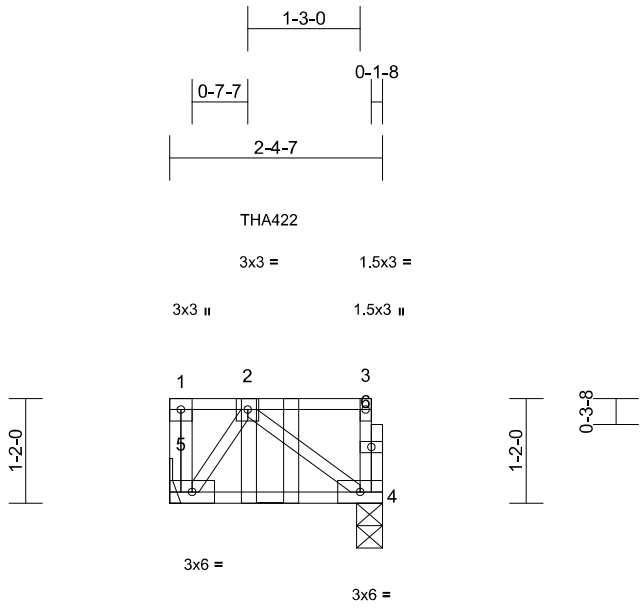

Scale = 1:25.7

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	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.06	Vert(CT)	0.00	4-5	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.04	Horz(CT)	0.00	4	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-P							Weight: 16 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 2-4-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 4=0-3-8, 5= Mechanical
Max Grav 4=122 (LC 1), 5=156 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-5=-14/0, 3-4=-44/0, 1-2=0/0, 2-3=-3/0
BOT CHORD 4-5=0/95
WEBS 2-4=-116/0, 2-5=-164/0

NOTES
1) Bearings are assumed to be: , Joint 4 SP No.2 .
2) Refer to girder(s) for truss to truss connections.
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.
5) Use Simpson Strong-Tie THA422 (Single Chord Girder) or equivalent at 1-1-7 from the left end to connect truss (es) to front face of top chord.
6) Fill all nail holes where hanger is in contact with lumber.
7) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 4-5=-8, 1-3=-80
Concentrated Loads (lb)
Vert: 2=-97 (F)

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Job	Truss	Truss Type	Qty	Ply	
	2F1GE	Floor Supported Gable	1	1	I71463285 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 12:18:57 Page: 1
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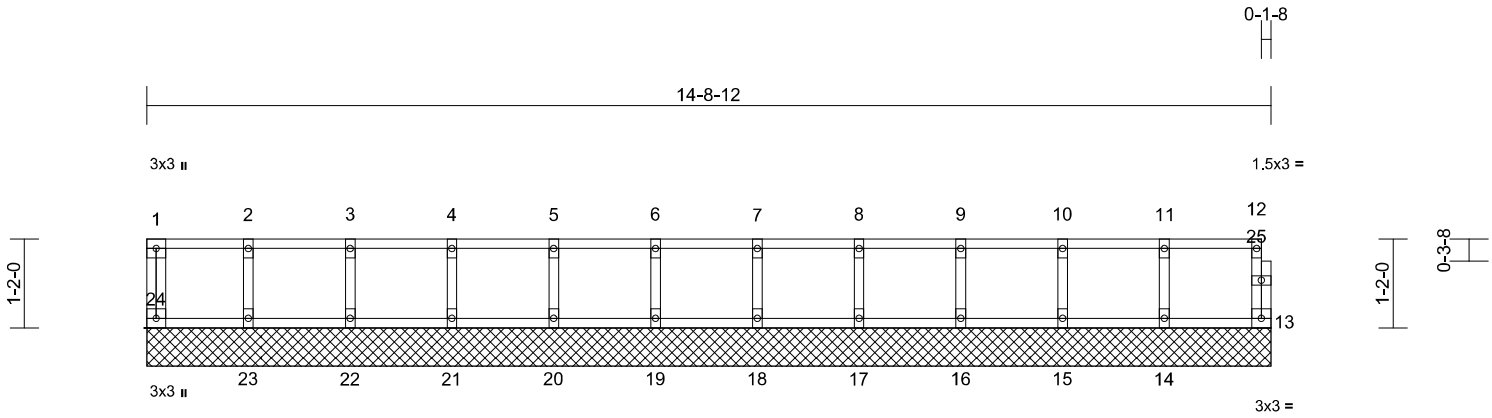

Scale = 1:30.2

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	13	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 62 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) 13=14-8-12, 14=14-8-12, 15=14-8-12, 16=14-8-12, 17=14-8-12, 18=14-8-12, 19=14-8-12, 20=14-8-12, 21=14-8-12, 22=14-8-12, 23=14-8-12, 24=14-8-12
Max Grav 13=48 (LC 1), 14=117 (LC 1), 15=117 (LC 1), 16=117 (LC 1), 17=117 (LC 1), 18=117 (LC 1), 19=117 (LC 1), 20=117 (LC 1), 21=117 (LC 1), 22=118 (LC 1), 23=113 (LC 1), 24=51 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-24=-45/0, 12-13=-44/0, 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, 11-12=-9/0
BOT CHORD 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, 15-16=0/9, 14-15=0/9, 13-14=0/9
WEBS 2-23=-104/0, 3-22=-107/0, 4-21=-106/0, 5-20=-107/0, 6-19=-107/0, 7-18=-107/0, 8-17=-107/0, 9-16=-107/0, 10-15=-107/0, 11-14=-107/0

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

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Job	Truss	Truss Type	Qty	Ply	
	2F1	Floor	13	1	I71463286 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 12:18:55 Page: 1
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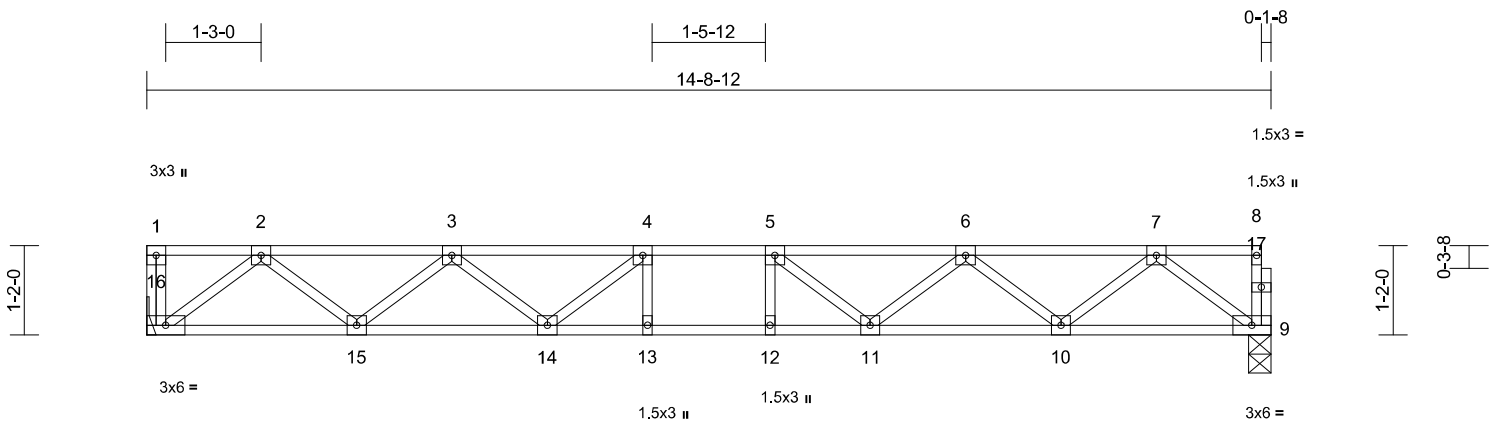

Scale = 1:30.2

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	0.33	Vert(LL)	-0.12	12-13	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.75	Vert(CT)	-0.17	12-13	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.32	Horz(CT)	0.04	9	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 75 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=0-3-8, 16= Mechanical
Max Grav 9=632 (LC 1), 16=637 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-16=-36/0, 8-9=-33/0, 1-2=0/0, 2-3=-1290/0, 3-4=-1991/0, 4-5=-2203/0, 5-6=-1991/0, 6-7=-1290/0, 7-8=-2/0
BOT CHORD 15-16=0/782, 14-15=0/1770, 13-14=0/2203, 12-13=0/2203, 11-12=0/2203, 10-11=0/1770, 9-10=0/782
WEBS 7-9=-978/0, 2-16=-981/0, 7-10=0/662, 2-15=0/661, 6-10=-626/0, 3-15=-625/0, 6-11=0/333, 3-14=0/333, 5-11=-399/0, 4-14=-399/0, 4-13=-100/120, 5-12=-100/120

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 9 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

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Job	Truss	Truss Type	Qty	Ply	
	2F2	Floor	1	1	I71463287 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788,

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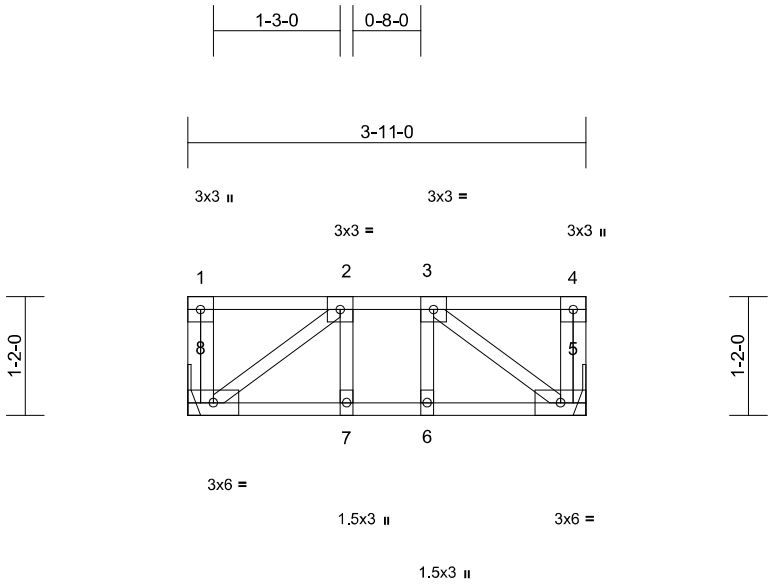

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Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.10	Vert(LL)	0.00	7-8	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.07	Vert(CT)	0.00	7-8	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	5	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 24 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 3-11-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 5= Mechanical, 8= Mechanical
Max Grav 5=161 (LC 1), 8=161 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-8=-52/0, 4-5=-52/0, 1-2=0/0, 2-3=-147/0, 3-4=0/0
BOT CHORD 7-8=0/147, 6-7=0/147, 5-6=0/147
WEBS 3-5=-182/0, 2-8=-182/0, 2-7=-12/31, 3-6=-12/31

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Refer to girder(s) for truss to truss connections.
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

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Job	Truss	Truss Type	Qty	Ply	
	2F3	Floor	1	1	I71463288 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 12:18:58 Page: 1
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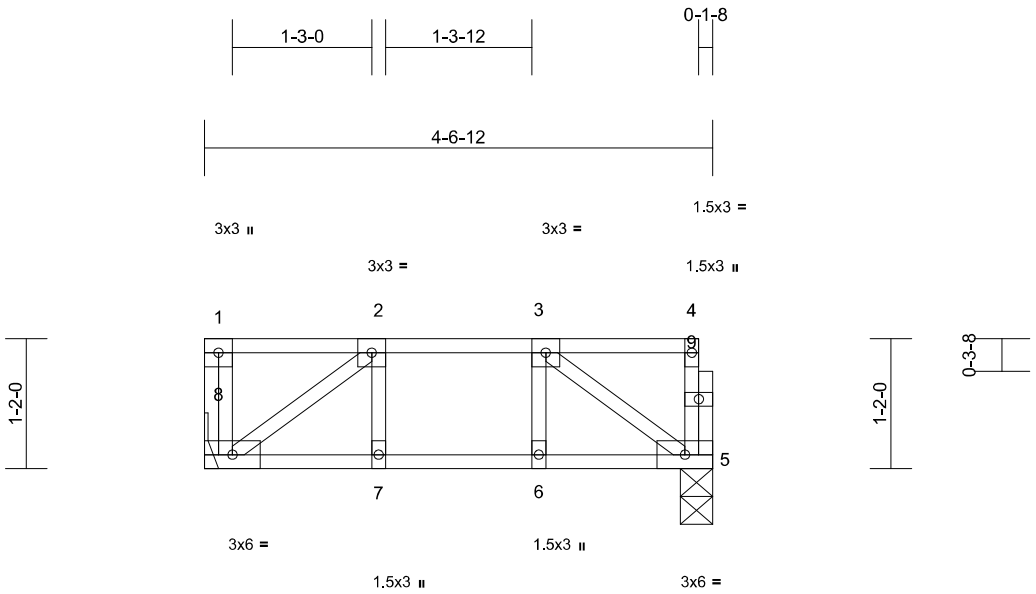


Scale = 1:20.7

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	0.10	Vert(LL)	-0.01	7-8	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.09	Vert(CT)	-0.01	7-8	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.00	5	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 26 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 4-6-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 5=0-3-8, 8= Mechanical
Max Grav 5=185 (LC 1), 8=190 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-8=-51/0, 4-5=-49/0, 1-2=0/0, 2-3=-189/0, 3-4=-3/0
BOT CHORD 7-8=0/189, 6-7=0/189, 5-6=0/189
WEBS 3-5=-230/0, 2-8=-234/0, 2-7=-5/28, 3-6=-4/29

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: , Joint 5 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.

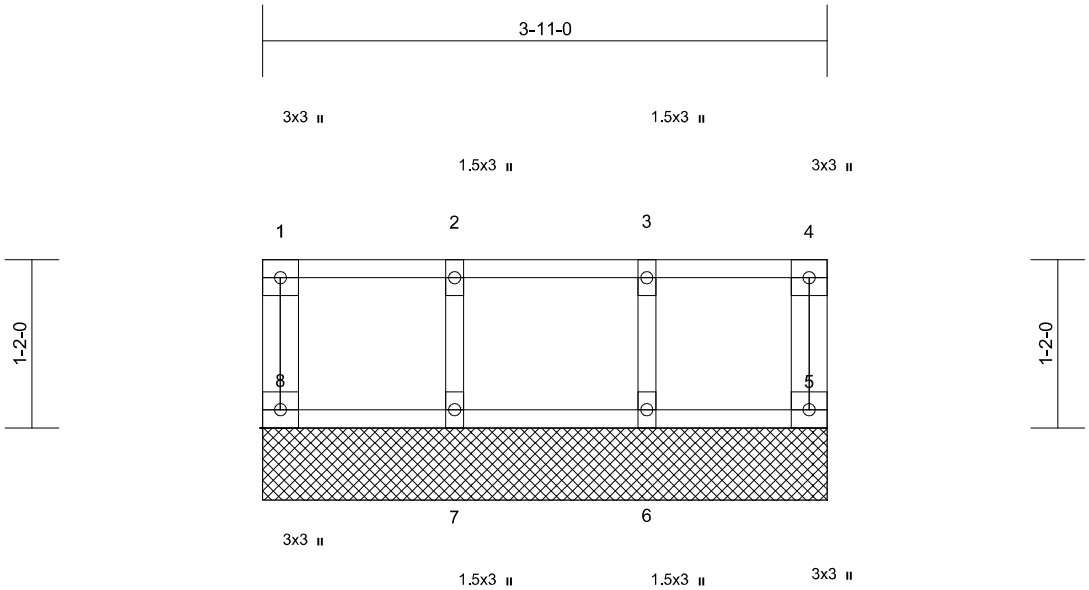
LOAD CASE(S) Standard

February 18,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F2GE	Floor Supported Gable	1	1	I71463289 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 12:18:57 Page: 1
ID:PZxV8jA1J9s3iDwIfkEaU5zwU9K-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:16

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.01	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.02	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 20 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 3-11-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 5=3-11-0, 6=3-11-0, 7=3-11-0, 8=3-11-0
Max Grav 5=47 (LC 1), 6=110 (LC 1), 7=117 (LC 1), 8=49 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-8=-45/0, 4-5=-42/0, 1-2=-8/0, 2-3=-8/0, 3-4=-8/0
BOT CHORD 7-8=0/8, 6-7=0/8, 5-6=0/8
WEBS 2-7=-106/0, 3-6=-101/0

NOTES
1) Gable requires continuous bottom chord bearing.
2) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
3) Gable studs spaced at 1-4-0 oc.
4) All bearings are assumed to be SP No.2 .
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.

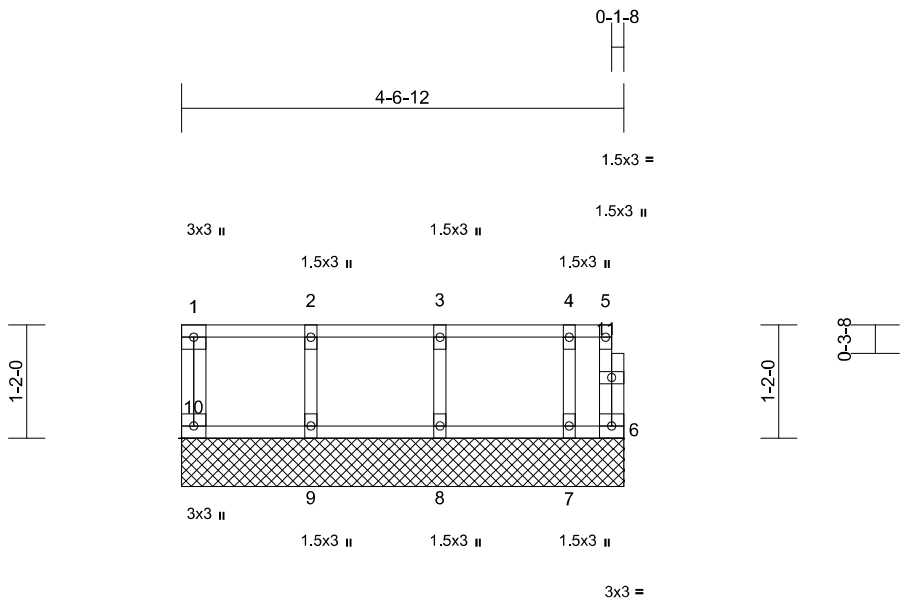
LOAD CASE(S) Standard

February 18,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F3GE	Floor Supported Gable	1	1	I71463290 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 12:18:58 Page: 1
ID:PZxV8jA1J9s3iDwIfkEaU5zwU9K-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:23.8

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.02	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	6	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 23 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 4-6-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 6=4-6-12, 7=4-6-12, 8=4-6-12, 9=4-6-12, 10=4-6-12
Max Grav 6=8 (LC 1), 7=80 (LC 1), 8=123 (LC 1), 9=116 (LC 1), 10=48 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-10=-44/0, 5-6=0/0, 1-2=-6/0, 2-3=-6/0, 3-4=-6/0, 4-5=-6/0
BOT CHORD 9-10=0/6, 8-9=0/6, 7-8=0/6, 6-7=0/6
WEBS 2-9=-105/0, 3-8=-111/0, 4-7=-80/0

NOTES
1) Gable requires continuous bottom chord bearing.
2) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
3) Gable studs spaced at 1-4-0 oc.
4) All bearings are assumed to be SP No.2 .
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

NORTH CAROLINA PROFESSIONAL SEAL 036322 ENGINEER ERIC A. GILBERT

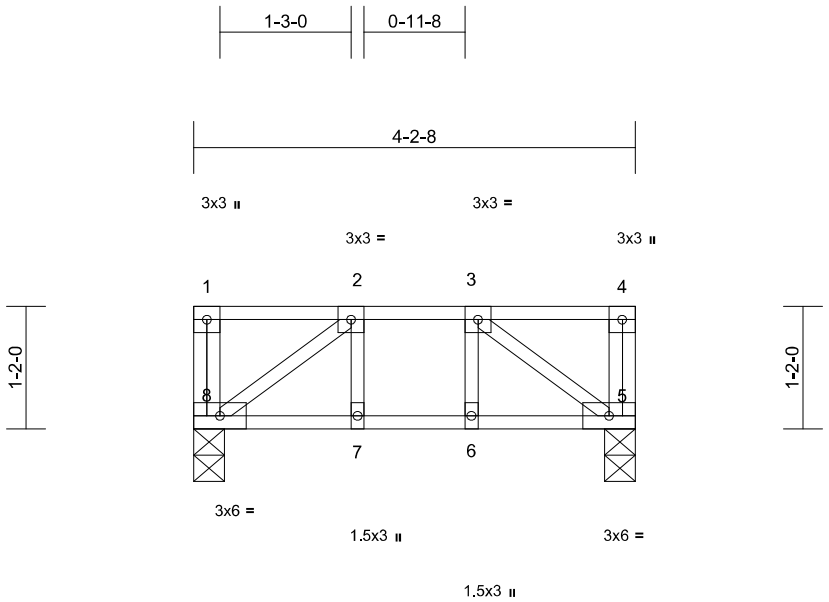
February 18,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F16	Floor	1	1	I71463291 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 12:19:02 Page: 1
ID:tlVtL2Af4T_wKMVUDSlp0lzwU9J-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:22

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.14	Vert(LL)	0.00	7-8	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.11	Vert(CT)	-0.01	7-8	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.06	Horz(CT)	0.00	5	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 25 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 4-2-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 5=0-3-8, 8=0-3-8
Max Grav 5=218 (LC 1), 8=218 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-8=-65/0, 4-5=-65/0, 1-2=0/0, 2-3=-207/0, 3-4=0/0
BOT CHORD 7-8=0/207, 6-7=0/207, 5-6=0/207
WEBS 3-5=-256/0, 2-8=-256/0, 2-7=-11/37, 3-6=-11/37

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All bearings are assumed to be SP No.2 .
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.

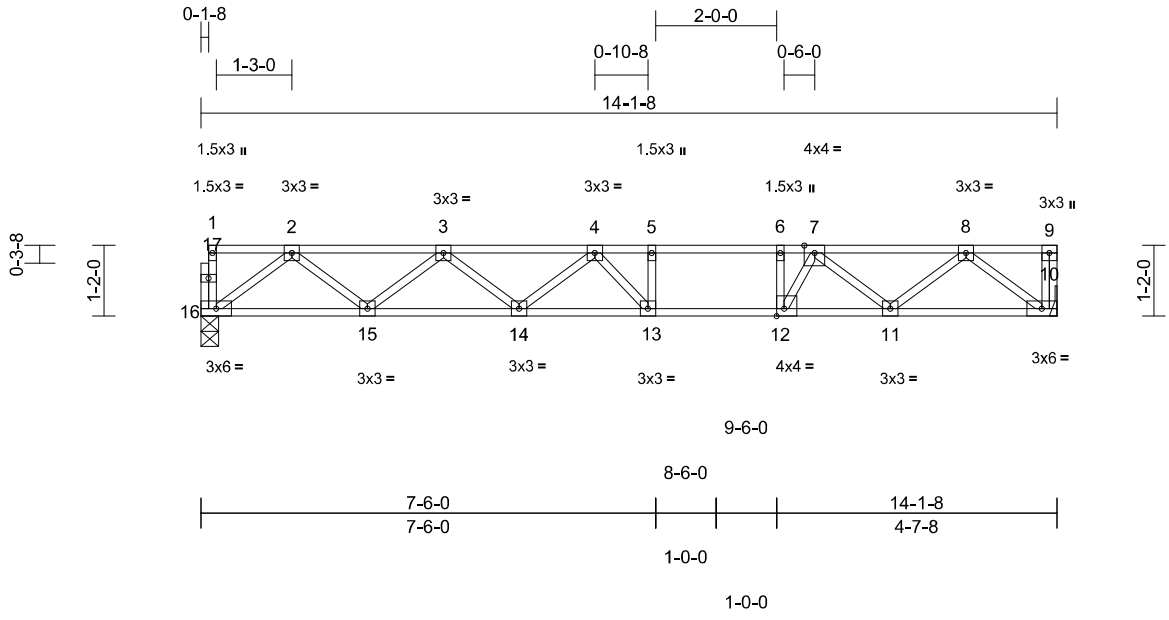
LOAD CASE(S) Standard

February 18,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F13	Floor	2	1	I71463292 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 12:19:01 Page: 1
ID:wMN7wN9PYskD43L651jLxtzwU9L-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:38.1

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

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.90	Vert(LL)	-0.16	13-14	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.90	Vert(CT)	-0.22	13-14	>749	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.31	Horz(CT)	0.03	10	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 72 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 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 10= Mechanical, 16=0-3-8
Max Grav 10=610 (LC 1), 16=605 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-16=-30/0, 9-10=-31/0, 1-2=-2/0, 2-3=-1219/0, 3-4=-1878/0, 4-5=-1916/0, 5-6=-1916/0, 6-7=-1916/0, 7-8=-1206/0, 8-9=0/0
BOT CHORD 15-16=0/747, 14-15=0/1673, 13-14=0/2021, 12-13=0/1916, 11-12=0/1685, 10-11=0/748
WEBS 5-13=-108/120, 6-12=-454/0, 2-16=-934/0, 2-15=0/615, 3-15=-591/0, 3-14=0/268, 4-14=-203/0, 4-13=-278/166, 8-10=-939/0, 8-11=0/595, 7-11=-624/0, 7-12=0/659

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 18,2025

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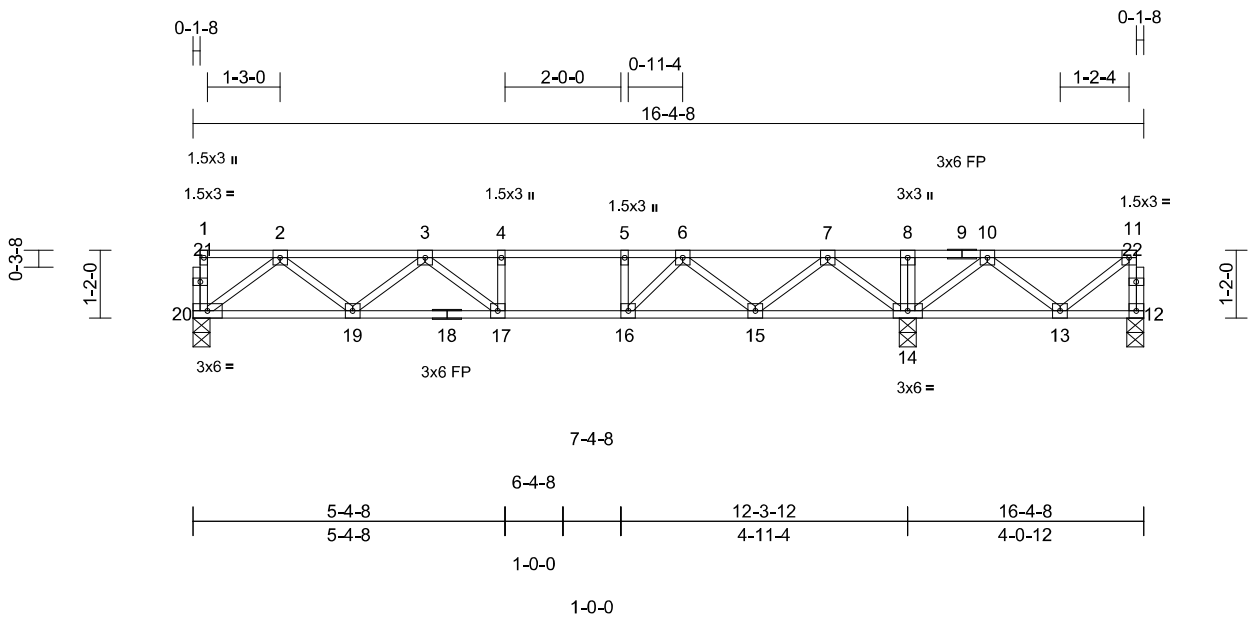
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	
	2F6	Floor	2	1	I71463293 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 12:18:59 Page: 1

ID:tIVtL2Af4T_wKMVUDSIp0IzwU9J-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:39.7

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	0.48	Vert(LL)	-0.08	17-19	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.55	Vert(CT)	-0.11	17-19	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.27	Horz(CT)	0.02	14	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 84 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) 12=0-3-8, 14=0-3-8, 20=0-3-8
Max Uplift 12=-133 (LC 3)
Max Grav 12=113 (LC 4), 14=952 (LC 1), 20=473 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-20=-29/0, 11-12=-110/137, 1-2=-2/0, 2-3=-896/0, 3-4=-1191/0, 4-5=-1191/0, 5-6=-1191/0, 6-7=-491/0, 7-8=0/761, 8-10=0/761, 10-11=-41/191

BOT CHORD 19-20=0/580, 17-19=0/1164, 16-17=0/1191, 15-16=0/928, 14-15=-121/130, 13-14=-391/56, 12-13=-8/7

WEBS 4-17=-98/0, 5-16=-244/0, 8-14=-58/0, 2-20=-725/0, 2-19=0/411, 3-19=-348/0, 3-17=-40/176, 7-14=-905/0, 7-15=0/565, 6-15=-572/0, 6-16=0/449, 10-14=-562/0, 10-13=-20/260, 11-13=-238/44

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) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 12. This connection is for uplift only and does not consider lateral forces.
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 18,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F15	Floor	4	1	I71463294 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 12:19:02 Page: 1
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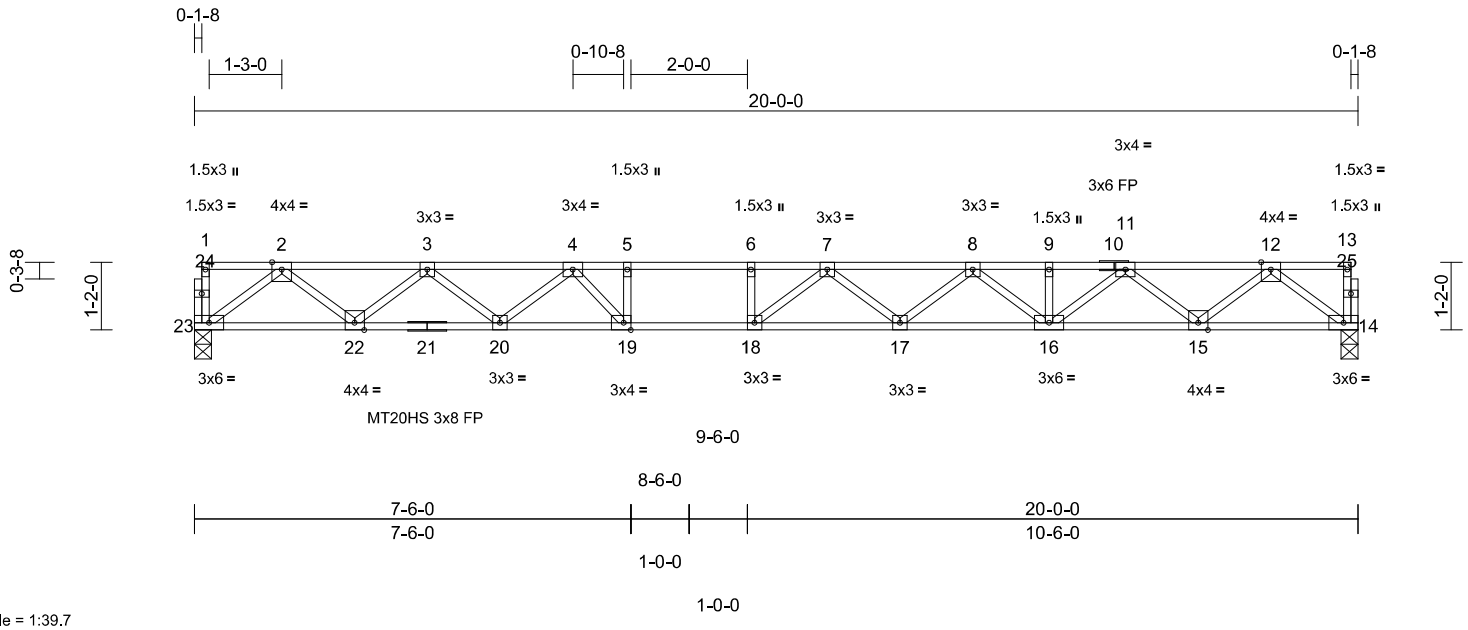

Scale = 1:39.7

Plate Offsets (X, Y): [19:0-1-8,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	0.74	Vert(LL)	-0.37	17-18	>634	480	MT20HS	187/143
TCDL	10.0	Lumber DOL	1.00	BC	0.84	Vert(CT)	-0.51	17-18	>460	360	MT20	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.49	Horz(CT)	0.07	14	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 100 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 No.2(flat) *Except* 21-14:2x4 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) 14=0-3-8, 23=0-3-8
Max Grav 14=863 (LC 1), 23=863 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-23=-33/0, 13-14=-28/0, 1-2=-2/0, 2-3=-1874/0, 3-4=-3109/0, 4-5=-3982/0, 5-6=-3982/0, 6-7=-3982/0, 7-8=-3901/0, 8-9=-3172/0, 9-11=-3172/0, 11-12=-1867/0, 12-13=-2/0
BOT CHORD 22-23=0/1086, 20-22=0/2625, 19-20=0/3620, 18-19=0/3982, 17-18=0/4087, 16-17=0/3650, 15-16=0/2615, 14-15=0/1090
WEBS 5-19=-418/0, 6-18=-154/121, 2-23=-1360/0, 2-22=0/1026, 3-22=-977/0, 3-20=0/630, 4-20=-665/0, 4-19=0/774, 12-14=-1365/0, 12-15=0/1011, 11-15=-974/0, 11-16=0/711, 9-16=-57/0, 8-16=-610/0, 8-17=0/327, 7-17=-293/0, 7-18=-376/317

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 23 SP No.2 , Joint 14 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.

LOAD CASE(S) Standard

February 18,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F7	Floor	2	1	I71463295 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 12:18:59 Page: 1
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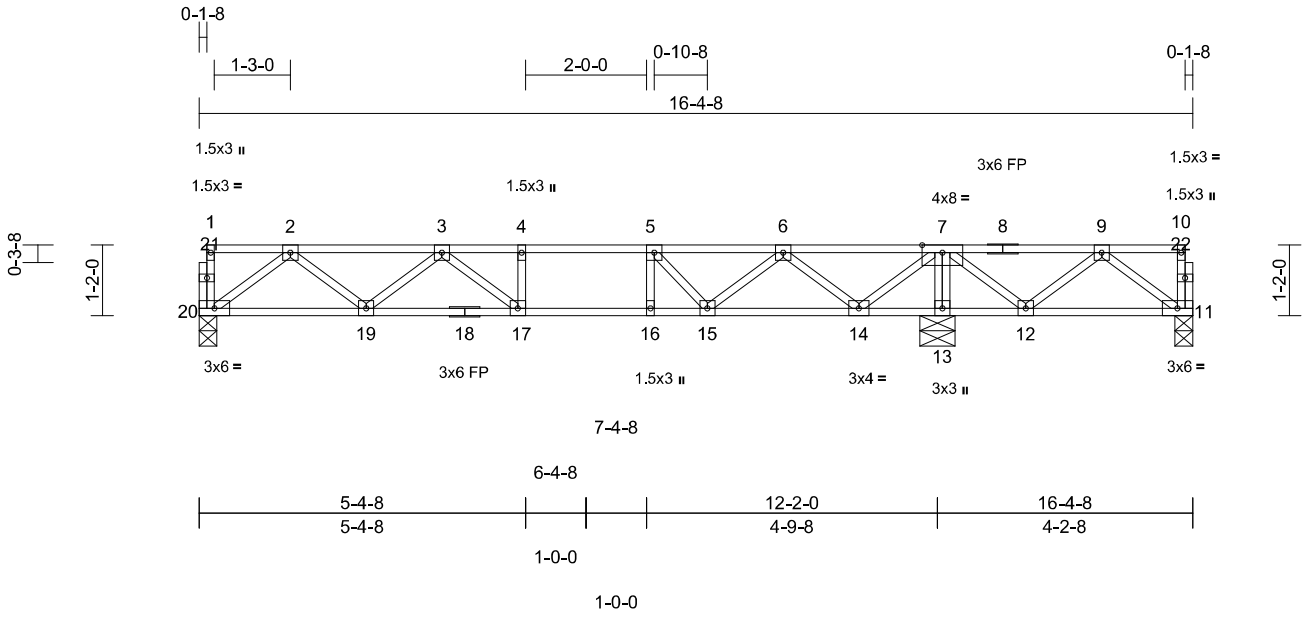


Scale = 1:38

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	0.43	Vert(LL)	-0.09	17-19	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.66	Vert(CT)	-0.12	17-19	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.38	Horz(CT)	0.01	13	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 84 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) 11=0-3-8, 13=0-7-0, 20=0-3-8
Max Uplift 11=-126 (LC 3)
Max Grav 11=117 (LC 4), 13=947 (LC 1), 20=471 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-20=-29/0, 10-11=-28/0, 1-2=-2/0, 2-3=-891/0, 3-4=-1181/0, 4-5=-1181/0, 5-6=-894/0, 6-7=-146/177, 7-9=0/387, 9-10=-2/0
BOT CHORD 19-20=0/577, 17-19=0/1155, 16-17=0/1181, 15-16=0/1181, 14-15=0/557, 13-14=-713/0, 12-13=-713/0, 11-12=-192/115
WEBS 4-17=-93/0, 5-16=0/132, 2-20=-722/0, 2-19=0/408, 3-19=-344/0, 3-17=-36/172, 9-11=-143/242, 9-12=-376/0, 7-12=0/424, 7-13=-931/0, 7-14=0/789, 6-14=-718/0, 6-15=0/448, 5-15=-438/0

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) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 11. This connection is for uplift only and does not consider lateral forces.
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

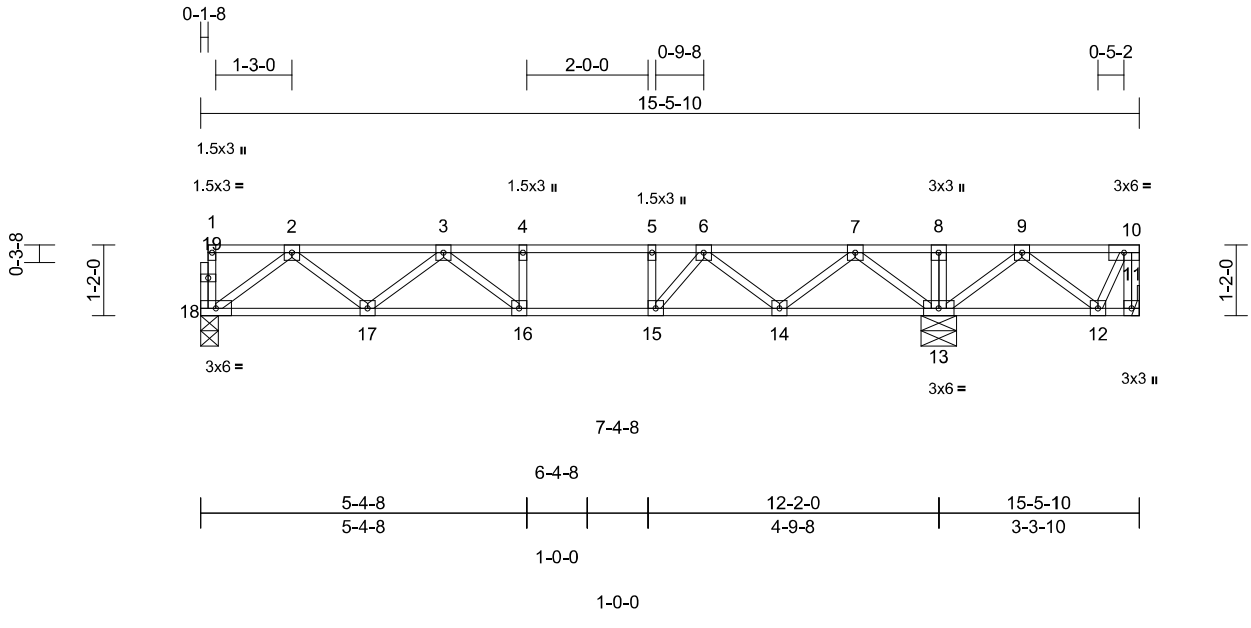
February 18,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F8	Floor	1	1	I71463296 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 12:19:00 Page: 1
ID:tlVtL2Af4T_wKMVUDSlp0lzwU9J-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	0.49	Vert(LL)	-0.08	16-17	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.55	Vert(CT)	-0.11	16-17	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.26	Horz(CT)	0.01	13	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, Except:
6-0-0 oc bracing: 13-14,12-13.

REACTIONS (size) 11= Mechanical, 13=0-7-0, 18=0-3-8
Max Uplift 11=-172 (LC 3)
Max Grav 11=79 (LC 4), 13=938 (LC 1), 18=469 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-18=-29/0, 10-11=-81/171, 1-2=-2/0, 2-3=-886/0, 3-4=-1168/0, 4-5=-1168/0, 5-6=-1168/0, 6-7=-505/0, 7-8=0/715, 8-9=0/715, 9-10=-12/97
BOT CHORD 17-18=0/575, 16-17=0/1149, 15-16=0/1168, 14-15=0/935, 13-14=-94/151, 12-13=-331/20, 11-12=0/0
WEBS 4-16=-95/0, 5-15=-262/0, 8-13=-83/0, 2-18=-719/0, 2-17=0/406, 3-17=-342/0, 3-16=-43/169, 7-13=-884/0, 7-14=0/551, 6-14=-563/0, 6-15=0/443, 9-13=-533/0, 9-12=-11/304, 10-12=-207/25

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 18 SP No.2 , Joint 13 SP No.2 .
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 172 lb uplift at joint 11.
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.

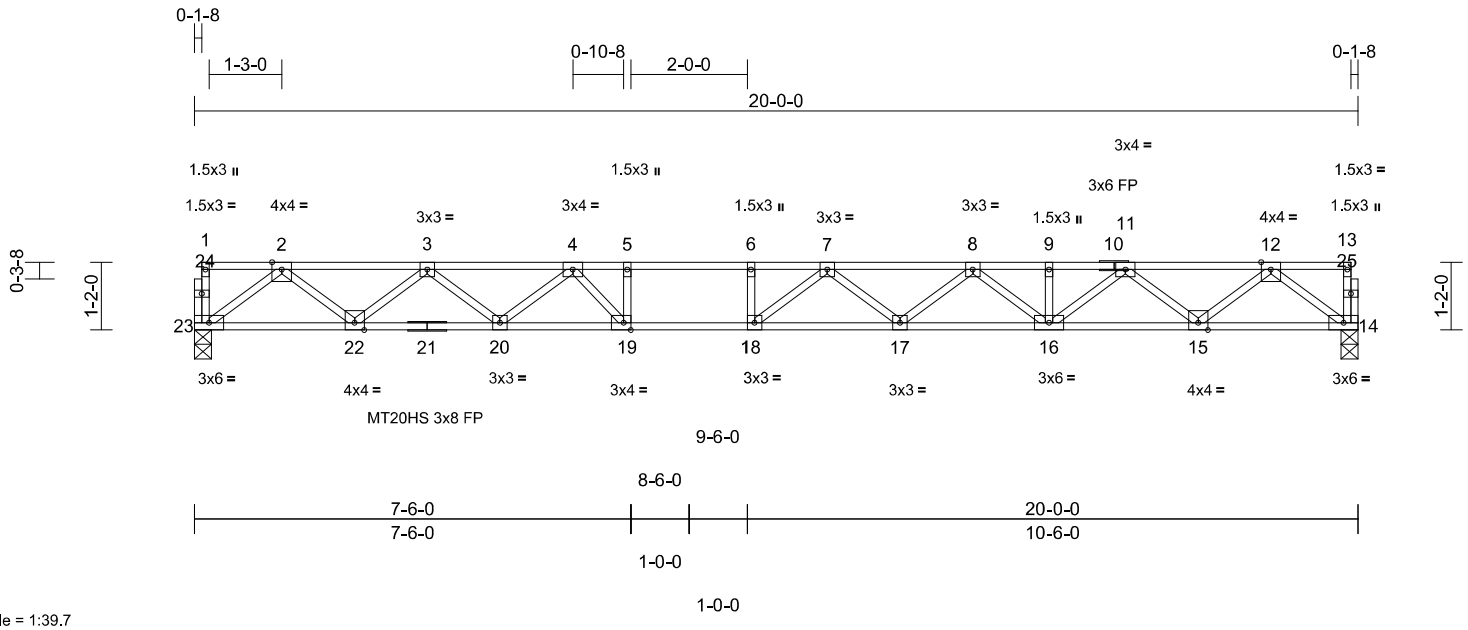
LOAD CASE(S) Standard

February 18,2025

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

Job	Truss	Truss Type	Qty	Ply	
	F25	Floor	1	1	I71463297 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 12:19:02 Page: 1
ID:EJX7ap?jeJBkS0t3sSbTvIzwVQu-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:39.7

Plate Offsets (X, Y): [19:0-1-8,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	0.74	Vert(LL)	-0.37	17-18	>634	480	MT20HS	187/143
TCDL	10.0	Lumber DOL	1.00	BC	0.84	Vert(CT)	-0.51	17-18	>460	360	MT20	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.49	Horz(CT)	0.07	14	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 100 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 No.2(flat) *Except* 21-14:2x4 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) 14=0-3-8, 23=0-3-8
Max Horiz 23=-16 (LC 8)
Max Grav 14=863 (LC 1), 23=863 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-23=-33/0, 13-14=-28/0, 1-2=-164/164, 2-3=-1874/0, 3-4=-3109/0, 4-5=-3982/0, 5-6=-3982/0, 6-7=-3982/0, 7-8=-3901/0, 8-9=-3172/0, 9-11=-3172/0, 11-12=-1867/0, 12-13=-164/164
BOT CHORD 22-23=0/1086, 20-22=0/2625, 19-20=0/3620, 18-19=0/3982, 17-18=0/4087, 16-17=0/3650, 15-16=0/2615, 14-15=0/1090
WEBS 5-19=-468/137, 6-18=-223/206, 2-23=-1360/0, 2-22=-31/1026, 3-22=-977/43, 3-20=-72/655, 4-20=-724/140, 4-19=-265/887, 12-14=-1365/0, 12-15=-28/1011, 11-15=-974/53, 11-16=-88/741, 9-16=-57/0, 8-16=-651/110, 8-17=-118/405, 7-17=-406/199, 7-18=-564/504

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 23 SP No.2 , Joint 14 SP SS .
4) This truss has been designed for a total drag load of 125 plf. Lumber DOL=(1.33) Plate grip DOL=(1.33) Connect truss to resist drag loads along bottom chord from -0-0-0 to 20-0-0 for 125.0 plf.
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.

LOAD CASE(S) Standard

February 18,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F9	Floor	1	1	I71463298 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 12:19:00 Page: 1
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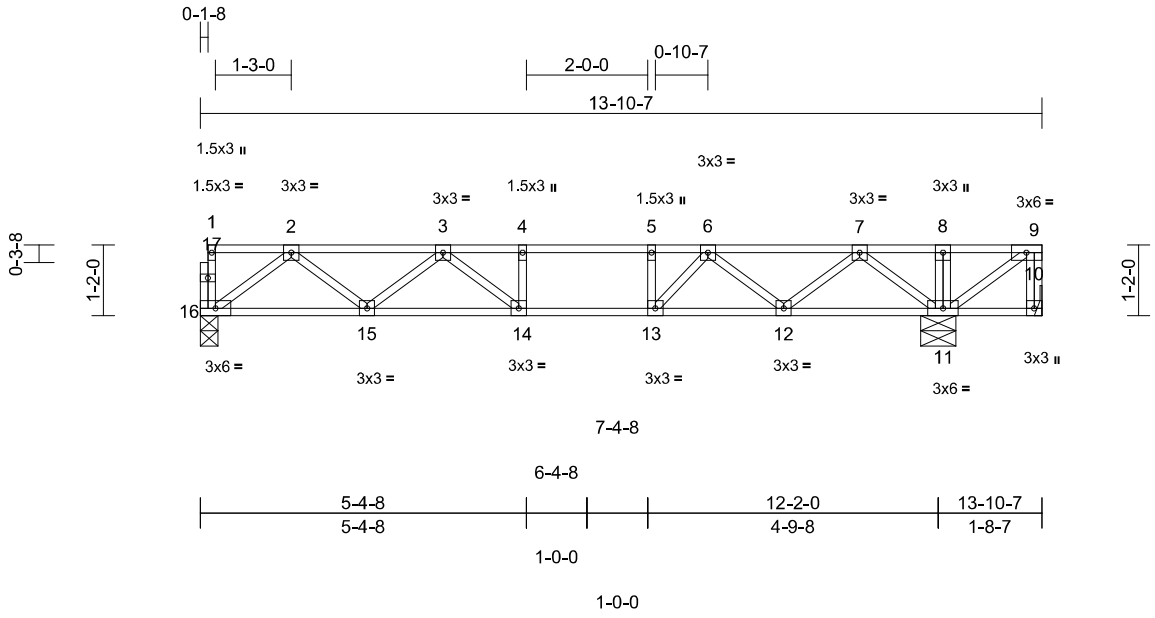


Scale = 1:38

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	0.48	Vert(LL)	-0.08	14-15	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.54	Vert(CT)	-0.11	14-15	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.26	Horz(CT)	0.02	10	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 72 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:
6-0-0 oc bracing: 11-12.

REACTIONS (size) 10= Mechanical, 11=0-7-0, 16=0-3-8
Max Uplift 10=-422 (LC 8)
Max Grav 10=-55 (LC 4), 11=1087 (LC 1), 16=474 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-16=-29/0, 9-10=0/422, 1-2=-2/0, 2-3=-899/0, 3-4=-1200/0, 4-5=-1200/0, 5-6=-1200/0, 6-7=-527/0, 7-8=0/674, 8-9=0/674
BOT CHORD 15-16=0/582, 14-15=0/1169, 13-14=0/1200, 12-13=0/957, 11-12=-64/160, 10-11=0/0
WEBS 4-14=-102/0, 5-13=-248/0, 2-16=-728/0, 2-15=0/413, 3-15=-351/0, 3-14=-35/186, 7-11=-883/0, 7-12=0/554, 6-12=-562/0, 6-13=0/438, 9-11=-821/0, 8-11=-119/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: Joint 16 SP No.2 , Joint 11 SP No.2 .
3) Refer to girder(s) for truss to truss connections.
4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 422 lb uplift at joint 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.

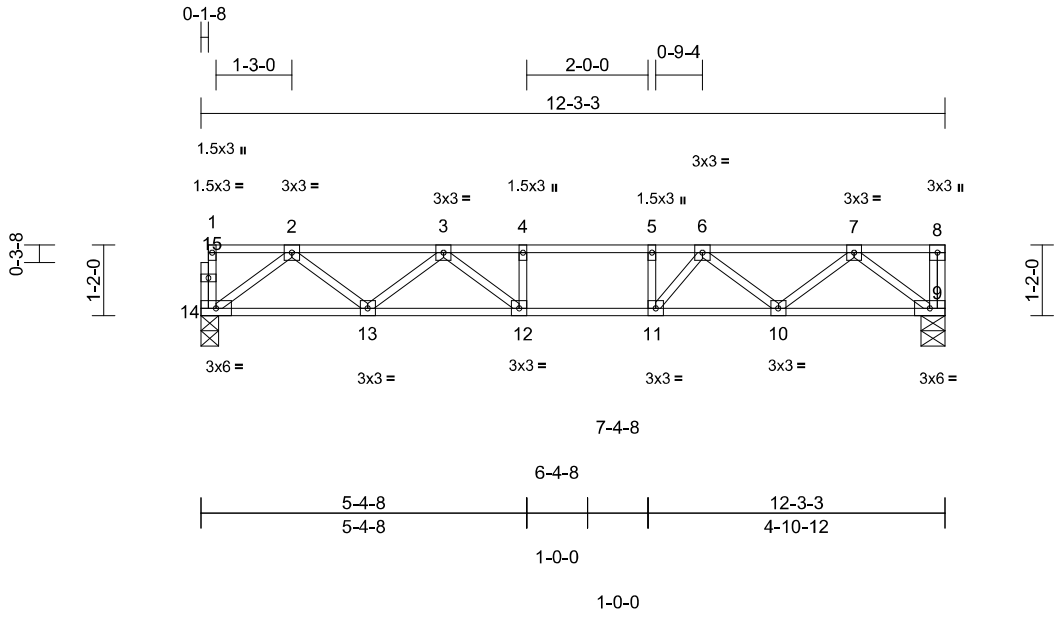
LOAD CASE(S) Standard

February 18,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F10	Floor	1	1	I71463299 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 12:19:00 Page: 1
ID:wMN7wN9PYskD43L651jLxtzwU9L-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	0.42	Vert(LL)	-0.08	12-13	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.52	Vert(CT)	-0.11	12-13	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.23	Horz(CT)	0.02	9	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 62 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=0-4-12, 14=0-3-8
Max Grav 9=528 (LC 1), 14=523 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-14=-29/0, 8-9=-31/0, 1-2=-2/0, 2-3=-1016/0, 3-4=-1491/0, 4-5=-1491/0, 5-6=-1491/0, 6-7=-1010/0, 7-8=0/0
BOT CHORD 13-14=0/645, 12-13=0/1352, 11-12=0/1491, 10-11=0/1358, 9-10=0/645
WEBS 4-12=-166/0, 5-11=-237/0, 2-14=-808/0, 2-13=0/482, 3-13=-438/0, 3-12=0/344, 7-9=-809/0, 7-10=0/476, 6-10=-452/0, 6-11=0/387

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All bearings are assumed to be SP No.2 .
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 18,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F11	Floor	4	1	I71463300 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 12:19:00 Page: 1
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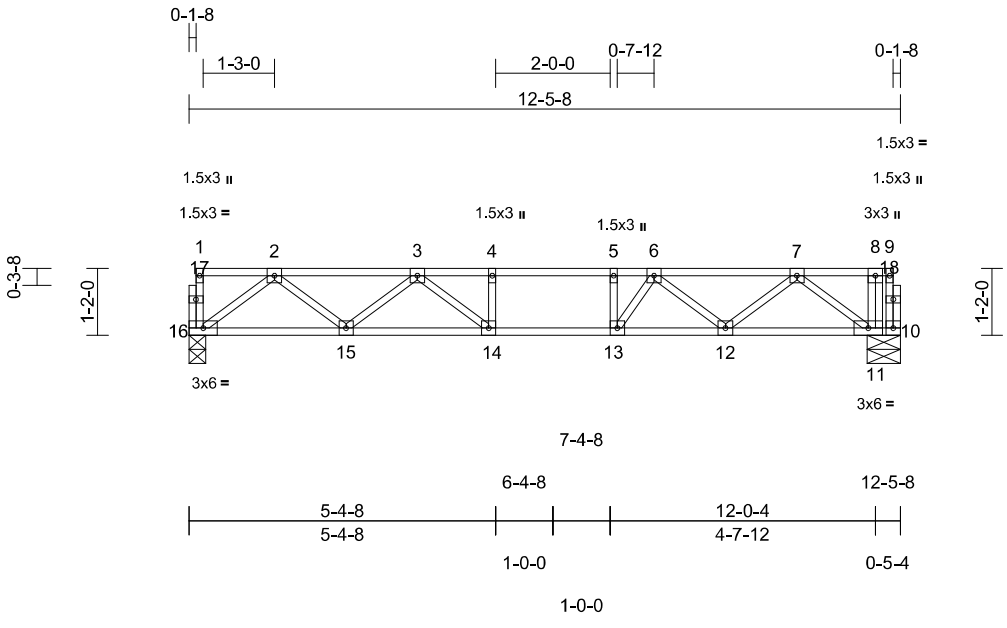

Scale = 1:40.4

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	0.56	Vert(LL)	-0.08	14-15	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.50	Vert(CT)	-0.11	14-15	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.24	Horz(CT)	0.02	10	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 65 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=0-7-0, 16=0-3-8
Max Grav 10=532 (LC 1), 16=532 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-16=-29/0, 9-10=-393/0, 1-2=-2/0, 2-3=-1035/0, 3-4=-1539/0, 4-5=-1539/0, 5-6=-1539/0, 6-7=-1137/0, 7-8=-24/0, 8-9=-24/0
BOT CHORD 15-16=0/656, 14-15=0/1384, 13-14=0/1539, 12-13=0/1439, 11-12=0/780, 10-11=0/24
WEBS 4-14=-111/0, 5-13=-254/0, 8-11=0/426, 2-16=-821/0, 2-15=0/494, 3-15=-454/0, 3-14=0/199, 7-11=-949/0, 7-12=0/465, 6-12=-393/0, 6-13=0/378

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.
5) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

February 18,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F12	Floor	1	1	I71463301 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 12:19:01 Page: 1
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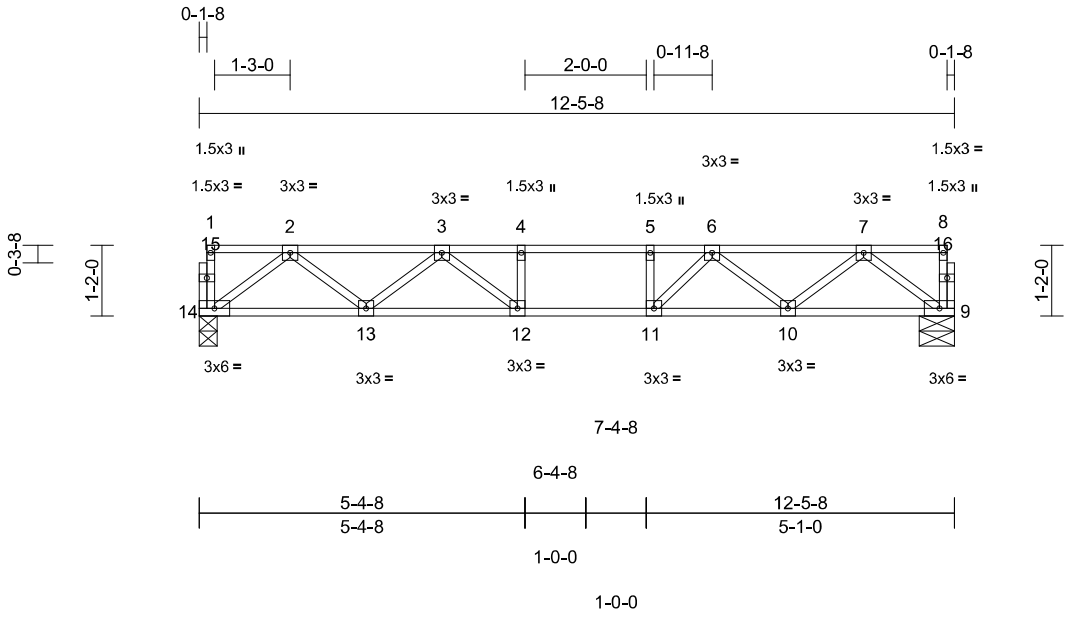


Scale = 1:38

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	0.40	Vert(LL)	-0.08	12-13	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.51	Vert(CT)	-0.11	12-13	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.24	Horz(CT)	0.02	9	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 62 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=0-7-0, 14=0-3-8
Max Grav 9=532 (LC 1), 14=532 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-14=-29/0, 8-9=-28/0, 1-2=-2/0, 2-3=-1035/0, 3-4=-1539/0, 4-5=-1539/0, 5-6=-1539/0, 6-7=-1032/0, 7-8=-2/0
BOT CHORD 13-14=0/656, 12-13=0/1383, 11-12=0/1539, 10-11=0/1385, 9-10=0/655
WEBS 4-12=-175/0, 5-11=-213/0, 2-14=-821/0, 2-13=0/494, 3-13=-453/0, 3-12=0/365, 7-9=-820/0, 7-10=0/490, 6-10=-461/0, 6-11=0/386

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All bearings are assumed to be SP No.2 .
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.

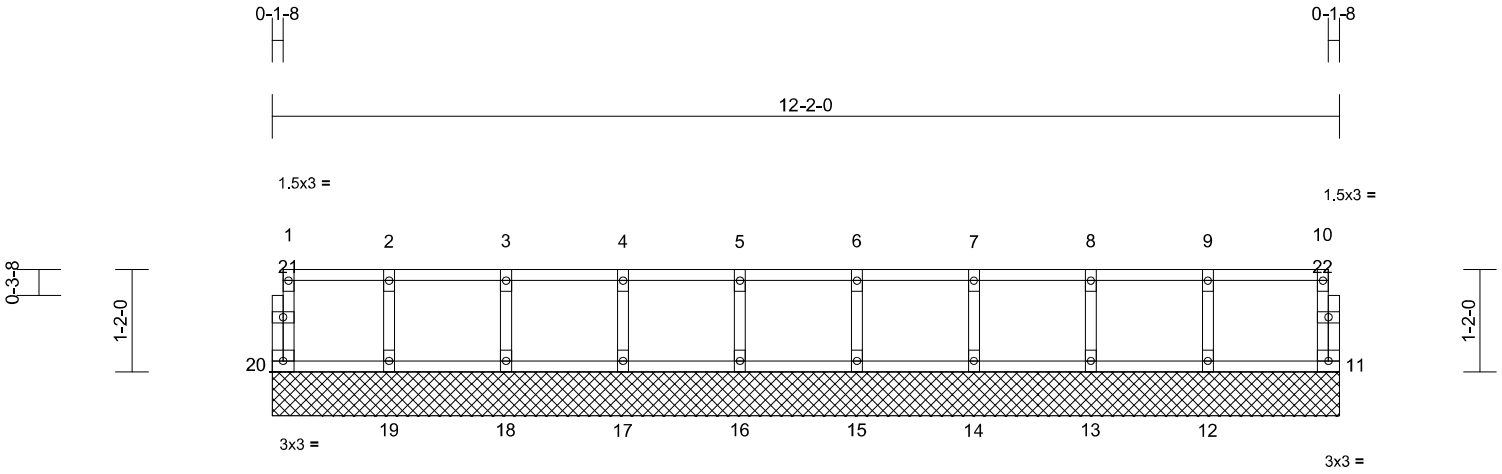
LOAD CASE(S) Standard

February 18,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F4GE	Floor	1	1	I71463302 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 12:18:59 Page: 1
ID:PZxV8jA1J9s3iDwIfkEaU5zwU9K-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:26.3

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.01	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	11	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 52 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) 11=12-2-0, 12=12-2-0, 13=12-2-0, 14=12-2-0, 15=12-2-0, 16=12-2-0, 17=12-2-0, 18=12-2-0, 19=12-2-0, 20=12-2-0
Max Grav 11=53 (LC 1), 12=123 (LC 1), 13=116 (LC 1), 14=118 (LC 1), 15=117 (LC 1), 16=117 (LC 1), 17=117 (LC 1), 18=119 (LC 1), 19=112 (LC 1), 20=47 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-20=-42/0, 10-11=-48/0, 1-2=-10/0, 2-3=-10/0, 3-4=-10/0, 4-5=-10/0, 5-6=-10/0, 6-7=-10/0, 7-8=-10/0, 8-9=-10/0, 9-10=-10/0
BOT CHORD 19-20=0/10, 18-19=0/10, 17-18=0/10, 16-17=0/10, 15-16=0/10, 14-15=0/10, 13-14=0/10, 12-13=0/10, 11-12=0/10
WEBS 2-19=-103/0, 3-18=-108/0, 4-17=-106/0, 5-16=-107/0, 6-15=-106/0, 7-14=-107/0, 8-13=-105/0, 9-12=-112/0

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.

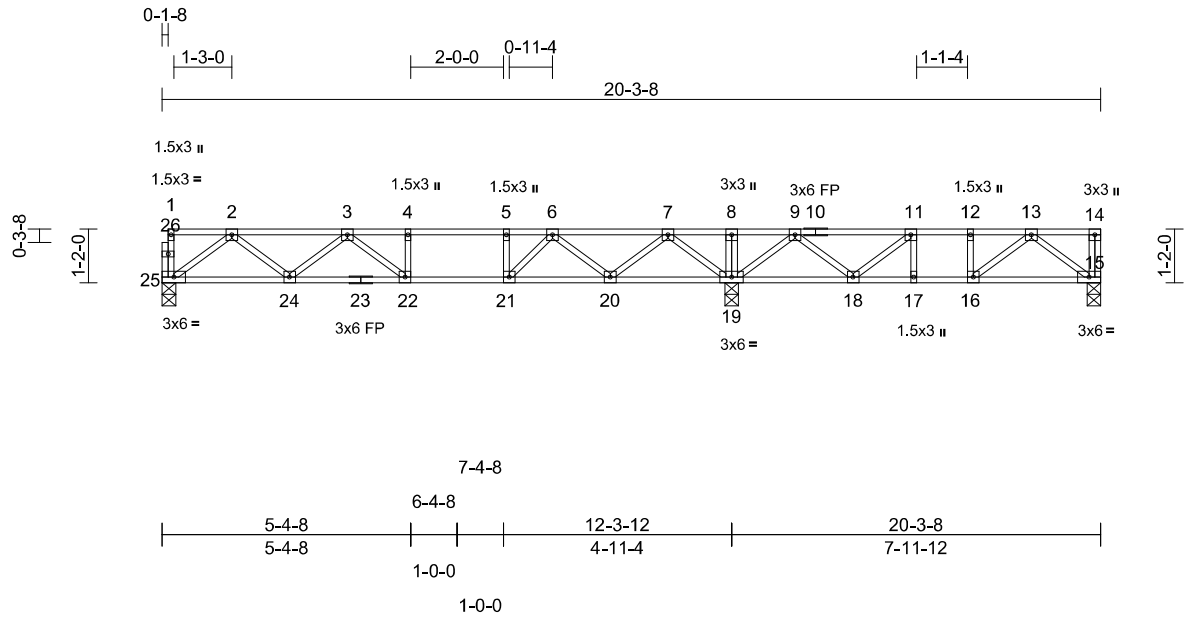
LOAD CASE(S) Standard

February 18,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F5	Floor	1	1	I71463303 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 12:18:59 Page: 1
ID:PZxV8jA1J9s3iDwIfkEaU5zwU9K-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:49.9

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	0.53	Vert(LL)	-0.09	22-24	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.57	Vert(CT)	-0.12	22-24	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.27	Horz(CT)	0.02	15	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 103 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) 15=0-3-8, 19=0-3-8, 25=0-3-8
Max Grav 15=295 (LC 4), 19=1043 (LC 1), 25=483 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-25=-30/0, 14-15=-45/0, 1-2=-2/0, 2-3=-920/0, 3-4=-1251/0, 4-5=-1251/0, 5-6=-1251/0, 6-7=-585/15, 7-8=0/783, 8-9=0/783, 9-11=-299/215, 11-12=-477/59, 12-13=-477/59, 13-14=0/0
BOT CHORD 24-25=0/593, 22-24=0/1201, 21-22=0/1251, 20-21=0/1008, 19-20=-160/163, 18-19=-358/100, 17-18=-59/477, 16-17=-59/477, 15-16=0/321
WEBS 4-22=-96/16, 5-21=-262/0, 8-19=-73/0, 2-25=-742/0, 2-24=0/426, 3-24=-366/0, 3-22=-78/170, 7-19=-910/0, 7-20=0/573, 6-20=-582/0, 6-21=0/486, 9-19=-663/0, 13-15=-403/0, 9-18=0/357, 13-16=-78/200, 11-18=-359/0, 11-17=-19/72, 12-16=-87/38

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.
5) CAUTION, Do not erect truss backwards.

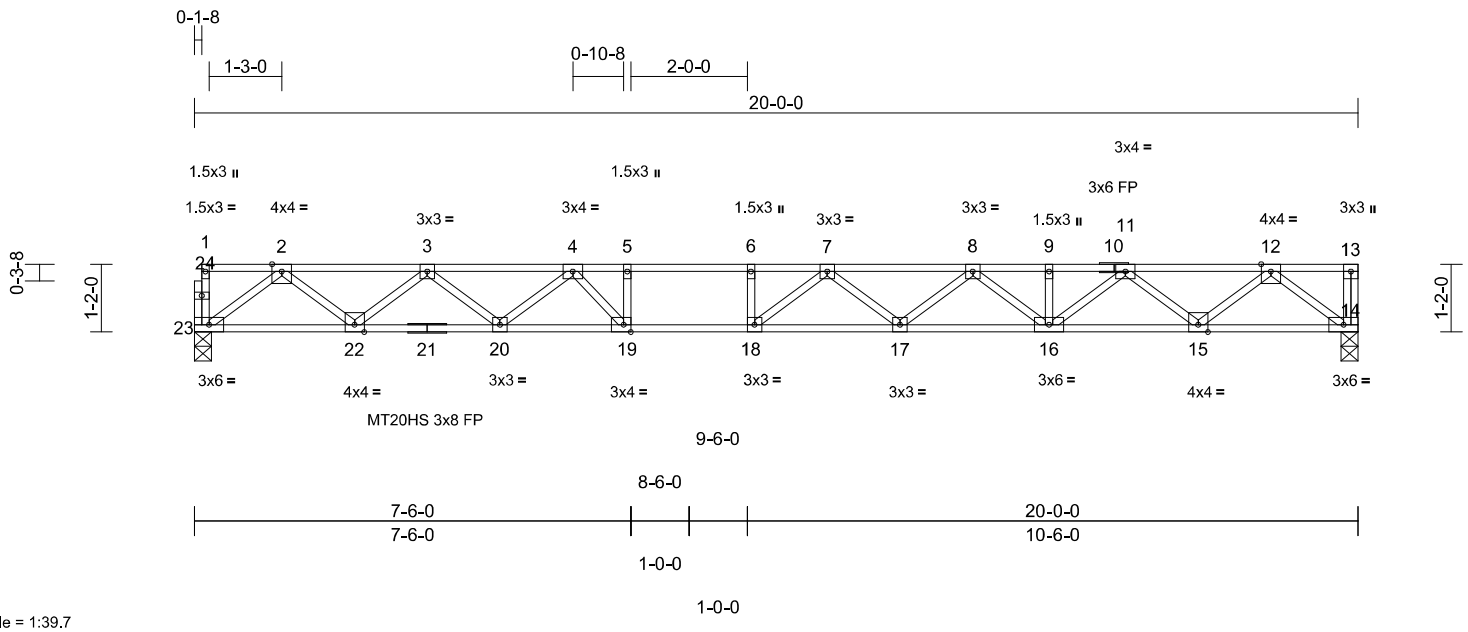
LOAD CASE(S) Standard

February 18,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F14	Floor	3	1	I71463304 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 12:19:01 Page: 1
ID:PZxV8jA1J9s3iDwIfkEaU5zwU9K-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:39.7

Plate Offsets (X, Y): [19:0-1-8,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	0.62	Vert(LL)	-0.37	17-18	>634	480	MT20HS	187/143
TCDL	10.0	Lumber DOL	1.00	BC	0.77	Vert(CT)	-0.51	17-18	>460	360	MT20	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.49	Horz(CT)	0.07	14	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 100 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 No.2(flat) *Except* 21-14:2x4 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) 14=0-3-8, 23=0-3-8
Max Grav 14=868 (LC 1), 23=863 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-23=-33/0, 13-14=-32/0, 1-2=-2/0, 2-3=-1874/0, 3-4=-3109/0, 4-5=-3982/0, 5-6=-3982/0, 6-7=-3982/0, 7-8=-3901/0, 8-9=-3173/0, 9-11=-3173/0, 11-12=-1867/0, 12-13=0/0
BOT CHORD 22-23=0/1086, 20-22=0/2625, 19-20=0/3620, 18-19=0/3982, 17-18=0/4087, 16-17=0/3651, 15-16=0/2615, 14-15=0/1091
WEBS 5-19=-418/0, 6-18=-154/121, 2-23=-1360/0, 2-22=0/1026, 3-22=-977/0, 3-20=0/630, 4-20=-665/0, 4-19=0/774, 12-14=-1368/0, 12-15=0/1011, 11-15=-973/0, 11-16=0/712, 9-16=-57/0, 8-16=-610/0, 8-17=0/327, 7-17=-293/0, 7-18=-376/317

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 23 SP No.2 , Joint 14 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.

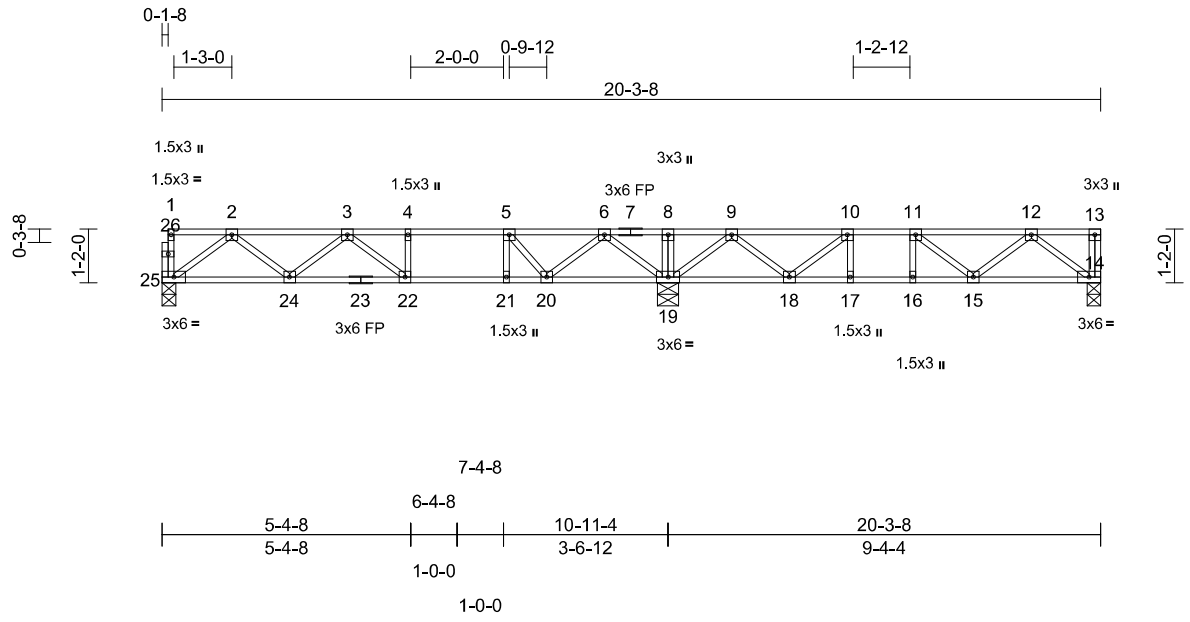
LOAD CASE(S) Standard

February 18,2025

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

Job	Truss	Truss Type	Qty	Ply	
	2F4	Floor	1	1	I71463305 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 12:18:58 Page: 1
ID:PZxV8jA1J9s3iDwIfkEaU5zwU9K-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:49.9

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	0.53	Vert(LL)	-0.10	22-24	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.74	Vert(CT)	-0.13	22-24	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.26	Horz(CT)	0.02	14	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 103 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:
6-0-0 oc bracing: 19-20,18-19.

REACTIONS (size) 14=0-3-8, 19=0-5-8, 25=0-3-8
Max Grav 14=384 (LC 7), 19=964 (LC 1), 25=448 (LC 10)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-25=-30/0, 13-14=-27/0, 1-2=-2/0, 2-3=-837/0, 3-4=-1049/0, 4-5=-1049/0, 5-6=-729/0, 6-8=0/496, 8-9=0/496, 9-10=-563/0, 10-11=-810/0, 11-12=-649/0, 12-13=0/0
BOT CHORD 24-25=0/548, 22-24=0/1070, 21-22=0/1049, 20-21=0/1049, 19-20=-92/349, 18-19=-73/323, 17-18=0/810, 16-17=0/810, 15-16=0/810, 14-15=0/460
WEBS 4-22=-60/22, 5-21=0/178, 8-19=-106/0, 2-25=-685/0, 2-24=0/376, 3-24=-304/0, 3-22=-120/83, 6-19=-725/0, 6-20=0/536, 5-20=-550/0, 9-19=-673/0, 12-14=-578/0, 9-18=0/378, 12-15=0/245, 10-18=-403/0, 11-15=-206/2, 10-17=-16/106, 11-16=-89/32

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.
5) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

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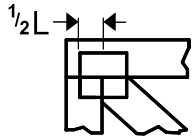
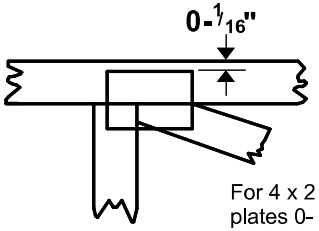
Symbols

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.

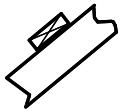
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

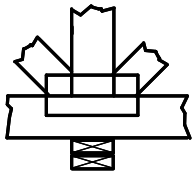
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

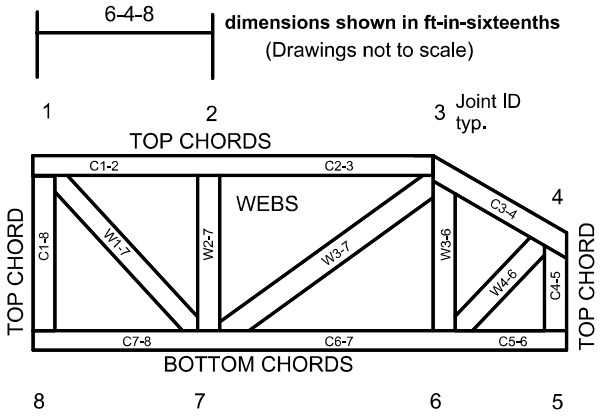


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

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
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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.