ENGINEERING BY TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

RE: 2412-1522-A - The Farm at Neills Creek Lot 00.0045 OWF

Site Information:

Project Customer: DRB Raleigh Project Name: The Farm at Neills Creek Lot 00.0045
Lot/Block: 00.0045 Subdivision: The Farm at Neills Creek
Model: Cooper 3
Address: 530 Winding Creek Dr
City: Lillington State: NC

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

Design Code: IRC2021/TPI2014
Wind Code: ASCE 7-16
Wind Speed: 115 mph
Roof Load: 50.0 psf
Mean Roof Height (feet): 25

Design Program: MiTek 20/20 8.8
Design Method: MWFRS (Envelope)/C-C hybrid Wind ASCE 7-16
Floor Load: N/A psf

Exposure Category: B

No.	Seal#	Truss Name	Date
1	I70360765	FG2	12/23/24
2	I70360766	FG3	12/23/24
3	I70360767	F7	12/23/24
4	I70360768	F6	12/23/24
5	I70360769	F1	12/23/24
6	I70360770	F3	12/23/24
7	I70360771	F2	12/23/24
8	I70360772	FG1	12/23/24
9	I70360773	F4	12/23/24
10	I70360774	F5	12/23/24
11	I70360775	FGE1	12/23/24

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: Lassiter, Frank
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.

December 23,2024

Lassiter, Frank

Job	Truss	Truss Type	Qty	Ply	The Farm at Neills Creek Lot 00.0045 OWF
2412-1522-A	FG2	Floor Girder	1	1	I70360765 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Fri Dec 20 14:39:52 Page: 1
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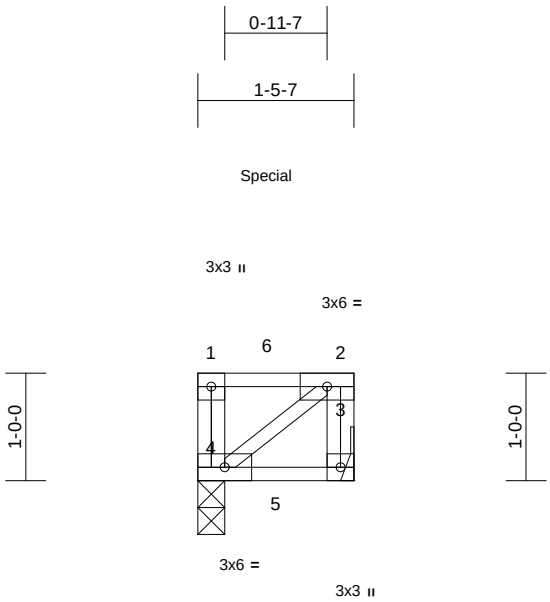

Scale = 1:19.4

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	0.37	Vert(LL)	-0.01	3-4	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.41	Vert(CT)	-0.01	3-4	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.00	Horz(CT)	n/a	-	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-P							Weight: 11 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 1-5-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4=0-3-0
Max Uplift 3=-13 (LC 10), 4=-37 (LC 10)
Max Grav 3=259 (LC 5), 4=255 (LC 7)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-4=-249/43, 2-3=-253/19, 1-2=0/0
BOT CHORD 3-4=0/0
WEBS 2-4=0/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: Joint 4 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 13 lb uplift at joint 3.
5) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 4. This connection is for uplift only and does not consider lateral forces.
6) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
7) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
8) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 183 lb up at 0-7-12 on top chord. The design/selection of such connection device(s) is the responsibility of others.
9) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 3-4=-10, 1-2=-100
Concentrated Loads (lb)
Vert: 6=24 (B)

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Job	Truss	Truss Type	Qty	Ply	The Farm at Neills Creek Lot 00.0045 OWF
2412-1522-A	FG3	Floor Girder	1	1	I70360766 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Fri Dec 20 14:39:52 Page: 1
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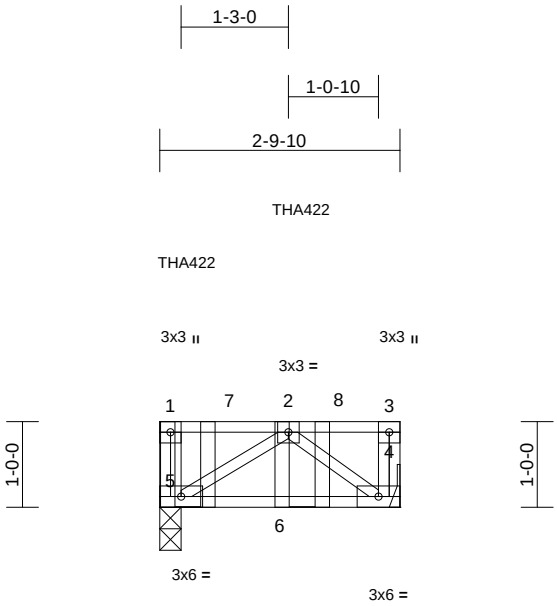

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.40	Vert(LL)	-0.08	4-5	>363	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.48	Vert(CT)	-0.09	4-5	>337	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.07	Horz(CT)	0.00	4	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-P							Weight: 17 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)

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-9-10 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

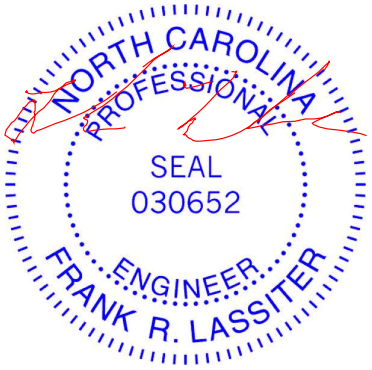
REACTIONS (size) 4= Mechanical, 5=0-3-0
Max Grav 4=322 (LC 6), 5=433 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-5=-328/0, 3-4=-262/20, 1-2=0/0, 2-3=0/0
BOT CHORD 4-5=0/245
WEBS 2-5=-291/0, 2-4=-306/0

NOTES
1) Bearings are assumed to be: Joint 5 SP SS .
2) Refer to girder(s) for truss to truss connections.
3) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 5.
4) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
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) Use Simpson Strong-Tie THA422 (Single Chord Girder) or equivalent spaced at 1-4-0 oc max. starting at 0-3-15 from the left end to 1-7-15 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: 4-5=-10, 1-3=-100
Concentrated Loads (lb)
Vert: 1=-210 (F), 2=-180 (F)



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Job	Truss	Truss Type	Qty	Ply	The Farm at Neills Creek Lot 00.0045 OWF
2412-1522-A	F7	Floor	2	1	I70360767 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Fri Dec 20 14:39:51 Page: 1

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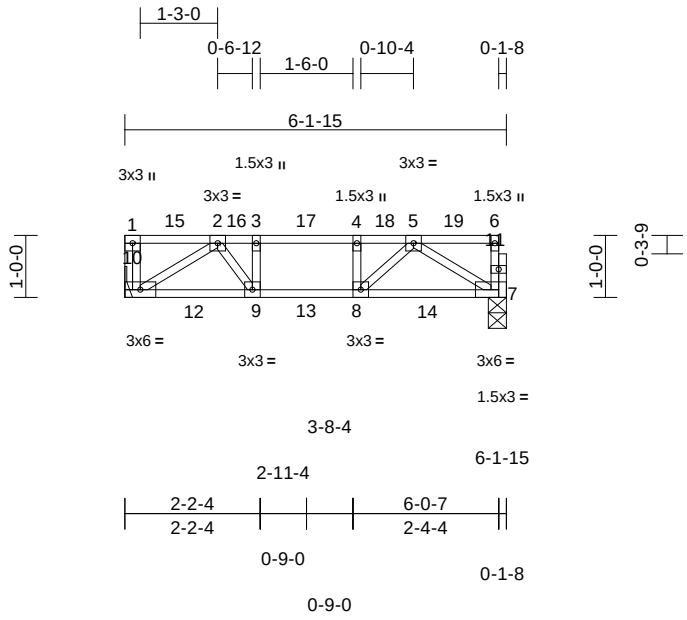

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Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.33	Vert(LL)	-0.08	7-8	>943	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.74	Vert(CT)	-0.08	7-8	>881	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.12	Horz(CT)	0.00	7	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 32 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.

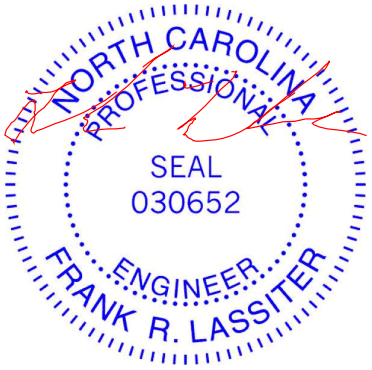
REACTIONS (size) 7=0-3-8, 10= Mechanical
Max Grav 7=323 (LC 24), 10=324 (LC 7)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-10=-263/0, 6-7=-262/8, 1-2=0/0, 2-3=-467/0, 3-4=-467/0, 4-5=-467/0, 5-6=-19/1
BOT CHORD 9-10=0/378, 8-9=0/467, 7-8=0/380
WEBS 3-9=-236/116, 4-8=-181/116, 2-10=-448/0, 2-9=-116/311, 5-7=-449/0, 5-8=-103/283

NOTES

1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: , Joint 7 SP No.3 .
3) Refer to girder(s) for truss to truss connections.
4) Bearing at joint(s) 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
5) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard



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Job	Truss	Truss Type	Qty	Ply	The Farm at Neills Creek Lot 00.0045 OWF
2412-1522-A	F6	Floor	7	1	I70360768 Job Reference (optional)

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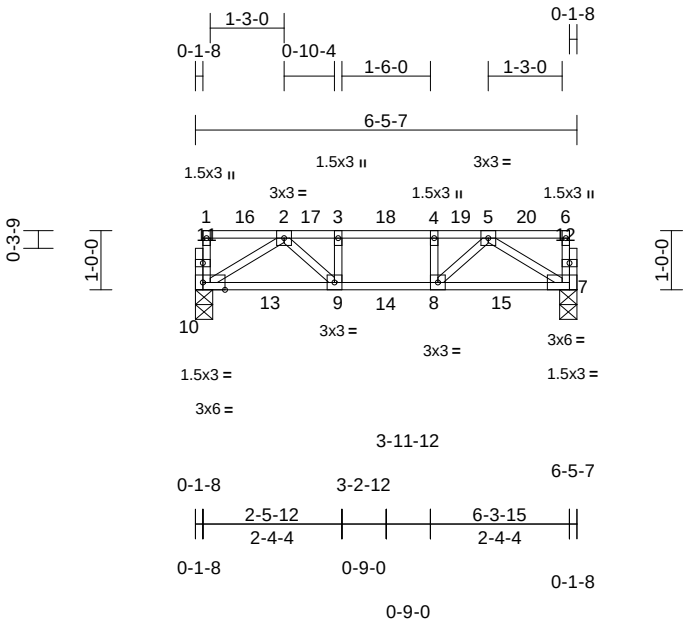

Scale = 1:26.6

Plate Offsets (X, Y): [10:0-4-8,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	0.34	Vert(LL)	-0.08	9-10	>986	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.74	Vert(CT)	-0.08	9-10	>928	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.12	Horz(CT)	0.00	7	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 33 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, 10=0-3-8
Max Grav 7=326 (LC 26), 10=326 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-10=-262/7, 6-7=-262/7, 1-2=-19/1, 2-3=-499/0, 3-4=-499/0, 4-5=-499/0, 5-6=-19/1
BOT CHORD 9-10=0/389, 8-9=0/499, 7-8=0/389
WEBS 3-9=-196/107, 4-8=-196/107, 2-10=-461/0, 2-9=-88/307, 5-7=-461/0, 5-8=-88/307

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All bearings are assumed to be SP No.3 .
3) Bearing at joint(s) 10, 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
4) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
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

December 23,2024

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Job	Truss	Truss Type	Qty	Ply	The Farm at Neills Creek Lot 00.0045 OWF
2412-1522-A	F1	Floor	1	1	I70360769 Job Reference (optional)

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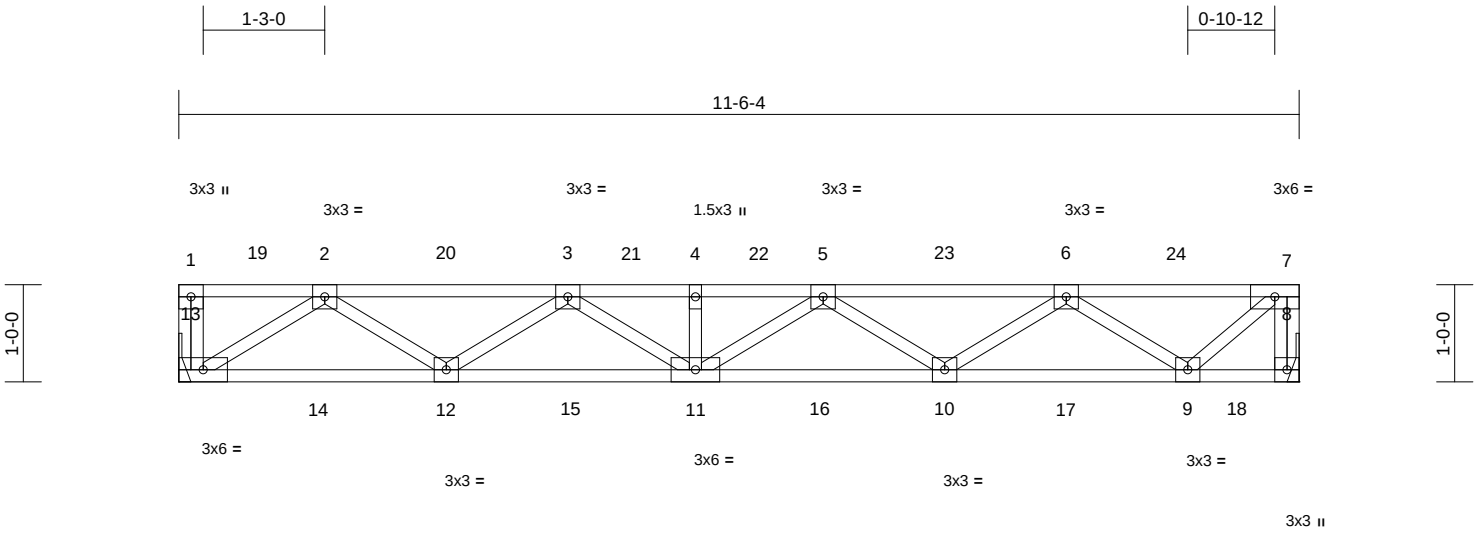

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Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.64	Vert(LL)	-0.09	10-11	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.86	Vert(CT)	-0.12	10-11	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.31	Horz(CT)	0.02	8	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 59 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)

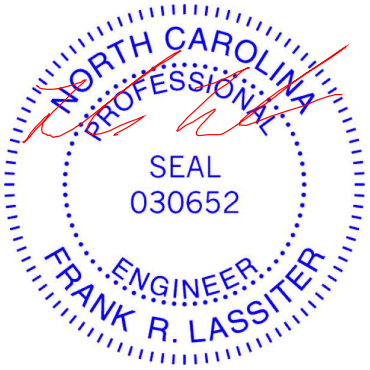
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 8= Mechanical, 13= Mechanical
Max Grav 8=496 (LC 1), 13=496 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-13=-259/33, 7-8=-493/0, 1-2=0/0, 2-3=-1107/0, 3-4=-1579/0, 4-5=-1579/0, 5-6=-1340/0, 6-7=-492/0
BOT CHORD 12-13=0/714, 11-12=0/1467, 10-11=0/1579, 9-10=0/1072, 8-9=0/0
WEBS 2-13=-846/0, 2-12=0/483, 3-12=-440/2, 3-11=-164/305, 4-11=-258/65, 5-11=-243/233, 5-10=-319/70, 6-10=0/405, 6-9=-708/0, 7-9=0/648

NOTES
1) Refer to girder(s) for truss to truss connections.
2) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
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	The Farm at Neills Creek Lot 00.0045 OWF
2412-1522-A	F3	Floor	1	1	I70360770 Job Reference (optional)

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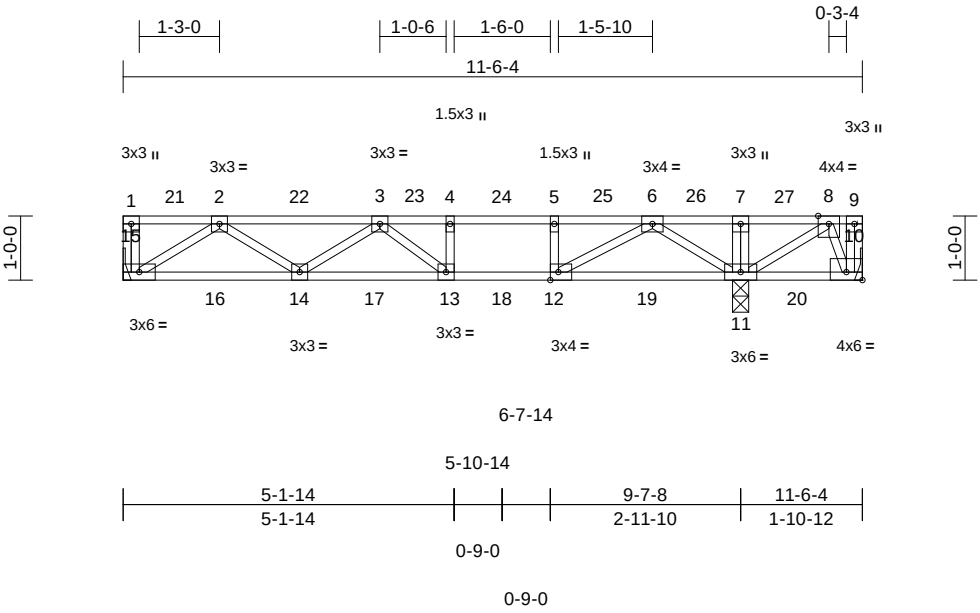

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Plate Offsets (X, Y): [10:Edge,0-1-8], [12:0-1-8,Edge]

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	0.57	Vert(LL)	-0.12	13-14	>986	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.85	Vert(CT)	-0.14	13-14	>812	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.31	Horz(CT)	0.01	11	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 60 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 6-0-0 oc bracing.

REACTIONS (size) 10= Mechanical, 11=0-3-0, 15= Mechanical
Max Uplift 10=-238 (LC 36)
Max Grav 10=233 (LC 20), 11=668 (LC 1), 15=391 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-15=-260/31, 9-10=-252/97, 1-2=0/0, 2-3=-807/0, 3-4=-876/0, 4-5=-876/0, 5-6=-876/0, 6-7=-110/503, 7-8=-110/503, 8-9=0/0
BOT CHORD 14-15=0/553, 13-14=0/997, 12-13=0/876, 11-12=-64/394, 10-11=-111/75
WEBS 4-13=-98/167, 5-12=-272/0, 7-11=-282/4, 2-15=-655/0, 2-14=0/436, 3-14=-298/90, 3-13=-327/108, 6-11=-701/0, 6-12=0/646, 8-11=-465/98, 8-10=-180/268

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: , 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 at joint(s) 11.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 238 lb uplift at joint 10.
6) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
7) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
8) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

December 23,2024

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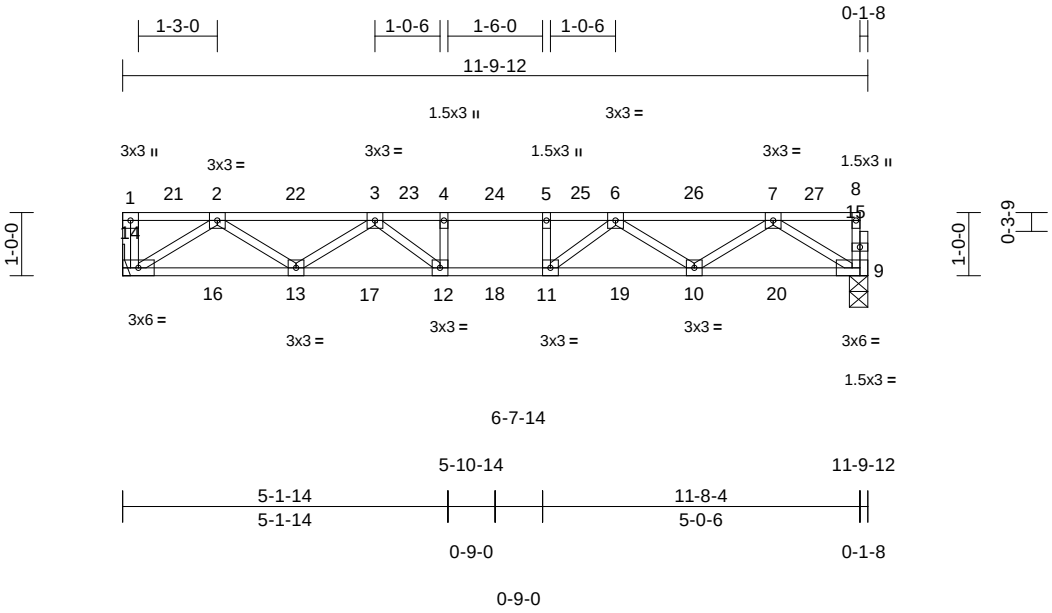
Job	Truss	Truss Type	Qty	Ply	The Farm at Neills Creek Lot 00.0045 OWF
2412-1522-A	F2	Floor	2	1	I70360771 Job Reference (optional)



Scale = 1:34.3

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	0.59	Vert(LL)	-0.11	12-13	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.86	Vert(CT)	-0.14	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: 58 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)

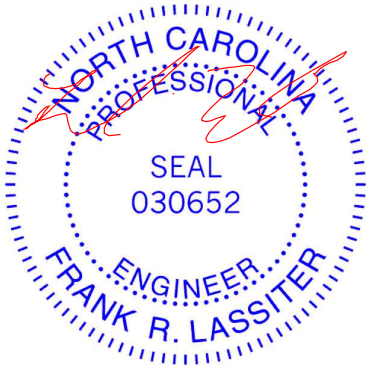
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 9=0-3-8, 14= Mechanical
Max Grav 9=503 (LC 1), 14=508 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-14=-259/32, 8-9=-259/35, 1-2=0/0, 2-3=-1144/0, 3-4=-1649/0, 4-5=-1649/0, 5-6=-1649/0, 6-7=-1144/0, 7-8=-18/2
BOT CHORD 13-14=0/735, 12-13=0/1521, 11-12=0/1649, 10-11=0/1521, 9-10=0/734
WEBS 4-12=-181/125, 5-11=-181/125, 2-14=-871/0, 2-13=0/499, 3-13=-460/9, 3-12=-205/343, 7-9=-868/0, 7-10=0/500, 6-10=-461/9, 6-11=-205/342

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: , Joint 9 SP No.3 .
3) Refer to girder(s) for truss to truss connections.
4) Bearing at joint(s) 9 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
5) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

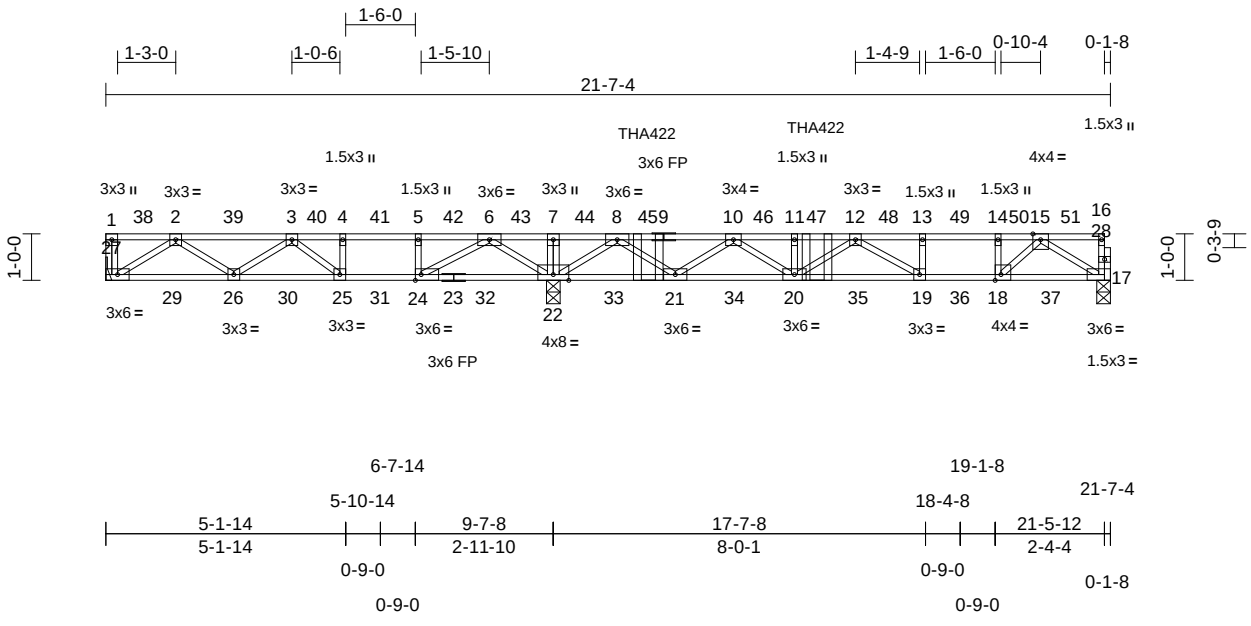


December 23,2024

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

Job	Truss	Truss Type	Qty	Ply	The Farm at Neills Creek Lot 00.0045 OWF
2412-1522-A	FG1	Floor Girder	1	1	I70360772 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Fri Dec 20 14:39:52 Page: 1
ID:NMBR5ZPs_4VOyFCyQo_ytNyHMYc-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:43.1

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.99	Vert(LL)	-0.19	19-20	>762	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.95	Vert(CT)	-0.25	19-20	>572	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.58	Horz(CT)	0.02	17	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 106 lb	FT = 20%F, 12%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat) *Except* 23-17:2x4 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 6-0-0 oc bracing.

REACTIONS (size) 17=0-3-8, 22=0-3-8, 27= Mechanical
Max Grav 17=633 (LC 7), 22=1619 (LC 9), 27=462 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-27=-262/29, 16-17=-271/0, 1-2=0/0, 2-3=-933/91, 3-4=-920/565, 4-5=-920/565, 5-6=-920/565, 6-7=0/1873, 7-8=0/1873, 8-10=-579/122, 10-11=-1997/0, 11-12=-1997/0, 12-13=-1643/0, 13-14=-1643/0, 14-15=-1643/0, 15-16=-19/0
BOT CHORD 26-27=-22/650, 25-26=-250/1128, 24-25=-565/920, 22-24=-1109/154, 21-22=-488/70, 20-21=0/1438, 19-20=0/2131, 18-19=0/1643, 17-18=0/928
WEBS 4-25=-58/238, 5-24=-442/0, 7-22=-291/26, 13-19=-77/191, 14-18=-490/0, 2-27=-771/26, 2-26=-84/399, 3-26=-238/195, 3-25=-630/16, 6-22=-1126/0, 6-24=0/1218, 8-22=-1641/0, 8-21=0/1099, 10-21=-1077/0, 10-20=0/702, 11-20=-280/20, 12-20=-317/131, 12-19=-590/52, 15-17=-1093/0, 15-18=0/989

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: , Joint 22 SP SS , Joint 17 SP SS .
3) Refer to girder(s) for truss to truss connections.
4) Bearing at joint(s) 17 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
5) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) CAUTION, Do not erect truss backwards.
8) Use Simpson Strong-Tie THA422 (Single Chord Girder) or equivalent spaced at 3-7-9 oc max. starting at 11-8-0 from the left end to 15-3-9 to connect truss(es) to front face of top chord.
9) Fill all nail holes where hanger is in contact with lumber.
10) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 17-27=-10, 1-16=-100
Concentrated Loads (lb)
Vert: 45=-1 (F), 47=-137 (F)

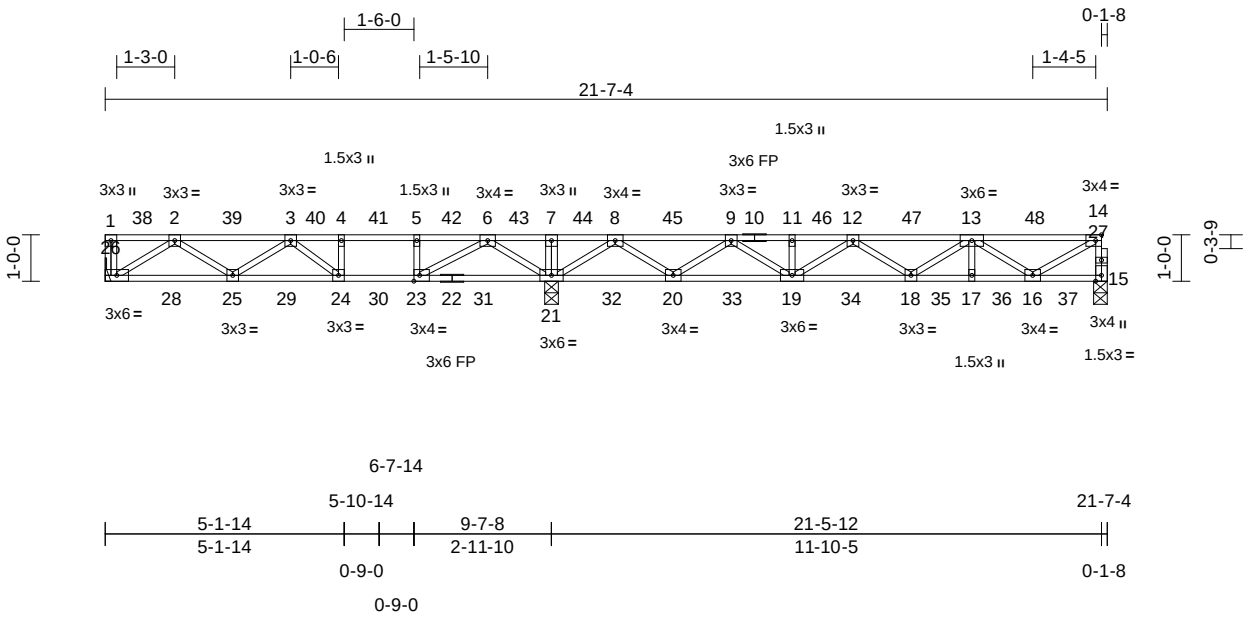
December 23,2024

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

Job	Truss	Truss Type	Qty	Ply	The Farm at Neills Creek Lot 00.0045 OWF
2412-1522-A	F4	Floor	1	1	I70360773 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Fri Dec 20 14:39:50 Page: 1

ID:UaxwFBMLwr?yUevBByv0iXyHMYg-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:43.1

Plate Offsets (X, Y): [14:0-1-8,Edge], [23:0-1-8,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	0.81	Vert(LL)	-0.12	24-25	>978	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.84	Vert(CT)	-0.14	24-25	>788	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.40	Horz(CT)	0.02	15	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.

REACTIONS (size) 15=0-3-8, 21=0-3-8, 26= Mechanical
Max Grav 15=454 (LC 4), 21=1103 (LC 1), 26=379 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-26=-260/31, 14-15=-452/0, 1-2=0/0, 2-3=-774/0, 3-4=-798/213, 4-5=-798/213, 5-6=-798/213, 6-7=0/984, 7-8=0/984, 8-9=-553/130, 9-11=-1286/0, 11-12=-1286/0, 12-13=-1307/0, 13-14=-648/0

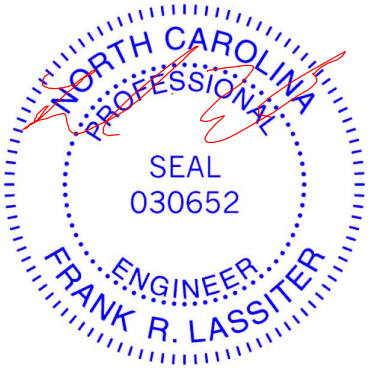
BOT CHORD 25-26=0/535, 24-25=-38/945, 23-24=-213/798, 21-23=-552/210, 20-21=-315/189, 19-20=0/1042, 18-19=0/1414, 17-18=0/1165, 16-17=0/1165, 15-16=0/64

WEBS 4-24=-83/188, 5-23=-309/0, 7-21=-281/31, 2-26=-634/0, 2-25=-9/403, 3-25=-261/122, 3-24=-375/72, 6-21=-813/0, 6-23=0/834, 8-21=-1007/0, 8-20=0/660, 9-20=-622/0, 9-19=-78/404, 11-19=-258/69, 12-19=-342/126, 12-18=-224/162, 13-18=-89/377, 13-17=-73/253, 13-16=-621/0, 14-16=0/686

NOTES

1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: , Joint 21 SP No.2 , Joint 15 SP No.2 .
3) Refer to girder(s) for truss to truss connections.
4) Bearing at joint(s) 15 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
5) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

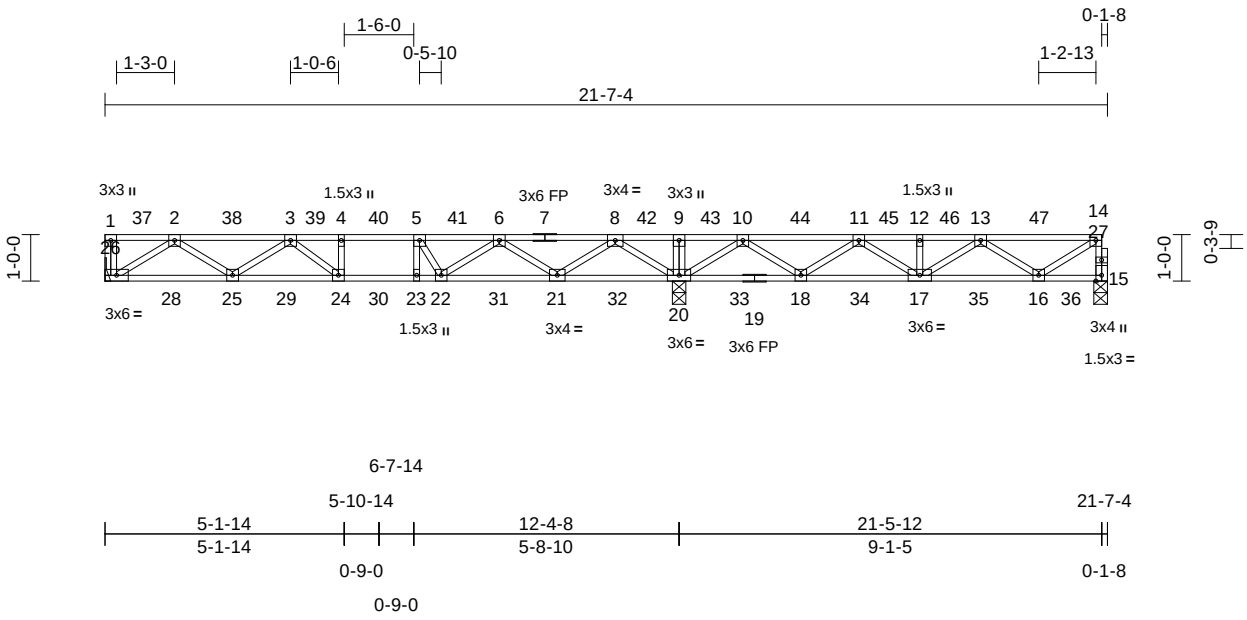


December 23,2024

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

Job	Truss	Truss Type	Qty	Ply	The Farm at Neills Creek Lot 00.0045 OWF
2412-1522-A	F5	Floor	3	1	I70360774 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Fri Dec 20 14:39:51 Page: 1
ID:ynVITXMzh97p5oUNlfQFFkyHMYf-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:43.1

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.69	Vert(LL)	-0.11	24-25	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.86	Vert(CT)	-0.14	24-25	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.34	Horz(CT)	0.02	20	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 No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

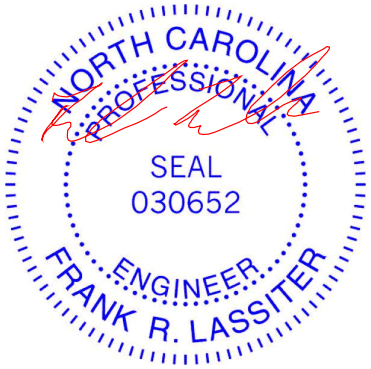
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 15=0-3-8, 20=0-3-8, 26= Mechanical
Max Grav 15=331 (LC 4), 20=1168 (LC 1), 26=462 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-26=-259/32, 14-15=-330/0, 1-2=0/0, 2-3=-1010/0, 3-4=-1347/0, 4-5=-1347/0, 5-6=-1209/0, 6-8=-392/165, 8-9=0/1325, 9-10=0/1325, 10-11=-387/531, 11-12=-751/179, 12-13=-751/179, 13-14=-426/21
BOT CHORD 25-26=0/663, 24-25=0/1313, 23-24=0/1347, 22-23=0/1347, 21-22=0/921, 20-21=-418/53, 18-20=-758/78, 17-18=-332/690, 16-17=-67/730, 15-16=0/47
WEBS 4-24=-151/130, 5-23=-210/273, 9-20=-269/46, 2-26=-785/0, 2-25=0/463, 3-25=-370/52, 3-24=-260/222, 8-20=-1084/0, 8-21=0/712, 6-21=-679/0, 6-22=-26/427, 5-22=-409/237, 10-20=-890/0, 10-18=0/539, 11-18=-509/0, 11-17=-140/296, 12-17=-253/90, 13-17=-235/220, 13-16=-395/56, 14-16=-26/466

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 20 SP No.2 , Joint 15 SP No.2 .
4) Refer to girder(s) for truss to truss connections.
5) Bearing at joint(s) 15 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
6) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
7) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
8) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

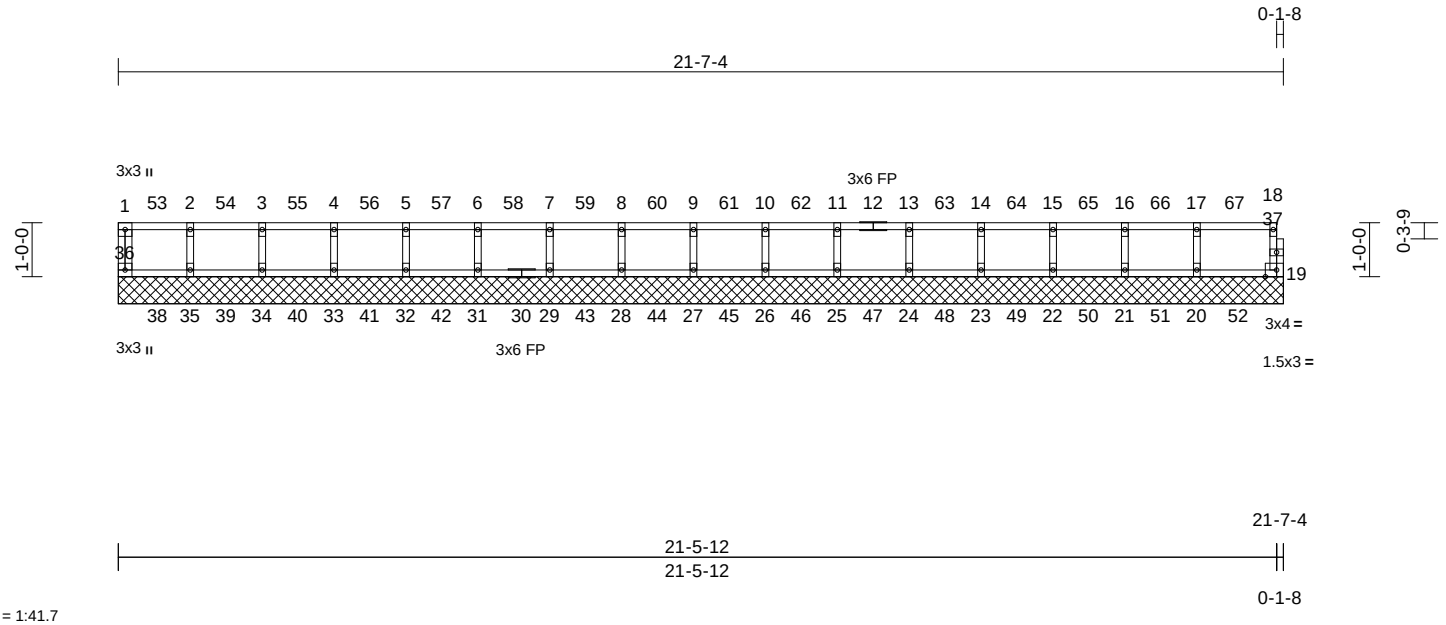


December 23,2024

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

Job	Truss	Truss Type	Qty	Ply	The Farm at Neills Creek Lot 00.0045 OWF
2412-1522-A	FGE1	Floor Supported Gable	1	1	I70360775 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Fri Dec 20 14:39:52 Page: 1
ID:Qz3hgtNbSSFgjy3ZJNxUnyyHMYe-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:41.7

Plate Offsets (X, Y): [19:0-2-8,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	0.30	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.33	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.05	Horiz(TL)	0.00	19	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 85 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) 19=21-7-4, 20=21-7-4, 21=21-7-4, 22=21-7-4, 23=21-7-4, 24=21-7-4, 25=21-7-4, 26=21-7-4, 27=21-7-4, 28=21-7-4, 29=21-7-4, 31=21-7-4, 32=21-7-4, 33=21-7-4, 34=21-7-4, 35=21-7-4, 36=21-7-4
Max Uplift 19=-4 (LC 18), 21=-11 (LC 51), 22=-1 (LC 50), 28=-3 (LC 41), 35=-5 (LC 19), 36=-13 (LC 37)
Max Grav 19=269 (LC 68), 20=289 (LC 67), 21=284 (LC 66), 22=285 (LC 65), 23=285 (LC 64), 24=285 (LC 63), 25=285 (LC 62), 26=285 (LC 61), 27=285 (LC 60), 28=285 (LC 59), 29=285 (LC 58), 31=285 (LC 57), 32=285 (LC 56), 33=285 (LC 55), 34=286 (LC 54), 35=283 (LC 53), 36=268 (LC 52)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-36=-262/20, 18-19=-257/12, 1-2=-35/3, 2-3=-35/3, 3-4=-35/3, 4-5=-35/3, 5-6=-35/3, 6-7=-35/3, 7-8=-35/3, 8-9=-35/3, 9-10=-35/3, 10-11=-35/3, 11-13=-35/3, 13-14=-35/3, 14-15=-35/3, 15-16=-35/3, 16-17=-35/3, 17-18=-35/3
BOT CHORD 35-36=-3/35, 34-35=-3/35, 33-34=-3/35, 32-33=-3/35, 31-32=-3/35, 29-31=-3/35, 28-29=-3/35, 27-28=-3/35, 26-27=-3/35, 25-26=-3/35, 24-25=-3/35, 23-24=-3/35, 22-23=-3/35, 21-22=-3/35, 20-21=-3/35, 19-20=-3/35
WEBS 2-35=-271/13, 3-34=-273/10, 4-33=-272/10, 5-32=-272/10, 6-31=-272/10, 7-29=-272/10, 8-28=-272/10, 9-27=-272/10, 10-26=-272/10, 11-25=-272/10, 13-24=-272/10, 14-23=-272/10, 15-22=-273/10, 16-21=-272/16, 17-20=-275/7

NOTES
1) All plates are 1.5x3 (||) MT20 unless otherwise indicated.
2) Gable requires continuous bottom chord bearing.
3) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
4) Gable studs spaced at 1-4-0 oc.
5) All bearings are assumed to be SP No.2 .
6) Bearing at joint(s) 19 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 36, 19, 35, 33, 32, 31, 29, 28, 27, 26, 25, 24, 23, 22, and 21. This connection is for uplift only and does not consider lateral forces.
8) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
9) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
10) CAUTION, Do not erect truss backwards.

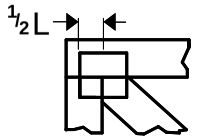
LOAD CASE(S) Standard

December 23,2024

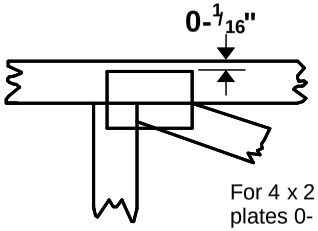
ENGINEERING BY TRENCO A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Symbols

PLATE LOCATION AND ORIENTATION



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



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

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

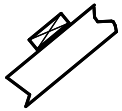
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

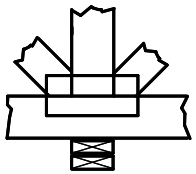
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

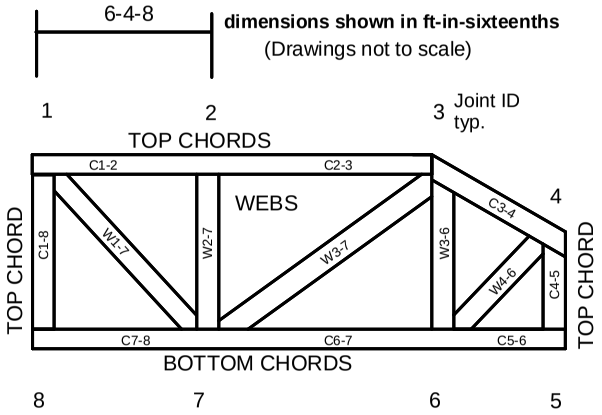


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

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

Numbering System



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

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

Product Code Approvals

ICC-ES Reports:

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

Design General Notes

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

Lumber design values are in accordance with ANSI/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

MiTek®

ENGINEERING BY TRENCO
A MiTek Affiliate

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

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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