

RE: Middleton Rev 2-Elev 10-Roof

**Trenco**

818 Soundside Rd  
 Edenton, NC 27932

**Site Information:**

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

Lot/Block: Subdivision:

Model:

Address:

City: State: NC

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

Design Code: IRC2021/TPI2014

Design Program: MiTek 20/20 8.8

Wind Code: ASCE 7-16

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

Wind Speed: 120 mph

Floor Load: N/A psf

Roof Load: 40.0 psf

Mean Roof Height (feet): 25

Exposure Category: B

No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I71743814	M2A	3/4/25	35	I71743848	A1GE	3/4/25
2	I71743815	M1GE	3/4/25	36	I71743849	A1	3/4/25
3	I71743816	M1	3/4/25	37	I71743850	J1GE	3/4/25
4	I71743817	M1A	3/4/25	38	I71743851	B1GR	3/4/25
5	I71743818	PB1	3/4/25	39	I71743852	B1B	3/4/25
6	I71743819	PB2	3/4/25	40	I71743853	B2	3/4/25
7	I71743820	PB3	3/4/25	41	I71743854	B2A	3/4/25
8	I71743821	P1GE	3/4/25		I71743855	B2B	3/4/25
9	I71743822	P1	3/4/25	43	I71743856	B2GR	3/4/25
10	I71743823	P1A	3/4/25	44	I71743857	J2GE	3/4/25
11	I71743824	P1GR	3/4/25	45	I71743858	V1	3/4/25
12	I71743825	P2GE	3/4/25	46	I71743859	V2	3/4/25
13	I71743826	P2	3/4/25	47	I71743860	V3	3/4/25
14	I71743827	P2A	3/4/25	48	I71743861	V4	3/4/25
	I71743828	M3A	3/4/25	49	I71743862	V5	3/4/25
16	I71743829	M3B	3/4/25	50	I71743863	CJ1	3/4/25
17	I71743830	M2	3/4/25		I71743864	B1A	3/4/25
18	I71743831	M2B	3/4/25	52	I71743865	B1	3/4/25
19	I71743832	M1B	3/4/25	53	I71743866	B2D	3/4/25
20	I71743833	M1C	3/4/25	54	I71743867	B2C	3/4/25
21	I71743834	M2GE	3/4/25	55	I71743868	A2GR	3/4/25
22	I71743835	D1GE	3/4/25	56	I71743869	B2F	3/4/25
23	I71743836	D1	3/4/25	57	I71743870	B2E	3/4/25
	I71743837	V8	3/4/25	58	I71743871	C1GE	3/4/25
25	I71743838	M3	3/4/25	59	I71743872	C1	3/4/25
26	I71743839	M3GR	3/4/25		I71743873	C1A	3/4/25
27	I71743840	J5	3/4/25	61	I71743874	V7	3/4/25
28	I71743841	J4	3/4/25	62	I71743875	V6	3/4/25
29	I71743842	J3	3/4/25	63	I71743876	J7	3/4/25
30	I71743843	J2	3/4/25	64	I71743877	J8	3/4/25
31	I71743844	J1GR	3/4/25	65	I71743878	J2GR	3/4/25
32	I71743845	J1	3/4/25	66	I71743879	J6	3/4/25
	I71743846	A1GR	3/4/25	67	I71743880	A2	3/4/25
34	I71743847	A2GE	3/4/25	68	I71743881	A2A	3/4/25

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.



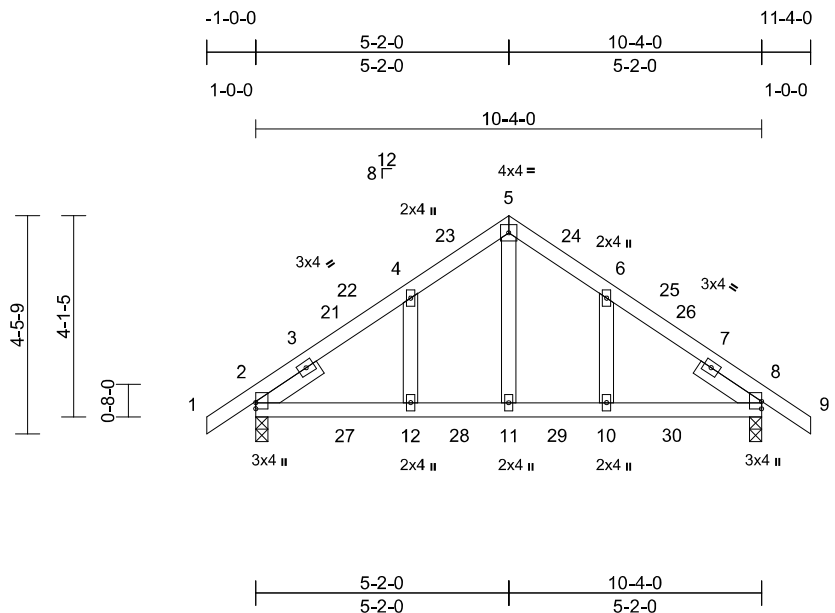
March 4, 2025

RE: Middleton Rev 2-Elev 10-Roof

**Trenco**  
 818 Soundside Rd  
 Edenton, NC 27932

No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
69	I71743882	A2B	3/4/25	134	I71743947	V8A	3/4/25
70	I71743883	A2C	3/4/25	135	I71743948	V5A	3/4/25
71	I71743884	A2G	3/4/25	136	I71743949	V4A	3/4/25
72	I71743885	A3A	3/4/25	137	I71743950	J8A	3/4/25
73	I71743886	A3	3/4/25				
74	I71743887	A3B	3/4/25				
75	I71743888	A3C	3/4/25				
76	I71743889	G1G	3/4/25				
77	I71743890	G1	3/4/25				
78	I71743891	G3G	3/4/25				
79	I71743892	G2C	3/4/25				
80	I71743893	G2B	3/4/25				
81	I71743894	G2A	3/4/25				
82	I71743895	G2	3/4/25				
83	I71743896	G3	3/4/25				
84	I71743897	VG2	3/4/25				
85	I71743898	VG1	3/4/25				
86	I71743899	M4GR	3/4/25				
87	I71743900	J5A	3/4/25				
88	I71743901	J4A	3/4/25				
89	I71743902	J3A	3/4/25				
90	I71743903	J2A	3/4/25				
91	I71743904	J1G	3/4/25				
92	I71743905	A2V	3/4/25				
93	I71743906	A3GR	3/4/25				
94	I71743907	B3B	3/4/25				
95	I71743908	B3A	3/4/25				
96	I71743909	B3	3/4/25				
97	I71743910	M5A	3/4/25				
98	I71743911	M4	3/4/25				
99	I71743912	M2T	3/4/25				
100	I71743913	M4A	3/4/25				
101	I71743914	M5G	3/4/25				
102	I71743915	M5B	3/4/25				
103	I71743916	M5	3/4/25				
104	I71743917	M4G	3/4/25				
105	I71743918	P5A	3/4/25				
106	I71743919	P5B	3/4/25				
107	I71743920	PB5	3/4/25				
108	I71743921	P5C	3/4/25				
109	I71743922	PB4	3/4/25				
110	I71743923	P4A	3/4/25				
111	I71743924	P4B	3/4/25				
112	I71743925	G4B	3/4/25				
113	I71743926	G4	3/4/25				
114	I71743927	P2G	3/4/25				
115	I71743928	G4A	3/4/25				
116	I71743929	G4GR	3/4/25				
117	I71743930	H1	3/4/25				
118	I71743931	H1GR	3/4/25				
119	I71743932	A4A	3/4/25				
120	I71743933	A4	3/4/25				
121	I71743934	A4B	3/4/25				
122	I71743935	H2GR	3/4/25				
123	I71743936	A5A	3/4/25				
124	I71743937	A4GR	3/4/25				
125	I71743938	H2	3/4/25				
126	I71743939	V6A	3/4/25				
127	I71743940	V7A	3/4/25				
128	I71743941	H5	3/4/25				
129	I71743942	H4	3/4/25				
130	I71743943	H6	3/4/25				
131	I71743944	A5	3/4/25				
132	I71743945	H3	3/4/25				
133	I71743946	V9A	3/4/25				

Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743835
	D1GE	Common Structural Gable	3	1	Job Reference (optional)	



Scale = 1:47.1

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.40	Vert(LL)	-0.06	10-19	>999	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.50	Vert(CT)	-0.07	10-19	>999	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.13	Horz(CT)	0.02	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.02	12-15	>999	240		
BCDL	10.0										Weight: 54 lb	FT = 20%

**LUMBER**

TOP CHORD 2x4 SP No.2

BOT CHORD 2x4 SP No.2

WEBS 2x4 SP No.3

OTHERS 2x4 SP No.3

SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x4 SP No.3 -- 1-6-0

**BRACING**

TOP CHORD Structural wood sheathing directly applied.

BOT CHORD Rigid ceiling directly applied.

**REACTIONS** (size) 2=0-3-0, 8=0-3-0  
Max Horiz 2=66 (LC 15)  
Max Grav 2=486 (LC 23), 8=486 (LC 24)

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

TOP CHORD 1-2=0/45, 2-4=-445/184, 4-5=-425/223, 5-6=-425/223, 6-8=-445/184, 8-9=0/45

BOT CHORD 2-12=-77/327, 11-12=-77/327, 10-11=-77/327, 8-10=-77/327

WEBS 5-11=-138/342, 4-12=-140/110, 6-10=-140/110

- NOTES**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 5-2-0, Exterior(2R) 5-2-0 to 8-2-0, Interior (1) 8-2-0 to 11-4-0 zone; cantilever left and right exposed ; end vertical left and right exposed; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- Plates checked for a plus or minus 5 degree rotation about its center.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.2 .
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

**LOAD CASE(S)** Standard



March 4,2025

Structural, LLC, Thurmont, MD - 21788, Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 18:08:17 Page: 1  
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TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.3  
SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x4 SP No.3  
-- 1-6-0

TOP CHORD	Structural wood sheathing directly applied.
BOT CHORD	Rigid ceiling directly applied.

(size) 2=0-3-0, 6=0-3-0  
Max Horiz 2=66 (LC 15)  
Max Grav 2=486 (LC 23), 6=486 (LC 24)

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/45, 2-4=-526/206, 4-6=-526/206,  
6-7=0/45

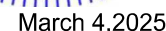
BOT CHORD  $2-8=-75/326$ ,  $6-8=-85/326$

WEBS 4-8=-88/349

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=120mph (3-second gust)  
 Vasd=95mph; TCDD=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1.0-0 to 2.0-0, Interior (1) 2.0-0 to 5.2-0, Exterior(2R) 5.2-0 to 8.2-0, Interior (1) 8.2-0 to 11.4-0 zone; cantilever left and right exposed ; end vertical left and right exposed; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grid DOL=1.60
- 3) TCELL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- 4) Unbalanced snow loads have been considered for this design.

- 5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with any other live loads.
- 6) Plates checked for a plus or minus 5 degree rotation about its center.
- 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 8) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3'-06"-00 tall by 2'-00"-00 wide will fit between the bottom chord and any other members.
- 9) All bearings are assumed to be SP No.2 .
- 10) 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.
- 11) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

## LOAD CASE(S) Standard



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



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Edenton, NC 27932

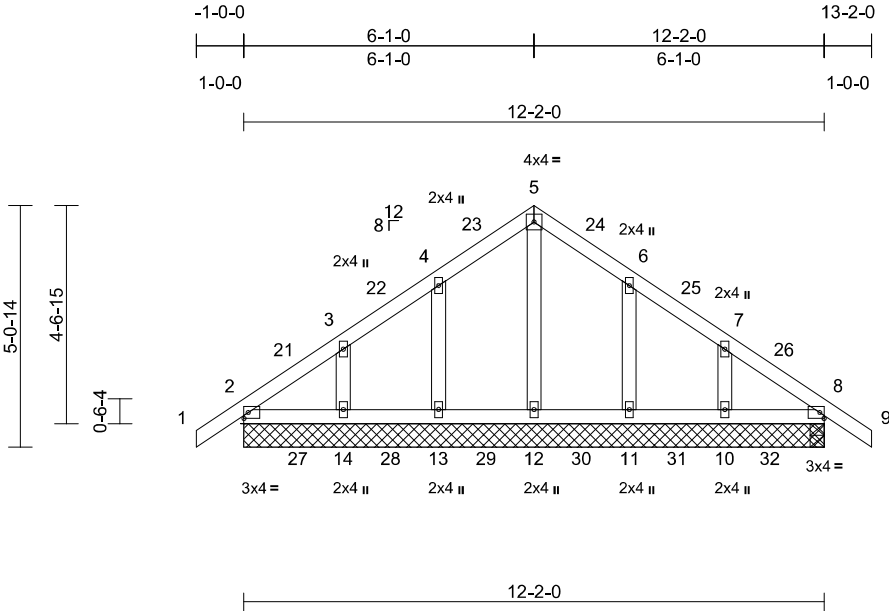


Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743847
	A2GE	Common Supported Gable	6	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

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<b>Loading</b>	(psf)	<b>Spacing</b>	2-0-0	<b>CSI</b>		<b>DEFL</b>	in	(loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.20	Vert(LL)	-0.01	10-20	>999	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.20	Vert(CT)	-0.01	10-20	>999	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.00	18	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.00	10-20	>999	240		
BCDL	10.0										Weight: 62 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
OTHERS 2x4 SP No.3

**BRACING**  
TOP CHORD Structural wood sheathing directly applied.  
BOT CHORD Rigid ceiling directly applied.

**REACTIONS** All bearings 12-2-0.  
(lb) - Max Horiz 2=76 (LC 15)  
Max Uplift All uplift 100 (lb) or less at joint(s)  
10, 11, 13, 14  
Max Grav All reactions 250 (lb) or less at joint  
(s) except 2=319 (LC 57), 8=297  
(LC 64), 10=337 (LC 71), 11=334  
(LC 70), 12=321 (LC 69), 13=334  
(LC 68), 14=337 (LC 67)

**FORCES** (lb) - Max. Comp./Max. Ten. - All forces 250  
(lb) or less except when shown.  
**WEBS** 4-13=-286/93, 3-14=-290/106, 6-11=-286/93,  
7-10=-290/106

**NOTES**  
1) Unbalanced roof live loads have been considered for this design.  
2) Wind: ASCE 7-16; Vult=120mph (3-second gust)  
Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) -1-0-0 to 2-1-0, Exterior(2N) 2-1-0 to 6-1-0, Corner (3R) 6-1-0 to 9-1-0, Exterior(2N) 9-1-0 to 13-2-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60  
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- Plates checked for a plus or minus 5 degree rotation about its center.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- One RT4 MiTek connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 13, 14, 11, and 10. This connection is for uplift only and does not consider lateral forces.
- 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.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

**LOAD CASE(S)** Standard



March 4, 2025

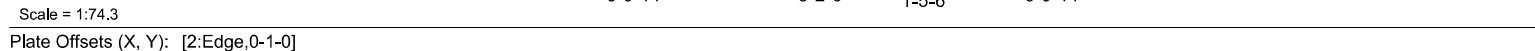
**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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

ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate

818 Soundside Road  
Edenton, NC 27932

Structural, LLC, Thurmont, MD - 21788, Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 18:08:04 Page: 1  
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<b>LUMBER</b>		2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 10-0-1, Exterior(2R) 10-0-1 to 13-0-1, Interior (1) 13-0-1 to 21-3-8 zone; cantilever left and right exposed ; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60	13) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
TOP CHORD	2x4 SP No.2		
BOT CHORD	2x4 SP No.2		
WEBS	2x4 SP No.3		
OTHERS	2x4 SP No.3		
WEDGE	Left: 2x4 SP No.3		
<b>BRACING</b>			
TOP CHORD	Structural wood sheathing directly applied.		
BOT CHORD	Rigid ceiling directly applied.		
JOINTS	1 Brace at Jt(s): 21, 22	3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.	14) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
<b>REACTIONS</b>	(size) 2=0-3-8, 11=8-5-0, 13=8-5-0, 14=8-5-0, 15=8-5-0, 16=8-5-0, 17=0-3-8 Max Horiz 2=-117 (LC 14) Max Uplift 13=-25 (LC 17), 15=-1 (LC 17) Max Grav 2=575 (LC 2), 11=295 (LC 76), 13=341 (LC 85), 14=322 (LC 84), 15=319 (LC 83), 16=441 (LC 82), 17=350 (LC 81)	4) TCELL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10 5) Unbalanced snow loads have been considered for this design. 6) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads. 7) Plates checked for a plus or minus 5 degree rotation about its center. 8) Gable studs spaced at 2-0-0 oc. 9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads. 10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members. 11) All bearings are assumed to be SP No.2 . 12) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UIPI IET at it(s) 15 and 13. This connection is for uplift	
<b>FORCES</b>	(lb) - Maximum Compression/Maximum Tension		
TOP CHORD	1-2=0/45, 2-3=-641/41, 3-4=-546/73, 4-5=-492/102, 5-6=-81/100, 6-7=-73/90, 7-8=-48/104, 8-9=-118/51, 9-10=-67/96, 10-11=-106/68, 11-12=0/45		
BOT CHORD	2-20=-119/494, 18-20=0/194, 17-18=0/194, 16-17=0/194, 15-16=-41/79, 14-15=-41/79, 13-14=-41/79, 11-13=-47/79		
WEBS	5-22=-455/0, 16-22=-484/0, 16-23=-189/29, 8-23=-182/27, 20-21=-25/498, 5-21=-50/521, 3-20=-296/98, 5-18=-79/251, 4-21=-130/27, 6-22=-287/45, 17-22=-269/48, 7-23=-252/36, 15-23=-239/31, 9-14=-260/30, 10-13=-293/54		

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

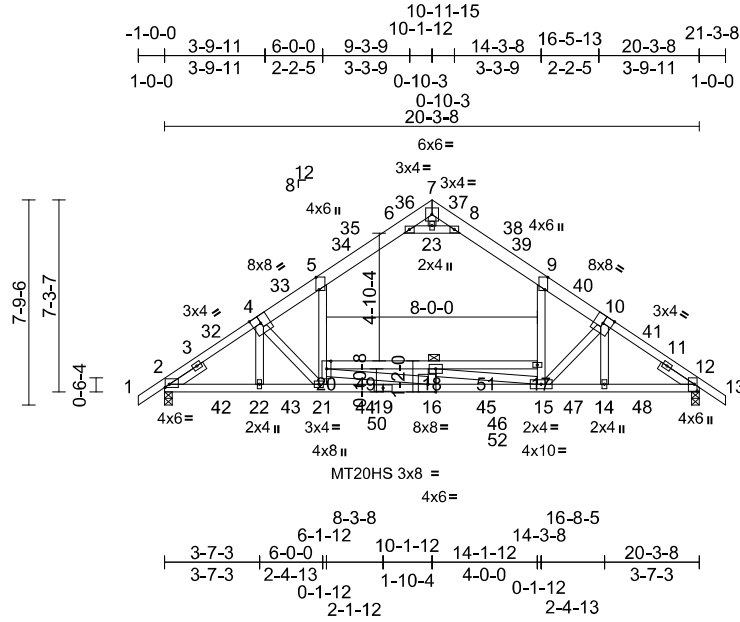
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743849
	A1	Attic	24	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 18:08:03  
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Page: 1



Scale = 1:87.6

Plate Offsets (X, Y): [2:0-1-15,0-1-8], [5:0-5-12,Edge], [9:0-5-12,Edge], [12:0-3-2,0-1-4], [16:0-3-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.54	Vert(LL)	-0.14	18-20	>999	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.98	Vert(CT)	-0.35	18-20	>685	240	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.88	Horz(CT)	0.04	12	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.04	16-21	>999	240		
BCDL	10.0											
											Weight: 144 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2 \*Except\* 7-10,4-7:2x6 SP DSS  
BOT CHORD 2x4 SP SS \*Except\* 2-19:2x4 SP No.2  
WEBS 2x4 SP No.3 \*Except\* 9-15,5-21,6-8:2x4 SP No.2  
SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x4 SP No.3 -- 1-6-0

#### BRACING

TOP CHORD Structural wood sheathing directly applied.  
BOT CHORD Rigid ceiling directly applied.

#### REACTIONS

(size) 2=0-3-8, 12=0-3-8  
Max Horiz 2=117 (LC 15)  
Max Grav 2=1401 (LC 35), 12=1409 (LC 36)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/52, 2-5=-2088/0, 5-6=-1362/0, 6-7=0/1055, 7-8=0/1043, 8-9=-1374/0, 9-12=-2090/0, 12-13=0/52  
BOT CHORD 2-22=0/1663, 21-22=0/1662, 16-21=0/1375, 15-16=0/2985, 14-15=0/1673, 12-14=0/1674, 18-20=-1739/0, 17-18=-99/123  
WEBS 15-17=0/843, 9-17=0/1061, 20-21=0/628, 5-20=0/1085, 6-23=-2891/0, 8-23=-2891/0, 16-18=-287/48, 10-14=-142/178, 10-15=-405/32, 16-20=0/1838, 15-18=-1809/0, 7-23=0/357, 4-22=-103/204, 4-21=-442/7

#### NOTES

1) Unbalanced roof live loads have been considered for this design.

- 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 10-1-12, Exterior(2R) 10-1-12 to 13-1-12, Interior (1) 13-1-12 to 21-3-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- 4) Unbalanced snow loads have been considered for this design.
- 5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- 6) 250.0lb AC unit load placed on the bottom chord, 10-1-12 from left end, supported at two points, 5-0-0 apart.
- 7) All plates are MT20 plates unless otherwise indicated.
- 8) Plates checked for a plus or minus 5 degree rotation about its center.
- 9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 10) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 11) Bottom chord live load (40.0 psf) and additional bottom chord dead load (20.0 psf) applied only to room. 18-20, 17-18
- 12) Bearings are assumed to be: Joint 2 SP No.2 , Joint 12 SP SS .

- 13) 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.
- 14) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- 15) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard



March 4, 2025

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

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

ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate

818 Soundside Road  
Edenton, NC 27932

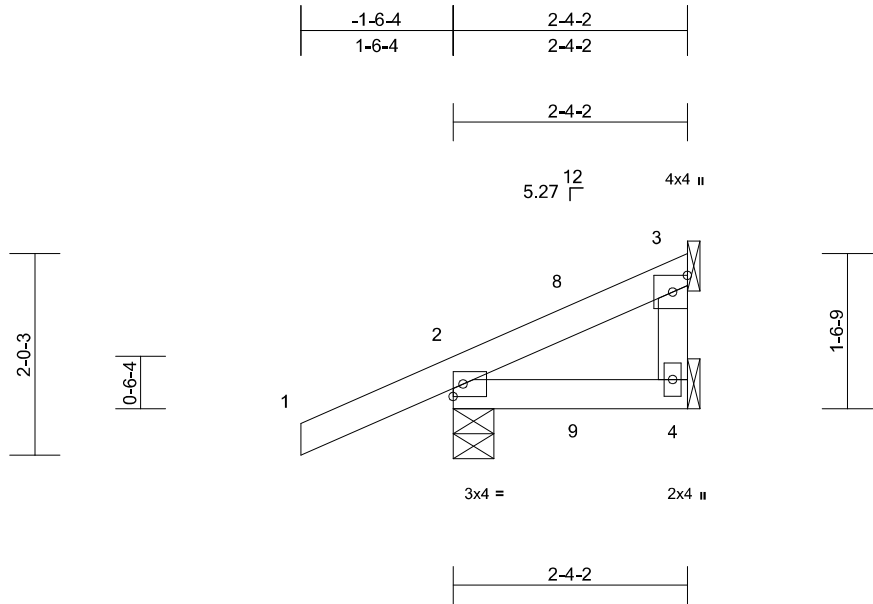
Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743863
	CJ1	Jack-Open	6	1	Job Reference (optional)	

Structural, LLC, Thumont, MD - 21788,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 18:08:17

Page: 1

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Scale = 1:23.1

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.25	Vert(LL)	-0.01	4-7	>999	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.25	Vert(CT)	-0.01	4-7	>999	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP		Wind(LL)	0.00	4-7	>999	240		
BCDL	10.0										Weight: 11 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3

BRACING

TOP CHORD	Structural wood sheathing directly applied or 2-4-2 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

<b>REACTIONS</b>	(size)	2=0-4-14, 3= Mechanical, 4= Mechanical
	Max Horiz	2=32 (LC 16)
	Max Uplift	2=-9 (LC 12), 3=-10 (LC 16)
	Max Grav	2=338 (LC 40), 3=270 (LC 44), 4=270 (LC 49)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/50, 2-3=-172/166
BOT CHORD	2-4=103/51
WEBS	3-4=0/0

NOTES

- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.

- Plates checked for a plus or minus 5 degree rotation about its center.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Bearings are assumed to be: , Joint 2 SP No.2 .
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 10 lb uplift at joint 3 and 9 lb uplift at joint 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.
- Gap between inside of top chord bearing and first diagonal or vertical web shall not exceed 0.500in.

LOAD CASE(S) Standard



March 4,2025

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

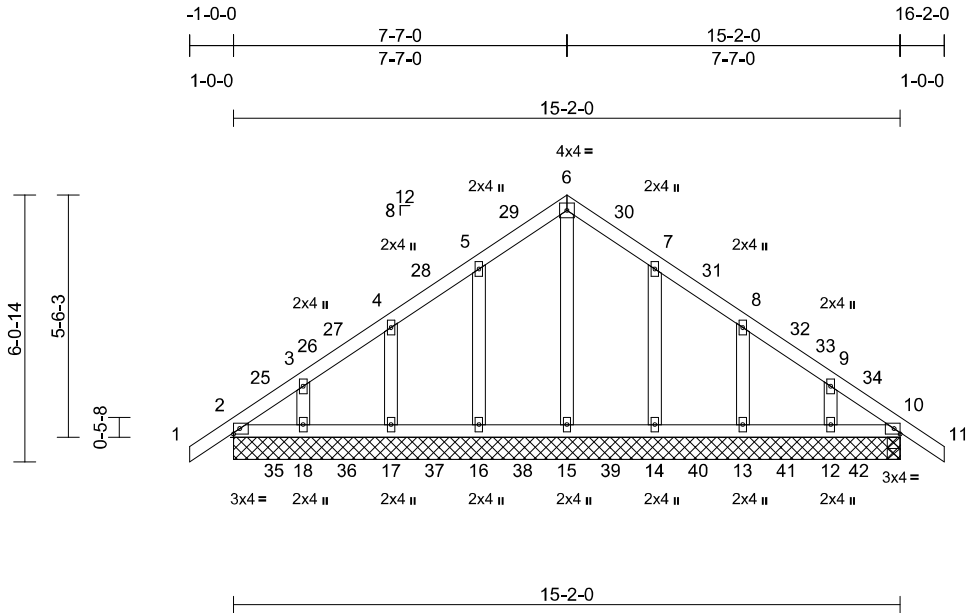
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall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

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818 Soundside Road  
Edenton, NC 27932



Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743871
	C1GE	Common Supported Gable	2	1	Job Reference (optional)	



Scale = 1:52.5

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.20	Vert(LL)	-0.01	15-16	>999	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.19	Vert(CT)	-0.01	15-16	>999	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.12	Horz(CT)	0.00	22	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.00	24	>999	240		
BCDL	10.0										Weight: 82 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
OTHERS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied.  
BOT CHORD Rigid ceiling directly applied.

REACTIONS

All bearings 15-2-0.  
(lb) - Max Horiz 2=92 (LC 15)  
Max Uplift All uplift 100 (lb) or less at joint(s) 2, 12, 13, 14, 16, 17, 18  
Max Grav All reactions 250 (lb) or less at joint (s) except 2=309 (LC 61), 10=258 (LC 70), 12=323 (LC 79), 13=335 (LC 78), 14=334 (LC 77), 15=324 (LC 76), 16=334 (LC 75), 17=335 (LC 74), 18=323 (LC 73)

FORCES

(lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

WEBS

5-16=-284/81, 4-17=-286/89, 3-18=-281/79, 7-14=-284/81, 8-13=-286/90, 9-12=-281/79

- NOTES
- 1) Unbalanced roof live loads have been considered for this design.

2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) -1-0-0 to 2-0-0, Exterior(2N) 2-0-0 to 7-7-0, Corner (3R) 7-7-0 to 10-7-0, Exterior(2N) 10-7-0 to 16-2-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

- 4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10

5) Unbalanced snow loads have been considered for this design.

6) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.

7) Plates checked for a plus or minus 5 degree rotation about its center.

8) Gable studs spaced at 2-0-0 oc.

9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

10) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.

11) One RT4 MiTek connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 16, 17, 18, 14, 13, and 12. This connection is for uplift only and does not consider lateral forces.

12) 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.

13) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

LOAD CASE(S) Standard



March 4,2025

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

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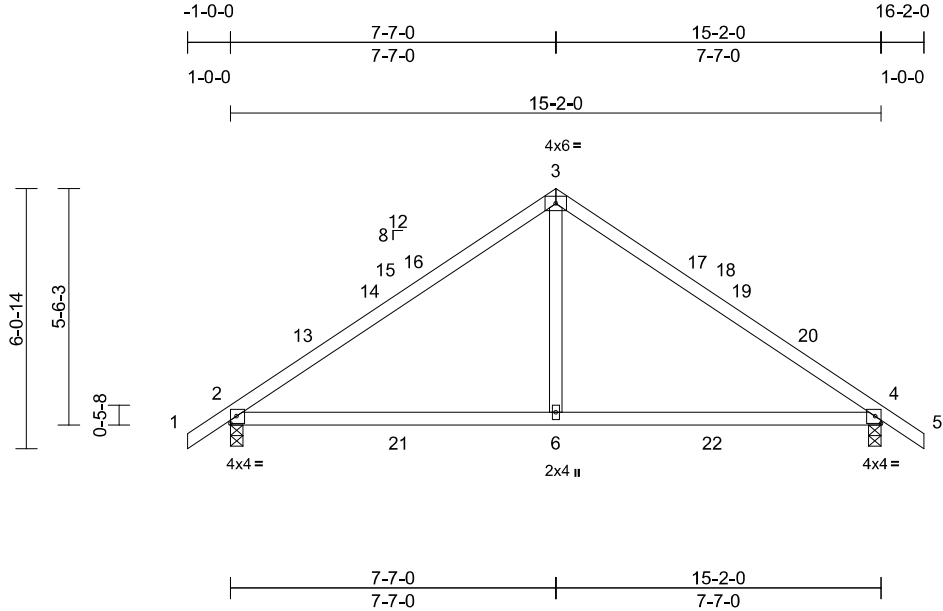


Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743872
	C1	Common	14	1	Job Reference (optional)	

Structural, LLC, Thumont, MD - 21788,

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Page: 1



Scale = 1:53.8

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.92	Vert(LL)	-0.21	6-12	>858	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.52	Vert(CT)	-0.28	6-12	>653	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.16	Horz(CT)	0.01	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.04	6-9	>999	240		
BCDL	10.0										Weight: 61 lb	FT = 20%

#### LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP SS
WEBS	2x4 SP No.3

#### BRACING

TOP CHORD	Structural wood sheathing directly applied.
BOT CHORD	Rigid ceiling directly applied.

#### REACTIONS

(size)	2=0-3-8, 4=0-3-8
Max Horiz	2=92 (LC 15)
Max Grav	2=667 (LC 2), 4=667 (LC 2)

#### FORCES

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

TOP CHORD	1-2=0/45, 2-3=-757/78, 3-4=-757/78, 4-5=0/45
BOT CHORD	2-6=-49/523, 4-6=-51/523
WEBS	3-6=0/433

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 7-7-0, Exterior(2R) 7-7-0 to 10-7-0, Interior (1) 10-7-0 to 16-2-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.

- Plates checked for a plus or minus 5 degree rotation about its center.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP SS.
- 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.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

LOAD CASE(S) Standard



March 4, 2025

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

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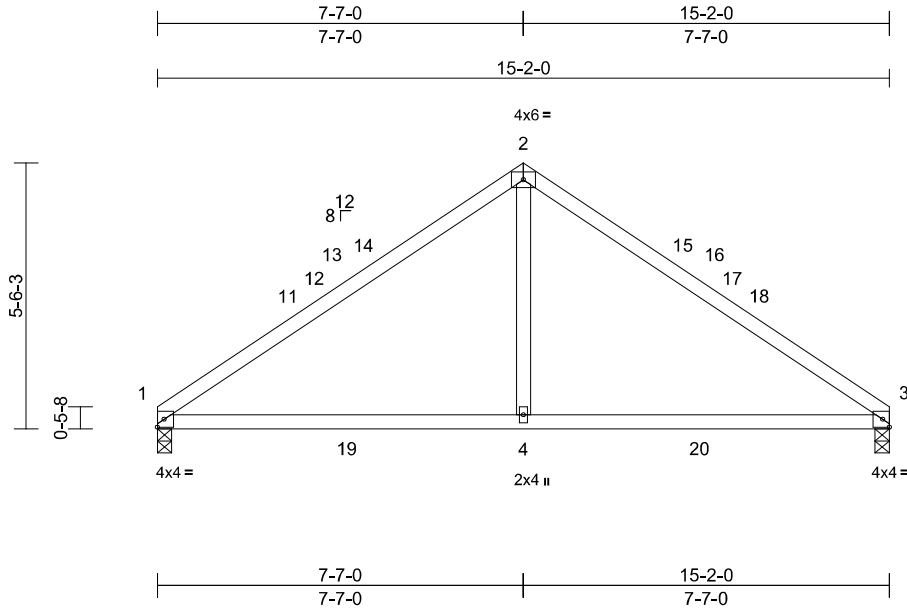
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743873
	C1A	Common	8	1	Job Reference (optional)	

Structural, LLC, Thumont, MD - 21788,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 18:08:16  
ID:UWk7qpxK1dUAnGC?2dg3oeznHmh-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:47.8												
<b>Loading</b>	(psf)	<b>Spacing</b>	2-0-0	<b>CSI</b>		<b>DEFL</b>	in	(loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.93	Vert(LL)	-0.21	4-10	>858	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.52	Vert(CT)	-0.28	4-10	>649	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.17	Horz(CT)	0.01	1	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.05	4-7	>999	240		
BCDL	10.0										Weight: 57 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP SS  
WEBS 2x4 SP No.3

#### BRACING

TOP CHORD Structural wood sheathing directly applied.  
BOT CHORD Rigid ceiling directly applied.

#### REACTIONS

(size) 1=0-3-8, 3=0-3-8  
Max Horiz 1=81 (LC 13)  
Max Grav 1=607 (LC 2), 3=607 (LC 2)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-764/82, 2-3=-764/82  
BOT CHORD 1-4=-78/526, 3-4=-73/526  
WEBS 2-4=0/435

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 7-7-0, Exterior(2R) 7-7-0 to 10-7-0, Interior (1) 10-7-0 to 15-2-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Plates checked for a plus or minus 5 degree rotation about its center.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP SS .
- 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.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

**LOAD CASE(S)** Standard



March 4, 2025

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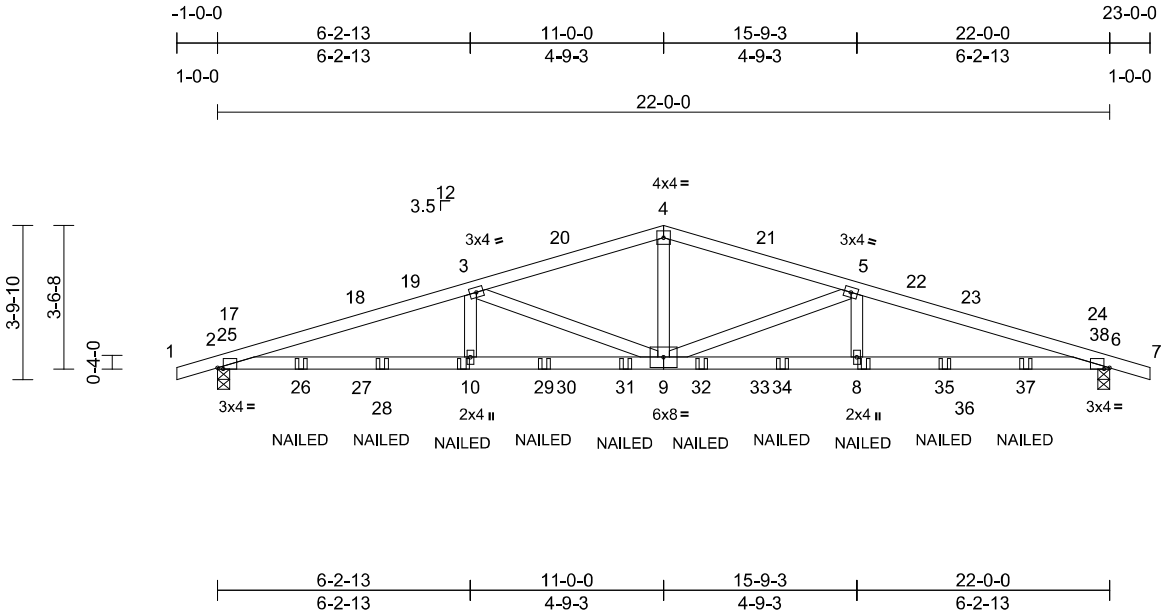
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743889
	G1G	Common Girder	1	2	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 18:08:18  
ID:2UhquyCZ6oPJHsS1luDqfJzjd5L-RfC?PsB70Hq3NSgPqnL8w3uITXbGkKWRCDoI7J4zJC?f

Page: 1



Scale = 1:56.9

Plate Offsets (X, Y): [2:0-1-10,Edge], [6:0-1-10,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.52	Vert(LL)	-0.15	10-16	>999	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	1.00	Vert(CT)	-0.26	10-16	>999	240		
TCDL	10.0	Rep Stress Incr	NO	WB	0.33	Horz(CT)	0.07	6	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MS		Wind(LL)	0.07	9-10	>999	240		
BCDL	10.0											
Weight: 187 lb											FT = 20%	

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.3

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 5-0-13 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS

(size) 2=0-3-8, 6=0-3-8  
Max Horiz 2=28 (LC 74)  
Max Grav 2=1786 (LC 19), 6=1786 (LC 20)

#### FORCES

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/23, 2-3=-4764/0, 3-4=-3244/0, 4-5=-3244/0, 5-6=-4764/0, 6-7=0/23  
BOT CHORD 2-10=0/4560, 8-10=0/4560, 6-8=0/4560  
WEBS 4-9=0/1589, 5-9=-1627/0, 5-8=0/615, 3-9=-1627/0, 3-10=0/615

#### NOTES

- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:  
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.  
Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 oc.  
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
- All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- Plates checked for a plus or minus 5 degree rotation about its center.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.2 .
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.

#### LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-4=-51, 4-7=-51, 11-14=-20  
Concentrated Loads (lb)  
Vert: 8=-175 (B), 10=-175 (B), 26=-214 (B), 28=-198 (B), 29=-141 (B), 31=-201 (B), 32=-201 (B), 34=-141 (B), 35=-198 (B), 37=-214 (B)



March 4, 2025

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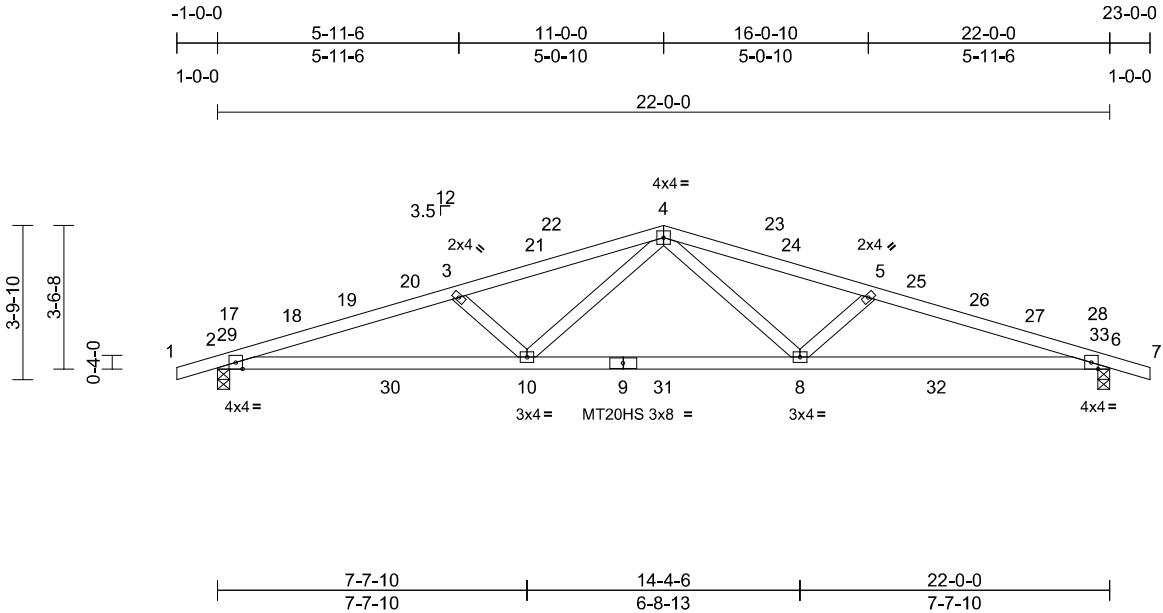
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743890
	G1	Common	3	1	Job Reference (optional)	

Structural, LLC, Thumont, MD - 21788,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 18:08:17  
ID:vqAVd0P5C0eSvyZOW51Tuzjd7g-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



<b>Loading</b>	(psf)	<b>Spacing</b>	2-0-0	<b>CSI</b>		<b>DEFL</b>	in	(loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.68	Vert(LL)	-0.21	8-10	>999	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.57	Vert(CT)	-0.33	8-10	>790	240	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.27	Horz(CT)	0.05	6	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.06	8-10	>999	240		
BCDL	10.0										Weight: 90 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP SS  
WEBS 2x4 SP No.3

#### BRACING

TOP CHORD Structural wood sheathing directly applied.  
BOT CHORD Rigid ceiling directly applied.

#### REACTIONS

(size) 2=0-3-8, 6=0-3-8  
Max Horiz 2=28 (LC 20)  
Max Grav 2=940 (LC 2), 6=940 (LC 2)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/23, 2-3=-2327/249, 3-4=-2061/204,  
4-5=-2061/204, 5-6=-2327/249, 6-7=0/23  
BOT CHORD 2-10=-192/2211, 8-10=-101/1500,  
6-8=-195/2211  
WEBS 4-8=-5/700, 5-8=-427/125, 4-10=-5/700,  
3-10=-427/125

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=120mph (3-second gust)  
Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 11-0-0, Exterior(2R) 11-0-0 to 14-0-0, Interior (1) 14-0-0 to 23-0-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.

- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- All plates are MT20 plates unless otherwise indicated.
- Plates checked for a plus or minus 5 degree rotation about its center.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP SS.
- 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.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

**LOAD CASE(S)** Standard



March 4, 2025

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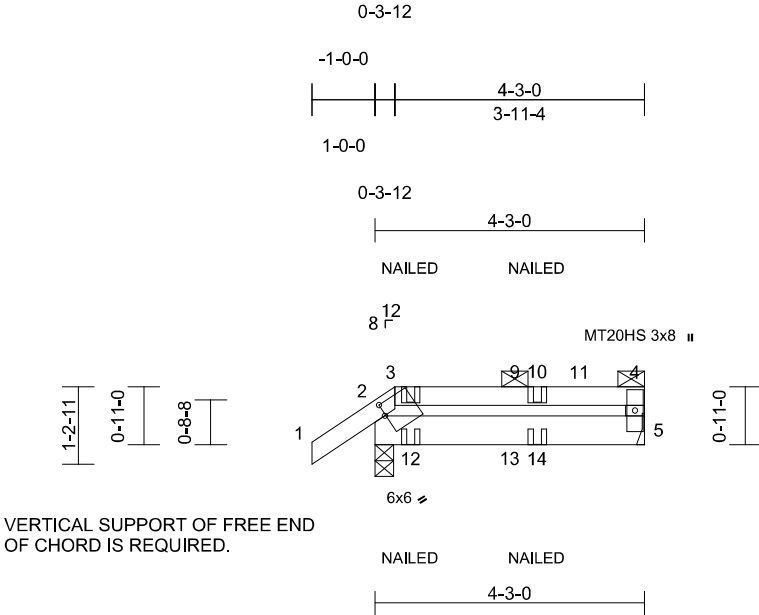
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743891
	G3G	Half Hip Girder	2	1	Job Reference (optional)	

Structural, LLC, Thumont, MD - 21788,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 18:08:19  
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Page: 1



Scale = 1:36.5

Plate Offsets (X, Y): [3:0-0-3,0-2-5]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.51	Vert(LL)	-0.01	5-8	>999	360	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.24	Vert(CT)	-0.01	5-8	>999	240	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR		Wind(LL)	0.00	5-8	>999	240		
BCDL	10.0										Weight: 19 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x6 SP No.2  
WEBS 2x4 SP No.3

#### BRACING

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

**REACTIONS** (size) 2=0-3-8, 5= Mechanical  
Max Horiz 2=19 (LC 11)  
Max Grav 2=362 (LC 51), 5=334 (LC 54)

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

TOP CHORD 1-2=0/52, 2-3=-334/39, 3-4=-299/1, 4-5=-292/18  
BOT CHORD 2-5=-16/299

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=20.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates unless otherwise indicated.

- Plates checked for a plus or minus 5 degree rotation about its center.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Bearings are assumed to be: Joint 2 SP No.2 .
- Refer to girder(s) for truss to truss connections.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

#### LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-3=-51, 3-4=-61, 5-6=-20  
Concentrated Loads (lb)  
Vert: 12=-9 (B), 14=-8 (B)



March 4, 2025

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Edenton, NC 27932

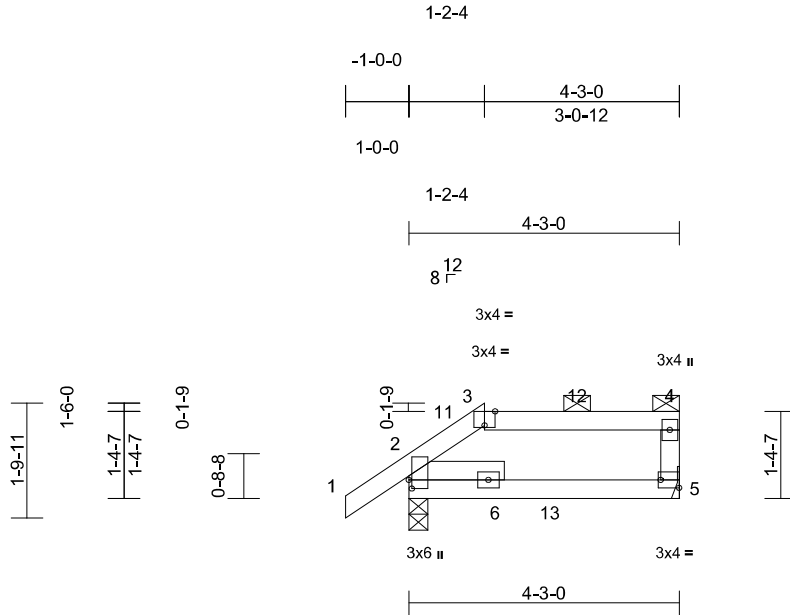


Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743892
	G2C	Half Hip	2	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 18:08:19  
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Page: 1



Scale = 1:36.3													
Plate Offsets (X, Y): [2:0-1-10,0-0-8], [3:0-2-0,Edge], [5:Edge,0-1-8]													
<b>Loading</b>		(psf)	<b>Spacing</b>		2-0-0	<b>CSI</b>		<b>DEFL</b>		in (loc)	l/defl L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL (roof)		20.0	Plate Grip DOL		1.15	TC		0.46		Vert(LL)	-0.02 5-9 >999 360	MT20	244/190
Snow (Pf/Pg)		20.4/20.0	Lumber DOL		1.15	BC		0.36		Vert(CT)	-0.02 5-9 >999 240		
TCDL		10.0	Rep Stress Incr		YES	WB		0.00		Horz(CT)	0.00 2 n/a n/a		
BCLL		0.0*	Code		IRC2021/TPI2014	Matrix-AS				Wind(LL)	0.00 5-9 >999 240		
BCDL		10.0										Weight: 18 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.3  
SLIDER Left 2x4 SP No.3 -- 1-6-0

#### BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins: 3-4.

BOT CHORD Rigid ceiling directly applied.

**REACTIONS** (size) 2=0-3-8, 5= Mechanical  
Max Horiz 2=31 (LC 15)  
Max Grav 2=358 (LC 70), 5=333 (LC 66)

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

TOP CHORD 1-2=0/52, 2-3=-260/53, 3-4=-180/39,  
4-5=-292/60

BOT CHORD 2-5=-94/226

#### NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=20.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- 4) Unbalanced snow loads have been considered for this design.
- 5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.

- 6) Provide adequate drainage to prevent water ponding.
- 7) Plates checked for a plus or minus 5 degree rotation about its center.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 10) Bearings are assumed to be: Joint 2 SP No.2 .
- 11) Refer to girder(s) for truss to truss connections.
- 12) 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.
- 13) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- 14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

**LOAD CASE(S)** Standard



March 4, 2025

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

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

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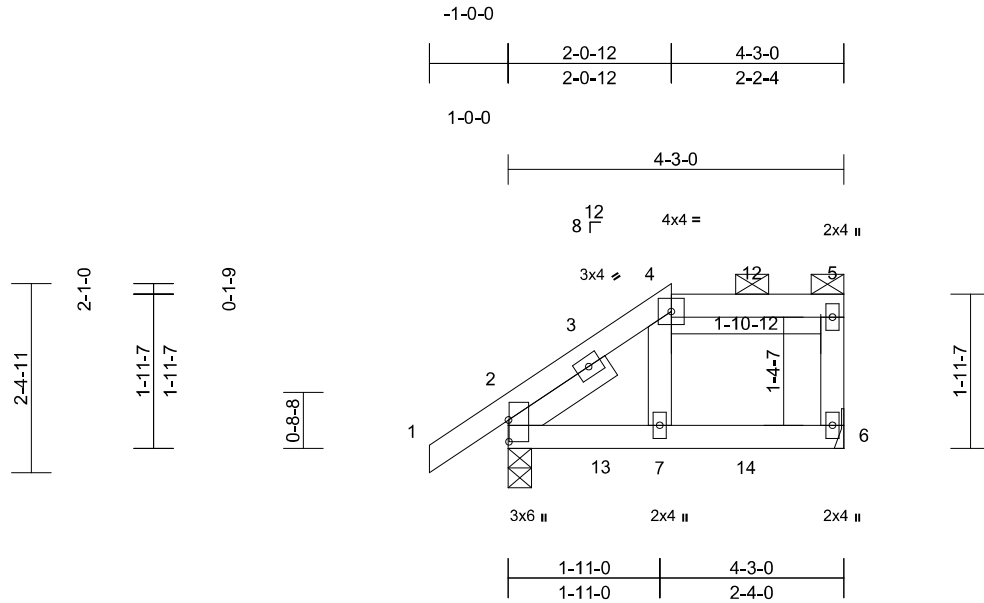
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743893
	G2B	Half Hip	2	1	Job Reference (optional)	

Structural, LLC, Thumont, MD - 21788,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 18:08:19  
ID:pDaatFhbEb\_QdFfmkMxkQEzjd60-RfC?PsB70Hq3NSgPqnL8w3uITXbGkWrCDoi7J4zJC?f

Page: 1



Scale = 1:29.2															
Plate Offsets (X, Y): [2:0-3-5,0-0-1]															
<b>Loading</b>		(psf)	<b>Spacing</b>		2-0-0	<b>CSI</b>		<b>DEFL</b>		in	(loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL (roof)		20.0	Plate Grip DOL		1.15	TC		0.30	Vert(LL)	-0.08	6-7	>606	360	MT20	244/190
Snow (Pf/Pg)		20.4/20.0	Lumber DOL		1.15	BC		0.78	Vert(CT)	-0.11	6-7	>449	240		
TCDL		10.0	Rep Stress Incr		YES	WB		0.07	Horz(CT)	0.03	2	n/a	n/a		
BCLL		0.0*	Code		IRC2021/TPI2014	Matrix-AS			Wind(LL)	0.03	6-7	>999	240		
BCDL		10.0												Weight: 22 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.3  
SLIDER Left 2x4 SP No.3 -- 1-6-0

#### BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins: 4-5.

BOT CHORD Rigid ceiling directly applied.

#### REACTIONS

(size) 2=0-3-8, 6= Mechanical  
Max Horiz 2=46 (LC 15)  
Max Grav 2=358 (LC 63), 6=333 (LC 76)

#### FORCES

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/52, 2-4=-391/93, 4-5=-25/28, 5-6=-273/34

BOT CHORD 2-7=-57/55, 6-7=-25/27

WEBS 4-7=-391/114

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=20.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- Unbalanced snow loads have been considered for this design.

- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- Plates checked for a plus or minus 5 degree rotation about its center.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Bearings are assumed to be: Joint 2 SP No.2 .
- Refer to girder(s) for truss to truss connections.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

**LOAD CASE(S)** Standard



March 4, 2025

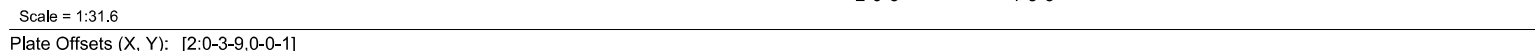
**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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

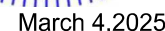
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Structural, LLC, Thurmont, MD - 21788, Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 18:08:18 Page: 1

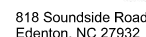


<b>LUMBER</b>			5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
TOP CHORD	2x4 SP No.2		6) Provide adequate drainage to prevent water ponding.
BOT CHORD	2x4 SP No.2		7) Plates checked for a plus or minus 5 degree rotation about its center.
WEBS	2x4 SP No.3		8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
SLIDER	Left 2x4 SP No.3 -- 1-6-0		9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
<b>BRACING</b>			10) Bearings are assumed to be: Joint 2 SP No.2 .
TOP CHORD	Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins: 4-5.		11) Refer to girder(s) for truss to truss connections.
BOT CHORD	Rigid ceiling directly applied.		12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 4 lb uplift at joint 6.
<b>REACTIONS</b>	(size) 2=0-3-8, 6= Mechanical		13) 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.
	Max Horiz 2=60 (LC 15)		14) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
	Max Uplift 6=4 (LC 13)		15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
	Max Grav 2=358 (LC 63), 6=333 (LC 66)		
<b>FORCES</b>			
	(lb) - Maximum Compression/Maximum Tension		
TOP CHORD	1-2=0/52, 2-4=-414/105, 4-5=-34/37, 5-6=-265/20		
BOT CHORD	2-7=-91/75, 6-7=-33/36		
WEBS	4-7=-346/115		
<b>NOTES</b>			
1) Unbalanced roof live loads have been considered for this design.			
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 2-11-4, Exterior(2F) 2-11-4 to 4-1-4 zone; cantilever left and			



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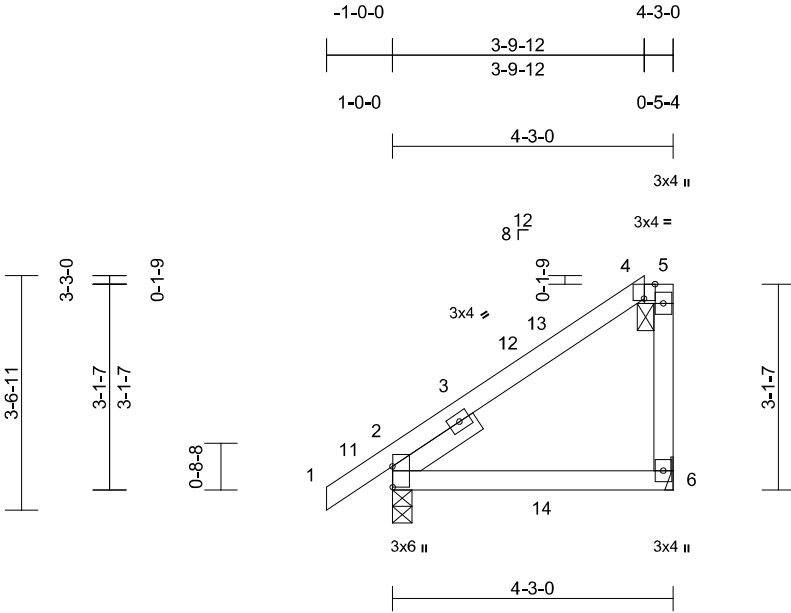


Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743895
	G2	Half Hip	2	1	Job Reference (optional)	

Structural, LLC, Thumont, MD - 21788,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 18:08:18  
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Page: 1



Scale = 1:35

Plate Offsets (X, Y): [2:0-3-13,0-0-1], [4:0-2-0,Edge]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.51	Vert(LL)	-0.03	6-9	>999	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	-0.04	6-9	>999	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.01	6-9	>999	240		
BCDL	10.0										Weight: 22 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
SLIDER	Left 2x4 SP No.3 -- 1-6-0

BRACING

TOP CHORD	Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins: 4-5.
BOT CHORD	Rigid ceiling directly applied.

REACTIONS

(size)	2=0-3-8, 6= Mechanical
Max Horiz	2=75 (LC 15)
Max Uplift	6=-8 (LC 13)
Max Grav	2=358 (LC 68), 6=333 (LC 72)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/52, 2-4=-271/50, 4-5=-105/66, 5-6=-263/96
BOT CHORD	2-6=-164/161

- NOTES
- 1) Unbalanced roof live loads have been considered for this design.

2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 3-9-12, Exterior(2E) 3-9-12 to 4-1-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0

4) Unbalanced snow loads have been considered for this design.

- 5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.

6) Provide adequate drainage to prevent water ponding.

7) Plates checked for a plus or minus 5 degree rotation about its center.

8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

9) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.

10) Bearings are assumed to be: Joint 2 SP No.2 .

11) Refer to girder(s) for truss to truss connections.

12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 8 lb uplift at joint 6.

13) 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.

14) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



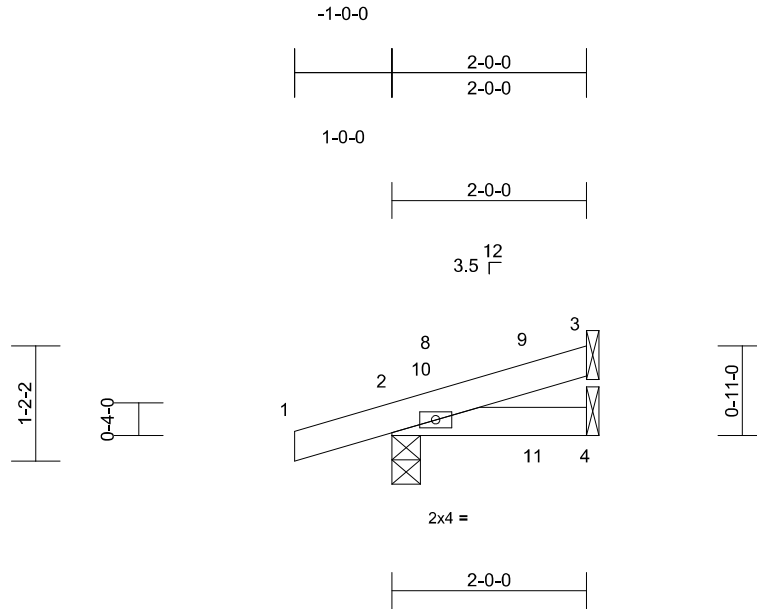
March 4,2025

Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743896
	G3	Jack-Open	4	1	Job Reference (optional)	

Structural, LLC, Thumont, MD - 21788,

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Page: 1



Scale = 1:23.7

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.16	Vert(LL)	0.00	4-7	>999	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.16	Vert(CT)	0.00	4-7	>999	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP		Wind(LL)	0.00	7	>999	240		
BCDL	10.0										Weight: 8 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2

BOT CHORD 2x4 SP No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 2-0-0 oc purlins.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-3-8, 3= Mechanical, 4= Mechanical  
Max Horiz 2=22 (LC 12)  
Max Uplift 2=-21 (LC 12), 3=-4 (LC 16)  
Max Grav 2=318 (LC 42), 3=270 (LC 44), 4=270 (LC 49)

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

TOP CHORD 1-2=0/23, 2-3=-142/42

BOT CHORD 2-4=-24/107

#### NOTES

- 1) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.
- 4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- 5) Plates checked for a plus or minus 5 degree rotation about its center.

- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 8) Bearings are assumed to be: , Joint 2 SP No.2 .
- 9) Refer to girder(s) for truss to truss connections.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 4 lb uplift at joint 3.
- 11) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
- 12) 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.

**LOAD CASE(S)** Standard



March 4, 2025

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

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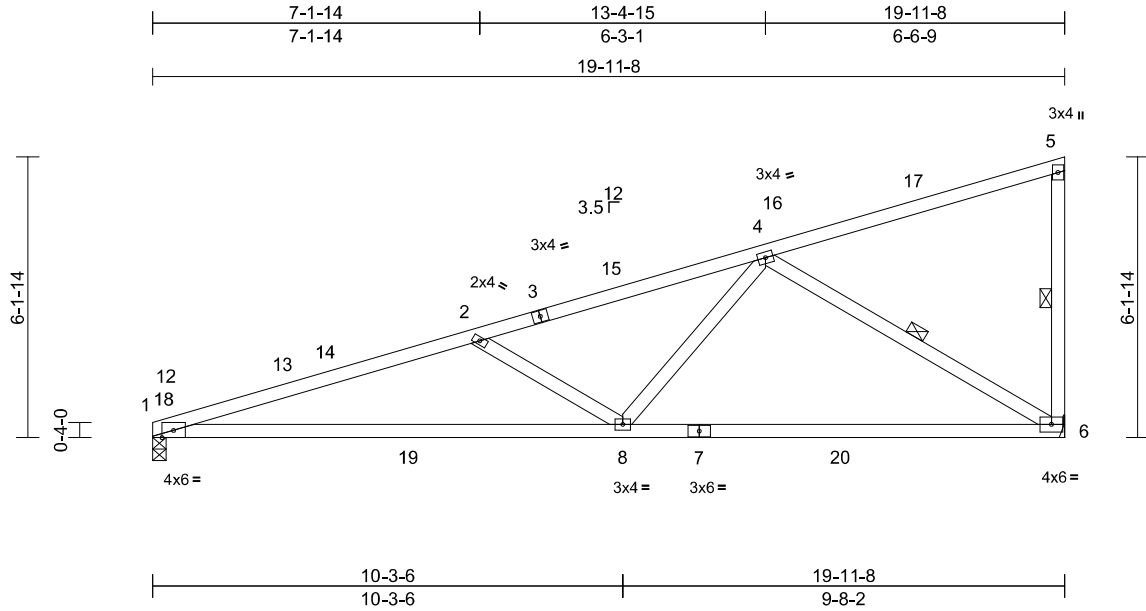


Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743925
	G4B	Monopitch	2	1	Job Reference (optional)	

Structural, LLC, Thumont, MD - 21788,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 18:08:20  
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Page: 1



Scale = 1:50.5

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	1.00	Vert(LL)	-0.47	6-8	>508	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.76	Vert(CT)	-0.66	8-11	>362	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.35	Horz(CT)	0.03	6	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.07	8-11	>999	240		
BCDL	10.0											
											Weight: 92 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP SS  
WEBS 2x4 SP No.3

#### BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals.  
BOT CHORD Rigid ceiling directly applied.  
WEBS 1 Row at midpt 5-6, 4-6

#### REACTIONS

(size) 1=0-3-8, 6= Mechanical  
Max Horiz 1=147 (LC 15)  
Max Grav 1=793 (LC 2), 6=815 (LC 22)

#### FORCES

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=1920/202, 2-4=1473/116, 4-5=134/77, 5-6=308/82  
BOT CHORD 1-8=276/1849, 6-8=187/965  
WEBS 2-8=557/163, 4-8=0/742, 4-6=1046/154

#### NOTES

- 1) Wind: ASCE 7-16; Vult=120mph (3-second gust)  
Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 19-9-12 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.
- 4) Plates checked for a plus or minus 5 degree rotation about its center.
- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- 6) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3'-0"-0" tall by 2'-0"-0" wide will fit between the bottom chord and any other members.
- 7) Bearings are assumed to be: Joint 1 SP SS .
- 8) Refer to girder(s) for truss to truss connections.
- 9) 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.
- 10) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

LOAD CASE(S) Standard



March 4, 2025

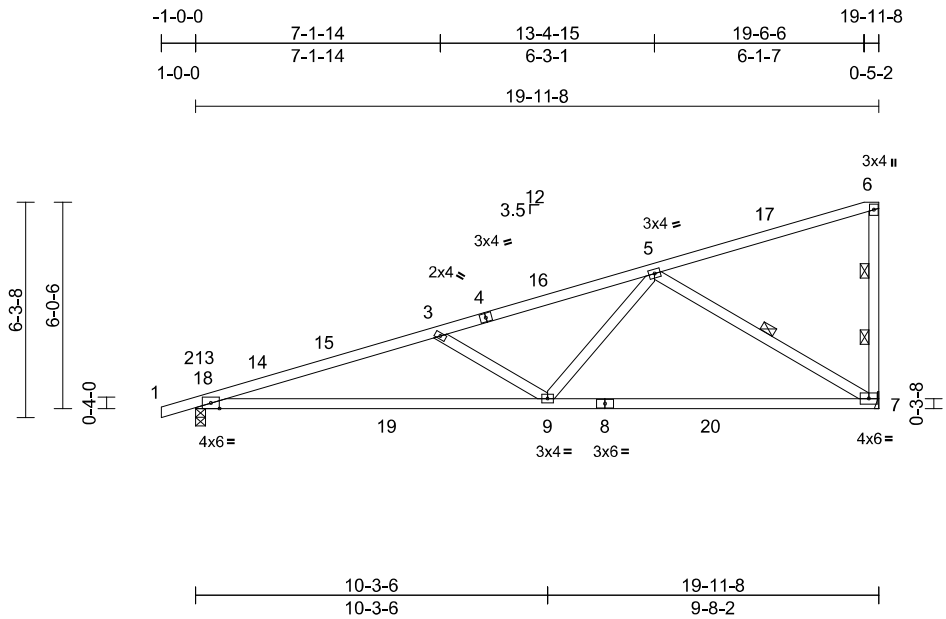
**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate

818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743926
	G4	Monopitch	5	1	Job Reference (optional)	



Scale = 1:67.4												
<b>Loading</b>	(psf)	<b>Spacing</b>	2-0-0	<b>CSI</b>		<b>DEFL</b>	in	(loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.91	Vert(LL)	-0.47	7-9	>508	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.76	Vert(CT)	-0.65	9-12	>364	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.35	Horz(CT)	0.03	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.07	9-12	>999	240		
BCDL	10.0										Weight: 94 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP SS  
WEBS 2x4 SP No.3

**BRACING**  
TOP CHORD Structural wood sheathing directly applied, except end verticals.  
BOT CHORD Rigid ceiling directly applied.  
WEBS 1 Row at midpt 5-7  
WEBS 2 Rows at 1/3 pts 6-7

**REACTIONS** (size) 2=0-3-8, 7= Mechanical  
Max Horiz 2=150 (LC 15)  
Max Grav 2=854 (LC 2), 7=822 (LC 23)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/23, 2-3=-1910/188, 3-5=-1467/106, 5-6=-134/77, 6-7=-308/81  
BOT CHORD 2-9=-274/1841, 7-9=-187/963  
WEBS 3-9=-552/155, 5-9=0/740, 5-7=-1044/153

- NOTES**
- 1) Wind: ASCE 7-16; Vult=120mph (3-second gust)  
Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 19-9-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
  - 3) Unbalanced snow loads have been considered for this design.
  - 4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.

- 5) Plates checked for a plus or minus 5 degree rotation about its center.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 8) Bearings are assumed to be: Joint 2 SP SS .
- 9) Refer to girder(s) for truss to truss connections.
- 10) 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.
- 11) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

**LOAD CASE(S)** Standard



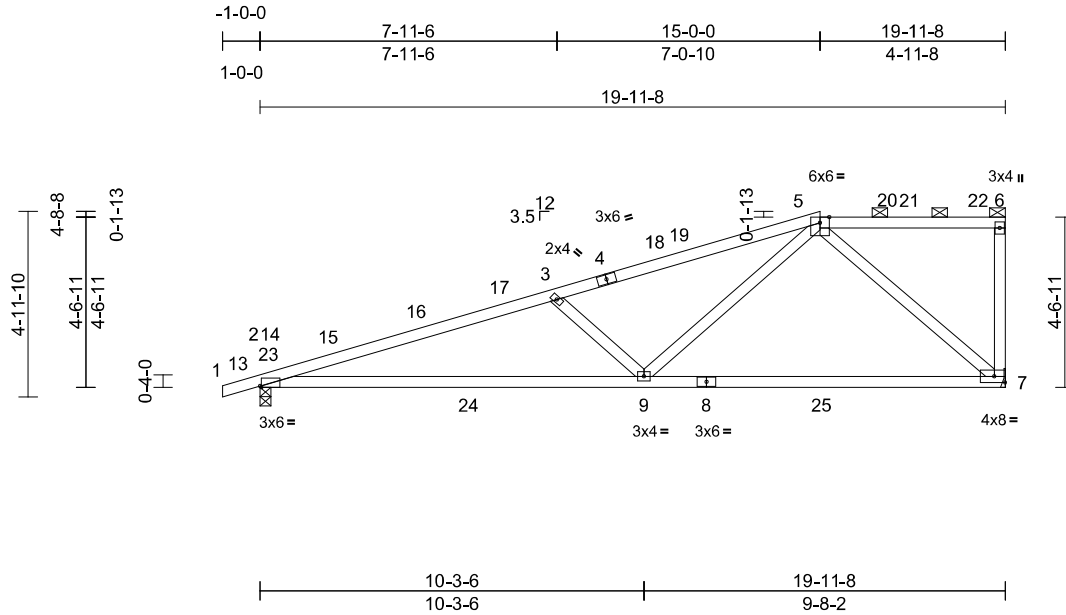
March 4,2025

Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743928
	G4A	Half Hip	1	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

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Page: 1



Scale = 1:61.8									
Plate Offsets (X, Y): [2:0-0-6,Edge]									
<b>Loading</b>	(psf)	<b>Spacing</b>	2-0-0	<b>CSI</b>		<b>DEFL</b>	in	(loc)	L/d
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.99	Vert(LL)	-0.46	9-12	>521 360
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.77	Vert(CT)	-0.68	9-12	>350 240
TCDL	10.0	Rep Stress Incr	YES	WB	0.77	Horz(CT)	0.03	7	n/a n/a
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.07	9-12	>999 240
BCDL	10.0								
					Weight: 91 lb		FT = 20%		

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP SS  
WEBS 2x4 SP No.3 \*Except\* 6-7:2x4 SP No.2

**BRACING**  
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 5-6.  
BOT CHORD Rigid ceiling directly applied.

**REACTIONS** (size) 2=0-3-8, 7= Mechanical  
Max Horiz 2=111 (LC 15)  
Max Grav 2=1013 (LC 42), 7=791 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/23, 2-3=-2197/199, 3-5=-1689/139, 5-6=-90/66, 6-7=-300/61  
BOT CHORD 2-9=-324/2069, 7-9=-190/761  
WEBS 3-9=-729/185, 5-9=0/1096, 5-7=-957/208

- NOTES**
- 1) Unbalanced roof live loads have been considered for this design.
  - 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 15-0-0, Exterior(2R) 15-0-0 to 19-2-15, Interior (1) 19-2-15 to 19-9-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - 3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=20.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
  - 4) Unbalanced snow loads have been considered for this design.

- 5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- 6) Provide adequate drainage to prevent water ponding.
- 7) Plates checked for a plus or minus 5 degree rotation about its center.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 10) Bearings are assumed to be: Joint 2 SP SS .
- 11) Refer to girder(s) for truss to truss connections.
- 12) 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.
- 13) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- 14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

**LOAD CASE(S)** Standard



March 4, 2025

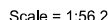
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818 Soundside Road  
Edenton, NC 27932

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<b>LUMBER</b>		3) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TC DL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60	6) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
TOP CHORD	2x4 SP No.2		Uniform Loads (lb/ft)
BOT CHORD	2x4 SP No.2		Vert: 1-4=-51, 4-6=-61, 7-11=-20
WEBS	2x4 SP No.3		Concentrated Loads (lb)
<b>BRACING</b>			Vert: 5=-77 (F), 16=-96 (F), 18=-53 (F), 19=-19 (F), 22=-78 (F), 23=-77 (F), 24=-77 (F), 26=-84 (F), 28=-56 (F), 30=-69 (F), 31=-95 (F), 33=-150 (F), 34=-36 (F), 35=-36 (F), 36=-36 (F), 37=-36 (F), 38=-38 (F)
TOP CHORD	Structural wood sheathing directly applied or 5-9-6 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-6,	5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=20.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0	
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.	6) Unbalanced snow loads have been considered for this design.	
<b>REACTIONS</b>		7) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.	
	(size) 2=0-3-8, 7= Mechanical	8) Provide adequate drainage to prevent water ponding.	
	Max Horiz 2=81 (LC 11)	9) All plates are MT20 plates unless otherwise indicated.	
	Max Uplift 7=-12 (LC 8)	10) Plates checked for a plus or minus 5 degree rotation about its center.	
	Max Grav 2=1435 (LC 34), 7=1401 (LC 33)	11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.	
<b>FORCES</b>		12) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.	
	(lb) - Maximum Compression/Maximum Tension	13) Bearings are assumed to be: Joint 2 SP No.2 .	
TOP CHORD	1-2=0/23, 2-3=-3627/0, 3-4=-2430/0, 4-5=-2293/0, 5-6=-92/6, 6-7=-321/42	14) Refer to girder(s) for truss to truss connections.	
BOT CHORD	2-10=0/3436, 8-10=0/3436, 7-8=-58/1593	15) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 12 lb uplift at joint 7.	
WEBS	3-8=-1251/0, 4-8=0/354, 3-10=0/414, 5-8=0/924, 5-7=-1828/84	16) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.	
<b>NOTES</b>		17) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.	
1)	2-ply truss to be connected together with 10d (0.131"x3") nails as follows: Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc. Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 oc. Web connected as follows: 2x4 - 1 row at 0-9-0 oc.	18) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.	
2)	All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.		
3)	Unbalanced roof live loads have been considered for this design.		

LOAD CASE(S) Standard



March 4, 2025

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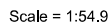
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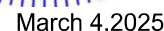


<b>LUMBER</b>	
TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP SS
WEBS	2x4 SP No.3
<b>BRACING</b>	
TOP CHORD	Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 3-4.
BOT CHORD	Rigid ceiling directly applied.
<b>REACTIONS</b>	(size) 1= Mechanical, 5=0-3-8 Max Horiz 1=166 (LC 15) Max Grav 1=732 (LC 49), 5=718 (LC 49)
<b>FORCES</b>	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=-1143/82, 2-3=-1225/203, 3-4=-109/108, 4-5=-259/55
BOT CHORD	1-6=-196/985, 5-6=-114/259
WEBS	2-6=-569/180, 3-5=-755/215, 3-6=-137/115

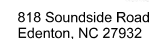
- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=120mph (3-second gust)  
Vasd=95mph; TCDF=6.0psf; BCDL=6.0psf; h=25ft; Cat II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 11-6-14, Exterior(2E) 11-6-14 to 13-4-4 zone; cantilever left and right exposed ; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=20.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Or: Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.0; Ct=1.0, Lu=50-0-0
- 4) Unbalanced snow loads have been considered for this design.
- 5) Provide adequate drainage to prevent water ponding.
- 6) Plates checked for a plus or minus 5 degree rotation about its center.

- 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 8) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3'-06"-00 tall by 2'-00"-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 9) Bearings are assumed to be: , Joint 5 SP SS .
- 10) Refer to girder(s) for truss to truss connections.
- 11) 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.
- 12) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- 13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

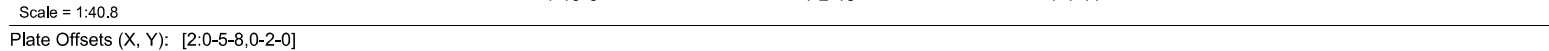


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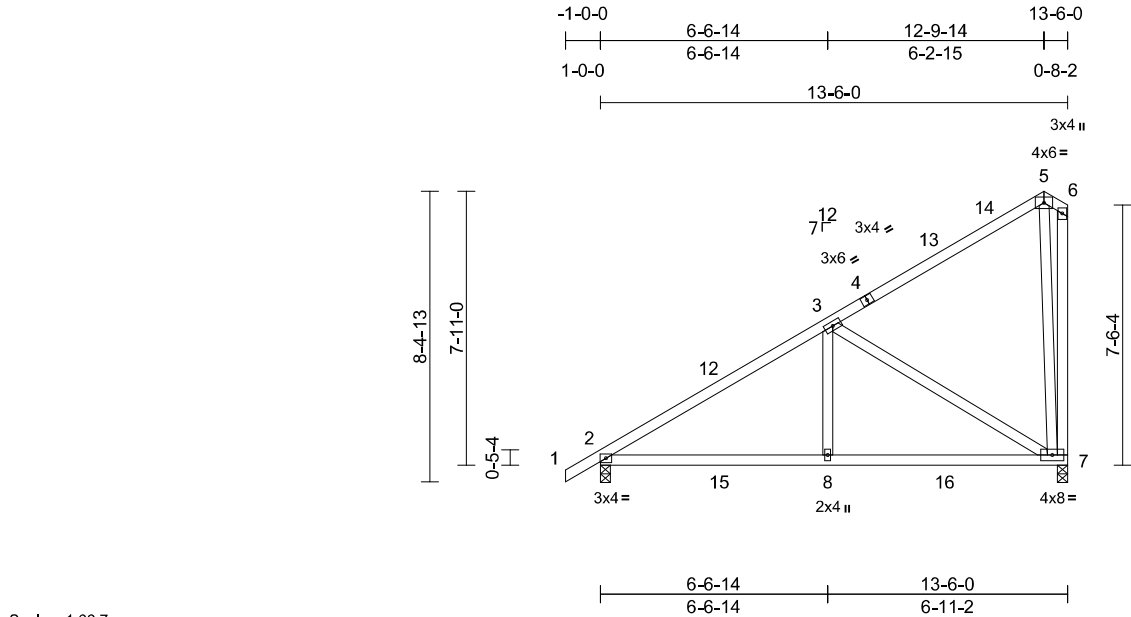


<b>LUMBER</b>		3) Wind: ASCE 7-16; Vult=120mph (3-second gust)	1) Wind & Snow (balanced): Rumber Increase=1.15, Plate Increase=1.15
TOP CHORD	2x4 SP No.2	Vasd=95mph; TCDDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60	Uniform Loads (lb/ft) Vert: 1-2=-51, 2-4=-61, 5-8=-20
BOT CHORD	2x4 SP No.2	5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=20.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0	Concentrated Loads (lb) Vert: 4=-108 (B), 12=-69 (B), 14=-69 (B), 15=-69 (B), 18=-69 (B), 19=-33 (B), 21=-33 (B), 22=-33 (B), 24=-33 (B), 25=-33 (B), 27=-33 (B)
WEBS	2x4 SP No.3	6) Unbalanced snow loads have been considered for this design.	
<b>BRACING</b>		7) Provide adequate drainage to prevent water ponding.	
TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 2-4.	8) All plates are MT20 plates unless otherwise indicated.	
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.	9) Plates checked for a plus or minus 5 degree rotation about its center.	
<b>REACTIONS</b>		10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.	
	(size) 1= Mechanical, 5=0-3-8	11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.	
	Max Horiz 1=71 (LC 11)		
	Max Uplift 5=-24 (LC 9)		
	Max Grav 1=800 (LC 33), 5=986 (LC 32)		
<b>FORCES</b>		12) Bearings are assumed to be: , Joint 5 SP No.2 .	
	(lb) - Maximum Compression/Maximum Tension	13) Refer to girder(s) for truss to truss connections.	
TOP CHORD	1-2=-1132/0, 2-3=-969/3, 3-4=-969/3, 4-5=-921/51	14) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 5. This connection is for uplift only and does not consider lateral forces.	
BOT CHORD	1-7=-38/891, 6-7=-5/901, 5-6=-20/35	15) 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.	
WEBS	2-7=0/384, 2-6=-184/145, 3-6=-550/99, 4-6=-12/1137	16) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.	
<b>NOTES</b>		17) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.	
1)	2-ply truss to be connected together with 10d (0.131"x3") nails as follows: Top chords connected as follows: 2x4 - 1 row at 0-6-0 oc. Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 oc. Web connected as follows: 2x4 - 1 row at 0-9-0 oc.	<b>LOAD CASE(S)</b> Standard	
2)	All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.		
3)	Unbalanced roof live loads have been considered for this design.		

**ENGINEERING BY**  
**TRENCO**  
A MiTek Affiliate

818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743932
	A4A	Common	2	1	Job Reference (optional)	



Scale = 1:66.7

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.70	Vert(LL)	-0.18	7-8	>898	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.48	Vert(CT)	-0.22	7-8	>721	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.72	Horz(CT)	0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.03	8-11	>999	240		
BCDL	10.0										Weight: 83 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP SS  
WEBS 2x4 SP No.3

**BRACING**  
TOP CHORD Structural wood sheathing directly applied, except end verticals.  
BOT CHORD Rigid ceiling directly applied.

**REACTIONS** (size) 2=0-3-8, 7=0-3-8  
Max Horiz 2=191 (LC 15)  
Max Uplift 7=-2 (LC 16)  
Max Grav 2=596 (LC 2), 7=532 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/41, 2-3=-757/83, 3-5=-179/113, 5-6=-174/196, 6-7=-218/259  
BOT CHORD 2-8=-192/667, 7-8=-188/667  
WEBS 3-8=0/405, 5-7=-490/332, 3-7=-666/123

- NOTES**
- 1) Unbalanced roof live loads have been considered for this design.
  - 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 12-9-14, Exterior(2E) 12-9-14 to 13-4-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - 3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
  - 4) Unbalanced snow loads have been considered for this design.
  - 5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.

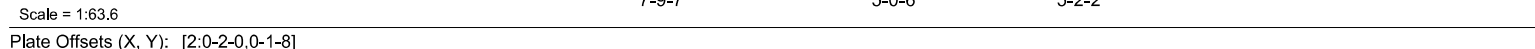
- 6) Plates checked for a plus or minus 5 degree rotation about its center.
- 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 8) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 9) All bearings are assumed to be SP SS .
- 10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 7. This connection is for uplift only and does not consider lateral forces.
- 11) 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.
- 12) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

**LOAD CASE(S)** Standard

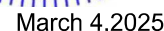


March 4,2025

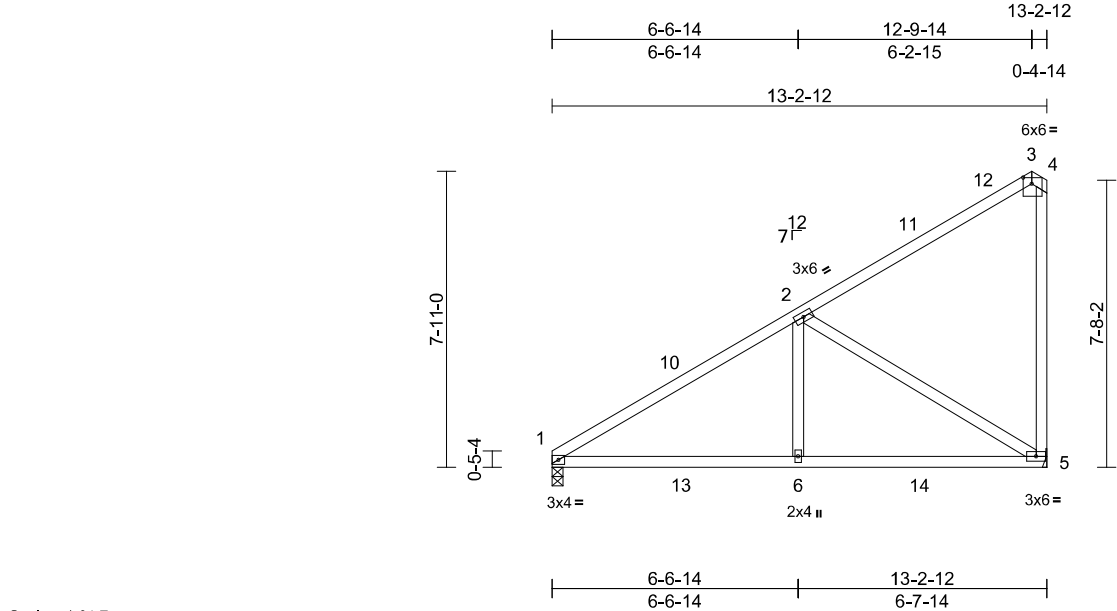
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- ## NOTES
- 1) Unbalanced roof live loads have been considered for this design.
  - 2) Wind: ASCE 7-16; Vult=120mph (3-second gust)  
Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. I; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 12-9-14, Interior(2R) 12-9-14 to 15-9-14, Interior (1) 15-9-14 to 17-10-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - 3) TCELL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
  - 4) Unbalanced snow loads have been considered for this design.



Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743934
	A4B	Common	1	1	Job Reference (optional)	



Scale = 1:61.7														
Plate Offsets (X, Y): [3:0-2-12,0-2-0]														
<b>Loading</b>		(psf)	<b>Spacing</b>		2-0-0	<b>CSI</b>		<b>DEFL</b>		in (loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL (roof)		20.0	Plate Grip DOL		1.15	TC	0.72	Vert(LL)	-0.20	5-6	>787	360	MT20	244/190
Snow (Pf/Pg)		15.4/20.0	Lumber DOL		1.15	BC	0.97	Vert(CT)	-0.24	5-6	>646	240		
TCDL		10.0	Rep Stress Incr		YES	WB	0.74	Horz(CT)	0.01	5	n/a	n/a		
BCLL		0.0*	Code		IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.03	6-9	>999	240		
BCDL		10.0											Weight: 70 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.3

**BRACING**  
TOP CHORD Structural wood sheathing directly applied, except end verticals.  
BOT CHORD Rigid ceiling directly applied.

**REACTIONS** (size) 1=0-3-8, 5= Mechanical  
Max Horiz 1=186 (LC 15)  
Max Uplift 5=-5 (LC 16)  
Max Grav 1=523 (LC 2), 5=527 (LC 33)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-740/86, 2-3=-174/119, 3-4=-158/113, 4-5=-294/104  
BOT CHORD 1-6=-194/657, 5-6=-194/657  
WEBS 2-6=0/400, 2-5=-678/138

- NOTES**
- 1) Unbalanced roof live loads have been considered for this design.
  - 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 12-9-14, Exterior(2E) 12-9-14 to 13-1-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - 3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
  - 4) Unbalanced snow loads have been considered for this design.
  - 5) Plates checked for a plus or minus 5 degree rotation about its center.

- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 8) Bearings are assumed to be: Joint 1 SP No.2 .
- 9) Refer to girder(s) for truss to truss connections.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 5 lb uplift at joint 5.
- 11) 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.
- 12) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

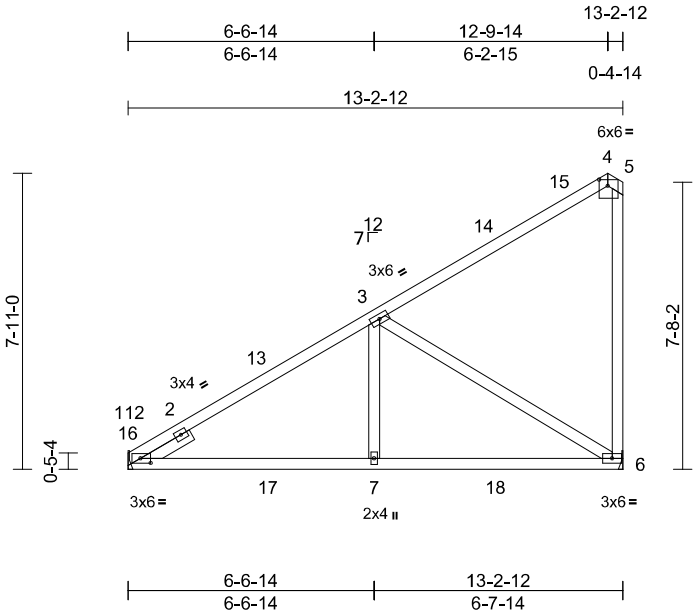
**LOAD CASE(S)** Standard



March 4,2025



Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743936
	A5A	Common	2	1	Job Reference (optional)	



Scale = 1:61.7

Plate Offsets (X, Y): [1:0-3-4,0-1-8], [4:0-2-12,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.73	Vert(LL)	-0.20	6-7	>791	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-0.24	6-7	>647	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.73	Horz(CT)	0.01	6	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.03	7-10	>999	240		
BCDL	10.0										Weight: 72 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
SLIDER	Left 2x4 SP No.3 -- 1-6-0

BRACING

TOP CHORD	Structural wood sheathing directly applied, except end verticals.
BOT CHORD	Rigid ceiling directly applied.

REACTIONS

(size)	1= Mechanical, 6= Mechanical
Max Horiz	1=186 (LC 15)
Max Uplift	6=-5 (LC 16)
Max Grav	1=521 (LC 2), 6=524 (LC 33)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-3=-856/87, 3-4=-173/120, 4-5=-158/114, 5-6=-294/104
BOT CHORD	1-7=-194/651, 6-7=-194/651
WEBS	3-7=0/399, 3-6=-671/138

- Plates checked for a plus or minus 5 degree rotation about its center.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3'-06"-00 tall by 2'-00"-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 5 lb uplift at joint 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.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

LOAD CASE(S)

Standard

- NOTES
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-12 to 3-0-12, Interior (1) 3-0-12 to 12-9-14, Exterior(2E) 12-9-14 to 13-1-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
  - Unbalanced snow loads have been considered for this design.



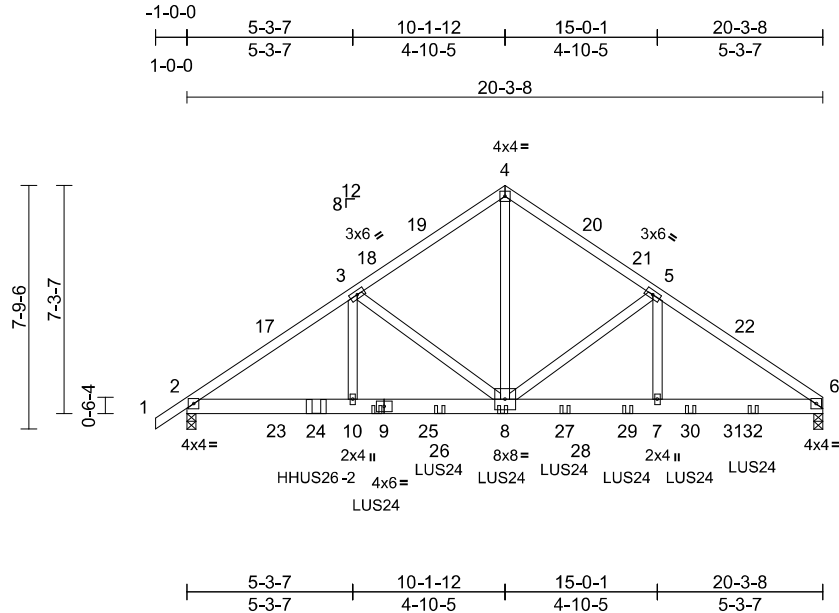
Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743937
	A4GR	Common Girder	1	2	Job Reference (optional)	

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Scale = 1:73.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.43	Vert(LL)	-0.08	8-10	>999	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.14	8-10	>999	240		
TCDL	10.0	Rep Stress Incr	NO	WB	0.70	Horz(CT)	0.04	6	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MS		Wind(LL)	-0.01	10-16	>999	240		
BCDL	10.0											
											Weight: 245 lb	FT = 20%

#### LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x6 SP No.2
WEBS	2x4 SP No.3

#### BRACING

TOP CHORD	Structural wood sheathing directly applied or 5-7-14 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS

(size)	2=0-3-8, 6=0-3-8
Max Horiz	2=115 (LC 11)
Max Grav	2=3060 (LC 19), 6=3060 (LC 2)

#### FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/45, 2-3=-4874/0, 3-4=-3375/0, 4-5=-3378/0, 5-6=-4585/0
BOT CHORD	2-10=0/4000, 8-10=0/4000, 7-8=0/3769, 6-7=0/3769
WEBS	4-8=0/3383, 5-8=-1482/0, 5-7=0/1359, 3-8=-1596/0, 3-10=0/1509

#### NOTES

- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:  
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.  
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.  
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
- All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope); cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- Plates checked for a plus or minus 5 degree rotation about its center.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.2.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- Use Simpson Strong-Tie HHUS26-2 (14-10d Girder, 4-10d Truss) or equivalent at 4-1-8 from the left end to connect truss(es) to back face of bottom chord.
- Use Simpson Strong-Tie LUS24 (4-10d Girder, 2-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 6-0-12 from the left end to 18-0-12 to connect truss(es) to back face of bottom chord.
- Fill all nail holes where hanger is in contact with lumber.

#### LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)

Vert: 1-4=-51, 4-6=-51, 11-14=-20  
Concentrated Loads (lb)  
Vert: 9=-621 (B), 8=-684 (B), 24=-780 (B), 26=-679 (B), 27=-452 (B), 29=-452 (B), 30=-441 (B), 32=-441 (B)



March 4, 2025

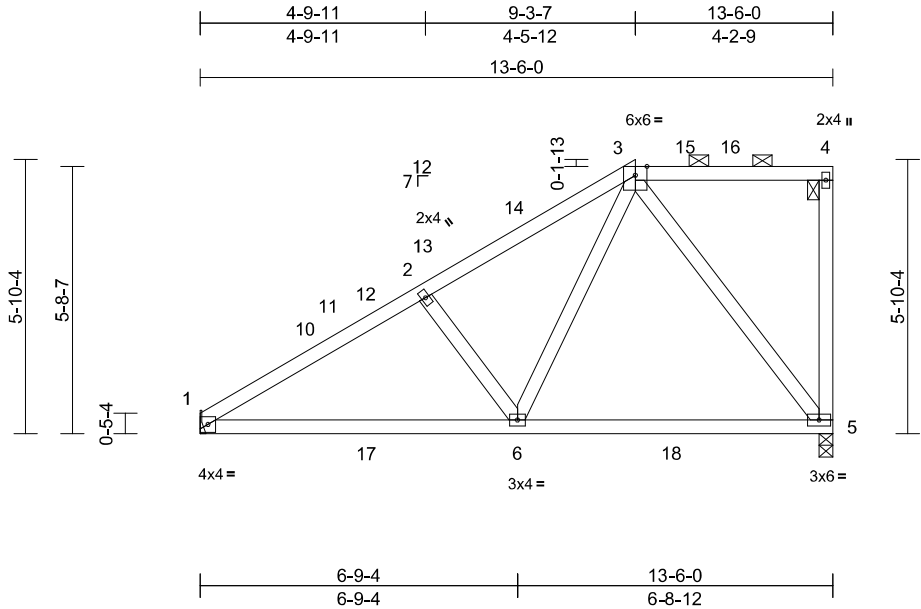
**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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

ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate

818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743938
	H2	Half Hip	1	1	Job Reference (optional)	



<b>Loading</b>	(psf)	<b>Spacing</b>	2-0-0	<b>CSI</b>		<b>DEFL</b>	in	(loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.62	Vert(LL)	-0.20	5-6	>809	360	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.94	Vert(CT)	-0.24	5-6	>655	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.49	Horz(CT)	0.01	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.01	6-9	>999	240		
BCDL	10.0										Weight: 73 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.3

**BRACING**  
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 3-4,  
BOT CHORD Rigid ceiling directly applied.

**REACTIONS** (size) 1= Mechanical, 5=0-3-8  
Max Horiz 1=133 (LC 15)  
Max Grav 1=699 (LC 41), 5=540 (LC 40)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-961/68, 2-3=-748/87, 3-4=-92/87, 4-5=-292/44  
BOT CHORD 1-6=-180/823, 5-6=-124/387  
WEBS 2-6=-399/103, 3-6=0/529, 3-5=-556/121

- 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 8) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 9) Bearings are assumed to be: , Joint 5 SP No.2 .
- 10) Refer to girder(s) for truss to truss connections.
- 11) 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.
- 12) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- 13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

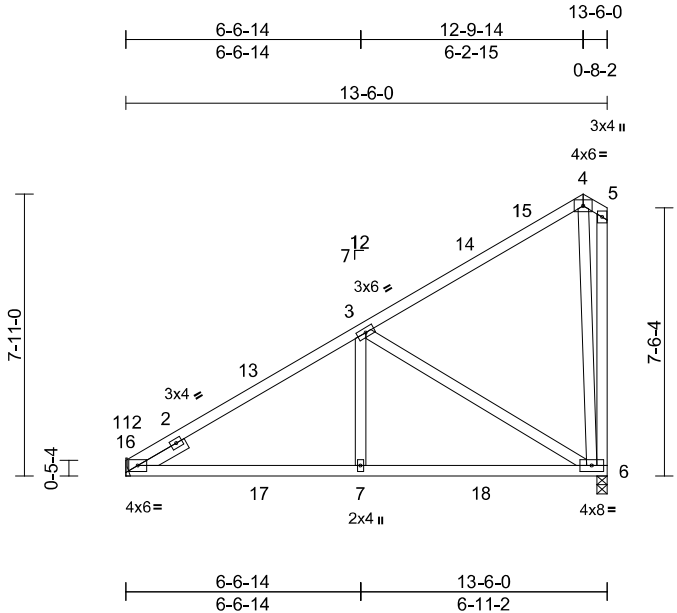
**LOAD CASE(S)** Standard

- NOTES**
- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 9-3-7, Exterior(2E) 9-3-7 to 13-4-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=20.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- 4) Unbalanced snow loads have been considered for this design.
- 5) Provide adequate drainage to prevent water ponding.
- 6) Plates checked for a plus or minus 5 degree rotation about its center.



March 4,2025

Job	Truss	Truss Type	Qty	Ply	Middleton Rev 2-Elev 10-Roof	I71743944
	A5	Common	2	1	Job Reference (optional)	



Scale = 1:64.7

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.65	Vert(LL)	-0.18	6-7	>902	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.48	Vert(CT)	-0.22	6-7	>724	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.72	Horz(CT)	0.01	1	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.03	7-10	>999	240		
BCDL	10.0										Weight: 84 lb	FT = 20%

<b>LUMBER</b>	
TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP SS
WEBS	2x4 SP No.3
SLIDER	Left 2x4 SP No.3 -- 1-6-0
<b>BRACING</b>	
TOP CHORD	Structural wood sheathing directly applied, except end verticals.
BOT CHORD	Rigid ceiling directly applied.
<b>REACTIONS</b> (size) 1= Mechanical, 6=0-3-8	
Max Horiz	1=184 (LC 15)
Max Uplift	6=-2 (LC 16)
Max Grav	1=532 (LC 2), 6=532 (LC 2)
<b>FORCES</b> (lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-3=-793/88, 3-4=-178/114, 4-5=-175/197, 5-6=-219/263
BOT CHORD	1-7=-190/665, 6-7=-190/665
WEBS	3-7=0/405, 3-6=-665/127, 4-6=-495/333

- NOTES**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-12 to 3-0-12, Interior (1) 3-0-12 to 12-9-14, Exterior(2E) 12-9-14 to 13-4-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
  - Unbalanced snow loads have been considered for this design.

- Plates checked for a plus or minus 5 degree rotation about its center.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Bearings are assumed to be: , Joint 6 SP SS .
- Refer to girder(s) for truss to truss connections.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 6. This connection is for uplift only and does not consider lateral forces.
- 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.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

**LOAD CASE(S)** Standard

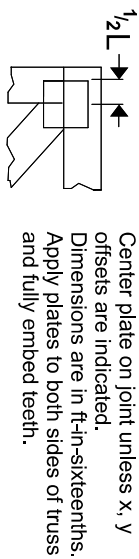


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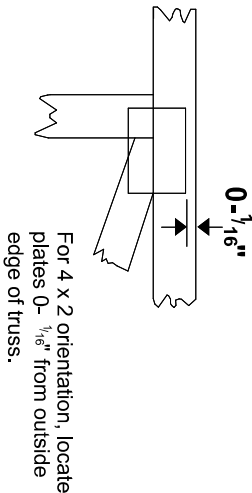


# Symbols

## 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-  $\frac{1}{16}$ \"/>

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

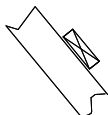
\* Plate location details available in MITek software or upon request.

## PLATE SIZE

**4 X 4**

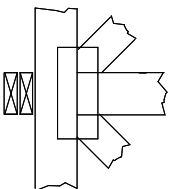
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## LATERAL BRACING LOCATION



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

## BEARING



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

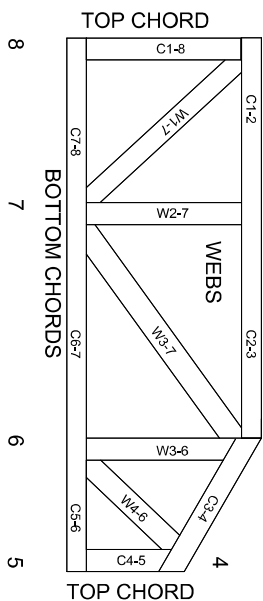
## Industry Standards:

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

# Numbering System

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

1 2 3 Joint ID typ.



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

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

# Product Code Approvals

ICC-ES Reports:  
ESR-1988, ESR-2362, ESR-2685, ESR-3282  
ESR-4722, ESL-1388

# Design General Notes

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

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

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**MITek**

ENGINEERING BY  
**TRENCO**  
A MITek Affiliate

MITek Engineering Reference Sheet: MIL-7473 rev. 1/2/2023

# General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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