ENGINEERING BY
TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 34373-34373A
127 BIRCHWOOD GROVE-ROOF

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by 84 Components - #2383.

Pages or sheets covered by this seal: I56357932 thru I56357936

My license renewal date for the state of North Carolina is December 31, 2023.

North Carolina COA: C-0844

January 31,2023

Gilbert, Eric

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.

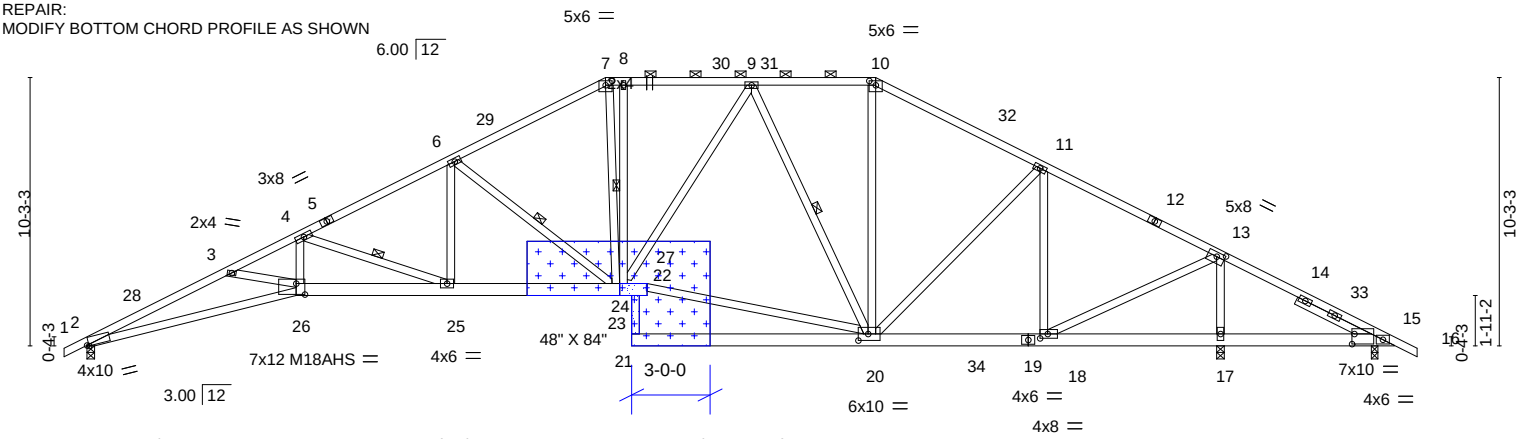
Job	Truss	Truss Type	Qty	Ply	127 BIRCHWOOD GROVE-ROOF	I56357932
34373-34373A	A4V	PIGGYBACK BASE	3	1	Job Reference (optional)	

84 Components, Dunn, NC 28334 — 8.630 s Nov 21 2022 MiTek Industries, Inc. Mon Jan 30 15:21:05 2023 Page 1
ID:bNZHYySm82JAWDNgfw9uCLzLbIt-L875gqJHQQxiJ6WA?Wy0EmhzS17cGv7scCSXwMzq7Uy

-0-10-8	5-6-7	8-0-0	13-11-0	19-10-0	25-5-0	30-2-0	36-7-3	43-0-5	43-4-4	50-0-0	50-10-8
0-10-8	5-6-7	2-5-9	5-11-0	5-11-0	5-7-0	4-9-0	6-5-3	6-5-3	0-3-15	6-7-12	0-10-8

Scale = 1:88.1

REPAIR:
MODIFY BOTTOM CHORD PROFILE AS SHOWN



ATTACH 3/4" PLYWOOD OR OSB GUSSET (23/32" RATED SHEATHING 48/24 EXP 1) TO EACH FACE OF TRUSS WITH (0.131" X 2.5" MIN.) NAILS PER THE FOLLOWING NAIL SCHEDULE:
2 X 3'S - 2 ROWS, 2 X 4'S - 3 ROWS, 2 X 6'S AND LARGER - 4 ROWS: SPACED @ 4" O.C.
NAILS TO BE DRIVEN FROM BOTH FACES. STAGGER SPACING FROM FRONT TO BACK FACE FOR A NET 2" O.C. SPACING IN EACH COVERED TRUSS MEMBER. USE 2" MEMBER END DISTANCE.

ADD NEW MEMBER(S) AS SHOWN HATCHED. SEE LUMBER SPECIFICATIONS SECTION FOR PROPER SIZE AND GRADE.

8-0-0	13-11-0	20-4-8	20-10-0	30-2-0	36-7-3	43-4-4	49-4-8	50-0-0
8-0-0	5-11-0	6-5-8	0-5-8	9-4-0	6-5-3	6-9-1	6-0-4	0-7-8

Plate Offsets (X,Y)-- [2:0-0-14,Edge], [7:0-3-0,0-2-0], [10:0-3-0,0-2-0], [13:0-3-12,0-2-0], [15:0-1-1,0-4-10], [18:0-3-8,0-2-0], [20:0-4-8,0-3-0], [23:0-3-0,0-1-8], [26:0-4-0,0-5-0], [27:0-0-2,0-2-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.85	Vert(LL)	-0.39	25-26	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.93	Vert(CT)	-0.73	25-26	>714	180	M18AHS	186/179
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.88	Horz(CT)	0.35	17	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 353 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.2 *Except* 1-5,12-16: 2x4 SP No.1
BOT CHORD 2x6 SP No.2 *Except* 2-26: 2x4 SP DSS, 21-23: 2x4 SP No.2
WEBS 2x4 SP No.2 *Except* 4-26,4-25,6-25,13-17,3-26: 2x4 SP No.3
SLIDER Right 2x4 SP No.3 3-1-12

BRACING-
TOP CHORD Structural wood sheathing directly applied or 1-11-7 oc purlins, except 2-0-0 oc purlins (3-9-2 max.): 7-10.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 1 Row at midpt 8-24, 4-25, 6-24, 9-20

REACTIONS. (lb/size) 2=1634/0-3-8 (min. 0-2-12), 17=3180/(0-3-8 + H10A Simpson Strong-Tie) (req. 0-5-7), 15=-714/0-3-0 (min. 0-1-8)
Max Horz 2=-146(LC 10)
Max Uplift 2=-39(LC 12), 17=-8(LC 12), 15=-861(LC 25)
Max Grav 2=1769(LC 17), 17=3457(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-28=-6017/99, 3-28=-5969/125, 3-4=-5853/76, 4-5=-3549/76, 5-6=-3493/104, 6-29=-2422/105, 7-29=-2349/133, 7-8=-2158/144, 8-30=-2164/143, 9-30=-2164/143, 9-31=-1284/157, 10-31=-1284/157, 10-32=-1421/149, 11-32=-1501/118, 11-12=-799/100, 12-13=-935/68, 13-14=-19/2482, 14-33=-21/2402, 15-33=-38/2381
BOT CHORD 2-26=-60/5575, 25-26=0/5227, 24-25=0/3210, 23-24=0/1755, 22-23=0/1462, 20-34=0/764, 19-34=0/764, 18-19=0/764, 17-18=-2130/78, 15-17=-2130/78
WEBS 24-27=0/891, 4-26=0/1548, 4-25=-2145/38, 6-25=0/958, 6-24=-1312/71, 7-24=-13/757, 20-22=0/1595, 9-27=0/876, 9-20=-1111/36, 10-20=0/385, 11-20=0/833, 11-18=-1171/76, 13-18=-9/3140, 13-17=-3125/130

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; B=45ft; L=24ft; eave=6ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 19-10-0, Exterior(2R) 19-10-0 to 24-0-15, Interior(1) 24-0-15 to 30-2-0, Exterior(2R) 30-2-0 to 34-4-15, Interior(1) 34-4-15 to 50-10-8 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) All plates are 3x6 MT20 unless otherwise indicated.
6) N/A
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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.

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NOTES-

10) H10A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 17. This connection is for uplift only and does not consider lateral forces.
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) Two H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 15. This connection is for uplift only and does not consider lateral forces.
13) N/A
14) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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

Job	Truss	Truss Type	Qty	Ply	127 BIRCHWOOD GROVE-ROOF	I56357933
34373-34373A	H6V	Hip	1	1	Job Reference (optional)	

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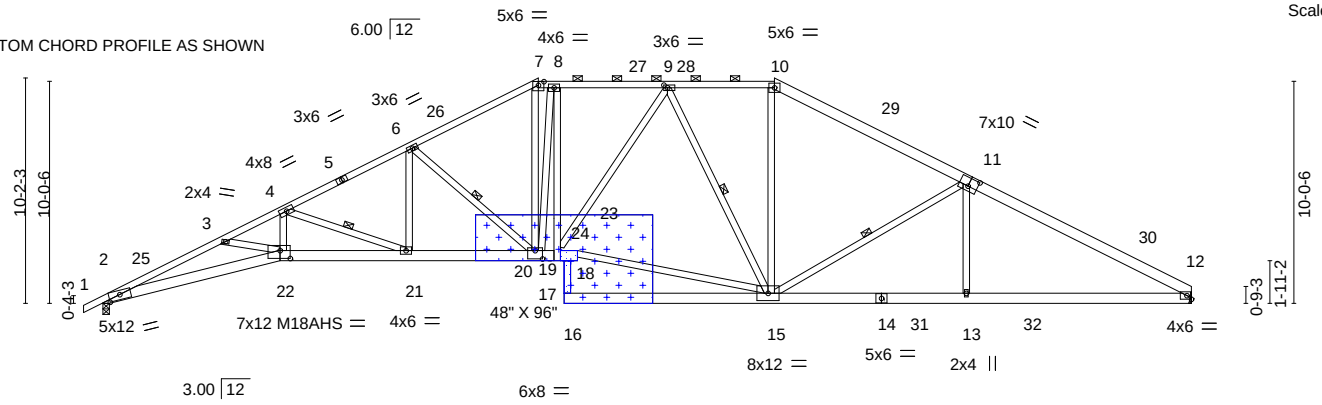
ID:bNZHYySm82JAWDNgfw9uCLzLbIt-dw4v45VtFXBF_hiwTyhwxRd2qSDh6I6jKHPVC2zq7Qq

-0-10-8 | 5-6-7 | 8-0-0 | 13-10-0 | 19-8-0 | 25-6-0 | 30-4-0 | 39-0-0 | 42-8-5 | 49-2-0

0-10-8 | 5-6-7 | 2-5-9 | 5-10-0 | 5-10-0 | 5-10-0 | 4-10-0 | 8-8-0 | 3-8-5 | 6-5-11

REPAIR:
MODIFY BOTTOM CHORD PROFILE AS SHOWN

Scale = 1:104.1



ATTACH 3/4" PLYWOOD OR OSB GUSSET (23/32" RATED SHEATHING 48/24 EXP 1)
TO EACH FACE OF TRUSS WITH (0.131" X 2.5" MIN.) NAILS PER THE FOLLOWING NAIL SCHEDULE:
2 X 3'S - 2 ROWS, 2 X 4'S - 3 ROWS, 2 X 6'S AND LARGER - 4 ROWS: SPACED @ 4" O.C.
NAILS TO BE DRIVEN FROM BOTH FACES. STAGGER SPACING FROM FRONT TO BACK FACE
FOR A NET 2" O.C. SPACING IN EACH COVERED TRUSS MEMBER. USE 2" MEMBER END DISTANCE.

ADD NEW MEMBER(S) AS SHOWN
HATCHED. SEE LUMBER SPECIFICATIONS
SECTION FOR PROPER SIZE AND GRADE.

20-10-0

8-0-0 | 13-10-0 | 19-8-0 | 20-4-8 | 30-4-0 | 39-0-0 | 39-7-4 | 42-8-5 | 49-2-0

8-0-0 | 5-10-0 | 5-10-0 | 0-8-8 | 9-6-0 | 8-8-0 | 0-7-4 | 3-1-1 | 6-5-11

0-5-8

Plate Offsets (X,Y)-- [2:0-6-0,0-2-12], [7:0-3-0,0-2-0], [9:0-2-0,0-1-8], [11:0-5-0,0-4-8], [20:0-4-0,0-4-8], [22:0-5-8,0-4-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.98	Vert(LL)	-0.52	21-22	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.98	Vert(CT)	-0.96	21-22	>609	180	M18AHS	186/179
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.84	Horz(CT)	0.49	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 362 lb	FT = 20%

LUMBER-

TOP CHORD 2x4 SP No.2 *Except* 10-11,11-12: 2x6 SP No.2, 1-5: 2x4 SP No.1

BOT CHORD 2x4 SP No.2 *Except* 2-22,19-22: 2x6 SP DSS, 14-16,12-14,17-19: 2x6 SP No.2

WEBS 2x4 SP No.2 *Except* 4-22,4-21,6-21,11-13,3-22: 2x4 SP No.3

BRACING-

TOP CHORD Structural wood sheathing directly applied, except 2-0-0 oc purlins (2-9-12 max.): 7-10.

BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

WEBS 1 Row at midpt 4-21, 6-20, 9-15, 11-15

REACTIONS. (lb/size) 2=2020/0-3-8 (min. 0-3-7), 12=1958/Mechanical
Max Horz 2=143(LC 11)
Max Uplift 2=-40(LC 12), 12=-14(LC 12)
Max Grav 2=2191(LC 17), 12=2179(LC 18)

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

TOP CHORD 2-25=-7974/151, 3-25=-7901/176, 3-4=-7780/123, 4-5=-4875/115, 5-6=-4815/133, 6-26=-3703/129, 7-26=-3635/157, 7-8=-3239/164, 8-27=-3361/164, 9-27=-3361/164, 9-28=-2600/172, 10-28=-2600/172, 10-29=-2884/162, 11-29=-3002/119, 11-30=-3857/116, 12-30=-3930/77

BOT CHORD 2-22=-128/7373, 21-22=-28/6901, 20-21=0/4390, 19-20=0/3400, 19-24=0/1160, 23-24=0/613, 8-23=0/613, 15-16=0/289, 14-15=-11/3412, 14-31=-11/3412, 13-31=-11/3412, 13-32=-15/3397, 12-32=-15/3397, 18-19=0/3024, 17-18=0/2584

WEBS 4-22=0/2001, 4-21=-2676/54, 6-21=0/1136, 6-20=-1402/76, 7-20=-36/1481, 8-20=-816/32, 15-17=0/2807, 9-24=0/707, 9-15=-972/44, 10-15=0/999, 11-15=-1019/99, 11-13=0/508

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; B=45ft; L=24ft; eave=6ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 19-8-0, Exterior(2R) 19-8-0 to 23-10-15, Interior(1) 23-10-15 to 30-4-0, Exterior(2R) 30-4-0 to 34-6-15, Interior(1) 34-6-15 to 49-1-4 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) N/A
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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) Refer to girder(s) for truss to truss connections.
9) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 14 lb uplift at joint 12.
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.

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NOTES-

12) N/A
13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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

Job	Truss	Truss Type	Qty	Ply	127 BIRCHWOOD GROVE-ROOF	I56357934
34373-34373A	H7V	Hip	1	1	Job Reference (optional)	

84 Components, Dunn, NC 28334

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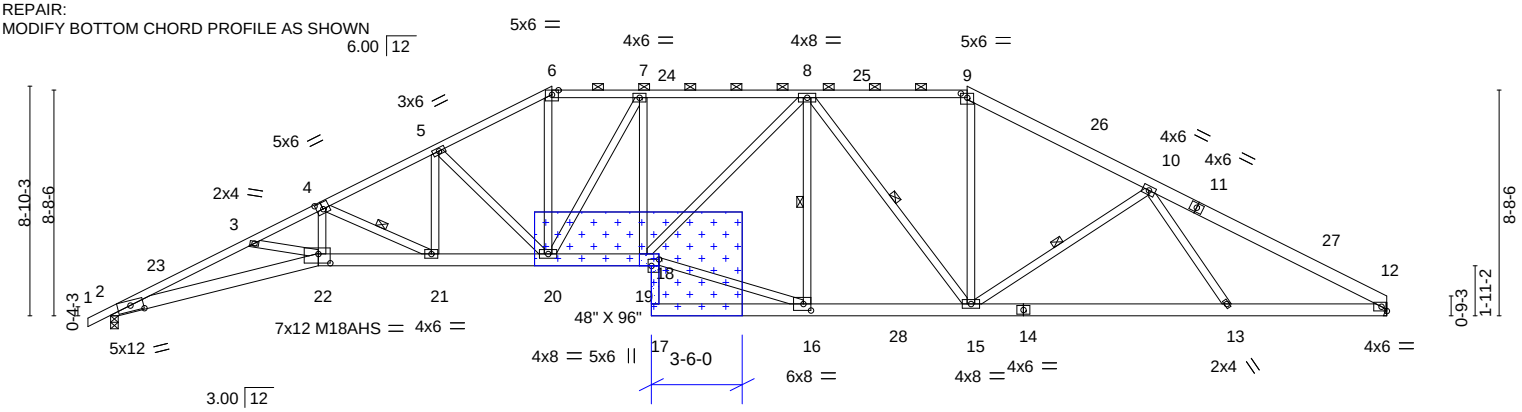
ID:bNZHYySm82JAWDNgfw9uCLzLbIt-DE5lQmvewApovWZCFJn7evRtcCq6lICo?KVeHKzq7P0

-0-10-8	5-6-7	8-0-0	12-6-0	17-0-0	20-4-8	26-10-0	33-0-0	40-0-0	43-7-0	49-2-0
0-10-8	5-6-7	2-5-9	4-6-0	4-6-0	3-4-8	6-5-8	6-2-0	7-0-0	3-7-0	5-7-0

Scale = 1:88.8

REPAIR:
MODIFY BOTTOM CHORD PROFILE AS SHOWN



ATTACH 3/4" PLYWOOD OR OSB GUSSET (23/32" RATED SHEATHING 48/24 EXP 1)
TO EACH FACE OF TRUSS WITH (0.131" X 2.5" MIN.) NAILS PER THE FOLLOWING NAIL SCHEDULE:
2 X 3'S - 2 ROWS, 2 X 4'S - 3 ROWS, 2 X 6'S AND LARGER - 4 ROWS: SPACED @ 4" O.C.
NAILS TO BE DRIVEN FROM BOTH FACES. STAGGER SPACING FROM FRONT TO BACK FACE
FOR A NET 2" O.C. SPACING IN EACH COVERED TRUSS MEMBER. USE 2" MEMBER END DISTANCE.

ADD NEW MEMBER(S) AS SHOWN
HATCHED. SEE LUMBER SPECIFICATIONS
SECTION FOR PROPER SIZE AND GRADE.

8-0-0	12-6-0	17-0-0	20-4-8	20-10-0	26-10-0	33-0-0	43-0-0	49-2-0
8-0-0	4-6-0	4-6-0	3-4-8	0-5-8	6-0-0	6-2-0	10-0-0	6-2-0

Plate Offsets (X,Y)-- [2:0-6-0,0-2-12], [4:0-3-0,0-3-0], [9:0-3-0,0-2-0], [16:0-3-8,0-3-0], [18:Edge,0-3-8], [22:0-5-8,0-4-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.98	Vert(LL)	-0.53	17	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.96	Vert(CT)	-0.98	17	>597	180	M18AHS	186/179
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.95	Horz(CT)	0.48	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 351 lb	FT = 20%

LUMBER-

TOP CHORD	2x4 SP No.2 *Except* 9-11,11-12: 2x6 SP No.2, 1-4: 2x4 SP No.1
BOT CHORD	2x6 SP No.2 *Except* 2-22,19-22: 2x6 SP DSS, 7-19,17-18: 2x4 SP No.2
WEBS	2x4 SP No.2 *Except* 4-22,4-21,5-20,10-13,3-22,5-21: 2x4 SP No.3

BRACING-

TOP CHORD	Structural wood sheathing directly applied, except 2-0-0 oc purlins (2-5-1 max.): 6-9.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 2-2-0 oc bracing: 18-19.
WEBS	1 Row at midpt 4-21, 8-16, 8-15, 10-15

REACTIONS. (lb/size) 2=2022/0-3-8 (min. 0-3-7), 12=1959/Mechanical
Max Horz 2=124(LC 11)
Max Uplift 2=-39(LC 12), 12=-13(LC 12)
Max Grav 2=2198(LC 17), 12=2149(LC 18)

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

TOP CHORD	2-23=-7987/154, 3-23=-7915/180, 3-4=-7775/121, 4-5=-5250/132, 5-6=-4155/147, 6-7=-3659/151, 7-24=-4063/153, 8-24=-4063/153, 8-25=-2809/155, 9-25=-2808/155, 9-26=-3151/150, 10-26=-3237/117, 10-11=-3859/67, 11-27=-3961/36, 12-27=-4049/31
BOT CHORD	2-22=-132/7371, 21-22=-23/6901, 20-21=0/4734, 19-20=0/4113, 18-19=0/3221, 7-19=0/502, 16-28=0/3180, 15-28=0/3180, 14-15=-40/3267, 13-14=-40/3267, 12-13=0/3473
WEBS	4-22=0/1972, 4-21=-2401/39, 5-20=-1386/70, 6-20=-9/1668, 7-20=-935/20, 16-18=0/3154, 8-19=0/1315, 8-16=-804/56, 8-15=-692/28, 9-15=0/1112, 10-15=-583/122, 10-13=0/423, 5-21=0/1242

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; B=45ft; L=24ft; eave=6ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 17-0-0, Exterior(2R) 17-0-0 to 21-2-15, Interior(1) 21-2-15 to 33-0-0, Exterior(2R) 33-0-0 to 37-2-15, Interior(1) 37-2-15 to 49-1-4 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) N/A
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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) Refer to girder(s) for truss to truss connections.
9) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 13 lb uplift at joint 12.

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NOTES-

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) N/A
13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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

Job	Truss	Truss Type	Qty	Ply	127 BIRCHWOOD GROVE-ROOF	I56357935
34373-34373A	H8V	Hip	1	1	Job Reference (optional)	

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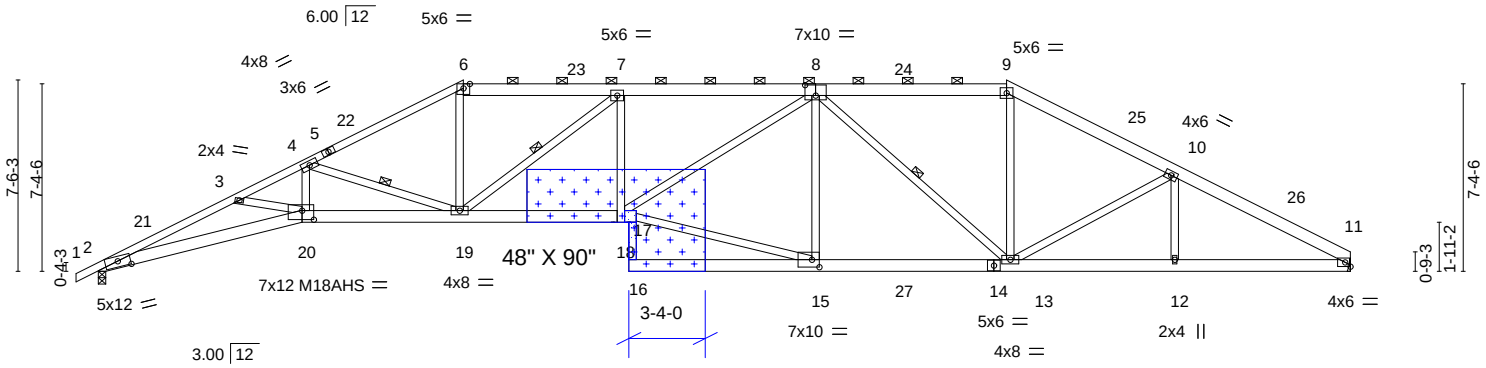
ID:bNZHYySm82JAWDNgfw9uCLzLbIt-xFoFoRraZ8ejGVXCqiAPoLfCsfR_Z1IHxTPm?pzq7No

-0-10-8	5-6-7	8-0-0	14-4-0	20-4-8	28-2-0	35-8-0	42-3-4	49-2-0
0-10-8	5-6-7	2-5-9	6-4-0	6-0-8	7-9-8	7-6-0	6-7-4	6-10-12

Scale = 1:90.5

REPAIR:
MODIFY BOTTOM CHORD PROFILE AS SHOWN



ATTACH 3/4" PLYWOOD OR OSB GUSSET (23/32" RATED SHEATHING 48/24 EXP 1) TO EACH FACE OF TRUSS WITH (0.131" X 2.5" MIN.) NAILS PER THE FOLLOWING NAIL SCHEDULE:
2 X 3'S - 2 ROWS, 2 X 4'S - 3 ROWS, 2 X 6'S AND LARGER - 4 ROWS: SPACED @ 4" O.C.
NAILS TO BE DRIVEN FROM BOTH FACES. STAGGER SPACING FROM FRONT TO BACK FACE FOR A NET 2" O.C. SPACING IN EACH COVERED TRUSS MEMBER. USE 2" MEMBER END DISTANCE.

ADD NEW MEMBER(S) AS SHOWN HATCHED. SEE LUMBER SPECIFICATIONS SECTION FOR PROPER SIZE AND GRADE.

8-0-0	14-4-0	20-4-8	20-10-0	28-2-0	35-8-0	42-3-4	49-2-0
8-0-0	6-4-0	6-0-8	0-5-8	7-4-0	7-6-0	6-7-4	6-10-12

Plate Offsets (X,Y)-- [2:0-6-0,0-2-12], [8:0-5-0,0-4-15], [15:0-3-8,0-3-8], [20:0-5-8,0-4-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.98	Vert(LL)	-0.55	16	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.92	Vert(CT)	-1.03	16	>570	180	M18AHS	186/179
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.90	Horz(CT)	0.50	11	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S							Weight: 343 lb	FT = 20%

LUMBER-

TOP CHORD 2x6 SP No.2 *Except*
5-6: 2x4 SP DSS, 1-5: 2x4 SP No.1
BOT CHORD 2x6 SP No.2 *Except*
2-20,18-20: 2x6 SP DSS, 7-18,16-17: 2x4 SP No.2
WEBS 2x4 SP No.2 *Except*
4-20,6-19,10-12,3-20: 2x4 SP No.3

BRACING-

TOP CHORD Structural wood sheathing directly applied, except 2-0-0 oc purlins (2-11-12 max.): 6-9.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 2-2-0 oc bracing: 17-18.
WEBS 1 Row at midpt 4-19, 7-19, 8-13

REACTIONS. (lb/size) 11=1959/Mechanical, 2=2022/0-3-8 (min. 0-3-7)
Max Horz 2=105(LC 11)
Max Uplift 11=-13(LC 12), 2=-39(LC 12)
Max Grav 11=2150(LC 18), 2=2197(LC 17)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-21=-7971/144, 3-21=-7898/170, 3-4=-7773/131, 4-5=-4860/91, 5-22=-4816/97, 6-22=-4791/119, 6-23=-4275/135, 7-23=-4277/134, 7-8=-5183/146, 8-24=-3031/144, 9-24=-3030/144, 9-25=-3395/136, 10-25=-3471/104, 10-26=-3931/100, 11-26=-3986/78
BOT CHORD 2-20=-121/7341, 19-20=-39/6866, 18-19=0/5211, 7-18=0/378, 15-27=0/3790, 14-27=0/3790, 13-14=0/3790, 12-13=-26/3445, 11-12=-26/3445, 17-18=0/3818
WEBS 4-20=0/1989, 4-19=-2644/90, 6-19=0/1823, 7-19=-1276/29, 15-17=0/3687, 8-18=0/1714, 8-15=-739/94, 8-13=-1111/18, 9-13=0/1184, 10-13=-486/73, 10-12=0/271

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; B=45ft; L=24ft; eave=6ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 14-4-0, Exterior(2R) 14-4-0 to 18-6-15, Interior(1) 18-6-15 to 35-8-0, Exterior(2R) 35-8-0 to 39-10-15, Interior(1) 39-10-15 to 49-1-4 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) N/A
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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) Refer to girder(s) for truss to truss connections.
9) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 13 lb uplift at joint 11.
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) N/A

January 31,2023

Continued on page 2

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

NOTES-

13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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

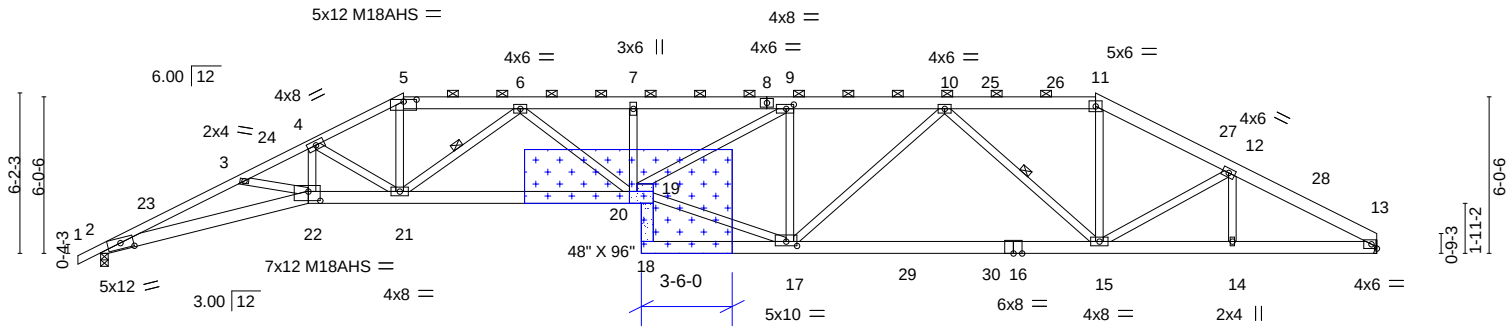
Job	Truss	Truss Type	Qty	Ply	127 BIRCHWOOD GROVE-ROOF	I56357936
34373-34373A	H9V	Hip	1	1	Job Reference (optional)	

84 Components, Dunn, NC 28334 — 8.630 s Nov 21 2022 MiTek Industries, Inc. Mon Jan 30 15:31:11 2023 Page 1
ID:bNZHYySm82JAWDNgfw9uCLzLbIt-cjlBs2ePicHj0FreVnq7oZoVmJ_AFxq3zUFbCEzq7LU

-0-10-8	5-6-7	8-0-0	11-8-0	16-2-0	20-4-8	26-6-11	32-6-3	38-4-0	43-7-4	49-2-0
0-10-8	5-6-7	2-5-9	3-8-0	4-6-0	4-2-8	6-2-3	5-11-9	5-9-13	5-3-4	5-6-12

Scale = 1:88.8

REPAIR:
MODIFY BOTTOM CHORD PROFILE AS SHOWN



ATTACH < 2 LAYERS > 3/4" PLYWOOD OR OSB GUSSET (23/32" RATED SHEATHING 48/24 EXP 1)
TO EACH FACE OF TRUSS WITH (0.131" X 3.0") NAILS PER THE FOLLOWING NAIL SCHEDULE:
2 X 3'S - 2 ROWS, 2 X 4'S - 3 ROWS, 2 X 6'S AND LARGER - 4 ROWS: SPACED @ 4" O.C.
NAILS TO BE DRIVEN FROM BOTH FACES. STAGGER SPACING FROM FRONT TO BACK FACE
FOR A NET 2" O.C. SPACING IN EACH COVERED TRUSS MEMBER.
USE 2" MEMBER END DISTANCE. GLUE PLYWOOD LAYERS TOGETHER PRIOR TO ATTACHING TO TRUSS.

ADD NEW MEMBER(S) AS SHOWN
HATCHED. SEE LUMBER SPECIFICATIONS
SECTION FOR PROPER SIZE AND GRADE.

8-0-0	11-8-0	20-4-8	20-10-0	26-6-11	29-6-0	38-4-0	43-7-4	49-2-0
8-0-0	3-8-0	8-8-8	0-5-8	5-8-11	2-11-5	8-10-0	5-3-4	5-6-12

Plate Offsets (X,Y)-- [2:0-6-0,0-2-12], [5:0-6-0,0-0-15], [9:0-3-8,0-2-0], [17:0-5-0,0-2-0], [19:0-3-8,0-1-8], [22:0-5-8,0-4-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.96	Vert(LL)	-0.66	18	>890	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.82	Vert(CT)	-1.24	20-21	>476	180	M18AHS	186/179
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.97	Horz(CT)	0.51	13	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S							Weight: 339 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.2 *Except*
1-5: 2x4 SP No.1
BOT CHORD 2x6 SP DSS *Except*
7-20: 2x4 SP No.3, 18-19,19-20: 2x6 SP No.2
WEBS 2x4 SP No.3 *Except*
17-19: 2x4 SP No.1, 9-20,10-17,10-15,19-20: 2x4 SP No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied, except
2-0-0 oc purlins (2-5-2 max.): 5-11.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 6-21, 10-15

REACTIONS. (lb/size) 13=1958/Mechanical, 2=2020/0-3-8 (min. 0-3-7)
Max Horz 2=86(LC 11)
Max Uplift 13=-14(LC 12), 2=-40(LC 12)
Max Grav 13=2149(LC 18), 2=2190(LC 17)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-23=-7917/158, 3-23=-7846/183, 3-24=-7689/112, 4-24=-7648/125, 4-5=-5675/108, 5-6=-5036/113, 6-7=-6966/130, 7-8=-6968/133, 8-9=-6968/133, 9-10=-4734/129, 10-25=-3263/114, 25-26=-3261/115, 11-26=-3261/115, 11-27=-3662/109, 12-27=-3719/84, 12-28=-3900/104, 13-28=-3959/86
BOT CHORD 2-22=-134/7278, 21-22=-26/6775, 20-21=-14/6279, 19-20=0/4747, 7-20=-277/66, 17-18=-28/443, 17-29=-24/4164, 29-30=-24/4164, 16-30=-24/4164, 15-16=-24/4164, 14-15=-40/3412, 13-14=-40/3412
WEBS 4-22=0/1874, 4-21=-1907/70, 5-21=0/2285, 6-21=-1614/74, 6-20=0/1024, 17-19=0/4562, 9-20=-5/2635, 9-17=-1697/80, 10-17=0/823, 10-15=-1312/76, 11-15=0/1358

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; B=45ft; L=24ft; eave=6ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 11-8-0, Exterior(2R) 11-8-0 to 16-2-0 , Interior(1) 16-2-0 to 38-4-0, Exterior(2R) 38-4-0 to 42-6-15, Interior(1) 42-6-15 to 49-1-4 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) N/A
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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) Refer to girder(s) for truss to truss connections.
9) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 14 lb uplift at joint 13.
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.

January 31,2023

Continued on page 2

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

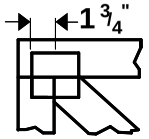
NOTES-

12) N/A
13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

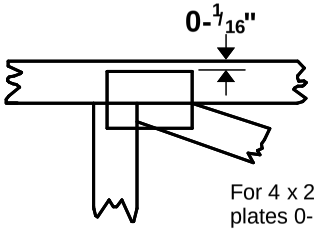
LOAD CASE(S) Standard

Symbols

PLATE LOCATION AND ORIENTATION



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



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

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

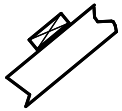
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

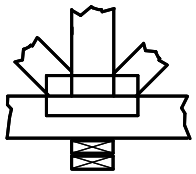
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

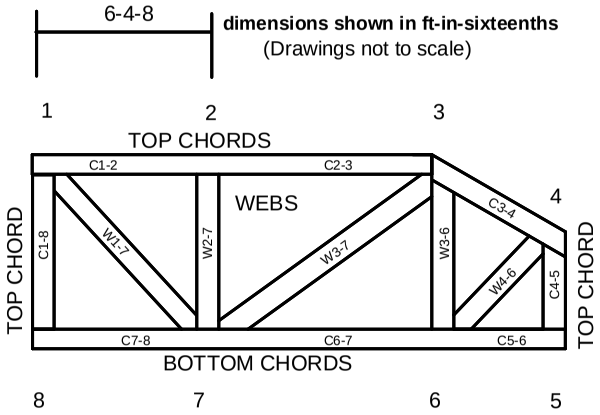


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-89: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



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

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

PRODUCT CODE APPROVALS

ICC-ES Reports:

ESR-1311, ESR-1352, ESR1988
ER-3907, ESR-2362, ESR-1397, ESR-3282

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

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

MiTek Engineering Reference Sheet: MII-7473 rev. 5/19/2020

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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