MiTek®

MiTek, Inc.
400 Sunrise Ave., Suite 270
Roseville, CA 95661
916.755.3571

Re: Q230612
CHS LLC

The truss drawing(s) referenced below have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Alpine Truss-Montrose, CO.

Pages or sheets covered by this seal: R81532019 thru R81532027

My license renewal date for the state of Colorado is October 31, 2025.

March 27,2024

Zhao, Xiaoming

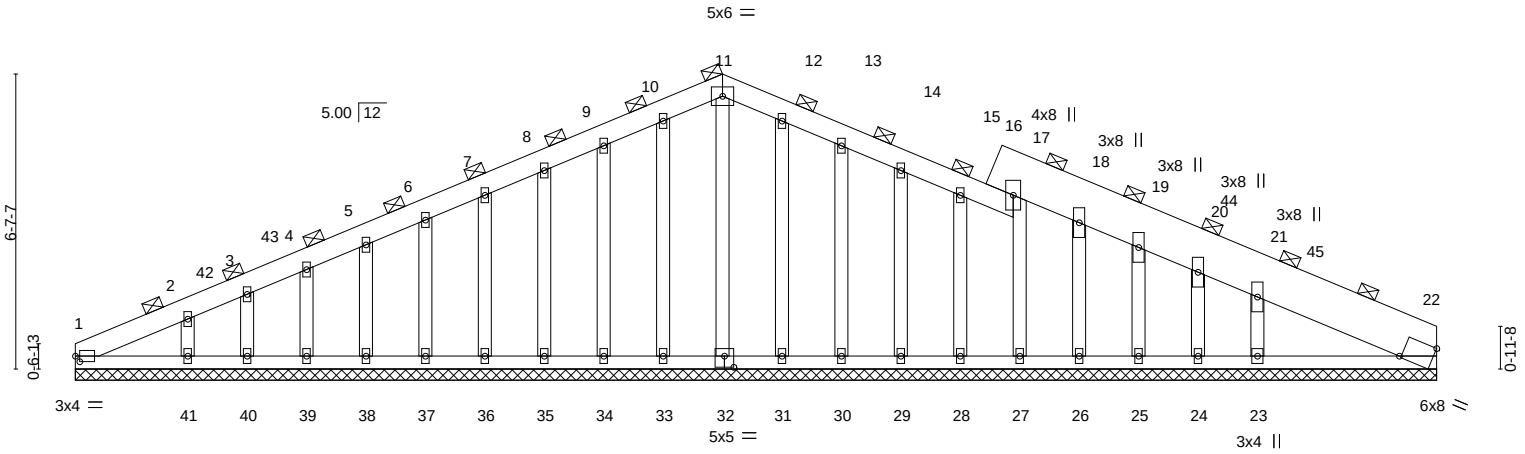
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which 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	CHS LLC
Q230612	G1E	GABLE	1	1	R81532019
					Job Reference (optional)

Alpine Truss, Montrose, CO - 81401, 8.730 s Feb 22 2024 MiTek Industries, Inc. Wed Mar 27 09:26:49 2024 Page 1
ID:GNZ5PQi4RUJ_WDEhVoiyJWzPB6c-VAK59xfq4M9K4bovEg8kQgO03yYJkDvOJ1nDRQzWn1K

14-6-4 / 14-6-4 | 30-6-8 / 16-0-4

Scale = 1:51.7



30-6-8 / 30-6-8

Plate Offsets (X,Y)-- [1:0-1-3,0-1-8], [22:Edge,0-5-12], [32:0-2-8,0-3-0]

LOADING (psf)		SPACING-	6-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	75.0	Plate Grip DOL	1.00	TC	0.18	Vert(LL)	n/a	-	n/a	999	MT20	169/123
(Roof Snow=75.0)		Lumber DOL	1.00	BC	0.23	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	NO	WB	0.87	Horz(CT)	0.01	22	n/a	n/a		
BCLL	0.0 *	Code	IBC2018/TPI2014	Matrix-SH							Weight: 180 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x6 SPF 1650F 1.5E *Except* 16-22: 2x12 HF SS
BOT CHORD 2x4 SPF 1650F 1.5E
OTHERS 2x4 WW Stud

BRACING-
TOP CHORD 2-0-0 oc purlins (6-0-0 max.) (Switched from sheeted: Spacing > 2-0-0).
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 30-6-8.
(lb) - Max Horz 1=-191(LC 15)
Max Uplift All uplift 100 lb or less at joint(s) 1, 34, 35, 36, 37, 38, 39, 40, 41, 30, 29, 28, 24, 23
Max Grav All reactions 250 lb or less at joint(s) except 1=618(LC 1), 32=666(LC 1), 33=1058(LC 20), 34=1135(LC 20), 35=1110(LC 20), 36=1098(LC 20), 37=1105(LC 20), 38=1107(LC 20), 39=1010(LC 20), 40=632(LC 20), 41=1302(LC 1), 31=1054(LC 21), 30=1133(LC 21), 29=1124(LC 21), 28=1178(LC 21), 27=1045(LC 21), 26=1007(LC 21), 25=929(LC 21), 24=827(LC 21), 23=1687(LC 1), 22=1054(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-380/236, 2-3=-317/126, 3-4=-266/150, 4-5=-297/175, 5-6=-301/199, 6-7=-302/223, 7-8=-302/262, 8-9=-305/310, 9-10=-319/360, 10-11=-302/383, 11-12=-289/384, 12-13=-307/362, 13-14=-294/312, 14-15=-285/260, 17-18=-294/214, 18-19=-337/182, 19-20=-321/147, 20-21=-290/97, 21-22=-477/334
WEBS 11-32=-586/10, 10-33=-976/25, 9-34=-1056/82, 8-35=-1030/82, 7-36=-1019/75, 6-37=-1024/75, 5-38=-1031/75, 4-39=-917/74, 3-40=-599/66, 2-41=-1113/209, 12-31=-976/11, 13-30=-1053/81, 14-29=-1044/92, 15-28=-1099/111, 17-27=-964/58, 18-26=-932/42, 19-25=-829/53, 20-24=-822/83, 21-23=-1465/215

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Ke=0.83; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) 0-1-12 to 3-2-6, Exterior(2N) 3-2-6 to 14-6-4, Corner(3R) 14-6-4 to 17-6-14, Exterior(2N) 17-6-14 to 30-4-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
2) 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.
3) TCLL: ASCE 7-16; Pf=75.0 psf (Lum DOL=1.00 Plate DOL=1.00); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) All plates are 2x4 MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 1-4-0 oc.
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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.

March 27,2024

Continued on page 2

MiTek®
400 Sunrise Ave., Suite 270
Roseville, CA 95661
916.755.3571 / MiTek-US.com

NOTES-

10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 34, 35, 36, 37, 38, 39, 40, 41, 30, 29, 28, 24, 23.
11) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.

Job	Truss	Truss Type	Qty	Ply	CHS LLC
Q230612	G2G	COMMON	1	2	R81532020

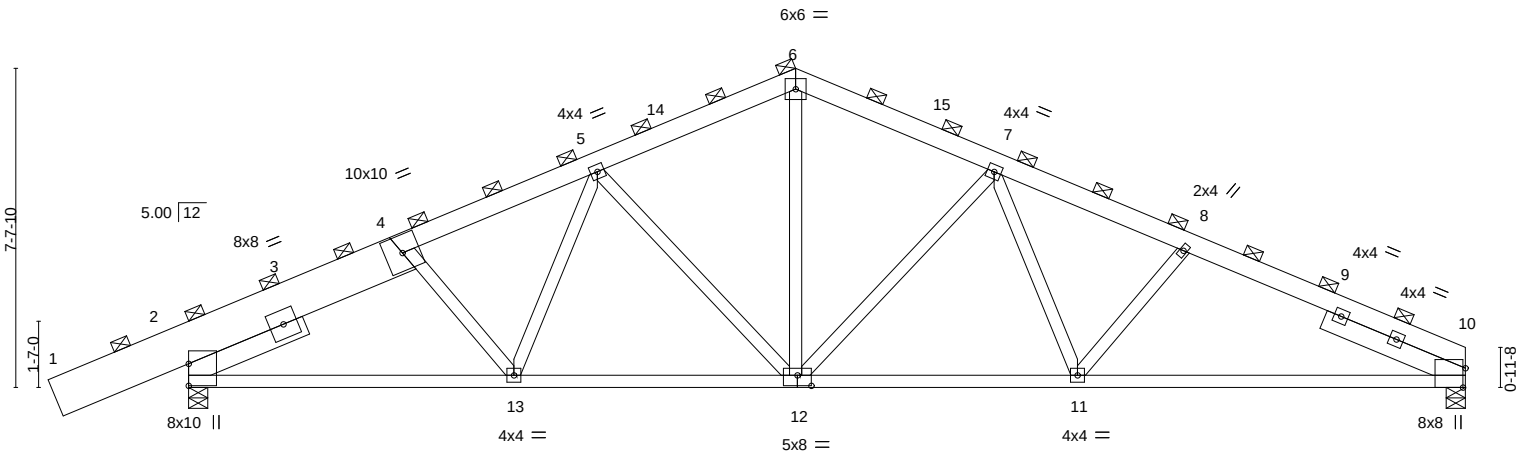
Job Reference (optional)

Alpine Truss, Montrose, CO - 81401, 8.730 s Feb 22 2024 MiTek Industries, Inc. Wed Mar 27 09:26:50 2024 Page 1

ID:GNZ5PQi4RUJ_WDEhVoiyJWzPB6c-zNuUNHgSrgHBikN5oNfzyux8pMj_TnXYXhWmzszWn1J

-3-0-0	5-3-1	9-9-5	14-6-4	19-3-4	23-9-9	30-6-8
3-0-0	5-3-1	4-6-4	4-8-15	4-9-0	4-6-5	6-8-15

Scale = 1:55.1



7-9-6	14-6-4	21-3-2	30-6-8
7-9-6	6-8-14	6-8-14	9-3-6

Plate Offsets (X,Y)-- [10:0-5-9,Edge], [12:0-4-0,0-3-0]

LOADING (psf)		SPACING-	3-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	75.0	Plate Grip DOL	1.00	TC	0.37	Vert(LL)	-0.20	11-12	>999	360	MT20	169/123
(Roof Snow=75.0)		Lumber DOL	1.00	BC	0.91	Vert(CT)	-0.26	10-11	>999	240		
TCDL	10.0	Rep Stress Incr	NO	WB	0.39	Horz(CT)	0.14	10	n/a	n/a		
BCLL	0.0 *	Code	IBC2018/TPI2014	Matrix-SH		Wind(LL)	0.02	11	>999	240	Weight: 345 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD	2x6 SPF 1650F 1.5E *Except*
	1-4: 2x12 HF SS
BOT CHORD	2x4 SPF 1650F 1.5E
WEBS	2x4 WW Stud *Except*
	5-12,6-12,7-12: 2x4 SPF 1650F 1.5E
SLIDER	Left 2x6 SPF 1650F 1.5E 3-0-10, Right 2x6 SPF 1650F 1.5E 3-7-11

BRACING-

TOP CHORD	2-0-0 oc purlins (6-0-0 max.)
	(Switched from sheeted: Spacing > 2-0-0).
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 10=0-5-8, 2=0-5-8
Max Horz 2=123(LC 14)
Max Grav 10=4551(LC 22), 2=5366(LC 21)

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

TOP CHORD	2-4=-7163/0, 4-5=-6390/0, 5-6=-5164/0, 6-7=-5180/0, 7-8=-7314/0, 8-10=-8316/0
BOT CHORD	2-13=0/5726, 12-13=0/5507, 11-12=0/6199, 10-11=0/7156
WEBS	4-13=-152/424, 5-13=-115/338, 5-12=-2153/90, 6-12=0/2664, 7-12=-2847/79, 7-11=0/1023, 8-11=-942/136

NOTES-

1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
   Top chords connected as follows: 2x12 - 2 rows staggered at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
   Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
   Webs connected as follows: 2x4 - 1 row at 0-9-0 oc.
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) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Ke=0.83; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -3-2-3 to 0-0-0, Interior(1) 0-0-0 to 14-6-4, Exterior(2R) 14-6-4 to 17-6-14, Interior(1) 17-6-14 to 30-6-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
4) TCLL: ASCE 7-16; Pf=75.0 psf (Lum DOL=1.00 Plate DOL=1.00); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; 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 19.0 psf or 2.00 times flat roof load of 75.0 psf on overhangs non-concurrent with other live loads.
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.
9) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

March 27,2024

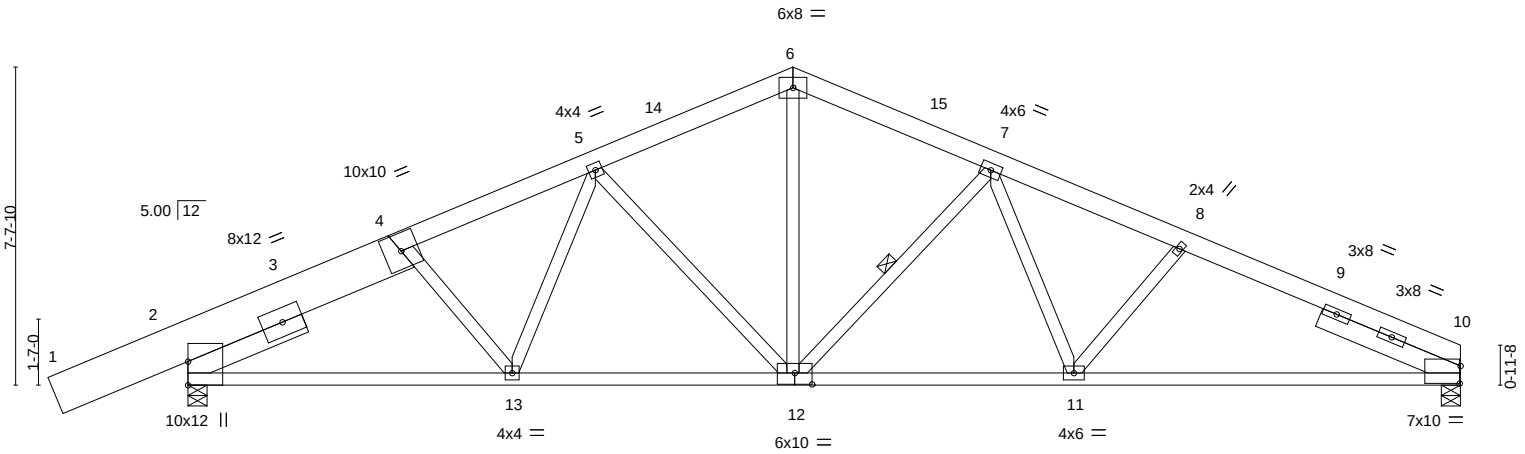
MiTek®
400 Sunrise Ave., Suite 270
Roseville, CA 95661
916.755.3571 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	CHS LLC
Q230612	G2	Common	4	1	R81532021
					Job Reference (optional)

Alpine Truss, Montrose, CO - 81401, 8.730 s Feb 22 2024 MiTek Industries, Inc. Wed Mar 27 09:26:49 2024 Page 1
ID:GNZ5PQi4RUJ_WDEhVoiyJWzPB6c-VAK59xfq4M9K4bovEg8kQgOxWyQ6kDIOJ1nDRQzWn1K

-3-0-0	5-3-1	9-9-5	14-6-4	19-3-4	23-9-9	30-6-8
3-0-0	5-3-1	4-6-4	4-8-15	4-9-0	4-6-5	6-8-15

Scale = 1:55.3



7-9-6	14-6-4	21-3-2	30-6-8
7-9-6	6-8-14	6-8-14	9-3-6

Plate Offsets (X,Y)-- [10:0-0-4,0-5-1], [12:0-5-0,0-3-4]

LOADING (psf)		**SPACING-**	2-0-0	**CSI.**		**DEFL.**	in	(loc)	l/defl	L/d	**PLATES**	**GRIP**
TCLL	75.0	Plate Grip DOL	1.00	TC	0.47	Vert(LL)	-0.24	11-12	>999	360	MT20	169/123
(Roof Snow=75.0)		Lumber DOL	1.00	BC	0.76	Vert(CT)	-0.31	11-12	>999	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.84	Horz(CT)	0.15	10	n/a	n/a		
BCLL	0.0 *	Code	IBC2018/TPI2014	Matrix-SH		Wind(LL)	0.03	11	>999	240	Weight: 172 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD	2x6 SPF 1650F 1.5E *Except*
	1-4: 2x12 HF SS
BOT CHORD	2x4 SPF 2100F 1.8E
WEBS	2x4 WW Stud *Except*
	5-12,6-12,7-12: 2x4 SPF 1650F 1.5E
SLIDER	Left 2x6 SPF 1650F 1.5E 3-0-10, Right 2x6 SPF 1650F 1.5E 3-7-11

BRACING-

TOP CHORD	Structural wood sheathing directly applied or 3-3-12 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 7-12

REACTIONS. (size) 10=0-5-8, 2=0-5-8
Max Horz 2=82(LC 14)
Max Grav 10=3034(LC 22), 2=3578(LC 21)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-4=-4779/0, 4-5=-4263/0, 5-6=-3443/0, 6-7=-3454/0, 7-8=-4878/0, 8-10=-5549/0
BOT CHORD 2-13=0/3824, 12-13=0/3671, 11-12=0/4133, 10-11=0/4774
WEBS 4-13=-109/281, 5-12=-1434/60, 6-12=0/1778, 7-12=-1898/52, 7-11=0/684, 8-11=-633/90

NOTES-

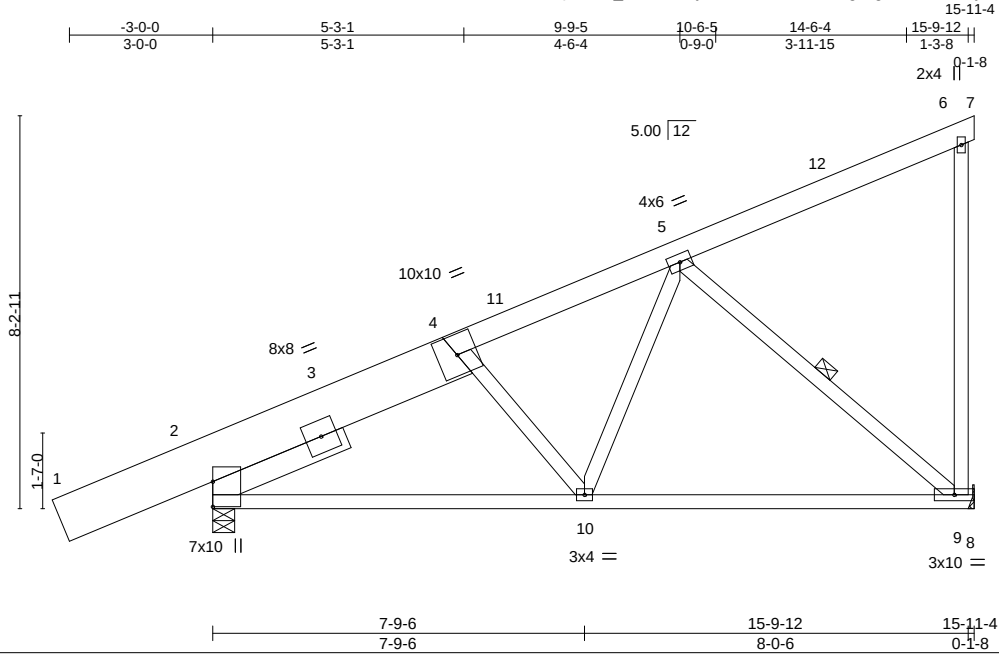
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Ke=0.83; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -3-2-3 to 0-0-0, Interior(1) 0-0-0 to 14-6-4, Exterior(2R) 14-6-4 to 17-6-14, Interior(1) 17-6-14 to 30-6-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
2) TCLL: ASCE 7-16; Pf=75.0 psf (Lum DOL=1.00 Plate DOL=1.00); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; 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 19.0 psf or 2.00 times flat roof load of 75.0 psf on overhangs non-concurrent with other live loads.
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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.

March 27,2024

MiTek®
400 Sunrise Ave., Suite 270
Roseville, CA 95661
916.755.3571 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	CHS LLC
Q230612	K1	Monopitch	6	1	R81532022
					Job Reference (optional)

Alpine Truss, Montrose, CO - 81401, 8.730 s Feb 22 2024 MiTek Industries, Inc. Wed Mar 27 09:26:50 2024 Page 1
ID:GNZ5PQi4RUJ_WDEhVoiyJWzPB6c-zNuUNHgSrgHBikN5oNfzyux7hMqRTmNYXhWmzszWn1J



LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	75.0	Plate Grip DOL	1.00	TC	0.45	Vert(LL)	-0.11	9-10	>999	360	MT20	169/123
(Roof Snow=75.0)		Lumber DOL	1.00	BC	0.50	Vert(CT)	-0.23	9-10	>826	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.47	Horz(CT)	0.04	9	n/a	n/a		
BCLL	0.0 *	Code	IBC2018/TPI2014	Matrix-SH		Wind(LL)	0.01	10	>999	240	Weight: 106 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD	2x6 SPF 2100F 1.8E *Except*
	1-4: 2x12 HF SS
BOT CHORD	2x4 SPF 1650F 1.5E
WEBS	2x4 SPF 1650F 1.5E *Except*
	4-10,5-10: 2x4 WW Stud
SLIDER	Left 2x6 SPF 1650F 1.5E 3-0-10

BRACING-

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS	1 Row at midpt 5-9

REACTIONS. (size) 2=0-5-8, 9=Mechanical
Max Horz 2=193(LC 14)
Max Uplift 9=-40(LC 14)
Max Grav 2=2325(LC 21), 9=2070(LC 21)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-4=-2479/0, 4-5=-1886/0, 5-6=-345/175
BOT CHORD 2-10=-86/1810, 9-10=-55/1483
WEBS 4-10=-290/225, 5-10=0/421, 5-9=-1989/74, 6-9=-674/52

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Ke=0.83; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -3-2-3 to 0-0-0, Interior(1) 0-0-0 to 15-11-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
2) TCLL: ASCE 7-16; Pf=75.0 psf (Lum DOL=1.00 Plate DOL=1.00); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; 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 19.0 psf or 2.00 times flat roof load of 75.0 psf on overhangs non-concurrent with other live loads.
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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 9.
9) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.

March 27,2024

MiTek®
400 Sunrise Ave., Suite 270
Roseville, CA 95661
916.755.3571 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	CHS LLC
Q230612	K3	Monopitch	9	1	R81532023
					Job Reference (optional)

Alpine Truss, Montrose, CO - 81401, 8.730 s Feb 22 2024 MiTek Industries, Inc. Wed Mar 27 09:26:51 2024 Page 1
ID:GNZ5PQi4RUJ_WDEhVoiyJWzPB6c-RZSsadg4czP1JuxHM5ACV5UI4mBoCABhmKGKWIzWn1I

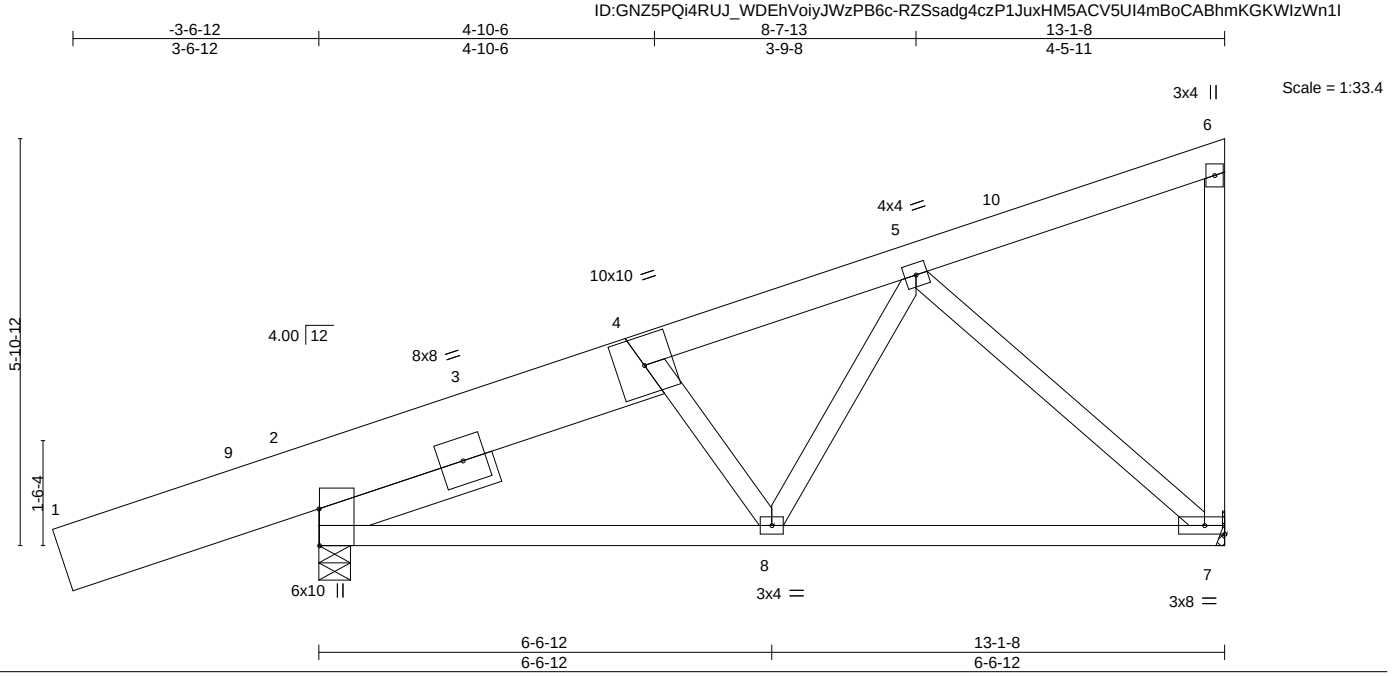


Plate Offsets (X,Y)-- [2:0-6-6,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	75.0	Plate Grip DOL	1.00	TC	0.41	Vert(LL)	-0.04	7-8	>999	360	MT20	169/123
(Roof Snow=75.0)		Lumber DOL	1.00	BC	0.43	Vert(CT)	-0.09	7-8	>999	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.69	Horz(CT)	0.03	7	n/a	n/a		
BCLL	0.0 *	Code	IBC2018/TPI2014	Matrix-SH		Wind(LL)	0.01	7-8	>999	240	Weight: 88 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD	2x12 HF SS *Except*
	4-6: 2x6 SPF 1650F 1.5E
BOT CHORD	2x4 SPF 1650F 1.5E
WEBS	2x4 WW Stud *Except*
	5-7: 2x4 SPF 1650F 1.5E
SLIDER	Left 2x6 SPF 1650F 1.5E 2-8-10

BRACING-

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

REACTIONS. (size) 7=Mechanical, 2=0-5-8
Max Horz 2=146(LC 13)
Max Uplift 7=-8(LC 14), 2=-68(LC 10)
Max Grav 7=1621(LC 21), 2=2285(LC 21)

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

TOP CHORD	2-4=-2281/153, 4-5=-1646/92, 6-7=-423/63
BOT CHORD	2-8=-272/1673, 7-8=-112/1236
WEBS	4-8=-363/345, 5-8=-158/477, 5-7=-1674/100

NOTES-

1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Ke=0.83; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -3-8-8 to -0-8-8, Interior(1) -0-8-8 to 12-11-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
2) TCLL: ASCE 7-16; Pf=75.0 psf (Lum DOL=1.00 Plate DOL=1.00); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; 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 20.0 psf or 2.00 times flat roof load of 75.0 psf on overhangs non-concurrent with other live loads.
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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 7, 2.
9) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.

March 27,2024

MiTek®
400 Sunrise Ave., Suite 270
Roseville, CA 95661
916.755.3571 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	CHS LLC
Q230612	L2	MONOPITCH	8	1	R81532024
					Job Reference (optional)

Alpine Truss, Montrose, CO - 81401, 8.730 s Feb 22 2024 MiTek Industries, Inc. Wed Mar 27 09:26:51 2024 Page 1
ID:GNZ5PQi4RUJ_WDEhVoiyJWzPB6c-RZSsadg4czP1JuxHM5ACV5UDGmDfCFjhmKGKWIzWn1I

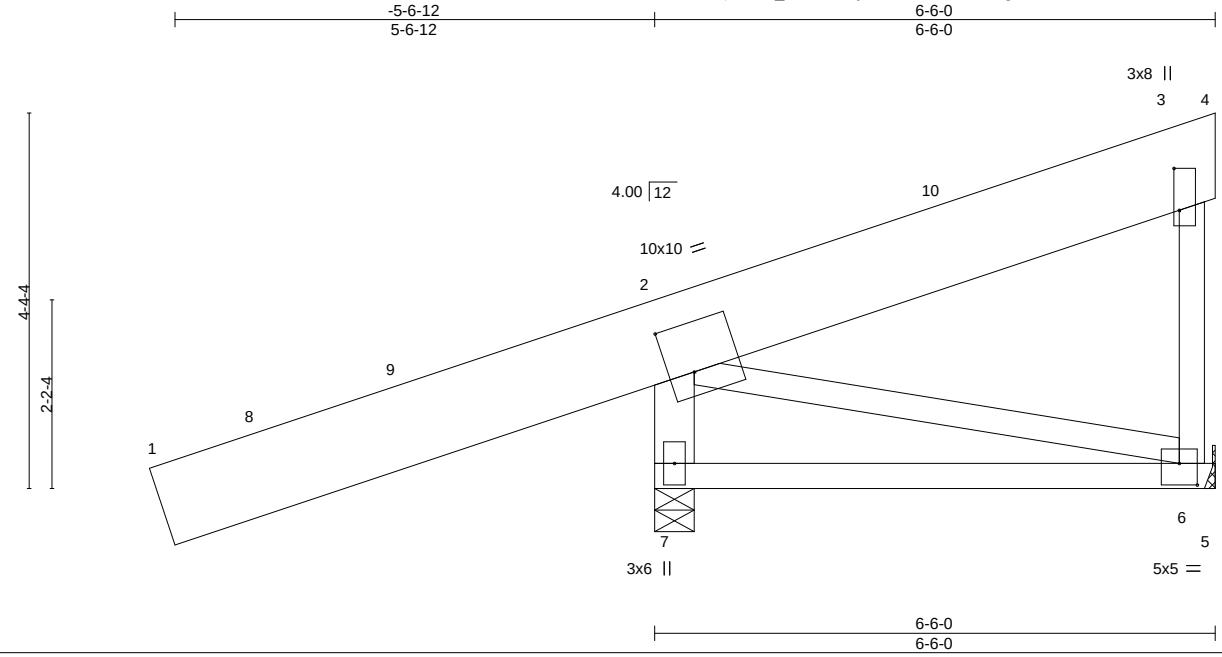


Plate Offsets (X,Y)-- [2:0-3-8,0-6-12], [3:0-5-13,0-0-12], [6:0-2-8,0-3-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	75.0	Plate Grip DOL	1.00	TC	0.71	Vert(LL)	-0.07	6-7	>997	360	MT20	169/123
(Roof Snow=75.0)		Lumber DOL	1.00	BC	0.31	Vert(CT)	-0.14	6-7	>499	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.33	Horz(CT)	-0.00	6	n/a	n/a		
BCLL	0.0 *	Code	IBC2018/TPI2014	Matrix-P		Wind(LL)	0.00	7	****	240	Weight: 67 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x12 HF SS
BOT CHORD 2x4 SPF 1650F 1.5E
WEBS 2x4 WW Stud *Except*
2-7: 2x6 SPF 1650F 1.5E

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-5-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 7=0-5-8, 6=Mechanical
Max Horz 7=96(LC 10)
Max Uplift 7=-147(LC 10), 6=-369(LC 20)
Max Grav 7=2788(LC 21), 6=239(LC 21)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=0/430, 2-3=-433/32, 2-7=-2728/411
WEBS 3-6=-174/434

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Ke=0.83; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -5-8-8 to -2-8-8, Interior(1) -2-8-8 to 6-6-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
2) TCLL: ASCE 7-16; Pf=75.0 psf (Lum DOL=1.00 Plate DOL=1.00); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; 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 20.0 psf or 1.00 times flat roof load of 75.0 psf on overhangs non-concurrent with other live loads.
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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 7=147, 6=369.
9) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.

March 27,2024

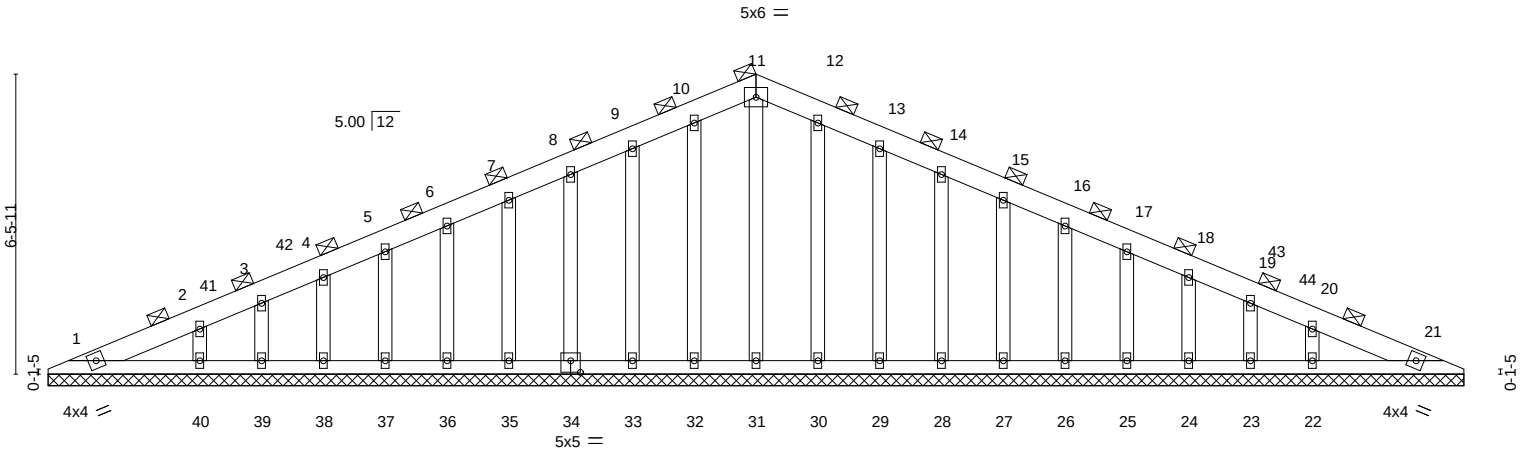
MiTek®
400 Sunrise Ave., Suite 270
Roseville, CA 95661
916.755.3571 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	CHS LLC
Q230612	F1E	GABLE	1	1	R81532025
					Job Reference (optional)

Alpine Truss, Montrose, CO - 81401, 8.730 s Feb 22 2024 MiTek Industries, Inc. Wed Mar 27 09:26:46 2024 Page 1
ID:GNZ5PQi4RUJ_WDEhVoiyJWzPB6c-4bezXvdynRnlD73KZXb1o2mUGlY_Xtmyc3YZq5zWn1N

15-3-4 / 15-3-4 | 30-6-8 / 15-3-4

Scale = 1:49.7



30-6-8 / 30-6-8

Plate Offsets (X,Y)-- [34:0-2-8,0-3-0]

LOADING (psf)		SPACING-	6-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	75.0	Plate Grip DOL	1.00	TC	0.22	Vert(LL)	n/a	-	n/a	999	MT20	169/123
(Roof Snow=75.0)		Lumber DOL	1.00	BC	0.15	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	NO	WB	0.83	Horz(CT)	0.01	21	n/a	n/a		
BCLL	0.0 *	Code	IBC2018/TPI2014	Matrix-SH							Weight: 150 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x6 SPF 1650F 1.5E
BOT CHORD 2x4 SPF 1650F 1.5E
OTHERS 2x4 WW Stud

BRACING-
TOP CHORD 2-0-0 oc purlins (6-0-0 max.)
(Switched from sheeted: Spacing > 2-0-0).
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 30-6-8.
(lb) - Max Horz 1=187(LC 14)
Max Uplift All uplift 100 lb or less at joint(s) 33, 34, 35, 36, 37, 38, 39, 40, 29, 28, 27, 26, 25, 24, 23, 22
Max Grav All reactions 250 lb or less at joint(s) except 1=653(LC 1), 21=653(LC 1), 31=668(LC 1), 32=1059(LC 20), 33=1136(LC 20), 34=1110(LC 20), 35=1098(LC 20), 36=1105(LC 20), 37=1108(LC 20), 38=1016(LC 20), 39=579(LC 20), 40=1431(LC 1), 30=1059(LC 21), 29=1136(LC 21), 28=1110(LC 21), 27=1098(LC 21), 26=1105(LC 21), 25=1108(LC 21), 24=1016(LC 21), 23=579(LC 21), 22=1431(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-350/223, 2-3=-323/122, 3-4=-261/147, 4-5=-287/171, 5-6=-291/195, 6-7=-292/219, 7-8=-292/249, 8-9=-295/298, 9-10=-309/348, 10-11=-293/371, 11-12=-293/371, 12-13=-309/348, 13-14=-295/298, 14-15=-292/249, 15-16=-292/202, 16-17=-291/155, 17-18=-287/107, 19-20=-289/21, 20-21=-274/189
WEBS 11-31=-588/8, 10-32=-979/26, 9-33=-1056/82, 8-34=-1030/82, 7-35=-1019/75, 6-36=-1024/75, 5-37=-1032/75, 4-38=-921/75, 3-39=-555/64, 2-40=-1228/203, 12-30=-979/13, 13-29=-1056/82, 14-28=-1030/82, 15-27=-1019/75, 16-26=-1024/74, 17-25=-1032/75, 18-24=-921/75, 19-23=-555/64, 20-22=-1228/203

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Ke=0.83; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) 0-8-3 to 3-8-14, Exterior(2N) 3-8-14 to 15-3-4, Corner(3R) 15-3-4 to 18-3-14, Exterior(2N) 18-3-14 to 29-10-5 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
2) 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.
3) TCLL: ASCE 7-16; Pf=75.0 psf (Lum DOL=1.00 Plate DOL=1.00); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) All plates are 2x4 MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 1-4-0 oc.
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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 33, 34, 35, 36, 37, 38, 39, 40, 29, 28, 27, 26, 25, 24, 23, 22.
11) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.

March 27,2024

MiTek®
400 Sunrise Ave., Suite 270
Roseville, CA 95661
916.755.3571 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	CHS LLC
Q230612	F1G	COMMON	1	2	R81532026

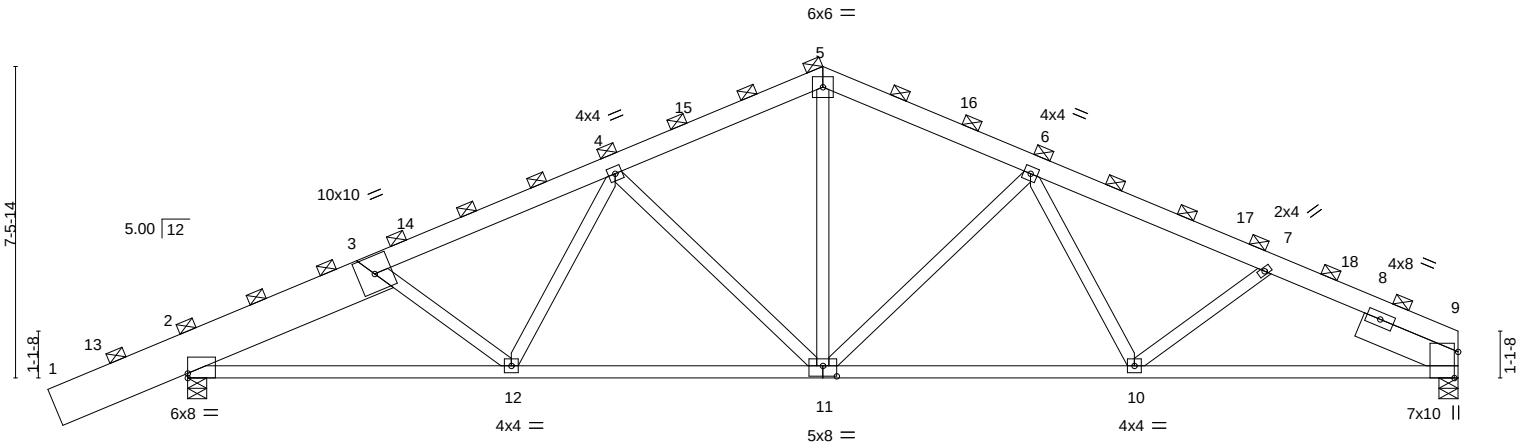
Job Reference (optional)

Alpine Truss, Montrose, CO - 81401, 8.730 s Feb 22 2024 MiTek Industries, Inc. Wed Mar 27 09:26:47 2024 Page 1

ID:GNZ5PQi4RUJ_WDEhVoiyJWzPB6c-YoCLkFdaYlvcrHeW7F6GLFJVG8jZGRA5rjI6NXzWn1M

-3-0-0	4-7-13	10-3-5	15-3-4	20-3-3	25-10-11	30-6-8
3-0-0	4-7-13	5-7-8	4-11-15	4-11-15	5-7-8	4-7-13

Scale = 1:55.4



7-9-6	15-3-4	22-9-2	30-6-8
7-9-6	7-5-14	7-5-14	7-9-6

Plate Offsets (X,Y)-- [2:0-0-0,0-1-5], [9:0-7-9,Edge], [11:0-4-0,0-3-0]

LOADING (psf)		SPACING-	3-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	75.0	Plate Grip DOL	1.00	TC	0.84	Vert(LL)	-0.20	10-11	>999	360	MT20	169/123
(Roof Snow=75.0)		Lumber DOL	1.00	BC	0.83	Vert(CT)	-0.28	10-11	>999	240		
TCDL	10.0	Rep Stress Incr	NO	WB	0.37	Horz(CT)	0.14	9	n/a	n/a		
BCLL	0.0 *	Code	IBC2018/TPI2014	Matrix-SH		Wind(LL)	0.02	10-11	>999	240	Weight: 334 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD	2x6 SPF 1650F 1.5E *Except*
	1-3: 2x12 HF SS
BOT CHORD	2x4 SPF 1650F 1.5E
WEBS	2x4 WW Stud *Except*
	5-11,6-11,4-11: 2x4 SPF 1650F 1.5E
SLIDER	Right 2x8 DF 1950F 1.7E 2-6-12

BRACING-

TOP CHORD	2-0-0 oc purlins (4-7-10 max.)
	(Switched from sheeted: Spacing > 2-0-0).
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 9=0-5-8, 2=0-5-8
Max Horz 2=135(LC 18)
Max Grav 9=4526(LC 22), 2=5454(LC 21)

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

TOP CHORD	1-2=0/398, 2-3=-7808/0, 3-4=-7077/0, 4-5=-5225/0, 5-6=-5236/0, 6-7=-7172/0, 7-9=-7931/0
BOT CHORD	2-12=0/6436, 11-12=0/5937, 10-11=0/6221, 9-10=0/6624
WEBS	5-11=0/2718, 6-11=-2765/102, 6-10=-12/410, 7-10=-278/359, 4-11=-2491/97, 4-12=-136/466, 3-12=-358/574

NOTES-

1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
   Top chords connected as follows: 2x12 - 2 rows staggered at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
   Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
   Webs connected as follows: 2x4 - 1 row at 0-9-0 oc.
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) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Ke=0.83; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -3-2-3 to -0-1-8, Interior(1) -0-1-8 to 15-3-4, Exterior(2R) 15-3-4 to 18-3-14, Interior(1) 18-3-14 to 30-6-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
4) TCLL: ASCE 7-16; Pf=75.0 psf (Lum DOL=1.00 Plate DOL=1.00); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; 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 19.0 psf or 2.00 times flat roof load of 75.0 psf on overhangs non-concurrent with other live loads.
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.
9) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

March 27,2024

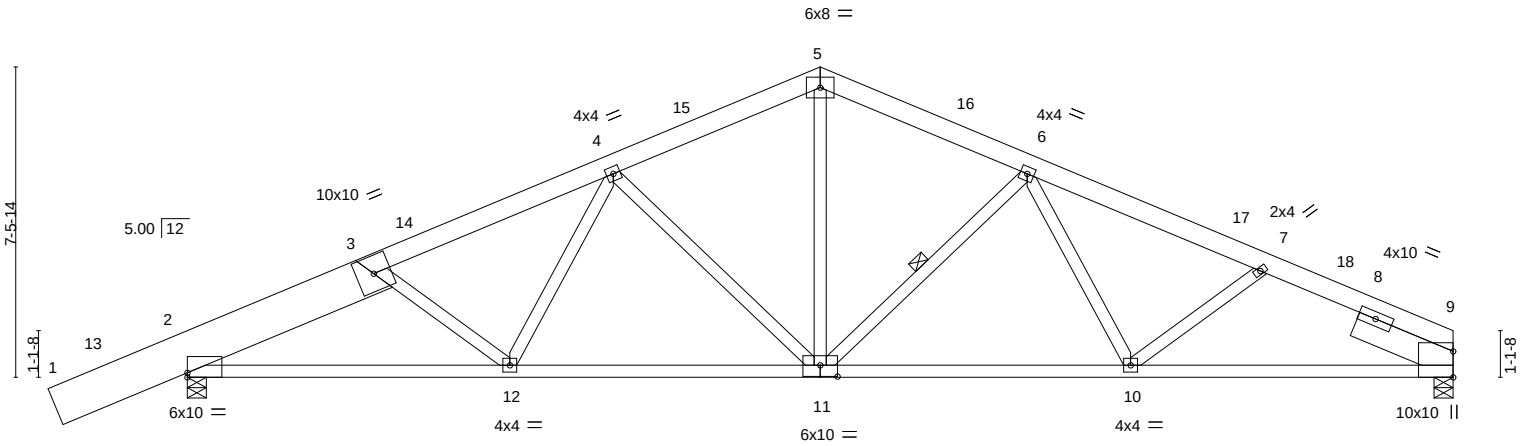
MiTek®
400 Sunrise Ave., Suite 270
Roseville, CA 95661
916.755.3571 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	CHS LLC
Q230612	F2	Common	5	1	R81532027
					Job Reference (optional)

Alpine Truss, Montrose, CO - 81401, 8.730 s Feb 22 2024 MiTek Industries, Inc. Wed Mar 27 09:26:48 2024 Page 1
ID:GNZ5PQi4RUJ_WDEhVoiyJWzPB6c-0_mjybeCJ21TSRDigydVtTshwY5??k0F4N1gvzzWn1L

-3-0-0	4-7-13	10-3-5	15-3-4	20-3-3	25-10-11	30-6-8
3-0-0	4-7-13	5-7-8	4-11-15	4-11-15	5-7-8	4-7-13

Scale = 1:55.6



7-9-6	15-3-4	22-9-2	30-6-8
7-9-6	7-5-14	7-5-14	7-9-6

Plate Offsets (X,Y)-- [2:0-0-0,0-1-5], [11:0-5-0,0-3-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	75.0	Plate Grip DOL	1.00	TC	0.78	Vert(LL)	-0.23	10-11	>999	360	MT20	169/123
(Roof Snow=75.0)		Lumber DOL	1.00	BC	0.69	Vert(CT)	-0.32	10-11	>999	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.97	Horz(CT)	0.15	9	n/a	n/a		
BCLL	0.0 *	Code	IBC2018/TPI2014	Matrix-SH		Wind(LL)	0.03	11	>999	240	Weight: 167 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD	2x12 HF SS *Except*
	5-9: 2x6 SPF 2100F 1.8E, 3-5: 2x6 SPF 1650F 1.5E
BOT CHORD	2x4 SPF 2100F 1.8E
WEBS	2x4 WW Stud *Except*
	5-11,6-11,4-11: 2x4 SPF 1650F 1.5E
SLIDER	Right 2x8 DF 1950F 1.7E 2-6-12

BRACING-

TOP CHORD	Structural wood sheathing directly applied or 2-5-10 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 6-11

REACTIONS. (size) 9=0-5-8, 2=0-5-8
Max Horz 2=90(LC 14)
Max Grav 9=3017(LC 22), 2=3636(LC 21)

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

TOP CHORD	1-2=0/265, 2-3=-5214/0, 3-4=-4722/0, 4-5=-3484/0, 5-6=-3491/0, 6-7=-4780/0, 7-9=-5286/0
BOT CHORD	2-12=0/4302, 11-12=0/3957, 10-11=0/4146, 9-10=0/4415
WEBS	5-11=0/1809, 6-11=-1842/68, 6-10=-7/273, 4-11=-1656/64, 4-12=-91/316, 3-12=-251/381

NOTES-

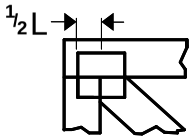
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Ke=0.83; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -3-2-3 to -0-1-8, Interior(1) -0-1-8 to 15-3-4, Exterior(2R) 15-3-4 to 18-3-14, Interior(1) 18-3-14 to 30-6-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
2) TCLL: ASCE 7-16; Pf=75.0 psf (Lum DOL=1.00 Plate DOL=1.00); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; 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 19.0 psf or 2.00 times flat roof load of 75.0 psf on overhangs non-concurrent with other live loads.
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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.

March 27,2024

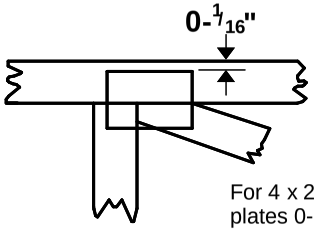
MiTek®
400 Sunrise Ave., Suite 270
Roseville, CA 95661
916.755.3571 / MiTek-US.com

Symbols

PLATE LOCATION AND ORIENTATION



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



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

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

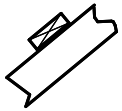
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

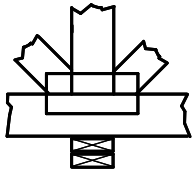
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

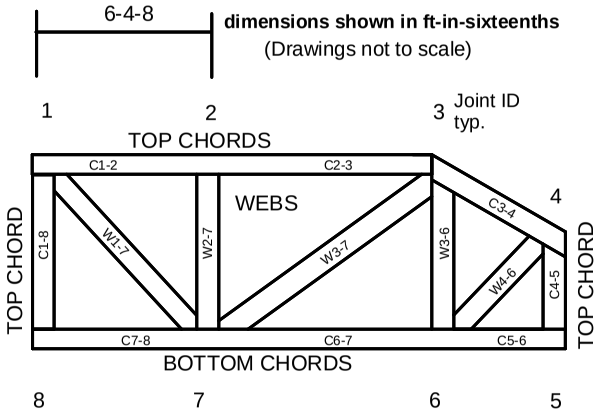


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

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

Numbering System



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

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

Product Code Approvals

ICC-ES Reports:

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

Design General Notes

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

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

MiTek®

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.