ENGINEERING BY TRENCO
A MiTek Affiliate

RE: J0323-1150
Precision/18 Liberty Meadows/Harnett

Trenco
818 Soundside Rd
Edenton, NC 27932

Site Information:

Customer: Project Name: J0323-1150
Lot/Block: Model:
Address: Subdivision:
City: State:

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

Design Code: IRC2015/TPI2014 Design Program: MiTek 20/20 8.4
Wind Code: N/A Wind Speed: N/A mph
Roof Load: N/A psf Floor Load: 55.0 psf

This package includes 15 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date
1	I57003270	ET1	3/6/2023
2	I57003271	ET2	3/6/2023
3	I57003272	ET3	3/6/2023
4	I57003273	F1	3/6/2023
5	I57003274	F2	3/6/2023
6	I57003275	F3	3/6/2023
7	I57003276	F4	3/6/2023
8	I57003277	F5	3/6/2023
9	I57003278	F6	3/6/2023
10	I57003279	F6A	3/6/2023
11	I57003280	F7	3/6/2023
12	I57003281	F8	3/6/2023
13	I57003282	FG-1	3/6/2023
14	I57003283	FG-2	3/6/2023
15	I57003284	FG-3	3/6/2023

The truss drawing(s) referenced above have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Comtech, Inc - Fayetteville.

Truss Design Engineer's Name: Gilbert, Eric

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

North Carolina COA: C-0844

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 TRENCO. Any project specific information included is for TRENCO customers file reference purpose only, and was not taken into account in the preparation of these designs. 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 06, 2023

Gilbert, Eric

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1150	ET1	GABLE	1	1	I57003270
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:32:48 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-un5L1wb8haE_q_k6lZLKCx0haNGPLk3CslgFG9zdg9D

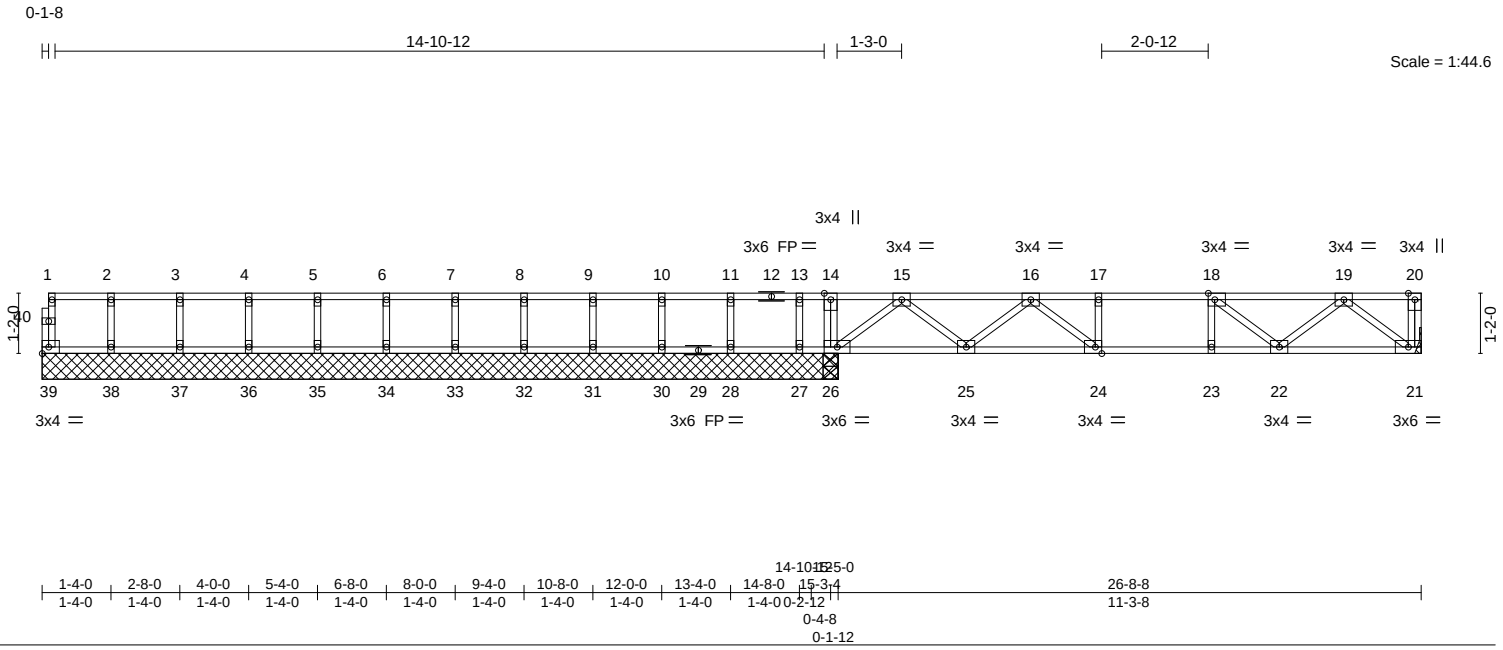


Plate Offsets (X,Y)-- [18:0-1-8,Edge], [24:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.36	Vert(LL)	-0.07	24-25	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.44	Vert(CT)	-0.10	24-25	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.26	Horz(CT)	0.02	21	n/a	n/a		
BCDL	5.0	Code IRC2015/TPI2014		Matrix-S							Weight: 121 lb	FT = 20%F, 11%E

LUMBER-

TOP CHORD	2x4 SP No.1(flat)
BOT CHORD	2x4 SP No.1(flat)
WEBS	2x4 SP No.3(flat)
OTHERS	2x4 SP No.3(flat)

BRACING-

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

REACTIONS. All bearings 15-5-0 except (jt=length) 21=Mechanical.
(lb) - Max Uplift All uplift 100 lb or less at joint(s) except 27=-104(LC 4)
Max Grav All reactions 250 lb or less at joint(s) 39, 38, 37, 36, 35, 34, 33, 32, 31, 30, 28, 27 except 26=769(LC 1), 26=769(LC 1), 26=769(LC 1), 21=2297(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 20-21=-1724/0, 15-16=-1121/0, 16-17=-1609/0, 17-18=-1609/0, 18-19=-1161/0
BOT CHORD 25-26=0/704, 24-25=0/1507, 23-24=0/1609, 22-23=0/1609, 21-22=0/737
WEBS 15-26=-881/0, 15-25=0/543, 16-25=-502/0, 19-21=-925/0, 19-22=0/552, 18-22=-572/0

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Gable studs spaced at 1-4-0 oc.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 104 lb uplift at joint 27.
7) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
8) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 21-39=-10, 1-20=-100
Concentrated Loads (lb)
Vert: 20=-1680

March 6,2023

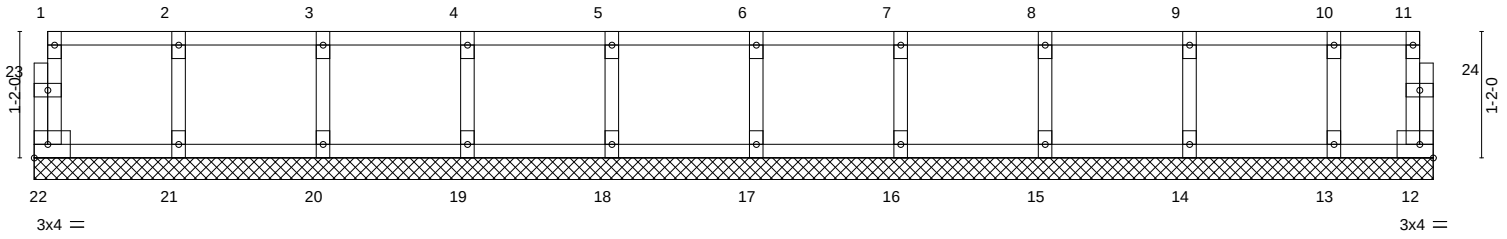
ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1150	ET2	GABLE	1	1	I57003271
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:32:50 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-qAD6SccODBUh3HuUszNoHM56jA1epiAVJ39MK2zdg9B

0-1-8 0-1-8

Scale = 1:21.3



1-4-0	2-8-0	4-0-0	5-4-0	6-8-0	8-0-0	9-4-0	10-8-0	12-0-0	12-11-0
1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	0-11-0

LOADING (psf)		**SPACING-**	2-0-0	**CSI.**		**DEFL.**	in	(loc)	l/defl	L/d	**PLATES**	**GRIP**
TCLL	40.0	Plate Grip DOL	1.00	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.01	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	12	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-R							Weight: 55 lb	FT = 20%F, 11%E

LUMBER-

TOP CHORD	2x4 SP No.1(flat)
BOT CHORD	2x4 SP No.1(flat)
WEBS	2x4 SP No.3(flat)
OTHERS	2x4 SP No.3(flat)

BRACING-

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

REACTIONS. All bearings 12-11-0.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 22, 12, 21, 20, 19, 18, 17, 16, 15, 14, 13

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

NOTES-
1) All plates are 1.5x3 MT20 unless otherwise indicated.
2) Plates checked for a plus or minus 1 degree rotation about its center.
3) Gable requires continuous bottom chord bearing.
4) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
5) Gable studs spaced at 1-4-0 oc.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

March 6,2023

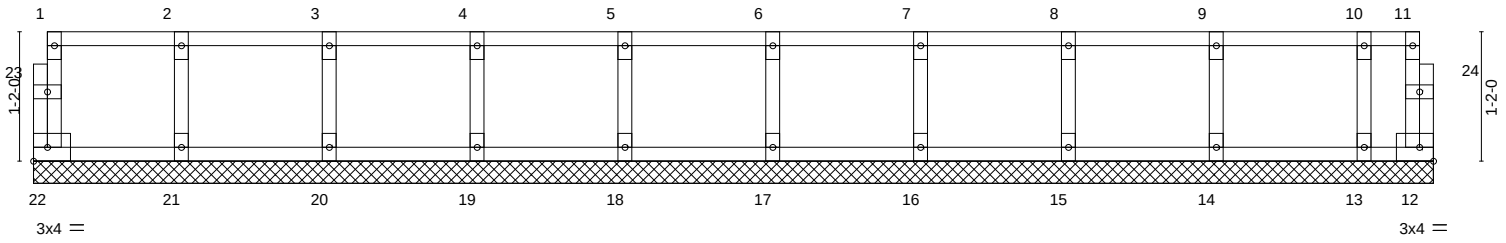
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1150	ET3	GABLE	1	1	I57003272
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:32:51 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-IMmUfyd0_VcYhRThQhu1qZeHSaNqY9QeYjvwtUzdg9A

0-1-8 0-1-8

Scale = 1:20.8



1-4-0	2-8-0	4-0-0	5-4-0	6-8-0	8-0-0	9-4-0	10-8-0	12-0-0	12-7-8
1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	0-7-8

LOADING (psf)		**SPACING-**	2-0-0	**CSI.**		**DEFL.**	in	(loc)	l/defl	L/d	**PLATES**	**GRIP**
TCLL	40.0	Plate Grip DOL	1.00	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.01	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	12	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-R							Weight: 54 lb	FT = 20%F, 11%E

LUMBER-

TOP CHORD	2x4 SP No.1(flat)
BOT CHORD	2x4 SP No.1(flat)
WEBS	2x4 SP No.3(flat)
OTHERS	2x4 SP No.3(flat)

BRACING-

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

REACTIONS. All bearings 12-7-8.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 22, 12, 21, 20, 19, 18, 17, 16, 15, 14, 13

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

NOTES-
1) All plates are 1.5x3 MT20 unless otherwise indicated.
2) Plates checked for a plus or minus 1 degree rotation about its center.
3) Gable requires continuous bottom chord bearing.
4) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
5) Gable studs spaced at 1-4-0 oc.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1150	F1	Floor	2	1	I57003273
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:32:53 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-FluE4efGV6sGwld3Y6xVv_jSFOs?0x0x?1O0xNzdg98

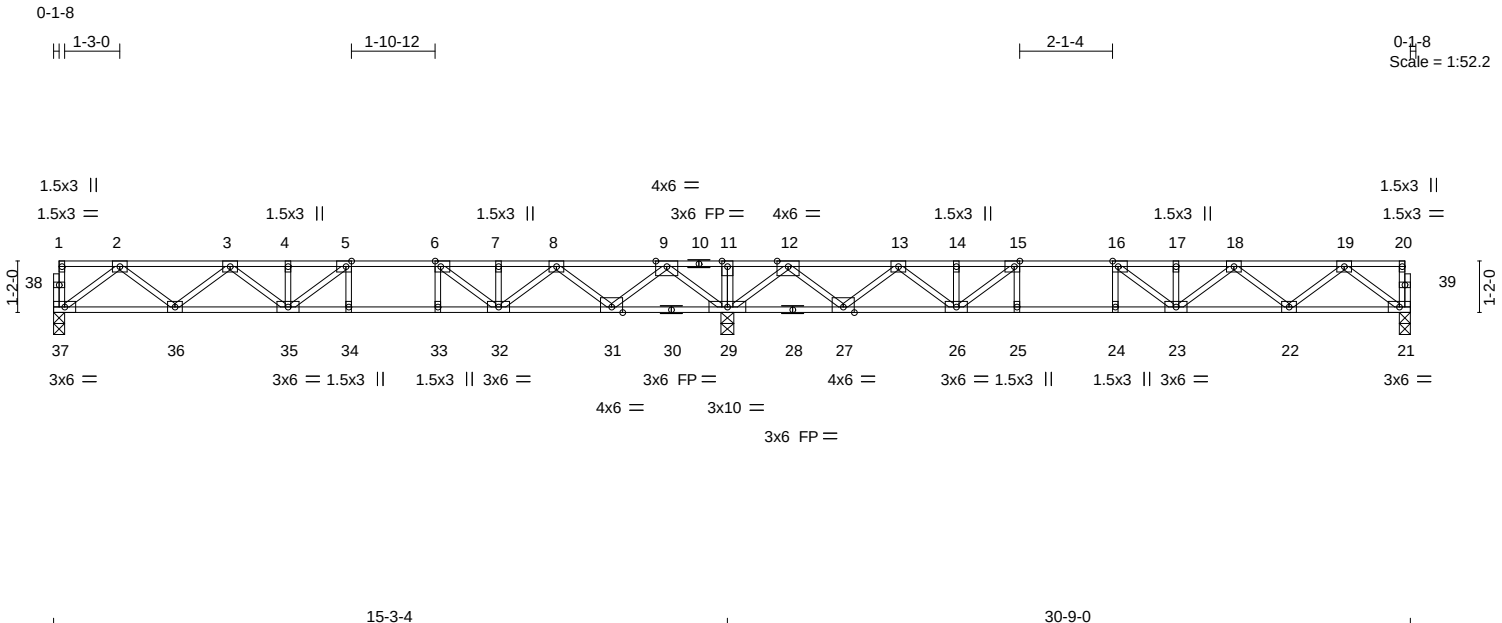


Plate Offsets (X,Y)-- [5:0-1-8,Edge], [6:0-1-8,Edge], [15:0-1-8,Edge], [16:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.74	Vert(LL)	-0.16	24	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.87	Vert(CT)	-0.22	23-24	>853	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.54	Horz(CT)	0.04	21	n/a	n/a		
BCDL	5.0	Code IRC2015/TPI2014		Matrix-S							Weight: 156 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 31-32,29-31,27-29,26-27.

REACTIONS. (size) 37=0-3-0, 29=0-3-8, 21=0-3-0
Max Grav 37=728(LC 3), 29=1989(LC 1), 21=739(LC 4)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1450/0, 3-4=-2252/0, 4-5=-2252/0, 5-6=-2276/0, 6-7=-1763/236, 7-8=-1763/236, 8-9=-521/736, 9-11=0/2242, 11-12=0/2242, 12-13=-518/703, 13-14=-1787/207, 14-15=-1787/207, 15-16=-2337/0, 16-17=-2305/0, 17-18=-2305/0, 18-19=-1476/0
BOT CHORD 36-37=0/901, 35-36=0/1969, 34-35=0/2276, 33-34=0/2276, 32-33=0/2276, 31-32=-456/1270, 29-31=-1091/0, 27-29=-1110/0, 26-27=-424/1283, 25-26=0/2337, 24-25=0/2337, 23-24=0/2337, 22-23=0/2008, 21-22=0/915
WEBS 2-37=-1128/0, 2-36=0/714, 3-36=-676/0, 3-35=0/362, 9-29=-1522/0, 9-31=0/1113, 8-31=-1065/0, 19-21=-1146/0, 19-22=0/730, 18-22=-693/0, 18-23=0/380, 12-29=-1537/0, 12-27=0/1128, 13-27=-1079/0, 8-32=0/707, 6-32=-977/0, 5-35=-140/390, 13-26=0/717, 15-26=-1020/0, 16-23=-156/376

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x4 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) CAUTION, Do not erect truss backwards.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1150	F2	Floor	5	1	I57003274
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:32:55 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-B70?VKgX1j6_93mSfXzz_PopzBY_Us1ETLt70Fzdg96

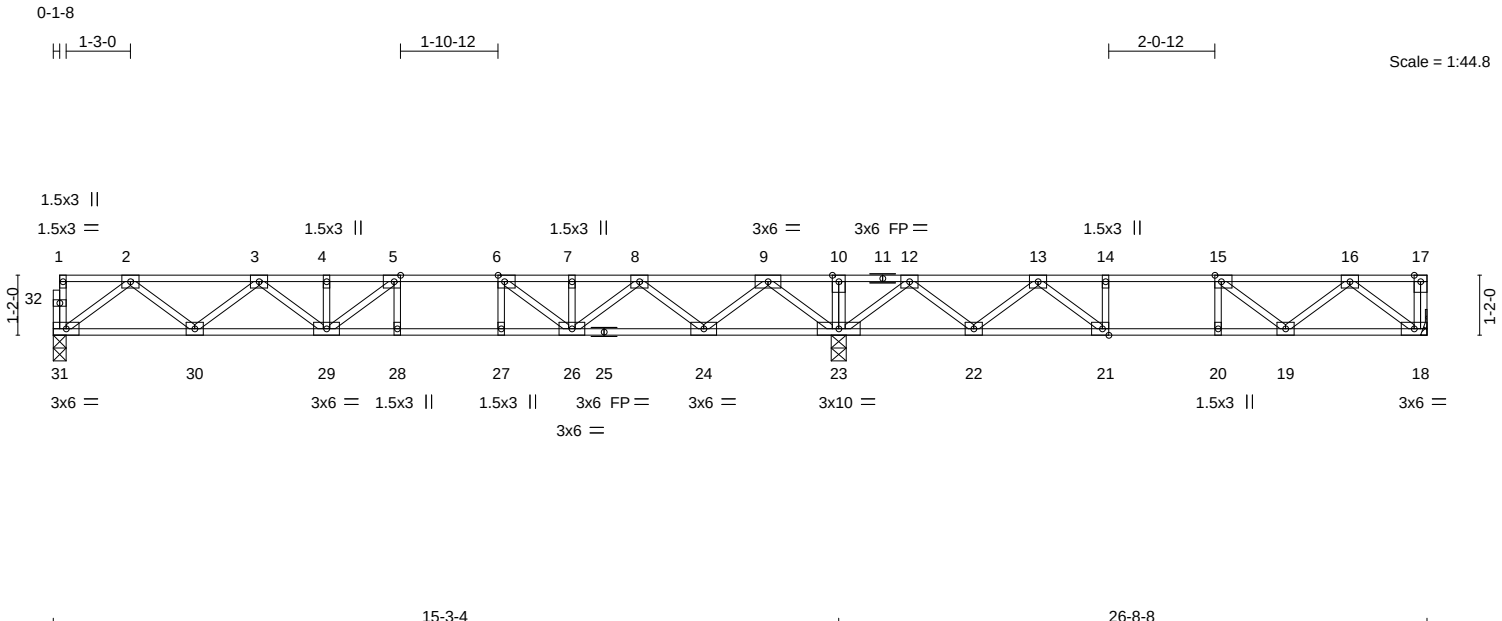


Plate Offsets (X,Y)-- [5:0-1-8,Edge], [6:0-1-8,Edge], [15:0-1-8,Edge], [21:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.60	Vert(LL)	-0.15	28	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.83	Vert(CT)	-0.20	28	>909	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.50	Horz(CT)	0.03	18	n/a	n/a		
BCDL	5.0	Code IRC2015/TPI2014		Matrix-S							Weight: 135 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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

REACTIONS. (size) 31=0-3-0, 23=0-3-8, 18=Mechanical
Max Grav 31=741(LC 3), 23=1724(LC 1), 18=2340(LC 4)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 17-18=-1835/0, 2-3=-1483/0, 3-4=-2315/0, 4-5=-2315/0, 5-6=-2372/0, 6-7=-1892/0, 7-8=-1892/0, 8-9=-677/263, 9-10=0/1758, 10-12=0/1758, 12-13=-482/640, 13-14=-1242/104, 14-15=-1242/104, 15-16=-965/0
BOT CHORD 30-31=0/919, 29-30=0/2017, 28-29=0/2372, 27-28=0/2372, 26-27=0/2372, 24-26=-29/1412, 23-24=-586/0, 22-23=-886/0, 21-22=-389/968, 20-21=-104/1242, 19-20=-104/1242, 18-19=0/652
WEBS 2-31=-1150/0, 2-30=0/735, 3-30=-696/0, 3-29=0/380, 9-23=-1470/0, 9-24=0/1058, 8-24=-1014/0, 12-23=-1169/0, 12-22=0/754, 13-22=-766/0, 16-18=-818/0, 16-19=-46/407, 8-26=0/663, 6-26=-851/0, 5-29=-270/264, 15-19=-354/175, 13-21=0/672, 14-21=-279/0

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x4 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Refer to girder(s) for truss to truss connections.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 18-31=-10, 1-17=-100
Concentrated Loads (lb)
Vert: 17=-1800

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1150	F3	GABLE	1	1	I57003275 Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:32:56 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-fKaNjfh9o1ErnCLeDEUCXdL3zbyPDKIOi?cgYizdg95

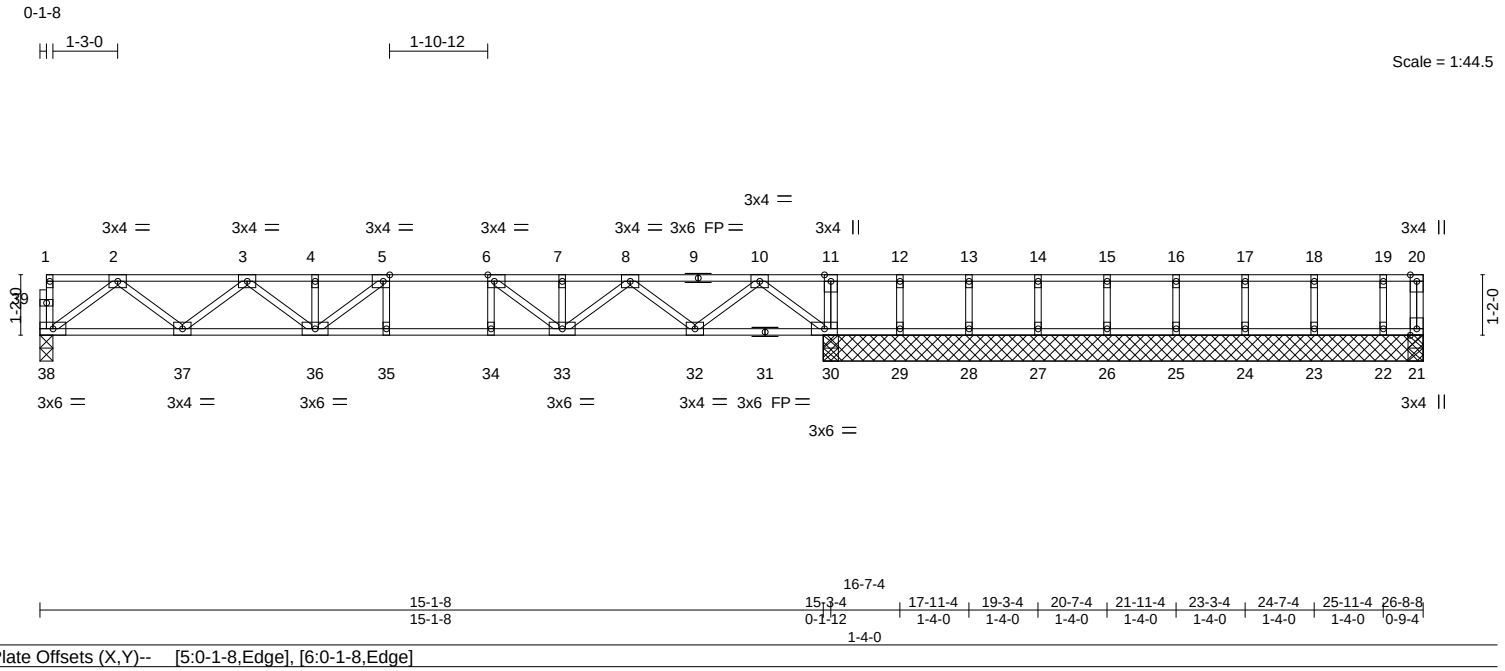


Plate Offsets (X,Y)-- [5:0-1-8,Edge], [6:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.27	Vert(LL)	-0.16	34-35	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.56	Vert(CT)	-0.22	34-35	>842	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.41	Horz(CT)	0.04	21	n/a	n/a		
BCDL	5.0	Code IRC2015/TPI2014		Matrix-S							Weight: 127 lb	FT = 20%F, 11%E

LUMBER-

TOP CHORD	2x4 SP No.1(flat)
BOT CHORD	2x4 SP No.1(flat)
WEBS	2x4 SP No.3(flat)
OTHERS	2x4 SP No.3(flat)

BRACING-

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

REACTIONS. All bearings 11-7-0 except (jt=length) 38=0-3-0, 30=0-3-8, 30=0-3-8.
(lb) - Max Uplift All uplift 100 lb or less at joint(s) 29
Max Grav All reactions 250 lb or less at joint(s) 21, 21, 29, 28, 27, 26, 25, 24, 23, 22 except 38=821(LC 3), 30=992(LC 1), 30=992(LC 1)

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

TOP CHORD	2-3=-1684/0, 3-4=-2691/0, 4-5=-2691/0, 5-6=-2945/0, 6-7=-2663/0, 7-8=-2663/0, 8-10=-1613/0
BOT CHORD	37-38=0/1023, 36-37=0/2310, 35-36=0/2945, 34-35=0/2945, 33-34=0/2945, 32-33=0/2266, 30-32=0/954
WEBS	2-38=-1281/0, 2-37=0/860, 3-37=-815/0, 3-36=0/487, 10-30=-1196/0, 10-32=0/860, 8-32=-852/0, 8-33=0/507, 6-33=-355/0, 5-36=-318/0

NOTES-

1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Gable studs spaced at 1-4-0 oc.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 29.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) CAUTION, Do not erect truss backwards.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1150	F4	Floor	3	1	I57003276 Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:32:57 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-7W8lw?inZLMiPMwrny?R4qtDN?G6ynzXwfME48zdg94

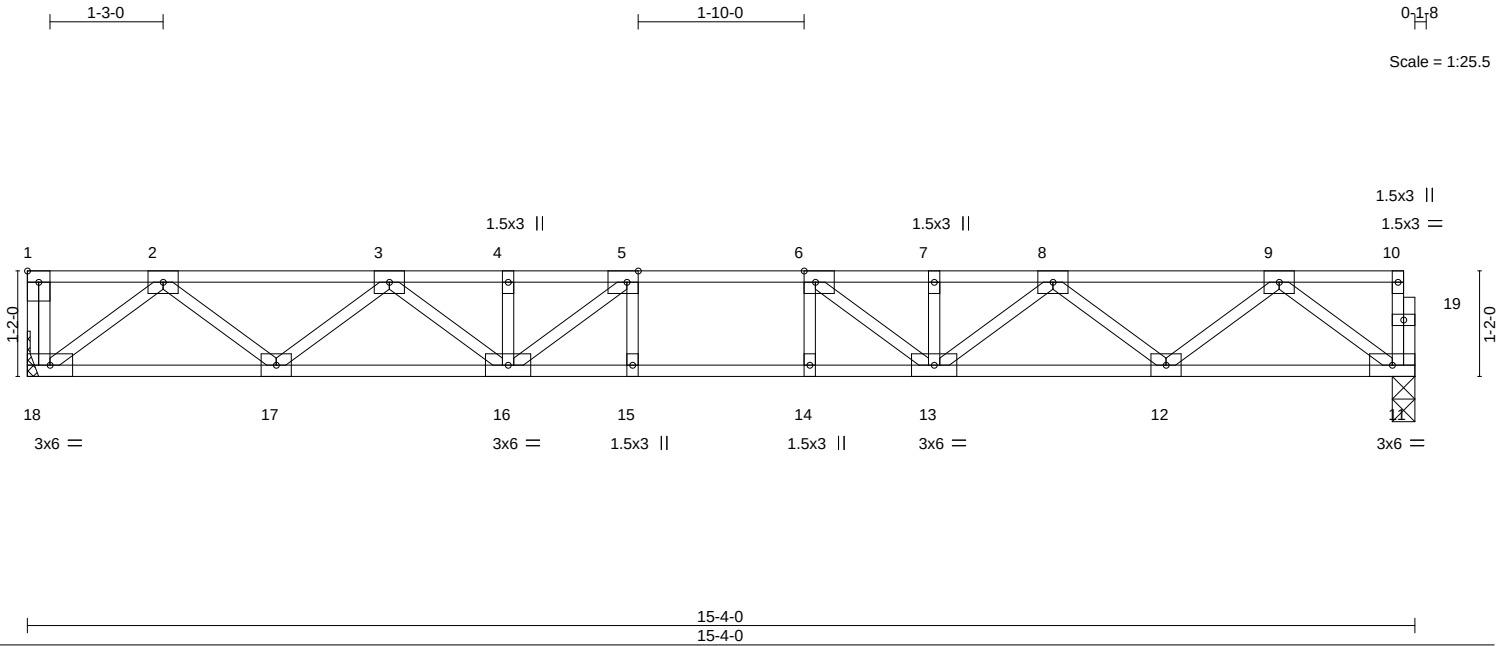


Plate Offsets (X,Y)-- [1:Edge,0-1-8], [5:0-1-8,Edge], [6:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.35	Vert(LL)	-0.16	14-15	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.66	Vert(CT)	-0.22	14-15	>839	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.41	Horz(CT)	0.04	11	n/a	n/a		
BCDL	5.0	Code IRC2015/TPI2014		Matrix-S							Weight: 79 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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

REACTIONS. (size) 18=Mechanical, 11=0-3-0
Max Grav 18=830(LC 1), 11=823(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1691/0, 3-4=-2704/0, 4-5=-2704/0, 5-6=-2966/0, 6-7=-2704/0, 7-8=-2704/0, 8-9=-1691/0
BOT CHORD 17-18=0/1028, 16-17=0/2320, 15-16=0/2966, 14-15=0/2966, 13-14=0/2966, 12-13=0/2320, 11-12=0/1027
WEBS 2-18=-1289/0, 2-17=0/864, 3-17=-818/0, 3-16=0/490, 5-16=-596/25, 9-11=-1285/0, 9-12=0/865, 8-12=-819/0, 8-13=0/490, 6-13=-596/25

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x4 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Refer to girder(s) for truss to truss connections.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1150	F5	Floor	3	1	I57003277
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:32:58 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-bii78LjPKeUZ0WV1KfWgc2QOxPcNhELg9J5ncazdg93

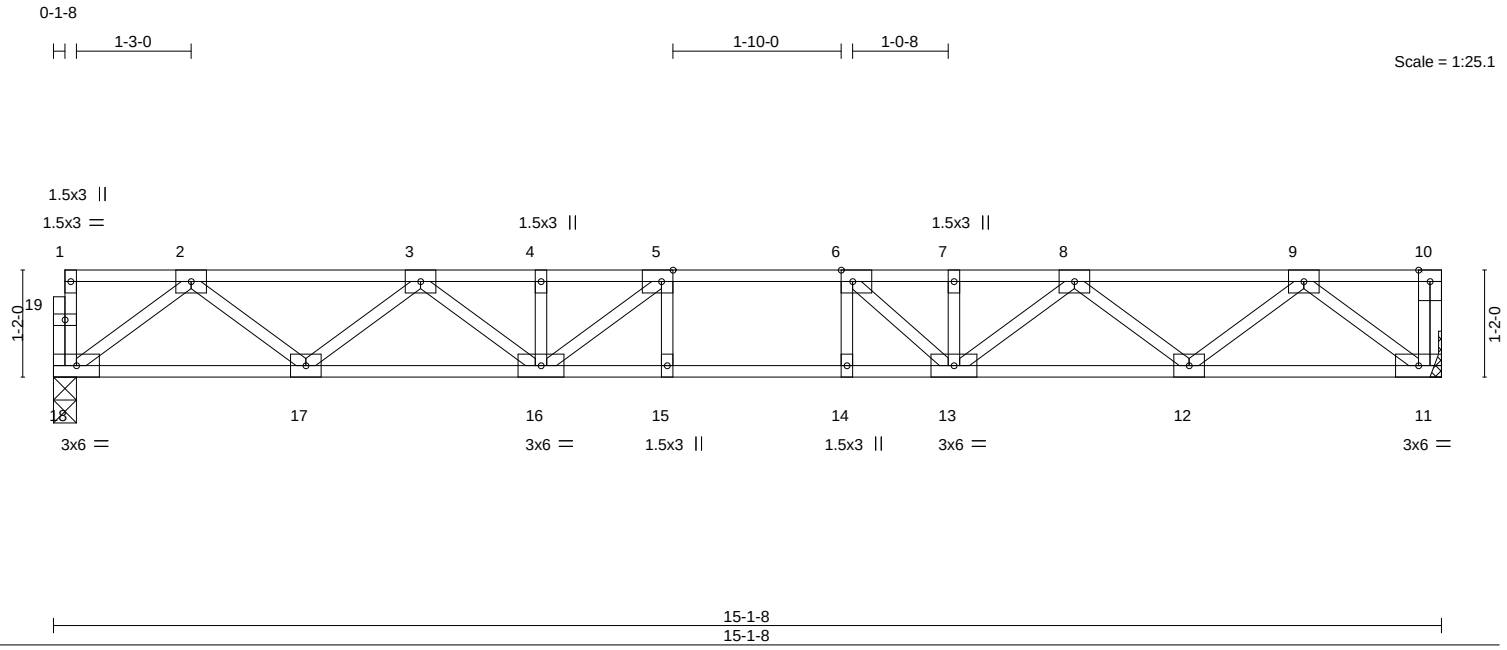


Plate Offsets (X,Y)-- [5:0-1-8,Edge], [6:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.36	Vert(LL)	-0.15	15	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.66	Vert(CT)	-0.21	14-15	>867	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.40	Horz(CT)	0.04	11	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 78 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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

REACTIONS. (size) 18=0-3-0, 11=Mechanical
Max Grav 18=812(LC 1), 11=818(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1662/0, 3-4=-2649/0, 4-5=-2649/0, 5-6=-2884/0, 6-7=-2641/0, 7-8=-2641/0, 8-9=-1663/0
BOT CHORD 17-18=0/1012, 16-17=0/2278, 15-16=0/2884, 14-15=0/2884, 13-14=0/2884, 12-13=0/2278, 11-12=0/1012
WEBS 2-18=-1267/0, 2-17=0/846, 3-17=-802/0, 3-16=0/475, 5-16=-562/38, 9-11=-1270/0, 9-12=0/847, 8-12=-800/0, 8-13=0/464, 6-13=-587/29

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x4 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Refer to girder(s) for truss to truss connections.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1150	F6	Floor	9	1	I57003278
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:00 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-X5ptY1kfsGlHGqfPS4Z8hTVkbCME9AOzcdauhTzdg91

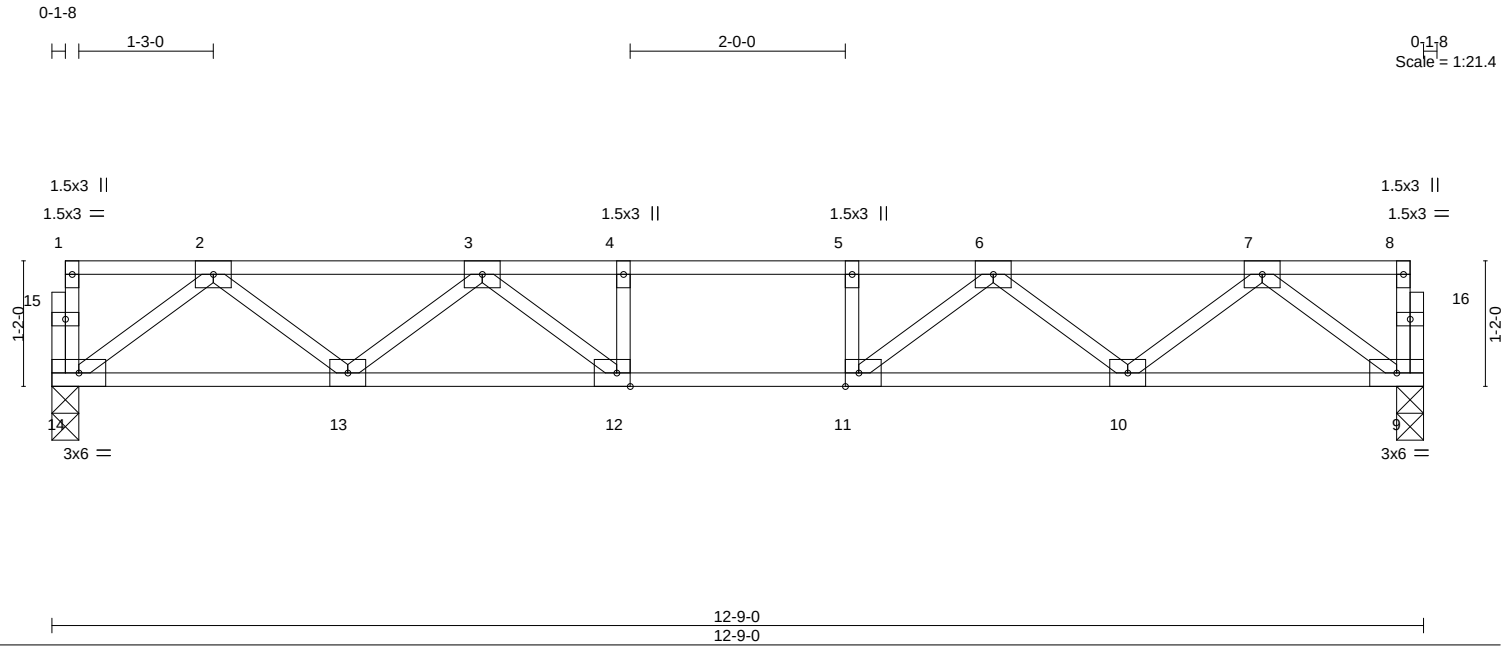


Plate Offsets (X,Y)-- [11:0-1-8,Edge], [12:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.35	Vert(LL)	-0.09	12-13	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.44	Vert(CT)	-0.12	12-13	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.30	Horz(CT)	0.03	9	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 64 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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

REACTIONS. (size) 14=0-3-0, 9=0-3-0
Max Grav 14=681(LC 1), 9=681(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1333/0, 3-4=-2022/0, 4-5=-2022/0, 5-6=-2022/0, 6-7=-1333/0
BOT CHORD 13-14=0/841, 12-13=0/1790, 11-12=0/2022, 10-11=0/1790, 9-10=0/841
WEBS 2-14=-1053/0, 2-13=0/640, 3-13=-595/0, 3-12=0/499, 7-9=-1053/0, 7-10=0/640, 6-10=-595/0, 6-11=0/499

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x4 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1150	F6A	Floor	3	1	I57003279
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:01 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-0HNGmNlIdZt8u_Ec0n4NEg2unch7udW7rHKRDvzdg90

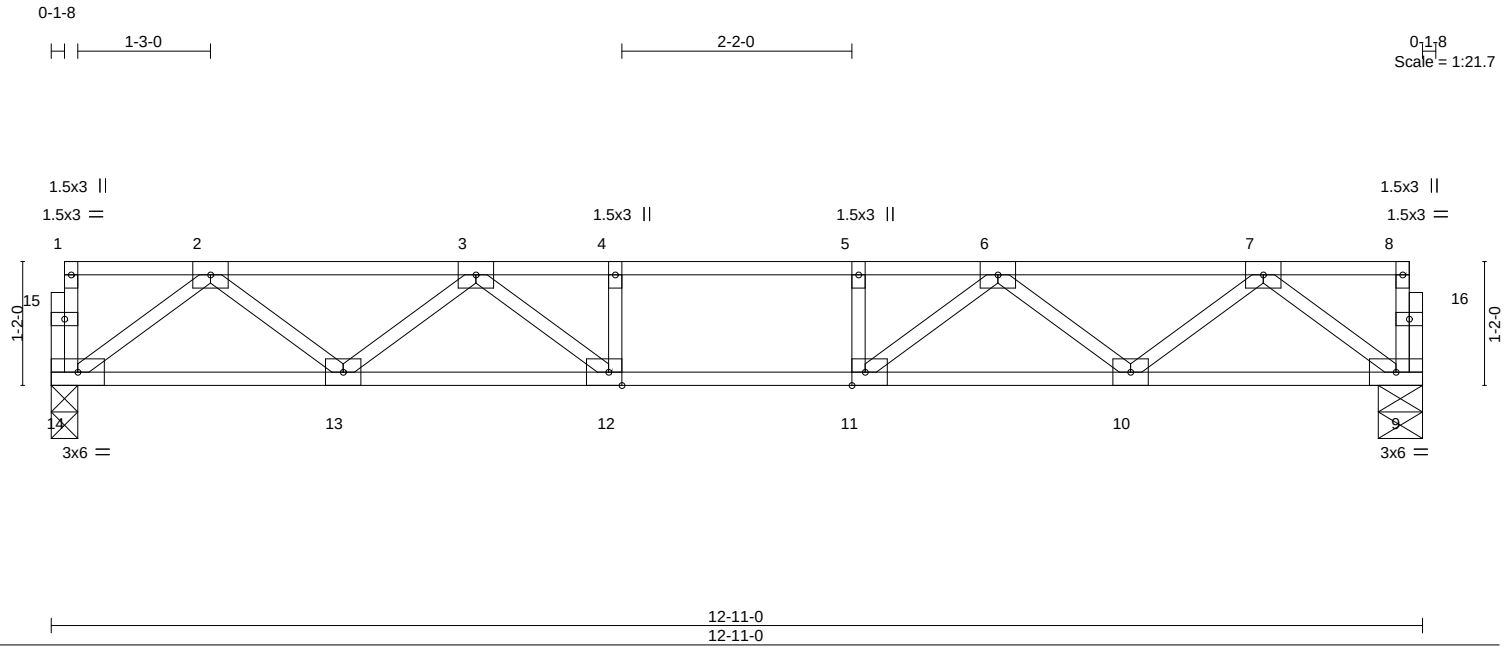


Plate Offsets (X,Y)-- [11:0-1-8,Edge], [12:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.39	Vert(LL)	-0.10	12-13	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.47	Vert(CT)	-0.13	12-13	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.31	Horz(CT)	0.03	9	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 64 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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

REACTIONS. (size) 14=0-3-0, 9=0-5-0
Max Grav 14=690(LC 1), 9=690(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1356/0, 3-4=-2072/0, 4-5=-2072/0, 5-6=-2072/0, 6-7=-1356/0
BOT CHORD 13-14=0/854, 12-13=0/1823, 11-12=0/2072, 10-11=0/1823, 9-10=0/854
WEBS 2-14=-1069/0, 2-13=0/654, 3-13=-609/0, 3-12=0/526, 4-12=-251/0, 5-11=-251/0, 7-9=-1069/0, 7-10=0/654, 6-10=-609/0, 6-11=0/526

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x4 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1150	F7	FLOOR	8	1	I57003280
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:02 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-UTxezjmwOt??V7poZVbcnub230xTd2bG4w4?lLzdg9?

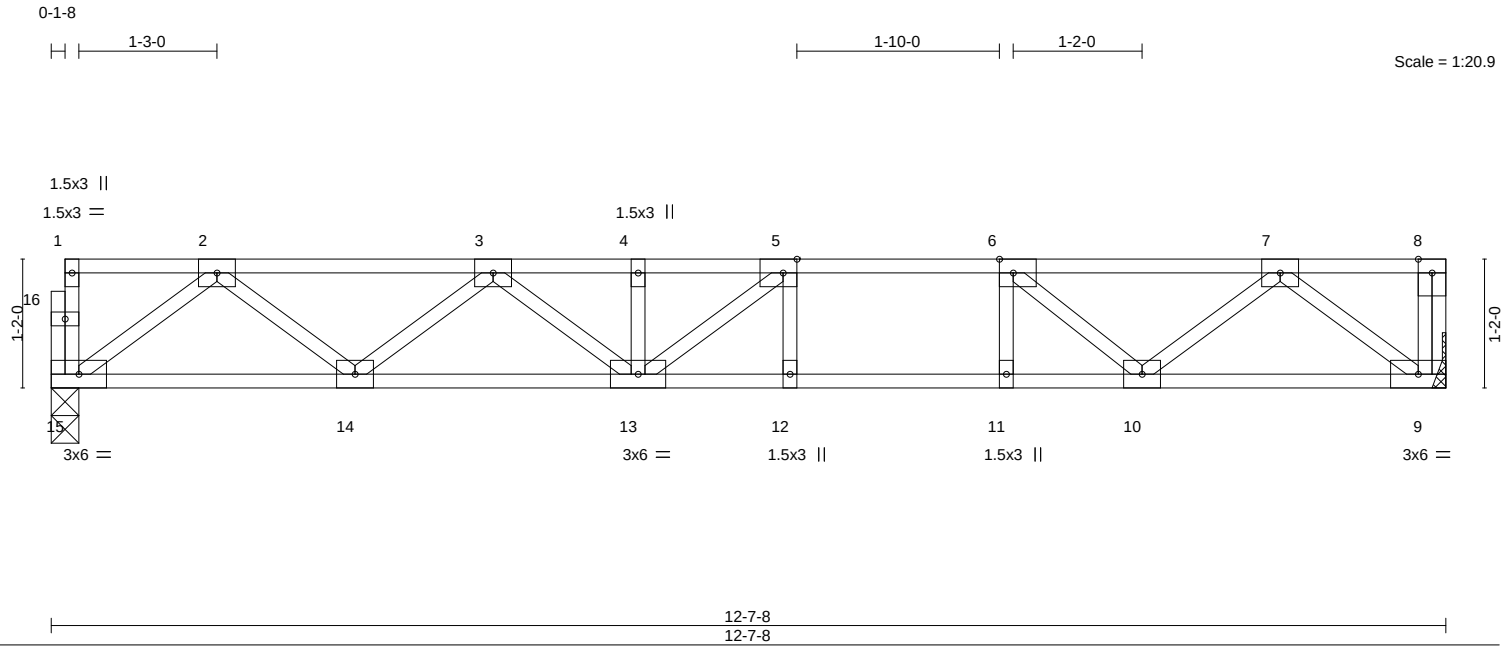


Plate Offsets (X,Y)-- [5:0-1-8,Edge], [6:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.48	Vert(LL)	-0.14	12-13	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.78	Vert(CT)	-0.18	12-13	>821	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.32	Horz(CT)	0.02	9	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 65 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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

REACTIONS. (size) 15=0-3-0, 9=Mechanical
Max Grav 15=674(LC 1), 9=681(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1313/0, 3-4=-1995/0, 4-5=-1995/0, 5-6=-1895/0, 6-7=-1327/0
BOT CHORD 14-15=0/831, 13-14=0/1770, 12-13=0/1895, 11-12=0/1895, 10-11=0/1895, 9-10=0/807
WEBS 2-15=-1040/0, 2-14=0/628, 3-14=-594/0, 3-13=0/288, 5-13=-224/289, 7-9=-1012/0, 7-10=0/677, 6-10=-745/0

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x4 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Refer to girder(s) for truss to truss connections.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1150	F8	Floor	1	1	I57003281
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:02 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-UTxezjmwOt??V7poZVbcnub7W07gd7fG4w4?lLzdg9?

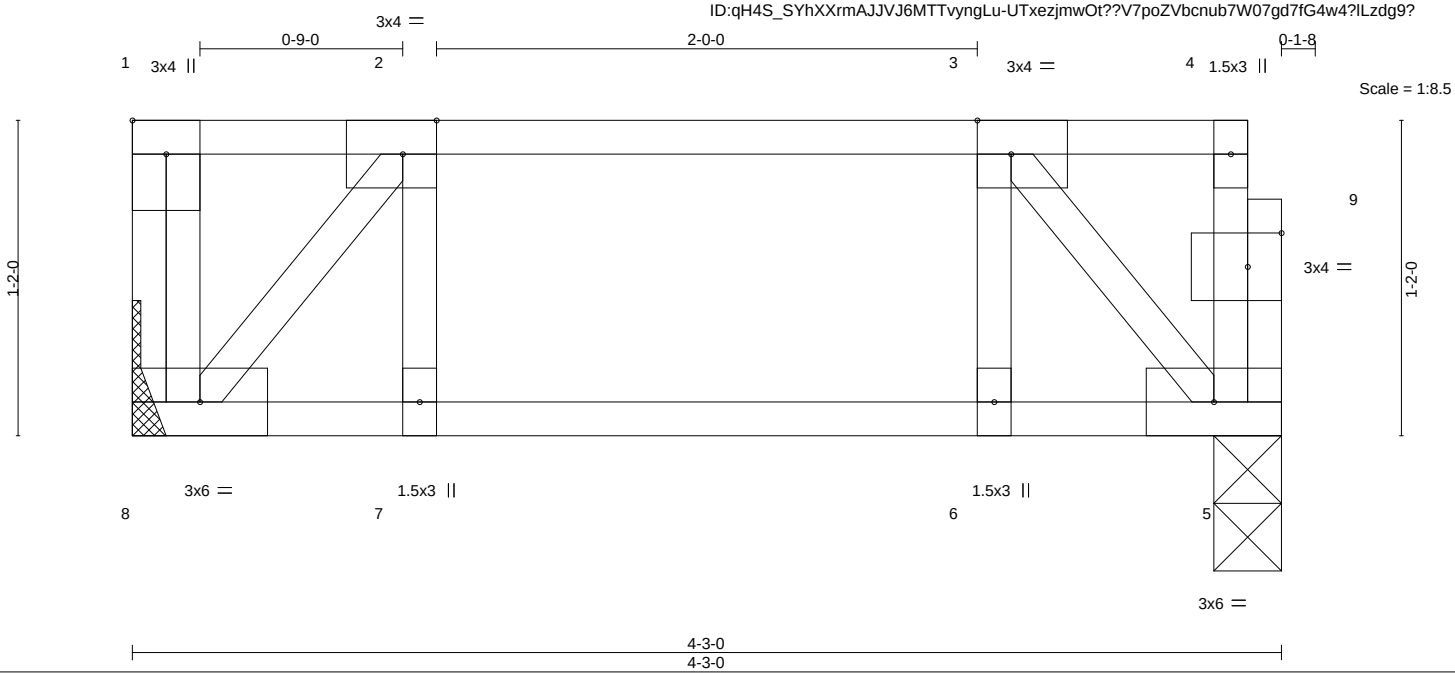


Plate Offsets (X,Y)-- [1:Edge,0-1-8], [2:0-1-8,Edge], [3:0-1-8,Edge], [9:0-1-8,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.13	Vert(LL)	-0.00	6	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.06	Vert(CT)	-0.00	6	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.00	5	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 24 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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

REACTIONS. (size) 8=Mechanical, 5=0-3-0
Max Grav 8=220(LC 1), 5=214(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS 2-8=-273/0, 3-5=-272/0

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) Plates checked for a plus or minus 1 degree rotation about its center.
3) Refer to girder(s) for truss to truss connections.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) CAUTION, Do not erect truss backwards.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1150	FG-1	GABLE	1	1	I57003282
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:04 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-Qs3OOPnAwUFilRyBhwd4sJgRqpkX5zvZXEZ6pEzdg8z

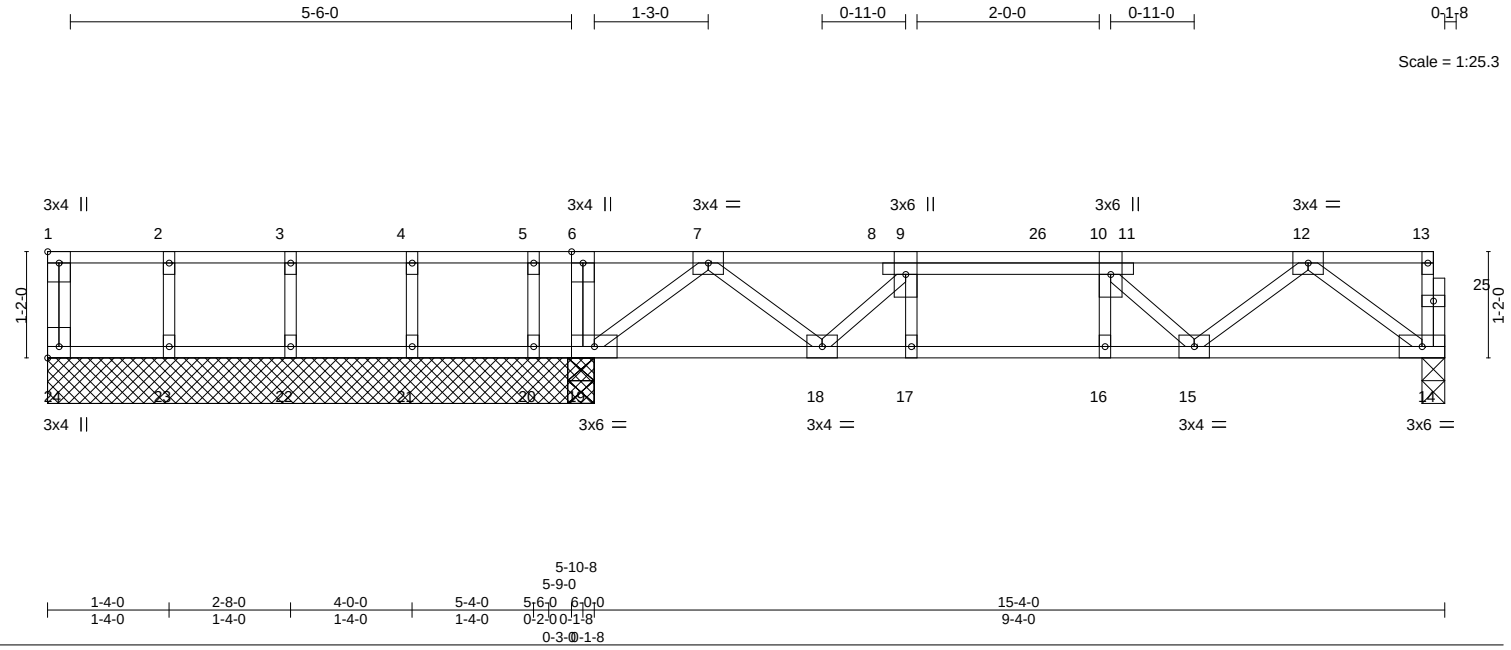


Plate Offsets (X,Y)-- [1:Edge,0-1-8], [24:Edge,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.27	Vert(LL)	-0.03	16	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.36	Vert(CT)	-0.05	16	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.27	Horz(CT)	0.01	14	n/a	n/a		
BCDL	5.0	Code IRC2015/TPI2014		Matrix-S							Weight: 78 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

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

REACTIONS. All bearings 6-0-0 except (jt=length) 14=0-3-0.
(lb) - Max Uplift All uplift 100 lb or less at joint(s) 20
Max Grav All reactions 250 lb or less at joint(s) 24, 23, 22, 21, 20 except 14=592(LC 4), 19=710(LC 1), 19=710(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 7-9=-1083/0, 9-10=-1453/0, 10-12=-1134/0
BOT CHORD 18-19=0/641, 17-18=0/1453, 16-17=0/1453, 15-16=0/1453, 14-15=0/705
WEBS 7-19=-805/0, 7-18=0/569, 12-14=-880/0, 12-15=0/559, 9-18=-530/0, 10-15=-451/0

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Gable studs spaced at 1-4-0 oc.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 20.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) CAUTION, Do not erect truss backwards.
8) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 246 lb down at 10-11-4 on top chord. The design/selection of such connection device(s) is the responsibility of others.
9) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 14-24=-10, 1-13=-100
Concentrated Loads (lb)
Vert: 26=-166(F)

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1150	FG-2	FLOOR GIRDER	1	1	I57003283 Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:05 2023 Page 1
ID:gH4S_SYhXXrmAJJVJ6MTTvyngLu-u2dmckoohoNZMbXNFd8JOWDamD6dqQ5imuIfLgzdg8y

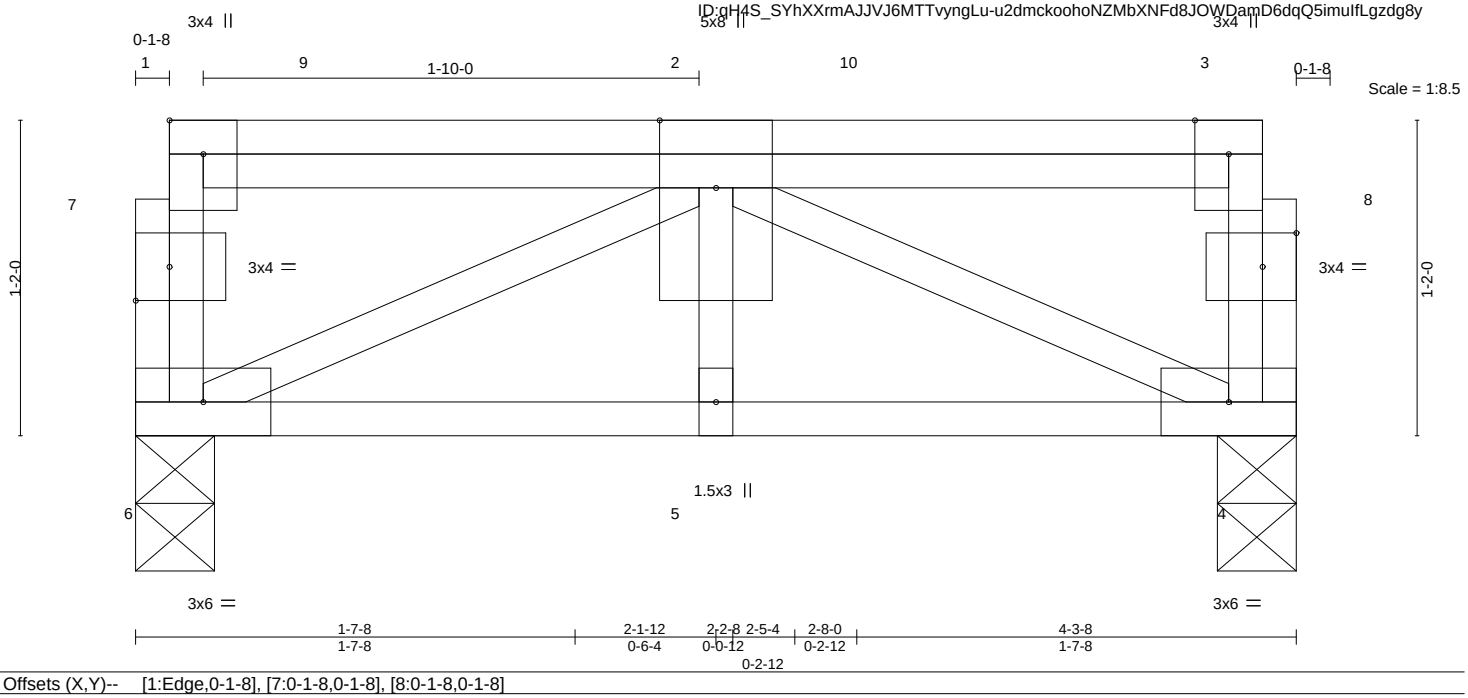


Plate Offsets (X,Y)-- [1:Edge,0-1-8], [7:0-1-8,0-1-8], [8:0-1-8,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.39	Vert(LL)	-0.01	5	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.24	Vert(CT)	-0.02	5	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.27	Horz(CT)	0.01	4	n/a	n/a		
BCDL	5.0	Code IRC2015/TPI2014		Matrix-P							Weight: 30 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-3-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 6=0-3-8, 4=0-3-8
Max Grav 6=922(LC 1), 4=692(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-6=-429/0
BOT CHORD 5-6=0/1018, 4-5=0/1018
WEBS 2-4=-1118/0, 2-6=-1103/0

NOTES-
1) Plates checked for a plus or minus 1 degree rotation about its center.
2) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
3) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 601 lb down at 0-9-4, and 581 lb down at 2-9-4 on top chord. The design/selection of such connection device(s) is the responsibility of others.
4) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 4-6=-10, 1-3=-100
Concentrated Loads (lb)
Vert: 9=-601(B) 10=-581(B)

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1150	FG-3	FLOOR GIRDER	1	1	I57003284
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:06 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-MFA9p4pQS6VQ_l6ZoLgYxklrmdUEZwBs?Y2Ct7zdg8x

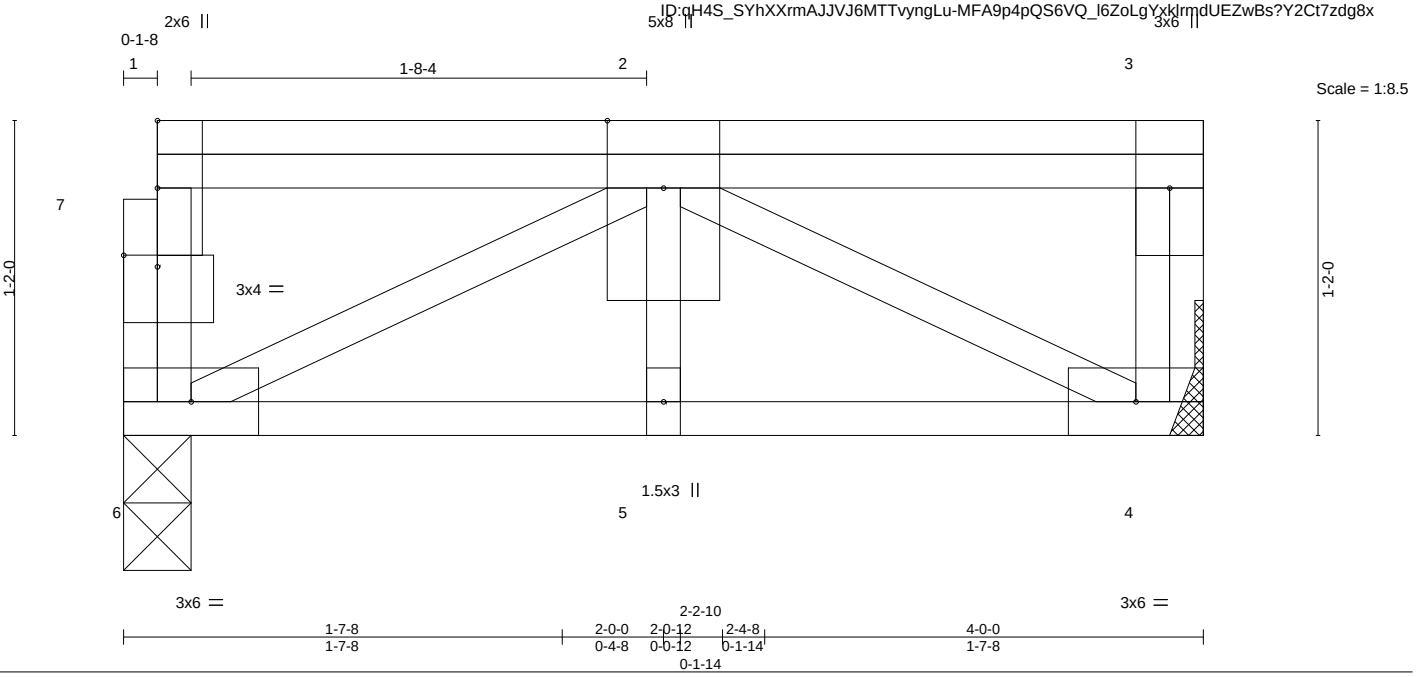


Plate Offsets (X,Y)-- [7:0-1-8,0-0-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.05	Vert(LL)	-0.00	5	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.09	Vert(CT)	-0.00	5	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.09	Horz(CT)	0.00	4	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-P							Weight: 29 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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

REACTIONS. (size) 6=0-3-0, 4=Mechanical
Max Grav 6=260(LC 1), 4=266(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
BOT CHORD 5-6=0/338, 4-5=0/338
WEBS 2-4=-381/0, 2-6=-376/0

NOTES-
1) Plates checked for a plus or minus 1 degree rotation about its center.
2) Refer to girder(s) for truss to truss connections.
3) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
4) CAUTION, Do not erect truss backwards.
5) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 120 lb down at 2-1-12 on top chord. The design/selection of such connection device(s) is the responsibility of others.
6) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

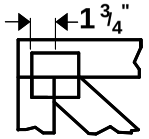
LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 4-6=-10, 1-3=-100
Concentrated Loads (lb)
Vert: 2=-120(F)

March 6,2023

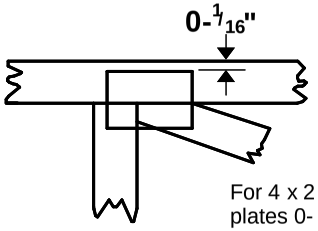
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Symbols

PLATE LOCATION AND ORIENTATION



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



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

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

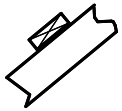
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

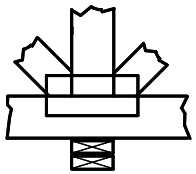
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

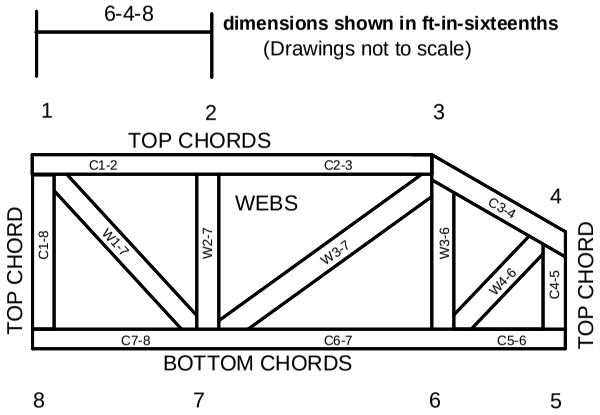


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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 BY TRENCO
A MiTek Affiliate

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.

ENGINEERING BY TRENCO
A MiTek Affiliate

RE: J0323-1149
Precision/18 Liberty Meadows/Harnett

Trenco
818 Soundside Rd
Edenton, NC 27932

Site Information:

Customer: Project Name: J0323-1149
Lot/Block: Model:
Address: Subdivision:
City: State:

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

Design Code: IRC2015/TPI2014 Design Program: MiTek 20/20 8.4
Wind Code: ASCE 7-10 Wind Speed: 130 mph
Roof Load: 40.0 psf Floor Load: N/A psf

This package includes 22 individual, dated Truss Design Drawings and 0 Additional Drawings.

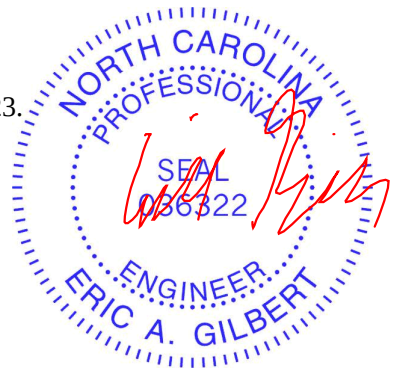
No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I57003248	A1-SG	3/6/2023	21	I57003268	VA2	3/6/2023
2	I57003249	A2	3/6/2023	22	I57003269	VA3	3/6/2023
3	I57003250	A3	3/6/2023				
4	I57003251	A4	3/6/2023				
5	I57003252	B1-GE	3/6/2023				
6	I57003253	B2	3/6/2023				
7	I57003254	B3	3/6/2023				
8	I57003255	B4	3/6/2023				
9	I57003256	B5-GE	3/6/2023				
10	I57003257	C1-GE	3/6/2023				
11	I57003258	C2	3/6/2023				
12	I57003259	C3	3/6/2023				
13	I57003260	C4	3/6/2023				
14	I57003261	D1-GE	3/6/2023				
15	I57003262	D2	3/6/2023				
16	I57003263	M1-GE	3/6/2023				
17	I57003264	M2	3/6/2023				
18	I57003265	M3	3/6/2023				
19	I57003266	P1	3/6/2023				
20	I57003267	VA1	3/6/2023				

The truss drawing(s) referenced above have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Comtech, Inc - Fayetteville.

Truss Design Engineer's Name: Gilbert, Eric

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

North Carolina COA: C-0844



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 TRENCO. Any project specific information included is for TRENCO customers file reference purpose only, and was not taken into account in the preparation of these designs. 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.

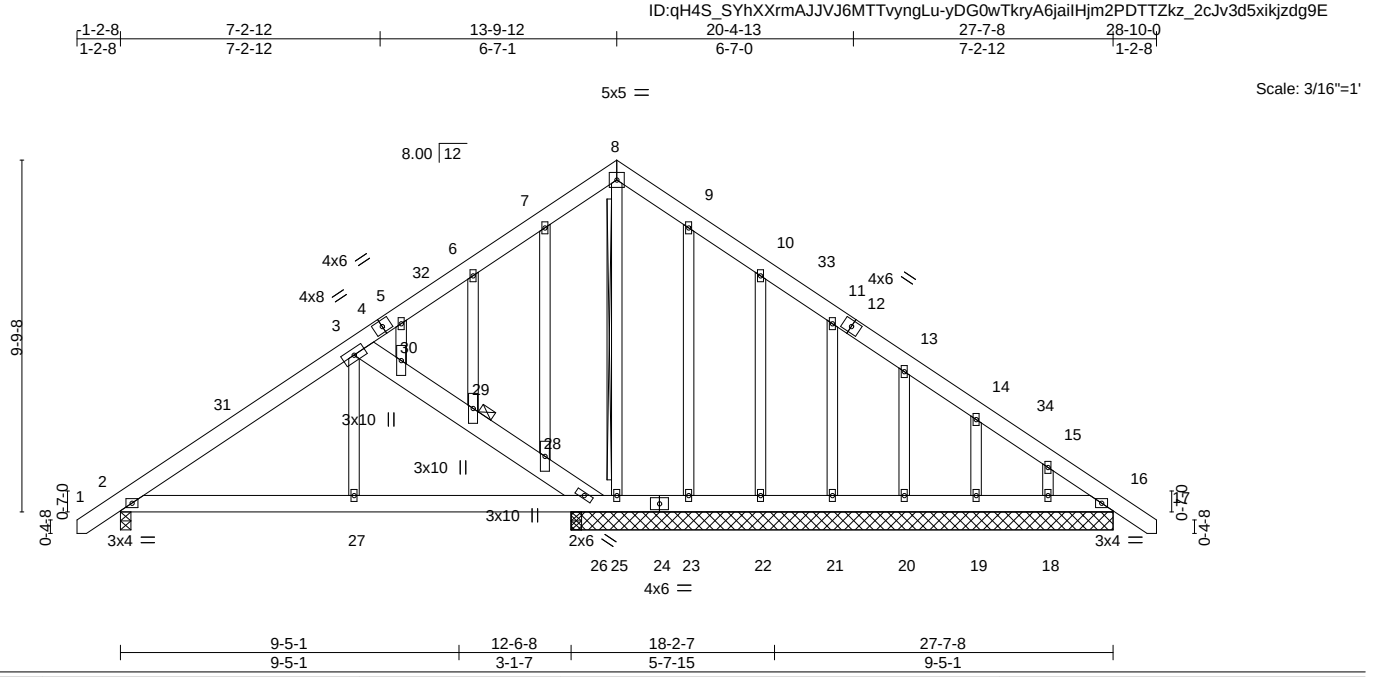
March 06, 2023

Gilbert, Eric

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	A1-SG	GABLE	1	1	I57003248
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:32:47 2023 Page 1

ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-yDG0wTkryA6jaiIHjm2PDTTZkz_2cJv3d5xikjzdg9E



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	0.17	Vert(LL)	-0.01	2-27	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	-0.02	2-27	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.13	Horz(CT)	0.00	26	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-S		Wind(LL)	0.01	2-27	>999	240	Weight: 248 lb	FT = 20%

LUMBER-

TOP CHORD	2x6 SP No.1
BOT CHORD	2x6 SP No.1
WEBS	2x4 SP No.2 *Except*
	3-26: 2x8 SP No.1
OTHERS	2x4 SP No.2

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, Except: 10-0-0 oc bracing: 2-27,26-27.
WEBS	T-Brace: 2x4 SPF No.2 - 8-25 Fasten (2X) T and I braces to narrow edge of web with 10d (0.131"x3") nails, 6in o.c.,with 3in minimum end distance. Brace must cover 90% of web length.
JOINTS	1 Brace at Jt(s): 29

REACTIONS. All bearings 15-1-0 except (jt=length) 2=0-3-8, 26=0-3-8, 26=0-3-8.
(lb) - Max Horz 2=-238(LC 10)
Max Uplift All uplift 100 lb or less at joint(s) 2, 16, 23, 22, 21, 20, 19, 18, 26 except 25=-103(LC 3)
Max Grav All reactions 250 lb or less at joint(s) 16, 25, 23, 22, 21, 20, 19, 18 except 2=547(LC 1), 26=674(LC 3), 26=628(LC 1)

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

TOP CHORD	2-3=-556/124, 15-16=-205/297
BOT CHORD	2-27=-77/463, 26-27=-78/461, 25-26=-263/220, 23-25=-263/220, 22-23=-263/220, 21-22=-263/220, 20-21=-263/220, 19-20=-263/220, 18-19=-263/220, 16-18=-263/220
WEBS	3-27=0/285, 3-30=-658/224, 29-30=-587/184, 28-29=-648/227, 26-28=-711/263, 8-25=-271/10

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) -1-0-15 to 3-3-14, Interior(1) 3-3-14 to 13-9-12, Exterior(2) 13-9-12 to 18-2-9, Interior(1) 18-2-9 to 28-8-7 zone;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) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable studs spaced at 2-0-0 oc.
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 30.0psf 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.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 16, 23, 22, 21, 20, 19, 18, 26 except (jt=lb) 25=103.
9) Warning: Additional permanent and stability bracing for truss system (not part of this component design) is always required.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	A2	COMMON	1	1	I57003249
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:32:48 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-QPqO7olUjUEaCstTHUZelh0b2NDdLinCslgFG9zdg9D

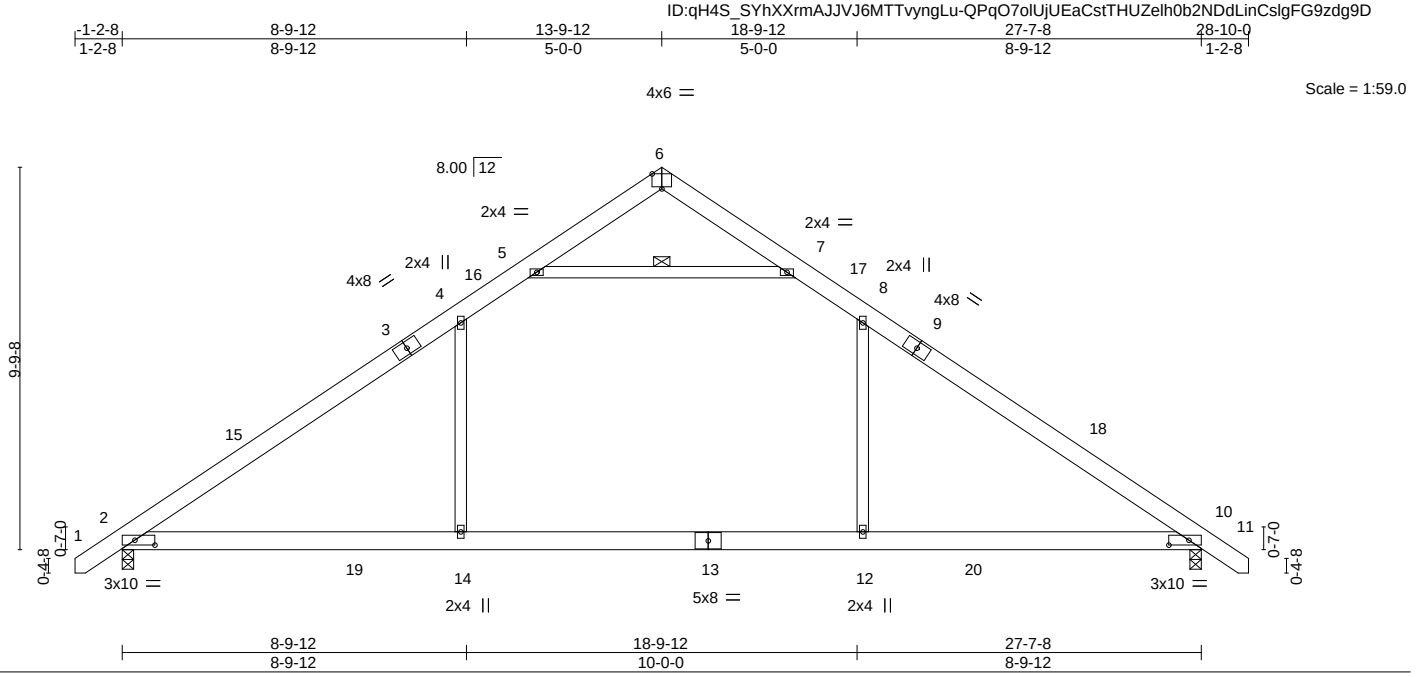


Plate Offsets (X,Y)-- [2:0-6-3,0-1-8], [6:0-3-0,Edge], [10:0-6-3,0-1-8]

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	0.71	Vert(LL)	-0.30	12-14	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.62	Vert(CT)	-0.40	12-14	>817	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.41	Horz(CT)	0.04	10	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-S		Wind(LL)	0.25	2-14	>999	240	Weight: 176 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP No.1
WEBS 2x4 SP No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-8-15 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 5-7

REACTIONS. (size) 2=0-3-8, 10=0-3-8
Max Horz 2=238(LC 11)
Max Uplift 2=-75(LC 12), 10=-75(LC 13)
Max Grav 2=1442(LC 19), 10=1442(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-4=-2031/287, 4-5=-1424/353, 5-6=-29/298, 6-7=-29/299, 7-8=-1424/353, 8-10=-2031/287
BOT CHORD 2-14=-60/1578, 12-14=-60/1578, 10-12=-60/1578
WEBS 8-12=0/717, 4-14=0/717, 5-7=-1831/434

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) -1-0-15 to 3-3-14, Interior(1) 3-3-14 to 13-9-12, Exterior(2) 13-9-12 to 18-2-9, Interior(1) 18-2-9 to 28-8-7 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 30.0psf 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.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 10.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	A3	COMMON	2	1	I57003250
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:32:50 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-Moy9YUmkF5UHR91rOub6q65xDAu4pcCVJ39MK2zdg9B

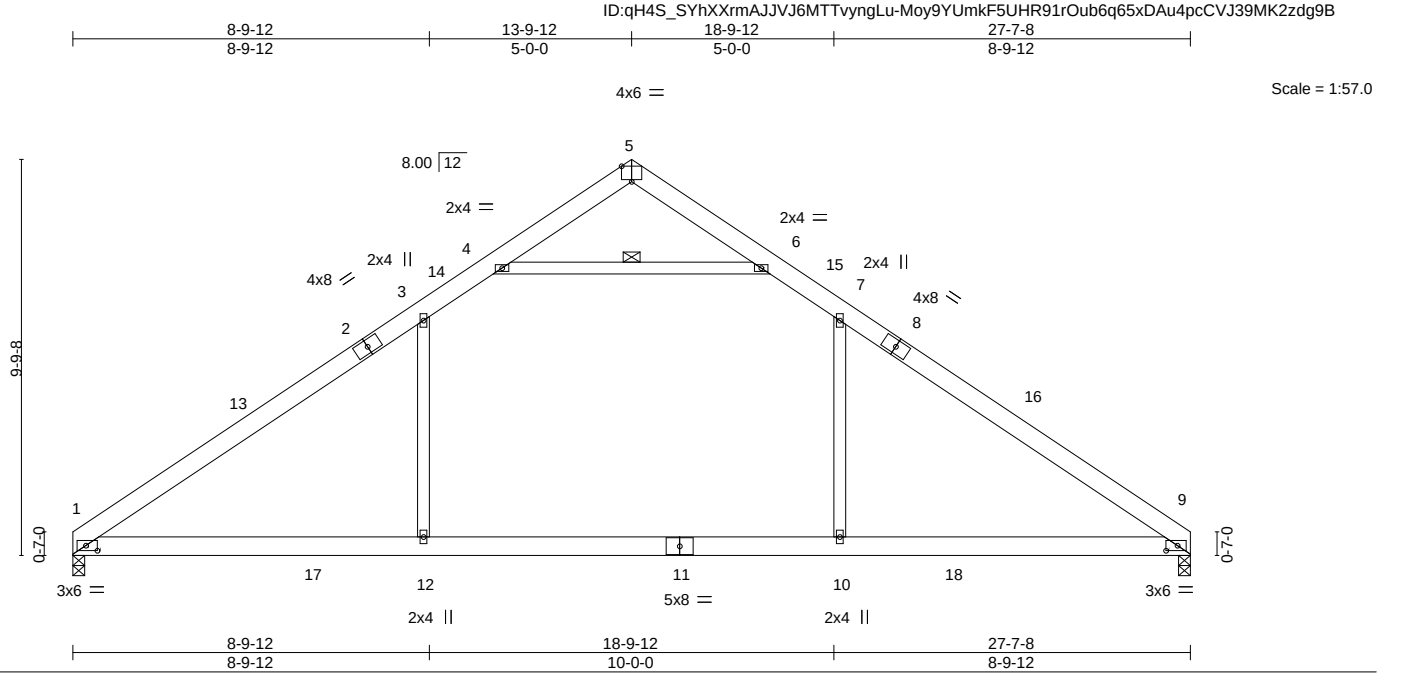


Plate Offsets (X,Y)-- [1:0-3-7,0-1-8], [5:0-3-0,Edge], [9:0-3-6,0-1-8]

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	0.73	Vert(LL)	-0.31	10-12	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.62	Vert(CT)	-0.41	10-12	>799	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.41	Horz(CT)	0.04	9	n/a	n/a		
BCDL	10.0	Code	IRC2015/TPI2014	Matrix-S		Wind(LL)	0.25	1-12	>999	240	Weight: 170 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP No.1
WEBS 2x4 SP No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-5-2 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-6

REACTIONS. (size) 1=0-3-8, 9=0-3-8
Max Horz 1=-223(LC 10)
Max Uplift 1=-58(LC 12), 9=-58(LC 13)
Max Grav 1=1373(LC 19), 9=1373(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-3=-2035/293, 3-4=-1430/363, 4-5=-37/309, 5-6=-37/310, 6-7=-1429/363, 7-9=-2034/293
BOT CHORD 1-12=-92/1578, 10-12=-92/1578, 9-10=-92/1578
WEBS 7-10=0/713, 3-12=0/713, 4-6=-1851/461

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) 0-1-12 to 4-6-9, Interior(1) 4-6-9 to 13-9-12, Exterior(2) 13-9-12 to 18-2-9, Interior(1) 18-2-9 to 27-5-12 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 30.0psf 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.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 9.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	A4	Common Girder	1	2	I57003251
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:32:52 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-IA3vzAo_nik?gTBEWJdawXAI1_WFHN2onNeTPwzdg99

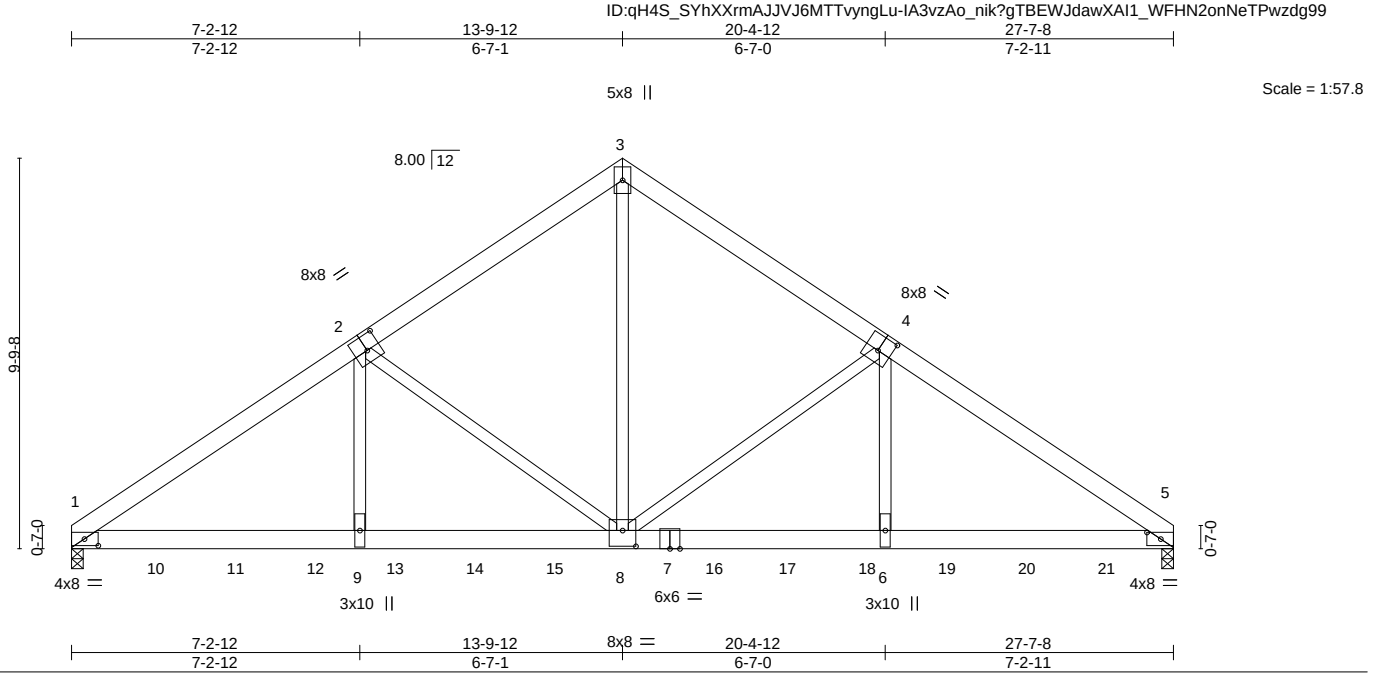


Plate Offsets (X,Y)-- [1:0-4-3,0-2-0], [2:0-4-0,0-4-8], [4:0-4-0,0-4-8], [5:0-4-3,0-2-0], [8:0-4-0,0-4-12]

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	0.65	Vert(LL)	-0.18	5-6	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.83	Vert(CT)	-0.31	5-6	>999	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.97	Horz(CT)	0.09	5	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-S		Wind(LL)	0.09	5-6	>999	240	Weight: 386 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x4 SP No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-3-14 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 1=0-3-8, 5=0-3-8
Max Horz 1=-223(LC 23)
Max Uplift 1=-360(LC 8), 5=-368(LC 9)
Max Grav 1=7614(LC 2), 5=7779(LC 2)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-11164/539, 2-3=-7505/449, 3-4=-7505/449, 4-5=-11184/541
BOT CHORD 1-9=-464/9152, 8-9=-464/9152, 6-8=-361/9171, 5-6=-361/9171
WEBS 3-8=-381/7884, 4-8=-3746/323, 4-6=-95/4041, 2-8=-3722/321, 2-9=-94/4019

NOTES-
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered 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) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); Lumber DOL=1.60 plate grip DOL=1.60
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 30.0psf 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 1=360, 5=368.
8) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 1037 lb down and 55 lb up at 2-0-12, 1037 lb down and 55 lb up at 4-0-12, 1037 lb down and 55 lb up at 6-0-12, 1037 lb down and 55 lb up at 8-0-12, 1037 lb down and 55 lb up at 10-0-12, 1037 lb down and 55 lb up at 12-0-12, 1037 lb down and 55 lb up at 14-0-12, 1037 lb down and 55 lb up at 16-0-12, 1037 lb down and 55 lb up at 17-10-12, 1037 lb down and 55 lb up at 19-10-12, 1037 lb down and 55 lb up at 21-10-12, and 1037 lb down and 55 lb up at 23-10-12, and 1037 lb down and 55 lb up at 25-10-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15

March 6,2023

Continued on page 2

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

LOAD CASE(S) Standard

Uniform Loads (plf)

Vert: 1-3=-60, 3-5=-60, 1-5=-20

Concentrated Loads (lb)

Vert: 8=-868(B) 10=-868(B) 11=-868(B) 12=-868(B) 13=-868(B) 14=-868(B) 15=-868(B) 16=-868(B) 17=-868(B) 18=-868(B) 19=-868(B) 20=-868(B) 21=-868(B)

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	B1-GE	GABLE	1	1	I57003252 Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:32:53 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-nNdHAWpcX0ssIdmQ419pSkjdwO37013x?1O0xNzdg98

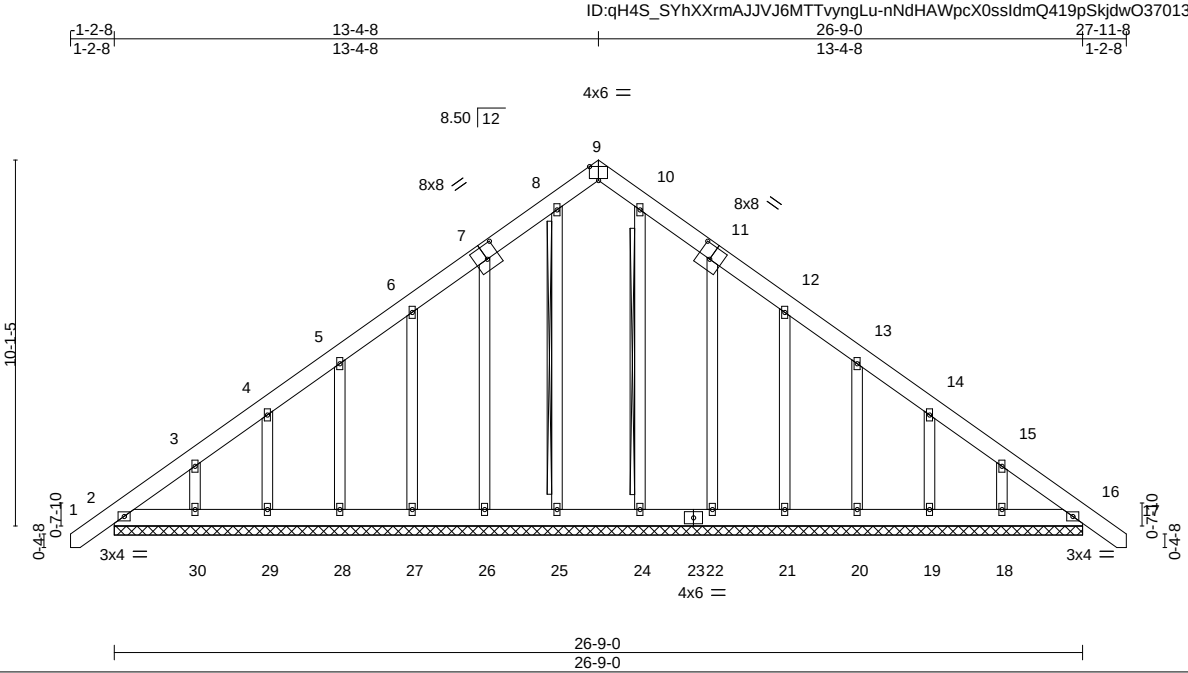


Plate Offsets (X,Y)-- [7:0-4-0,0-4-8], [9:0-3-0,Edge], [11:0-4-0,0-4-8]

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	0.06	Vert(LL)	-0.00	16	n/r	120	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	-0.00	16	n/r	120		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.01	16	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-S							Weight: 233 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP No.1
OTHERS 2x4 SP No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS T-Brace: 2x4 SPF No.2 - 8-25, 10-24
Fasten (2X) T and I braces to narrow edge of web with 10d (0.131"x3") nails, 6in o.c.,with 3in minimum end distance.
Brace must cover 90% of web length.

REACTIONS. All bearings 26-9-0.
(lb) - Max Horz 2=-307(LC 10)
Max Uplift All uplift 100 lb or less at joint(s) 2, 25, 27, 28, 29, 21, 20, 19, 16 except 26=-111(LC 12), 30=-111(LC 12), 22=-115(LC 13), 18=-109(LC 13)
Max Grav All reactions 250 lb or less at joint(s) 2, 25, 26, 27, 28, 29, 30, 24, 22, 21, 20, 19, 18, 16

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-335/215, 15-16=-281/201
BOT CHORD 2-30=-186/285, 29-30=-186/285, 28-29=-186/285, 27-28=-186/285, 26-27=-186/285, 25-26=-187/286, 24-25=-187/286, 22-24=-187/286, 21-22=-186/285, 20-21=-186/285, 19-20=-186/285, 18-19=-186/285, 16-18=-186/285

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone;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) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
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 30.0psf 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 25, 27, 28, 29, 21, 20, 19, 16 except (jt=lb) 26=111, 30=111, 22=115, 18=109.
10) Warning: Additional permanent and stability bracing for truss system (not part of this component design) is always required.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	B2	COMMON	6	1	I57003253
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:32:55 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-jll2bCqt3d6aXxvpBSBHX9oqIBcXUtXETLt70Fzdg96

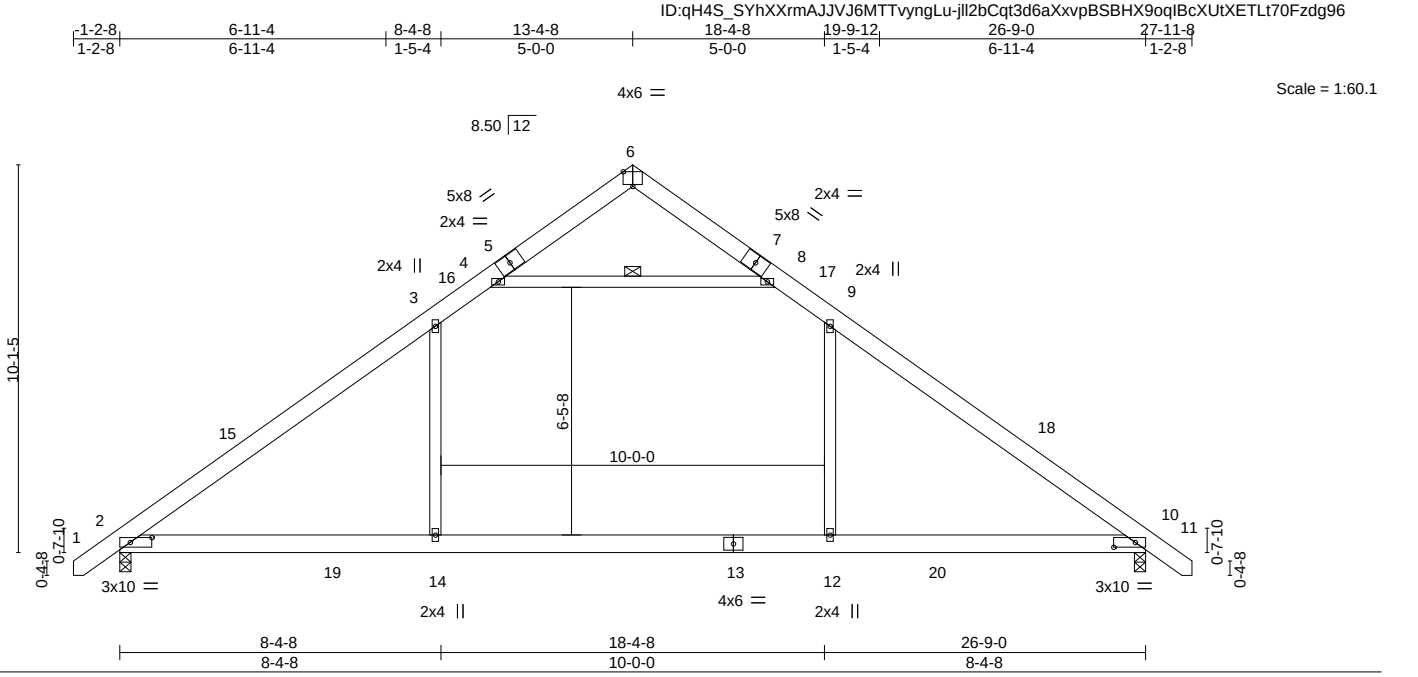


Plate Offsets (X,Y)-- [2:0-6-12,0-1-8], [6:0-3-0,Edge], [10:0-6-12,0-1-8]

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	0.52	Vert(LL)	-0.26	12-14	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.61	Vert(CT)	-0.36	12-14	>886	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.41	Horz(CT)	0.03	10	n/a	n/a		
BCDL	10.0	Code	IRC2015/TPI2014	Matrix-S		Wind(LL)	0.23	2-14	>999	240	Weight: 175 lb	FT = 20%

LUMBER-

TOP CHORD	2x6 SP No.1
BOT CHORD	2x6 SP No.1
WEBS	2x4 SP No.2

BRACING-

TOP CHORD	Structural wood sheathing directly applied or 5-1-2 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 4-8

REACTIONS. (size) 2=0-3-8, 10=0-3-8
Max Horz 2=245(LC 11)
Max Uplift 2=-70(LC 12), 10=-70(LC 13)
Max Grav 2=1404(LC 19), 10=1404(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1939/272, 3-4=-1321/341, 8-9=-1321/341, 9-10=-1939/272
BOT CHORD 2-14=-44/1474, 12-14=-44/1474, 10-12=-44/1474
WEBS 9-12=0/713, 3-14=0/713, 4-8=-1586/397

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) -1-0-15 to 3-3-14, Interior(1) 3-3-14 to 13-4-8, Exterior(2) 13-4-8 to 17-9-5, Interior(1) 17-9-5 to 27-9-15 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 30.0psf 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.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 10.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	B3	COMMON	8	1	I57003254
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:32:56 2023 Page 1

ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-ByJQpXrVqxER94U?l9iW4NL2pby9DCXOi?cgYizdg95

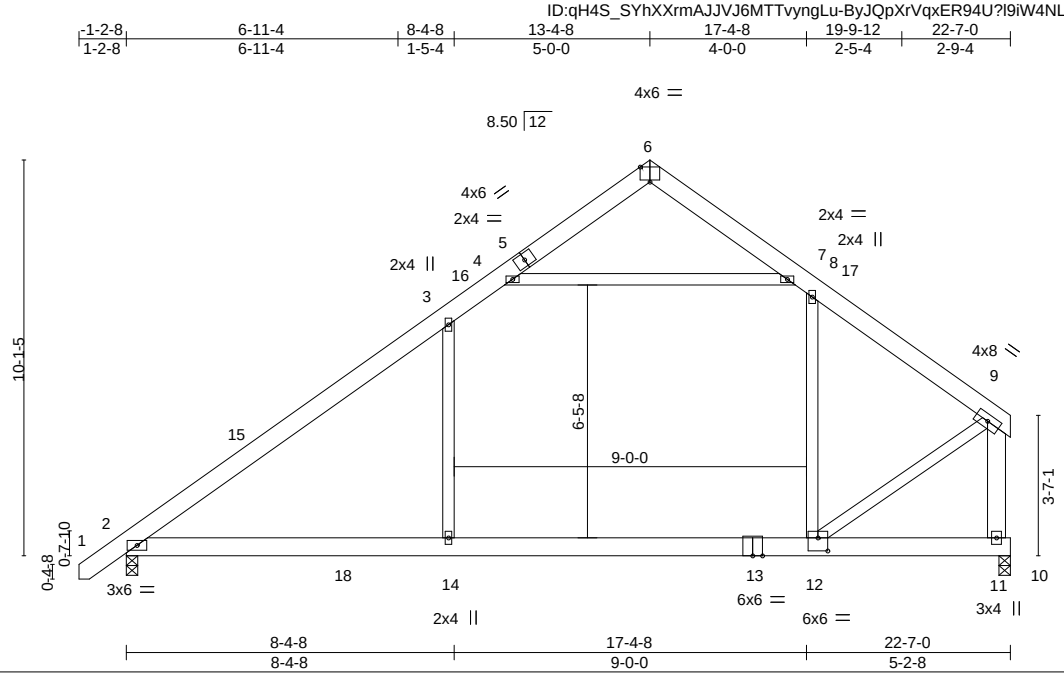


Plate Offsets (X,Y)-- [6:0-3-0,Edge], [12:0-3-0,0-4-0]

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	0.34	Vert(LL)	-0.29	14	>900	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.52	Vert(CT)	-0.46	2-14	>574	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.94	Horz(CT)	0.01	11	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-S		Wind(LL)	0.21	2-14	>999	240	Weight: 166 lb	FT = 20%

LUMBER-

TOP CHORD 2x6 SP 2400F 2.0E
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x4 SP No.2 *Except*
9-11: 2x6 SP No.1

BRACING-

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 11-12.

REACTIONS. (size) 2=0-3-8, 11=0-3-8
Max Horz 2=237(LC 9)
Max Uplift 2=-61(LC 12), 11=-35(LC 12)
Max Grav 2=1160(LC 19), 11=1086(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1321/171, 3-4=-858/263, 7-8=-949/289, 8-9=-1131/222, 9-11=-1339/249
BOT CHORD 2-14=-115/970, 12-14=-115/970
WEBS 3-14=0/484, 4-7=-1001/298, 9-12=-144/1304

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) -1-0-15 to 3-3-14, Interior(1) 3-3-14 to 13-4-8, Exterior(2) 13-4-8 to 17-6-4, Interior(1) 17-6-4 to 22-2-12 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 30.0psf 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.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 11.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	B4	COMMON	5	1	I57003255
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:32:57 2023 Page 1

ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-f8to0ts7bFMInE3CJtDldatDZ?IOyfnXwfME48zdg94

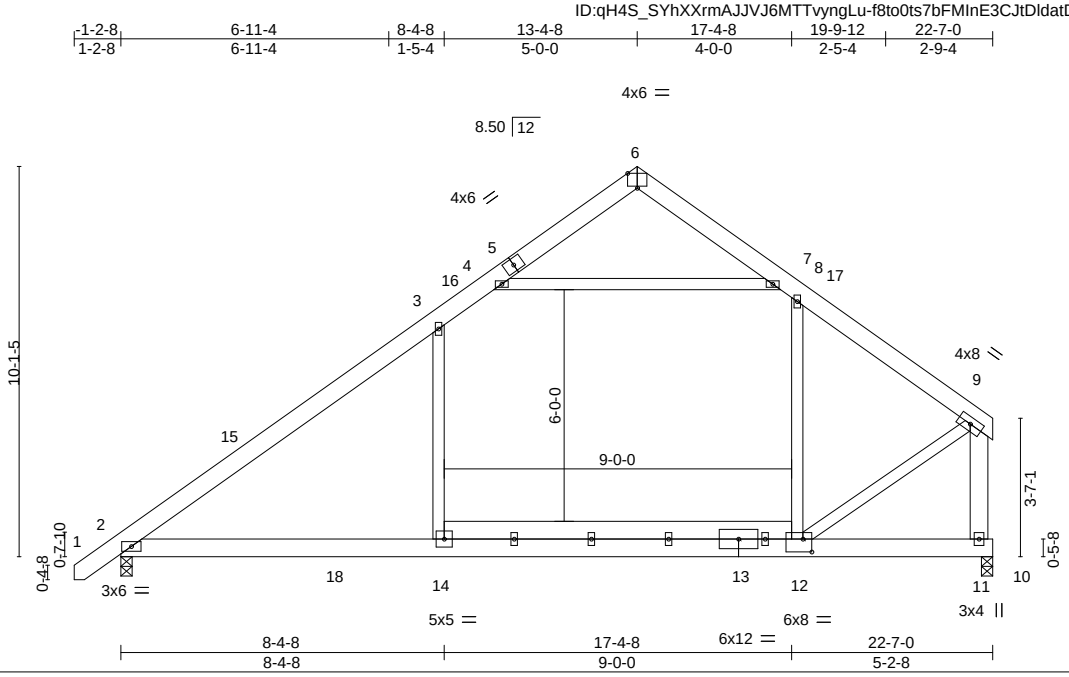


Plate Offsets (X,Y)-- [6:0-3-0,Edge], [12:0-2-12,0-4-0]

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	0.34	Vert(LL)	-0.29	14	>900	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.52	Vert(CT)	-0.46	2-14	>574	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.94	Horz(CT)	0.01	11	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-S		Wind(LL)	0.21	2-14	>999	240	Weight: 187 lb	FT = 20%

LUMBER-

TOP CHORD 2x6 SP 2400F 2.0E
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x4 SP No.2 *Except*
9-11: 2x6 SP No.1

BRACING-

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 11-12.

REACTIONS. (size) 2=0-3-8, 11=0-3-8
Max Horz 2=237(LC 9)
Max Uplift 2=-61(LC 12), 11=-35(LC 12)
Max Grav 2=1160(LC 19), 11=1086(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1321/171, 3-4=-858/263, 7-8=-949/289, 8-9=-1131/222, 9-11=-1339/249
BOT CHORD 2-14=-115/970, 12-14=-115/970
WEBS 3-14=0/484, 4-7=-1001/298, 9-12=-144/1304

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) -1-0-15 to 3-3-14, Interior(1) 3-3-14 to 13-4-8, Exterior(2) 13-4-8 to 17-6-4, Interior(1) 17-6-4 to 22-2-12 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) All plates are 2x4 MT20 unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 30.0psf 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.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 11.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	B5-GE	GABLE	1	1	I57003256
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:32:59 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-bX_YRZtN7sd00YDaQHGDi?zeWo6jQlYqOzrL91zdg92

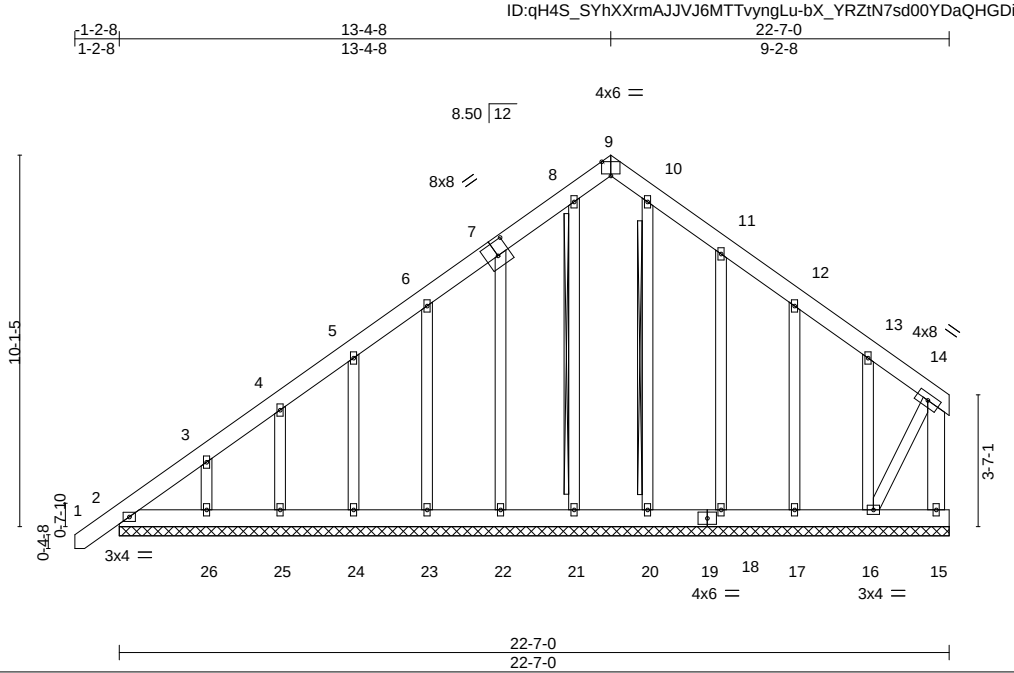


Plate Offsets (X,Y)-- [7:0-4-0,0-4-8], [9:0-3-0,Edge]

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	0.05	Vert(LL)	-0.00	1	n/r	120	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.01	Vert(CT)	-0.00	1	n/r	120		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.00	15	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-S							Weight: 216 lb	FT = 20%

LUMBER-

TOP CHORD	2x6 SP No.1
BOT CHORD	2x6 SP No.1
WEBS	2x6 SP No.1 *Except* 14-16: 2x4 SP No.2
OTHERS	2x4 SP No.2

BRACING-

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	T-Brace: 2x4 SPF No.2 - 8-21, 10-20 Fasten (2X) T and I braces to narrow edge of web with 10d (0.131"x3") nails, 6in o.c.,with 3in minimum end distance. Brace must cover 90% of web length.

REACTIONS. All bearings 22-7-0.
(lb) - Max Horz 2=308(LC 12)
Max Uplift All uplift 100 lb or less at joint(s) 2, 15, 21, 23, 24, 25, 17 except 22=-106(LC 12), 26=-116(LC 12), 18=-109(LC 13), 16=-290(LC 13)
Max Grav All reactions 250 lb or less at joint(s) 2, 15, 21, 22, 23, 24, 25, 26, 20, 18, 17, 16

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-343/221

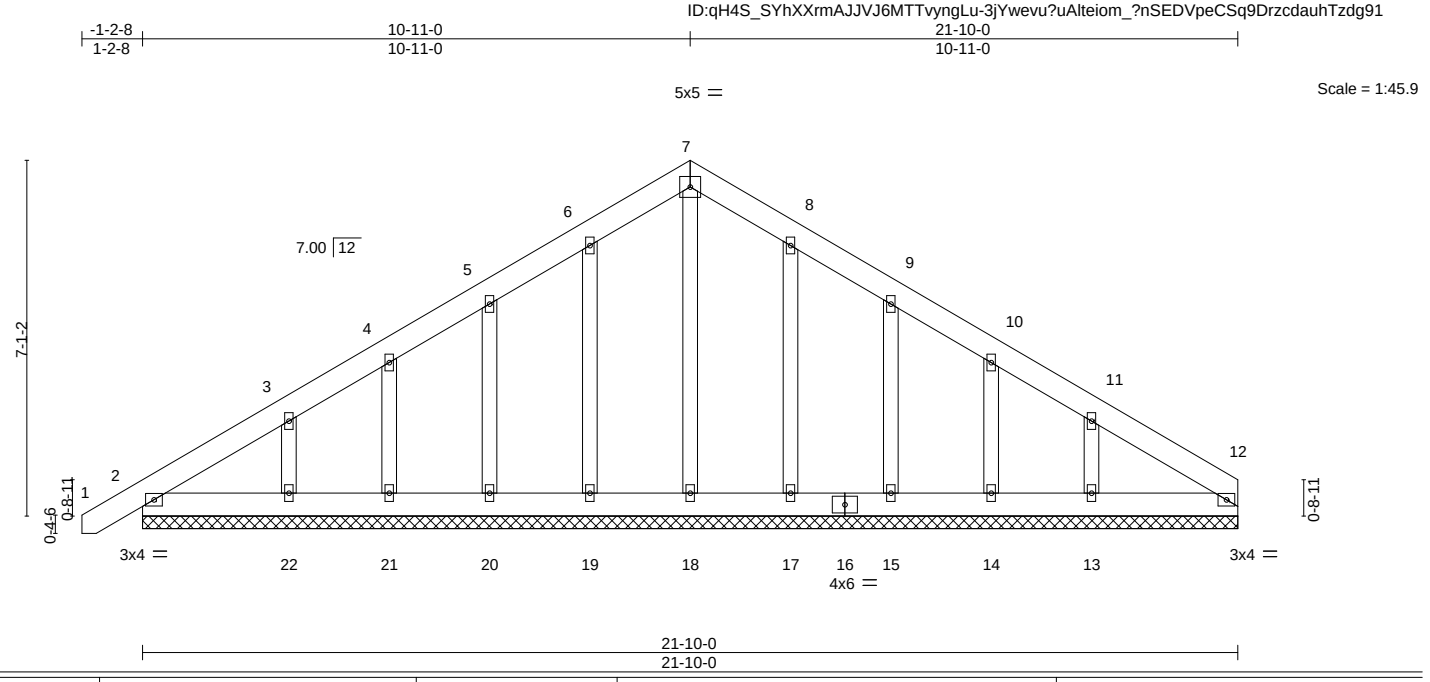
NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 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) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
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 30.0psf 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 15, 21, 23, 24, 25, 17 except (jt=lb) 22=106, 26=116, 18=109, 16=290.
10) Warning: Additional permanent and stability bracing for truss system (not part of this component design) is always required.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	C1-GE	GABLE	1	1	I57003257
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:00 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-3jYwevu?uAlteiom_?nSEDVpeCSq9DrzcdauhTzdg91



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	0.03	Vert(LL)	-0.00	1	n/r	120	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	0.00	1	n/r	120		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.00	12	n/a	n/a		
BCDL	10.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 162 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP No.1
OTHERS 2x4 SP No.2

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

REACTIONS. All bearings 21-10-0.
(lb) - Max Horz 2=206(LC 9)
Max Uplift All uplift 100 lb or less at joint(s) 2, 19, 20, 21, 17, 15, 14 except 22=-119(LC 12), 13=-127(LC 13)
Max Grav All reactions 250 lb or less at joint(s) 12, 2, 18, 19, 20, 21, 22, 17, 15, 14 except 13=262(LC 20)

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

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone;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) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
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 30.0psf 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 19, 20, 21, 17, 15, 14 except (jt=lb) 22=119, 13=127.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	C2	COMMON	3	1	I57003258 Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:01 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-Yv6JsFvefTtkGsNzYiIhnQ2sUciXub67rHKRDvzdg90

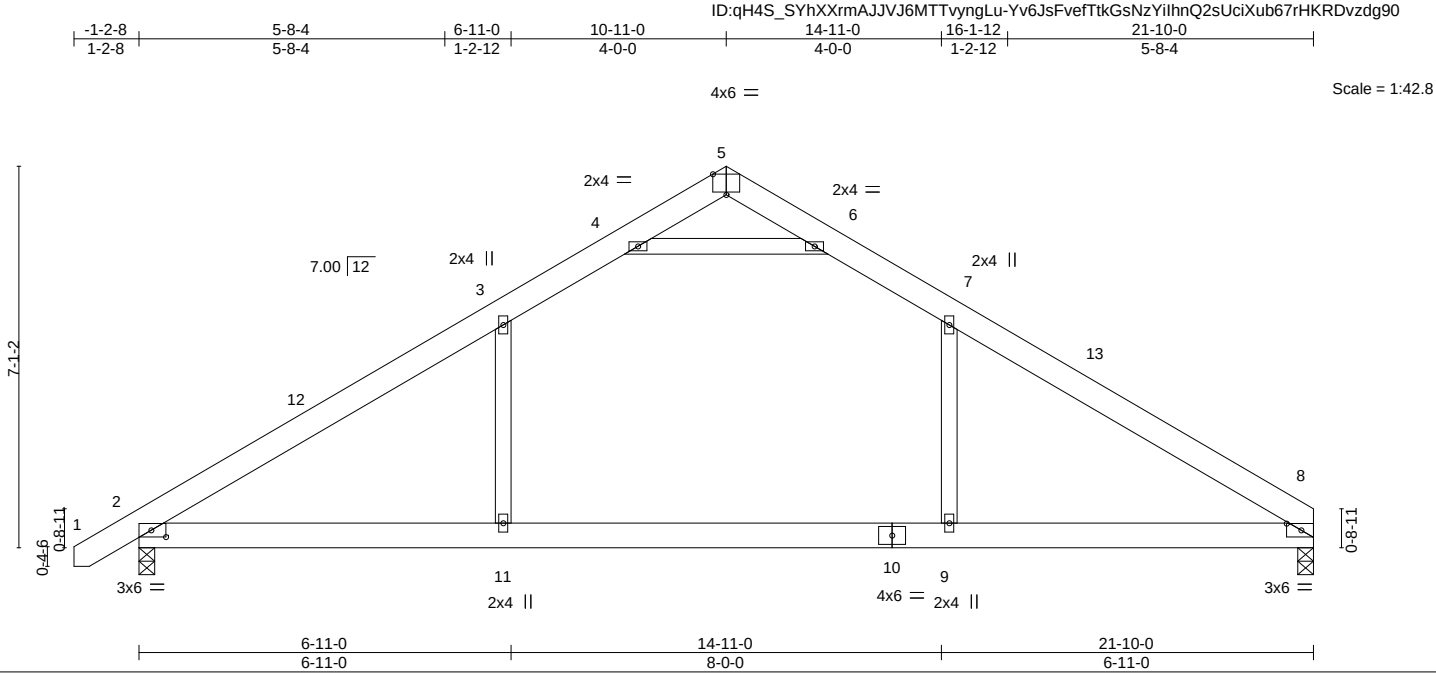


Plate Offsets (X,Y)-- [2:0-3-4,0-1-8], [5:0-3-0,Edge], [8:0-3-4,0-1-8]

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	0.54	Vert(LL)	-0.16	9-11	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.44	Vert(CT)	-0.25	9-11	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.40	Horz(CT)	0.02	8	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-S		Wind(LL)	0.10	8-9	>999	240	Weight: 131 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP No.1
WEBS 2x4 SP No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 5-8-1 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 8=0-3-8, 2=0-3-8
Max Horz 2=164(LC 11)
Max Uplift 8=-48(LC 13), 2=-65(LC 12)
Max Grav 8=991(LC 20), 2=1062(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1496/226, 3-4=-1096/286, 4-5=-99/546, 5-6=-88/548, 6-7=-1096/295, 7-8=-1488/229
BOT CHORD 2-11=-85/1171, 9-11=-85/1171, 8-9=-85/1171
WEBS 7-9=0/455, 3-11=0/465, 4-6=-1740/441

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) -1-0-13 to 3-4-0, Interior(1) 3-4-0 to 10-11-0, Exterior(2) 10-11-0 to 15-0-12, Interior(1) 15-0-12 to 21-8-4 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 30.0psf 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.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 8, 2.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	C3	COMMON	1	1	I57003259
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:02 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-05gh3bwGQn?bt?y95QpwKeb2k00Id1cG4w4?lLzdg9?

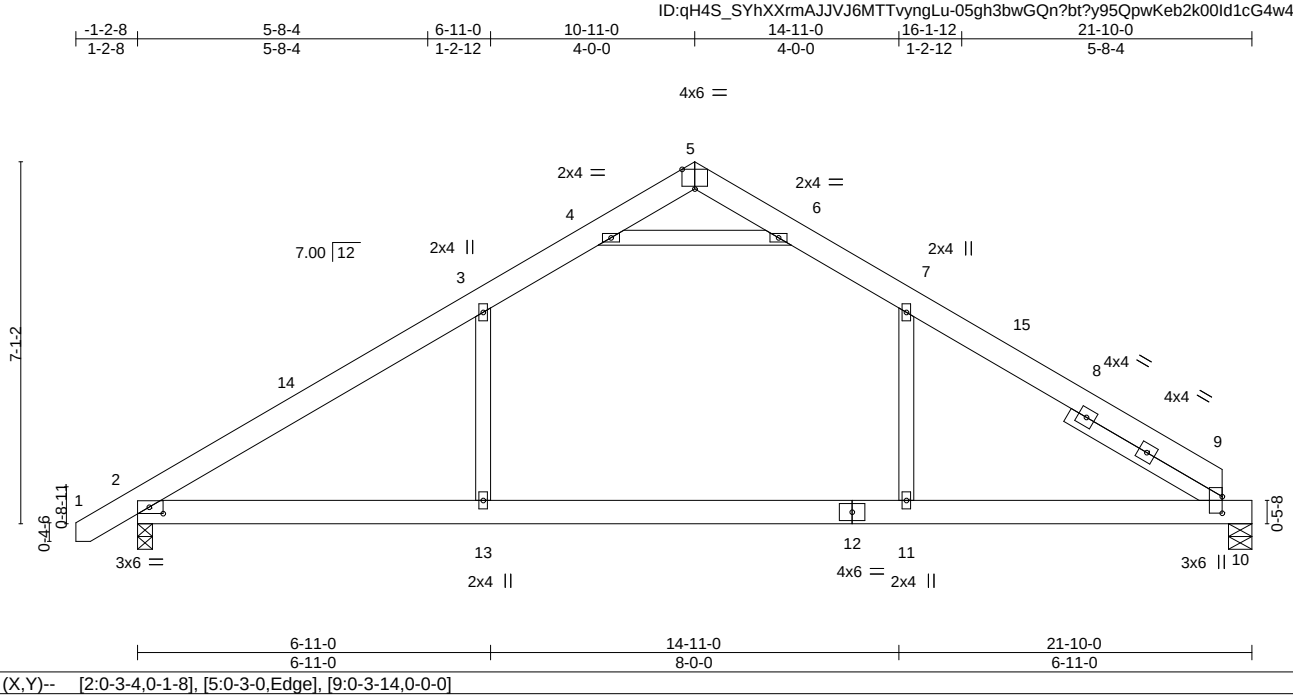


Plate Offsets (X,Y)-- [2:0-3-4,0-1-8], [5:0-3-0,Edge], [9:0-3-14,0-0-0]

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	0.50	Vert(LL)	-0.15	11-13	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.47	Vert(CT)	-0.23	11-13	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.39	Horz(CT)	0.02	10	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-S		Wind(LL)	0.10	2-13	>999	240	Weight: 135 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP No.1
WEBS 2x4 SP No.2
SLIDER Right 2x4 SP No.2 3-5-8

BRACING-
TOP CHORD Structural wood sheathing directly applied or 5-11-9 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 2=0-3-8, 10=0-5-8
Max Horz 2=164(LC 11)
Max Uplift 2=-65(LC 12), 10=-40(LC 13)
Max Grav 2=1058(LC 19), 10=966(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1478/222, 3-4=-1089/286, 4-5=-84/493, 5-6=-77/502, 6-7=-1079/292, 7-9=-1480/239
BOT CHORD 2-13=-82/1157, 11-13=-82/1157, 9-11=-82/1157
WEBS 7-11=0/492, 3-13=0/449, 4-6=-1664/425

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) -1-0-13 to 3-4-0, Interior(1) 3-4-0 to 10-11-0, Exterior(2) 10-11-0 to 15-0-12, Interior(1) 15-0-12 to 21-3-0 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 30.0psf 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.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 10.

March 6,2023

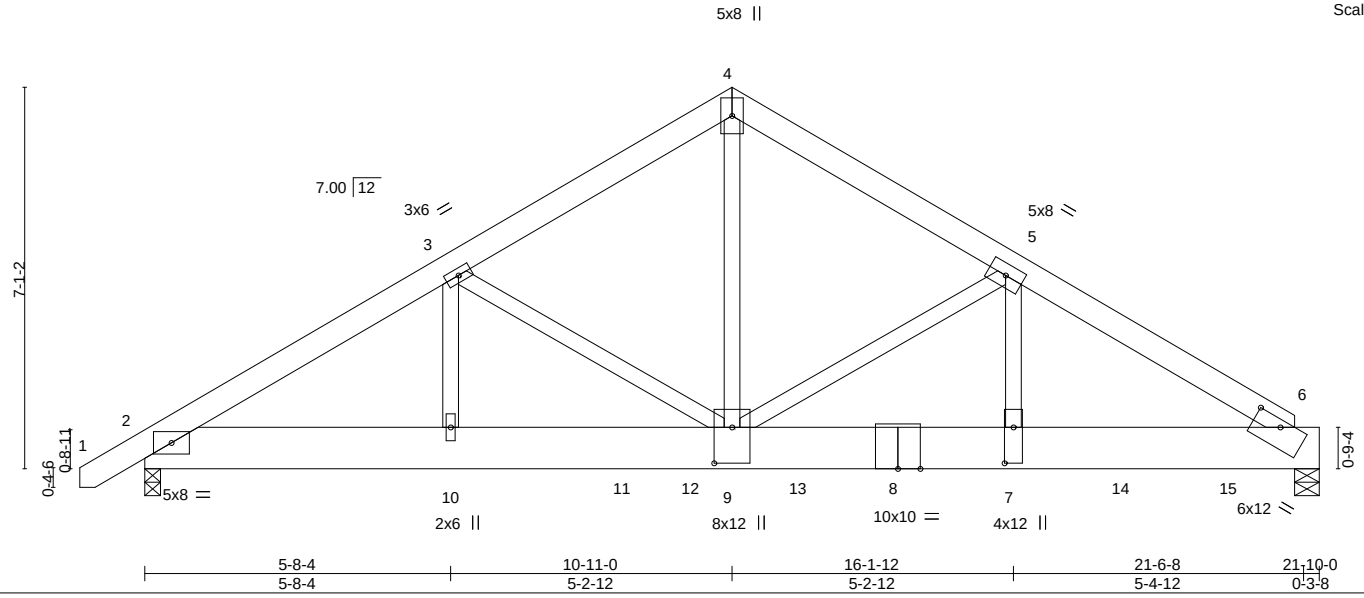
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	C4	COMMON GIRDER	1	3	I57003260
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:04 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-yUoRUHxWyOFI7J5YDrrOP3gPvpbg5ozZXEZ6pEzdg8z

-1-2-8	5-8-4	10-11-0	16-1-12	21-6-8	21-10-0
1-2-8	5-8-4	5-2-12	5-2-12	5-4-12	0-3-8

Scale = 1:42.8



5-8-4	10-11-0	16-1-12	21-6-8	21-10-0
5-8-4	5-2-12	5-2-12	5-4-12	0-3-8

Plate Offsets (X,Y)-- [6:0-6-0,0-1-10], [7:0-8-0,0-2-0], [9:0-8-0,0-4-0]

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	0.40	Vert(LL)	-0.11	7-9	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.92	Vert(CT)	-0.16	7-9	>999	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.97	Horz(CT)	0.04	6	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-S		Wind(LL)	0.02	9-10	>999	240	Weight: 544 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x10 SP No.1 *Except*
6-8: 2x10 SP 2400F 2.0E
WEBS 2x4 SP No.2

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

REACTIONS. (size) 6=0-5-8, 2=0-3-8
Max Horz 2=163(LC 5)
Max Uplift 6=-239(LC 9), 2=-344(LC 8)
Max Grav 6=10527(LC 14), 2=5311(LC 2)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-9607/634, 3-4=-9467/507, 4-5=-9459/508, 5-6=-15071/410
BOT CHORD 2-10=-547/8111, 9-10=-547/8111, 7-9=-283/12777, 6-7=-283/12777
WEBS 4-9=-418/9283, 5-9=-5469/326, 5-7=-174/6131, 3-9=-947/266, 3-10=-116/791

NOTES-
1) 3-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x10 - 4 rows staggered at 0-5-0 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) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); Lumber DOL=1.60 plate grip DOL=1.60
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 30.0psf 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 6=239, 2=344.
8) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 2119 lb down and 477 lb up at 8-10-8, 2277 lb down at 10-1-12, 2320 lb down at 12-1-12, 2320 lb down at 14-1-12, 2320 lb down at 16-1-12, and 2320 lb down at 18-1-12, and 2320 lb down at 20-1-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 1-4=-60, 4-6=-60, 2-6=-20

March 6,2023

Continued on page 2

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

LOAD CASE(S) Standard
Concentrated Loads (lb)
Vert: 8=-598(F) 7=-598(F) 11=-2119(F) 12=-606(F) 13=-598(F) 14=-598(F) 15=-598(F)

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	D1-GE	GABLE	1	1	I57003261
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:05 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-QgMpicy8jiN9kTgknYMdxGDbND7fqTFimuIfLgzdg8y

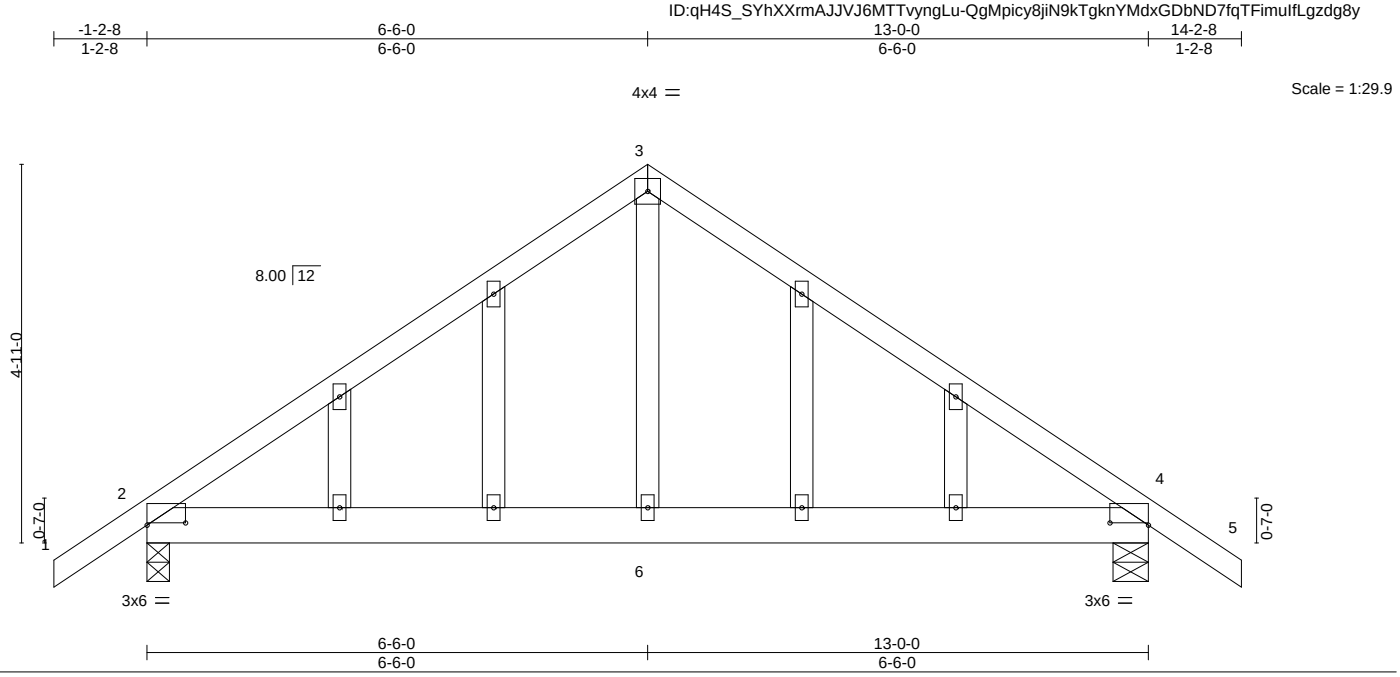


Plate Offsets (X,Y)-- [2:0-6-0,0-0-6], [4:0-6-0,0-0-6]

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	0.35	Vert(LL)	-0.01	2-6	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.17	Vert(CT)	-0.03	2-6	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-S		Wind(LL)	0.02	2-6	>999	240	Weight: 78 lb	FT = 20%

LUMBER-

TOP CHORD	2x4 SP No.1
BOT CHORD	2x6 SP No.1
WEBS	2x4 SP No.2
OTHERS	2x4 SP No.2

BRACING-

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 2=0-3-8, 4=0-5-8
Max Horz 2=-154(LC 10)
Max Uplift 2=-136(LC 12), 4=-138(LC 13)
Max Grav 2=586(LC 1), 4=592(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-605/168, 3-4=-606/168
BOT CHORD 2-6=-20/416, 4-6=-20/416
WEBS 3-6=0/323

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone;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) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable studs spaced at 2-0-0 oc.
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 30.0psf 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.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 2=136, 4=138.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	D2	COMMON	3	1	I57003262
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:06 2023 Page 1

ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-utvCvyzmU0V0MdFwKGusUUlm7dTuZwVs?Y2Ct7zdg8x

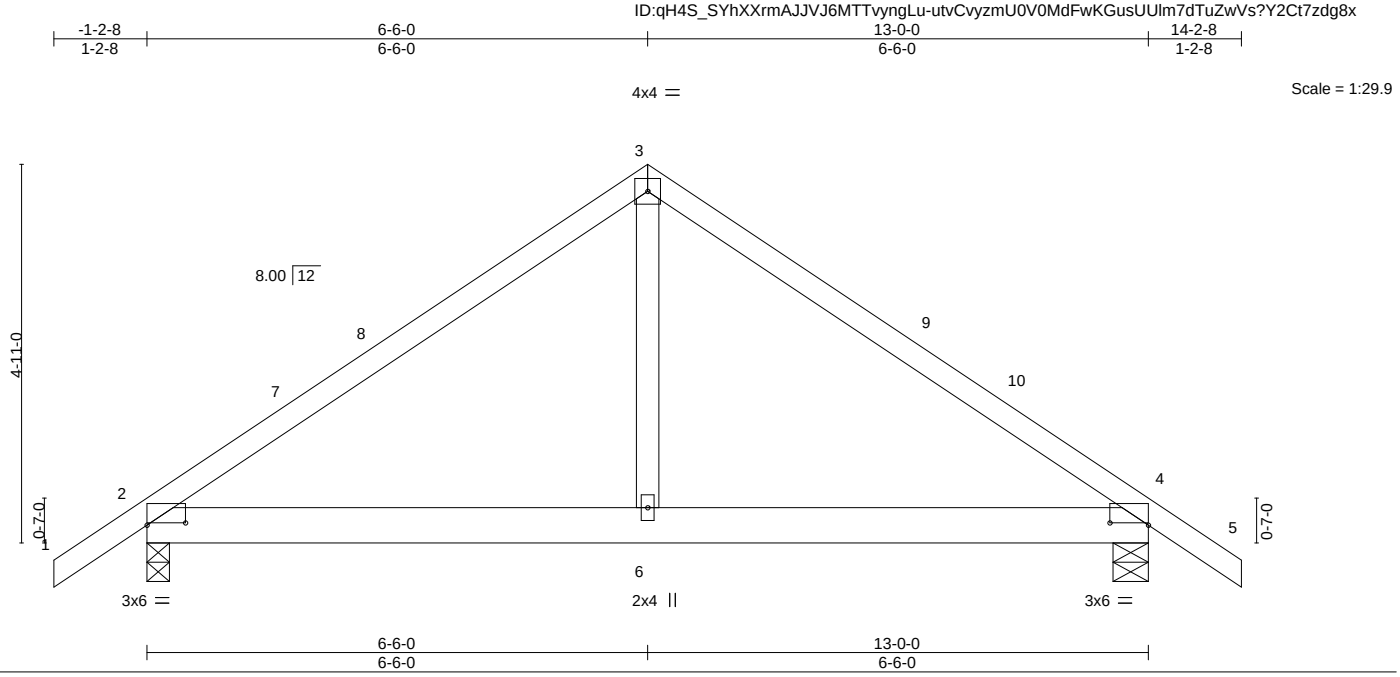


Plate Offsets (X,Y)-- [2:0-6-0,0-0-6], [4:0-6-0,0-0-6]

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	0.35	Vert(LL)	-0.01	2-6	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.17	Vert(CT)	-0.03	2-6	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2015/TPI2014	Matrix-S		Wind(LL)	0.01	2-6	>999	240	Weight: 65 lb	FT = 20%

LUMBER-

TOP CHORD 2x4 SP No.1
BOT CHORD 2x6 SP No.1
WEBS 2x4 SP No.2

BRACING-

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 2=0-3-8, 4=0-5-8
Max Horz 2=-123(LC 10)
Max Uplift 2=-46(LC 12), 4=-46(LC 13)
Max Grav 2=586(LC 1), 4=592(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-605/154, 3-4=-606/154
BOT CHORD 2-6=0/406, 4-6=0/406
WEBS 3-6=0/323

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) -1-2-8 to 3-2-5, Interior(1) 3-2-5 to 6-6-0, Exterior(2) 6-6-0 to 10-10-13, Interior(1) 10-10-13 to 14-2-8 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 30.0psf 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.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 4.

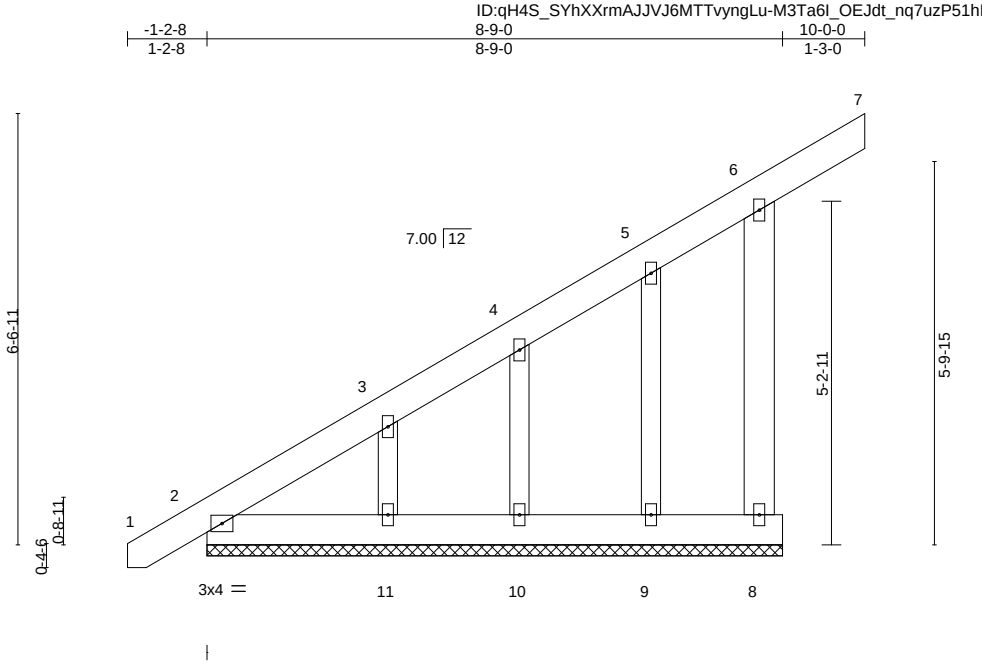
March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	M1-GE	GABLE	1	1	I57003263
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:07 2023 Page 1

ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-M3Ta6I_OEJdt_nq7uzP51hI0S1rWIOB?DCnmQZzdg8w



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	0.06	Vert(LL)	0.00	7	n/r	120	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	0.00	6	n/r	120		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00		n/a	n/a		
BCDL	10.0	Code	IRC2015/TPI2014	Matrix-P							Weight: 74 lb	FT = 20%

LUMBER-

TOP CHORD	2x6 SP No.1
BOT CHORD	2x6 SP No.1
WEBS	2x6 SP No.1
OTHERS	2x4 SP No.2

BRACING-

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

REACTIONS. All bearings 8-9-0.
(lb) - Max Horz 2=293(LC 12)
Max Uplift All uplift 100 lb or less at joint(s) 9, 10 except 8=-130(LC 12), 11=-121(LC 12)
Max Grav All reactions 250 lb or less at joint(s) 8, 2, 9, 10, 11

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-333/250

NOTES-

1) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) All plates are 2x4 MT20 unless otherwise indicated.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 2-0-0 oc.
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 30.0psf 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.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 9, 10 except (jt=lb) 8=130, 11=121.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	M2	JACK-CLOSED	5	1	I57003264 Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:08 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-qF1yKe_1?dlkbwPJSgwKZvr7XR9L1r69SsXJy?zdg8v

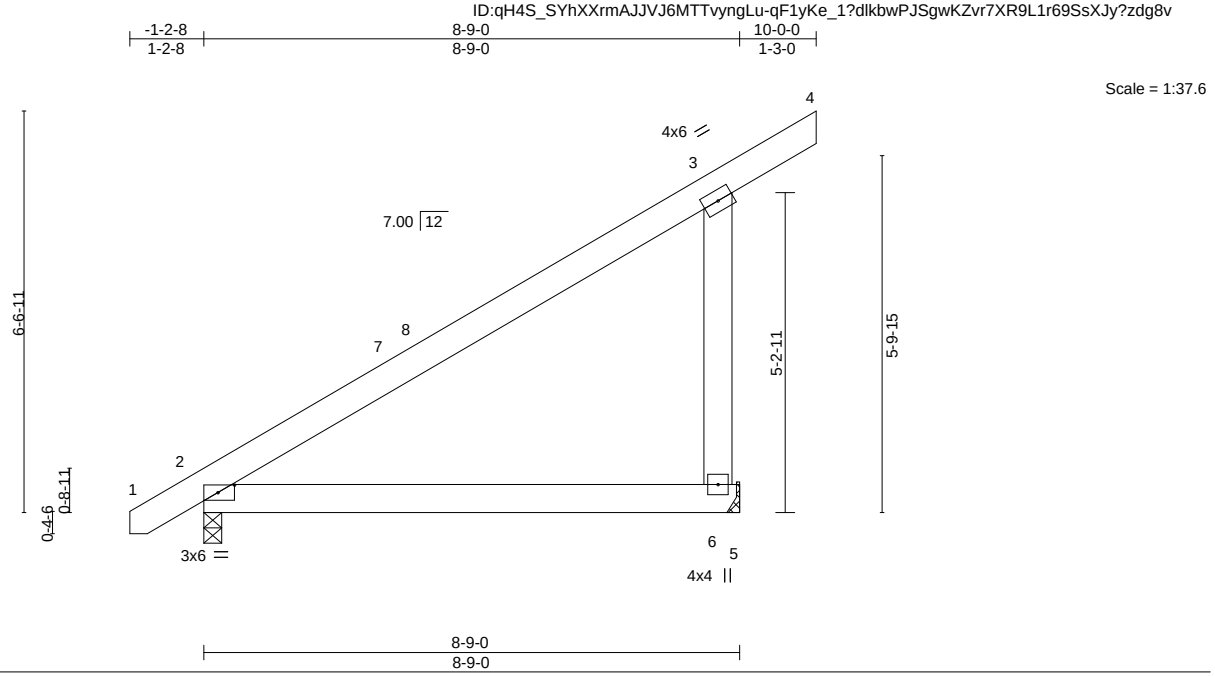


Plate Offsets (X,Y)-- [2:0-3-4,0-1-8]

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	0.29	Vert(LL)	-0.03	2-6	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.17	Vert(CT)	-0.06	2-6	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	6	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-P		Wind(LL)	0.02	2-6	>999	240	Weight: 62 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP No.1
WEBS 2x6 SP No.1

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

REACTIONS. (size) 6=Mechanical, 2=0-3-8
Max Horz 2=201(LC 12)
Max Uplift 6=-122(LC 12)
Max Grav 6=456(LC 19), 2=399(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 3-6=-363/312

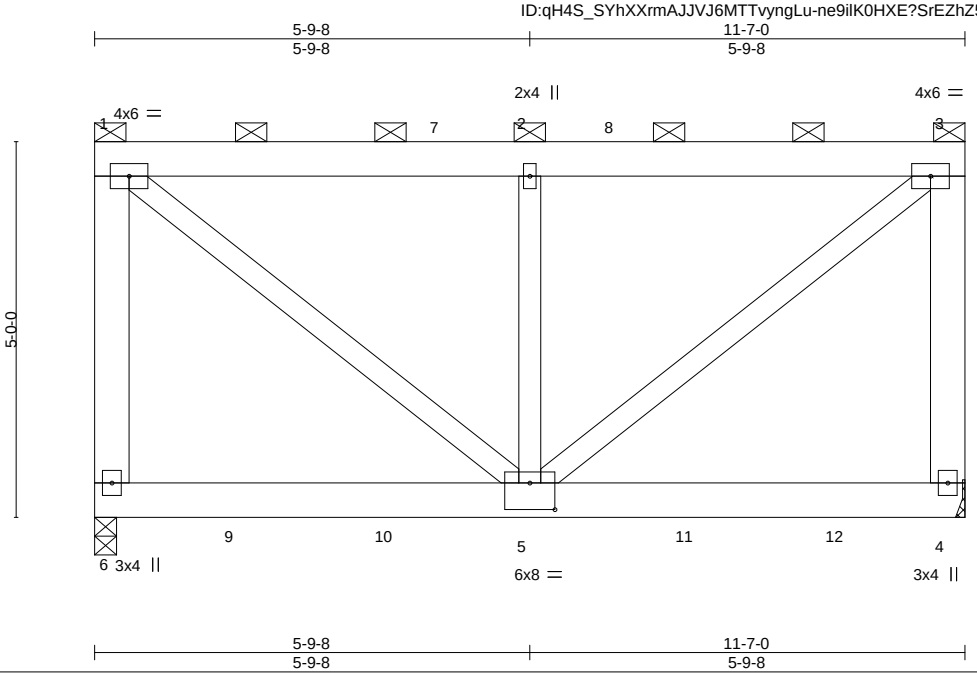
NOTES-
1) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) -1-0-13 to 3-4-0, Interior(1) 3-4-0 to 10-0-0 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 30.0psf 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.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 6=122.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	M3	Flat	1	2	I57003265
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:10 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-ne9ilK0HXE?SrEZhZ5yoeKwVXEmAVipRwA0Q1uzdg8t



Scale = 1:30.7

Plate Offsets (X,Y)-- [5:0-4-0,0-4-4]

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	0.13	Vert(LL)	-0.03	5-6	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.40	Vert(CT)	-0.06	5-6	>999	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.24	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-S		Wind(LL)	0.03	5-6	>999	240	Weight: 198 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP No.1
WEBS 2x4 SP No.2 *Except*
1-6,3-4: 2x6 SP No.1

BRACING-
TOP CHORD 2-0-0 oc purlins (6-0-0 max.): 1-3, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 6=0-3-8, 4=Mechanical
Max Uplift 6=-565(LC 8), 4=-457(LC 8)
Max Grav 6=2282(LC 1), 4=2139(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-6=-1606/650, 1-2=-1629/554, 2-3=-1629/554, 3-4=-1431/545
WEBS 1-5=-679/1988, 2-5=-320/244, 3-5=-679/1988

NOTES-
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered 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 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) 0-2-12 to 4-7-9, Interior(1) 4-7-9 to 11-4-4 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
4) Provide adequate drainage to prevent water ponding.
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 30.0psf 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) 6=565, 4=457.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 175 lb down and 145 lb up at 0-2-12 on top chord, and 418 lb down and 142 lb up at 1-10-12, 418 lb down and 142 lb up at 3-10-12, 418 lb down and 142 lb up at 5-10-12, and 418 lb down and 142 lb up at 7-10-12, and 418 lb down and 142 lb up at 9-10-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15

March 6,2023

Continued on page 2

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

LOAD CASE(S) Standard

Uniform Loads (plf)

Vert: 1-3=-60, 4-6=-134(F=-114)

Concentrated Loads (lb)

Vert: 1=-175 5=-418(B) 9=-418(B) 10=-418(B) 11=-418(B) 12=-418(B)

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	P1	MONOPITCH	7	1	I57003266
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:11 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-Fqj5yg1vlY7JSO8u7pT1BXTa0e8mECsb8qlzZKzdg8s

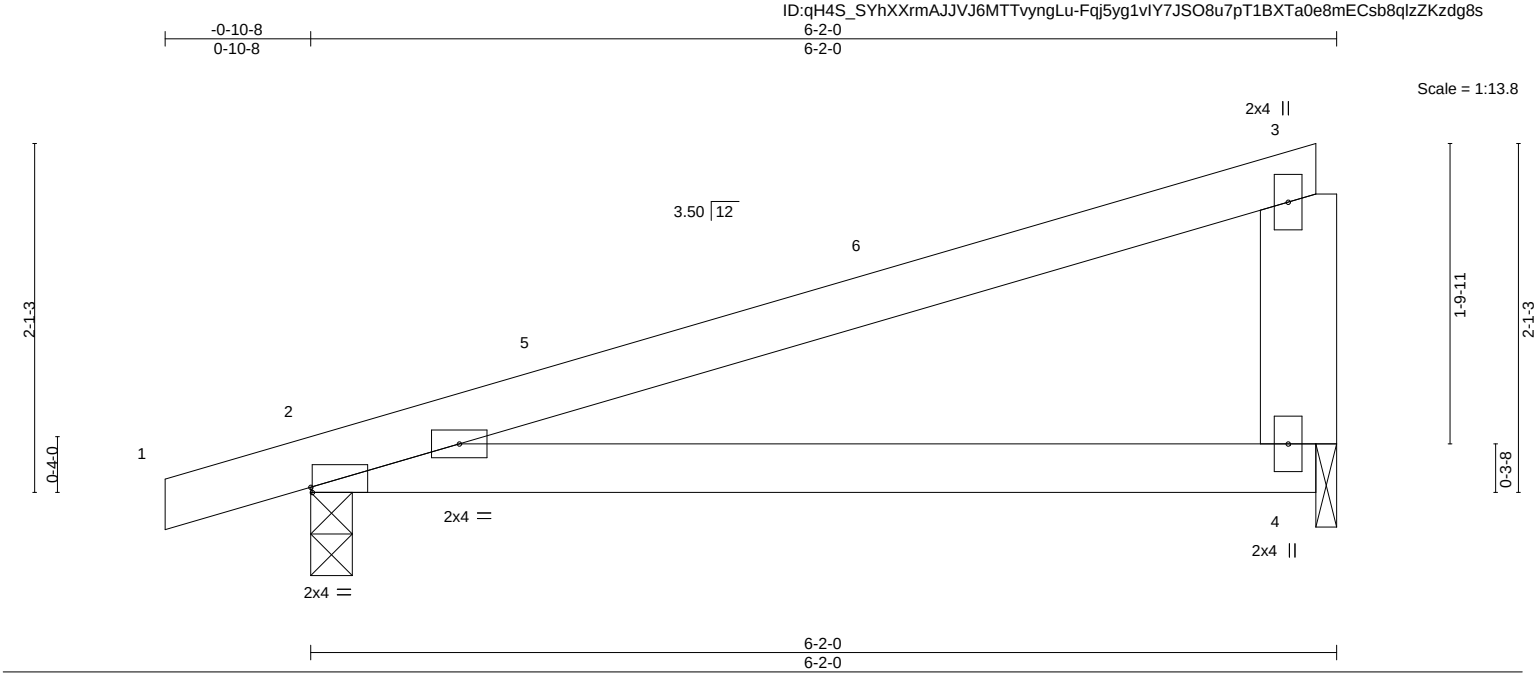


Plate Offsets (X,Y)-- [2:0-0-2,Edge]

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	0.47	Vert(LL)	-0.06	2-4	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.32	Vert(CT)	-0.12	2-4	>582	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00		n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-P		Wind(LL)	0.13	2-4	>526	240	Weight: 23 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.1
BOT CHORD 2x4 SP No.1
WEBS 2x6 SP No.1

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

REACTIONS. (size) 2=0-3-0, 4=0-1-8
Max Horz 2=68(LC 8)
Max Uplift 2=-120(LC 8), 4=-95(LC 8)
Max Grav 2=298(LC 1), 4=227(LC 1)

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

NOTES-
1) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) -0-10-8 to 3-6-5, Interior(1) 3-6-5 to 5-11-4 zone; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 30.0psf 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.
4) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
5) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 4 except (jt=lb) 2=120.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	VA1	VALLEY	1	1	I57003267 Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:12 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-j1HTA01X3sFA4Yj4hW_Gjl?q?2Xezf7kNUVX5mzdg8r

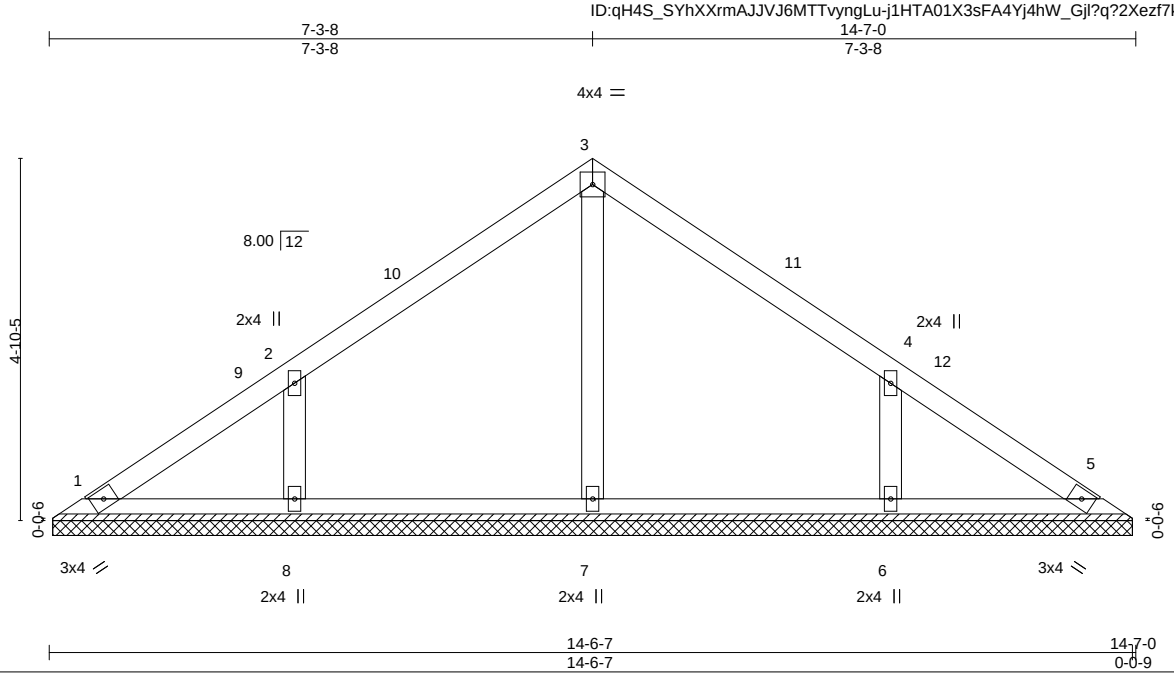


Plate Offsets (X,Y)-- [4:0-0-0,0-0-0]

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	0.13	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.08	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2014		Matrix-S							Weight: 57 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.1
BOT CHORD 2x4 SP No.1
OTHERS 2x4 SP No.2

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

REACTIONS. All bearings 14-5-14.
(lb) - Max Horz 1=-109(LC 8)
Max Uplift All uplift 100 lb or less at joint(s) 1, 8, 6
Max Grav All reactions 250 lb or less at joint(s) 1, 5 except 7=258(LC 1), 8=345(LC 19), 6=345(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS 2-8=-294/201, 4-6=-294/201

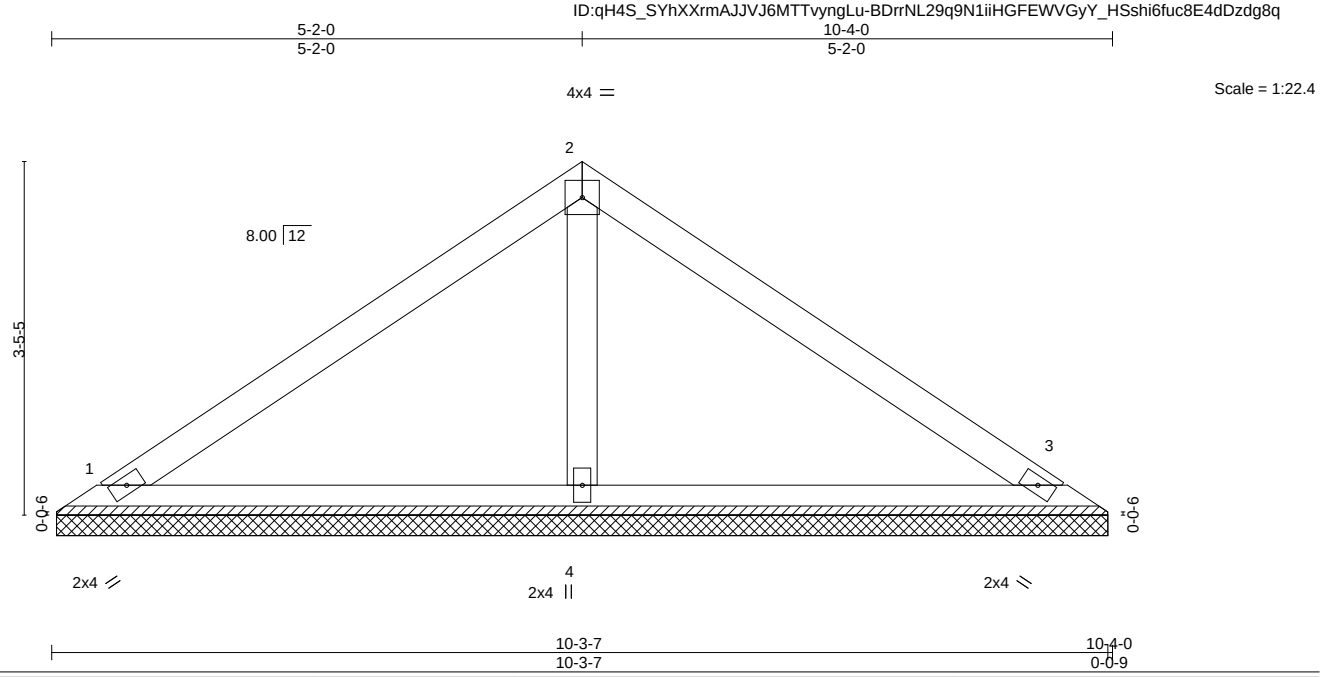
NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) 0-5-15 to 4-10-12, Interior(1) 4-10-12 to 7-3-8, Exterior(2) 7-3-8 to 11-8-5, Interior(1) 11-8-5 to 14-1-1 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Gable requires continuous bottom chord bearing.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 30.0psf 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.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 8, 6.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	VA2	VALLEY	1	1	I57003268
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:13 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-BDrrNL29q9N1iiHGFEWVGyY_HSshi6fuc8E4dDzdg8q



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	0.23	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.16	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 36 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.1
BOT CHORD 2x4 SP No.1
OTHERS 2x4 SP No.2

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

REACTIONS. (size) 1=10-2-14, 3=10-2-14, 4=10-2-14
Max Horz 1=-75(LC 8)
Max Uplift 1=-23(LC 12), 3=-30(LC 13)
Max Grav 1=186(LC 1), 3=186(LC 1), 4=377(LC 1)

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

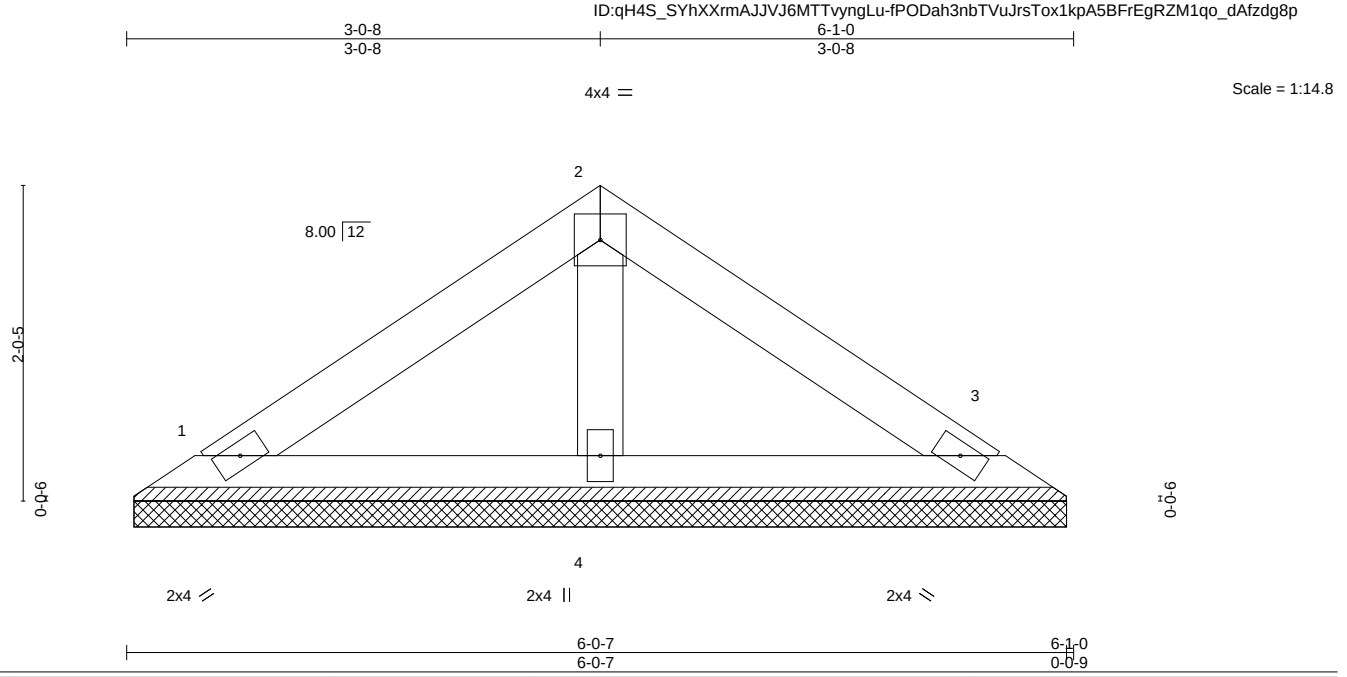
NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Gable requires continuous bottom chord bearing.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 30.0psf 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.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3.

March 6,2023

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

Job	Truss	Truss Type	Qty	Ply	Precision/18 Liberty Meadows/Harnett
J0323-1149	VA3	VALLEY	1	1	I57003269
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Mar 6 10:33:14 2023 Page 1
ID:qH4S_SYhXXrmAJJVJ6MTTvyngLu-fPODah3nbTVuJrsTox1kpA5BFrEgRZM1qo_dAfzdg8p



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	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2015/TPI2014	Matrix-P							Weight: 20 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.1
BOT CHORD 2x4 SP No.1
OTHERS 2x4 SP No.2

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

REACTIONS. (size) 1=5-11-14, 3=5-11-14, 4=5-11-14
Max Horz 1=-41(LC 10)
Max Uplift 1=-17(LC 12), 3=-21(LC 13)
Max Grav 1=111(LC 1), 3=111(LC 1), 4=186(LC 1)

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

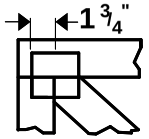
NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Gable requires continuous bottom chord bearing.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 30.0psf 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.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3.

March 6,2023

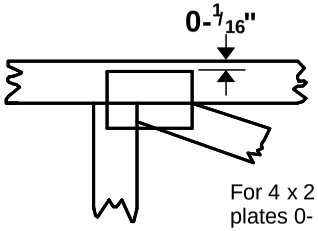
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Symbols

PLATE LOCATION AND ORIENTATION



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



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

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

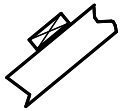
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

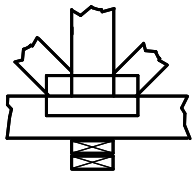
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

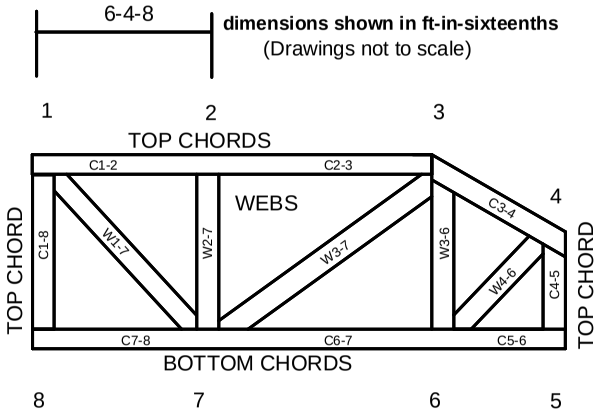


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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 BY TRENCO
A MiTek Affiliate

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

General Safety Notes

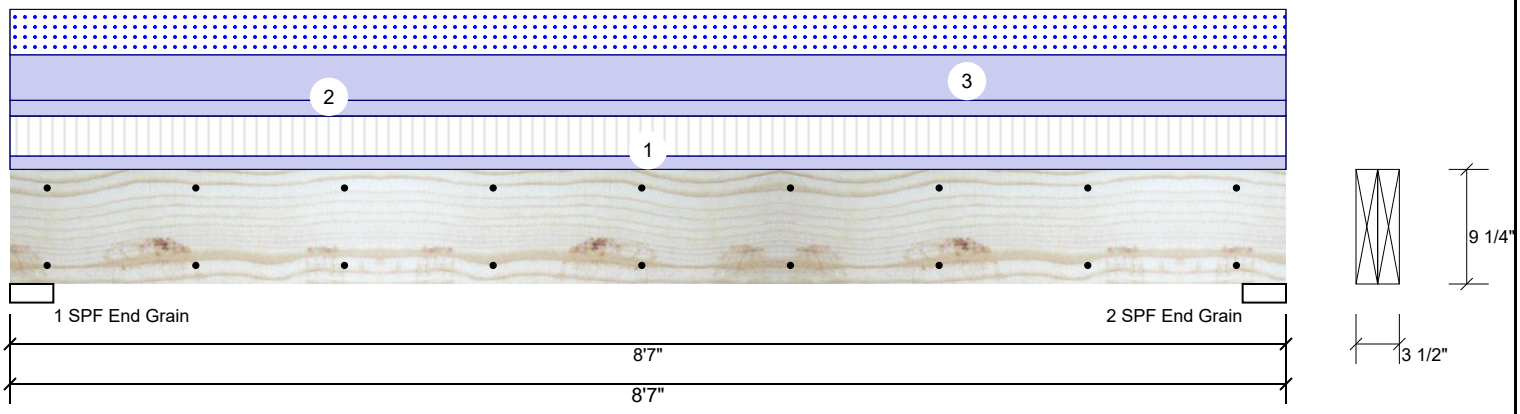
Failure to Follow Could Cause Property Damage or Personal Injury

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.

Client:		Date:	3/13/2023
Project:		Input by:	Neal Baggett
Address:		Job Name:	18 LIBERTY MEADOWS
		Project #:	

BM2 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	1318	2477	1494	0	0
2	Vertical	1318	2477	1494	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	45%	2477 / 2108	4585	L	D+0.75(L+S)
2 - SPF End Grain	3.500"	Vert	45%	2477 / 2108	4585	L	D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	8817 ft-lb	4'3 1/2"	14423 ft-lb	0.611 (61%)	D+0.75(L+S)	L
Unbraced	8817 ft-lb	4'3 1/2"	14423 ft-lb	0.611 (61%)	D+0.75(L+S)	L
Shear	3456 lb	7'6 1/4"	7943 lb	0.435 (44%)	D+0.75(L+S)	L
LL Defl inch	0.119 (L/821)	4'3 9/16"	0.203 (L/480)	0.585 (58%)	0.75(L+S)	L
TL Defl inch	0.258 (L/377)	4'3 9/16"	0.271 (L/360)	0.954 (95%)	D+0.75(L+S)	L

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Girders are designed to be supported on the bottom edge only.
5 Top loads must be supported equally by all plies.
6 Top must be continuously laterally braced.
7 Bottom must be laterally braced at bearings.
8 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	102 PLF	307 PLF	0 PLF	0 PLF	0 PLF	F3
2	Uniform			Top	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall
3	Uniform			Top	348 PLF	0 PLF	348 PLF	0 PLF	0 PLF	B2
	Self Weight				7 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

Manufacturer Info

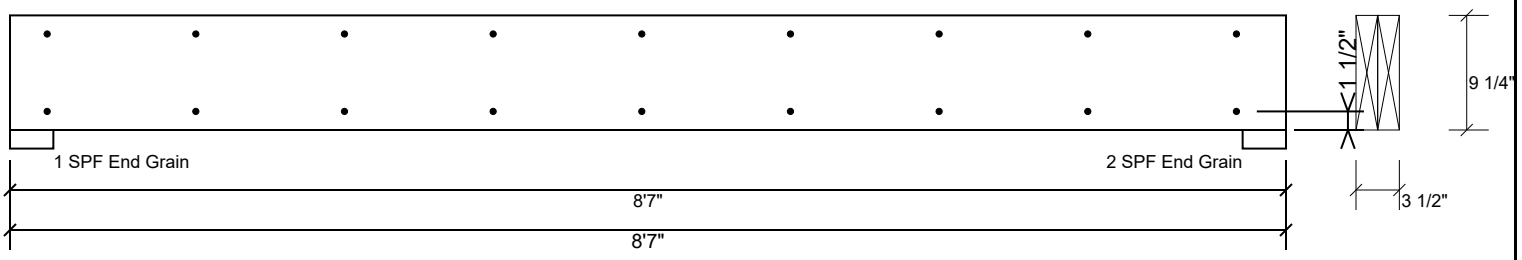
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS

Client:		Date:	3/13/2023
Project:		Input by:	Neal Baggett
Address:		Job Name:	18 LIBERTY MEADOWS
		Project #:	

BM2 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	163.7 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

Manufacturer Info

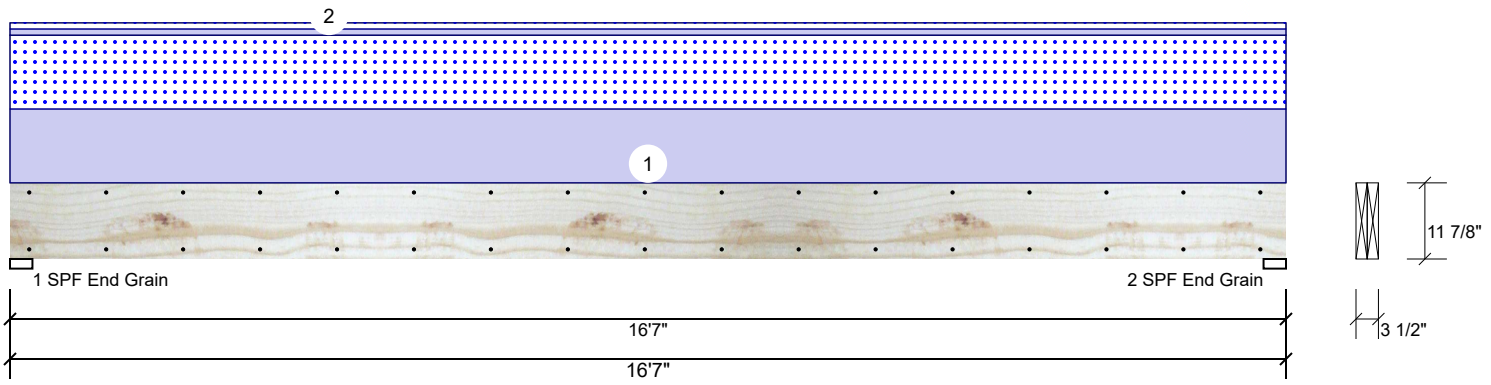
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS

Client:		Date:	3/13/2023
Project:		Input by:	Neal Baggett
Address:		Job Name:	18 LIBERTY MEADOWS
		Project #:	

GDH Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1154	1078	0	0
2	Vertical	0	1154	1078	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	22%	1154 / 1078	2232	L	D+S
2 - SPF End Grain	3.500"	Vert	22%	1154 / 1078	2232	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	8751 ft-lb	8'3 1/2"	22897 ft-lb	0.382 (38%)	D+S	L
Unbraced	8751 ft-lb	8'3 1/2"	8756 ft-lb	0.999 (100%)	D+S	L
Shear	1897 lb	15'3 5/8"	10197 lb	0.186 (19%)	D+S	L
LL Defl inch	0.214 (L/904)	8'3 9/16"	0.538 (L/360)	0.398 (40%)	S	L
TL Defl inch	0.444 (L/436)	8'3 9/16"	0.806 (L/240)	0.550 (55%)	D+S	L

Design Notes

1. Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2. Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3. Refer to last page of calculations for fasteners required for specified loads.
4. Girders are designed to be supported on the bottom edge only.
5. Top loads must be supported equally by all plies.
6. Top must be laterally braced at a maximum of 10'10 3/8" o.c.
7. Bottom must be laterally braced at end bearings.
8. Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	120 PLF	0 PLF	120 PLF	0 PLF	0 PLF	C1-GE
2	Tie-In	0-0-0 to 16-7-0	0-6-0	Top	20 PSF	0 PSF	20 PSF	0 PSF	0 PSF	RAKE OH
	Self Weight				9 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

Manufacturer Info

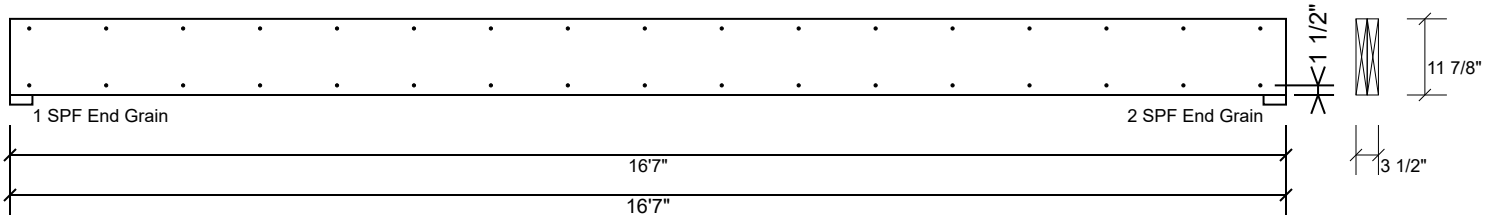
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS

Client:		Date:	3/13/2023
Project:		Input by:	Neal Baggett
Address:		Job Name:	18 LIBERTY MEADOWS
		Project #:	

GDH Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	163.7 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

Manufacturer Info

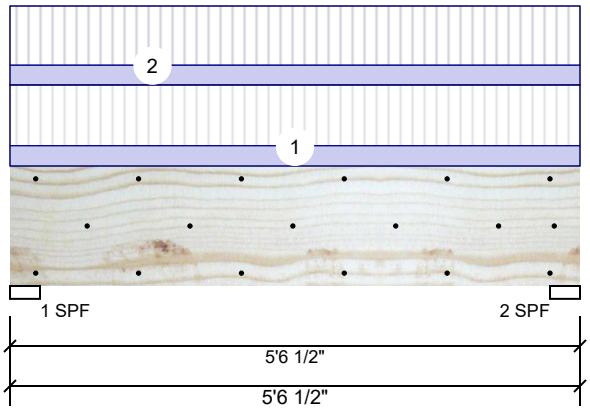
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

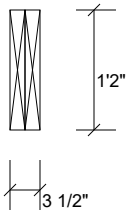
Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS

Client:		Date:	3/13/2023
Project:		Input by:	Neal Baggett
Address:		Job Name:	18 LIBERTY MEADOWS
		Project #:	

BM1 Kerto-S LVL 1.750" X 14.000" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	1721	604	0	0	0
2	Vertical	1721	604	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	45%	604 / 1721	2324	L	D+L
2 - SPF	3.500"	Vert	45%	604 / 1721	2324	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2710 ft-lb	2'9 1/4"	26999 ft-lb	0.100 (10%)	D+L	L
Unbraced	2710 ft-lb	2'9 1/4"	18950 ft-lb	0.143 (14%)	D+L	L
Shear	2080 lb	1'5 1/2"	10453 lb	0.199 (20%)	D+L	L
LL Defl inch	0.011 (L/5785)	2'9 1/4"	0.127 (L/480)	0.083 (8%)	L	L
TL Defl inch	0.014 (L/4282)	2'9 1/4"	0.169 (L/360)	0.084 (8%)	D+L	L

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Girders are designed to be supported on the bottom edge only.
5 Top must be laterally braced at end bearings.
6 Bottom must be laterally braced at end bearings.
7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Near Face	105 PLF	315 PLF	0 PLF	0 PLF	0 PLF	F4
2	Uniform			Far Face	102 PLF	306 PLF	0 PLF	0 PLF	0 PLF	F5
	Self Weight				11 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

Manufacturer Info

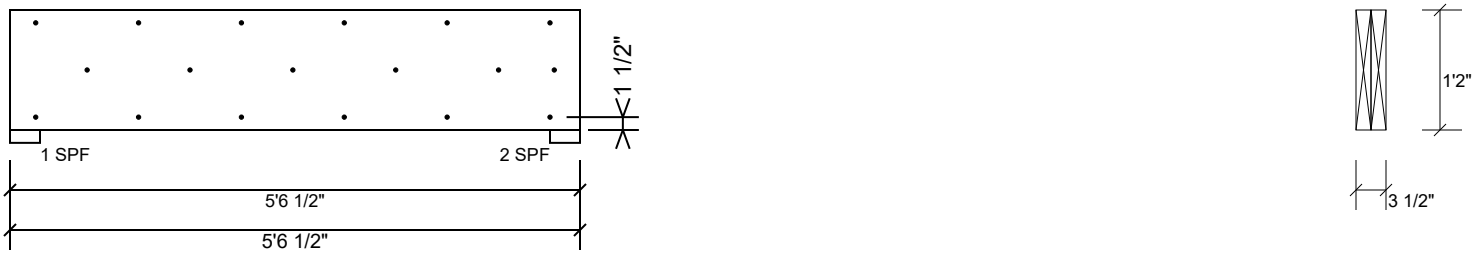
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS

Client:		Date:	3/13/2023
Project:		Input by:	Neal Baggett
Address:		Job Name:	18 LIBERTY MEADOWS
		Project #:	

BM1 Kerto-S LVL 1.750" X 14.000" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	85.5 %
Load	210.0 PLF
Yield Limit per Foot	245.6 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	D+L
Duration Factor	1.00

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

Manufacturer Info

Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS