ENGINEERING BY TRENCO
A MiTek Affiliate

RE: J0720-3499
Weaver / 14 West Park / Harnett

Trenco
818 Soundside Rd
Edenton, NC 27932

Site Information:

Customer: Project Name: J0720-3499
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 8.3
Wind Code: N/A Wind Speed: N/A mph
Roof Load: N/A psf Floor Load: 55.0 psf

This package includes 12 individual, dated Truss Design Drawings and 0 Additional Drawings.

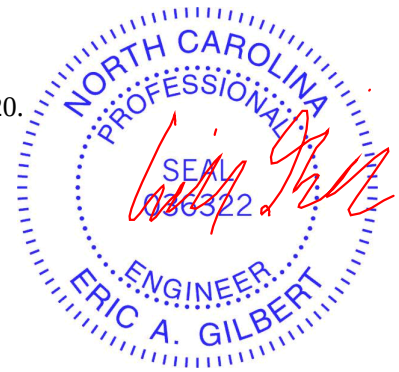
No.	Seal#	Truss Name	Date
1	E14705820	F1	8/6/2020
2	E14705821	F2	8/6/2020
3	E14705822	F3	8/6/2020
4	E14705823	F4	8/6/2020
5	E14705824	F4A	8/6/2020
6	E14705825	F5	8/6/2020
7	E14705826	F7	8/6/2020
8	E14705827	F7A	8/6/2020
9	E14705828	KW4	8/6/2020
10	E14705829	KW5	8/6/2020
11	E14705830	KW6	8/6/2020
12	E14705831	KW7	8/6/2020

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, 2020.

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.

August 06, 2020

Gilbert, Eric

Job	Truss	Truss Type	Qty	Ply	Weaver / 14 West Park / Harnett
J0720-3499	F1	Floor	3	1	E14705820
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Wed Aug 5 14:40:05 2020 Page 1
ID:6QM6oUdKO1jfjlNWahDSvtyxoet-VGTerwWYtDEwCCbPyn6GYfbJ0GXdC945pNLqWayqsze

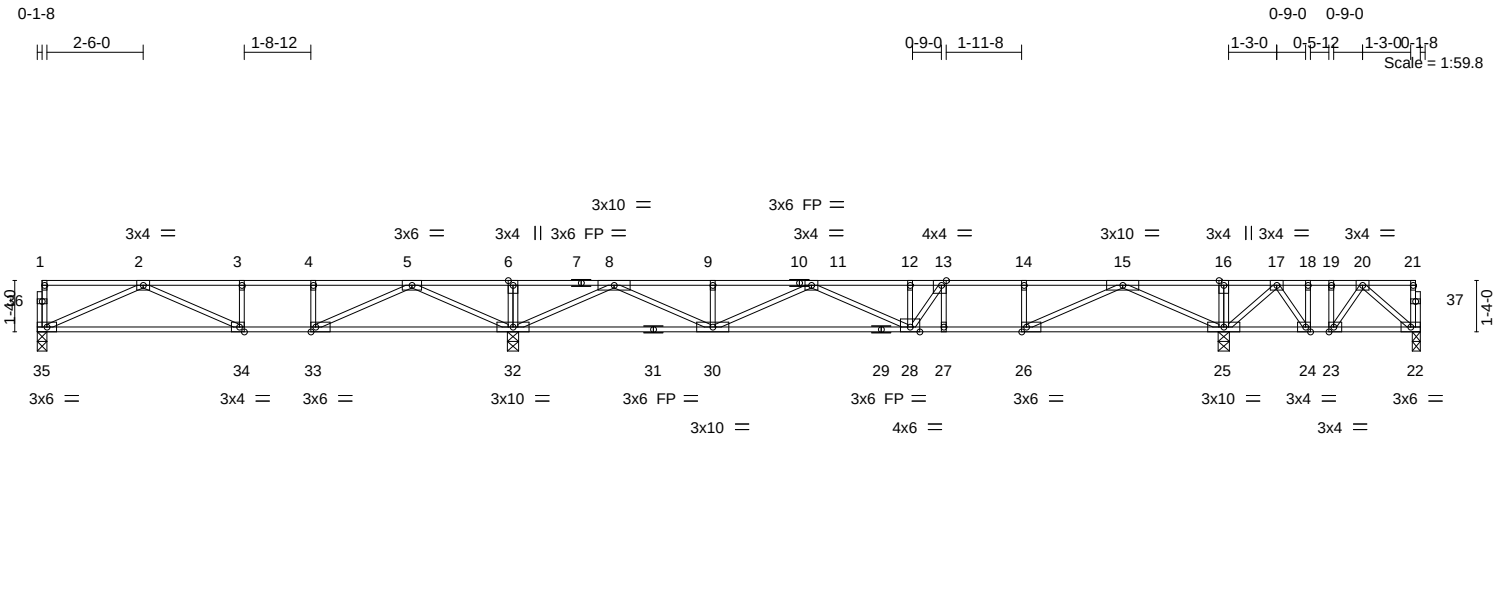


Plate Offsets (X,Y)-- [13:0-1-8,Edge], [23:0-1-8,Edge], [24:0-1-8,Edge], [26:0-1-8,Edge], [33:0-1-8,Edge], [34:0-1-8,Edge]

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	0.88	Vert(LL)	-0.30	27-28	>747	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.78	Vert(CT)	-0.39	27-28	>568	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.74	Horz(CT)	0.03	25	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 183 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat) *Except*
22-29: 2x4 SP 2400F 2.0E(flat)
WEBS 2x4 SP No.3(flat)

BRACING-
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS. All bearings 0-3-8 except (jt=length) 35=0-3-0, 22=0-2-8.
(lb) - Max Uplift All uplift 100 lb or less at joint(s) except 22=-230(LC 6)
Max Grav All reactions 250 lb or less at joint(s) 22 except 32=1949(LC 3), 35=583(LC 5), 25=1578(LC 11)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1280/416, 3-4=-1280/416, 4-5=-1280/416, 5-6=0/2174, 6-8=0/2174, 8-9=-1609/0, 9-11=-1609/0, 11-12=-2405/0, 12-13=-2405/0, 13-14=-1943/0, 14-15=-1943/0, 15-16=0/1257, 16-17=0/1250, 17-18=-106/539, 18-19=-106/539, 19-20=-106/539
BOT CHORD 34-35=-78/1002, 33-34=-416/1280, 32-33=-1101/519, 30-32=-274/291, 28-30=0/2276, 27-28=0/1943, 26-27=0/1943, 25-26=0/569, 24-25=-849/0, 23-24=-539/106, 22-23=-291/137
WEBS 6-32=-299/0, 16-25=-280/0, 2-35=-1098/87, 2-34=-373/307, 5-32=-1700/0, 5-33=0/1243, 4-33=-415/0, 8-32=-2177/0, 8-30=0/1554, 9-30=-259/0, 11-30=-837/0, 11-28=0/306, 12-28=-413/0, 15-25=-1992/0, 15-26=0/1541, 14-26=-445/0, 13-28=-3/796, 20-22=-178/388, 13-27=-410/0, 17-25=-722/0, 17-24=0/632, 18-24=-358/0, 20-23=-445/0, 19-23=0/254

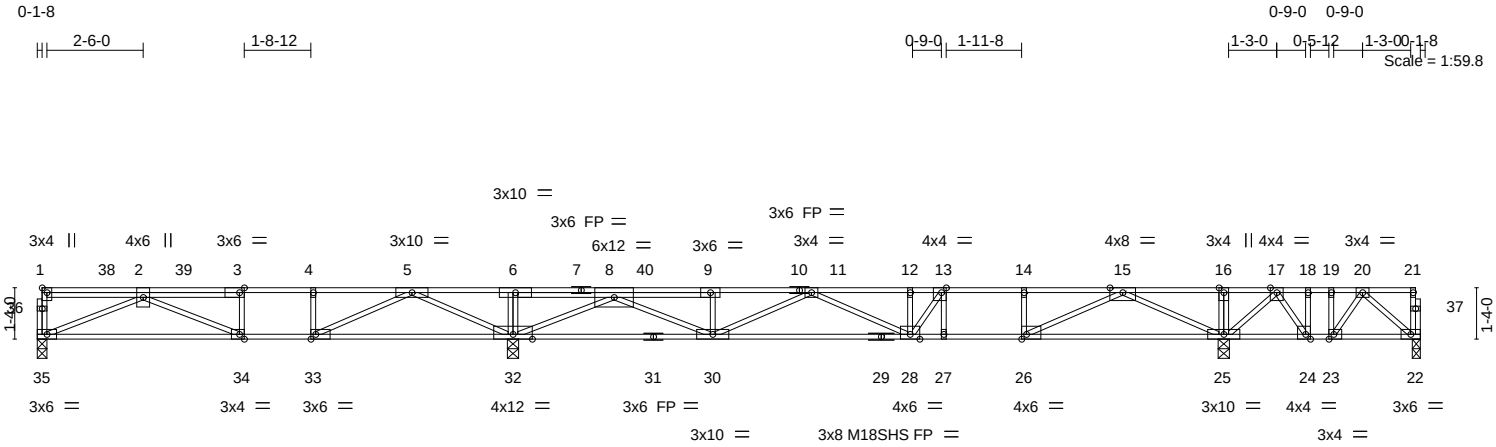
NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 22.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 230 lb uplift at joint 22.
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.

August 6,2020

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

Job	Truss	Truss Type	Qty	Ply	Weaver / 14 West Park / Harnett
J0720-3499	F2	Floor Girder	1	1	E14705821
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Wed Aug 5 14:40:07 2020 Page 1
ID:6QM6oUdKO1jfjlNWahDSvtyxoet-SfaOGbXoPqUeSVln4C8kd4gdd4A1g0LOHhqwbTyqszc



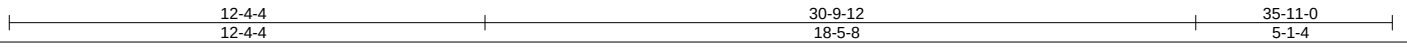


Plate Offsets (X,Y)-- [1:Edge,0-1-8], [3:0-1-8,Edge], [13:0-1-8,Edge], [23:0-1-8,Edge], [24:0-1-8,Edge], [26:0-1-8,Edge], [33:0-1-8,Edge], [34:0-1-8,Edge]

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	0.94	Vert(LL)	-0.31	27-28	>723	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.91	Vert(CT)	-0.41	27-28	>540	360	M18SHS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.95	Horz(CT)	0.03	25	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 198 lb	FT = 20%F, 11%E

LUMBER-

TOP CHORD	2x4 SP No.1(flat) *Except* 1-7,10-21: 2x4 SP 2400F 2.0E(flat)
BOT CHORD	2x4 SP No.1(flat) *Except* 22-29: 2x4 SP 2400F 2.0E(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. All bearings 0-3-8 except (jt=length) 35=0-3-0, 22=0-2-8.
(lb) - Max Uplift All uplift 100 lb or less at joint(s) except 22=-260(LC 6)
Max Grav All reactions 250 lb or less at joint(s) 22 except 35=650(LC 5), 32=2556(LC 3), 25=1660(LC 11)

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

TOP CHORD	2-3=-1101/389, 3-4=-1094/391, 4-5=-1094/391, 5-6=0/2880, 6-8=0/2850, 8-9=-2128/0, 9-11=-2116/0, 11-12=-2684/0, 12-13=-2684/0, 13-14=-2120/0, 14-15=-2120/0, 15-16=0/1367, 16-17=0/1359, 17-18=-28/601, 18-19=-28/601, 19-20=-28/601
BOT CHORD	34-35=0/1166, 33-34=-391/1094, 32-33=-1442/28, 30-32=0/685, 28-30=0/2649, 27-28=0/2120, 26-27=0/2120, 25-26=0/571, 24-25=-941/0, 23-24=-601/28, 22-23=-324/92
WEBS	6-32=-267/0, 16-25=-295/0, 2-35=-1266/0, 2-34=-783/0, 3-34=0/278, 5-32=-2081/0, 5-33=0/1554, 4-33=-551/0, 20-22=-119/431, 17-25=-755/0, 17-24=0/686, 18-24=-404/0, 20-23=-496/0, 19-23=0/298, 8-32=-3450/0, 8-30=0/1655, 9-30=-350/0, 11-30=-656/0, 12-28=-494/0, 15-25=-2110/0, 15-26=0/1722, 14-26=-511/0, 13-28=0/983, 13-27=-436/0

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) All plates are 1.5x3 MT20 unless otherwise indicated.
4) Plates checked for a plus or minus 1 degree rotation about its center.
5) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 22.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 260 lb uplift at joint 22.
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.
9) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 169 lb down at 1-9-12, 169 lb down at 3-9-12, and 169 lb down at 14-2-12, and 550 lb down at 15-9-8 on top chord. The design/selection of such connection device(s) is the responsibility of others.
10) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

August 6,2020

Continued on page 2

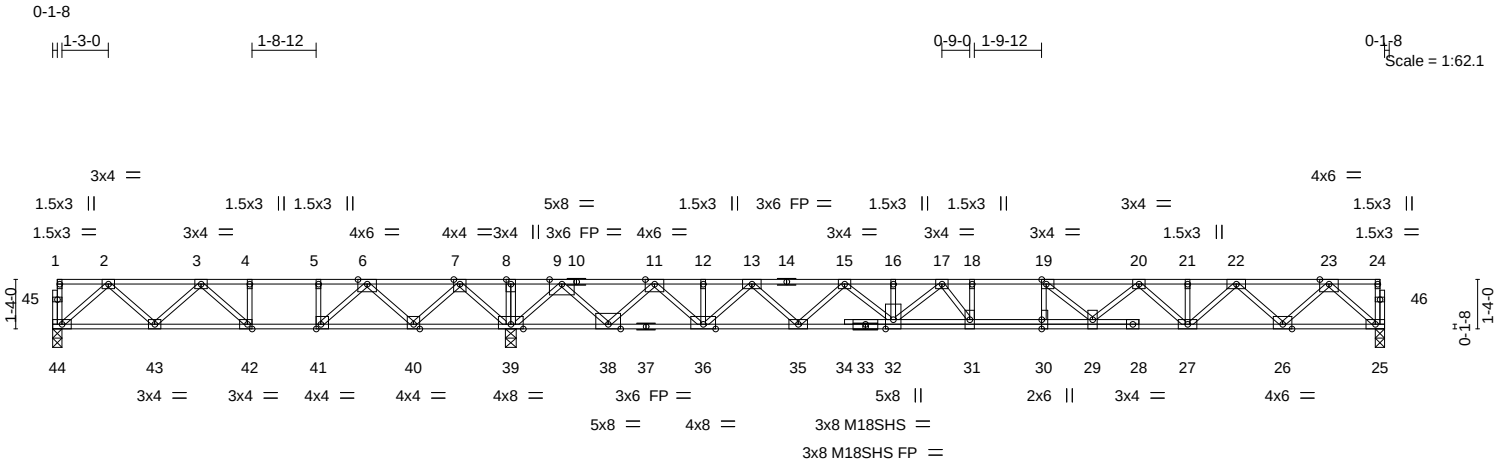
ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

LOAD CASE(S) Standard

1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
   Uniform Loads (plf)
   Vert: 22-35=-10, 1-21=-100
   Concentrated Loads (lb)
   Vert: 7=-89(F) 38=-89(F) 39=-89(F) 40=-470(F)

Job	Truss	Truss Type	Qty	Ply	Weaver / 14 West Park / Harnett
J0720-3499	F3	Floor	3	1	E14705822
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Wed Aug 5 14:40:11 2020 Page 1
ID:6QM6oUdKO1jfjlNWahDSvtyxoet-KQqv6zbJT3?3w73YJ1DgowrLUhYgcsJ_CJo8kEyqszY



12-4-4 | 35-11-0
12-4-4 | 23-6-12

Plate Offsets (X,Y)-- [19:0-1-8,Edge], [30:0-3-0,0-0-0], [41:0-1-8,Edge], [42:0-1-8,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	0.82	Vert(LL)	-0.41	31	>692	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.93	Vert(CT)	-0.55	31	>512	360	M18SHS	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.82	Horz(CT)	0.05	25	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 198 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat) *Except* 1-10: 2x4 SP 2400F 2.0E(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

BRACING-
TOP CHORD Structural wood sheathing directly applied or 5-5-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

REACTIONS. (size) 44=0-3-0, 39=0-3-8, 25=0-3-0
Max Uplift 44=-154(LC 4)
Max Grav 44=534(LC 3), 39=2521(LC 1), 25=1108(LC 4)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-845/383, 3-4=-1008/1235, 4-5=-1008/1235, 5-6=-1008/1235, 6-7=-56/2385, 7-8=0/3728, 8-9=0/3728, 9-11=0/886, 11-12=-1666/0, 12-13=-1666/0, 13-15=-3204/0, 15-16=-4419/0, 16-17=-4419/0, 17-18=-4874/0, 18-19=-4874/0, 19-20=-4495/0, 20-21=-3531/0, 21-22=-3531/0, 22-23=-2079/0
BOT CHORD 43-44=-191/560, 42-43=-671/1075, 41-42=-1235/1008, 40-41=-1907/587, 39-40=-2815/0, 38-39=-2123/0, 36-38=-214/645, 35-36=0/2572, 32-35=0/3901, 31-32=0/4751, 30-31=0/4874, 29-30=0/4874, 27-29=0/4135, 26-27=0/2906, 25-26=0/1210
WEBS 2-44=-743/256, 7-39=-1463/0, 2-43=-266/397, 7-40=0/1037, 3-43=-319/400, 6-40=-1113/0, 3-42=-825/0, 6-41=0/1269, 4-42=0/369, 5-41=-619/0, 9-39=-2137/0, 9-38=0/1720, 11-38=-1700/0, 11-36=0/1415, 13-36=-1262/0, 13-35=0/908, 15-35=-988/0, 15-32=0/707, 17-32=-646/0, 23-25=-1609/0, 23-26=0/1208, 22-26=-1151/0, 22-27=0/849, 20-27=-821/0, 20-29=0/542, 19-29=-737/79, 19-30=-241/312, 17-31=-115/599

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) All plates are 3x6 MT20 unless otherwise indicated.
4) Plates checked for a plus or minus 1 degree rotation about its center.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 154 lb uplift at joint 44.
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.

August 6,2020

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

Job	Truss	Truss Type	Qty	Ply	Weaver / 14 West Park / Harnett
J0720-3499	F4	Floor	5	1	E14705823
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Wed Aug 5 14:40:12 2020 Page 1
ID:6QM6oUdKO1jfjlNWahDSvtyxoet-odOHJJbxDN7wYHdlslkvK7OZC5uULLS7RzXhGgyqszX

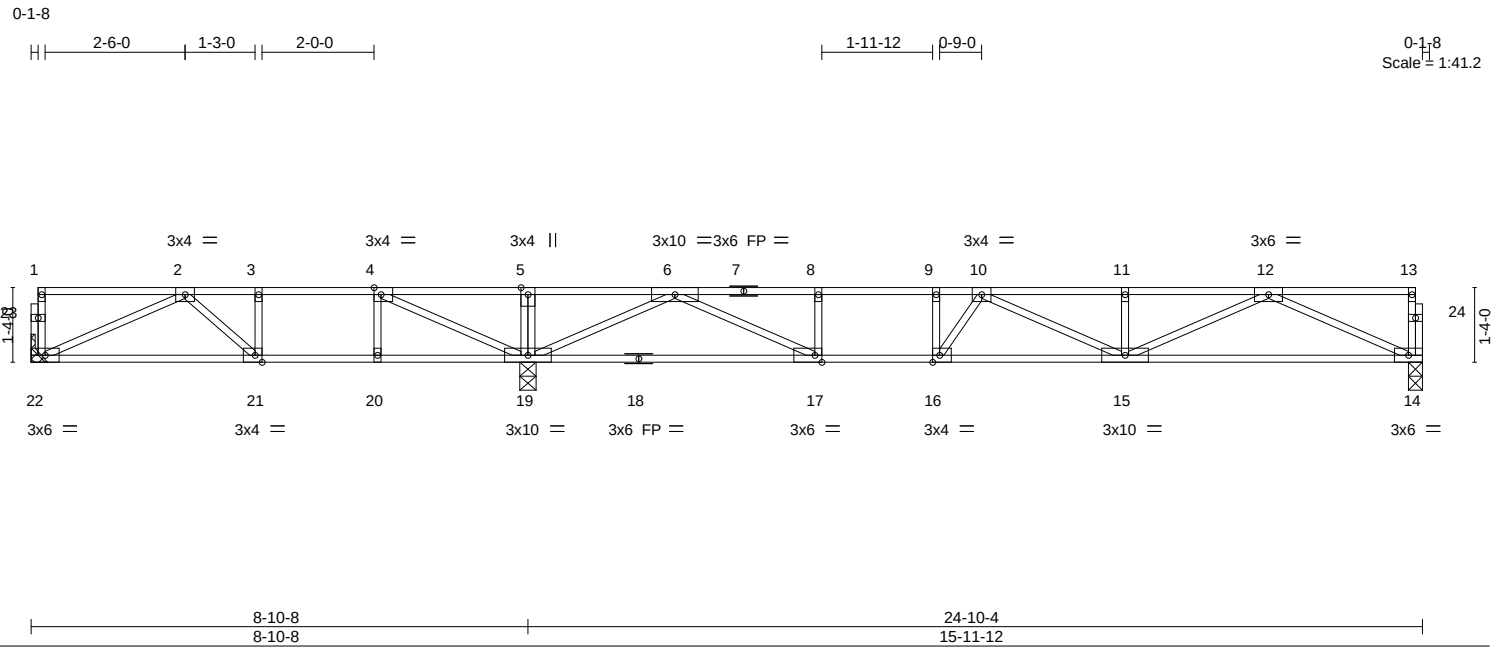


Plate Offsets (X,Y)-- [4:0-1-8,Edge], [16:0-1-8,Edge], [17:0-1-8,Edge], [21:0-1-8,Edge]

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	0.63	Vert(LL)	-0.27	15-16	>704	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.89	Vert(CT)	-0.36	15-16	>531	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.63	Horz(CT)	0.05	14	n/a	n/a		
BCDL	5.0	Code IRC2015/TPI2014		Matrix-S							Weight: 124 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat) *Except* 7-13: 2x4 SP 2400F 2.0E(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) 22=Mechanical, 19=0-3-8, 14=0-3-0
Max Grav 22=465(LC 3), 19=1431(LC 1), 14=853(LC 7)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-792/0, 3-4=-792/0, 4-5=0/494, 5-6=0/494, 6-8=-2584/0, 8-9=-2584/0, 9-10=-2584/0, 10-11=-2527/0, 11-12=-2527/0
BOT CHORD 21-22=0/741, 20-21=0/792, 19-20=0/792, 17-19=0/1472, 16-17=0/2584, 15-16=0/2776, 14-15=0/1591
WEBS 5-19=-278/0, 2-22=-810/0, 4-19=-1028/0, 6-19=-1803/0, 6-17=0/1333, 8-17=-449/0, 12-14=-1745/0, 12-15=0/1035, 10-15=-311/0, 10-16=-530/136, 9-16=-106/344

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) 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.

August 6,2020

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

Job	Truss	Truss Type	Qty	Ply	Weaver / 14 West Park / Harnett
J0720-3499	F4A	Floor	1	1	E14705824
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Wed Aug 5 14:40:14 2020 Page 1
ID:6QM6oUdKO1jfjlNWahDSvtyxoet-k?V2k?dBl_Nenan7_AmNQYTqkuZGpE6QuH0oLZyqszV

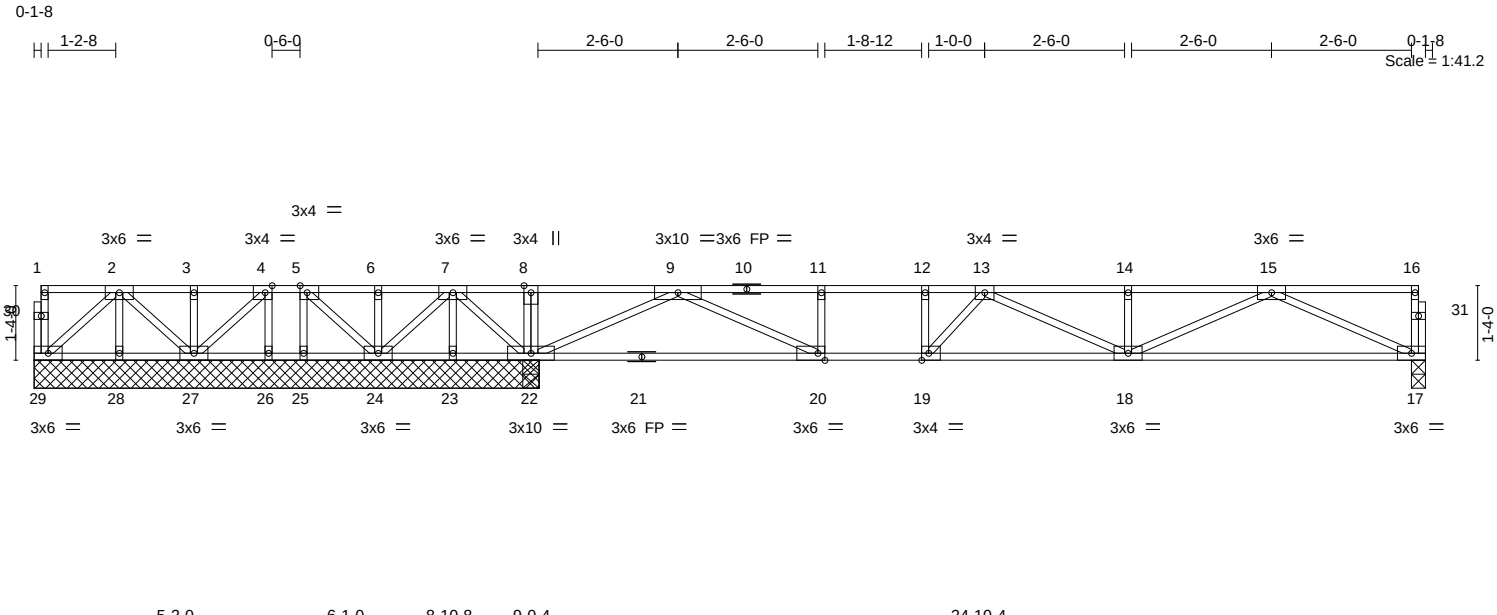


Plate Offsets (X,Y)-- [4:0-1-8,Edge], [5:0-1-8,Edge], [19:0-1-8,Edge], [20:0-1-8,Edge]

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	0.95	Vert(LL)	-0.29	18-19	>660	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.94	Vert(CT)	-0.39	18-19	>490	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.69	Horz(CT)	0.03	17	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 134 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 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

REACTIONS. All bearings 9-0-4 except (jt=length) 17=0-3-0.
(lb) - Max Uplift All uplift 100 lb or less at joint(s) 25 except 23=-186(LC 4), 24=-135(LC 4)
Max Grav All reactions 250 lb or less at joint(s) 29, 28, 27, 26, 23, 24, 25 except 22=1537(LC 1), 22=1537(LC 1), 17=782(LC 4)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 7-8=0/1020, 8-9=0/1026, 9-11=-1995/0, 11-12=-1995/0, 12-13=-1995/0, 13-14=-2224/0, 14-15=-2224/0
BOT CHORD 23-24=-492/0, 22-23=-492/0, 20-22=0/691, 19-20=0/1995, 18-19=0/2318, 17-18=0/1441
WEBS 8-22=-266/0, 7-22=-713/0, 7-24=0/423, 15-17=-1580/0, 15-18=0/866, 9-22=-1894/0, 9-20=0/1444, 11-20=-466/0, 13-19=-555/0, 12-19=-9/291

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 25 except (jt=lb) 23=186, 24=135.
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.

August 6,2020

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

Job	Truss	Truss Type	Qty	Ply	Weaver / 14 West Park / Harnett
J0720-3499	F5	Floor	1	1	E14705825
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Wed Aug 5 14:40:16 2020 Page 1
ID:6QM6oUdKO1jfjlNWahDSvtyxoet-hOdo9geSHbdM1uxW5bprVzYEmiGbHANjLbVvPSyqszT

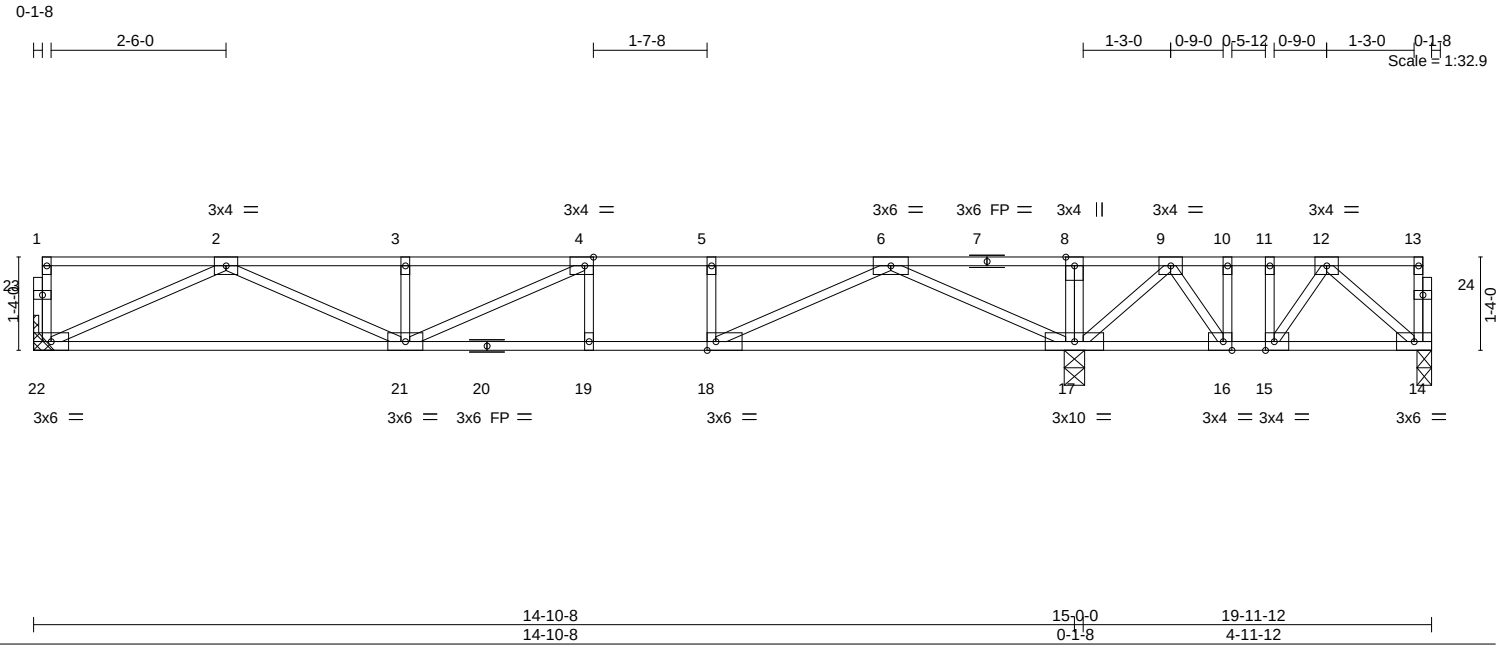


Plate Offsets (X,Y)-- [4:0-1-8,Edge], [15:0-1-8,Edge], [16:0-1-8,Edge], [18:0-1-8,Edge]

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	0.66	Vert(LL)	-0.22	19-21	>799	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.88	Vert(CT)	-0.29	19-21	>612	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.57	Horz(CT)	0.03	17	n/a	n/a		
BCDL	5.0	Code IRC2015/TPI2014		Matrix-S							Weight: 105 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) 22=Mechanical, 17=0-3-8, 14=0-2-8
Max Uplift 14=-106(LC 3)
Max Grav 22=742(LC 3), 17=1336(LC 1), 14=205(LC 4)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-2078/0, 3-4=-2078/0, 4-5=-1931/0, 5-6=-1931/0, 6-8=0/819, 8-9=0/813, 9-10=-150/287, 10-11=-150/287, 11-12=-150/287
BOT CHORD 21-22=0/1346, 19-21=0/1931, 18-19=0/1931, 17-18=0/850, 16-17=-482/47, 15-16=-287/150
WEBS 8-17=-265/0, 9-17=-550/0, 12-15=-264/0, 9-16=0/443, 10-16=-293/0, 6-17=-1712/0, 6-18=0/1207, 5-18=-364/0, 2-22=-1475/0, 2-21=0/810, 3-21=-330/0, 4-21=-151/288

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) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 14.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 14=106.
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.

August 6,2020

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

Job	Truss	Truss Type	Qty	Ply	Weaver / 14 West Park / Harnett
J0720-3499	F7	Floor	3	1	E14705826
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Wed Aug 5 14:40:17 2020 Page 1
ID:6QM6oUdKO1jfjlNWahDSvtyxoet-9aBAM0f42vlDf2WifIK41B5YT6pp0lusaFFSxuyqszS

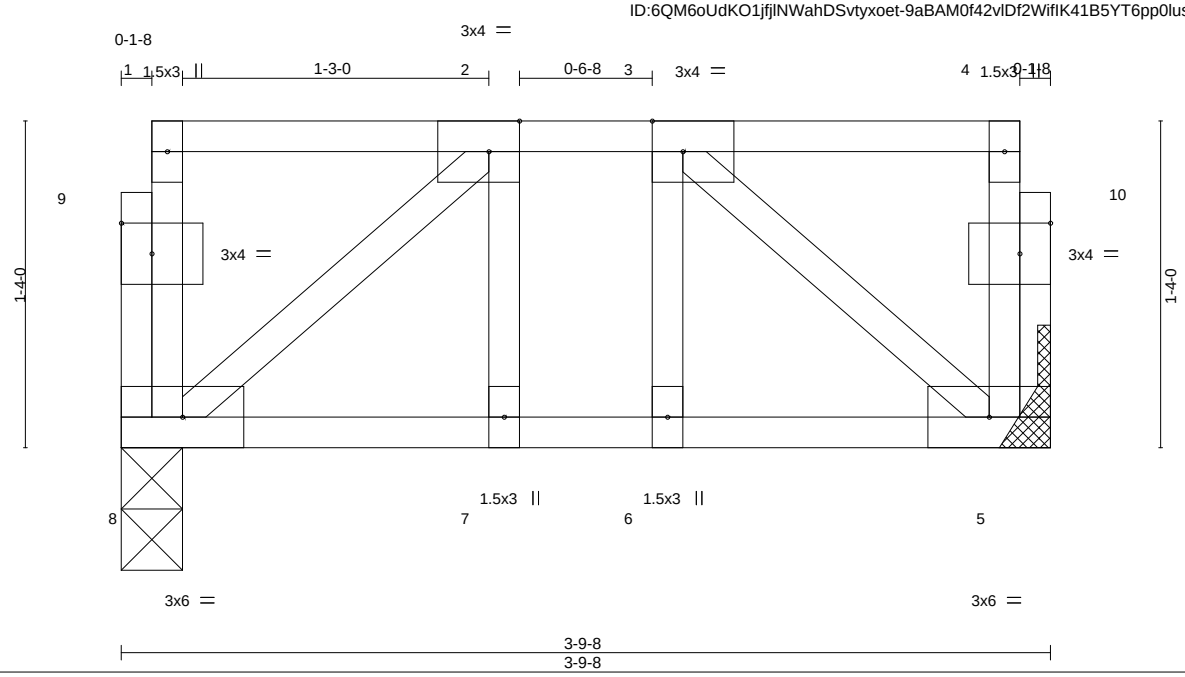


Plate Offsets (X,Y)-- [2:0-1-8,Edge], [3:0-1-8,Edge], [9:0-1-8,0-1-8], [10:0-1-8,0-1-8]

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	0.08	Vert(LL)	-0.00	7	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.05	Vert(CT)	-0.00	7	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.00	5	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 25 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 3-9-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 8=0-3-0, 5=Mechanical
Max Grav 8=189(LC 1), 5=189(LC 1)

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

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.

August 6,2020

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

Job	Truss	Truss Type	Qty	Ply	Weaver / 14 West Park / Harnett
J0720-3499	F7A	Floor Girder	1	1	E14705827
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Wed Aug 5 14:40:18 2020 Page 1
ID:6QM6oUdKO1jfjlNWahDSvtyxoet-dmlYaMgipDt4GC5uD?rJaOegSW4DlAJ0pv_0UKyqszR

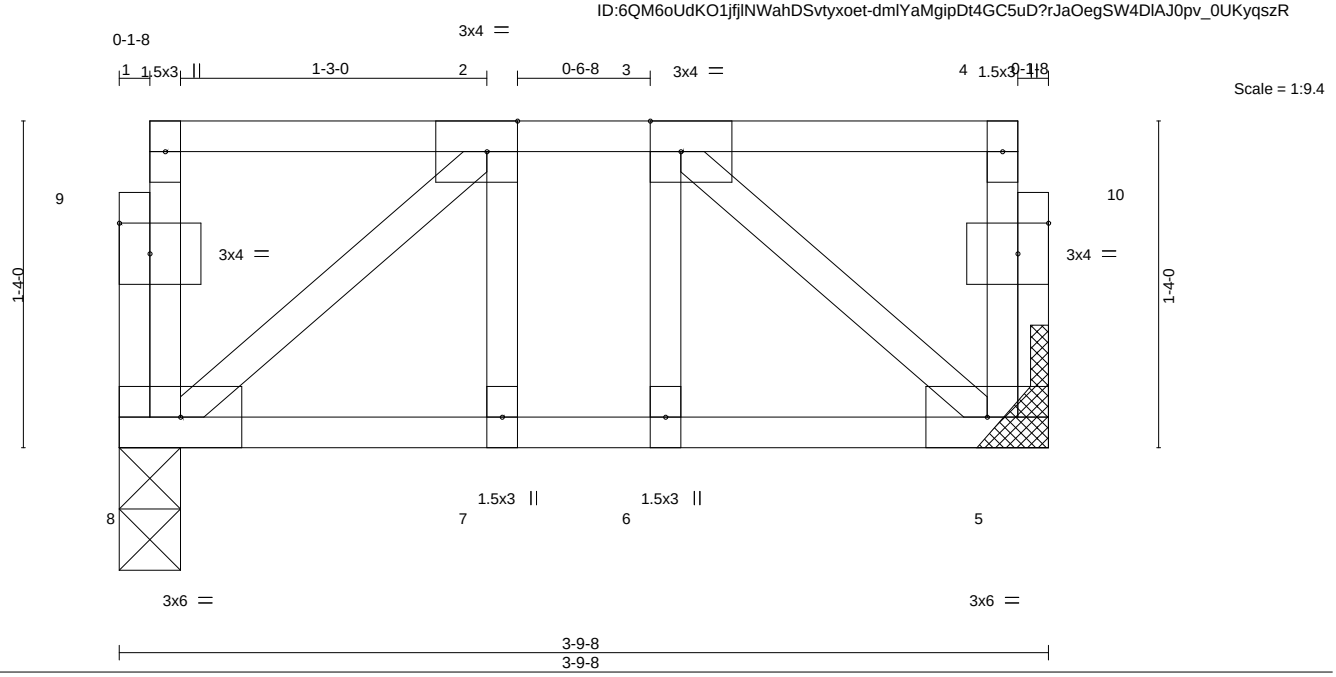


Plate Offsets (X,Y)-- [2:0-1-8,Edge], [3:0-1-8,Edge], [9:0-1-8,0-1-8], [10:0-1-8,0-1-8]

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	0.26	Vert(LL)	-0.01	5-6	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.36	Vert(CT)	-0.02	5-6	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.16	Horz(CT)	0.00	5	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 25 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 3-9-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 8=0-3-0, 5=Mechanical
Max Grav 8=449(LC 1), 5=570(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-526/0
BOT CHORD 7-8=0/526, 6-7=0/526, 5-6=0/526
WEBS 3-5=-681/0, 2-8=-686/0

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) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 671 lb down at 1-11-4 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: 5-8=-10, 1-4=-100
Concentrated Loads (lb)
Vert: 3=-642(F)

August 6,2020

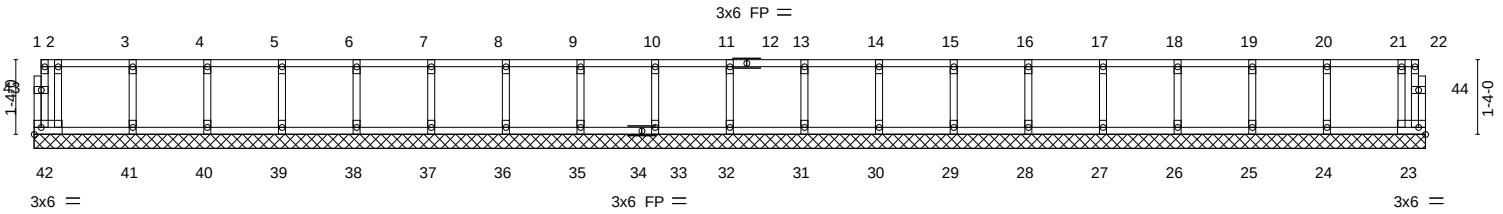
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

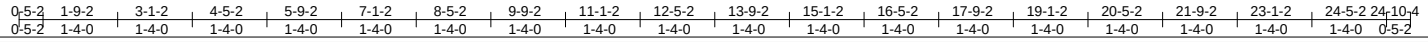
Job	Truss	Truss Type	Qty	Ply	Weaver / 14 West Park / Harnett
J0720-3499	KW4	GABLE	1	1	E14705828
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Wed Aug 5 14:40:19 2020 Page 1
ID:6QM6oUdKO1jfjlNWahDSvtyxoet-5zJwnihKaW?xuLg5njMY7cAvLvUvUfb92ZkZ0myqszQ

0-1-8 0-1-8

Scale = 1:41.2





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	23	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-R							Weight: 110 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 24-10-4.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 42, 23, 32, 33, 35, 36, 37, 38, 39, 40, 41, 31, 30, 29, 28, 27, 26, 25, 24

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.

August 6,2020

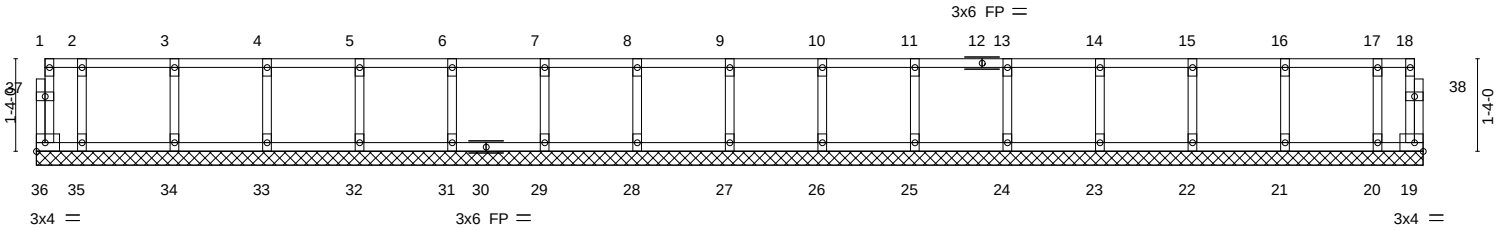
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Weaver / 14 West Park / Harnett
J0720-3499	KW5	GABLE	1	1	E14705829
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Wed Aug 5 14:40:21 2020 Page 1
ID:6QM6oUdKO1jfjlNWahDSvtyxoet-1LQhCOia68Ff7fqTu8P1C1GFtjASyZ5SVtDg4fyqszO

0-1-8 0-1-8

Scale = 1:33.2



0-7-14	1-11-14	3-3-14	4-7-14	5-11-14	7-3-14	8-7-14	9-11-14	11-3-14	12-7-14	13-11-14	15-3-14	16-7-14	17-11-14	19-3-14	19-11-12
0-7-14	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	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	0-7-14

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	19	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-R							Weight: 89 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 19-11-12.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 36, 19, 27, 28, 29, 31, 32, 33, 34, 35, 26, 25, 24, 23, 22, 21, 20

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.

August 6,2020

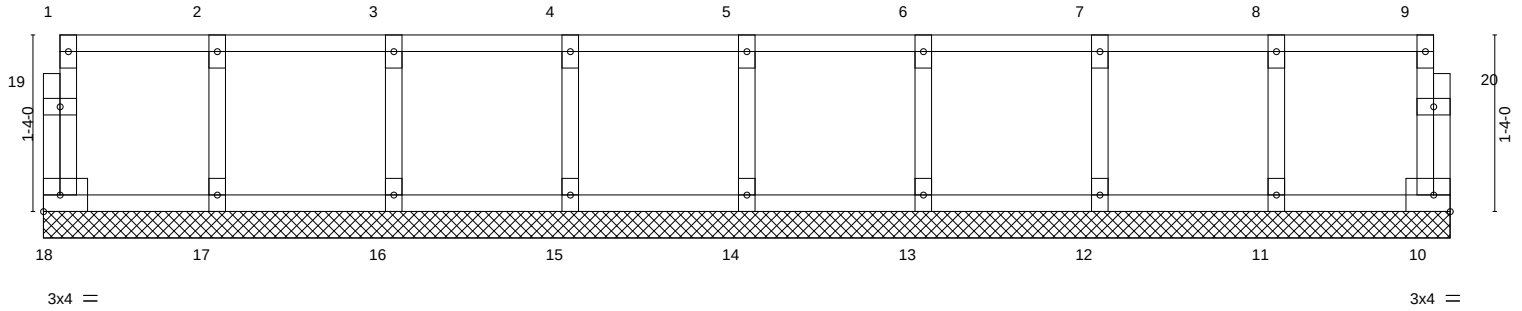
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Weaver / 14 West Park / Harnett
J0720-3499	KW6	GABLE	1	1	E14705830
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Wed Aug 5 14:40:22 2020 Page 1
ID:6QM6oUdKO1jfjlNWahDSvtyxoet-VY_3PkjDtRNWlpOgSrwGkEoPf7Wgh0MbkXyDd5yqszN

0-1-8 0-1-8

Scale = 1:17.4



1-3-12	2-7-12	3-11-12	5-3-12	6-7-12	7-11-12	9-3-12	10-7-8
1-3-12	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-3-12

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	10	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-R							Weight: 48 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 10-7-8.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 18, 10, 14, 15, 16, 17, 13, 12, 11

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.

August 6,2020

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

Job	Truss	Truss Type	Qty	Ply	Weaver / 14 West Park / Harnett
J0720-3499	KW7	Floor Supported Gable	1	1	E14705831 Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Wed Aug 5 14:40:24 2020 Page 1
ID:6QM6oUdKO1fjlNWahDSvtyxoet-Sw6pqQlTP3eD_7Y2ZGykqful9wC69wsuBrRKh_yqszL

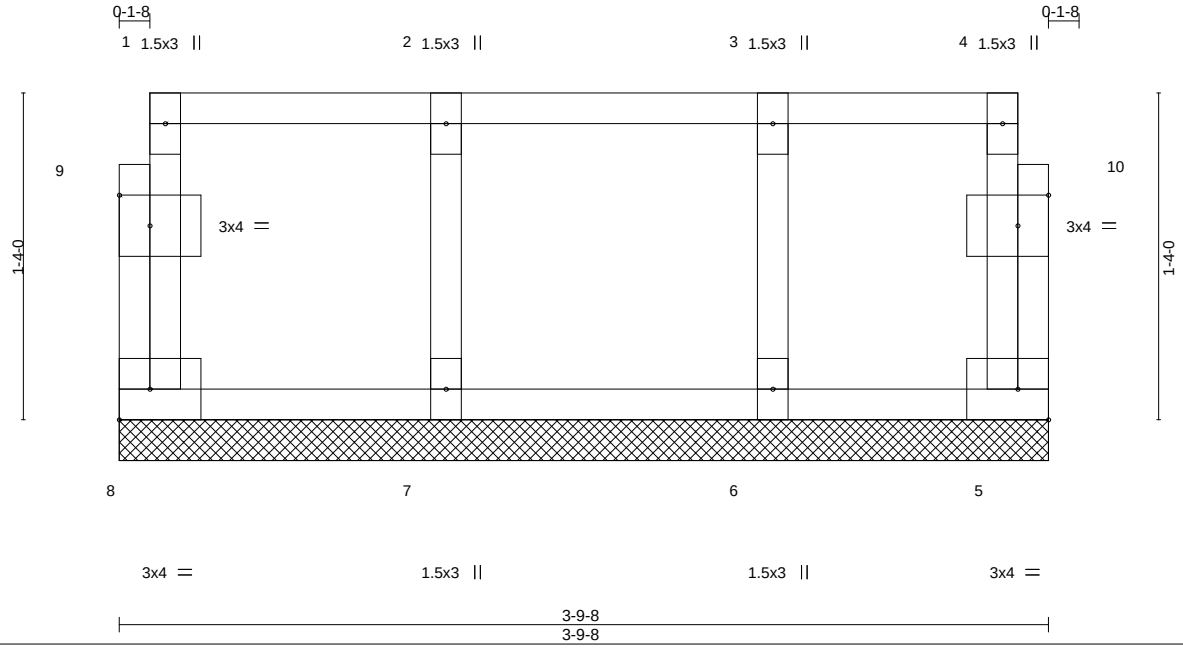


Plate Offsets (X,Y)-- [9:0-1-8,0-1-8], [10:0-1-8,0-1-8]

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	0.06	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	5	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-R							Weight: 20 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 3-9-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 3-9-8.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 8, 5, 7, 6

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

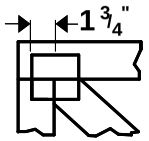
NOTES-
1) Plates checked for a plus or minus 1 degree rotation about its center.
2) Gable requires continuous bottom chord bearing.
3) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
4) Gable studs spaced at 1-4-0 oc.
5) Recommend 2x6 strongbacks, 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.

August 6,2020

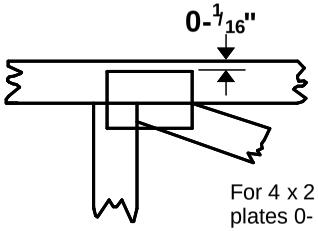
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

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.

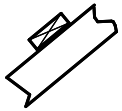
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

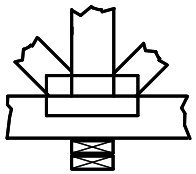
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

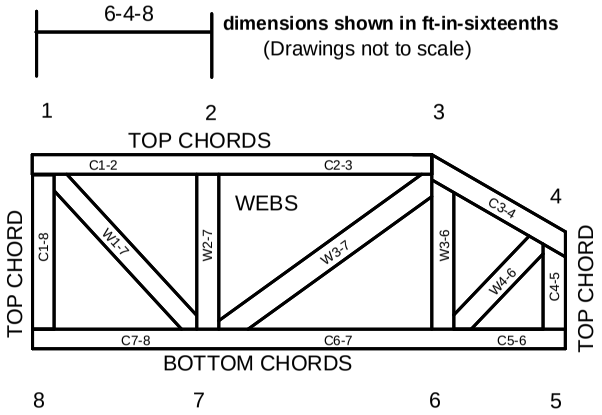


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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.