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

RE: 755227 - MIKE TODD CONST. - MORGAN RES.

MiTek USA, Inc.
6904 Parke East Blvd.
Tampa, FL 33610-4115

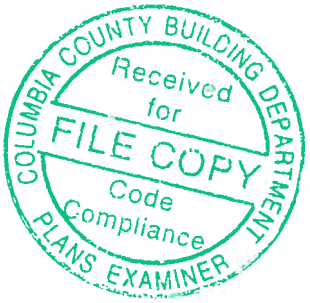
Site Information:
Customer Info: Mike Todd Const. Project Name: 755227 Model: Morgan Res.
Lot/Block: Subdivision:
Address: 218 SW Riverside Ave.
City: Columbia Cty State: FL

Name Address and License # of Structural Engineer of Record, If there is one, for the building.
Name: Unknown at time of seals License #: Unknown at time of seals
Address: Unknown at time of seals
City: Unknown at time of seals State: Unknown at time of seals

General Truss Engineering Criteria & Design Loads (Individual Truss Design Drawings Show Special Loading Conditions):
Design Code: FBC2014/TPI2007 Design Program: MiTek 20/20 7.6
Wind Code: ASCE 7-10 Wind Speed: 130 mph
Roof Load: 37.0 psf Floor Load: 55.0 psf

This package includes 9 individual, dated Truss Design Drawings and 0 Additional Drawings.
With my seal affixed to this sheet, I hereby certify that I am the Truss Design Engineer and this index sheet conforms to 61G15-31.003, section 5 of the Florida Board of Professional Engineers Rules.

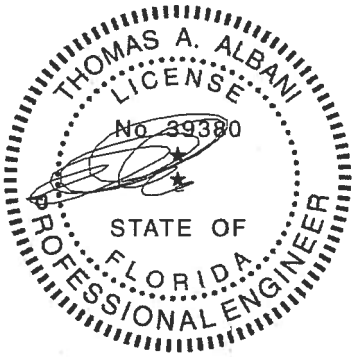
No.	Seal#	Truss Name	Date
1	T8884698	F01	6/20/016
2	T8884699	F02	6/20/016
3	T8884700	F03	6/20/016
4	T8884701	KW1	6/20/016
5	T8884702	T01	6/20/016
6	T8884703	T01G	6/20/016
7	T8884704	T01GG	6/20/016
8	T8884705	T02	6/20/016
9	T8884706	T02G	6/20/016



The truss drawing(s) referenced above have been prepared by MiTek Industries, Inc. under my direct supervision based on the parameters provided by Builders FirstSource-Jacksonville.

Truss Design Engineer's Name: Albani, Thomas
My license renewal date for the state of Florida is February 28, 2017.

IMPORTANT NOTE: Truss Engineer's responsibility is solely for design of individual trusses based upon design parameters shown on referenced truss drawings. Parameters have not been verified as appropriate for any use. Any location identification specified is for file reference only and has not been used in preparing design. Suitability of truss designs for any particular building is the responsibility of the building designer, not the Truss Engineer, per ANSI/TPI-1, Chapter 2.



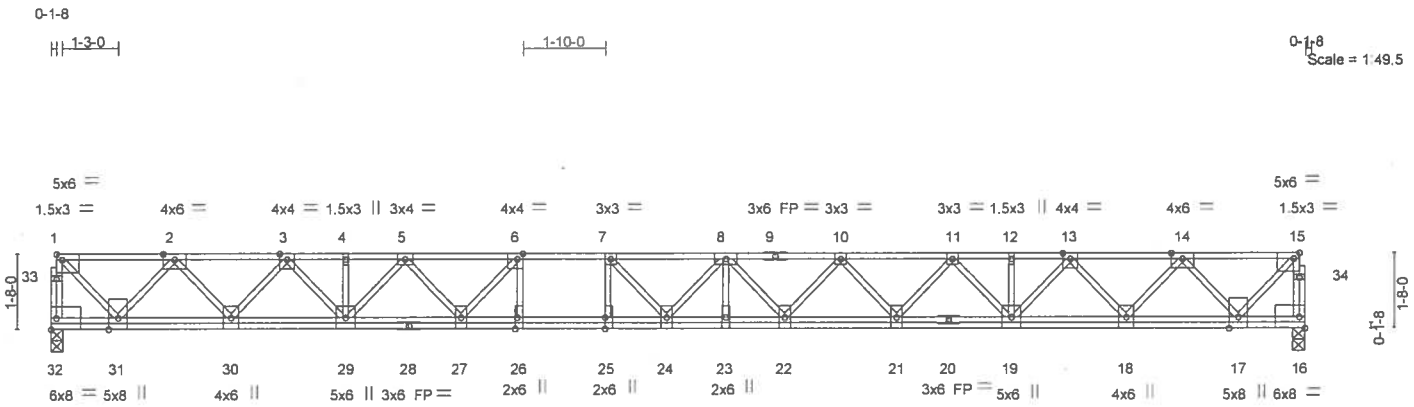
Thomas A. Albani PE No.39380
MiTek USA, Inc. FL Cert 6634
6904 Parke East Blvd. Tampa FL 33610
Date:
June 20,2016

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST. - MORGAN RES.
755227	F01	FLOOR	18	1	T8884698
					Job Reference (optional)

Builders FirstSource, Lake City, FL 32055

7.640 s Apr 19 2016 MiTek Industries, Inc. Mon Jun 20 18:37:23 2016 Page 1

ID:Awd7fSKXwInKYwWX1sWuKPzyL?0-HlixVSp9iKdyvJcJ7TopYs8WvM70QfphVDrEj7z4JnQ



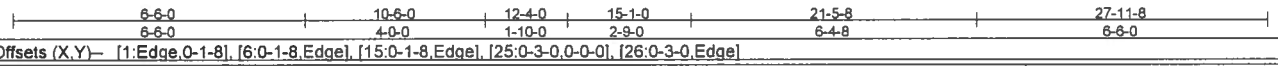


Plate Offsets (X,Y)-- [1:Edge,0-1-8], [6:0-1-8,Edge], [15:0-1-8,Edge], [25:0-3-0,0-0-0], [26:0-3-0,Edge]

LOADING (psf)		SPACING-	1-7-2	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.45	Vert(LL)	-0.45	24	>731	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.48	Vert(TL)	-0.71	24	>468	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.71	Horz(TL)	0.07	16	n/a	n/a		
BCDL	5.0	Code FBC2014/TPI2007		(Matrix)							Weight: 195 lb	FT = 11%F, 11%E

LUMBER-
TOP CHORD 2x4 SP M 31(flat)
BOT CHORD 2x4 SP M 31(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. (lb/size) 32=1209/0-3-4, 16=1209/0-3-4

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 32-33=-1198/0, 1-33=-1197/0, 16-34=-1197/0, 15-34=-1196/0, 1-2=-1040/0, 2-3=-2710/0, 3-4=-4042/0, 4-5=-4042/0, 5-6=-4929/0, 6-7=-5463/0, 7-8=-5642/0, 8-9=-5478/0, 9-10=-5478/0, 10-11=-4949/0, 11-12=-4035/0, 12-13=-4035/0, 13-14=-2712/0, 14-15=-1040/0
BOT CHORD 30-31=0/1974, 29-30=0/3431, 28-29=0/4567, 27-28=0/4567, 26-27=0/5463, 25-26=0/5463, 24-25=0/5463, 23-24=0/5669, 22-23=0/5669, 21-22=0/5298, 20-21=0/4580, 19-20=0/4580, 18-19=0/3428, 17-18=0/1974
WEBS 6-26=-85/592, 7-25=-563/128, 1-31=0/1491, 2-31=-1447/0, 2-30=0/1140, 3-30=-1117/0, 3-29=0/922, 5-29=-790/0, 5-27=0/621, 6-27=-1006/0, 15-17=0/1490, 14-17=-1448/0, 14-18=0/1142, 13-18=-1111/0, 13-19=0/914, 11-19=-820/0, 11-21=0/573, 10-21=-540/0, 10-22=0/305, 8-22=-312/0, 7-24=-303/588

NOTES- (5)
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x6 MT20 unless otherwise indicated.
3) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
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) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

MiTek
6904 Parke East Blvd.
Tampa, FL 36610

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST. - MORGAN RES. T8884699
755227	F02	Floor	5	1	Job Reference (optional)

Builders FirstSource, Lake City, FL 32055

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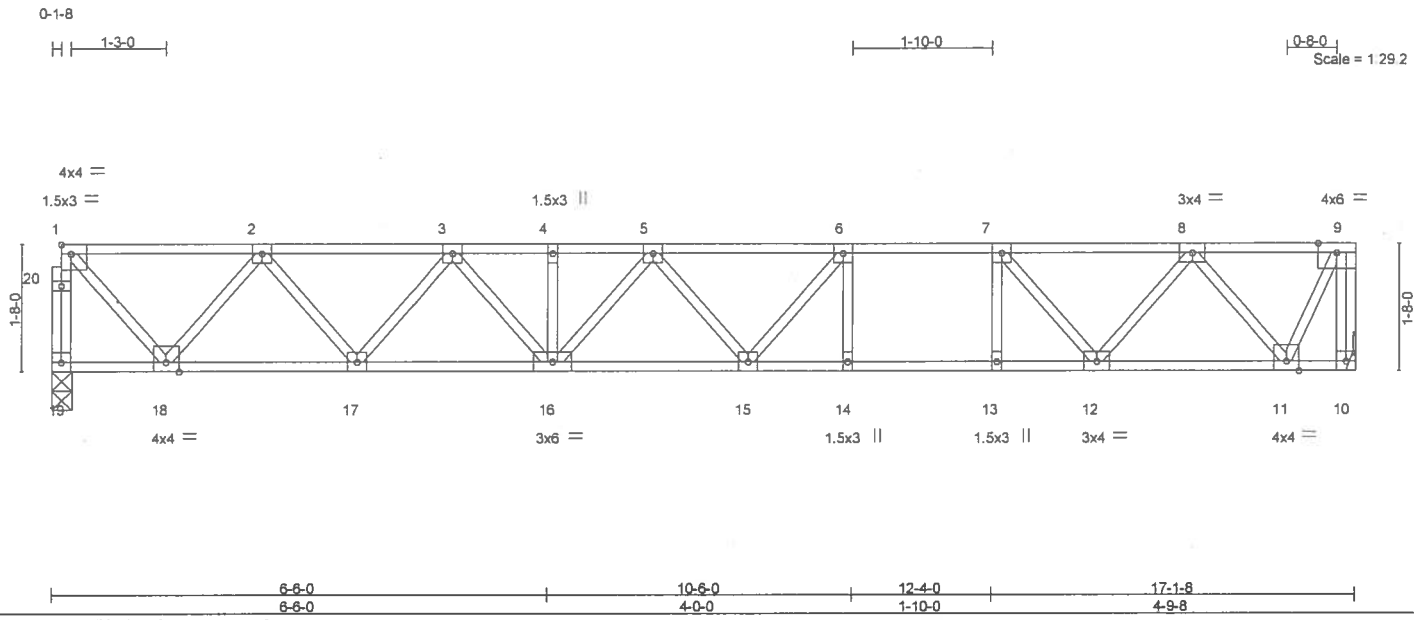

Plate Offsets (X,Y)-- [1:Edge,0-1-8]

LOADING (psf)		SPACING-	1-7-2	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.34	Vert(LL)	-0.18	14-15	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.60	Vert(TL)	-0.28	14-15	>736	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.41	Horz(TL)	0.03	10	n/a	n/a		
BCDL	5.0	Code FBC2014/TPI2007		(Matrix)							Weight: 98 lb	FT = 11%F, 11%E

LUMBER-

TOP CHORD 2x4 SP M 31(flat)
BOT CHORD 2x4 SP M 31(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. (lb/size) 19=735/0-3-4, 10=740/Mechanical

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

TOP CHORD 19-20=-730/0, 1-20=-730/0, 9-10=-751/0, 1-2=-582/0, 2-3=-1420/0, 3-4=-1899/0, 4-5=-1899/0, 5-6=-1989/0, 6-7=-1783/0, 7-8=-1259/0, 8-9=-348/0
BOT CHORD 17-18=0/1096, 16-17=0/1724, 15-16=0/2056, 14-15=0/1783, 13-14=0/1783, 12-13=0/1783, 11-12=0/863
WEBS 6-14=-323/0, 7-13=0/348, 1-18=0/852, 2-18=-816/0, 2-17=0/515, 3-17=-483/0, 3-16=0/270, 6-15=-49/416, 9-11=0/761, 8-11=-817/0, 8-12=0/629, 7-12=-814/0

NOTES- (7)

1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x3 MT20 unless otherwise indicated.
3) Refer to girder(s) for truss to truss connections.
4) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
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.
7) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

MiTek
6904 Parke East Blvd.
Tampa, FL 36610

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST. - MORGAN RES.
755227	F03	Floor Girder	1	1	T8884700

Job Reference (optional)

Builders FirstSource, Lake City, FL 32055

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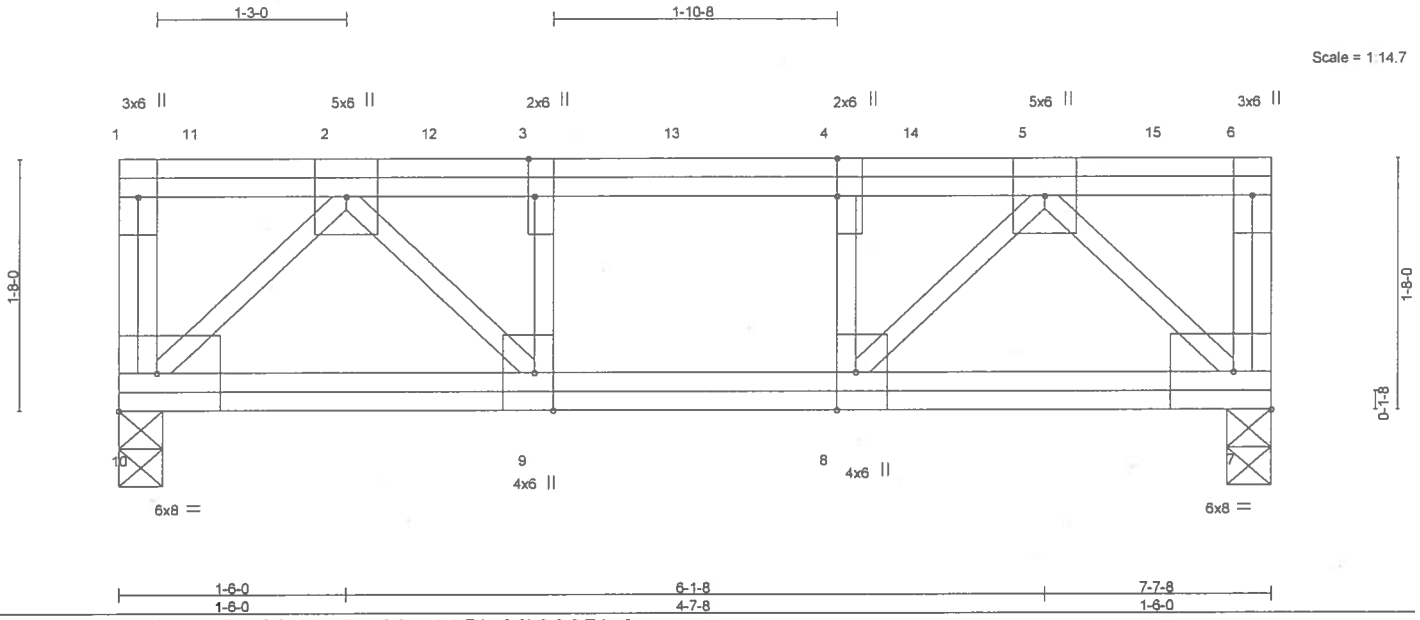


Plate Offsets (X,Y)-- [3:0-3-0,Edge], [4:0-3-0,Edge], [8:0-3-0,Edge], [9:0-3-0,Edge]

LOADING (psf)		SPACING-	1-7-2	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.22	Vert(LL)	-0.02	8-9	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.17	Vert(TL)	-0.03	8-9	>999	240		
BCLL	0.0	Rep Stress Incr	NO	WB	0.57	Horz(TL)	0.01	7	n/a	n/a		
BCDL	5.0	Code FBC2014/TPI2007		(Matrix)							Weight: 66 lb	FT = 11%F, 11%E

LUMBER-
TOP CHORD 2x4 SP M 31(flat)
BOT CHORD 2x4 SP M 31(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. (lb/size) 10=2033/0-3-8, 7=1994/0-3-8

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-10=-423/0, 6-7=-378/0, 2-12=-2353/0, 3-12=-2353/0, 3-13=-2353/0, 4-13=-2353/0, 4-14=-2353/0, 5-14=-2353/0
BOT CHORD 9-10=0/1544, 8-9=0/2353, 7-8=0/1550
WEBS 5-7=-2225/0, 2-10=-2217/0, 5-8=0/1196, 2-9=0/1203, 3-9=-864/0, 4-8=-862/0

NOTES- (6)
1) Unbalanced floor live loads have been considered for this design.
2) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
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) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 727 lb down at 0-7-0, 727 lb down at 2-2-2, 676 lb down at 3-9-4, and 727 lb down at 5-4-6, and 727 lb down at 6-11-8 on top chord. The design/selection of such connection device(s) is the responsibility of others.
5) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).
6) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 7-10=-8, 1-6=-80
Concentrated Loads (lb)
Vert: 11=-676(F) 12=-676(F) 13=-676(F) 14=-676(F) 15=-676(F)

MiTek
6904 Parke East Blvd.
Tampa, FL 36610

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST. - MORGAN RES. T8884701
755227	KW1	GABLE	2	1	Job Reference (optional)

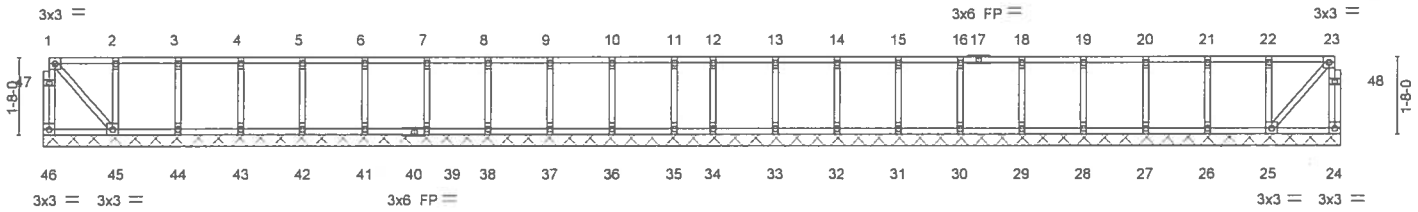
Builders FirstSource, Lake City, FL 32055

7.640 s Apr 19 2016 MiTek Industries, Inc. Mon Jun 20 18:37:25 2016 Page 1

ID:Awd7fSKXwInKYwWX1sWuKPzyL?0-D7qhv8qPEyug9dmiEurHdHDzwAw_uks_yXKLo?z4JnO

0-1-8 0-1-8

Scale: 1/4"=1'



1-6-12	2-10-12	4-2-12	5-6-12	6-10-12	8-2-12	9-6-12	10-10-12	12-2-12	13-6-12	14-4-12	15-8-12	17-0-12	18-4-12	19-8-12	21-0-12	22-4-12	23-8-12	25-0-12	26-4-12	27-11-8
1-6-12	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	0-10-0	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	1-6-12

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	0.04	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.00	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.04	Horz(TL)	-0.00	25	n/a	n/a		
BCDL	5.0	Code FBC2014/TPI2007		(Matrix)							Weight: 138 lb	FT = 11%F, 11%E

LUMBER-

TOP CHORD	2x4 SP M 31(flat)
BOT CHORD	2x4 SP M 31(flat)
WEBS	2x4 SP No.3(flat)
OTHERS	2x4 SP No.3(flat)

BRACING-

TOP CHORD	Structural wood sheathing directly applied or 10-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing, Except: 10-0-0 oc bracing: 45-46,24-25.

REACTIONS. All bearings 27-11-8.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 46, 24, 45, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 44, 43, 42, 41, 39, 38, 37, 36, 35

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

NOTES- (7)
1) All plates are 1.5x3 MT20 unless otherwise indicated.
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) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
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) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST. - MORGAN RES. T8884702
755227	T01	COMMON	18	1	Job Reference (optional)

Builders FirstSource, Lake City, FL 32055 — 7.640 s Apr 19 2016 MiTek Industries, Inc. Mon Jun 20 18:37:27 2016 Page 1

ID:Awd7fSKXwlnKYwWX1sWuKPzyL?0-AWxRKqsfmZ8OOxw5MJtliiJBVzOFMYjHQrpSsuz4JnM

-2-0-0	7-1-0	14-0-0	20-11-0	28-0-0	30-0-0
2-0-0	7-1-0	6-11-0	6-11-0	7-1-0	2-0-0

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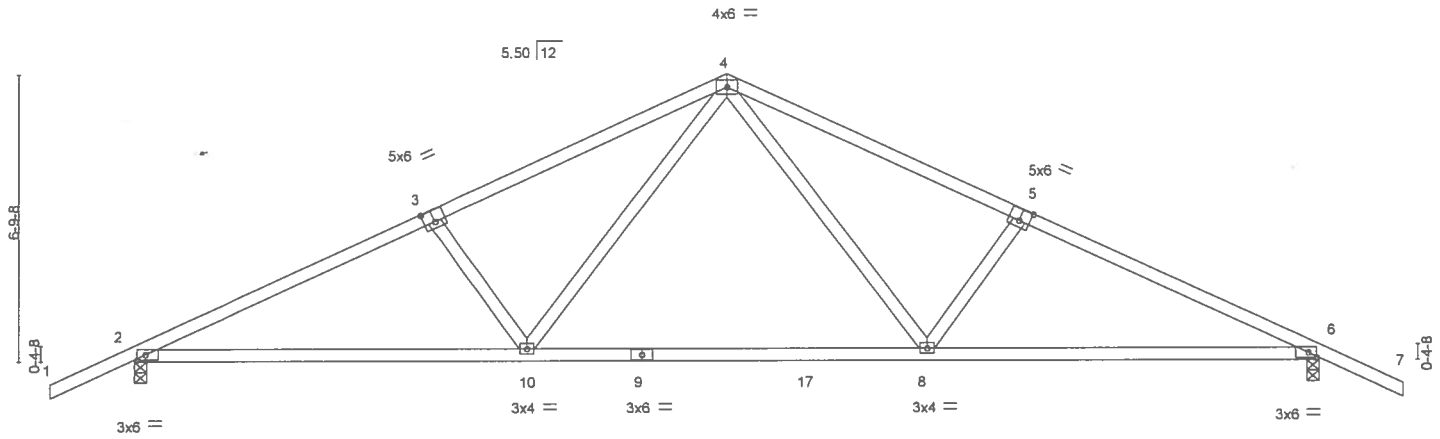

9-3-3	18-8-13	28-0-0
9-3-3	9-5-10	9-3-3

Plate Offsets (X,Y)— [2:0-2-6,0-1-8], [3:0-3-0,0-3-4], [5:0-3-0,0-3-4], [6:0-2-6,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.54	Vert(LL)	-0.32	8-10	>999	240	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.85	Vert(TL)	-0.61	8-10	>554	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.40	Horz(TL)	0.08	6	n/a	n/a		
BCDL	10.0	Code FBC2014/TPI2007		(Matrix-M)							Weight: 129 lb	FT = 20%

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

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-7-11 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-8-8 oc bracing.

REACTIONS. (lb/size) 2=1144/0-3-8, 6=1144/0-3-8
Max Horz 2=-154(LC 17)
Max Uplift 2=-460(LC 12), 6=-460(LC 13)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1863/1007, 3-4=-1657/969, 4-5=-1657/969, 5-6=-1863/1007
BOT CHORD 2-10=-767/1631, 9-10=-376/1079, 9-17=-376/1079, 8-17=-376/1079, 6-8=-773/1631
WEBS 4-8=-316/623, 5-8=-371/375, 4-10=-316/625, 3-10=-371/375

NOTES- (7)
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=101mph; TCDL=4.2psf; BCDL=3.0psf; h=18ft; Cat. II; Exp C; Encl., GCpi=0.18; 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) 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 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 460 lb uplift at joint 2 and 460 lb uplift at joint 6.
6) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
7) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

MiTek
6904 Parke East Blvd.
Tampa, FL 36610

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST. - MORGAN RES. T8884703
755227	T01G	GABLE	1	1	Job Reference (optional)

Builders FirstSource, Lake City, FL 32055 — 7.640 s Apr 19 2016 MiTek Industries, Inc. Mon Jun 20 18:37:28 2016 Page 1

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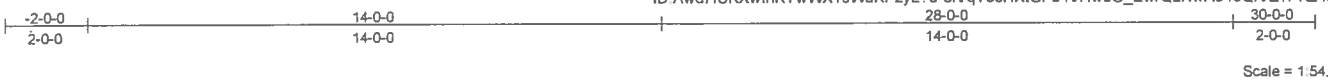

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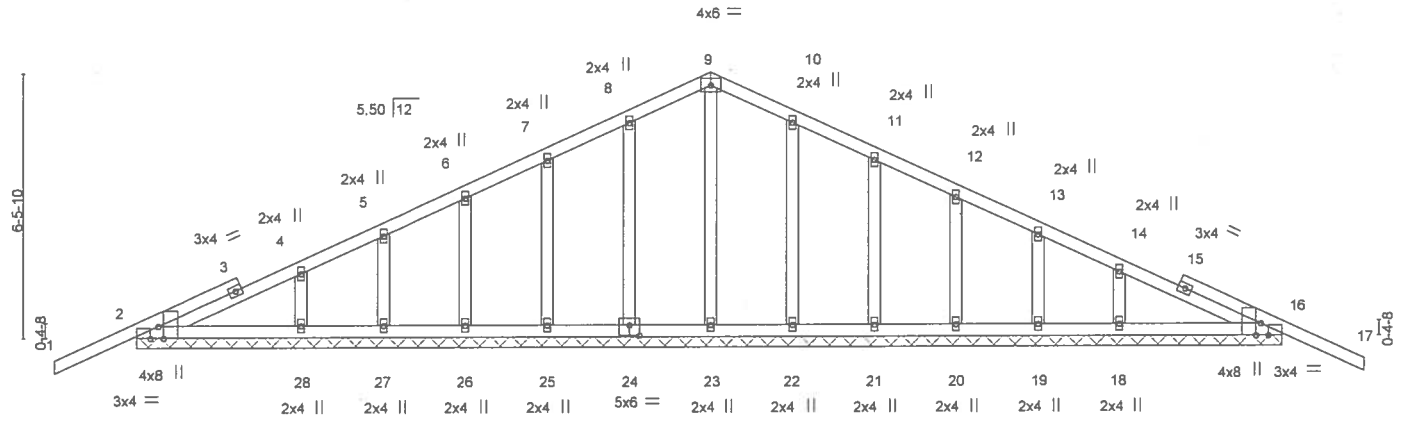

28-0-0
28-0-0

Plate Offsets (X,Y)— [2:0-3-8,Edge], [2:0-2-4,Edge], [16:0-3-8,Edge], [16:0-2-4,Edge], [24:0-3-0,0-3-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.30	Vert(LL)	-0.02	17	n/r	120	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.10	Vert(TL)	-0.02	17	n/r	120		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.10	Horz(TL)	0.01	16	n/a	n/a		
BCDL	10.0	Code FBC2014/TPI2007		(Matrix)							Weight: 156 lb	FT = 20%

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

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

REACTIONS. All bearings 28-0-0.
(lb) - Max Horz 2=147(LC 12)
Max Uplift All uplift 100 lb or less at joint(s) 24, 25, 26, 27, 22, 21, 20, 19 except 2=-105(LC 8), 16=-123(LC 13), 28=-113(LC 12), 18=-118(LC 13)
Max Grav All reactions 250 lb or less at joint(s) 23, 24, 25, 26, 27, 28, 22, 21, 20, 19, 18 except 2=267(LC 1), 16=267(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 8-9=-81/252, 9-10=-81/252

NOTES- (10)
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=101mph; TCDL=4.2psf; BCDL=3.0psf; h=18ft; Cat. II; Exp C; Encl., GCpi=0.18; 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) 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 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 24, 25, 26, 27, 22, 21, 20, 19 except (jt=lb) 2=105, 16=123, 28=113, 18=118.
9) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
10) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

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Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST. - MORGAN RES	T8884704
755227	T01GG	GABLE	1	1	Job Reference (optional)	

Builders FirstSource, Lake City, FL 32055 — 7.640 s Apr 19 2016 MiTek Industries, Inc. Mon Jun 20 18:37:30 2016 Page 1

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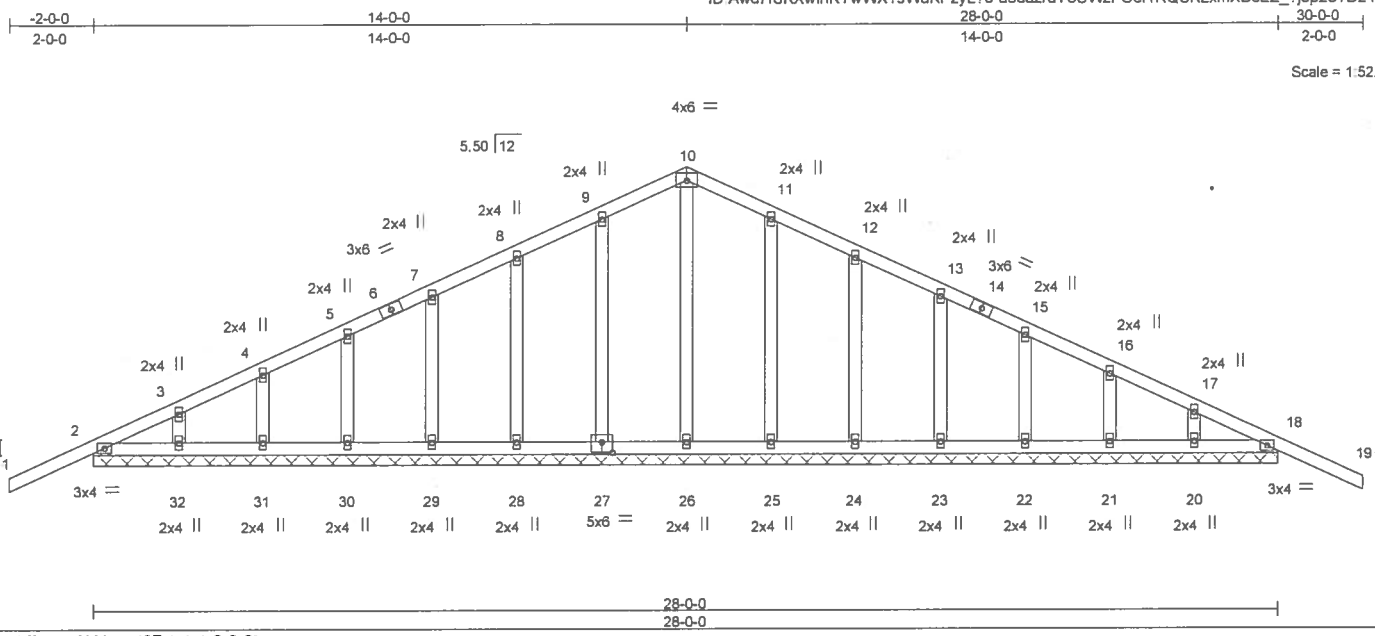

Plate Offsets (X,Y)-- [27:0-3-0,0-3-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.30	Vert(LL)	-0.02	19	n/r	120	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.13	Vert(TL)	-0.04	19	n/r	120		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.11	Horz(TL)	0.01	18	n/a	n/a		
BCDL	10.0	Code FBC2014/TPI2007		(Matrix)							Weight: 158 lb	FT = 20%

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

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

REACTIONS. All bearings 28-0-0.
(lb) - Max Horz 2=-154(LC 13)
Max Uplift All uplift 100 lb or less at joint(s) 27, 28, 29, 30, 32, 25, 24, 23, 22, 20 except 2=-117(LC 8), 31=-103(LC 12), 21=-103(LC 13), 18=-112(LC 9)
Max Grav All reactions 250 lb or less at joint(s) 2, 26, 27, 28, 29, 30, 31, 32, 25, 24, 23, 22, 21, 20, 18

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 9-10=-95/268, 10-11=-95/268

NOTES- (10)
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=101mph; TCDL=4.2psf; BCDL=3.0psf; h=18ft; Cat. II; Exp C; Encl., GCpi=0.18; 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) 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 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 27, 28, 29, 30, 32, 25, 24, 23, 22, 20 except (jt=lb) 2=117, 31=103, 21=103, 18=112.
9) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
10) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

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Tampa, FL 36610

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST. - MORGAN RES. T8884705
755227	T02	COMMON	3	1	Job Reference (optional)

Builders FirstSource, Lake City, FL 32055 — 7.640 s Apr 19 2016 MiTek Industries, Inc. Mon Jun 20 18:37:31 2016 Page 1

ID:Awd7fSKXwInKYwWX1sWuKPzyL?0-2HByABvAqoeqtYDsb9yhsYTpwamBIOzsLTnf?fz4JnI

-2-0-0	7-1-0	14-0-0	20-11-0	28-0-0	30-0-0
2-0-0	7-1-0	6-11-0	6-11-0	7-1-0	2-0-0

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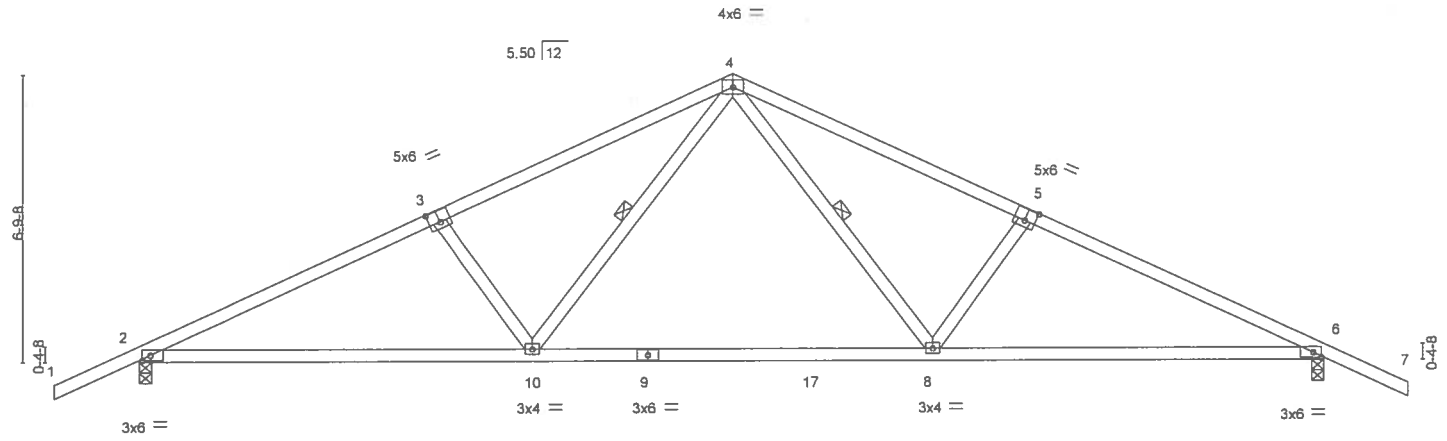

9-3-3	18-8-13	28-0-0
9-3-3	9-5-10	9-3-3

Plate Offsets (X,Y)— [2:0-2-6,0-1-8], [3:0-3-0,0-3-4], [5:0-3-0,0-3-4], [6:0-2-6,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.71	Vert(LL)	0.38	8-10	>894	240	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.85	Vert(TL)	-0.61	8-10	>554	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.32	Horz(TL)	0.08	6	n/a	n/a		
BCDL	10.0	Code FBC2014/TPI2007		(Matrix-M)							Weight: 129 lb	FT = 20%

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

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-7-11 oc purlins.
BOT CHORD Rigid ceiling directly applied or 3-10-9 oc bracing.
WEBS 1 Row at midpt 4-8, 4-10

REACTIONS. (lb/size) 2=1144/0-3-8, 6=1144/0-3-8
Max Horz 2=154(LC 12)
Max Uplift 2=-561(LC 9), 6=-561(LC 8)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1863/2159, 3-4=-1657/2120, 4-5=-1657/2119, 5-6=-1863/2159
BOT CHORD 2-10=-1817/1631, 9-10=-1072/1079, 9-17=-1072/1079, 8-17=-1072/1079, 6-8=-1823/1631
WEBS 4-8=-910/623, 5-8=-371/382, 4-10=-910/625, 3-10=-371/382

NOTES- (7)
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=101mph; TCDL=4.2psf; BCDL=3.0psf; h=18ft; Cat. II; Exp C; Encl., GCpi=0.18; MWFRS (envelope) gable end zone and C-C Exterior(2) 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
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 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 2=561, 6=561.
6) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
7) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

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Tampa, FL 36610

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST. - MORGAN RES.
755227	T02G	COMMON STRUCTURAL GA	1	1	T8884706
					Job Reference (optional)

Builders FirstSource, Lake City, FL 32055 — 7.640 s Apr 19 2016 MiTek Industries, Inc. Mon Jun 20 18:37:32 2016 Page 1

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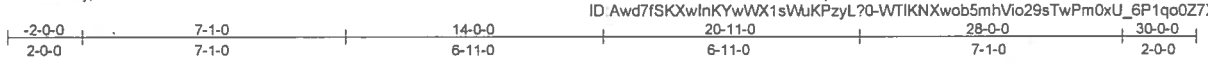

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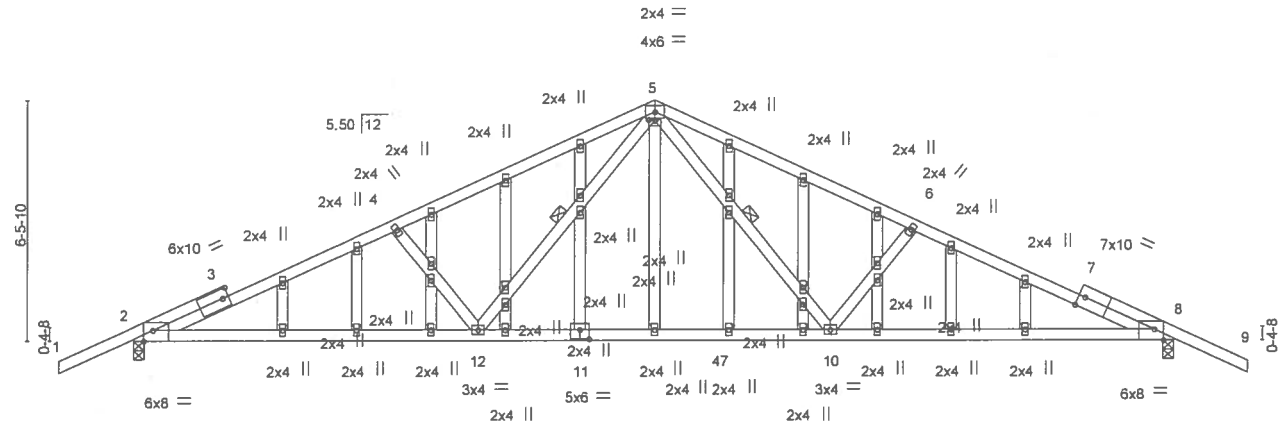

Plate Offsets (X,Y)— [2:0-2-15,Edge], [5:0-2-0,0-0-4], [7:0-2-0,Edge], [8:0-2-15,Edge], [11:0-3-0,0-3-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.91	Vert(LL)	0.41	10-12	>802	240	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.85	Vert(TL)	-0.64	10-12	>523	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.34	Horz(TL)	0.07	8	n/a	n/a		
BCDL	10.0	Code FBC2014/TPI2007		(Matrix-M)							Weight: 188 lb	FT = 20%

LUMBER-

TOP CHORD	2x4 SP No.1 *Except*
	1-3,7-9: 2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
OTHERS	2x4 SP No.3

BRACING-

TOP CHORD	Structural wood sheathing directly applied or 2-2-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 3-5-12 oc bracing.
WEBS	1 Row at midpt 5-10, 5-12

REACTIONS. (lb/size) 2=1141/0-3-8, 8=1141/0-3-8
Max Horz 2=147(LC 12)
Max Uplift 2=-559(LC 8), 8=-559(LC 9)

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

TOP CHORD	2-3=-1969/2335, 3-4=-1991/2390, 4-5=-1791/2301, 5-6=-1791/2301, 6-7=-1991/2390, 7-8=-1969/2335
BOT CHORD	2-12=-2071/1819, 11-12=-1149/1127, 11-47=-1149/1127, 10-47=-1149/1127, 8-10=-2092/1819
WEBS	5-10=-1043/694, 6-10=-447/503, 5-12=-1043/699, 4-12=-447/503

NOTES- (9)

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=101mph; TCDL=4.2psf; BCDL=3.0psf; h=18ft; Cat. II; Exp C; Encl., GCpi=0.18; MWFRS (envelope) gable end zone and C-C Exterior(2) 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
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) Gable studs spaced at 2-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 2=559, 8=559.
8) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
9) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

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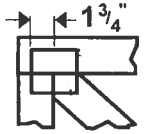
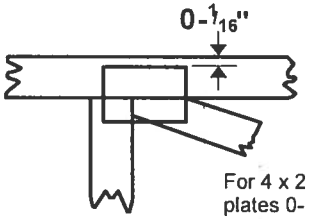
Symbols

PLATE LOCATION AND ORIENTATION



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



For 4 x 2 orientation, locate plates 0- 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

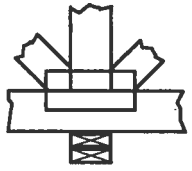
4 x 4

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

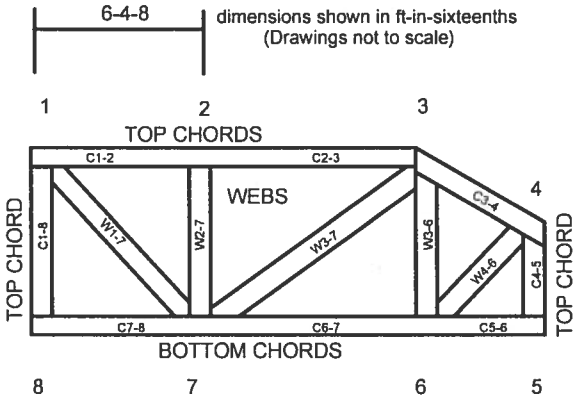


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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®

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.

August 10, 2010	T-BRACE / I-BRACE DETAIL WITH 2X BRACE ONLY	ST - T-BRACE 2

MiTek USA, Inc.

Note: T-Bracing / I-Bracing to be used when continuous lateral bracing is impractical. T-Brace / I-Brace must cover 90% of web length.

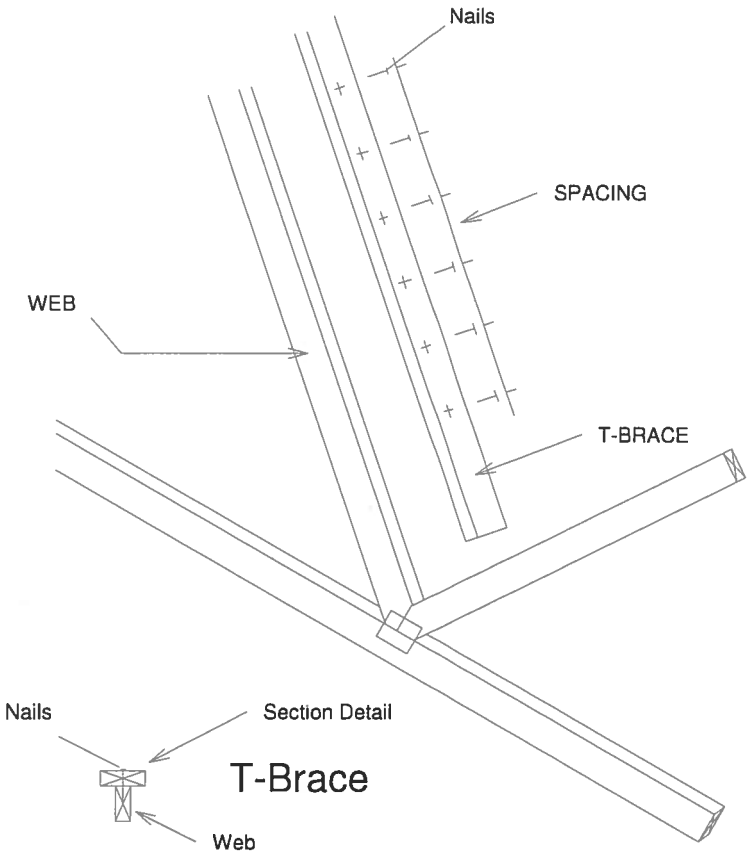
Note: This detail NOT to be used to convert T-Brace / I-Brace webs to continuous lateral braced webs.

Nailing Pattern		
T-Brace size	Nail Size	Nail Spacing
2x4 or 2x6 or 2x8	10d	6" o.c.
Note: Nail along entire length of T-Brace / I-Brace (On Two-Ply's Nail to Both Plies)		

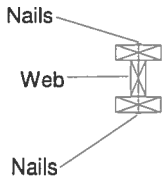
	Brace Size for One-Ply Truss	
	Specified Continuous Rows of Lateral Bracing	
Web Size	1	2
2x3 or 2x4	2x4 T-Brace	2x4 I-Brace
2x6	2x6 T-Brace	2x6 I-Brace
2x8	2x8 T-Brace	2x8 I-Brace

	Brace Size for Two-Ply Truss	
	Specified Continuous Rows of Lateral Bracing	
Web Size	1	2
2x3 or 2x4	2x4 T-Brace	2x4 I-Brace
2x6	2x6 T-Brace	2x6 I-Brace
2x8	2x8 T-Brace	2x8 I-Brace

T-Brace / I-Brace must be same species and grade (or better) as web member.



T-Brace



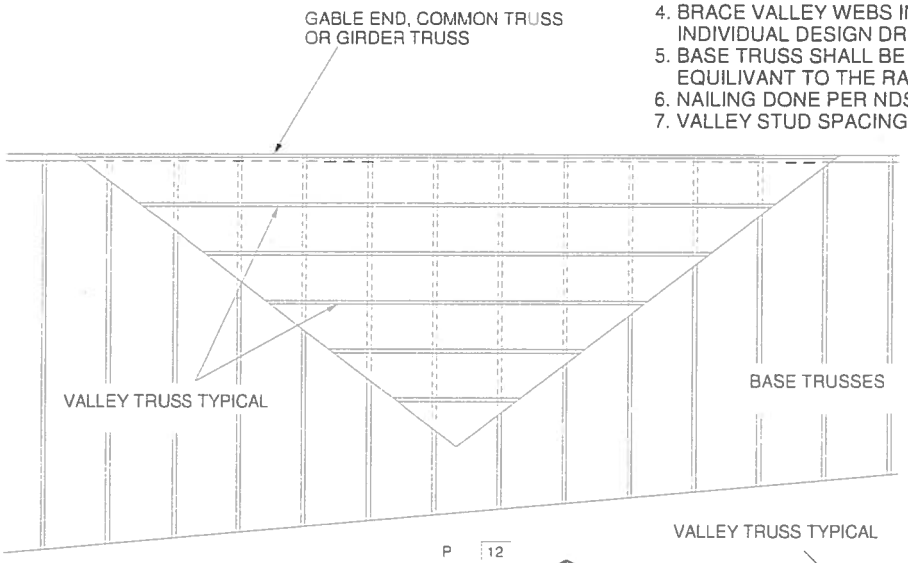
I-Brace

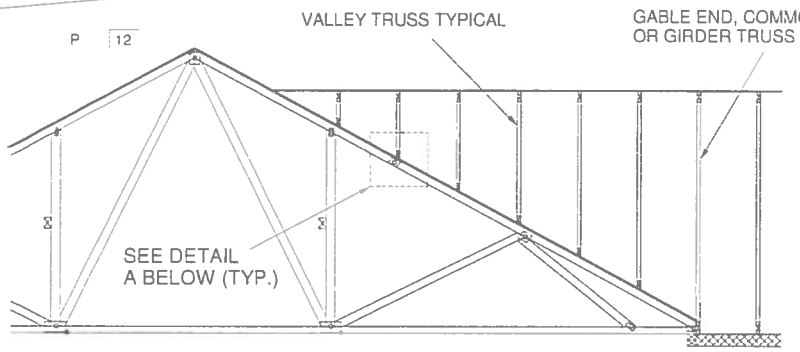
FEBRUARY 14, 2012	TRUSSED VALLEY SET DETAIL	ST-VALLEY HIGH WIND1

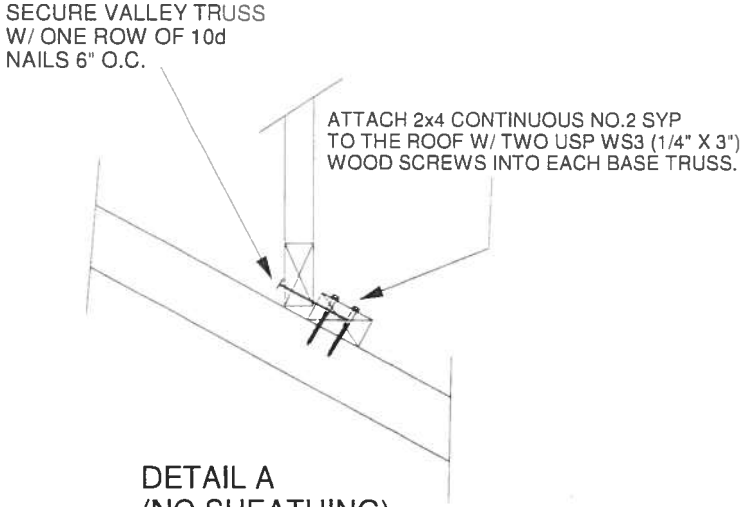
MiTek USA, Inc.

GENERAL SPECIFICATIONS

1. NAIL SIZE = 3" X 0.131" = 10d
2. WOOD SCREW = 3" WS3 USP OR EQUIVALENT
   DO NOT USE DRYWALL OR DECKING TYPE SCREW
3. INSTALL VALLEY TRUSSES (24" O.C. MAXIMUM) AND
   SECURE PER DETAIL A
4. BRACE VALLEY WEBS IN ACCORDANCE WITH THE
   INDIVIDUAL DESIGN DRAWINGS.
5. BASE TRUSS SHALL BE DESIGNED WITH A PURLIN SPACING
   EQUILIVANT TO THE RAKE DIMENSION OF THE VALLEY TRUSS SPACING.
6. NAILING DONE PER NDS - 01
7. VALLEY STUD SPACING NOT TO EXCEED 48" O.C.







DETAIL A
(NO SHEATHING)
N.T.S.

WIND DESIGN PER ASCE 7-98, ASCE 7-02, ASCE 7-05 146 MPH
WIND DESIGN PER ASCE 7-10 160 MPH
MAX MEAN ROOF HEIGHT = 30 FEET
ROOF PITCH = MINIMUM 3/12 MAXIMUM 6/12
CATEGORY II BUILDING
EXPOSURE C
WIND DURATION OF LOAD INCREASE : 1.60
MAX TOP CHORD TOTAL LOAD = 50 PSF
MAX SPACING = 24" O.C. (BASE AND VALLEY)
MINIMUM REDUCED DEAD LOAD OF 6 PSF
ON THE TRUSSES

JANUARY 28, 2015	LATERAL TOE-NAIL DETAIL	ST-TOENAIL_SP

MiTek USA, Inc.

NOTES:
1. TOE-NAILS SHALL BE DRIVEN AT AN ANGLE OF 45 DEGREES WITH THE MEMBER AND MUST HAVE FULL WOOD SUPPORT. (NAIL MUST BE DRIVEN THROUGH AND EXIT AT THE BACK CORNER OF THE MEMBER END AS SHOWN.
2. THE END DISTANCE, EDGE DISTANCE, AND SPACING OF NAILS SHALL BE SUCH AS TO AVOID UNUSUAL SPLITTING OF THE WOOD.
3. ALLOWABLE VALUE SHALL BE THE LESSER VALUE OF THE TWO SPECIES FOR MEMBERS OF DIFFERENT SPECIES.

TOE-NAIL SINGLE SHEAR VALUES PER NDS 2001 (lb/nail)

	DIAM.	SP	DF	HF	SPF	SPF-S
3.5" LONG	.131	88.0	80.6	69.9	68.4	59.7
	.135	93.5	85.6	74.2	72.6	63.4
	.162	108.8	99.6	86.4	84.5	73.8
3.25" LONG	.128	74.2	67.9	58.9	57.6	50.3
	.131	75.9	69.5	60.3	59.0	51.1
	.148	81.4	74.5	64.6	63.2	52.5

VALUES SHOWN ARE CAPACITY PER TOE-NAIL.
APPLICABLE DURATION OF LOAD INCREASES MAY BE APPLIED.

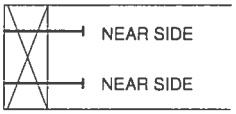
EXAMPLE:
(3) - 16d NAILS (.162" diam. x 3.5") WITH SPF SPECIES BOTTOM CHORD

For load duration increase of 1.15:
3 (nails) X 84.5 (lb/nail) X 1.15 (DOL) = 291.5 lb Maximum Capacity

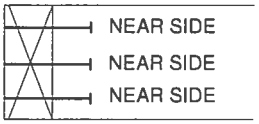
THIS DETAIL APPLICABLE TO THE THREE END DETAILS SHOWN BELOW

VIEWS SHOWN ARE FOR ILLUSTRATION PURPOSES ONLY

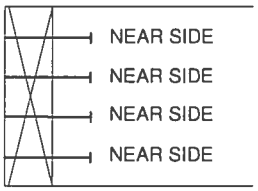
SIDE VIEW
(2x3)
2 NAILS

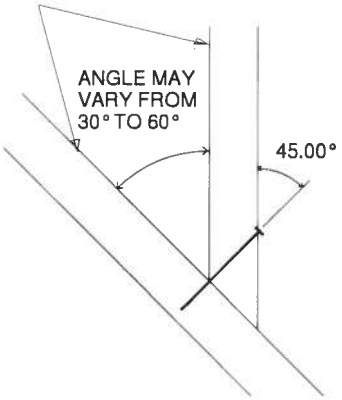


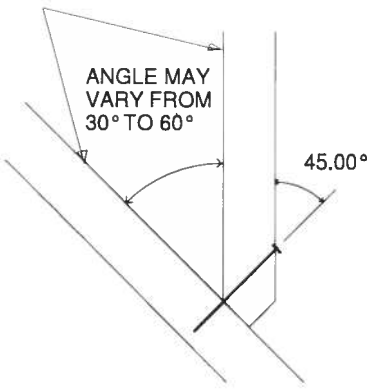
SIDE VIEW
(2x4)
3 NAILS

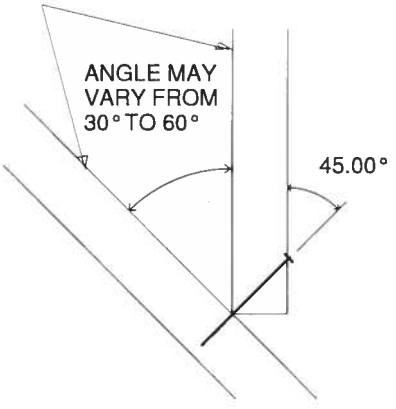


SIDE VIEW
(2x6)
4 NAILS









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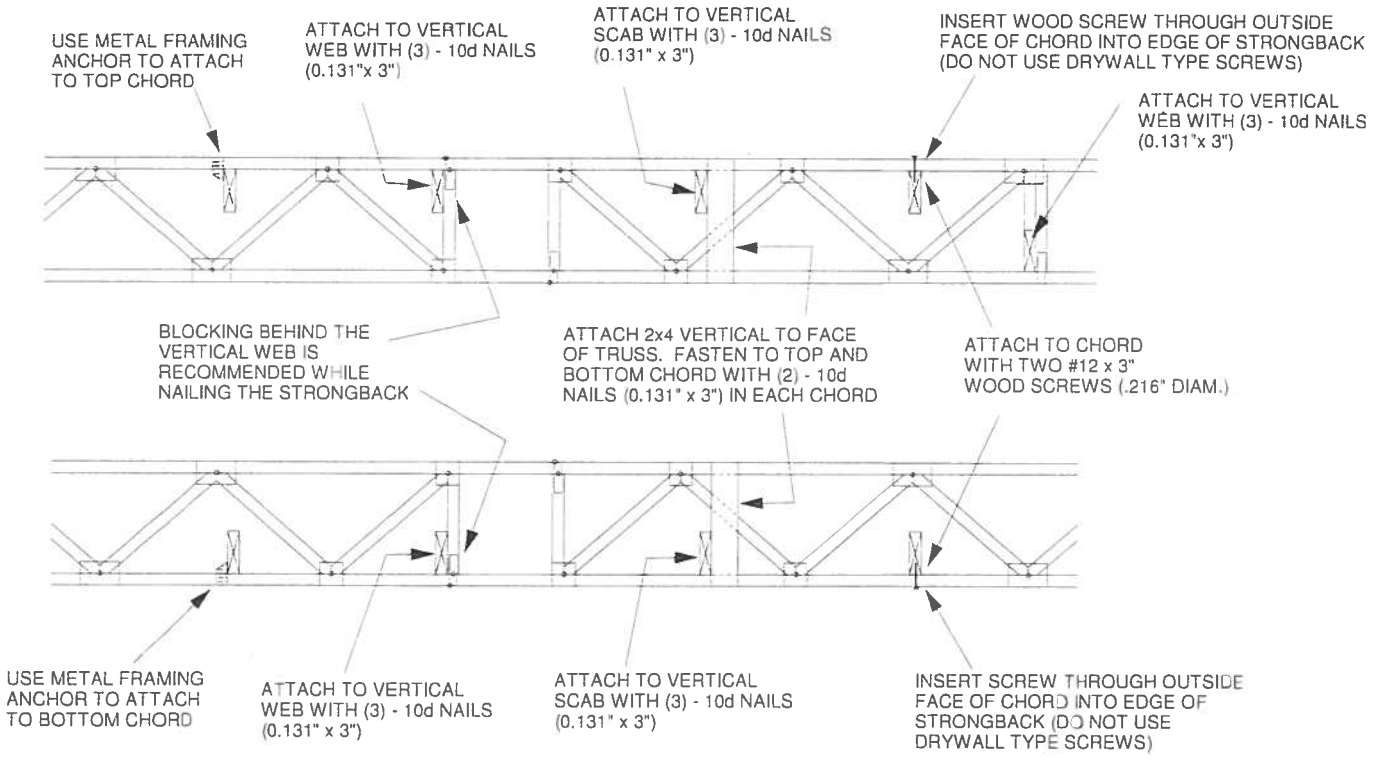
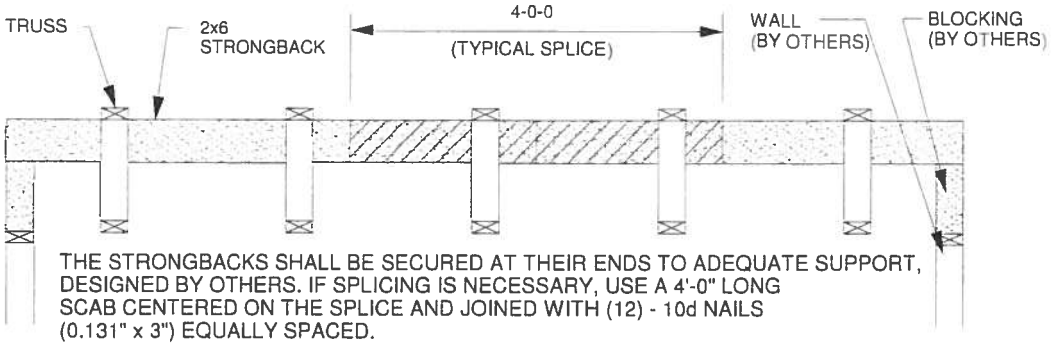
TO MINIMIZE VIBRATION COMMON TO ALL SHALLOW FRAMING SYSTEMS, 2x6 "STRONGBACK" IS RECOMMENDED, LOCATED EVERY 8 TO 10 FEET ALONG A FLOOR TRUSS.

NOTE 1: 2X6 STRONGBACK ORIENTED VERTICALLY MAY BE POSITIONED DIRECTLY UNDER THE TOP CHORD OR DIRECTLY ABOVE THE BOTTOM CHORD. SECURELY FASTENED TO THE TRUSS USING ANY OF THE METHODS ILLUSTRATED BELOW.

NOTE 2: STRONGBACK BRACING ALSO SATISFIES THE LATERAL BRACING REQUIREMENTS FOR THE BOTTOM CHORD OF THE TRUSS WHEN IT IS PLACED ON TOP OF THE BOTTOM CHORD, IS CONTINUOUS FROM END TO END, CONNECTED WITH A METHOD OTHER THAN METAL FRAMING ANCHOR, AND PROPERLY CONNECTED, BY OTHERS, AT THE ENDS.





THE STRONGBACKS SHALL BE SECURED AT THEIR ENDS TO ADEQUATE SUPPORT, DESIGNED BY OTHERS. IF SPLICING IS NECESSARY, USE A 4'-0" LONG SCAB CENTERED ON THE SPLICE AND JOINED WITH (12) - 10d NAILS (0.131" x 3") EQUALLY SPACED.

ALTERNATE METHOD OF SPLICING:
OVERLAP STRONGBACK MEMBERS A MINIMUM OF 4'-0" AND FASTEN WITH (12) - 10d NAILS (0.131" x 3") STAGGERED AND EQUALLY SPACED.
(TO BE USED ONLY WHEN STRONGBACK IS NOT ALIGNED WITH A VERTICAL)

FEBRUARY 14, 2012	STANDARD PIGGYBACK TRUSS CONNECTION DETAIL	ST-PIGGY-7-10

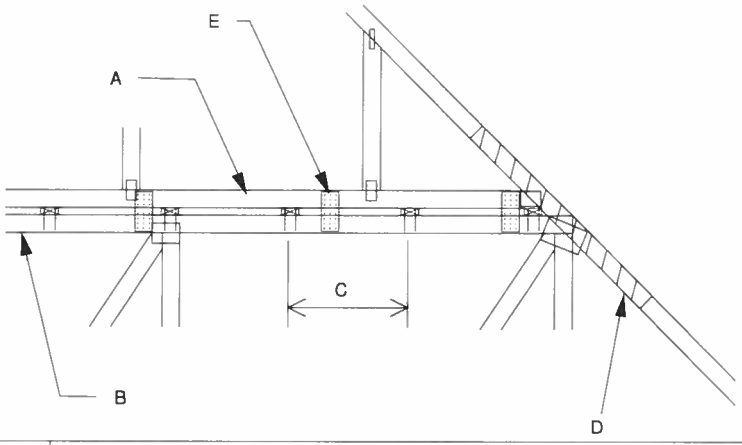
MiTek USA, Inc.

MiTek USA, Inc.

MAXIMUM WIND SPEED = REFER TO NOTES D AND OR E MAX MEAN ROOF HEIGHT = 30 FEET MAX TRUSS SPACING = 24 " O.C. CATEGORY II BUILDING EXPOSURE B or C ASCE 7-10 DURATION OF LOAD INCREASE : 1.60
DETAIL IS NOT APPLICABLE FOR TRUSSES TRANSFERING DRAG LOADS (SHEAR TRUSSES). ADDITIONAL CONSIDERATIONS BY BUILDING ENGINEER/DESIGNER ARE REQUIRED.

A - PIGGBACK TRUSS, REFER TO MITEK TRUSS DESIGN DRAWING. SHALL BE CONNECTED TO EACH PURLIN WITH (2) 0.131" X 3.5" TOE NAILED.
B - BASE TRUSS, REFER TO MITEK TRUSS DESIGN DRAWING.
C - PURLINS AT EACH BASE TRUSS JOINT AND A MAXIMUM 24" O.C. UNLESS SPECIFIED CLOSER ON MITEK TRUSS DESIGN DRAWING. CONNECT TO BASE TRUSS WITH (2) 0.131" X 3.5" NAILS EACH.
D - 2 X ___ X 4'-0" SCAB, SIZE AND GRADE TO MATCH TOP CHORD OF PIGGYBACK TRUSS, ATTACHED TO ONE FACE, CENTERED ON INTERSECTION, WITH (2) ROWS OF 0.131" X 3" NAILS @ 4" O.C. SCAB MAY BE OMITTED PROVIDED THE TOP CHORD SHEATHING IS CONTINUOUS OVER INTERSECTION AT LEAST 1 FT. IN BOTH DIRECTIONS AND:
1. WIND SPEED OF 115 MPH OR LESS FOR ANY PIGGYBACK SPAN, OR
2. WIND SPEED OF 116 MPH TO 160 MPH WITH A MAXIMUM PIGGYBACK SPAN OF 12 ft.

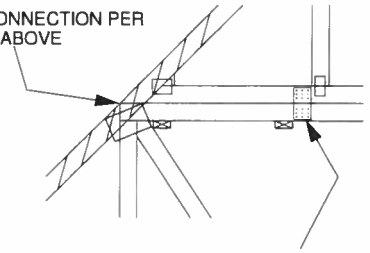
E - FOR WIND SPEEDS BETWEEN 126 AND 160 MPH, ATTACH MITEK 3X8 20 GA Nail-On PLATES TO EACH FACE OF TRUSSES AT 72" O.C. W/ (4) 0.131" X 1.5" PER MEMBER. STAGGER NAILS FROM OPPOSING FACES. ENSURE 0.5" EDGE DISTANCE. (MIN. 2 PAIRS OF PLATES REQ. REGARDLESS OF SPAN)



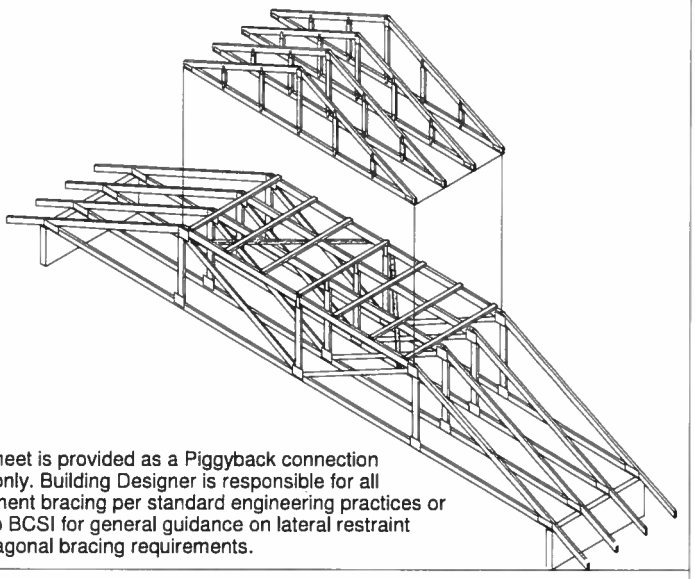
WHEN NO GAP BETWEEN PIGGYBACK AND BASE TRUSS EXISTS:

REPLACE TOE NAILING OF PIGGYBACK TRUSS TO PURLINS WITH Nail-On PLATES AS SHOWN, AND INSTALL PURLINS TO BOTTOM EDGE OF BASE TRUSS TOP CHORD AT SPECIFIED SPACING SHOWN ON BASE TRUSS MITEK DESIGN DRAWING.

SCAB CONNECTION PER NOTE D ABOVE

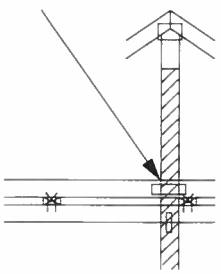


FOR ALL WIND SPEEDS, ATTACH MITEK 3X6 20 GA Nail-On PLATES TO EACH FACE OF TRUSSES AT 48" O.C. W/ (4) 0.131" X 1.5" PER MEMBER. STAGGER NAILS FROM OPPOSING FACES ENSURE 0.5" EDGE DISTANCE.



This sheet is provided as a Piggyback connection detail only. Building Designer is responsible for all permanent bracing per standard engineering practices or refer to BCSI for general guidance on lateral restraint and diagonal bracing requirements.

VERTICAL WEB TO EXTEND THROUGH BOTTOM CHORD OF PIGGYBACK



FOR LARGE CONCENTRATED LOADS APPLIED TO CAP TRUSS REQUIRING A VERTICAL WEB:

1) VERTICAL WEBS OF PIGGYBACK AND BASE TRUSS MUST MATCH IN SIZE, GRADE, AND MUST LINE UP AS SHOWN IN DETAIL.
2) ATTACH 2 x ___ x 4'-0" SCAB TO EACH FACE OF TRUSS ASSEMBLY WITH 2 ROWS OF 10d (0.131" X 3") NAILS SPACED 4" O.C. FROM EACH FACE. (SIZE AND GRADE TO MATCH VERTICAL WEBS OF PIGGYBACK AND BASE TRUSS.) (MINIMUM 2X4)
3) THIS CONNECTION IS ONLY VALID FOR A MAXIMUM CONCENTRATED LOAD OF 4000 LBS (@1.15). REVIEW BY A QUALIFIED ENGINEER IS REQUIRED FOR LOADS GREATER THAN 4000 LBS.
4) FOR PIGGYBACK TRUSSES CARRYING GIRDER LOADS, NUMBER OF PLYS OF PIGGYBACK TRUSS TO MATCH BASE TRUSS.
5) CONCENTRATED LOAD MUST BE APPLIED TO BOTH THE PIGGYBACK AND THE BASE TRUSS DESIGN.

FEBRUARY 14, 2012	Standard Gable End Detail	ST-GE130-001

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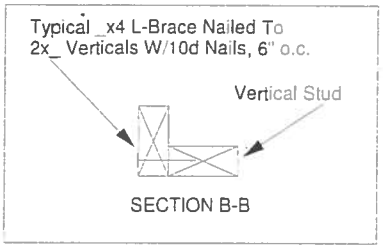
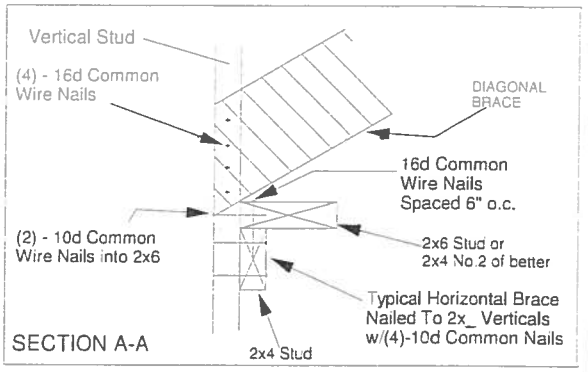
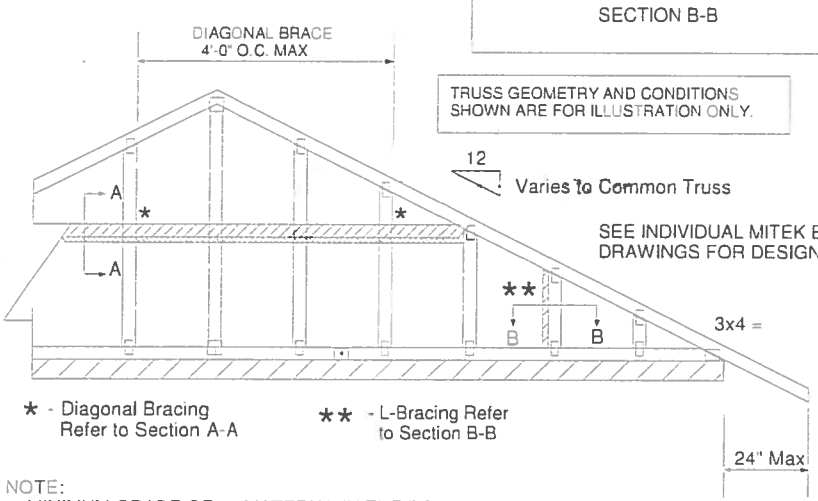






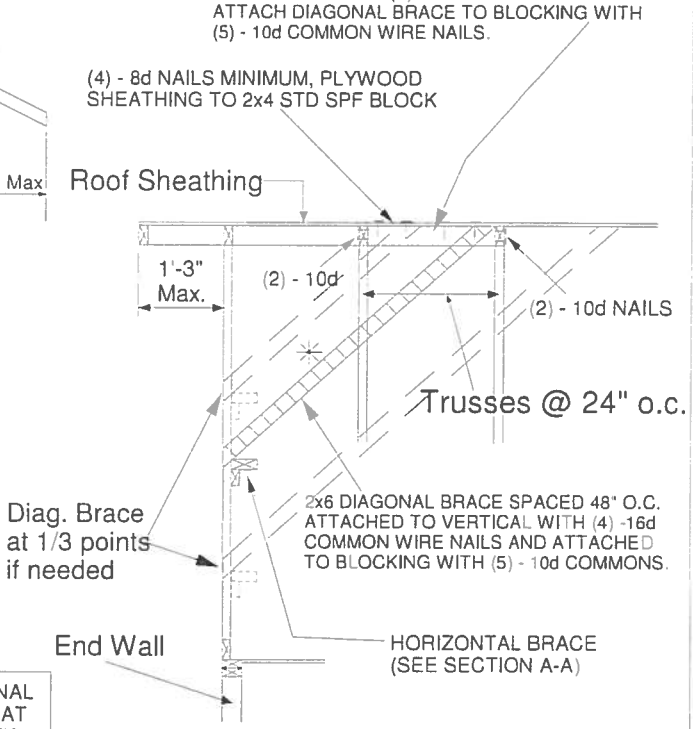
TRUSS GEOMETRY AND CONDITIONS SHOWN ARE FOR ILLUSTRATION ONLY.

SEE INDIVIDUAL MITEK ENGINEERING DRAWINGS FOR DESIGN CRITERIA

PROVIDE 2x4 BLOCKING BETWEEN THE FIRST TWO TRUSSES AS NOTED. TOENAIL BLOCKING TO TRUSSES WITH (2) - 10d NAILS AT EACH END. ATTACH DIAGONAL BRACE TO BLOCKING WITH (5) - 10d COMMON WIRE NAILS.

* - Diagonal Bracing Refer to Section A-A

** - L-Bracing Refer to Section B-B



NOTE:
1. MINIMUM GRADE OF #2 MATERIAL IN THE TOP AND BOTTOM CHORDS.
2. CONNECTION BETWEEN BOTTOM CHORD OF GABLE END TRUSS AND WALL TO BE PROVIDED BY PROJECT ENGINEER OR ARCHITECT.
3. BRACING SHOWN IS FOR INDIVIDUAL TRUSS ONLY. CONSULT BLDG. ARCHITECT OR ENGINEER FOR TEMPORARY AND PERMANENT BRACING OF ROOF SYSTEM.
4. "L" BRACES SPECIFIED ARE TO BE FULL LENGTH. GRADES: 1x4 SRB OR 2x4 STUD OR BETTER WITH ONE ROW OF 10d NAILS SPACED 6" O.C.
5. DIAGONAL BRACE TO BE APPROXIMATELY 45 DEGREES TO ROOF DIAPHRAM AT 4'-0" O.C.
6. CONSTRUCT HORIZONTAL BRACE CONNECTING A 2x6 STUD AND A 2x4 STUD AS SHOWN WITH 16d NAILS SPACED 6" O.C. HORIZONTAL BRACE TO BE LOCATED AT THE MIDSPAN OF THE LONGEST STUD. ATTACH TO VERTICAL STUDS WITH (4) 10d NAILS THROUGH 2x4. (REFER TO SECTION A-A)
7. GABLE STUD DEFLECTION MEETS OR EXCEEDS L/240.
8. THIS DETAIL DOES NOT APPLY TO STRUCTURAL GABLES.
9. DO NOT USE FLAT BOTTOM CHORD GABLES NEXT TO SCISSOR TYPE TRUSSES.

Minimum Stud Size Species and Grade	Stud Spacing	Without Brace	1x4 L-Brace	2x4 L-Brace	DIAGONAL BRACE	2 DIAGONAL BRACES AT 1/3 POINTS
		Maximum Stud Length				
2x4 SPF Std/Stud	12" O.C.	4-0-7	4-3-2	6-0-4	8-0-15	12-1-6
2x4 SPF Std/Stud	16" O.C.	3-7-0	3-8-4	5-2-10	7-1-15	10-8-15
2x4 SPF Std/Stud	24" O.C.	2-11-1	3-0-2	4-3-2	5-10-3	8-9-4

✳ Diagonal braces over 6'-3" require a 2x4 T-Brace attached to one edge. Diagonal braces over 12'-6" require 2x4 I-braces attached to both edges. Fasten T and I braces to narrow edge of web with 10d common wire nails 8in o.c., with 3in minimum end distance. Brace must cover 90% of diagonal length.

MAX MEAN ROOF HEIGHT = 30 FEET
CATEGORY II BUILDING
EXPOSURE B or C
ASCE 7-98, ASCE 7-02, ASCE 7-05 130 MPH
ASCE 7-10 160 MPH
DURATION OF LOAD INCREASE : 1.60

STUD DESIGN IS BASED ON COMPONENTS AND CLADDING. CONNECTION OF BRACING IS BASED ON MWFRS.

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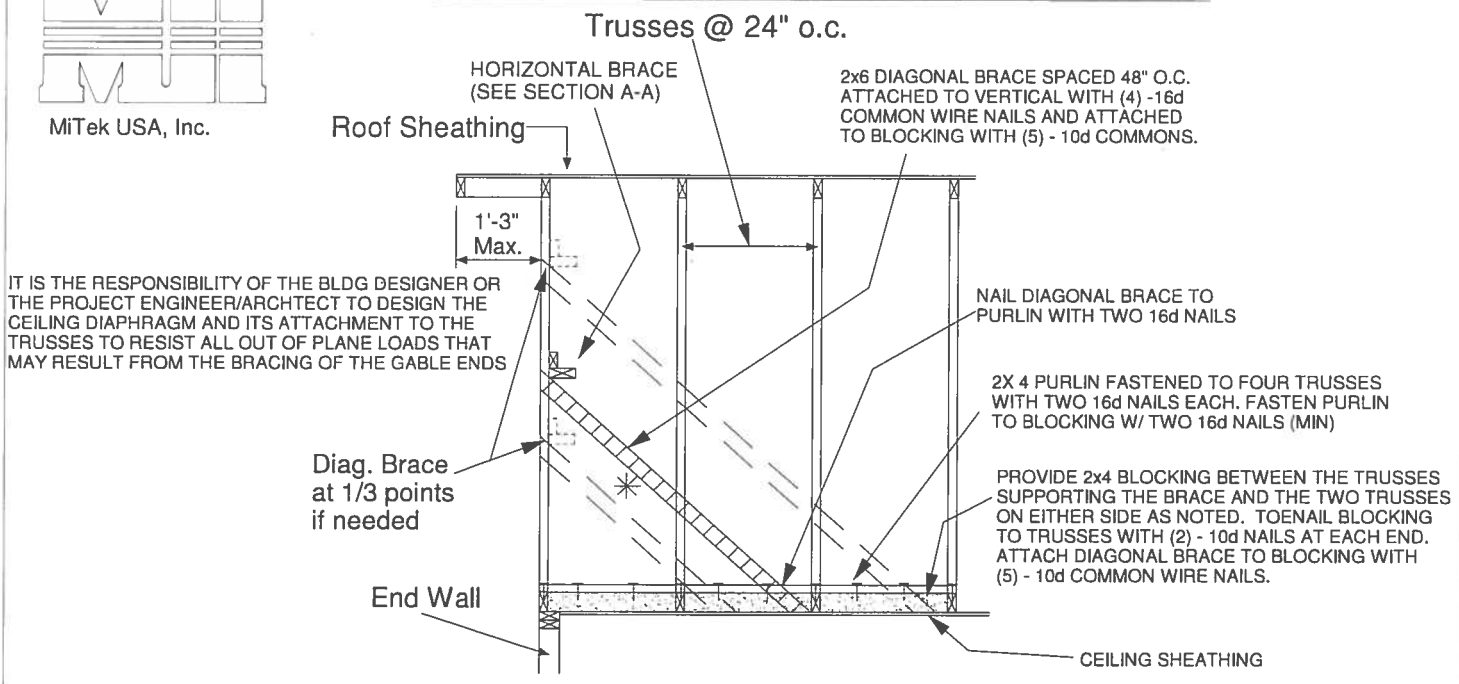
ALTERNATE DIAGONAL BRACING TO THE BOTTOM CHORD



BRACING REQUIREMENTS FOR STRUCTURAL GABLE TRUSSES

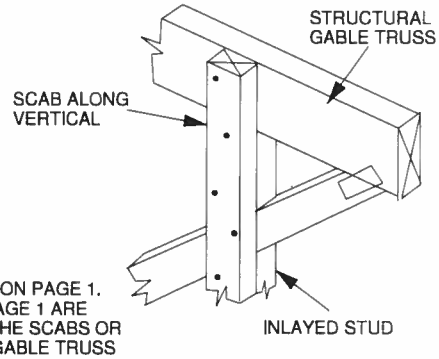
STRUCTURAL GABLE TRUSSES MAY BE BRACED AS NOTED:

METHOD 1 : ATTACH A MATCHING GABLE TRUSS TO THE INSIDE FACE OF THE STRUCTURAL GABLE AND FASTEN PER THE FOLLOWING NAILING SCHEDULE.

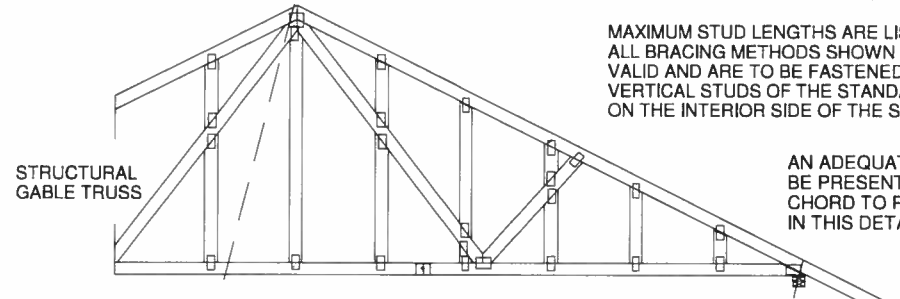
METHOD 2 : ATTACH 2X_ SCABS TO THE FACE OF EACH VERTICAL MEMBER ON THE STRUCTURAL GABLE PER THE FOLLOWING NAILING SCHEDULE. SCABS ARE TO BE OF THE SAME SIZE, GRADE AND SPECIES AS THE TRUSS VERTICALS

NAILING SCHEDULE:

- FOR WIND SPEEDS 120 MPH (ASCE 7-98, 02, 05), 150 MPH (ASCE 7-10) OR LESS, NAIL ALL MEMBERS WITH ONE ROW OF 10d (.131" X 3") NAILS SPACED 6" O.C.
- FOR WIND SPEEDS GREATER 120 MPH (ASCE 7-98, 02, 05), 150 MPH (ASCE 7-10) NAIL ALL MEMBERS WITH TWO ROWS OF 10d (.131" X 3") NAILS SPACED 6" O.C. (2X 4 STUDS MINIMUM)

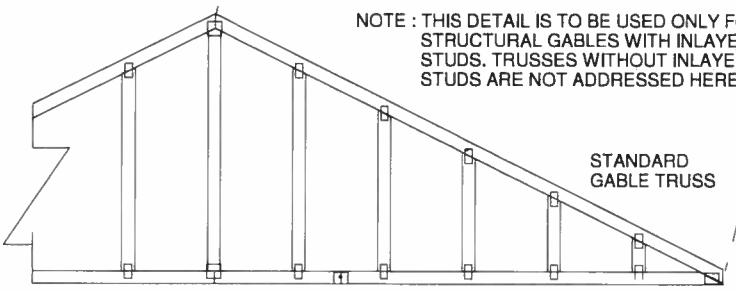


MAXIMUM STUD LENGTHS ARE LISTED ON PAGE 1. ALL BRACING METHODS SHOWN ON PAGE 1 ARE VALID AND ARE TO BE FASTENED TO THE SCABS OR VERTICAL STUDS OF THE STANDARD GABLE TRUSS ON THE INTERIOR SIDE OF THE STRUCTURE.



AN ADEQUATE DIAPHRAGM OR OTHER METHOD OF BRACING MUST BE PRESENT TO PROVIDE FULL LATERAL SUPPORT OF THE BOTTOM CHORD TO RESIST ALL OUT OF PLANE LOADS. THE BRACING SHOWN IN THIS DETAIL IS FOR THE VERTICAL/STUDS ONLY.

NOTE : THIS DETAIL IS TO BE USED ONLY FOR STRUCTURAL GABLES WITH INLAYED STUDS. TRUSSES WITHOUT INLAYED STUDS ARE NOT ADDRESSED HERE.



Multiple-Member Connections for Side-Loaded Beams with Concentrated Loads

Table 1: Maximum Concentrated Load Applied to Beam – Bolt or Nail Connection (lbs)[1]

Beam Configuration		Hanger Type	½"ø or ¾"ø Bolts[3][4]					16d (0.148" x 3¼") Nails			
			Bolt Diameter[2]	# Bolts				# Nails			
				2	4	6	8	6	12	18	24
3-ply 1¾" (5¼" Beam)		FACE	0.5	2,100	4,200	6,300	8,400	2,125[5]	4,250[5]	6,370[5]	8,495[5]
			0.75	3,060	6,120	9,180	12,240				
		TOP	0.5	760	1,525	2,285	3,050	1,060[6]	2,125[6]	3,185[6]	4,250[6]
			0.75	930	1,860	2,790	3,720				
3½"+1¾" (5¼" Beam)		FACE	---	---	---	---	---	---	---	---	---
			---	---	---	---	---				
		TOP	0.5	1,050	2,100	3,150	4,200	1,060	2,125	3,185	4,250
			0.75	1,530	3,060	4,590	6,120				
3½"+1¾" (5¼" Beam)		FACE / TOP	0.5	2,100	4,200	6,300	8,400	2,125[5]	4,250[5]	6,370[5]	8,495[5]
			0.75	3,060	6,120	9,180	12,240				
4-ply 1¾" (7" Beam)		FACE	0.5	1,400	2,800	4,200	5,600	---	---	---	---
			0.75	2,040	4,080	6,120	8,160				
		TOP	0.5	675	1,355	2,030	2,710	---	---	---	---
			0.75	825	1,655	2,480	3,305				
2-ply 1¾" + 3½" (7" Beam)		FACE	0.5	2,800	5,600	8,400	11,200	2,830[5]	5,665[5]	8,495[5]	11,330[5]
			0.75	5,025	10,050	15,070	20,095				
		TOP	0.5	935	1,865	2,800	3,735	945[6]	1,890[6]	2,830[6]	3,775[6]
			0.75	1,360	2,720	4,080	5,440				
2-ply 3½" (7" Beam)		FACE / TOP	0.5	1,720	3,440	5,160	6,880	---	---	---	---
			0.75	2,480	4,960	7,440	9,920				
2-ply 1¾" + 3½" (7" Beam)		FACE / TOP	0.5	1,015	2,030	3,050	4,065	---	---	---	---
			0.75	1,240	2,480	3,720	4,960				
2-ply 1¾" + 3½" (7" Beam)		FACE	0.5	1,720	3,440	5,160	6,880	---	---	---	---
			0.75	2,480	4,960	7,440	9,920				
		TOP	0.5	675	1,355	2,030	2,710	---	---	---	---
			0.75	825	1,655	2,480	3,305				
5¼" + 1¾" (7" Beam)		FACE / TOP	0.5	2,800	5,600	8,400	11,200	2,830[5]	5,665[5]	8,495[5]	11,330[5]
			0.75	5,025	10,050	15,070	20,095				

1. See page 4 for table General Notes, connection details and beam depth limitations.
2. Washers required. Bolt holes to be 9/16" maximum for ½" bolts, 13/16" maximum for ¾" bolts.
3. Minimum end distance for bolts is 6".
4. Drilling bolt holes reduces the section of the beam and thus the load capacity of the supporting member. Shear and moment capacity of the beam must be checked at the location of each row of bolts.
5. Number of required nails shown must be installed from side opposite hanger.
6. Number of required nails shown must be installed from hanger side. Additionally, install half the number of required nails from side opposite hanger.

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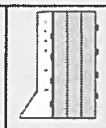
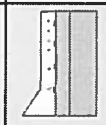
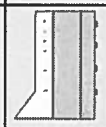
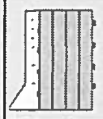
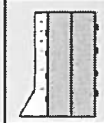
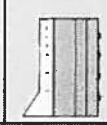
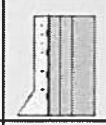
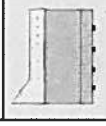
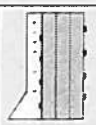
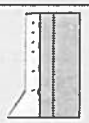
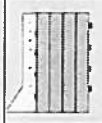
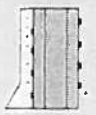
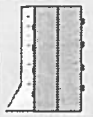
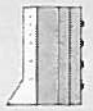
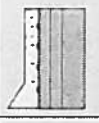
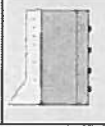
Table 2A: Maximum Concentrated Load Applied to Beam – Wood Screw Connection (lbs)[1]

Beam Configuration		Hanger Type	Wood Screw Length	Fastener Type							
				USP WS				Simpson SDS			
				# Screws				# Screws			
				2	4	6	8	2	4	6	8
3-ply 1¾" (5¼" Beam)		FACE [3]	3½"	1,435	2,870	4,305	5,740	2,040	4,080	6,120	8,160
		TOP [2]	3½"	720	1,435	2,155	2,870	1,020	2,040	3,060	4,080
3½"+1¾" (5¼" Beam)		FACE	3½"	—	—	—	—	—	—	—	—
		TOP [4]	3½"	720	1,435	2,155	2,870	1,020	2,040	3,060	4,080
3½"+1¾" (5¼" Beam)		FACE / TOP [3]	3½"	1,435	2,870	4,305	5,740	2,040	4,080	6,120	8,160
4-ply 1¾" (7" Beam)		FACE [2]	6"[5]	1,055	2,110	3,165	4,220	1,360	2,720	4,080	5,440
		TOP [2]	6"[5]	705	1,405	2,110	2,810	905	1,815	2,720	3,625
2-ply 1¾" + 3½" (7" Beam)		FACE [3]	3½"	1,915	3,825	5,740	7,655	2,720	5,440	8,160	10,880
			6"[5]	2,110	4,220	6,325	8,435	2,720	5,440	8,160	10,880
		TOP [2]	3½"	640	1,275	1,915	2,550	905	1,815	2,720	3,625
			6"[5]	705	1,405	2,110	2,810	905	1,815	2,720	3,625
2-ply 3½" (7" Beam)		FACE / TOP [2]	6"[5]	1,055	2,110	3,165	4,220	930	1,860	2,785	3,715
2-ply 1¾" + 3½" (7" Beam)		FACE / TOP [3]	6"[5]	1,055	2,110	3,165	4,220	1,360	2,720	4,080	5,440
2-ply 1¾" + 3½" (7" Beam)		FACE[4]	6"[5]	1,055	2,110	3,165	4,220	930	1,860	2,785	3,715
		TOP[4]	6"[5]	705	1,405	2,110	2,810	905	1,815	2,720	3,625
5¼" + 1¾" (7" Beam)		FACE / TOP [3]	3½"	1,915	3,825	5,740	7,655	2,720	5,440	8,160	10,880

1. See page 4 for table General Notes, connection details and beam depth limitations.
2. Install screws from both sides of beam.
3. Install screws from side opposite hanger only.
4. Install screws from hanger side only.
5. 6" SDS or WS screws can be used with Parallam® PSL and Microllam® LVL, but are not recommended for TimberStrand® LSL.

Table 2B: Maximum Concentrated Load Applied to Beam – Wood Screw Connection (lbs)[1]

Beam Configuration		Hanger Type	Wood Screw Length	Connection Name: TrussLok # Screws: 2	4	6	8
3-ply 1¾" (5¼" Beam)		FACE [3]	3⅜"	1,600	3,205	4,805	6,410
		TOP [2]	3⅜"	800	1,600	2,405	3,205
3½"+1¾" (5¼" Beam)		FACE	3⅜"	—	—	—	—
		TOP [4]	3⅜"	800	1,600	2,405	3,205
3½"+1¾" (5¼" Beam)		FACE / TOP [3]	3⅜"	1,600	3,205	4,805	6,410
4-ply 1¾" (7" Beam)		FACE [2]	5", 6¾"	1,160	2,320	3,480	4,640
		TOP [2]	5", 6¾"	775	1,545	2,320	3,095
2-ply 1¾" + 3½" (7" Beam)		FACE [3]	3⅜"	2,135	4,270	6,410	8,545
			5", 6¾"	2,320	4,640	6,960	9,280
		TOP [2]	3⅜"	710	1,425	2,135	2,850
			5", 6¾"	775	1,545	2,320	3,095
2-ply 3½" (7" Beam)		FACE / TOP [2]	5", 6¾"	1,160	2,320	3,480	4,640
2-ply 1¾" + 3½" (7" Beam)		FACE / TOP [3]	5", 6¾"	1,160	2,320	3,480	4,640
2-ply 1¾" + 3½" (7" Beam)		FACE [4]	5", 6¾"	1,160	2,320	3,480	4,640
		TOP [4]	5", 6¾"	1,160	2,320	3,480	4,640
5¼" + 1¾" (7" Beam)		FACE / TOP [3]	5", 6¾"	2,320	4,640	6,960	9,280

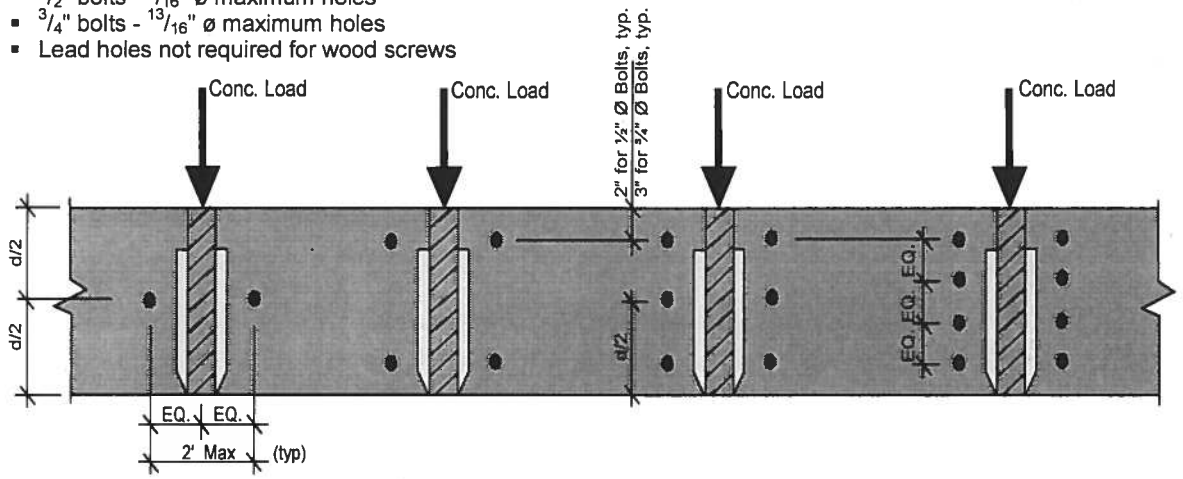
1. See page 4 for table General Notes, connection details and beam depth limitations.
2. Install screws from both sides of beam.
3. Install screws from side opposite hanger only.
4. Install screws from hanger side only.

Table 1, 2A, 2B General Notes

- Connections are based on NDS® 2005 or manufacturer's code report.
- All plies must be the same material and grade.
- Values are for 100% duration of load. Increase 15% for snow load or 25% for non-snow roof load conditions, where code allows.
- Rotational effects should be considered for 7" wide beams loaded from one side only.
- Capacities shown for face mount hanger conditions are based on 16d common (0.162" x 3½") nails installed in the hanger. Other nails used for face mount hanger installations invalidate the capacities in these tables.
- Verify adequacy of beam with all loads applied by using iLevel software or other methods.
- See the iLevel Trus Joist® Beams, Headers, and Columns Specifier's Guide (#TJ-9000) for required connections for uniform side loads.

Bolt or Wood Screw Connection Details

- $^{1}/_{2}$" bolts - $^{9}/_{16}$" ø maximum holes
- $^{3}/_{4}$" bolts - $^{13}/_{16}$" ø maximum holes
- Lead holes not required for wood screws



2 Fastener Pattern

4 Fastener Pattern
Min. Beam Depth:
d = 7¼" for ½" ø bolts
d = 9¼" for ¾" ø bolts

6 Fastener Pattern
Min. Beam Depth:
d = 9¼" for ½" ø bolts
d = 14" for ¾" ø bolts

8 Fastener Pattern
Min. Beam Depth:
d = 11¼" for ½" ø bolts
d = 16" for ¾" ø bolts

Nailed Connection Detail

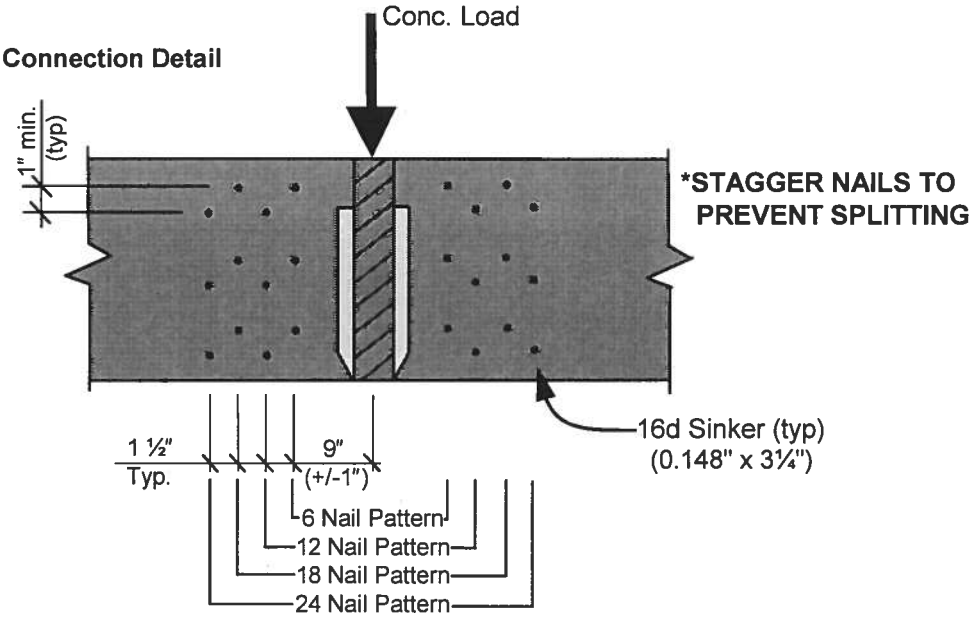


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Table 3: Allowable Capacities of 5¼" Beams with Bolt Connections

		Bolt Dia.	Conn. Loc.	Beam Depth									
				7¼"	9¼"	9½"	11¼"	11⅞"	14"	16"	18"	20"	24"
TimberStrand® LSL	Max Shear (lbs)	½"	< 5d		6,235	6,545	8,755	9,560	12,345	15,005			
			≥ 5d		10,150	10,500	12,950	13,825	16,800	19,600			
		¾"	< 5d		3,995	4,260	6,210	6,940	9,510	12,015			
			≥ 5d		8,750	9,100	11,550	12,425	15,400	18,200			
	Max Moment (ft-lb)	½"	2		10,605	15,295	15,685	23,905	32,760	42,265			
			4		9,355	13,470	13,730	20,915	28,725	37,250			
			6		9,350	13,470	13,730	20,910	28,725	37,245			
			8				13,510	20,575	28,275	36,685			
		¾"	2		10,600	15,290	15,685	23,900	32,755	42,260			
			4		9,900	14,215	14,195	21,490	29,020	37,225			
			6						29,015	37,220			
			8							36,655			
Microllam® LVL	Max Shear (lbs)	½"	< 5d	2,745	4,445	4,665	6,240	6,810	8,795	10,690	12,610	14,545	18,440
			≥ 5d	5,235	7,230	7,480	9,225	9,850	11,970	13,965	15,960	17,955	21,945
		¾"	< 5d	1,455	2,845	3,035	4,425	4,945	6,775	8,560	10,390	12,250	16,040
			≥ 5d	4,240	6,235	6,485	8,230	8,855	10,975	12,970	14,965	16,960	20,950
	Max Moment (ft-lb)	½"	2	9,960	16,220	17,105	23,990	26,730	36,385	46,670	58,130	70,740	99,375
			4	9,025	14,305	15,065	21,000	23,385	31,905	41,130	51,535	63,100	89,670
			6		14,305	15,060	20,995	23,385	31,905	41,125	51,530	63,100	89,670
			8				20,660	23,010	31,405	40,510	50,795	62,250	88590
		¾"	2	9,950	16,210	17,100	23,985	26,725	36,380	46,665	58,125	70,740	99,370
			4		15,145	15,895	21,710	24,030	32,235	41,105	51,120	62,285	88,015
			6						32,230	41,100	51,115	62,280	88,010
			8							40,475	50,335	61,335	86,745
Parallam® PSL	Max Shear (lbs)	½"	< 5d		4,520	4,745	6,350	6,930	8,950	10,880	12,830		
			≥ 5d		7,360	7,615	9,390	10,025	12,180	14,210	16,240		
		¾"	< 5d		2,895	3,090	4,505	5,030	6,895	8,710	10,575		
			≥ 5d		6,345	6,600	8,375	9,010	11,165	13,195	15,225		
	Max Moment (ft-lb)	½"	2		18,090	19,080	26,760	29,815	40,740	52,430	65,495		
			4		15,960	16,805	23,420	26,085	35,725	46,205	58,065		
			6		15,955	16,800	23,420	26,080	35,725	46,205	58,060		
			8				23,045	25,665	35,165	45,510	57,235		
		¾"	2		18,080	19,070	26,755	29,810	40,735	52,425	65,490		
			4		16,890	17,730	24,215	26,805	36,095	46,180	57,600		
			6						36,085	46,170	57,595		
			8							45,470	56,715		

Table 3 General Notes

- Connection location refers to distance from face of bearing to centerline of connection, where d is the beam depth. Less than 5d refers to connections located less than five times the depth of the beam from the face of bearing.
- Shear reduction has been taken in accordance with NDS 3.4.3.3.
- All values shown are for 5¼" widths. Multiply by 1.33 for 7" wide beams.
- 9¼" and 11¼" TimberStrand® LSL are 1.3E grade, all other depths are 1.55E grade.

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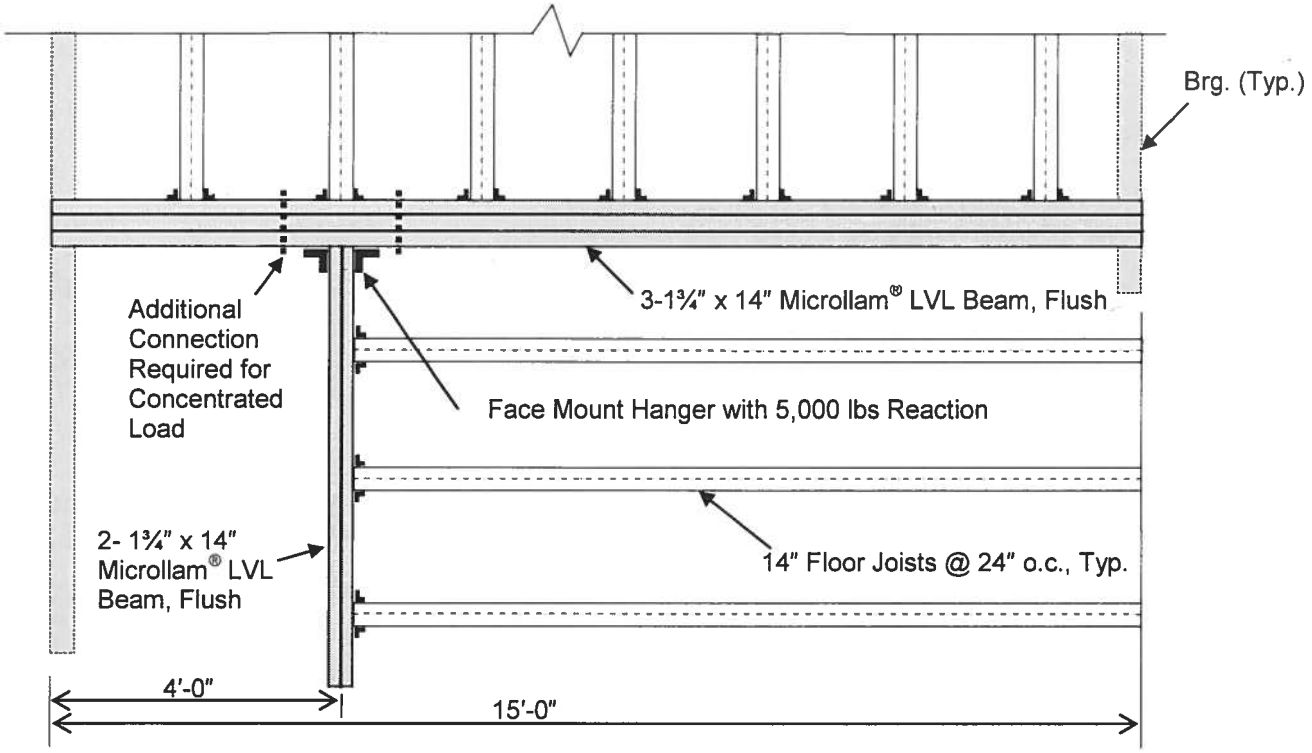
Connection Design Example

Given the floor framing shown below, specify the necessary connections for the a 3-ply Microllam® LVL beam supporting a 2-ply Microllam® LVL beam on one side and floor joists from the other side. The floor joists apply a 500 plf load to the side of the beam while the 2-ply beam reaction is 5,000 lbs. See the following page for the solution.



Partial Framing Plan

Solution:

- Use the iLevel Trus Joist® Beams, Headers, and Columns Specifier's Guide (#TJ-9000) to select a connection for the uniform loading. Multiple options exist that meets or exceed the 500 plf requirement:
  - 2 rows of ½" diameter bolts at 16" on-center (570 plf)
  - 2 rows of USP WS35 wood screws at 16" on-center (540 plf) on each side of beam
  - 2 rows of SDS ¼" x 3½" at 24" on-center (510 plf) on each side of beam
  - 2 rows of 5" TrussLok wood screws at 24" on-center (500 plf)

- Determine what additional connection is needed for the concentrated load using the information in this Technical Bulletin:
  1. Using Table 1, 2A or 2B of this bulletin, locate the section for a 3-ply 1¾" member and face mount hanger. Again, multiple options exist that exceed the 5,000 lb load requirement:
     - ½" diameter bolts in a 6-bolt connection (6,300 lbs)
     - 16d (0.148" x 3¼") sinker nails in an 18-nail connection (6,370 lbs)
     - 3½" WS wood screws in an 8-screw connection (5,740 lbs)
     - 3½" SDS wood screws in a 6-screw connection (6,120 lbs)
     - 3⅜" TrussLok wood screws in an 8-screw connection (6,410 lbs)

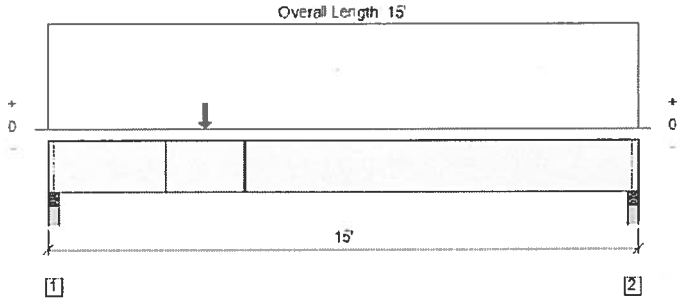
     Note that the allowable applied concentrated load is dependent upon the type of hanger used and 16d common nails must be used for face mount hanger installation to achieve the capacities shown.

  2. If the bolted connection option is chosen, the 3-ply beam must be checked for the effect of the bolt holes from the 6-bolt connection. This task may be accomplished by utilizing the location analysis feature in iLevel software. Per the detail on page 4, the bolt holes will be located approximately 1' to either side of the concentrated load location. After inputting the span and load information, choose the two locations corresponding to the concentrated load location ($^{+}/_{-}$) 1'. Upon completion of the analysis, compare the calculated shear and moment for each of the two locations against the reduced allowable shear and moment capacities of the beam for the bolt pattern selected using Table 3 on page 5 of this bulletin.

     See the Forte® software output on the following page for results of this analysis. The 3-ply Microllam® LVL beam works for the given loading. Refer to the highlighted values for the results at both bolt locations (1' on either side of the load). The highest calculated shear at either location is 6035 lbs. The highest calculated moment is 25,215 ft-lbs. The connection is less than 5d (48" < 14" * 5 = 70") from the end of the member. From Table 3 of this bulletin, the reduced allowable shear for the 3-ply 14" Microllam® LVL beam with the 6 bolt pattern located less than 5d from the end of the member is 8,795 lbs while the reduced allowable moment is 31,905 ft-lbs. Therefore, the beam is acceptable with the 6 bolt connection.

- Select the preferred options for both the uniform load connection along the length of the beam and the concentrated load connection at the hanger location and specify both on the drawings including information on fastener type, size, spacing and installation pattern as appropriate.

3 PIECE(S) 1 3/4" x 14" 1.9E Microllam® LVL PASSED



All Dimensions are Horizontal; Drawing is Conceptual

Design Results	Actual @ Location	Allowed	Result	LDF
Member Reaction (lbs)	7595 @ 2"	7809	Passed (97%)	--
Shear (lbs)	6837 @ 1' 5 1/2"	13965	Passed (49%)	1.0
Moment (Ft-lbs)	25215 @ 4' 11 7/8"	36387	Passed (69%)	1.0
Live Load Defl. (in)	0.356 @ 7' 1 13/16"	0.489	Passed (L/494)	--
Total Load Defl. (in)	0.456 @ 7' 1 7/8"	0.733	Passed (L/386)	--

System : Floor
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Design results assume a fully braced condition where all compression edges (top and bottom) are properly braced to provide lateral stability.
- Bracing (Lu): All compression edges (top and bottom) must be braced at 13' 15/16" o/c unless detailed otherwise. Proper attachment and positioning of lateral bracing is required to achieve member stability.

Supports	Total Bearing	Available Bearing	Required Bearing	Support Reactions (lbs) Dead / Floor / Roof / Snow	Accessories
1 - Stud wall - Spruce Pine Fir	3.50"	3.50"	3.40"	1641 / 5955 / 0 / 0	Blocking
2 - Stud wall - Spruce Pine Fir	3.50"	3.50"	2.33"	1164 / 4045 / 0 / 0	Blocking

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

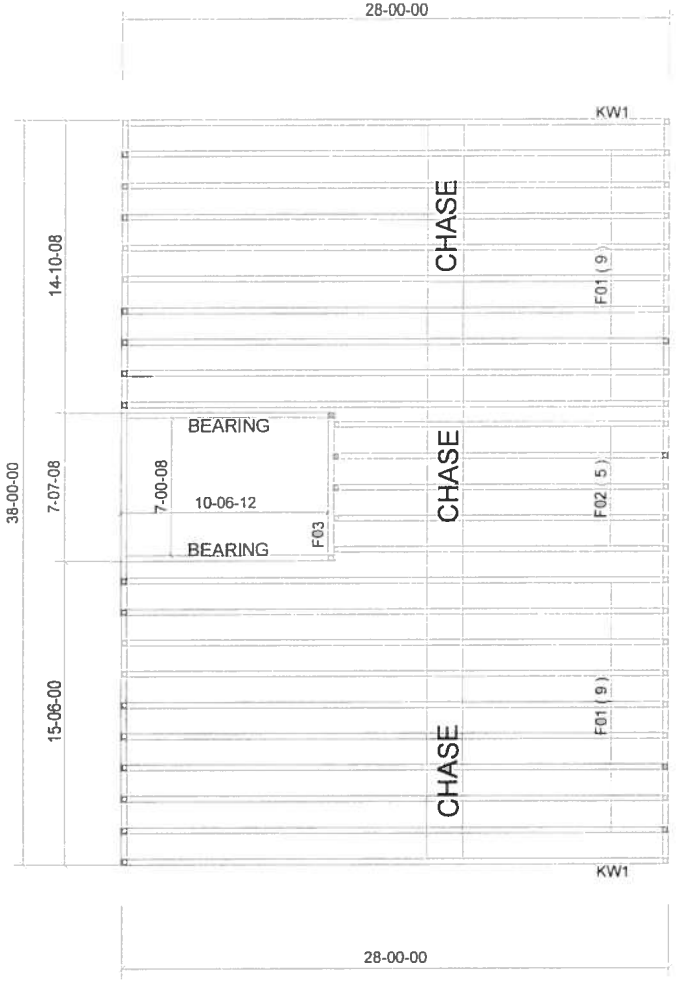
Loads	Location	Tributary Width	Dead (0.90)	Floor Live (1.00)	Roof Live (non-snow: 1.25)	Snow (1.15)	Comments
1 - Uniform(PSF)	0 to 15'	1'	100.0	400.0	0.0	0.0	10' Floor
2 - Point(lb)	4'	N/A	1000	4000	0	0	

Location Analysis	Shear (lbs) Actual / Allowed / LDF	Moment (Ft – lbs) Actual / Allowed / LDF	Comments
1 - 3'	6035 / 13965 / 1.0	19186 / 36387 / 1.0	BOLTS LEFT OF HANGER
2 - 5'	39 / 12569 / 0.9	25215 / 36387 / 1.0	BOLTS RIGHT OF HANGER

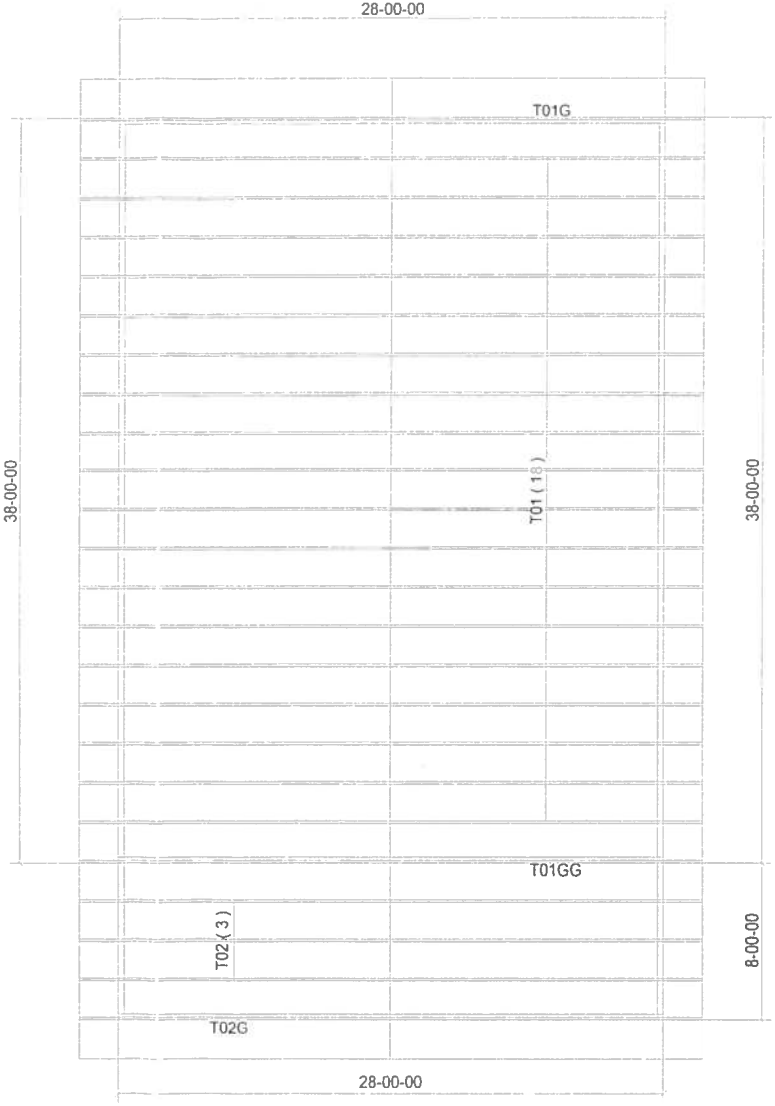
Forte™ Software Operator	Job Notes

3/25/2010 9:02:21 AM
iLevel® Forte™ v1.1, Design Engine: V4.8.0.1

20" DEEP - 19.2" O/C



5.5/12 PITCH - 24" O/H



BEARING HEIGHT SCHEDULE

	8' 1-1/8"
	9' 1-1/8"
	10' 1-1/8"
	11' 1-1/8"
	12' 1-1/8"

NOTES:

1) REFER TO HIB-91 RECOMMENDATIONS FOR HANDLING, INSTALLATION AND TEMPORARY BRACING. REFER TO ENGINEERED DRAWINGS FOR PERMANENT BRACING REQUIRED.

2) ALL TRUSSES EXCEEDING TRUSSES LISTED IN TABLE R802.5(1) MUST BE COMPLETELY ENGINEERED OR REFER TO DETAIL 1/DS1 FOR ALTERNATE BRACING REQUIREMENTS.

3) ALL VALLEYS ARE TO BE CONVENTIONALLY FRAMED BY BUILDER.

4) ALL TRUSSES ARE DESIGNED FOR 2' o.c. MAXIMUM SPACING, UNLESS OTHERWISE NOTED.

5) ALL WALLS SHOWN ON PLACEMENT PLAN ARE CONSIDERED TO BE LOAD BEARING UNLESS OTHERWISE NOTED.

6) T-1 & 2 TRUSSES MUST BE INSTALLED WITH THE TOP CHORD UP.

7) CEILING BRACE (TYP.) TO BE FURNISHED BY BUILDER.

Builders FirstSource

Jacksonville
PHONE 904-772-6100 FAX 904-772-1975

Tampa
PHONE 813-621-8851 FAX 813-628-8956

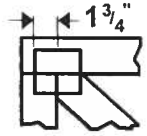
Freeport
PHONE 850-835-4541 FAX 850-835-6835

Customer	MIKE TODD CONST.
Job Name	MORGAN HOUSE
Date	2-2-16
Drawn	KLH
Sequence #	755227
	755227

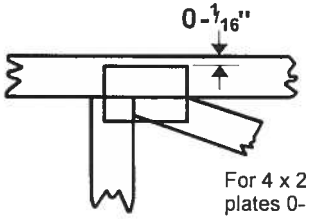
MITEK PLATE APPROVAL #'s 2197.2 - 2197.4, WEYERHAUSER PRODUCT #'s 1630.2 - 1630.10

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

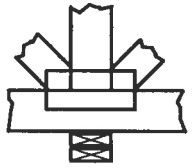
4 x 4

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

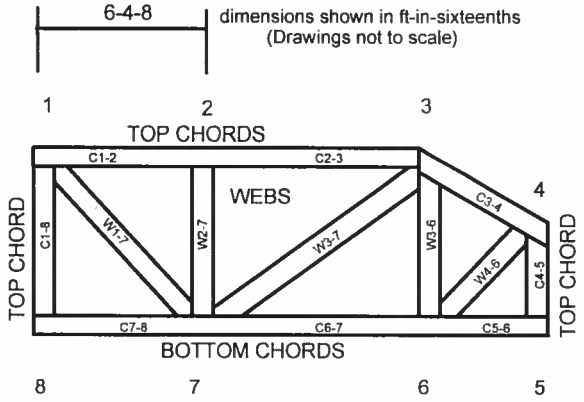


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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®

MiTek Engineering Reference Sheet: MII-7473 rev. 10/03/2015

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.

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

RE: 755227 - MIKE TODD CONST. - MORGAN RES.

MiTek USA, Inc.
6904 Parke East Blvd.
Tampa, FL 33610-4115

Site Information:
Customer Info: Mike Todd Const. Project Name: 755227 Model: Morgan Res.
Lot/Block: Subdivision:
Address: 218 SW Riverside Ave.
City: Columbia Cty State: FL

Name Address and License # of Structural Engineer of Record, If there is one, for the building.
Name: Unknown at time of seals License #: Unknown at time of seals
Address: Unknown at time of seals
City: Unknown at time of seals State: Unknown at time of seals

General Truss Engineering Criteria & Design Loads (Individual Truss Design Drawings Show Special Loading Conditions):
Design Code: FBC2014/TPI2007 Design Program: MiTek 20/20 7.6
Wind Code: ASCE 7-10 Wind Speed: 130 mph
Roof Load: 37.0 psf Floor Load: 55.0 psf

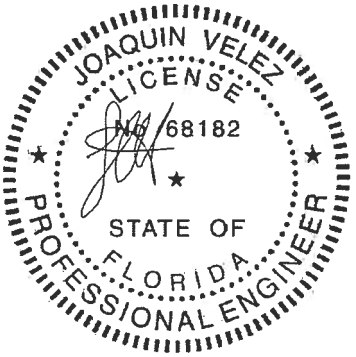
This package includes 15 individual, dated Truss Design Drawings and 0 Additional Drawings.
With my seal affixed to this sheet, I hereby certify that I am the Truss Design Engineer and this index sheet conforms to 61G15-31.003, section 5 of the Florida Board of Professional Engineers Rules.

No.	Seal#	Truss Name	Date
1	T10408273	F01	2/9/17
2	T10408274	F02	2/9/17
3	T10408275	F03	2/9/17
4	T10408276	F04	2/9/17
5	T10408277	F05	2/9/17
6	T10408278	F06	2/9/17
7	T10408279	F07	2/9/17
8	T10408280	F08	2/9/17
9	T10408281	F09	2/9/17
10	T10408282	KW1	2/9/17
11	T10408283	T01	2/9/17
12	T10408284	T01G	2/9/17
13	T10408285	T01GG	2/9/17
14	T10408286	T02	2/9/17
15	T10408287	T02G	2/9/17

The truss drawing(s) referenced above have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Builders FirstSource-Jacksonville.

Truss Design Engineer's Name: Velez, Joaquin
My license renewal date for the state of Florida is February 28, 2019.

IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek. Any project specific information included is for MiTek's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek 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.



Joaquin Velez PE No.68182
MiTek USA, Inc. FL Cert 6634
6904 Parke East Blvd. Tampa FL 33610
Date:
February 9,2017

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST - MORGAN RES	
755227	F01	FLOOR	18	1	Job Reference (optional)	T10408273

Builders FirstSource Lake City, FL 32055 7.640 s Apr 19 2016 MiTek Industries, Inc. Thu Feb 09 16:09:53 2017 Page 1

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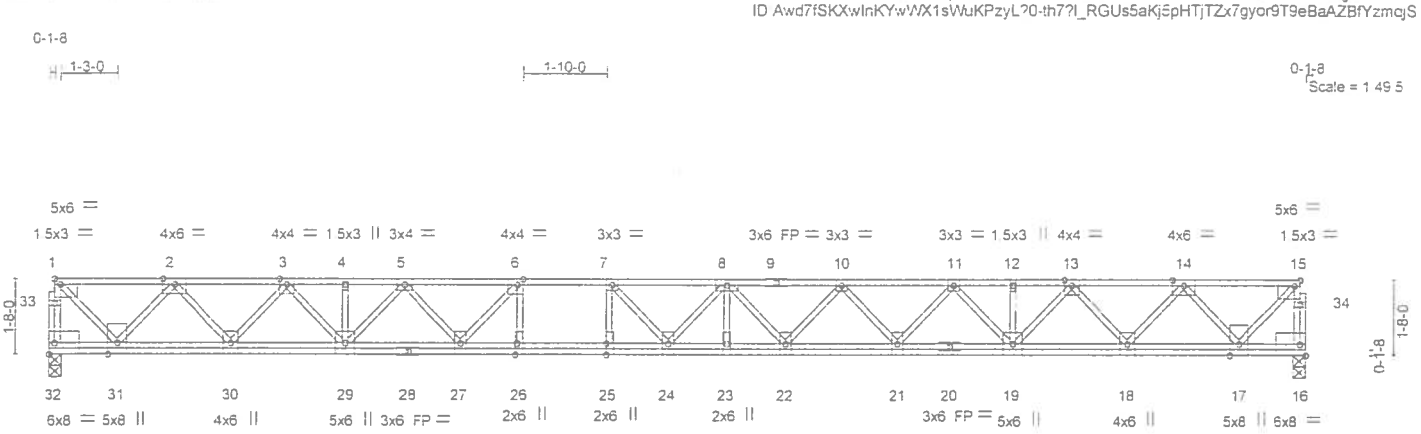

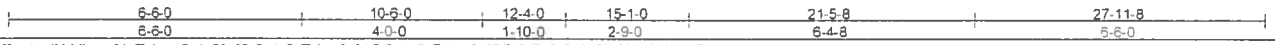

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [6:0-1-8,Edge], [15:0-1-8,Edge], [25:0-3-0,0-0-0], [26:0-3-0,Edge]

LOADING (psf)		SPACING-	1-7-2	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.45	Vert(LL)	-0.45	24	>731	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.48	Vert(TL)	-0.71	24	>468	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.71	Horz(TL)	0.07	16	n/a	n/a		
BCDL	5.0	Code FBC2014/TPI2007		(Matrix)							Weight: 195 lb	FT = 11%F, 11%E

LUMBER-
TOP CHORD 2x4 SP M 31(flat)
BOT CHORD 2x4 SP M 31(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. (lb/size) 32=1209/0-3-4, 16=1209/0-3-4

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 32-33=-1198/0, 1-33=-1197/0, 16-34=-1197/0, 15-34=-1196/0, 1-2=-1040/0, 2-3=-2710/0, 3-4=-4042/0, 4-5=-4042/0, 5-6=-4929/0, 6-7=-5463/0, 7-8=-5642/0, 8-9=-5478/0, 9-10=-5478/0, 10-11=-4949/0, 11-12=-4035/0, 12-13=-4035/0, 13-14=-2712/0, 14-15=-1040/0
BOT CHORD 30-31=0/1974, 29-30=0/3431, 28-29=0/4567, 27-28=0/4567, 26-27=0/5463, 25-26=0/5463, 24-25=0/5463, 23-24=0/5669, 22-23=0/5669, 21-22=0/5298, 20-21=0/4580, 19-20=0/4580, 18-19=0/3428, 17-18=0/1974
WEBS 6-26=-85/592, 7-25=-563/128, 1-31=0/1491, 2-31=-1447/0, 2-30=0/1140, 3-30=-1117/0, 3-29=0/922, 5-29=-790/0, 5-27=0/621, 6-27=-1006/0, 15-17=0/1490, 14-17=-1448/0, 14-18=0/1142, 13-18=-1111/0, 13-19=0/914, 11-19=-820/0, 11-21=0/573, 10-21=-540/0, 10-22=0/305, 8-22=-312/0, 7-24=-303/588

NOTES- (5)
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x6 MT20 unless otherwise indicated.
3) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
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) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

MiTek
6904 Parke East Blvd
Tampa, FL 36610

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST. - MORGAN RES.
755227	F03	Floor Girder	1	1	T10408275
					Job Reference (optional)

Builders FirstSource, Lake City, FL 32055

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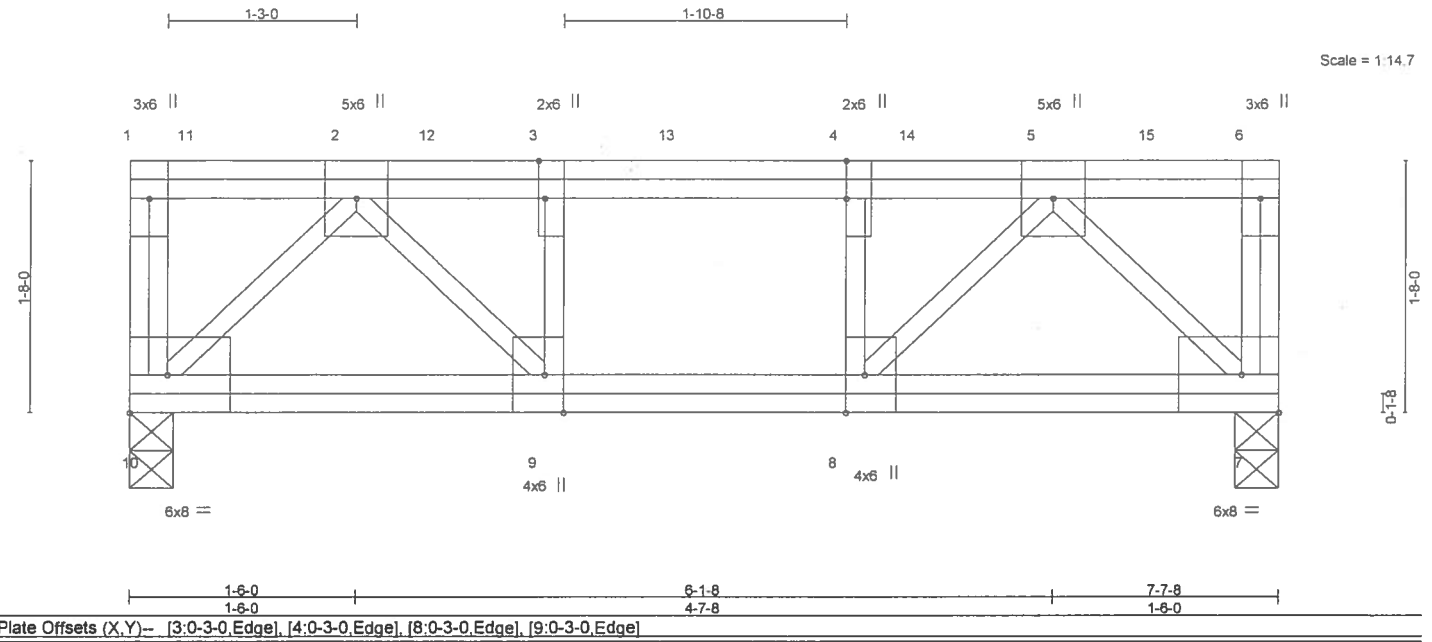

Plate Offsets (X,Y)-- [3:0-3-0,Edge], [4:0-3-0,Edge], [8:0-3-0,Edge], [9:0-3-0,Edge]

LOADING (psf)		SPACING-	1-7-2	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.22	Vert(LL)	-0.02	8-9	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.17	Vert(TL)	-0.03	8-9	>999	240		
BCLL	0.0	Rep Stress Incr	NO	WB	0.58	Horz(TL)	0.01	7	n/a	n/a		
BCDL	5.0	Code FBC2014/TPI2007		(Matrix)							Weight: 66 lb	FT = 11%F, 11%E

LUMBER-
TOP CHORD 2x4 SP M 31(flat)
BOT CHORD 2x4 SP M 31(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. (lb/size) 10=2092/0-3-8, 7=1958/0-3-8

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-10=-487/0, 6-7=-335/0, 2-12=-2354/0, 3-12=-2354/0, 3-13=-2354/0, 4-13=-2354/0, 4-14=-2354/0, 5-14=-2354/0
BOT CHORD 9-10=0/1540, 8-9=0/2354, 7-8=0/1556
WEBS 5-7=-2234/0, 2-10=-2211/0, 5-8=0/1190, 2-9=0/1212, 3-9=-866/0, 4-8=-858/0

NOTES- (6)
1) Unbalanced floor live loads have been considered for this design.
2) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
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) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 730 lb down at 0-5-14, 725 lb down at 2-1-0, 676 lb down at 3-8-2, and 716 lb down at 5-3-4, and 728 lb down at 6-10-6 on top chord. The design/selection of such connection device(s) is the responsibility of others.
5) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).
6) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 7-10=-8, 1-6=-80
Concentrated Loads (lb)
Vert: 11=-693(F) 12=-676(F) 13=-676(F) 14=-676(F) 15=-683(F)

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST - MORGAN RES	
755227	F02	Floor	5	1	Job Reference (optional)	T10408274

Builders FirstSource, Lake City, FL 32055 — 7.640 s Apr 19 2016 MiTek Industries, Inc. Thu Feb 09 16:09:54 2017 Page 1

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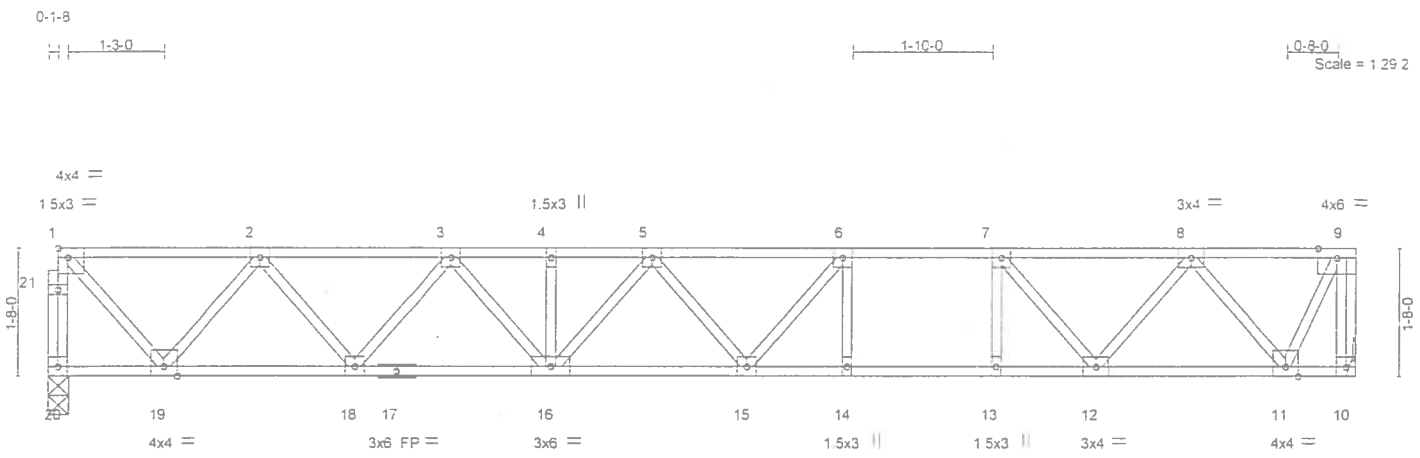

Plate Offsets (X,Y)-- [1:Edge,0-1-8]

LOADING (psf)		SPACING-	1-7-2	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.34	Vert(LL)	-0.18	14-15	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.60	Vert(TL)	-0.28	14-15	>736	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.41	Horz(TL)	0.03	10	n/a	n/a		
BCDL	5.0	Code FBC2014/TPI2007		(Matrix)							Weight: 98 lb	FT = 11%F, 11%E

LUMBER-
TOP CHORD 2x4 SP M 31(flat)
BOT CHORD 2x4 SP M 31(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. (lb/size) 20=735/0-3-4, 10=740/Mechanical

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 20-21=-730/0, 1-21=-730/0, 9-10=-751/0, 1-2=-582/0, 2-3=-1420/0, 3-4=-1899/0, 4-5=-1899/0, 5-6=-1989/0, 6-7=-1783/0, 7-8=-1259/0, 8-9=-348/0
BOT CHORD 18-19=0/1096, 17-18=0/1724, 16-17=0/1724, 15-16=0/2056, 14-15=0/1783, 13-14=0/1783, 12-13=0/1783, 11-12=0/863
WEBS 6-14=-323/0, 7-13=0/348, 1-19=0/852, 2-19=-816/0, 2-18=0/515, 3-18=-483/0, 3-16=0/270, 6-15=-49/416, 9-11=0/761, 8-11=-817/0, 8-12=0/629, 7-12=-814/0

NOTES- (7)
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x3 MT20 unless otherwise indicated.
3) Refer to girder(s) for truss to truss connections.
4) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
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.
7) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST. - MORGAN RES	T10408276
755227	F04	FLOOR	9	1	Job Reference (optional)	

Builders FirstSource, Lake City, FL 32055 — 7.640 s Apr 19 2016 MiTek Industries, Inc. Thu Feb 09 16:09:55 2017 Page 1

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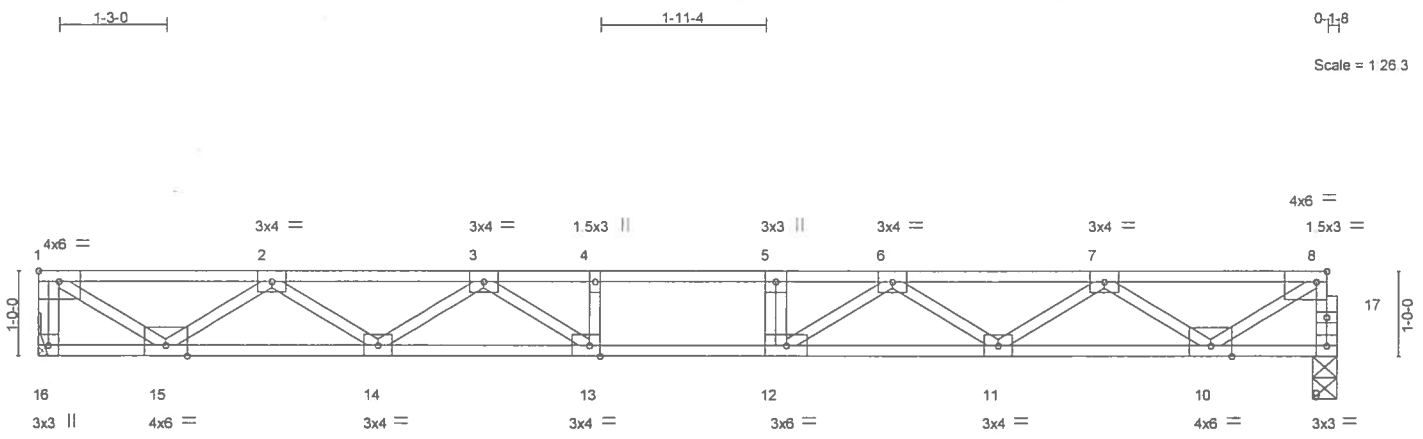

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [8:0-1-8,Edge], [13:0-1-8,Edge]

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	0.57	Vert(LL)	-0.22	12-13	>837	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.45	Vert(TL)	-0.34	12-13	>535	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.63	Horz(TL)	0.05	9	n/a	n/a		
BCDL	5.0	Code FBC2014/TPI2007		(Matrix)							Weight: 75 lb	FT = 11%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP M 31(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. (lb/size) 16=828/Mechanical, 9=822/0-3-8

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-16=-820/0, 9-17=-816/0, 8-17=-814/0, 1-2=-1123/0, 2-3=-2681/0, 3-4=-3504/0, 4-5=-3504/0, 5-6=-3504/0, 6-7=-2682/0, 7-8=-1125/0
BOT CHORD 14-15=0/2117, 13-14=0/3209, 12-13=0/3504, 11-12=0/3210, 10-11=0/2115
WEBS 8-10=0/1283, 1-15=0/1332, 7-10=-1208/0, 2-15=-1213/0, 7-11=0/692, 2-14=0/688, 6-11=-644/0, 3-14=-645/0, 6-12=0/641, 3-13=0/642

NOTES- (6)
1) Unbalanced floor live loads have been considered for this design.
2) Refer to girder(s) for truss to truss connections.
3) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
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.
6) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

MiTek
6904 Parke East Blvd.
Tampa, FL 36610

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST - MORGAN RES	
755227	F05	FLOOR	4	1	Job Reference (optional)	T10408277

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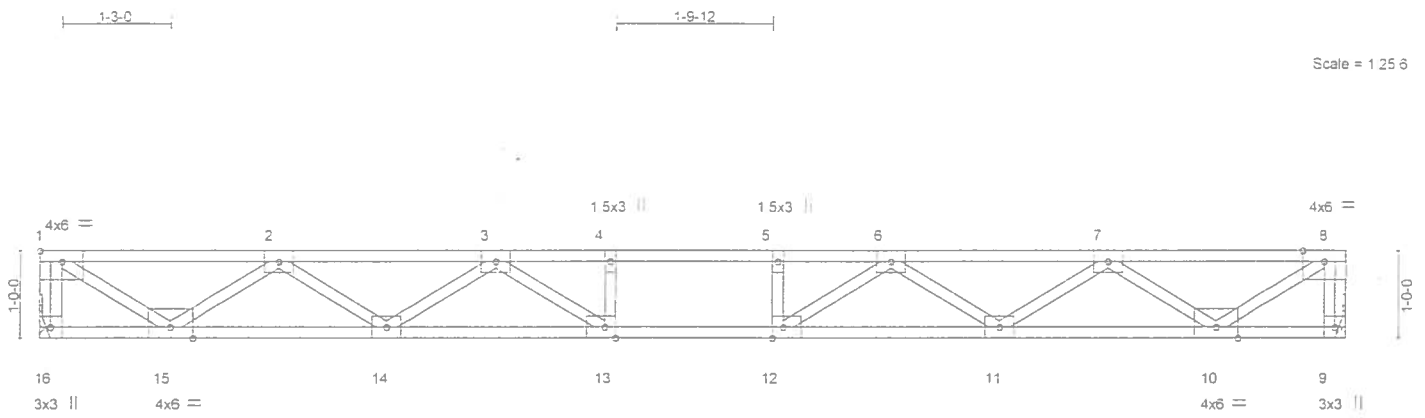

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [12:0-1-8,Edge], [13:0-1-8,Edge]

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	0.50	Vert(LL)	-0.20	12-13	>878	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.42	Vert(TL)	-0.32	12-13	>562	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.62	Horz(TL)	0.05	9	n/a	n/a		
BCDL	5.0	Code FBC2014/TPI2007		(Matrix)							Weight: 73 lb	FT = 11%F, 11%E

LUMBER-

TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP M 31(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. (lb/size) 16=815/Mechanical, 9=815/Mechanical

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

TOP CHORD 1-16=-806/0, 8-9=-806/0, 1-2=-1102/0, 2-3=-2622/0, 3-4=-3394/0, 4-5=-3394/0, 5-6=-3394/0, 6-7=-2622/0, 7-8=-1102/0
BOT CHORD 14-15=0/2076, 13-14=0/3130, 12-13=0/3394, 11-12=0/3130, 10-11=0/2076
WEBS 8-10=0/1306, 1-15=0/1306, 7-10=-1190/0, 2-15=-1190/0, 7-11=0/666, 2-14=0/666, 6-11=-620/0, 3-14=-620/0, 6-12=-20/596, 3-13=-20/596

NOTES- (6)

1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x4 MT20 unless otherwise indicated.
3) Refer to girder(s) for truss to truss connections.
4) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
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) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST. - MORGAN RES.
755227	F06	FLOOR	9	1	T10408278

Job Reference (optional)

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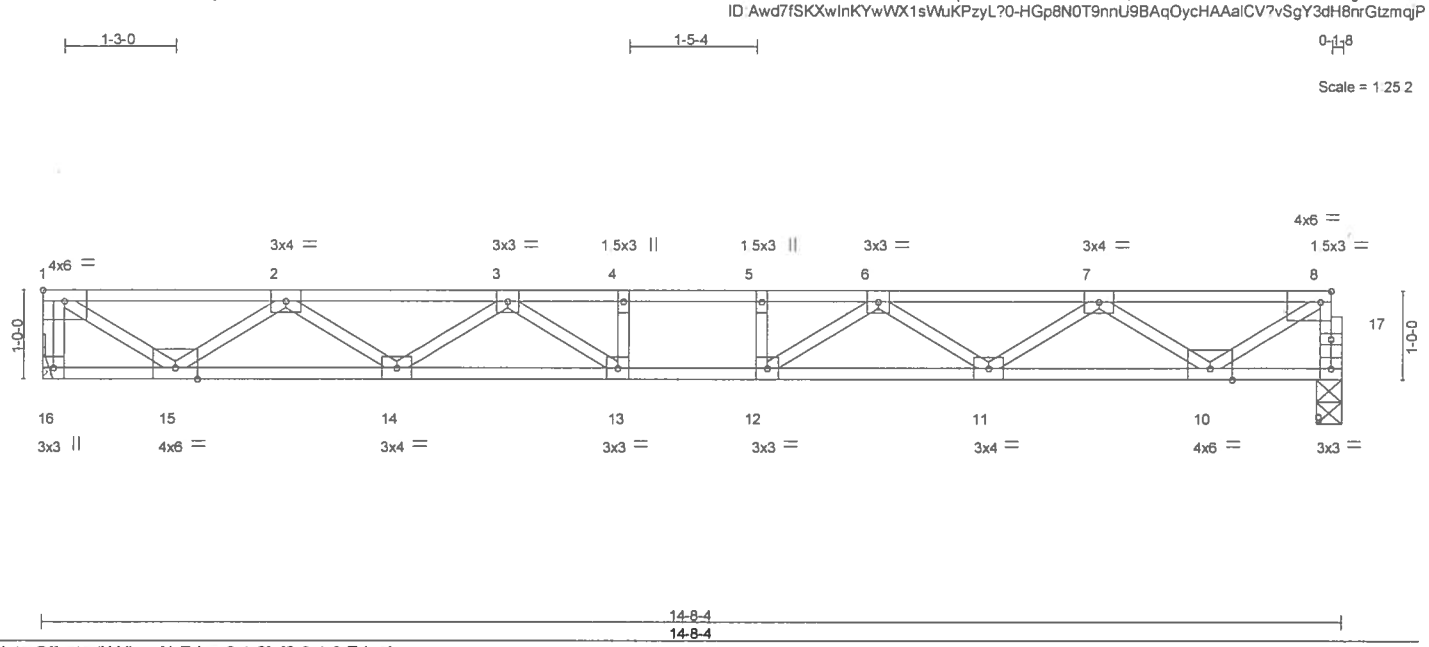

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [8:0-1-8,Edge]

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	0.43	Vert(LL)	-0.18	12-13	>945	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.38	Vert(TL)	-0.29	12-13	>606	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.60	Horz(TL)	0.04	9	n/a	n/a		
BCDL	5.0	Code FBC2014/TPI2007		(Matrix)							Weight: 72 lb	FT = 11%F, 11%E

LUMBER-

TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP M 31(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. (lb/size) 16=794/Mechanical, 9=788/0-3-8

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

TOP CHORD 1-16=-786/0, 9-17=-782/0, 8-17=-780/0, 1-2=-1069/0, 2-3=-2532/0, 3-4=-3233/0, 4-5=-3233/0, 5-6=-3233/0, 6-7=-2531/0, 7-8=-1072/0
BOT CHORD 14-15=0/2015, 13-14=0/3011, 12-13=0/3233, 11-12=0/3012, 10-11=0/2012
WEBS 8-10=0/1221, 1-15=0/1267, 7-10=-1148/0, 2-15=-1154/0, 7-11=0/633, 2-14=0/632, 6-11=-587/0, 3-14=-585/0, 6-12=-54/527, 3-13=-53/527

NOTES- (6)

1) Unbalanced floor live loads have been considered for this design.
2) Refer to girder(s) for truss to truss connections.
3) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
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.
6) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST. - MORGAN RES	
755227	F07	FLOOR	4	1	Job Reference (optional)	T10408279

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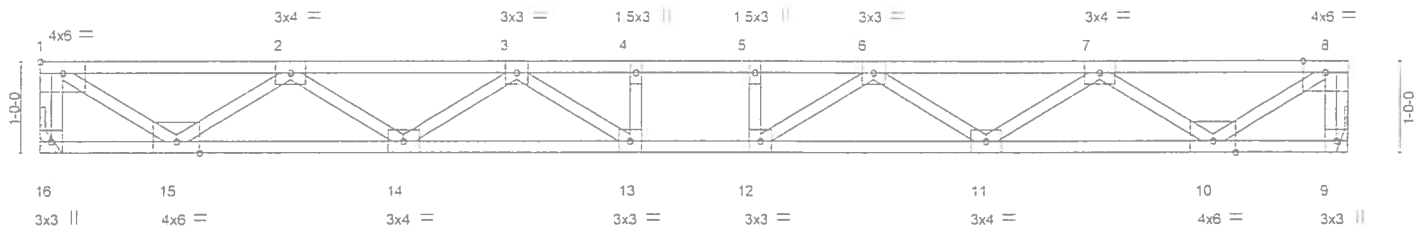

1-6-0	4-0-0	10-5-4	12-11-4	14-5-4
1-6-0	2-6-0	6-5-4	2-6-0	1-6-0

Plate Offsets (X,Y)-- [1: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	0.43	Vert(LL)	-0.17	12-13	>992	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.37	Vert(TL)	-0.27	12-13	>635	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.59	Horz(TL)	0.04	9	n/a	n/a		
BCDL	5.0	Code FBC2014/TPI2007		(Matrix)							Weight: 71 lb	FT = 11%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP M 31(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. (lb/size) 16=780/Mechanical, 9=780/Mechanical

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-16=-772/0, 8-9=-772/0, 1-2=-1048/0, 2-3=-2472/0, 3-4=-3127/0, 4-5=-3127/0, 5-6=-3127/0, 6-7=-2472/0, 7-8=-1048/0
BOT CHORD 14-15=0/1973, 13-14=0/2932, 12-13=0/3127, 11-12=0/2932, 10-11=0/1973
WEBS 8-10=0/1242, 1-15=0/1242, 7-10=-1130/0, 2-15=-1130/0, 7-11=0/609, 2-14=0/609, 6-11=-562/0, 3-14=-562/0, 5-12=-72/483, 3-13=-72/483

NOTES- (5)
1) Unbalanced floor live loads have been considered for this design.
2) Refer to girder(s) for truss to truss connections.
3) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
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) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST. - MORGAN RES	
755227	F08	FLOOR	4	1	Job Reference (optional)	T10408280

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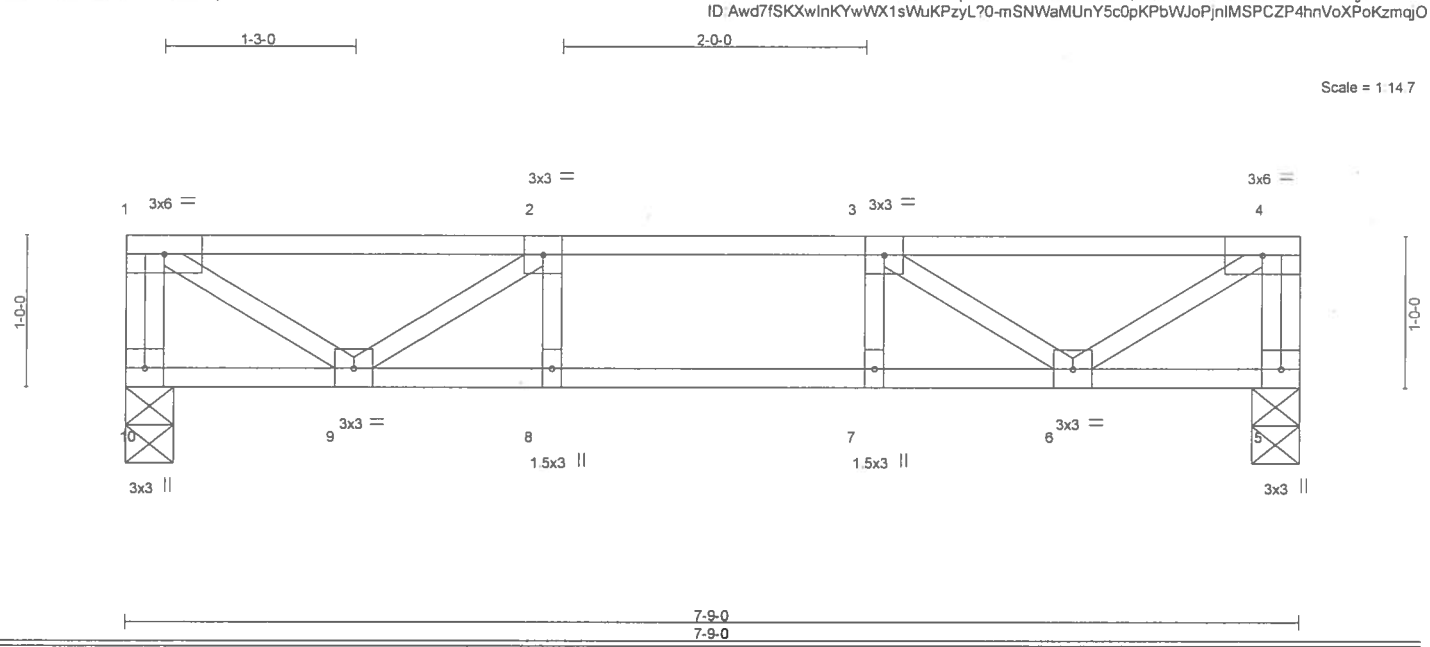

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.49	Vert(LL)	-0.04	8	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.45	Vert(TL)	-0.05	8	>999	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.26	Horz(TL)	0.01	5	n/a	n/a		
BCDL	5.0	Code FBC2014/TPI2007		(Matrix)							Weight: 38 lb	FT = 11%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(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. (lb/size) 10=413/0-3-13, 5=413/0-3-13

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-10=-406/0, 4-5=-406/0, 1-2=-460/0, 2-3=-879/0, 3-4=-460/0
BOT CHORD 8-9=0/879, 7-8=0/879, 6-7=0/879
WEBS 4-6=0/546, 1-9=0/546, 3-6=-503/0, 2-9=-503/0

NOTES- (4)
1) Unbalanced floor live loads have been considered for this design.
2) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
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) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST. - MORGAN RES	T10408281
755227	F09	FLOOR	4	1	Job Reference (optional)	

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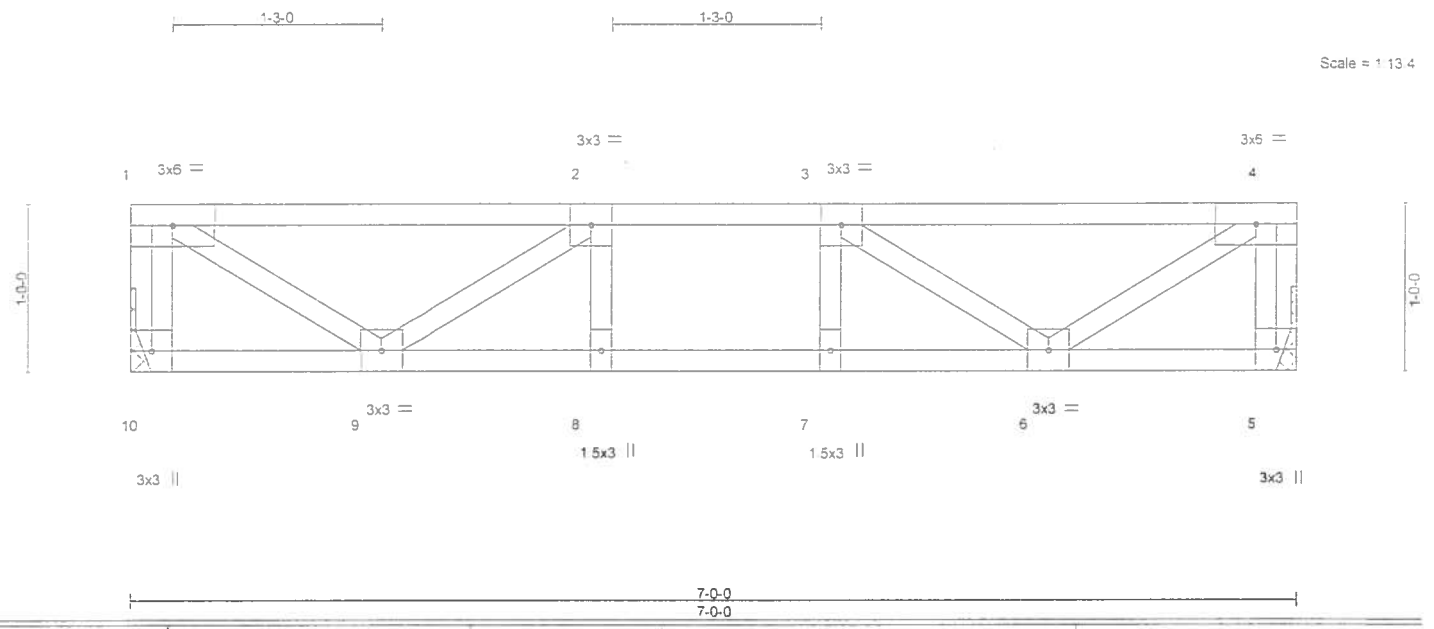

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.48	Vert(LL)	-0.03	6-7	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.38	Vert(TL)	-0.03	8-9	>999	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.22	Horz(TL)	0.01	5	n/a	n/a		
BCDL	5.0	Code FBC2014/TPI2007		(Matrix)							Weight: 36 lb	FT = 11%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(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. (lb/size) 10=371/Mechanical, 5=371/Mechanical

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-10=-365/0, 4-5=-365/0, 1-2=-394/0, 2-3=-746/0, 3-4=-394/0
BOT CHORD 8-9=0/746, 7-8=0/746, 6-7=0/746
WEBS 4-6=0/467, 1-9=0/467, 3-6=-423/0, 2-9=-423/0

NOTES- (5)
1) Unbalanced floor live loads have been considered for this design.
2) Refer to girder(s) for truss to truss connections.
3) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
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) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST. - MORGAN RES.
755227	KW1	GABLE	2	1	T10408282
					Job Reference (optional)

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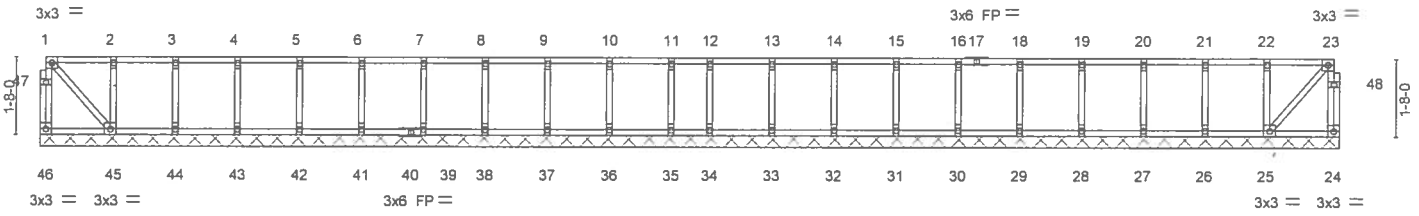

1-6-12	2-10-12	4-2-12	5-6-12	6-10-12	8-2-12	9-6-12	10-10-12	12-2-12	13-6-12	14-4-12	15-8-12	17-0-12	18-4-12	19-8-12	21-0-12	22-4-12	23-8-12	25-0-12	26-4-12	27-11-8
1-6-12	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	0-10-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-6-12

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	0.04	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.00	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.04	Horz(TL)	-0.00	25	n/a	n/a		
BCDL	5.0	Code FBC2014/TPI2007		(Matrix)							Weight: 138 lb	FT = 11%F, 11%E

LUMBER-
TOP CHORD 2x4 SP M 31(flat)
BOT CHORD 2x4 SP M 31(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

BRACING-
TOP CHORD Structural wood sheathing directly applied or 10-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing, Except: 10-0-0 oc bracing: 45-46,24-25.

REACTIONS. All bearings 27-11-8.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 46, 24, 45, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 44, 43, 42, 41, 39, 38, 37, 36, 35

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

NOTES- (7)
1) All plates are 1.5x3 MT20 unless otherwise indicated.
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) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
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) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

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Tampa, FL 36610

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST - MORGAN RES	T10409283
755227	T01	COMMON	18	1	Job Reference (optional)	

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ID:Awd7fSKXwInKYwWX1sWuKPzyL?0-irVG?1V14isk2eYzekqtcCNh1Ccsty24z60WtCzmcjM

-2-0-0	7-1-0	14-0-0	20-11-0	28-0-0	30-0-0
2-0-0	7-1-0	6-11-0	6-11-0	7-1-0	2-0-0

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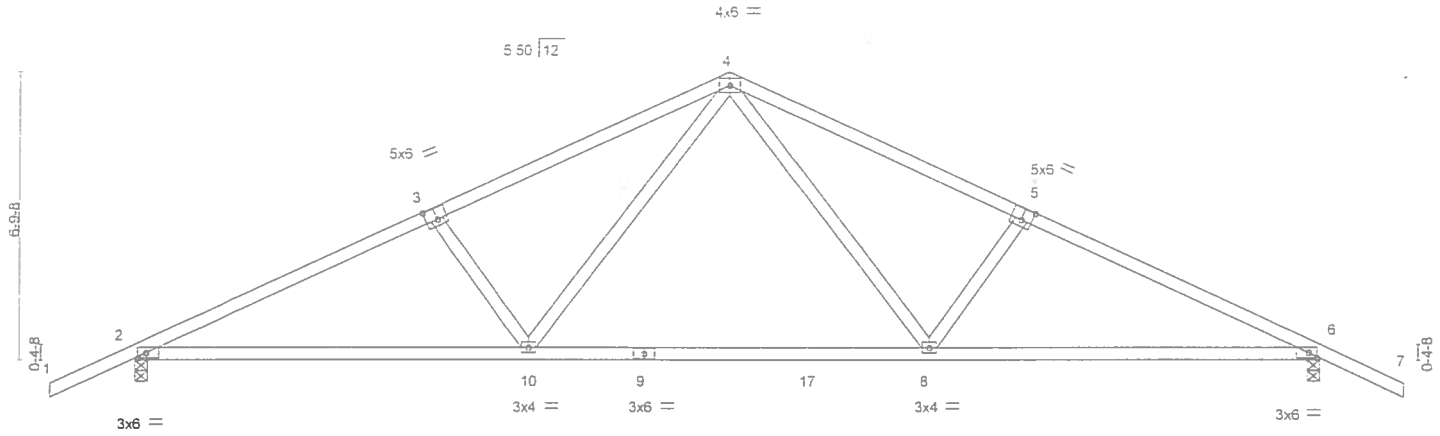


9-3-3	18-8-13	28-0-0
9-3-3	9-5-10	9-3-3

Plate Offsets (X,Y)-- [2:0-2-6,0-1-8], [3:0-3-0,0-3-4], [5:0-3-0,0-3-4], [6:0-2-6,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.54	Vert(LL)	-0.32	8-10	>999	240	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.85	Vert(TL)	-0.61	8-10	>554	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.40	Horz(TL)	0.08	6	n/a	n/a		
BCDL	10.0	Code FBC2014/TPI2007		(Matrix-M)							Weight: 129 lb	FT = 20%

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

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-7-11 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-8-8 oc bracing

REACTIONS. (lb/size) 2=1144/0-3-8, 6=1144/0-3-8
Max Horz 2=-154(LC 17)
Max Uplift 2=-460(LC 12), 6=-460(LC 13)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1863/1007, 3-4=-1657/969, 4-5=-1657/969, 5-6=-1863/1007
BOT CHORD 2-10=-767/1631, 9-10=-376/1079, 9-17=-376/1079, 8-17=-376/1079, 6-8=-773/1631
WEBS 4-8=-316/623, 5-8=-371/375, 4-10=-316/625, 3-10=-371/375

NOTES- (7)
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=101mph; TCDL=4.2psf; BCDL=3.0psf; h=18ft; Cat. II; Exp C; Encl., GCpi=0.18; 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) 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 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 460 lb uplift at joint 2 and 460 lb uplift at joint 6.
6) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
7) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

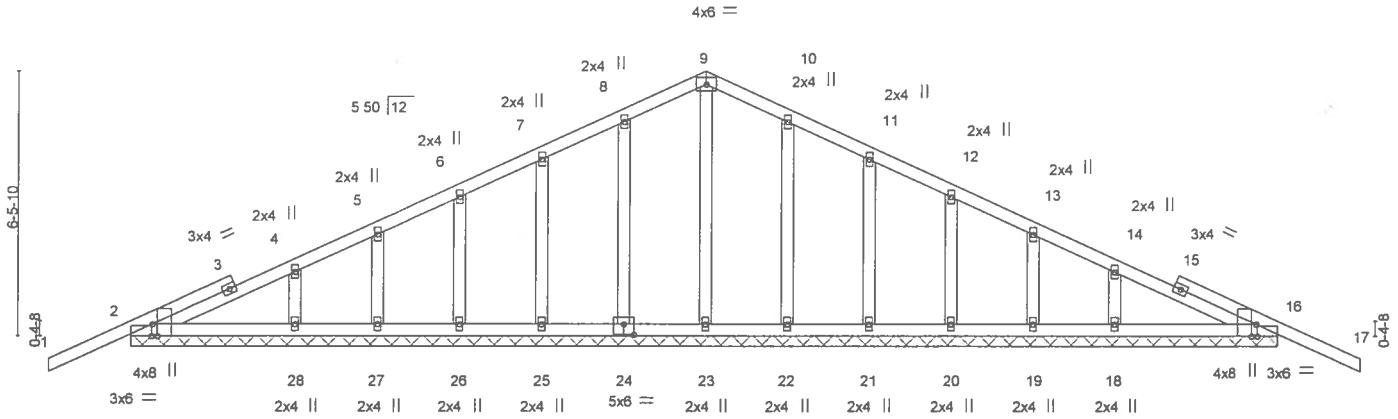
Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST. - MORGAN RES.
755227	T01G	GABLE	1	1	T10408284
					Job Reference (optional)

Builders FirstSource, Lake City, FL 32055 — 7.640 s Apr 19 2016 MiTek Industries, Inc. Thu Feb 09 16:10:00 2017 Page 1

ID:Awd7fSKXwInKYwWX1sWuKPzyL?0-A12eDNWfr0_bgo79BRM6LQwwacKncUzDBmI3PezmqjL

-2-0-0 / 2-0-0 — 14-0-0 / 14-0-0 — 28-0-0 / 14-0-0 — 30-0-0 / 2-0-0

Scale = 1:54.4



28-0-0
28-0-0

Plate Offsets (X,Y)-- [2:0-3-8,Edge], [2:0-0-4,Edge], [16:0-3-8,Edge], [16:0-0-4,Edge], [24:0-3-0,0-3-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.30	Vert(LL)	-0.02	17	n/r	120	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.10	Vert(TL)	-0.02	17	n/r	120		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.10	Horz(TL)	0.01	16	n/a	n/a		
BCDL	10.0	Code FBC2014/TPI2007		(Matrix)							Weight: 156 lb	FT = 20%

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

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

REACTIONS. All bearings 28-0-0.
(lb) - Max Horz 2=147(LC 12)
Max Uplift All uplift 100 lb or less at joint(s) 24, 25, 26, 27, 22, 21, 20, 19 except 2=-105(LC 8), 16=-123(LC 13), 28=-113(LC 12), 18=-118(LC 13)
Max Grav All reactions 250 lb or less at joint(s) 23, 24, 25, 26, 27, 28, 22, 21, 20, 19, 18 except 2=267(LC 1), 16=267(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 8-9=-81/252, 9-10=-81/252

NOTES- (10)
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=101mph; TCDL=4.2psf; BCDL=3.0psf, h=18ft, Cat. II; Exp C; Encl., GCpi=0.18; 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) 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 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 24, 25, 26, 27, 22, 21, 20, 19 except (jt=lb) 2=105, 16=123, 28=113, 18=118.
9) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
10) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST - MORGAN RES.
755227	T01GG	GABLE	1	1	T10408285
					Job Reference (optional)

Builders FirstSource, Lake City, FL 32055 — 7.640 s Apr 19 2016 MiTek Industries, Inc. Thu Feb 09 16:10:01 2017 Page 1

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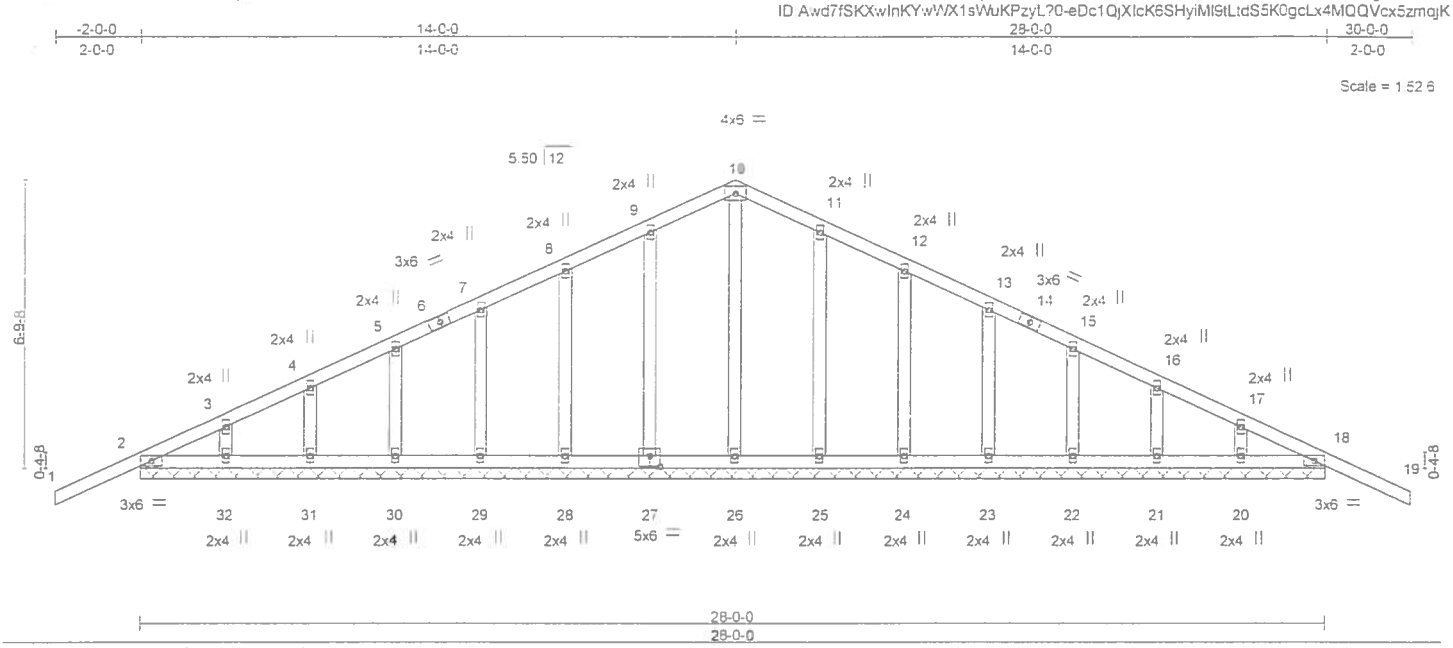

Plate Offsets (X,Y)-- [27:0-3-0,0-3-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.30	Vert(LL)	-0.02	19	n/r	120	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.13	Vert(TL)	-0.04	19	n/r	120		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.11	Horz(TL)	0.01	18	n/a	n/a		
BCDL	10.0	Code	FBC2014/TPI2007	(Matrix)							Weight: 158 lb	FT = 20%

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

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

REACTIONS. All bearings 28-0-0.
(lb) - Max Horz 2=-154(LC 13)
Max Uplift All uplift 100 lb or less at joint(s) 27, 28, 29, 30, 32, 25, 24, 23, 22, 20 except 2=-117(LC 8), 31=-103(LC 12), 21=-103(LC 13), 18=-112(LC 9)
Max Grav All reactions 250 lb or less at joint(s) 2, 25, 27, 28, 29, 30, 31, 32, 25, 24, 23, 22, 21, 20, 18

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 9-10=-95/268, 10-11=-95/268

NOTES- (10)
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=101mph; TCDL=4.2psf; BCDL=3.0psf; h=18ft; Cat. II; Exp C; Encl., GCpi=0.18; 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) 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 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 27, 28, 29, 30, 32, 25, 24, 23, 22, 20 except (jt=lb) 2=117, 31=103, 21=103, 18=112.
9) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
10) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST. - MORGAN RES.
755227	T02	COMMON	3	1	T10408286
					Job Reference (optional)

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-2-0-0	7-1-0	14-0-0	20-11-0	28-0-0	30-0-0
2-0-0	7-1-0	6-11-0	6-11-0	7-1-0	2-0-0

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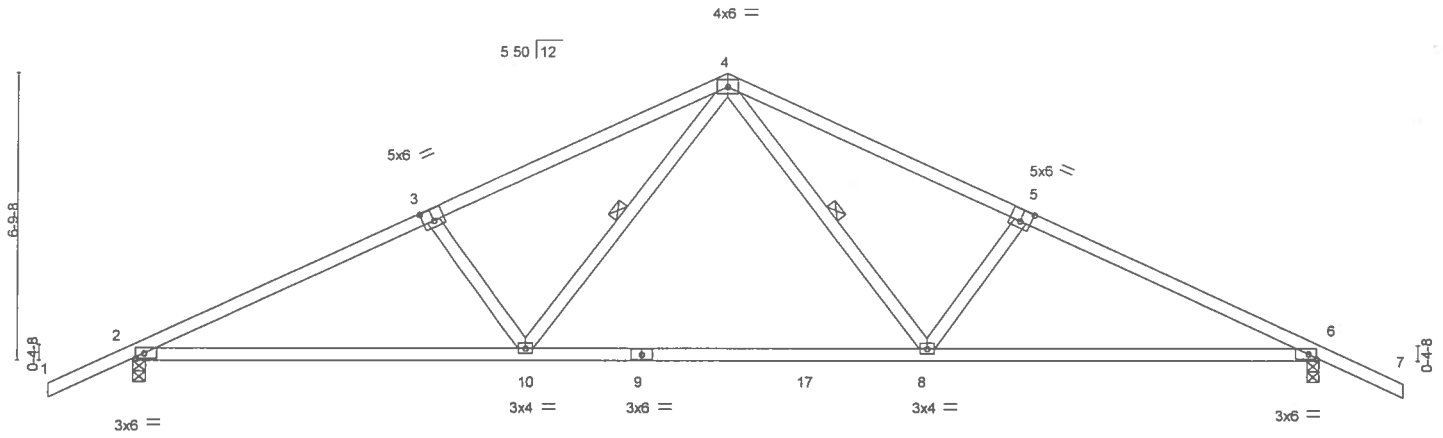

9-3-3	18-8-13	28-0-0
9-3-3	9-5-10	9-3-3

Plate Offsets (X,Y)-- [2:0-2-6,0-1-8], [3:0-3-0,0-3-4], [5:0-3-0,0-3-4], [6:0-2-6,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.71	Vert(LL)	0.38	8-10	>894	240	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.85	Vert(TL)	-0.61	8-10	>554	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.32	Horz(TL)	0.08	6	n/a	n/a		
BCDL	10.0	Code FBC2014/TPI2007		(Matrix-M)							Weight: 129 lb	FT = 20%

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

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-7-11 oc purlins.
BOT CHORD Rigid ceiling directly applied or 3-10-9 oc bracing.
WEBS 1 Row at midpt 4-8, 4-10

REACTIONS. (lb/size) 2=1144/0-3-8, 6=1144/0-3-8
Max Horz 2=-154(LC 17)
Max Uplift 2=-561(LC 9), 6=-561(LC 8)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1863/2159, 3-4=-1657/2120, 4-5=-1657/2119, 5-6=-1863/2159
BOT CHORD 2-10=-1817/1631, 9-10=-1072/1079, 9-17=-1072/1079, 8-17=-1072/1079, 6-8=-1823/1631
WEBS 4-8=-910/623, 5-8=-371/382, 4-10=-910/625, 3-10=-371/382

NOTES- (7)
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=101mph; TCDL=4.2psf; BCDL=3.0psf; h=18ft; Cat. II; Exp C; Encl., GCpi=0.18; MWFRS (envelope) gable end zone and C-C Exterior(2) 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
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 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 2=561, 6=561.
6) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
7) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

Job	Truss	Truss Type	Qty	Ply	MIKE TODD CONST - MORGAN RES	
755227	T02G	COMMON STRUCTURAL GA	1	1	Job Reference (optional)	T10408287

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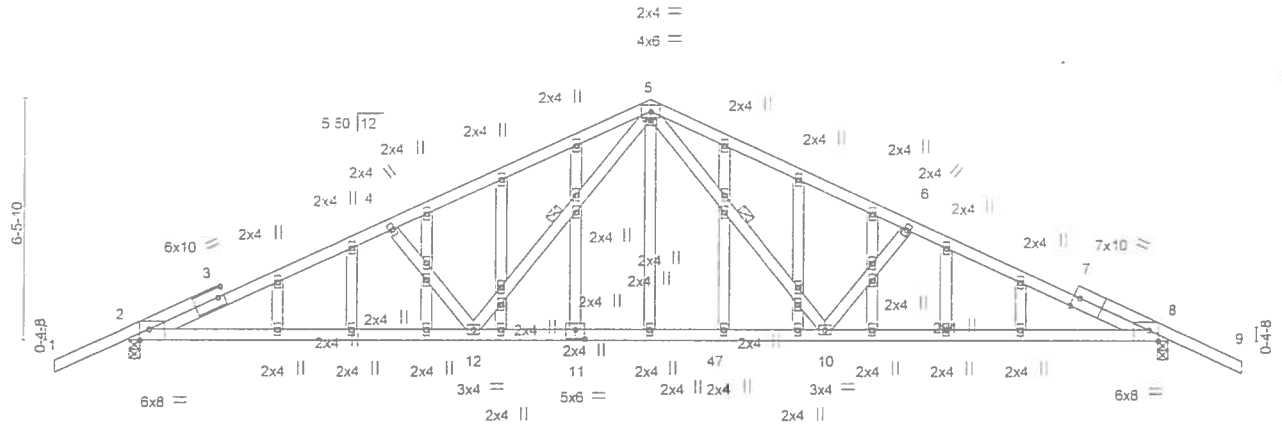


Plate Offsets (X,Y)-- [2:0-2-15,Edge], [5:0-2-0,0-0-4], [7:0-2-0,Edge], [8:0-2-15,Edge], [11:0-3-0,0-3-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.91	Vert(LL)	0.41	10-12	>802	240	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.85	Vert(TL)	-0.64	10-12	>523	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.34	Horz(TL)	0.07	8	n/a	n/a		
BCDL	10.0	Code FBC2014/TPI2007		(Matrix-M)							Weight: 188 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.1 *Except* 1-3,7-9: 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3
OTHERS 2x4 SP No.3

BRACING-
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 3-5-12 oc bracing.
WEBS 1 Row at midpt 5-10, 5-12

REACTIONS. (lb/size) 2=1141/0-3-8, 8=1141/0-3-8
Max Horz 2=147(LC 12)
Max Uplift 2=-559(LC 8), 8=-559(LC 9)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1969/2335, 3-4=-1991/2390, 4-5=-1791/2301, 5-6=-1791/2301, 6-7=-1991/2390, 7-8=-1969/2335
BOT CHORD 2-12=-2071/1819, 11-12=-1149/1127, 11-47=-1149/1127, 10-47=-1149/1127, 8-10=-2092/1819
WEBS 5-10=-1043/694, 6-10=-447/503, 5-12=-1043/699, 4-12=-447/503

NOTES- (9)
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-10; Vult=130mph (3-second gust) Vasd=101mph; TCDL=4.2psf; BCDL=3.0psf; h=18ft; Cat. II; Exp C; Encl., GCpi=0.18; MWFRS (envelope) gable end zone and C-C Exterior(2) 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
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) Gable studs spaced at 2-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 2=559, 8=559.
8) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.
9) This manufactured product is designed as an individual building component. The suitability and use of this component for any particular building is the responsibility of the building designer per ANSI TPI 1 as referenced by the building code.

MiTek USA, Inc.

Note: T-Bracing / I-Bracing to be used when continuous lateral bracing is impractical. T-Brace / I-Brace must cover 90% of web length.

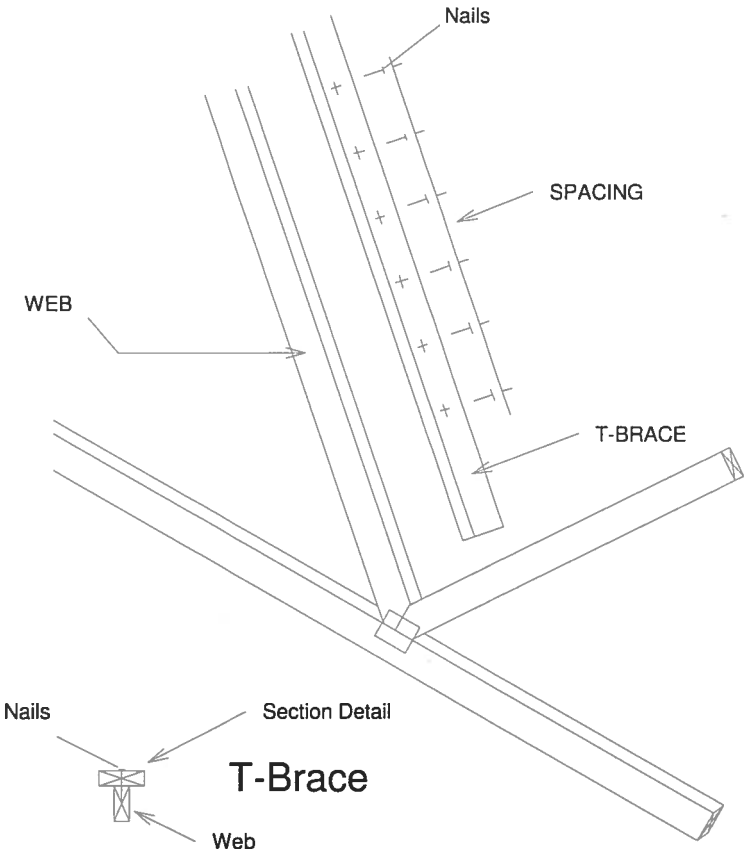
Note: This detail NOT to be used to convert T-Brace / I-Brace webs to continuous lateral braced webs.

Nailing Pattern		
T-Brace size	Nail Size	Nail Spacing
2x4 or 2x6 or 2x8	10d	6" o.c.
Note: Nail along entire length of T-Brace / I-Brace (On Two-Ply's Nail to Both Plies)		

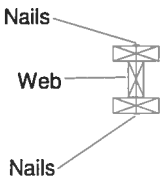
	Brace Size for One-Ply Truss	
	Specified Continuous Rows of Lateral Bracing	
Web Size	1	2
2x3 or 2x4	2x4 T-Brace	2x4 I-Brace
2x6	2x6 T-Brace	2x6 I-Brace
2x8	2x8 T-Brace	2x8 I-Brace

	Brace Size for Two-Ply Truss	
	Specified Continuous Rows of Lateral Bracing	
Web Size	1	2
2x3 or 2x4	2x4 T-Brace	2x4 I-Brace
2x6	2x6 T-Brace	2x6 I-Brace
2x8	2x8 T-Brace	2x8 I-Brace

T-Brace / I-Brace must be same species and grade (or better) as web member.



T-Brace



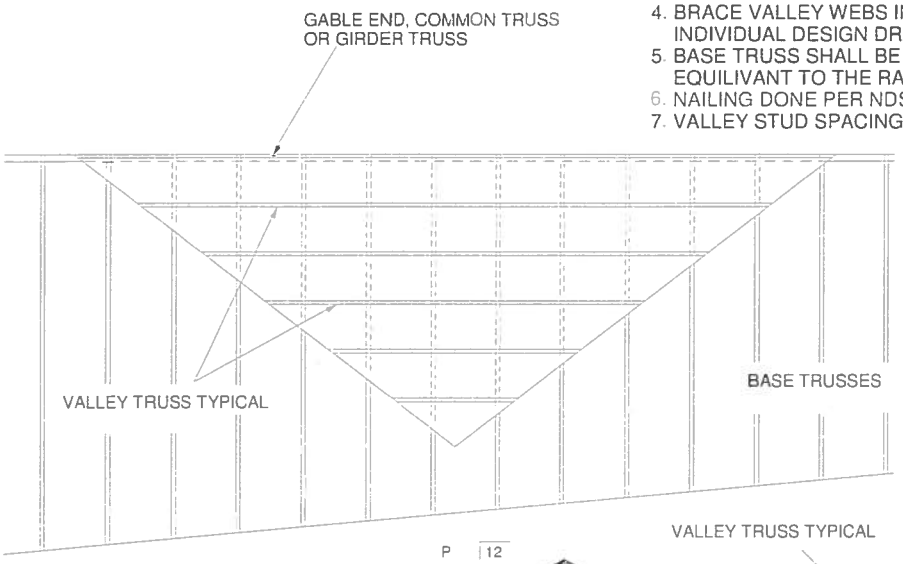
I-Brace

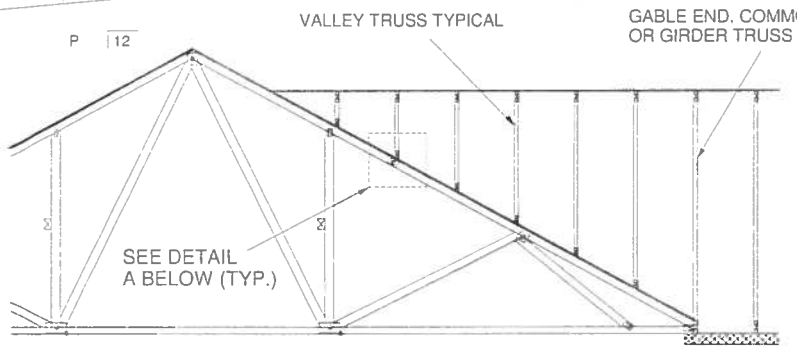
FEBRUARY 14, 2012	TRUSSED VALLEY SET DETAIL	ST-VALLEY HIGH WIND1

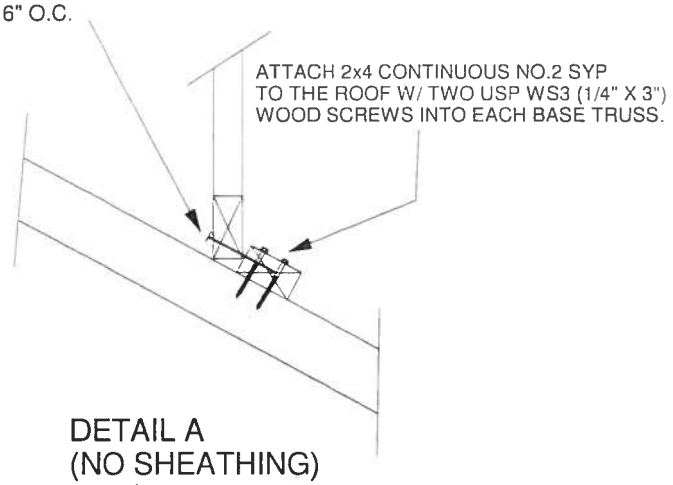
MiTek USA, Inc.

GENERAL SPECIFICATIONS

1. NAIL SIZE = 3" X 0.131" = 10d
2. WOOD SCREW = 3" WS3 USP OR EQUIVALENT
   DO NOT USE DRYWALL OR DECKING TYPE SCREW
3. INSTALL VALLEY TRUSSES (24" O.C. MAXIMUM) AND
   SECURE PER DETAIL A
4. BRACE VALLEY WEBS IN ACCORDANCE WITH THE
   INDIVIDUAL DESIGN DRAWINGS.
5. BASE TRUSS SHALL BE DESIGNED WITH A PURLIN SPACING
   EQUILIVANT TO THE RAKE DIMENSION OF THE VALLEY TRUSS SPACING.
6. NAILING DONE PER NDS - 01
7. VALLEY STUD SPACING NOT TO EXCEED 48" O.C.







DETAIL A
(NO SHEATHING)
N.T.S.

WIND DESIGN PER ASCE 7-98, ASCE 7-02, ASCE 7-05 146 MPH
WIND DESIGN PER ASCE 7-10 160 MPH
MAX MEAN ROOF HEIGHT = 30 FEET
ROOF PITCH = MINIMUM 3/12 MAXIMUM 6/12
CATEGORY II BUILDING
EXPOSURE C
WIND DURATION OF LOAD INCREASE : 1.60
MAX TOP CHORD TOTAL LOAD = 50 PSF
MAX SPACING = 24" O.C. (BASE AND VALLEY)
MINIMUM REDUCED DEAD LOAD OF 6 PSF
ON THE TRUSSES

JANUARY 28, 2015	LATERAL TOE-NAIL DETAIL	ST-TOENAIL_SP

MiTek USA, Inc.

NOTES:
1. TOE-NAILS SHALL BE DRIVEN AT AN ANGLE OF 45 DEGREES WITH THE MEMBER AND MUST HAVE FULL WOOD SUPPORT. (NAIL MUST BE DRIVEN THROUGH AND EXIT AT THE BACK CORNER OF THE MEMBER END AS SHOWN.
2. THE END DISTANCE, EDGE DISTANCE, AND SPACING OF NAILS SHALL BE SUCH AS TO AVOID UNUSUAL SPLITTING OF THE WOOD.
3. ALLOWABLE VALUE SHALL BE THE LESSER VALUE OF THE TWO SPECIES FOR MEMBERS OF DIFFERENT SPECIES.

TOE-NAIL SINGLE SHEAR VALUES PER NDS 2001 (lb/nail)

	DIAM.	SP	DF	HF	SPF	SPF-S
3.5" LONG	.131	88.0	80.6	69.9	68.4	59.7
	.135	93.5	85.6	74.2	72.6	63.4
	.162	108.8	99.6	86.4	84.5	73.8
3.25" LONG	.128	74.2	67.9	58.9	57.6	50.3
	.131	75.9	69.5	60.3	59.0	51.1
	.148	81.4	74.5	64.6	63.2	52.5

VALUES SHOWN ARE CAPACITY PER TOE-NAIL.
APPLICABLE DURATION OF LOAD INCREASES MAY BE APPLIED.

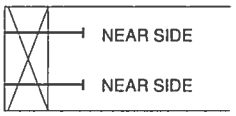
EXAMPLE:
(3) - 16d NAILS (.162" diam. x 3.5") WITH SPF SPECIES BOTTOM CHORD

For load duration increase of 1.15:
3 (nails) X 84.5 (lb/nail) X 1.15 (DOL) = 291.5 lb Maximum Capacity

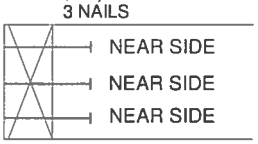
THIS DETAIL APPLICABLE TO THE THREE END DETAILS SHOWN BELOW

VIEWS SHOWN ARE FOR ILLUSTRATION PURPOSES ONLY

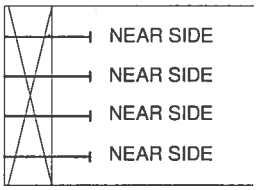
SIDE VIEW
(2x3)
2 NAILS

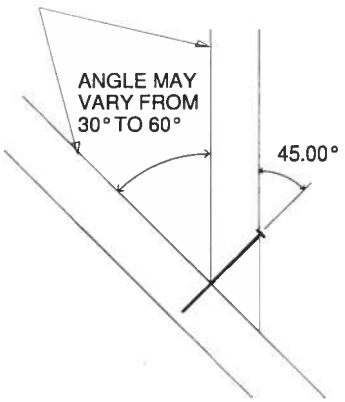


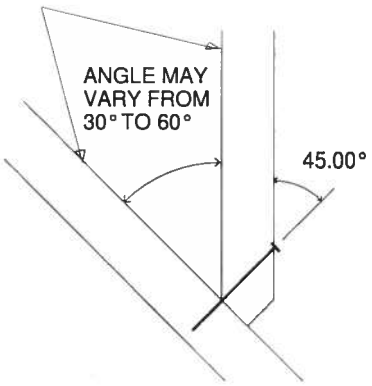
SIDE VIEW
(2x4)
3 NAILS

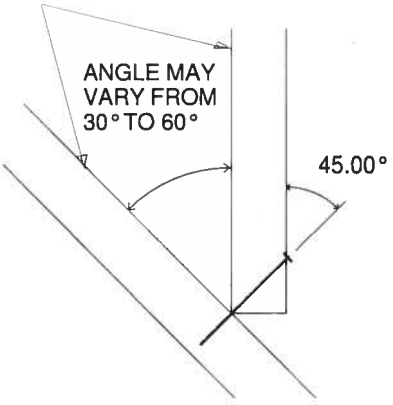


SIDE VIEW
(2x6)
4 NAILS









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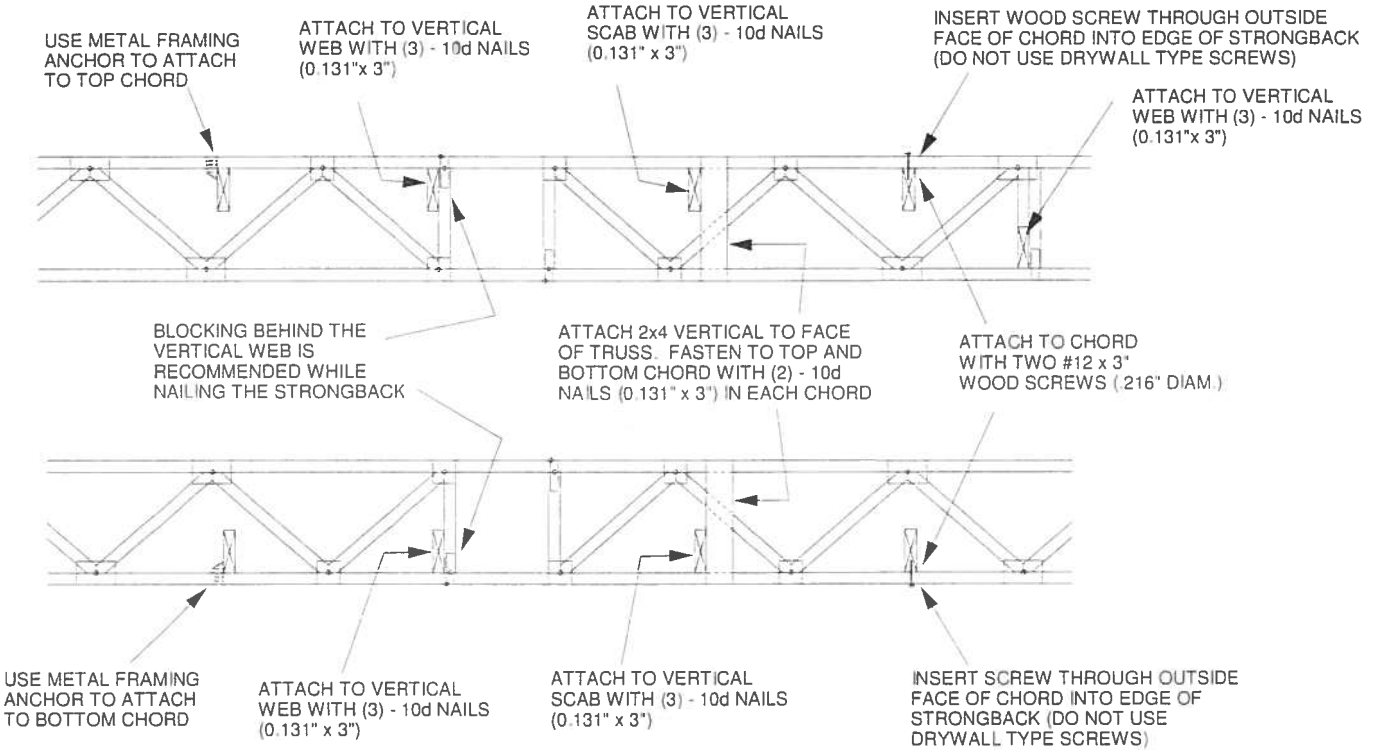
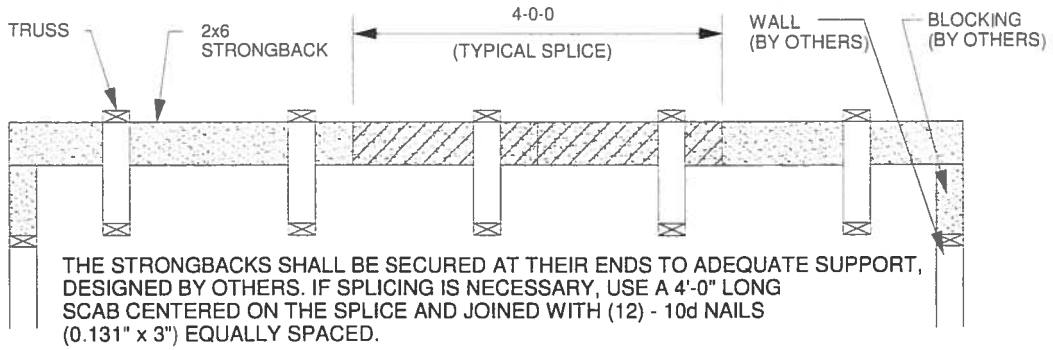
TO MINIMIZE VIBRATION COMMON TO ALL SHALLOW FRAMING SYSTEMS, 2x6 "STRONGBACK" IS RECOMMENDED, LOCATED EVERY 8 TO 10 FEET ALONG A FLOOR TRUSS.

NOTE 1: 2X6 STRONGBACK ORIENTED VERTICALLY MAY BE POSITIONED DIRECTLY UNDER THE TOP CHORD OR DIRECTLY ABOVE THE BOTTOM CHORD. SECURELY FASTENED TO THE TRUSS USING ANY OF THE METHODS ILLUSTRATED BELOW.

NOTE 2: STRONGBACK BRACING ALSO SATISFIES THE LATERAL BRACING REQUIREMENTS FOR THE BOTTOM CHORD OF THE TRUSS WHEN IT IS PLACED ON TOP OF THE BOTTOM CHORD, IS CONTINUOUS FROM END TO END, CONNECTED WITH A METHOD OTHER THAN METAL FRAMING ANCHOR, AND PROPERLY CONNECTED, BY OTHERS, AT THE ENDS.





THE STRONGBACKS SHALL BE SECURED AT THEIR ENDS TO ADEQUATE SUPPORT, DESIGNED BY OTHERS. IF SPLICING IS NECESSARY, USE A 4'-0" LONG SCAB CENTERED ON THE SPLICE AND JOINED WITH (12) - 10d NAILS (0.131" x 3") EQUALLY SPACED.

ALTERNATE METHOD OF SPLICING:
OVERLAP STRONGBACK MEMBERS A MINIMUM OF 4'-0" AND FASTEN WITH (12) - 10d NAILS (0.131" x 3") STAGGERED AND EQUALLY SPACED.
(TO BE USED ONLY WHEN STRONGBACK IS NOT ALIGNED WITH A VERTICAL)

FEBRUARY 14, 2012	STANDARD PIGGYBACK TRUSS CONNECTION DETAIL	ST-PIGGY-7-10

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MAXIMUM WIND SPEED = REFER TO NOTES D AND OR E MAX MEAN ROOF HEIGHT = 30 FEET MAX TRUSS SPACING = 24 " O.C. CATEGORY II BUILDING EXPOSURE B or C ASCE 7-10 DURATION OF LOAD INCREASE : 1.60
DETAIL IS NOT APPLICABLE FOR TRUSSES TRANSFERING DRAG LOADS (SHEAR TRUSSES). ADDITIONAL CONSIDERATIONS BY BUILDING ENGINEER/DESIGNER ARE REQUIRED.

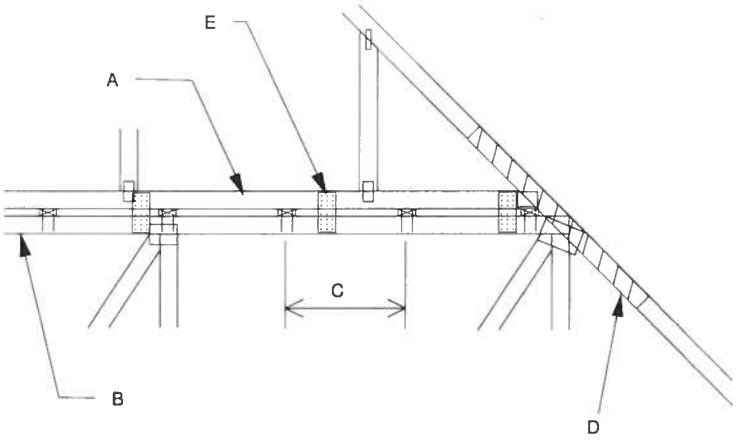
A - PIGGBACK TRUSS, REFER TO MITEK TRUSS DESIGN DRAWING. SHALL BE CONNECTED TO EACH PURLIN WITH (2) 0.131" X 3.5" TOE NAILED.

B - BASE TRUSS, REFER TO MITEK TRUSS DESIGN DRAWING.

C - PURLINS AT EACH BASE TRUSS JOINT AND A MAXIMUM 24" O.C. UNLESS SPECIFIED CLOSER ON MITEK TRUSS DESIGN DRAWING. CONNECT TO BASE TRUSS WITH (2) 0.131" X 3.5" NAILS EACH.

D - 2 X __ X 4'-0" SCAB, SIZE AND GRADE TO MATCH TOP CHORD OF PIGGYBACK TRUSS, ATTACHED TO ONE FACE, CENTERED ON INTERSECTION, WITH (2) ROWS OF 0.131" X 3" NAILS @ 4" O.C. SCAB MAY BE OMITTED PROVIDED THE TOP CHORD SHEATHING IS CONTINUOUS OVER INTERSECTION AT LEAST 1 FT. IN BOTH DIRECTIONS AND:
1. WIND SPEED OF 115 MPH OR LESS FOR ANY PIGGYBACK SPAN, OR
2. WIND SPEED OF 116 MPH TO 160 MPH WITH A MAXIMUM PIGGYBACK SPAN OF 12 ft.

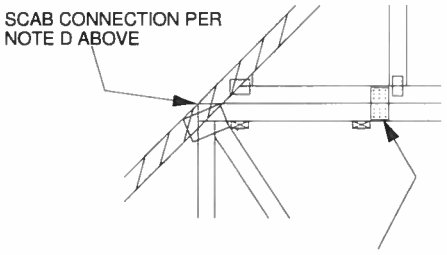
E - FOR WIND SPEEDS BETWEEN 126 AND 160 MPH, ATTACH MITEK 3X8 20 GA Nail-On PLATES TO EACH FACE OF TRUSSES AT 72" O.C. W/ (4) 0.131" X 1.5" PER MEMBER. STAGGER NAILS FROM OPPOSING FACES. ENSURE 0.5" EDGE DISTANCE. (MIN. 2 PAIRS OF PLATES REQ. REGARDLESS OF SPAN)



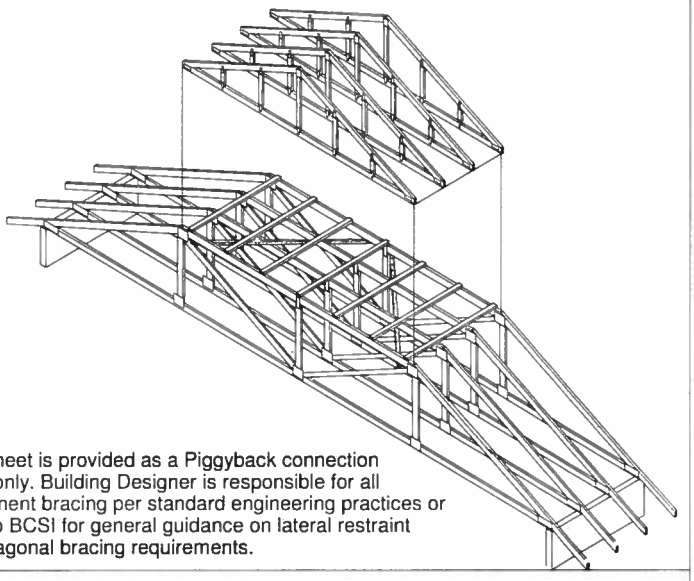
WHEN NO GAP BETWEEN PIGGYBACK AND BASE TRUSS EXISTS:

REPLACE TOE NAILING OF PIGGYBACK TRUSS TO PURLINS WITH Nail-On PLATES AS SHOWN, AND INSTALL PURLINS TO BOTTOM EDGE OF BASE TRUSS TOP CHORD AT SPECIFIED SPACING SHOWN ON BASE TRUSS MITEK DESIGN DRAWING.

SCAB CONNECTION PER NOTE D ABOVE

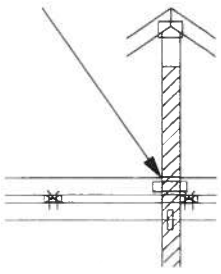


FOR ALL WIND SPEEDS, ATTACH MITEK 3X6 20 GA Nail-On PLATES TO EACH FACE OF TRUSSES AT 48" O.C. W/ (4) 0.131" X 1.5" PER MEMBER. STAGGER NAILS FROM OPPOSING FACES ENSURE 0.5" EDGE DISTANCE.



This sheet is provided as a Piggyback connection detail only. Building Designer is responsible for all permanent bracing per standard engineering practices or refer to BCSI for general guidance on lateral restraint and diagonal bracing requirements.

VERTICAL WEB TO EXTEND THROUGH BOTTOM CHORD OF PIGGYBACK



FOR LARGE CONCENTRATED LOADS APPLIED TO CAP TRUSS REQUIRING A VERTICAL WEB:

1) VERTICAL WEBS OF PIGGYBACK AND BASE TRUSS MUST MATCH IN SIZE, GRADE, AND MUST LINE UP AS SHOWN IN DETAIL.
2) ATTACH 2 x ___ x 4'-0" SCAB TO EACH FACE OF TRUSS ASSEMBLY WITH 2 ROWS OF 10d (0.131" X 3") NAILS SPACED 4" O.C. FROM EACH FACE. (SIZE AND GRADE TO MATCH VERTICAL WEBS OF PIGGYBACK AND BASE TRUSS.) (MINIMUM 2X4)
3) THIS CONNECTION IS ONLY VALID FOR A MAXIMUM CONCENTRATED LOAD OF 4000 LBS (@1.15). REVIEW BY A QUALIFIED ENGINEER IS REQUIRED FOR LOADS GREATER THAN 4000 LBS.
4) FOR PIGGYBACK TRUSSES CARRYING GIRDER LOADS, NUMBER OF PLYS OF PIGGYBACK TRUSS TO MATCH BASE TRUSS.
5) CONCENTRATED LOAD MUST BE APPLIED TO BOTH THE PIGGYBACK AND THE BASE TRUSS DESIGN.

FEBRUARY 14, 2012	Standard Gable End Detail	ST-GE130-001

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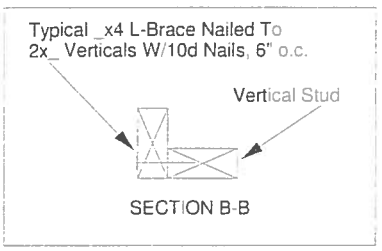
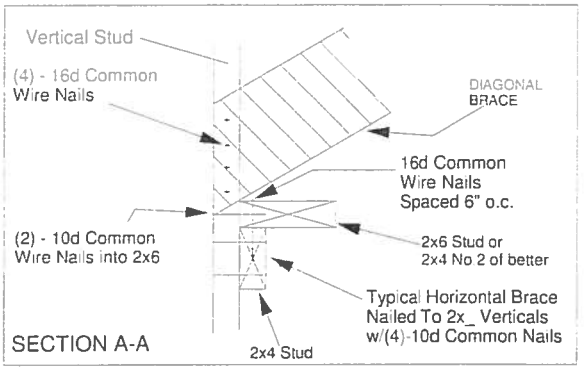
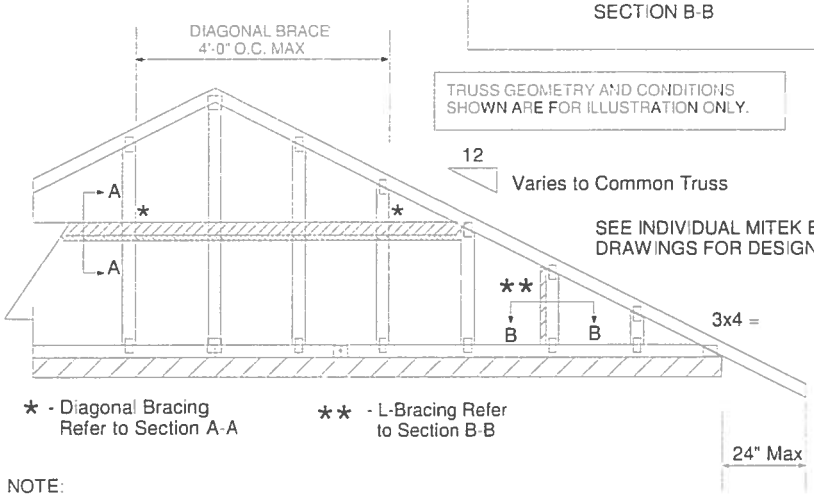




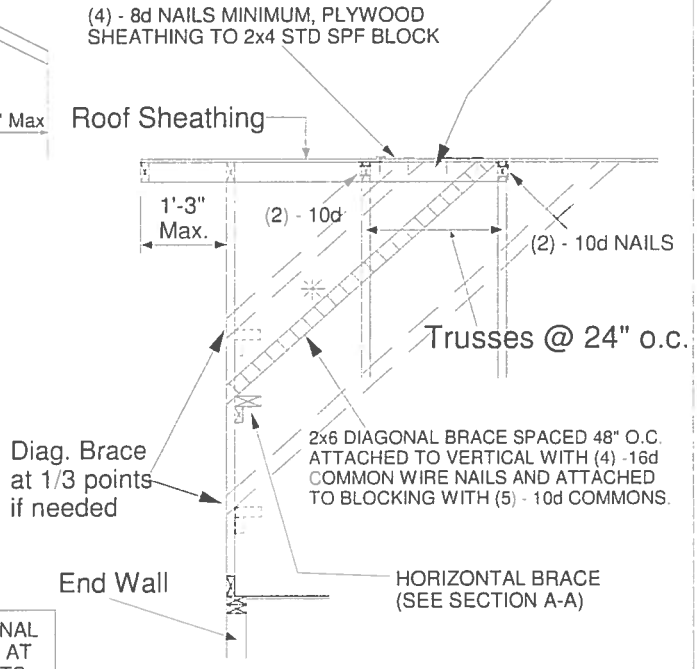


SEE INDIVIDUAL MITEK ENGINEERING DRAWINGS FOR DESIGN CRITERIA

* - Diagonal Bracing Refer to Section A-A

** - L-Bracing Refer to Section B-B

PROVIDE 2x4 BLOCKING BETWEEN THE FIRST TWO TRUSSES AS NOTED. TOENAIL BLOCKING TO TRUSSES WITH (2) - 10d NAILS AT EACH END. ATTACH DIAGONAL BRACE TO BLOCKING WITH (5) - 10d COMMON WIRE NAILS.



NOTE:
1. MINIMUM GRADE OF #2 MATERIAL IN THE TOP AND BOTTOM CHORDS.
2. CONNECTION BETWEEN BOTTOM CHORD OF GABLE END TRUSS AND WALL TO BE PROVIDED BY PROJECT ENGINEER OR ARCHITECT.
3. BRACING SHOWN IS FOR INDIVIDUAL TRUSS ONLY. CONSULT BLDG. ARCHITECT OR ENGINEER FOR TEMPORARY AND PERMANENT BRACING OF ROOF SYSTEM.
4. "L" BRACES SPECIFIED ARE TO BE FULL LENGTH. GRADES: 1x4 SRB OR 2x4 STUD OR BETTER WITH ONE ROW OF 10d NAILS SPACED 6" O.C.
5. DIAGONAL BRACE TO BE APPROXIMATELY 45 DEGREES TO ROOF DIAPHRAM AT 4'-0" O.C.
6. CONSTRUCT HORIZONTAL BRACE CONNECTING A 2x6 STUD AND A 2x4 STUD AS SHOWN WITH 16d NAILS SPACED 6" O.C. HORIZONTAL BRACE TO BE LOCATED AT THE MIDSPAN OF THE LONGEST STUD. ATTACH TO VERTICAL STUDS WITH (4) 10d NAILS THROUGH 2x4. (REFER TO SECTION A-A)
7. GABLE STUD DEFLECTION MEETS OR EXCEEDS L/240.
8. THIS DETAIL DOES NOT APPLY TO STRUCTURAL GABLES.
9. DO NOT USE FLAT BOTTOM CHORD GABLES NEXT TO SCISSOR TYPE TRUSSES.

Minimum Stud Size Species and Grade	Stud Spacing	Without Brace	1x4 L-Brace	2x4 L-Brace	DIAGONAL BRACE	2 DIAGONAL BRACES AT 1/3 POINTS
		Maximum Stud Length				
2x4 SPF Std/Stud	12" O.C.	4-0-7	4-3-2	6-0-4	8-0-15	12-1-6
2x4 SPF Std/Stud	16" O.C.	3-7-0	3-8-4	5-2-10	7-1-15	10-8-15
2x4 SPF Std/Stud	24" O.C.	2-11-1	3-0-2	4-3-2	5-10-3	8-9-4

✳ Diagonal braces over 6'-3" require a 2x4 T-Brace attached to one edge. Diagonal braces over 12'-6" require 2x4 I-braces attached to both edges. Fasten T and I braces to narrow edge of web with 10d common wire nails 8in o.c., with 3in minimum end distance. Brace must cover 90% of diagonal length.

MAX MEAN ROOF HEIGHT = 30 FEET
CATEGORY II BUILDING
EXPOSURE B or C
ASCE 7-98, ASCE 7-02, ASCE 7-05 130 MPH
ASCE 7-10 160 MPH
DURATION OF LOAD INCREASE : 1.60

STUD DESIGN IS BASED ON COMPONENTS AND CLADDING.
CONNECTION OF BRACING IS BASED ON MWFRS.

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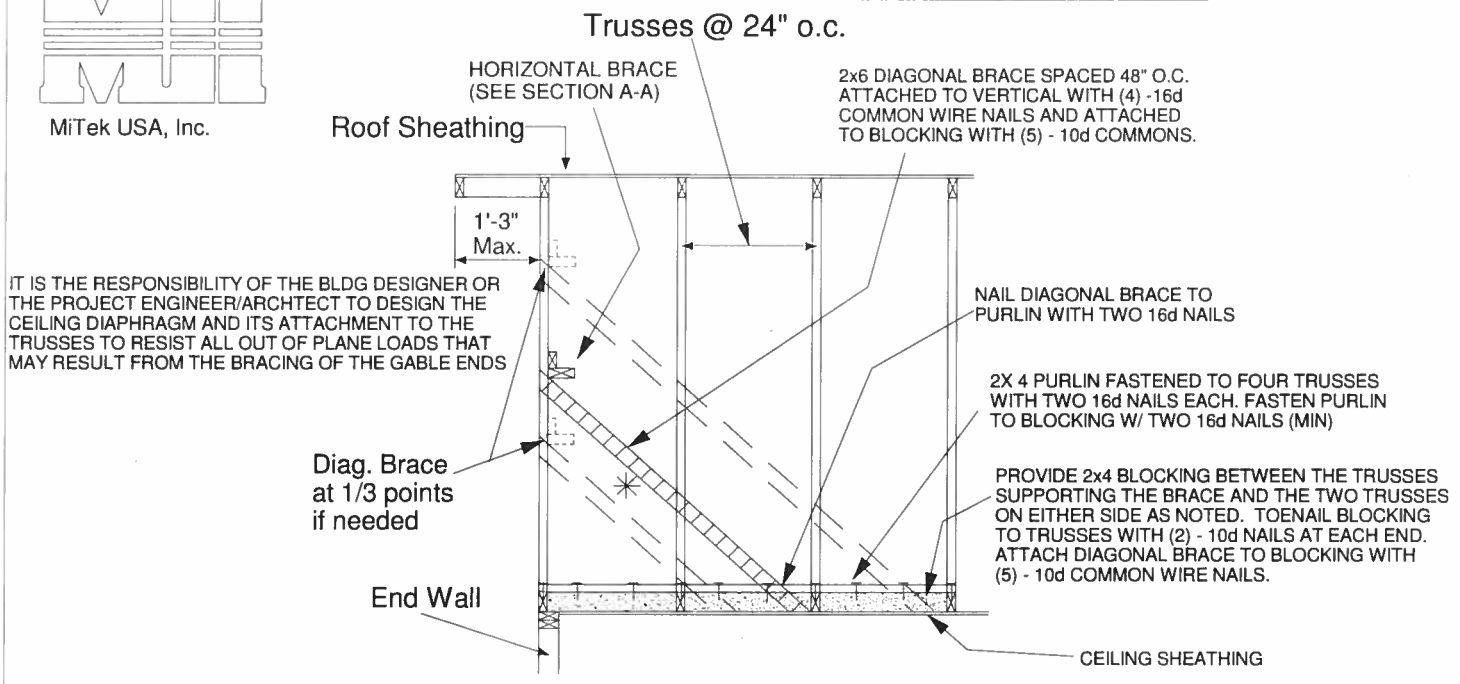
ALTERNATE DIAGONAL BRACING TO THE BOTTOM CHORD



BRACING REQUIREMENTS FOR STRUCTURAL GABLE TRUSSES

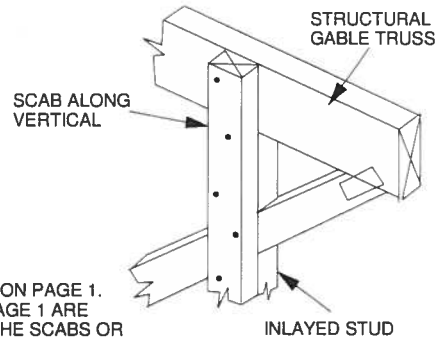
STRUCTURAL GABLE TRUSSES MAY BE BRACED AS NOTED:

METHOD 1 : ATTACH A MATCHING GABLE TRUSS TO THE INSIDE FACE OF THE STRUCTURAL GABLE AND FASTEN PER THE FOLLOWING NAILING SCHEDULE.

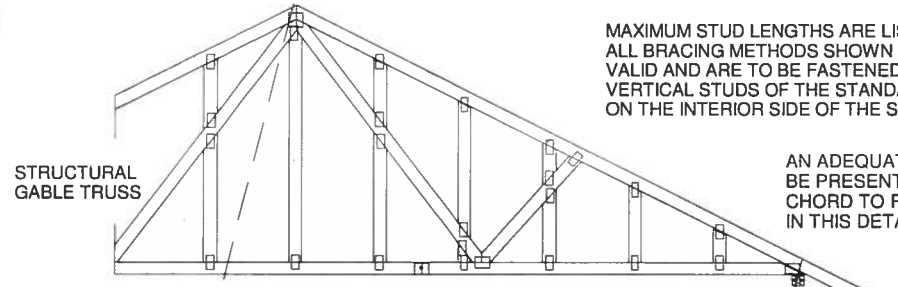
METHOD 2 : ATTACH 2X _ SCABS TO THE FACE OF EACH VERTICAL MEMBER ON THE STRUCTURAL GABLE PER THE FOLLOWING NAILING SCHEDULE. SCABS ARE TO BE OF THE SAME SIZE, GRADE AND SPECIES AS THE TRUSS VERTICALS

NAILING SCHEDULE:

- FOR WIND SPEEDS 120 MPH (ASCE 7-98, 02, 05), 150 MPH (ASCE 7-10) OR LESS, NAIL ALL MEMBERS WITH ONE ROW OF 10d (.131" X 3") NAILS SPACED 6" O.C.
- FOR WIND SPEEDS GREATER 120 MPH (ASCE 7-98, 02, 05), 150 MPH (ASCE 7-10) NAIL ALL MEMBERS WITH TWO ROWS OF 10d (.131" X 3") NAILS SPACED 6" O.C. (2X 4 STUDS MINIMUM)

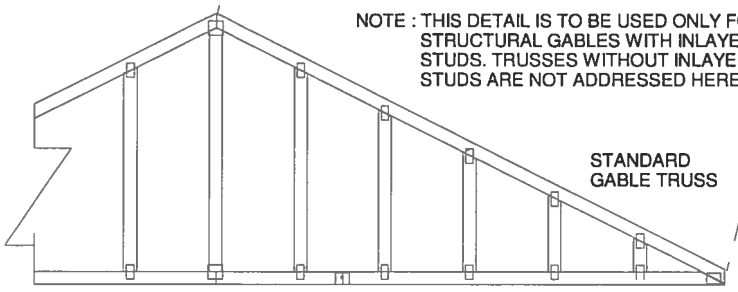


MAXIMUM STUD LENGTHS ARE LISTED ON PAGE 1. ALL BRACING METHODS SHOWN ON PAGE 1 ARE VALID AND ARE TO BE FASTENED TO THE SCABS OR VERTICAL STUDS OF THE STANDARD GABLE TRUSS ON THE INTERIOR SIDE OF THE STRUCTURE.



AN ADEQUATE DIAPHRAGM OR OTHER METHOD OF BRACING MUST BE PRESENT TO PROVIDE FULL LATERAL SUPPORT OF THE BOTTOM CHORD TO RESIST ALL OUT OF PLANE LOADS. THE BRACING SHOWN IN THIS DETAIL IS FOR THE VERTICAL/STUDS ONLY.

NOTE : THIS DETAIL IS TO BE USED ONLY FOR STRUCTURAL GABLES WITH INLAYED STUDS. TRUSSES WITHOUT INLAYED STUDS ARE NOT ADDRESSED HERE.



Multiple-Member Connections for Side-Loaded Beams with Concentrated Loads

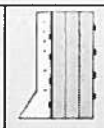
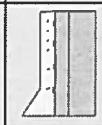
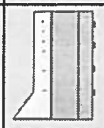
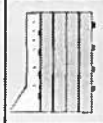
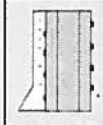
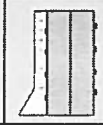
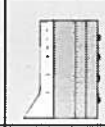
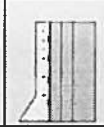
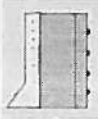
Table 1: Maximum Concentrated Load Applied to Beam – Bolt or Nail Connection (lbs)[1]

Beam Configuration		Hanger Type	½"ø or ¾"ø Bolts[3][4]					16d (0.148" x 3¼") Nails			
			Bolt Diameter[2]	# Bolts				# Nails			
				2	4	6	8	6	12	18	24
3-ply 1¾" (5¼" Beam)		FACE	0.5	2,100	4,200	6,300	8,400	2,125[5]	4,250[5]	6,370[5]	8,495[5]
			0.75	3,060	6,120	9,180	12,240				
		TOP	0.5	760	1,525	2,285	3,050	1,060[6]	2,125[6]	3,185[6]	4,250[6]
			0.75	930	1,860	2,790	3,720				
3½"+1¾" (5¼" Beam)		FACE	---	---	---	---	---	---	---	---	---
			---	---	---	---	---				
		TOP	0.5	1,050	2,100	3,150	4,200	1,060	2,125	3,185	4,250
			0.75	1,530	3,060	4,590	6,120				
3½"+1¾" (5¼" Beam)		FACE / TOP	0.5	2,100	4,200	6,300	8,400	2,125[5]	4,250[5]	6,370[5]	8,495[5]
			0.75	3,060	6,120	9,180	12,240				
4-ply 1¾" (7" Beam)		FACE	0.5	1,400	2,800	4,200	5,600	---	---	---	---
			0.75	2,040	4,080	6,120	8,160				
		TOP	0.5	675	1,355	2,030	2,710	---	---	---	---
			0.75	825	1,655	2,480	3,305				
2-ply 1¾" + 3½" (7" Beam)		FACE	0.5	2,800	5,600	8,400	11,200	2,830[5]	5,665[5]	8,495[5]	11,330[5]
			0.75	5,025	10,050	15,070	20,095				
		TOP	0.5	935	1,865	2,800	3,735	945[6]	1,890[6]	2,830[6]	3,775[6]
			0.75	1,360	2,720	4,080	5,440				
2-ply 3½" (7" Beam)		FACE / TOP	0.5	1,720	3,440	5,160	6,880	---	---	---	---
			0.75	2,480	4,960	7,440	9,920				
2-ply 1¾" + 3½" (7" Beam)		FACE / TOP	0.5	1,015	2,030	3,050	4,065	---	---	---	---
			0.75	1,240	2,480	3,720	4,960				
2-ply 1¾" + 3½" (7" Beam)		FACE	0.5	1,720	3,440	5,160	6,880	---	---	---	---
			0.75	2,480	4,960	7,440	9,920				
		TOP	0.5	675	1,355	2,030	2,710	---	---	---	---
			0.75	825	1,655	2,480	3,305				
5¼" + 1¾" (7" Beam)		FACE / TOP	0.5	2,800	5,600	8,400	11,200	2,830[5]	5,665[5]	8,495[5]	11,330[5]
			0.75	5,025	10,050	15,070	20,095				

1. See page 4 for table General Notes, connection details and beam depth limitations.
2. Washers required. Bolt holes to be 9/16" maximum for ½" bolts, 13/16" maximum for ¾" bolts.
3. Minimum end distance for bolts is 6".
4. Drilling bolt holes reduces the section of the beam and thus the load capacity of the supporting member. Shear and moment capacity of the beam must be checked at the location of each row of bolts.
5. Number of required nails shown must be installed from side opposite hanger.
6. Number of required nails shown must be installed from hanger side. Additionally, install half the number of required nails from side opposite hanger.

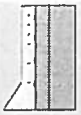
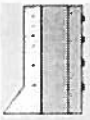
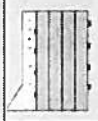
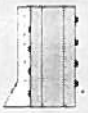
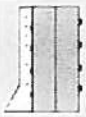
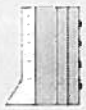
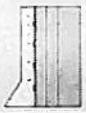
CONTACT US ▪ 1.888.iLevel8 (1.888.453.8358) ▪ www.iLevel.com

Table 2A: Maximum Concentrated Load Applied to Beam – Wood Screw Connection (lbs)[1]

Beam Configuration		Hanger Type	Wood Screw Length	Fastener Type							
				USP WS				Simpson SDS			
				# Screws				# Screws			
				2	4	6	8	2	4	6	8
3-ply 1¾" (5¼" Beam)		FACE [3]	3½"	1,435	2,870	4,305	5,740	2,040	4,080	6,120	8,160
		TOP [2]	3½"	720	1,435	2,155	2,870	1,020	2,040	3,060	4,080
3½"+1¾" (5¼" Beam)		FACE	3½"	—	—	—	—	—	—	—	—
		TOP [4]	3½"	720	1,435	2,155	2,870	1,020	2,040	3,060	4,080
3½"+1¾" (5¼" Beam)		FACE / TOP [3]	3½"	1,435	2,870	4,305	5,740	2,040	4,080	6,120	8,160
4-ply 1¾" (7" Beam)		FACE [2]	6"[5]	1,055	2,110	3,165	4,220	1,360	2,720	4,080	5,440
		TOP [2]	6"[5]	705	1,405	2,110	2,810	905	1,815	2,720	3,625
2-ply 1¾" + 3½" (7" Beam)		FACE [3]	3½"	1,915	3,825	5,740	7,655	2,720	5,440	8,160	10,880
			6"[5]	2,110	4,220	6,325	8,435	2,720	5,440	8,160	10,880
		TOP [2]	3½"	640	1,275	1,915	2,550	905	1,815	2,720	3,625
			6"[5]	705	1,405	2,110	2,810	905	1,815	2,720	3,625
2-ply 3½" (7" Beam)		FACE / TOP [2]	6"[5]	1,055	2,110	3,165	4,220	930	1,860	2,785	3,715
2-ply 1¾" + 3½" (7" Beam)		FACE / TOP [3]	6"[5]	1,055	2,110	3,165	4,220	1,360	2,720	4,080	5,440
2-ply 1¾" + 3½" (7" Beam)		FACE[4]	6"[5]	1,055	2,110	3,165	4,220	930	1,860	2,785	3,715
		TOP[4]	6"[5]	705	1,405	2,110	2,810	905	1,815	2,720	3,625
5¼" + 1¾" (7" Beam)		FACE / TOP [3]	3½"	1,915	3,825	5,740	7,655	2,720	5,440	8,160	10,880

1. See page 4 for table General Notes, connection details and beam depth limitations.
2. Install screws from both sides of beam.
3. Install screws from side opposite hanger only.
4. Install screws from hanger side only.
5. 6" SDS or WS screws can be used with Parallam® PSL and Microllam® LVL, but are not recommended for TimberStrand® LSL.

Table 2B: Maximum Concentrated Load Applied to Beam – Wood Screw Connection (lbs)[1]

Beam Configuration		Hanger Type	Wood Screw Length	Connection Name: TrussLok # Screws: 2	4	6	8
3-ply 1¾" (5¼" Beam)		FACE [3]	3⅜"	1,600	3,205	4,805	6,410
		TOP [2]	3⅜"	800	1,600	2,405	3,205
3½"+1¾" (5¼" Beam)		FACE	3⅜"	—	—	—	—
		TOP [4]	3⅜"	800	1,600	2,405	3,205
3½"+1¾" (5¼" Beam)		FACE / TOP [3]	3⅜"	1,600	3,205	4,805	6,410
4-ply 1¾" (7" Beam)		FACE [2]	5", 6¾"	1,160	2,320	3,480	4,640
		TOP [2]	5", 6¾"	775	1,545	2,320	3,095
2-ply 1¾" + 3½" (7" Beam)		FACE [3]	3⅜"	2,135	4,270	6,410	8,545
			5", 6¾"	2,320	4,640	6,960	9,280
		TOP [2]	3⅜"	710	1,425	2,135	2,850
			5", 6¾"	775	1,545	2,320	3,095
2-ply 3½" (7" Beam)		FACE / TOP [2]	5", 6¾"	1,160	2,320	3,480	4,640
2-ply 1¾" + 3½" (7" Beam)		FACE / TOP [3]	5", 6¾"	1,160	2,320	3,480	4,640
2-ply 1¾" + 3½" (7" Beam)		FACE[4]	5", 6¾"	1,160	2,320	3,480	4,640
		TOP [4]	5", 6¾"	1,160	2,320	3,480	4,640
5¼" + 1¾" (7" Beam)		FACE / TOP [3]	5", 6¾"	2,320	4,640	6,960	9,280

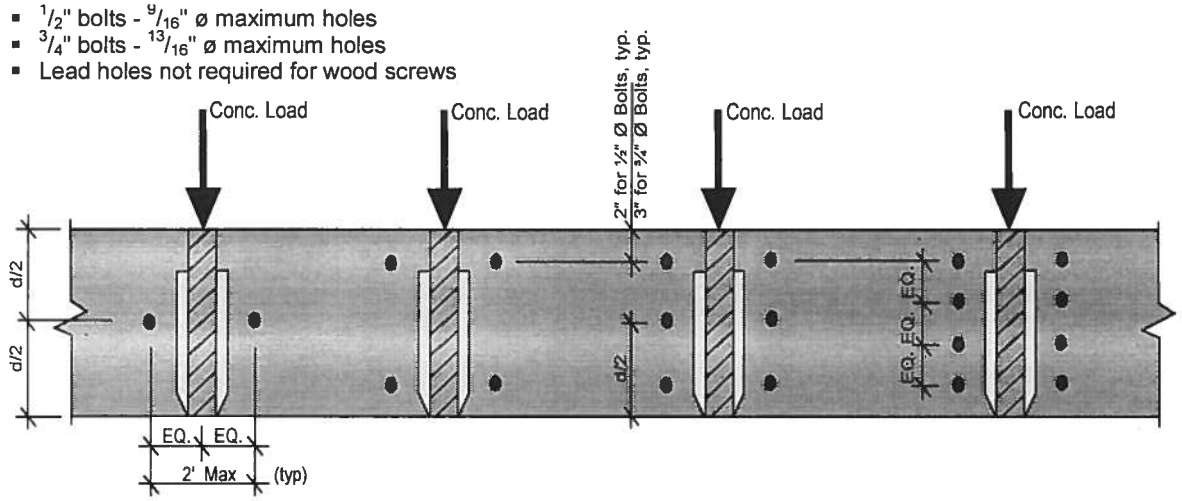
1. See page 4 for table General Notes, connection details and beam depth limitations.
2. Install screws from both sides of beam.
3. Install screws from side opposite hanger only.
4. Install screws from hanger side only.

Table 1, 2A, 2B General Notes

- Connections are based on NDS® 2005 or manufacturer's code report.
- All plies must be the same material and grade.
- Values are for 100% duration of load. Increase 15% for snow load or 25% for non-snow roof load conditions, where code allows.
- Rotational effects should be considered for 7" wide beams loaded from one side only.
- Capacities shown for face mount hanger conditions are based on 16d common (0.162" x 3½") nails installed in the hanger. Other nails used for face mount hanger installations invalidate the capacities in these tables.
- Verify adequacy of beam with all loads applied by using iLevel software or other methods.
- See the iLevel Trus Joist® Beams, Headers, and Columns Specifier's Guide (#TJ-9000) for required connections for uniform side loads.

Bolt or Wood Screw Connection Details

- $^{1}/_{2}$" bolts - $^{9}/_{16}$" ø maximum holes
- $^{3}/_{4}$" bolts - $^{13}/_{16}$" ø maximum holes
- Lead holes not required for wood screws



2 Fastener Pattern

4 Fastener Pattern
Min. Beam Depth:
d = 7¼" for ½" ø bolts
d = 9¼" for ¾" ø bolts

6 Fastener Pattern
Min. Beam Depth:
d = 9¼" for ½" ø bolts
d = 14" for ¾" ø bolts

8 Fastener Pattern
Min. Beam Depth:
d = 11¼" for ½" ø bolts
d = 16" for ¾" ø bolts

Nailed Connection Detail

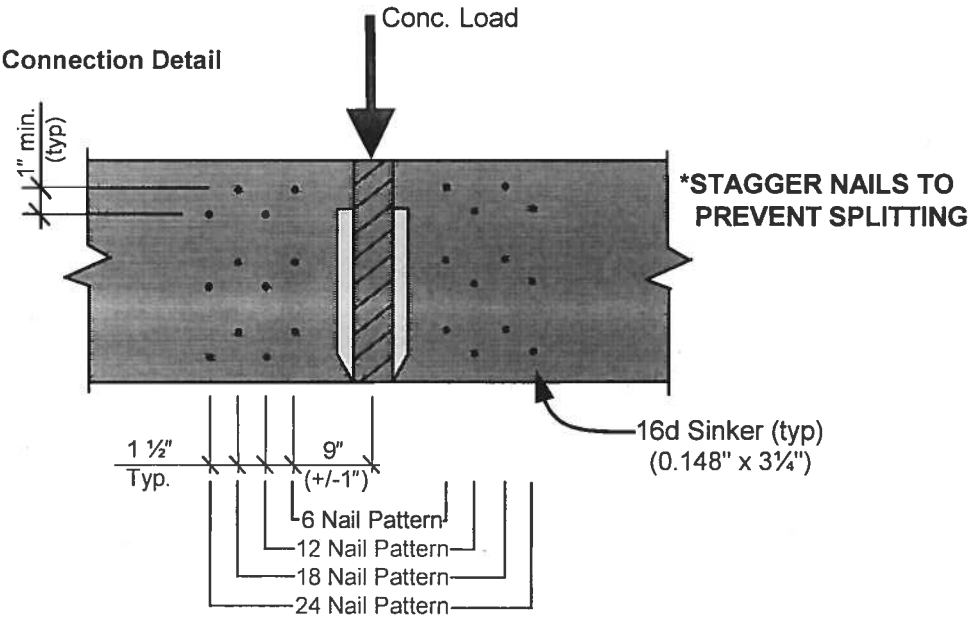


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Table 3: Allowable Capacities of 5¼" Beams with Bolt Connections

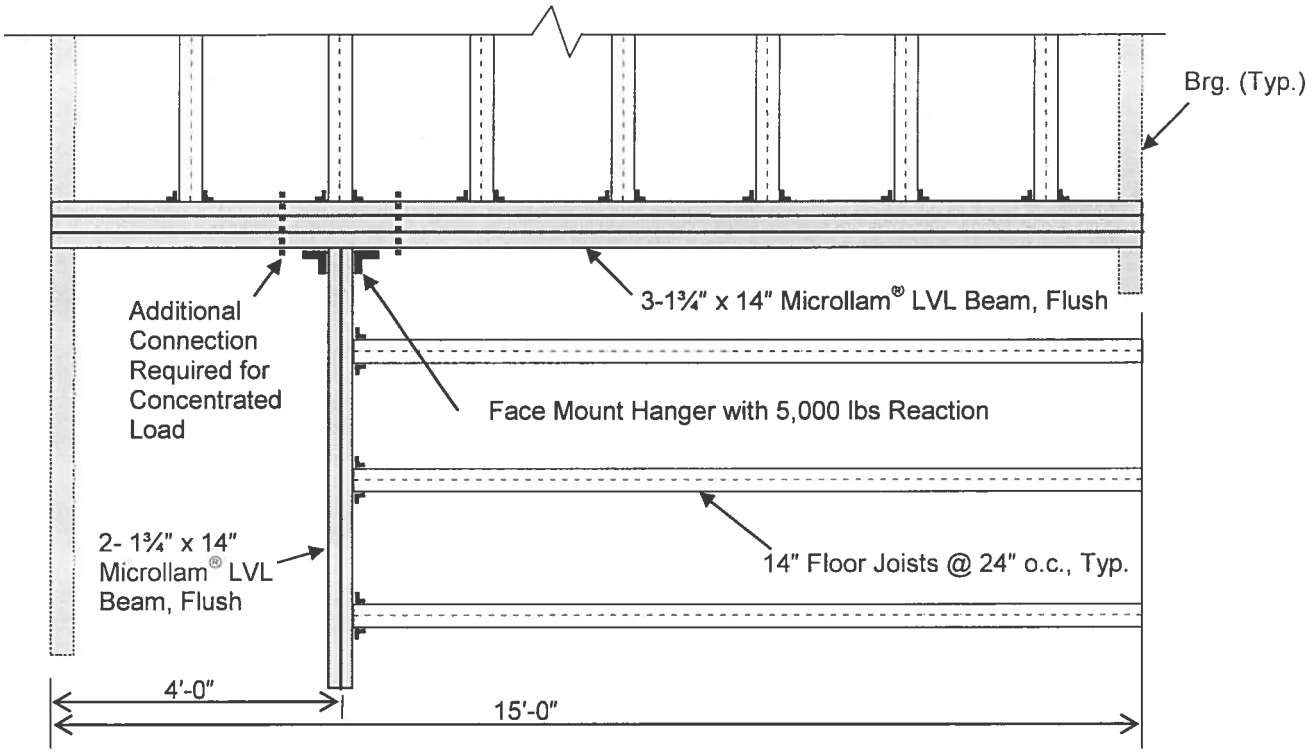
		Bolt Dia.	Conn. Loc.	Beam Depth									
				7¼"	9¼"	9½"	11¼"	11⅞"	14"	16"	18"	20"	24"
TimberStrand® LSL	Max Shear (lbs)	½"	< 5d		6,235	6,545	8,755	9,560	12,345	15,005			
			≥ 5d		10,150	10,500	12,950	13,825	16,800	19,600			
		¾"	< 5d		3,995	4,260	6,210	6,940	9,510	12,015			
			≥ 5d		8,750	9,100	11,550	12,425	15,400	18,200			
	Max Moment (ft-lb)	½"	2		10,605	15,295	15,685	23,905	32,760	42,265			
			4		9,355	13,470	13,730	20,915	28,725	37,250			
			6		9,350	13,470	13,730	20,910	28,725	37,245			
			8				13,510	20,575	28,275	36,685			
		¾"	2		10,600	15,290	15,685	23,900	32,755	42,260			
			4		9,900	14,215	14,195	21,490	29,020	37,225			
			6						29,015	37,220			
			8							36,655			
Microllam® LVL	Max Shear (lbs)	½"	< 5d	2,745	4,445	4,665	6,240	6,810	8,795	10,690	12,610	14,545	18,440
			≥ 5d	5,235	7,230	7,480	9,225	9,850	11,970	13,965	15,960	17,955	21,945
		¾"	< 5d	1,455	2,845	3,035	4,425	4,945	6,775	8,560	10,390	12,250	16,040
			≥ 5d	4,240	6,235	6,485	8,230	8,855	10,975	12,970	14,965	16,960	20,950
	Max Moment (ft-lb)	½"	2	9,960	16,220	17,105	23,990	26,730	36,385	46,670	58,130	70,740	99,375
			4	9,025	14,305	15,065	21,000	23,385	31,905	41,130	51,535	63,100	89,670
			6		14,305	15,060	20,995	23,385	31,905	41,125	51,530	63,100	89,670
			8				20,660	23,010	31,405	40,510	50,795	62,250	88590
		¾"	2	9,950	16,210	17,100	23,985	26,725	36,380	46,665	58,125	70,740	99,370
			4		15,145	15,895	21,710	24,030	32,235	41,105	51,120	62,285	88,015
			6						32,230	41,100	51,115	62,280	88,010
			8							40,475	50,335	61,335	86,745
Parallam® PSL	Max Shear (lbs)	½"	< 5d		4,520	4,745	6,350	6,930	8,950	10,880	12,830		
			≥ 5d		7,360	7,615	9,390	10,025	12,180	14,210	16,240		
		¾"	< 5d		2,895	3,090	4,505	5,030	6,895	8,710	10,575		
			≥ 5d		6,345	6,600	8,375	9,010	11,165	13,195	15,225		
	Max Moment (ft-lb)	½"	2		18,090	19,080	26,760	29,815	40,740	52,430	65,495		
			4		15,960	16,805	23,420	26,085	35,725	46,205	58,065		
			6		15,955	16,800	23,420	26,080	35,725	46,205	58,060		
			8				23,045	25,665	35,165	45,510	57,235		
		¾"	2		18,080	19,070	26,755	29,810	40,735	52,425	65,490		
			4		16,890	17,730	24,215	26,805	36,095	46,180	57,600		
			6						36,085	46,170	57,595		
			8							45,470	56,715		

Table 3 General Notes

- Connection location refers to distance from face of bearing to centerline of connection, where d is the beam depth. Less than 5d refers to connections located less than five times the depth of the beam from the face of bearing.
- Shear reduction has been taken in accordance with NDS 3.4.3.3.
- All values shown are for 5¼" widths. Multiply by 1.33 for 7" wide beams.
- 9¼" and 11¼" TimberStrand® LSL are 1.3E grade, all other depths are 1.55E grade.

Connection Design Example

Given the floor framing shown below, specify the necessary connections for the a 3-ply Microllam® LVL beam supporting a 2-ply Microllam® LVL beam on one side and floor joists from the other side. The floor joists apply a 500 plf load to the side of the beam while the 2-ply beam reaction is 5,000 lbs. See the following page for the solution.



Partial Framing Plan

Solution:

- Use the iLevel Trus Joist® Beams, Headers, and Columns Specifier's Guide (#TJ-9000) to select a connection for the uniform loading. Multiple options exist that meets or exceed the 500 plf requirement:
  - 2 rows of ½" diameter bolts at 16" on-center (570 plf)
  - 2 rows of USP WS35 wood screws at 16" on-center (540 plf) on each side of beam
  - 2 rows of SDS ¼" x 3½" at 24" on-center (510 plf) on each side of beam
  - 2 rows of 5" TrussLok wood screws at 24" on-center (500 plf)

- Determine what additional connection is needed for the concentrated load using the information in this Technical Bulletin:
  1. Using Table 1, 2A or 2B of this bulletin, locate the section for a 3-ply 1¾" member and face mount hanger. Again, multiple options exist that exceed the 5,000 lb load requirement:
     - ½" diameter bolts in a 6-bolt connection (6,300 lbs)
     - 16d (0.148" x 3¼") sinker nails in an 18-nail connection (6,370 lbs)
     - 3½" WS wood screws in an 8-screw connection (5,740 lbs)
     - 3½" SDS wood screws in a 6-screw connection (6,120 lbs)
     - 3⅜" TrussLok wood screws in an 8-screw connection (6,410 lbs)

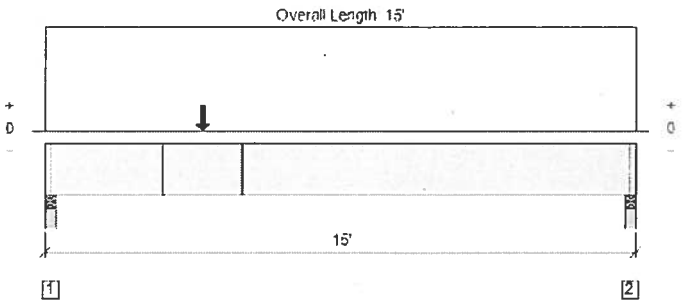
     Note that the allowable applied concentrated load is dependent upon the type of hanger used and 16d common nails must be used for face mount hanger installation to achieve the capacities shown.

  2. If the bolted connection option is chosen, the 3-ply beam must be checked for the effect of the bolt holes from the 6-bolt connection. This task may be accomplished by utilizing the location analysis feature in iLevel software. Per the detail on page 4, the bolt holes will be located approximately 1' to either side of the concentrated load location. After inputting the span and load information, choose the two locations corresponding to the concentrated load location (+/-) 1'. Upon completion of the analysis, compare the calculated shear and moment for each of the two locations against the reduced allowable shear and moment capacities of the beam for the bolt pattern selected using Table 3 on page 5 of this bulletin.

     See the Forte® software output on the following page for results of this analysis. The 3-ply Microllam® LVL beam works for the given loading. Refer to the highlighted values for the results at both bolt locations (1' on either side of the load). The highest calculated shear at either location is 6035 lbs. The highest calculated moment is 25,215 ft-lbs. The connection is less than 5d (48" < 14" * 5 = 70") from the end of the member. From Table 3 of this bulletin, the reduced allowable shear for the 3-ply 14" Microllam® LVL beam with the 6 bolt pattern located less than 5d from the end of the member is 8,795 lbs while the reduced allowable moment is 31,905 ft-lbs. Therefore, the beam is acceptable with the 6 bolt connection.

- Select the preferred options for both the uniform load connection along the length of the beam and the concentrated load connection at the hanger location and specify both on the drawings including information on fastener type, size, spacing and installation pattern as appropriate.

3 PIECE(S) 1 3/4" x 14" 1.9E Microllam® LVL PASSED



All Dimensions are Horizontal; Drawing is Conceptual

Design Results	Actual @ Location	Allowed	Result	LDF
Member Reaction (lbs)	7595 @ 2"	7809	Passed (97%)	--
Shear (lbs)	6837 @ 1' 5 1/2"	13965	Passed (49%)	1.0
Moment (Ft-lbs)	25215 @ 4' 11 7/8"	36387	Passed (69%)	1.0
Live Load Defl. (in)	0.356 @ 7' 1 13/16"	0.489	Passed (L/494)	--
Total Load Defl. (in)	0.456 @ 7' 1 7/8"	0.733	Passed (L/386)	--

System : Floor
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Design results assume a fully braced condition where all compression edges (top and bottom) are properly braced to provide lateral stability.
- Bracing (Lu): All compression edges (top and bottom) must be braced at 13' 15/16" o/c unless detailed otherwise. Proper attachment and positioning of lateral bracing is required to achieve member stability.

Supports	Total Bearing	Available Bearing	Required Bearing	Support Reactions (lbs) Dead / Floor / Roof / Snow	Accessories
1 - Stud wall - Spruce Pine Fir	3.50"	3.50"	3.40"	1641 / 5955 / 0 / 0	Blocking
2 - Stud wall - Spruce Pine Fir	3.50"	3.50"	2.33"	1164 / 4045 / 0 / 0	Blocking

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Loads	Location	Tributary Width	Dead (0.90)	Floor Live (1.00)	Roof Live (non-snow: 1.25)	Snow (1.15)	Comments
1 - Uniform(PSF)	0 to 15'	1'	100.0	400.0	0.0	0.0	10' Floor
2 - Point(lb)	4'	N/A	1000	4000	0	0	

Location Analysis	Shear (lbs) Actual / Allowed / LDF	Moment (Ft – lbs) Actual / Allowed / LDF	Comments
1 - 3'	6035 / 13965 / 1.0	19186 / 36387 / 1.0	BOLTS LEFT OF HANGER
2 - 5'	39 / 12569 / 0.9	25215 / 36387 / 1.0	BOLTS RIGHT OF HANGER

Forte™ Software Operator	Job Notes

3/25/2010 9:02:21 AM
iLevel® Forte™ v1.1, Design Engine: V4.8.0.1

Alternative Fall Protection Plans – Planes

After conducting a JHA, if the qualified person is able to demonstrate that conventional fall protection measures are infeasible (3) or present a greater hazard (4) to a particular worker or the entire crew, an employer may implement a written alternative fall protection plan in compliance with residential construction fall protection under 29 CFR 1926 501(b)(13).

The fall protection plan's alternative measures must apply to sufficiently trained and experienced workers (5), and the plan must meet the requirements of 29 CFR 1926 502(k) and be site-specific. The use of alternative measures shall be used in conjunction with conventional fall protection systems (6), and the use of alternative methods shall be as limited as possible.

Ground Assembly

Pre-assemble a truss system on the ground. Fully laterally restrain and diagonally brace, per **BCSI-B1*** and **BCSI-B2*** the bottom chord and web member planes. Completely brace, per **BCSI-B1*** and **BCSI-B2*** or sheath the top chord plane, for adequate stability. Lift and set in place. This pre-assembled section may then be used as an attachment point for personal fall restraint anchorage.

Definitions

(1) Under 29 CFR 1926 503(a)(2), a qualified person is one who should have knowledge, and be able to provide training to others, in the following areas: "the nature of fall hazards in the work area; the correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used; the use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, controlled access zones, and other protection to be used; the role of each employee in the safety monitoring system when this system is used; the limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs; the correct procedures for the handling and storage of equipment and materials and the erection of overhead protection; and, the role of employees in fall protection plans."

(2) Commentary E5 4 2 2 of ANSI/ASSE Z359 2-2007 states, "The impact of fall forces on beams, columns and their supports other than anchorages are not addressed by this standard."

(3) Under 29 CFR 1926 500(b), infeasible means "that it is impossible to perform the construction work using a conventional fall protection system (i.e., guardrail system, safety net system, or personal fall arrest system) or that it is technologically impossible to use any one of these systems to provide fall protection."

(4) 29 CFR 1926 501(b)(2)(i) states, "there is a presumption that it is feasible and will not create a greater hazard to implement at least one of the [listed] fall protection systems. Accordingly, the employer has the burden of establishing that it is appropriate to implement a fall protection plan which complies with 1926 502(k) for a particular workplace situation in lieu of implementing any of those systems."

(5) 29 CFR 1926 503(a)(1) states, "the employer program shall enable each employee to recognize the hazards of falling and shall train each employee in the procedures to be followed in order to minimize these hazards."

(6) Under 29 CFR 1926 500(b), conventional fall protection systems are "guardrail system, safety net system, or personal fall arrest system."

Alternativos de Protección Contra Caídas

Después de realizar una evaluación JHA, si la persona calificada es capaz de demostrar que las medidas convencionales de protección contra caídas son irrealizables (3) o presentan un mayor peligro (4) para un trabajador en particular o la cuadrilla entera, un empleador puede implementar un plan de protección contra caídas alternativo por escrito en cumplimiento con 29 CFR 1926 501(b)(13) para protección contra caídas en construcción residencial.

Las medidas alternativas del plan de protección contra caídas deberán aplicarse a trabajadores suficientemente capacitados y experimentados (5), y el plan debera cumplir los requisitos de 29 CFR 1926 502(k) y ser especificas para cada sitio. El uso de medidas alternativas se utilizara en conjunción con sistemas de protección contra caídas (6), y el uso de metodos alternativos sera lo mas limitado posible.

Montaje en el terreno

*Realice el montaje previo de un sistema de entramado en el terreno. Restrinja lateralmente por completo y apuntale diagonalmente la cuerda inferior y los planos de la pieza de enrejado segun **BCSI-B1*** y **BCSI-B2*** *Apuntale completamente, segun **BCSI-B1*** y **BCSI-B2*** o forre el plano de la cuerda superior para conseguir la estabilidad adecuada. Alce y establezca en su lugar. Esta sección previamente montada puede utilizarse entonces como un punto de acoplamiento para anclaje de restricción personal contra caídas.*

Definiciones

(1) Bajo 29 CFR 1926 503(a)(2), una persona calificada es aquella que debe tener conocimientos y aptitud para proporcionar capacitación a otros, en las áreas siguientes: "la naturaleza de los peligros de caída en el área de trabajo, los procedimientos correctos para levantar, mantener, desmontar e inspeccionar los sistemas de protección contra caídas a utilizarse, el uso y la operación de sistemas de rampas de protección, sistemas personales para detención de caídas, sistemas de redes de seguridad, sistemas de líneas de advertencias, sistemas de monitoreo de seguridad, zonas de acceso controlado y otra protección a utilizarse, la función de cada empleado en el sistema de monitoreo de seguridad cuando se utilice este sistema; las limitaciones sobre el uso de equipos mecánicos durante la realización de trabajo en tejados de baja pendiente; los procedimientos correctos para el manejo y almacenamiento de equipo y materiales, y la construcción de protección superior, y la función de los empleados en planes de protección contra caídas."

(2) El comentario E5 4 2 2 de ANSI/ASSE Z359 2-2007 establece: "El impacto de las fuerzas de caída sobre vigas, columnas y sus soportes que no sean anclajes no se tratan en esta norma."

(3) Segun 29 CFR 1926 500(b), irrealizable significa "que es imposible llevar a cabo el trabajo de construcción usando un sistema convencional de protección contra caídas (por ejemplo, sistemas de rampas de protección, sistema de red de seguridad o sistema de protección personal para detención de caídas), o que es tecnológicamente imposible usar cualquiera de estos sistemas para proporcionar protección contra caídas."

(4) 29 CFR 1926 501(b)(2)(i) establece que "hay una suposición de que es realizable y que no se creará un peligro mayor al implementar al menos uno de los sistemas de protección contra caídas [indicados]. Por consiguiente, el empleador tiene la responsabilidad de establecer que es apropiado implementar un plan de protección contra caídas que se adhiera a 1926 502(k) para una situación particular en el lugar de trabajo en lugar de implementar cualquiera de esos sistemas."

(5) 29 CFR 1926 503(a)(1) establece que "el programa del empleador permitirá a cada empleado poder reconocer los peligros de caídas y capacitara a cada empleado en los procedimientos a seguir para minimizar estos peligros."

(6) Segun 29 CFR 1926 500(b), los sistemas convencionales de protección contra caídas son: "sistema de rampas de protección, sistema de red de seguridad o sistema de protección personal para detención de caídas."

**Contact the component manufacturer for more information or consult a Professional Engineer for assistance.*

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WTCA WOOD TRUSS COUNCIL

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B11 Fall Protection & Trusses
Protección de Caída y Trusses

Regulations on fall protection and erection/installation of trusses in residential construction are contained in OSHA's Fall Protection Standard, 29 CFR 1926 Subpart M(the Standard). Section 1926 501(b)(13) of the Standard states in part: "Each employee engaged in residential construction activities 6 feet or more above lower levels shall be protected by guardrail systems, scaffolding, a safety net system or a personal fall arrest system."

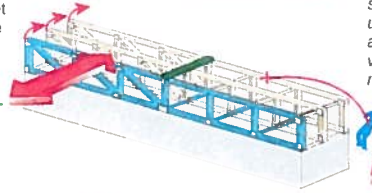
Las regulaciones sobre protección contra caídas y levantamiento/instalación de entramados en construcción residencial vienen contenidos en la Regulación de Protección contra Caídas de OSHA, 29 CFR 1926 Subparte M (el Estándar). La sección 1926.501(b)(13) de la regulación establece en parte: "Cada empleado que participe en actividades de construcción residencial a 6 pies o más por encima de niveles inferiores deberán estar protegidos por sistemas de rampas de protección, andamiaje, un sistema de red de seguridad o un sistema de protección personal para detención de caídas."

SBCA has created an alternate fall protection plan template, complete with links throughout the document to the applicable steps to follow in its online step-by-step approach to erecting an initial truss system under OSHA's fall protection requirements. Visit sbcindustry.com/fp

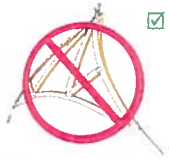
Truss Systems

⚠ **DANGER** Any part of an inadequately braced or sheathed roof or floor truss system used as an anchorage point for any type of personal fall arrest system is dangerous and will increase the risk of serious injury or death.

⚠ **WARNING** Roof and floor trusses that are not properly braced per BCSI or sheathed are not able to resist lateral impact loads associated with falls. A falling worker attached to an inadequately braced set of trusses could cause all the previously set trusses to collapse in a domino effect.



☑ Refer to **BCSI-B1*** and **BCSI-B2** for recommendations on proper bracing of trusses.



☑ Refer to **BCSI-B1*** for recommendations on proper hoisting of trusses.

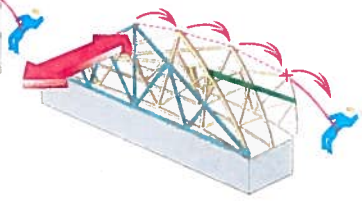
⚠ **DANGER** Do not walk on unbraced trusses.

⚠ **DANGER** Do not stand on Truss overhangs until Structural Sheathing has been applied to the Truss and overhangs.

Sistemas de Entramama

¡PELIGRO! *Cualquier pieza de un sistema de entramado de techo o el piso apuntalado o forrado de forma inadecuada que se utilice como punto de anclaje para cualquier tipo de sistema de protección personal para detención de caídas es peligroso y aumentará el riesgo de lesiones personales de gravedad o la muerte.*

¡ADVERTENCIA! *Los entramados de techo y piso que no están correctamente apuntalados segun BCSI o forrados no pueden resistir cargas de impacto lateral asociadas con caídas. Un trabajador que sufra una caída y que esté acoplado a un conjunto de entramados que no estén apuntalados adecuadamente podria provocar que los entramados fijados previamente se colapsen con un efecto domino.*



*Consulte **BCSI-B1*** sobre recomendaciones para levantar correcto de los entramados.*

¡PELIGRO! *No camine sobre entramados no apuntalados.*

¡PELIGRO! No se pare en el braguero voladizos hasta revestimiento estructural se ha aplicado a la armadura y voladizos.

B11Fall 150722

⚠ **DANGER** Do not walk on trusses or gable end frames lying flat, they do not have the structural strength to support a worker safely while oriented flat.

¡PELIGRO! *No camine sobre entramados ni estructuras de muro piñón dispuestos horizontalmente ya que no poseen la resistencia estructural para poder soportar a un trabajador con seguridad con orientación horizontal*

Site-Specific Job Hazard Assessment

Fall protection and safety measures are jobsite and building specific. The appropriate fall protection method must be determined through a site-specific job hazard assessment (JHA) conducted by a qualified person (1) who can design, install, and use fall protection systems and is authorized to correct any problems. The JHA is intended to assist in identifying risks and identify the least hazardous way to install trusses for a particular job.

Fall hazards identified in the JHA shall be addressed with conventional methods whenever possible, including: guardrails, scaffolding, safety nets, personal fall arrest systems or catch platforms.

Employers must consider whether it is safer to design and install a safe work platform/system around a hazard.

⚠ **WARNING** All fall protection solutions come with their own inherent hazards during use.

⚠ **CAUTION** Addressing fall protection hazards may be obvious, but other hazards must also be considered when choosing the appropriate site-specific fall protection systems. This includes:

1. electrical hazards, including power lines;
2. projectile hazards while using pneumatic nail guns;
3. tripping hazards from cords and bracing materials; and,
4. lower level hazards, such as wall bracing, which some fall protection systems do not protect against.

Evaluación de Peligros de Trabajos en Sitios Específicos

La protección contra caídas y las medidas de seguridad son específicas para cada sitio de trabajo o edificio. El método apropiado para la protección contra caídas deberá determinarse siguiendo una evaluación de peligros en el trabajo (JHA) específicos, realizados por una persona que este calificada (1) que pueda diseñar, instalar y utilizar sistemas de protección para caídas, y que este autorizada para corregir cualquier problema. La JHA tiene el propósito de ayudar en la detección de riesgos e identificar la forma menos peligrosa para instalar entramados para un trabajo en particular.

Los peligros sobre de caídas identificados en la JHA serán tratados con métodos convencionales cuando sea posible como, por ejemplo: rampas de protección, andamiaje, redes de seguridad, sistema de protección personal para detención de caídas o plataformas de agarre.

Los empleados deberán considerar si es seguro diseñar e instalar una plataforma/sistema de trabajo seguro alrededor de un peligro.

¡ADVERTENCIA! *Todas las soluciones de protección contra caídas vienen con sus propios peligros durante el uso.*

¡CAUCIÓN! *La solución de peligros para la protección contra caídas puede ser obvia, pero deberán considerarse otros peligros al al elegir los sistemas de protección contra caídas apropiados para un sitio específico. Esto incluye:*

1. *peligros de carácter electrico, como lineas de conducción electrica;*
2. *peligros de objetos lanzados violentamente por el uso de engrapadoras neumáticas tipo pistola;*
3. *peligros de tropiezos por cables y materiales de apuntalamiento; y*
4. *peligros de niveles bajos, como un apuntalamiento de pared, contra lo que no protegen los sistemas de protección contra caídas.*

Fall Protection Equipment Installation

⚠ **DANGER** Individual trusses alone are NOT designed to SUPPORT fall protection equipment.

The Contractor is responsible for the construction means, methods, techniques, sequences, procedures, programs, and safety in connection with the receipt, storage, handling, installation, restraining, and bracing of trusses.

☑ Refer to ANSI/ASSE Z359.2-2007, Minimum Requirements for a Comprehensive Managed Fall Protection Program, for guidance in meeting minimum fall protection equipment installation and use requirements. This standard refers to equipment only, and does not apply to the underlying structure to which the equipment is attached (2).

⚠ **CAUTION** While the equipment itself may resist the forces generated by a falling worker, it is up to a qualified person to determine whether the building's structural system to which the fall protection equipment is attached meets or exceeds this standard as well.

Scaffolding

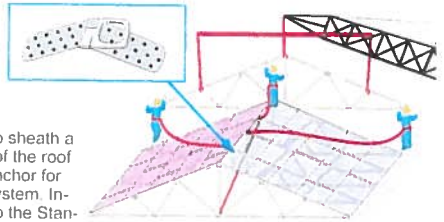
Use of interior or exterior scaffolding as a fall arrest system is permitted, but installation and use must adhere to the Standard requirements in 29 CFR 1926.500.

Guard Rails

Use of guard rails along the perimeter of the work area as a fall arrest system is permitted, but installation and use must adhere to the Standard requirements in 29 CFR 1926.500.

Roof Peak Anchors

⚠ **WARNING** Completely brace, per BCSI-B1* and BCSI-B2*, or sheath trusses, before installing a roof anchor for use as personal fall restraint system. Installation and use must adhere to the Standard requirements in 29 CFR 1926.500.



⚠ **WARNING** It is always safest to sheath a section (e.g. 3 or more trusses) of the roof system before installing a roof anchor for use as a personal fall restraint system. Installation and use must adhere to the Standard requirements in 29 CFR 1926.500.

Instalación de Equipo de Protección Contra Caídas

¡PELIGRO! *Los entramados individuales por si solos NO estan diseñados para SOPORTAR equipo de protección contra caidas.*

El contratista será responsable de los medios de construcción, los métodos, las técnicas, las secuencias, los procedimientos, los programas y la seguridad en lo que se refiere a recepción, almacenamiento, manejo, instalación, restricción y apuntalamiento de entramados.

Consulte ANSI/ASSE Z359.2-2007, Minimum Requirements for a Comprehensive Managed Fall Protection Program (Requisitos mínimos para un programa completo de protección contra caídas) si desea información para el cumplimiento de los requisitos mínimos para la instalación y uso de equipo de protección contra caídas. Esta norma se refiere a equipo solamente, y no es aplicable a la estructura subyacente a la que esté acoplado el equipo (2).

¡CAUCIÓN! *Aunque el equipo por si mismo puede resistir las fuerzas generadas por la caída de un trabajador, es responsabilidad de una persona calificada determinar si el sistema estructural del edificio al que se acopla el equipo de protección contra caídas cumple o supera esta regulacion también.*

Andamiaje

Está permitido el uso de andamiaje interior o exterior como sistema para detención de caídas, pero la instalación y el uso deberá adherirse a los requisitos regulatorios descritos en 29 CFR 1926.500.

Rampas de Protección

Se permite el uso de rampas de protección a lo largo del perímetro del área de trabajo como sistema para detención de caídas, pero la instalación y el uso deberán adherirse a los requisitos de la regulación que se encuentran en 29 CFR 1926.500.

Anclajes de Tejado

¡ADVERTENCIA! *Apuntale completamente, según BCSI-B1* y BCSI-B2* o forre los entramados, antes de instalar un anclaje de tejado para su uso como sistema personal de restricción de caídas. La instalación y el uso deberá adherirse a los requisitos regulatorios que se indican en 29 CFR 1926.500.*

¡ADVERTENCIA!
Siempre es más seguro forrar una sección (por ejemplo, 3 o más entramados) del sistema de tejado antes de instalar un anclaje de tejado para uso como sistema personal de restricción de caídas. La instalación y el uso deberá adherirse a los requisitos regulatorios que se indican en 29 CFR 1926.500.

WARNING!

GENERAL NOTES — NOTAS GENERALES

Trusses are not marked in any way to identify the frequency or location of temporary lateral restraint and diagonal bracing. Follow the recommendations for handling, installing and temporary restraining and bracing of trusses. Refer to BCSI – Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses*** for more detailed information.

*Los trusses no están marcados de ningún modo que identifique la frecuencia o localización de restricción lateral y arriostre diagonal temporales. Use las recomendaciones de manejo, instalación, restricción y arriostre temporal de los trusses. Vea el folleto BCSI – Guía de Buena Práctica para el Manejo, Instalación, Restricción y Arriostre de los Trusses de Madera Conectados con Placas de Metal*** para información más detallada.*

Truss Design Drawings may specify locations of permanent lateral restraint or reinforcement for individual truss members. Refer to the BCSI-B3*** for more information. All other permanent bracing design is the responsibility of the building designer.

*Los diseños de diseño de los trusses pueden especificar las localizaciones de restricción lateral permanente o refuerzo en los miembros individuales del truss. Vea la hoja resumen BCSI-B3*** para más información. El resto de los diseños de arriostres permanentes son la responsabilidad del diseñador del edificio.*

WARNING The consequences of improper handling, erecting, installing, restraining and bracing can result in a collapse of the structure, or worse, serious personal injury or death.

¡ADVERTENCIA! *El resultado de un manejo, levantamiento, instalación, restricción y arriostre incorrecto puede ser la caída de la estructura o aún peor, heridos o muertos.*

CAUTION Exercise care when removing banding and handling trusses to avoid damaging trusses and prevent injury. Wear personal protective equipment for the eyes, feet, hands and head when working with trusses.

¡CAUTELA! *Utilice cautela al quitar las ataduras o los pedazos de metal de sujetar para evitar daño a los trusses y prevenir la herida personal. Lleve el equipo protectivo personal para ojos, pies, manos y cabeza cuando trabaja con trusses.*

CAUTION Use special care in windy weather or near power lines and airports.

¡CAUTELA! *Utilice cuidado especial en días ventosos o cerca de cables eléctricos o de aeropuertos.*

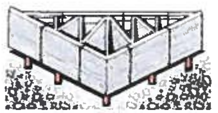
HANDLING — *MANEJO*

NOTICE Avoid lateral bending.
Evite la flexión lateral.

NOTICE The contractor is responsible for properly receiving, unloading and storing the trusses at the jobsite. Unload trusses to smooth surface to prevent damage.

El contratista tiene la responsabilidad de recibir, descargar y almacenar adecuadamente los trusses en la obra. Descargue los trusses en la tierra liso para prevenir el daño.

☑ Use proper rigging and hoisting equipment.
Use equipo apropiado para levantar e improvisar.



DO NOT store unbraced bundles upright. ***NO*** *almacene verticalmente los trusses sueltos.*

☑ Trusses may be unloaded directly on the ground at the time of delivery or stored temporarily in contact with the ground after delivery. If trusses are to be stored for more than one week, place blocking of sufficient height beneath the stack of trusses at 8' (2.4 m) to 10' (3 m) on center (o.c.).

Los trusses pueden ser descargados directamente en el suelo en aquel momento de entrega o almacenados temporalmente en contacto con el suelo después de entrega. Si los trusses estarán guardados para más de una semana, ponga bloqueando de altura suficiente detrás de la pila de los trusses a 8 hasta 10 pies en centro (o.c.).

DO NOT store on uneven ground. ***NO*** *almacene en tierra desigual.*

☑ For trusses stored for more than one week, cover bundles to protect from the environment.

Para trusses guardados por más de una semana, cubra los paquetes para protegerlos del ambiente.

Refer to BCSI*** for more detailed information pertaining to handling and jobsite storage of trusses.

*Vea el folleto BCSI*** para información más detallada sobre el manejo y almacenado de los trusses en área de trabajo.*

HOISTING AND PLACEMENT OF TRUSS BUNDLES
RECOMENDACIONES PARA LEVANTAR PAQUETES DE TRUSSES

DON'T overload the crane.
NO *sobrecargue la grúa.*

NEVER use banding to lift a bundle.
NUNCA *use las ataduras para levantar un paquete.*

☑ A single lift point may be used for bundles of top chord pitch trusses up to 45' (13.7 m) and parallel chord trusses up to 30' (9.1 m). Use at least two lift points for bundles of top chord pitch trusses up to 60' (18.3 m) and parallel chord trusses up to 45' (13.7 m). Use at least three lift points for bundles of top chord pitch trusses >60' (18.3m) and parallel chord trusses >45' (13.7 m).

Puede usar un solo lugar de levantar para paquetes de trusses de la cuerda superior hasta 45' y trusses de cuerdas paralelas de 30' o menos. Use por lo menos dos puntos de levantar con grupos de trusses de cuerda superior inclinada hasta 60' y trusses de cuerdas paralelas hasta 45'. Use por lo menos dos puntos de levantar con grupos de trusses de cuerda superior inclinada más de 60' y trusses de cuerdas paralelas más de 45'.

WARNING Do not over load supporting structure with truss bundle.

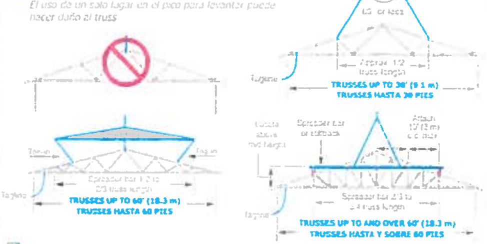
¡ADVERTENCIA! *No sobrecargue la estructura apoyada con el paquete de trusses.*

☑ Place truss bundles in stable position.
Puse paquetes de trusses en una posición estable.

MECHANICAL HOISTING RECOMMENDATIONS FOR SINGLE TRUSSES
RECOMENDACIONES PARA LEVANTAR TRUSSES INDIVIDUALES

NOTICE Using a single pick-point at the peak can damage the truss.

El uso de un solo lugar en el pico para levantar puede hacer daño al truss.



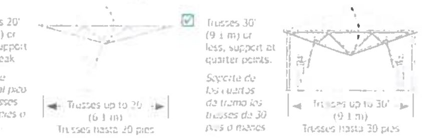
☑ Hold each truss in position with the erection equipment until top chord temporary lateral restraint is installed and the truss is fastened to the bearing points.

Sostenga cada truss en posición con equipo de grúa hasta que la restricción lateral temporal de la cuerda superior esté instalado y el truss está asegurado en los soportes.

INSTALLATION OF SINGLE TRUSSES BY HAND
RECOMMENDACCIONES DE LEVANTAMIENTO DE TRUSSES INDIVIDUALES POR LA MANO

☑ Trusses 20' (6.1 m) or less, support near peak.
Soporte cerca al pico los trusses de 20 pies o menos.

☑ Trusses 30' (9.1 m) or less, support at quarter points.
Soporte de los cuartos de tramo los trusses de 30 pies o menos.

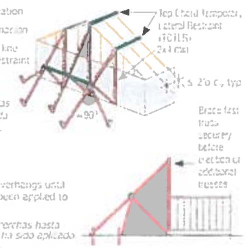


TEMPORARY RESTRAINT & BRACING
RESTRICCIÓN Y ARRIOSTRE TEMPORAL

NOTICE Refer to BCSI-B2*** for more information.
*Vea el resumen BCSI-B2*** para más información.*

☑ Locate ground braces for first truss directly in line with all rows of top chord temporary lateral restraint (see table in the next column).

Coloque los arriostres de tierra para el primer truss directamente en línea con cada una de las filas de restricción lateral temporal de la cuerda superior (vea la tabla en la próxima columna).



DO NOT walk on unbraced trusses.
NO *camine en trusses sueltos.*

DO NOT stand on truss overhangs until Structural Sheathing has been applied to the truss and overhangs.

NO *se pare en voladizos rectas hasta Revestimiento estructural ha sido aplicado a la armadura y voladizos.*

STEPS TO SETTING TRUSSES
LAS MEDIDAS DE LA INSTALACIÓN DE LOS TRUSSES

☑ **1)** Install ground bracing. **2)** Set first truss and attach securely to ground bracing. **3)** Set next 4 trusses with short member temporary lateral restraint (see below). **4)** Install top chord diagonal bracing (see below). **5)** Install web member plane diagonal bracing to stabilize the first five trusses (see below). **6)** Install bottom chord temporary lateral restraint and diagonal bracing (see below). **7)** Repeat process with groups of four trusses until all trusses are set.

1) *Instale los arriostres de tierra.* ***2)*** *Instale el primero truss y ate seguramente al arriostre de tierra.* ***3)*** *Instale los próximos 4 trusses con restricción lateral temporal de miembro corto (vea abajo).* ***4)*** *Instale el arriostre diagonal de la cuerda superior (vea abajo).* ***5)*** *Instale arriostre diagonal para los planos de los miembros secundarios para estabilizar los primeros cinco trusses (vea abajo).* ***6)*** *Instale la restricción lateral temporal y arriostre diagonal para la cuerda inferior (vea abajo).* ***7)*** *Repita este procedimiento en grupos de cuatro trusses hasta que todos los trusses estén instalados.*

NOTICE Refer to BCSI-B2*** for more information.
*Vea el resumen BCSI-B2*** para más información.*

RESTRAINT/BRACING FOR ALL PLANES OF TRUSSES
RESTRICCIÓN/ARRIOSTRE PARA TODOS PLANOS DE TRUSSES

☑ Minimum lumber used for lateral restraint and diagonal bracing is 2x4 stress graded lumber. Attach to each truss with at least 2-10d (0.128x3"), 2-12d (0.128x3.25") or 2-16d (0.131x3.5") nails.

La madera 2x4 clasificado por estrés es la madera mínima utilizada para restricción lateral y arriostramiento diagonal. Átelas a cada braguero con el mínimo 2 clavos 10d(0.128x3"), 12d (0.128x3.25") o 16d (0.131x3.5").

☑ This restraint and bracing method is for all trusses except 3x2 and 4x2 parallel chord trusses (PCTs). See top of next column for temporary restraint and bracing of PCTs.

Este método de restricción y arriostre es para todo trusses excepto trusses de cuerdas paralelas (PCTs) 3x2 y 4x2. Vea la parte superior de la columna para la restricción y arriostre temporal de PCTs.

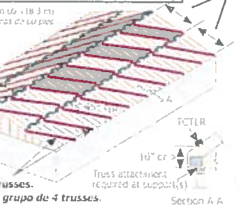
1) TOP CHORD — *CUERDA SUPERIOR*

Truss Span *Longitud de Tramo*	Top Chord Temporary Lateral Restraint (TCTLR) Spacing *Espaciamiento del Arriostre Temporal de la Cuerda Superior*
Up to 30' (9.1 m)	10' (3 m) o.c. max.
30' (9.1 m) - 45' (13.7 m)	8' (2.4 m) o.c. max.
45' (13.7 m) - 60' (18.3 m)	6' (1.8 m) o.c. max.
60' (18.3 m) - 80' (24.4 m)*	4' (1.2 m) o.c. max.

*Consult a Registered Design Professional for trusses longer than 60' (18.3 m).
**Consulte a un Profesional Registrado de Diseño para trusses más de 60 pies.*

☑ See BCSI-B2*** for TCTLR options.
*Vea el BCSI-B2*** para las opciones de TCTLR.*

NOTICE Refer to BCSI-B3*** for Gable End Frame restraint/bracing reinforcement information.
*Para información sobre restricción/arriostre/refuerzo para Armazones Hastiales vea el resumen BCSI-B3***.*



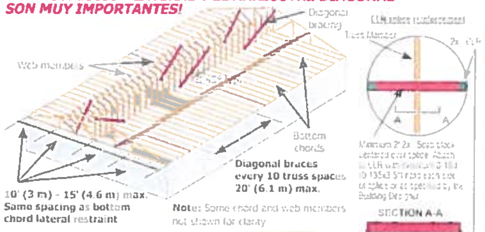
Note: Ground bracing not shown for clarity.

☑ **Repeat diagonal braces for each set of 4 trusses.**
Repita los arrisotres diagonales para cada grupo de 4 trusses.

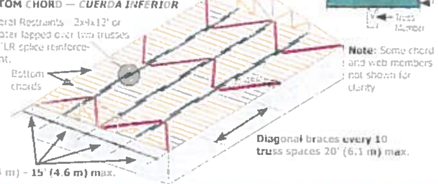
2) WEB MEMBER PLANE — *PLANO DE LOS MIEMBROS SECUNDARIOS*

NOTICE **LATERAL RESTRAINT & DIAGONAL BRACING ARE VERY IMPORTANT**

¡LA RESTRICCIÓN LATERAL Y EL ARRIOSTRE DIAGONAL SON MUY IMPORTANTES!

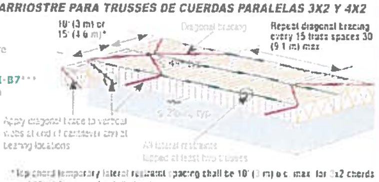


3) BOTTOM CHORD — *CUERDA INFERIOR*



RESTRAINT & BRACING FOR 3x2 AND 4x2 PARALLEL CHORD TRUSSES
RESTRICCION Y ARRIOSTRE PARA TRUSSES DE CUERDAS PARALELAS 3X2 Y 4X2

NOTICE Refer to BCSI-B7*** for more information.
*Vea el resumen BCSI-B7*** para más información.*

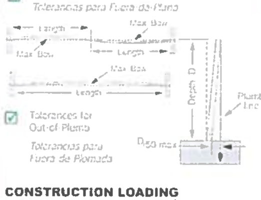


*Top chord temporary lateral restraint spacing shall be 10' (3 m) o.c. max. for 3x2 chords and 15' (4.6 m) o.c. for 4x2 chords.

INSTALLING — *INSTALACIÓN*

☑ Tolerances for Out-of-Plane.
Tolerancias para Fuera-de-Plano.

☑ Tolerances for Out-of-Plumb.
Tolerancias para Fuera de Plomada.



Out-of-Plumb	
D/50	D (ft.)
1/4" (6 mm)	1' (0.3 m)
1/2" (13 mm)	2' (0.6 m)
3/4" (19 mm)	3' (0.9 m)
1" (25 mm)	4' (1.2 m)
1 1/4" (32 mm)	5' (1.5 m)
1 1/2" (38 mm)	6' (1.8 m)
1 3/4" (45 mm)	7' (2.1 m)
2" (51 mm)	[illegible]

Out-of-Plane	
Max. Bow	Truss Length
3/4" (19 mm)	12.5' (3.8 m)
7/8" (22 mm)	14.6' (4.5 m)
1" (25 mm)	16.7' (5.1 m)
1 1/8" (29 mm)	18.8' (5.7 m)
1 1/4" (32 mm)	20.8' (6.3 m)
1 3/8" (35 mm)	22.9' (7.0 m)
1 1/2" (38 mm)	25.0' (7.6 m)
1 3/4" (45 mm)	29.2' (8.9 m)
2" (51 mm)	≥33.3' (10.1 m)

CONSTRUCTION LOADING
CARGA DE CONSTRUCCIÓN

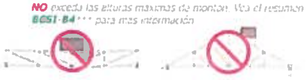
DO NOT proceed with construction until all lateral restraint and bracing is securely and properly in place.

NO *proceda con la construcción hasta que todas las restricciones laterales y los arriostres estén colocados en forma apropiada y segura.*

DO NOT exceed maximum stack heights. Refer to BCSI-B4*** for more information.

NO *exceda las alturas máximas de montón. Vea el resumen BCSI-B4*** para más información.*

Maximum Stack Height for Material on Trusses	
Material	Height
Gypsum Board	12" (305 mm)
Plywood or OSB	16" (406 mm)
Asphalt Shingles	2 bundles
Concrete Block	8" (203 mm)
Clay Tile	3-4 tiles high



NEVER stack materials near a peak, at mid span, on cantilevers or overhangs.
NUNCA *apile los materiales cerca de un pico, a centro de la luz, en cantilevers o aleros.*

DO NOT overload small groups or single trusses.
NO *sobrecargue pequeños grupos o trusses individuales.*

☑ Place loads over as many trusses as possible.
Coloque las cargas sobre tantos trusses como sea posible.

☑ Position loads over load bearing walls.
Coloque las cargas sobre las paredes soportantes.

ALTERATIONS — *ALTERACIONES*

NOTICE Refer to BCSI-B5.***
*Vea el resumen BCSI-B5.****

DO NOT cut, alter, or drill any structural member of a truss unless specifically permitted by the truss design drawing.

NO *corte, altere o perfore ningún miembro estructural de un truss, a menos que esté específicamente permitido en el dibujo del diseño del truss.*

NOTICE Trusses that have been overloaded during construction or altered without the Truss Manufacturer's prior approval may render the Truss Manufacturer's limited warranty null and void.

Trusses que se han sobrecargado durante la construcción o han sido alterados sin la autorización previa del Fabricante de Trusses, pueden hacer nulo y sin efecto la garantía limitada del Fabricante de Trusses.

***Contact the Component Manufacturer for more information or consult a Registered Design Professional for assistance. To view a non-printing PDF of this document, visit sbcindustry.com/b1.

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¡ADVERTENCIA! HOJA RESUMEN DE LA GUÍA DE BUENA PRÁCTICA PARA EL MANEJO, INSTALACIÓN, RESTRICCIÓN Y ARRIOSTRE DE LOS TRUSSES

Field Assembly and Other Special Conditions
Ensamblaje de Campo y Otros Condiciones Especiales

Certain sizes or shapes of trusses require some assembly at the jobsite. Refer to the TDDs for specific instructions on assembly methods, unless the construction documents indicate otherwise.

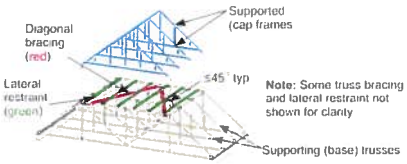
Ciertos tamaños o formas de trusses requieren algun ensamblaje en la obra. Refiera a los dibujos del diseño de truss para instrucciones específicas sobre ensamblaje de montaje, a menos que los documentos de construccion indiquen lo contrario.

The contractor is responsible for proper field assembly.

El contratista es responsable para el ensamblaje de campo apropiado.

Piggyback Trusses
Trusses de Piggyback

☑ The supporting (base) trusses shall be completely installed with all truss member AND permanent building stability bracing, as required, BEFORE installing the supported (cap) frames.
Los trusses soportantes serán completamente instalados con todos miembros de trusses Y el arriostre de estabilidad permanente de construccion como es requerido ANTES de instalar los armazones ("cap") soportados.



Note: Some truss bracing and lateral restraint not shown for clarity

⚠ **WARNING** Adequately restrain and brace the flat portion of the supporting trusses to prevent buckling.
¡ADVERTENCIA! *Restrinja y arriostre adecuadamente la parte plana de los trusses soportantes para prevenir el fallar.*

☑ For more information on how to permanently laterally restrain and diagonally brace piggyback truss assemblies refer to BCSI-B3.**
Para más informacion sobre como restringir lateralmente permanetemente y arriostrar diagonalmente sistemas de trusses de piggyback refiere al BCSI-B3.

Field Spliced Trusses
Trusses Empalmados En Campo

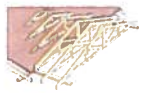
☑ Splicing can be performed on the ground before installation or the truss sections can be supported by temporary shoring after being hoisted into place and the splices installed from a safe working surface.
Empalmando puede ser hecho en el suelo antes de la instalacion o las secciones de trusses pueden ser soportados por "shoring" temporal después de que sean levantados en lugar y los empalmes son instalados de una superficie de trabajo segura.

Field-spliced trusses with temporary center support

Valley Set Frame Installation
Instalacion de Armazon de Conjunto de Valle

☑ The top chords of the supporting trusses must be braced properly. This can be accomplished by attaching structural sheathing or with rows of lateral restraint, spaced no more than the maximum on center spacing specified on the TDD, and diagonal bracing.

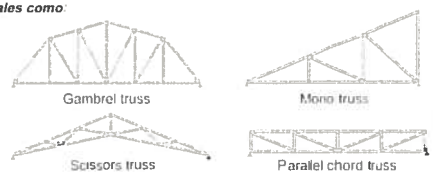
Las cuerdas superiores de los trusses de soporte tienen que ser arriostrados apropiadamente. Esto puede ser hecho por sujetar el entablado estructural o con filas de restriccion lateral, espaciados no más que el maximo en el espaciamiento del centro que es especificado en el dibujo del diseño de truss, y arriostre diagonal.



Valley sets as over-framing

This document applies to all sloped and flat chord trusses built with the wide-face of the lumber oriented vertically. Examples include:

Este documento aplica a todos trusses de cuerda pendiente y plana construidos con la cara-ancha de la madera orientada verticalmente, tales como:



For parallel chord trusses manufactured with 3x2 or 4x2 lumber, see BCSI-B7.**

Para los trusses de cuerdas paralelas fabricados con madera 3x2 o 4x2, voa el resumen BCSI-B7.*

For trusses spaced more than 2'-0" on-center, see BCSI-B10.**

Para los trusses espaciados más de 2 pies en el centro, vea el Resumen BCSI B10.*

****Contact the component manufacturer for more information or consult a registered design professional for assistance.**

To view a non-printing PDF of this document, visit sbcindustry.com/b2

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B2 Truss Installation & Temporary Restraint/Bracing
Instalación de Trusses & Restricción/Arriostre Temporal

For Trusses Up to 2'-0" On-Center and 80'-0" In Length
Para Trusses Hasta 2 Pies En Centro y Hasta 80 Pies De Longitud

⚠ **WARNING** Spans over 60' require more complex temporary installation restraint/bracing. Consult a registered design professional.

¡ADVERTENCIA! *Los tramos más de 60 pies requieren restricción/arriostre de instalación temporal más complejo. Consulte a un profesional registrado de diseño.*

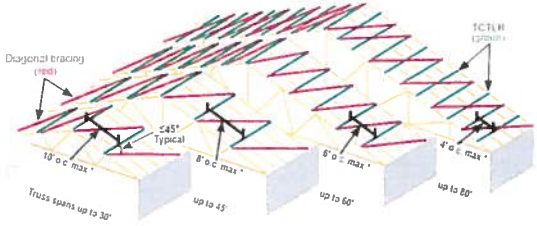
⚠ **DANGER** Disregarding handling, installing, restraining and bracing safety recommendations is the principal cause of truss erection/installation accidents.

PELIGRO *El no seguir las recomendaciones de manejo, instalación, restricción y arriostre es la causa principal de los accidentes durante la ereccion/instalación de trusses.*

NOTICE Lateral restraint is NOT adequate without diagonal bracing.
La Restricción Lateral NO es adecuada sin el Arriostre Diagonal.

☑ Always diagonally brace for safety!
¡Siempre arriostre diagonalmente para seguridad!

Maximum Spacing For Top Chord Temporary Lateral Restraint (TCTLR)
El Espaciamiento Máximo Para La Restricción Lateral Temporal De La Cuerda Superior (TCTLR)



The graphic at left shows the maximum on-center spacing (see * at left) of TCTLR based on truss span from the table in Step 2 on page 2.
- Ground bracing not shown for clarity
- Apply diagonal bracing or structural sheathing immediately. For spans over 60' applying structural sheathing immediately is the preferred method

*El dibujo a la izquierda muestra el espaciamiento máximo en el centro (vea * a la izquierda) del TCTLR basado en los tramos de trusses de la tabla en el Paso 2 en la página 2.*
- *No se muestra el arriostre de tierra para claridad.*
- *Aplique inmediatamente el Arriostre Diagonal o el Entablado Estructural (structural sheathing). Para tramos más de 60 pies el método preferido es entablarlos inmediatamente.*

Check These Items Before Starting Truss Erection/Installation and Correct as Needed
Revise Estos Puntos Antes De Empezar La Erección/Instalación y Corríjalos Cuando Es Necesario

☑ Building dimensions match the construction documents.
Las dimensiones del edificio concuerdan con los documentos de construccion.

☑ Bearing supports (e.g., walls, columns, headers, beams, etc.) are accurately and securely installed, plumb and properly braced.
Los soportes que sostienen cargas (ej., paredes, columnas, vigas de cabezera, vigas, etcetera) son instalados seguramente y con precisión, y son nivelados y arriostrados apropiadamente.

☑ Hangers, tie-downs, restraint and bracing materials are on site and accessible.
Los colgadores (hangers), soportes de anclaje (tie-downs) y materiales de restricción y arriostre están accesibles en la obra.

☑ Erection/installation crew is aware of installation plan and lateral restraint/diagonal bracing requirements.
El personal de erección/instalación es consciente del plan de instalación y los requisitos de restricción/arriostre.

☑ Multi-ply trusses, including girders, are correctly fastened together prior to lifting into place.
Los trusses de varias capas, incluyendo travesaños, son fijados juntos correctamente antes de levantarlos en lugar.

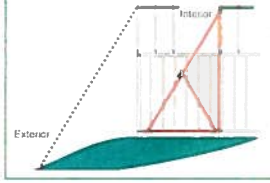
☑ Any truss damage is reported to truss manufacturer. Refer to BCSI-B5.** Do not install damaged trusses unless instructed to do so by the building designer, truss designer or truss manufacturer.
*Algún daño a los trusses ha sido reportado al fabricante de trusses. Vea el resumen BCSI-B5.** No instale trusses dañados a menos que se digeren el diseñador del edificio, el diseñador del truss o el fabricante del truss.*

☑ Trusses are the correct dimension.
Los trusses son la dimensión correcta.

☑ Tops of bearing supports are flat, level and at the correct elevation.
La parte superior de los soportes de cojinete son planas, niveladas y a la elevación correcta.

☑ Jobsite is clean and neat, and free of obstructions.
La obra está limpia, ordenada y sin obstrucciones.

☑ Ground bracing procedure for first truss is based on site and building configuration.
El procedimiento de Arriostre de Tierra para el primer truss es basado en el terreno y la configuracion del edificio.



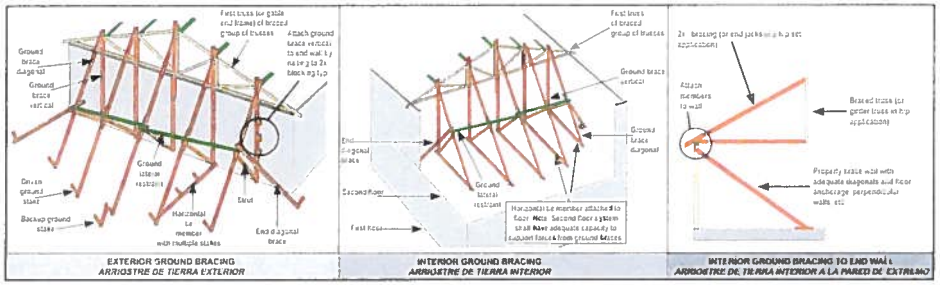
If ground level is too far from truss for exterior ground bracing, use interior ground bracing.

Si el nivel del terreno es demasiado lejos para usar Arriostre de Tierra exterior, use Arriostre de Tierra interior.

B2Temp 160715

Steps to Setting Trusses
Pasos Para El Montaje De Trusses

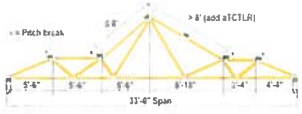
1. Establish Ground Bracing Procedure: Exterior or Interior
Establezca el Procedimiento de Arriostre de Tierra: Exterior o Interior



2. Determine the Locations for TCTLR and Ground Braces
Determine las Ubicaciones para TCTLR y los Arriostres de Tierra

☑ Use truss span to determine spacing for top chord temporary lateral restraint (TCTLR) from table at right

Use el tramo del truss para determinar el espaciamiento para restricción lateral temporal de la cuerda superior (TCTLR) en la tabla a la derecha

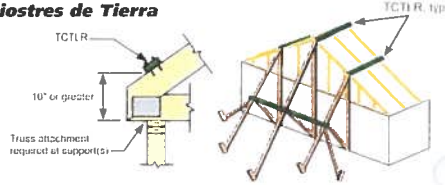


☑ Locate additional TCTLR at each pitch break

Localice TCTLR adicional en cada rotura de inclinación

☑ Locate additional TCTLR over bearings if the heel height is 10" or greater

Localice TCTLR adicional sobre los soportes si la altura del talón (heel height) es de 10 pulgadas o más



Maximum Top Chord Temporary Lateral Restraint Spacing**	
Truss Span	TCTLR Spacing
Up to 30'	10' on-center maximum
30' - 45'	8' on-center maximum
45' - 60'	6' on-center maximum
60' - 80'*	4' on-center maximum

*Consult a registered design professional for trusses longer than 60'
**For trusses spaced greater than 2' o.c., see also BCSI-B3

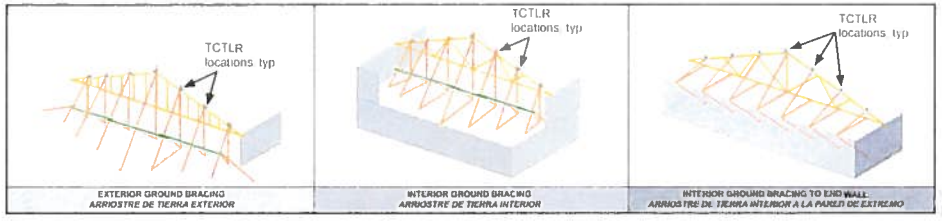
☑ Locate a ground brace vertical at each TCTLR location

Localice una vertical de arriostre de tierra en cada lugar de TCTLR

3. Set First Truss and Fasten Securely to Ground Braces
Coloque el Primer Truss y Fíjelo Seguramente a los Arriostres de Tierra

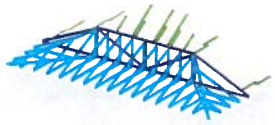
☑ Set first truss (or gable end frame) and fasten securely to ground braces and to the wall, or as directed by the building designer. Examples of first truss installed include

Coloque el primer truss (o armazón hastial) y fíjelo seguramente a las verticales de arriostre de tierra y a la pared, o como se dinge el diseñador del edificio. Ejemplos del primer truss instalado incluyen



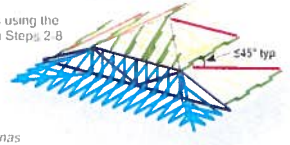
⚠ **CAUTION** First truss must be attached securely to all bearings and to all required ground braces prior to removing the hoisting supports

CAUTELA *El primer truss tiene que ser sujetado seguramente a todos soportes y a todas arnostres de tierra requerdos, antes de quitar los soportes de levantamiento*



Step 6 Install pitched trusses using the guidelines provided in Steps 2-8 on pages 2-5 of this document

Instale los trusses pendientes usando las pautas provistas en Pasos 2-8 en paginas 2-5 de este documento



🚫 **DO NOT** stack materials or stand at locations that will cause instability, such as on cantilevers, overhangs, end jacks, or near truss-to-girder truss connections

NO *amontone los materiales o de pie en lugares que causarán inestabilidad, como en voladizos salientes, lomas finales, o conexiones truss truss cerca a viga*

Long Span Truss Installation
Instalación de Trusses de Tramos Largos

⚠ **DANGER** Trusses with clear spans of 60 feet or greater are extremely dangerous to install and require more detailed safety and handling measures than shorter span trusses

PELIGRO *Trusses de 60 pies de largo o mas son extremamente peligrosos a instalar y requieren medidas de seguridad y manejo más detalladas que trusses de vanos más cortos*

Before Starting
Antes de Empezar

☑ Hire a registered design professional to design the temporary restraint/bracing, the permanent individual truss member restraint/bracing and to supervise the erection process. This is required by some building codes

Contrate un Profesional Registrado de Diseño para proveer un plan de restricción/arriostre temporal de los permanentes miembros individuales de braguero y para supervisar el proceso de erección. Esto es el requisito en algunos códigos de construcción

☑ Develop a safe, effective truss installation method and inform all crew members of their roles

Elabore un método seguro y efectivo de la instalación de trusses e informe todos miembros del personal de sus papeles

☑ Use personnel who have experience installing trusses 60' and greater in span

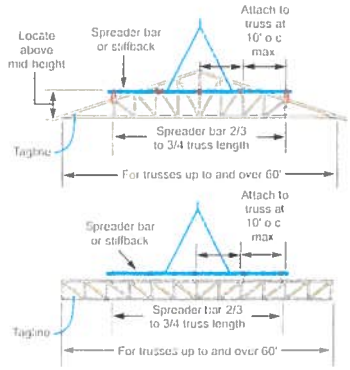
Use instaladores quienes tienen experiencia en instalar trusses de 60 pies o más de tramo

☑ Ensure that the walls and supporting structure are stable and adequately restrained and braced

Asegurese que las paredes y la estructura soportante son estables y adecuadamente restringidas y arriostradas

☑ Have all necessary lifting equipment and building materials on hand. Make sure the crane operator understands the special hoisting requirements of long span trusses (see BCSI-B1)

Tenga todo el equipo de levantar y los materiales de construcción necesarios a la mano. Asegurese que el operador de grua entiende los requisitos especiales de levantar los trusses de tramos largos (vea BCSI-B1)



Tips For Safe and Efficient Installations
Consejos para Instalaciones Seguras y Eficientes

☑ Assemble the first five trusses with all structural sheathing, restraint and bracing, either as the trusses are installed or built as a unit on the ground and lifted into place

Ensamble los primeros cinco trusses con todo el entablado estructural, restricción y arriostre, cualquier cuando los trusses son instalados o son construidos como una unidad en la tierra y levantados en lugar

☑ Keep trusses straight during hoisting to minimize bending out-of-plane

Mantenga los trusses derechos durante el levantamiento para minimizar el doblado fuera-de-plano

☑ Add a temporary center support to provide greater stability and leave in place until all permanent building stability bracing is installed

Agregue un soporte temporal en el centro para proveer mas estabilidad y quedarlo en lugar hasta que todo el arriostre de estabilidad permanente de construcción es instalado

☑ Apply structural sheathing to the top chord as the trusses are being installed

Aplique el entablado estructural a la cuerda superior mientras los trusses estén instalados

☑ Install all permanent individual truss member restraint and bracing immediately

Instale todo el arriostre y restricción permanente de miembros de trusses individuales inmediatamente

Alternate Installation Method: Build It On the Ground and Lift It Into Place
Método Alterno de Instalación: Construirlo en la Tierra y Levantarlo en Lugar

- ☑ Ensure level bearing, set, position, plumb and properly restrain and brace the trusses as modules on the ground
  Asegurese que el spoporte os nivelado, colocar, posicionar, nivelar y restringir y arriostrar apropiadamente el grupo de trusses en la tierra
- ☑ Apply structural sheathing for stability. Begin at the heel and alternate 4'x8' and 4'x4' sheets up to the peak
  Aplique el entablado estructural para estabilidad. Empiece en el talón y alterne láminas de 4 pies x 8 pies y 4 pies x 4 pies hasta el pico
- ☑ Be sure to install all top chord, web member and bottom chord lateral restraint and bracing prior to lifting the module
  Asegurese de instalar toda la restriccion y arriostre de la cuerda superior, el miembro secundario y la cuerda inferior antes de levantar el módulo

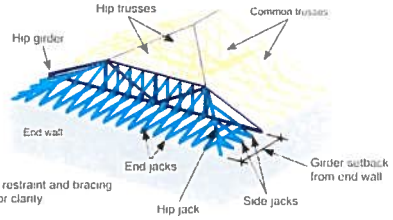
⚠ **CAUTION** Additional restraint and bracing may be required to safely lift units into place
CAUTELA *La restriccion y arriostre adicional pueden ser requeridos para levantar los módulos en sitio sin peligro*

- ☑ Be sure to get proper guidance from a registered design professional to insure modules are designed and installed safely and properly
  Asegurese de obtener consejos apropiados por un profesional registrado de diseño para asegurar que los módulos son diseñados y instalados apropiadamente y sin peligro

Hip Set Assembly and Bracing
Ensamblaje y Arriostre del Grupo de Cadera

Permanently connecting the end jacks to the end wall and girder as early in the installation process as possible dramatically increases the stability of the hip girder and the safety of the structure

Conectando permanentemente los gatos extremos a la pared extremo y el travesaño tan temprano en el proceso de instalación como sea posible aumenta drasticamente la estabilidad del travesaño de cadera (hip girder) y la seguridad de la estructura



Note: Truss restraint and bracing not shown for clarity

Use the following sequence
Use la siguiente secuencia

Step 1 Position the hip girder on the bearing walls at the specified end wall setback and permanently attach to supports
Posicione el travesaño de cadera en las paredes de soporte al "setback" especificado de la pared extremo y sujete a los soportes permanentemente

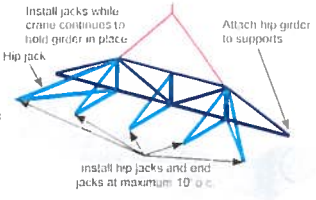
NOTICE Whenever possible, connect multi-ply girder trusses together and install the end jack hangers (if required) prior to erection/installation. **All plies of a multi-ply girder shall be attached per the fastening schedule on the TDD before attaching any framing members or applying any loads.**
*Siempre que sea posible, conecte los trusses de travesaño de varias-capas juntos y instale los colgadores de gato extremo (si requerido) antes de la erección/instalación. **Todas capas de un travesaño de varias capas sujetarán por el horario de fijar en el dibujo del diseño de truss antes de sujetar algunos miembros de arriostre o de aplicar algunas cargas.***

Step 2 Install hip jacks, and end jacks at maximum 10' on-center while crane continues to hold girder in place
Instale los gatos de cadera y los gatos extremos a 10 pies máximo en centro mientras la grua continua mantener el travesaño en lugar

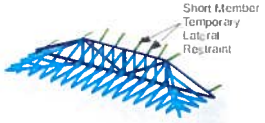
Note: Attach jack trusses to top chord and bottom chord of girder truss. The connection to the top chord is important as it helps to stabilize the top chord of the girder

Sujete los trusses de gatos a la cuerda superior y la cuerda inferior del truss de travesaño. La conexión por encima es importante porque ayuda a estabilizar la cuerda superior del travesaño

Step 3 Install all remaining end and side jacks with all permanent truss-to-bearing connections (e.g., hangers and tie-downs).
Instale todos los gatos extremos y gatos de rincón restantescon todas las conexiones permanentes de truss-a-soporte (Ej. colgadores y soportes de anclaje).



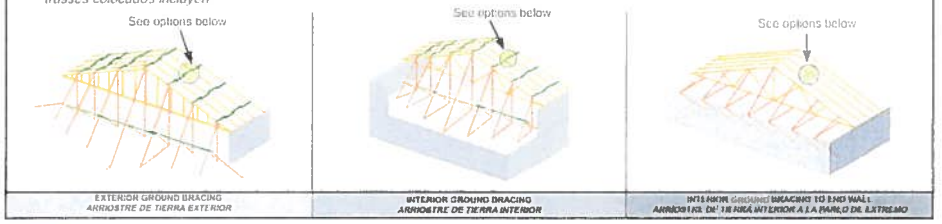
Step 4 Install the next hip truss with 2x4 short member temporary lateral restraints. Attach each short member temporary lateral restraint to the top chord of the hip girder and adjacent hip truss with two nails at each connection. The short member temporary lateral restraints should be long enough to extend at least 1 1/2" past the top chord of each truss. Place short member temporary lateral restraints at pitch breaks and at intervals along the top chords in accordance with Step 2 on page 2
Instale el próximo truss de cadera con 2x4 restricciones laterales temporales para miembros cortos. Sujete cada restriccion lateral temporal del miembro corto a la cuerda superior del travesaño de cadera y al truss de cadera contiguo con dos clavos a cada conexión. Las restricciones laterales temporales para miembros cortos deben ser bastante largo para extender a un mínimo de 1 ½" pasado de la cuerda superior de cada truss. Puse la restricción lateral temporal de miembros cortos a roturas del pendiente y a intervalos por las cuerdas superiores segun el Paso 2 en la página 2



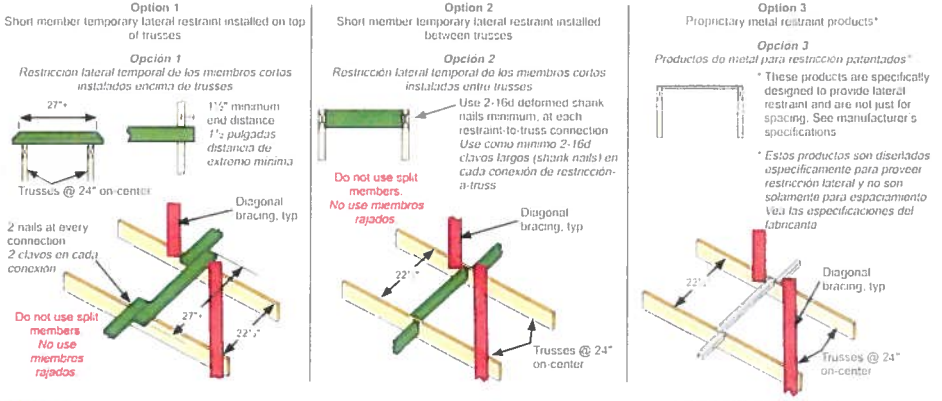
Step 5 Install remaining hip trusses. For the flat portion of each hip truss use short member temporary lateral restraints that are at least double the length of the first set of short member temporary lateral restraints (see Figure on next page). For the sloped chords of the trusses, install short member temporary lateral restraints according to one of the three options in Step 4 on page 3
Instale los restantes de los trusses de cadera. Para la parte plana de cada truss de cadera use restricciones laterales temporales de miembros cortos que son por lo menos dobles la longitud del primer grupo de restricciones temporales laterales de miembros cortos (vea la figura en la próxima página). Para las cuerdas pendientes de los trusses, instale las restricciones laterales temporales de miembros cortos segun uno de las tres opciones en Paso 4 en la pagina 3

4. Set Trusses 2, 3, 4 & 5 with TCTLR in Line with Ground Bracing
Coloque los Trusses 2, 3, 4 y 5 con TCTLR en Línea con los Arriostres de Tierra

- ☑ Attach trusses securely at all bearings, shimming bearings as necessary. Examples of first five trusses set include
  Sujete seguramente los trusses a todos los soportes, rellenar solidamente los soportes como sea necesario. Ejemplos de los primeros cinco trusses colocados incluyen



NOTICE The following three (3) Short Member Temporary Lateral Restraint options **require that the diagonal bracing be installed continuously**. See figure for Option B in Step 8 on page 5
Las siguientes tres opciones para instalar la Restricción Lateral Temporal de los Miembros Cortos requieren que el arriostre diagonal esta instalado continuamente. Vea la figura de Opción B en el Paso 8 en la página 5



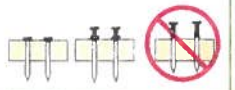
* These products are specifically designed to provide lateral restraint and are not just for spacing. See manufacturer's specifications
* *Estos productos son diseñados específicamente para proveer restricción lateral y no son solamente para espaciamento. Vea las especificaciones del fabricante*

⚠ **CAUTION** Each truss must be attached securely at all bearing locations and all TCTLR installed before removing the hoisting supports
CAUTELA *Cada truss tiene que ser sujetado seguramente en todas ubicaciones de soportes y todas las TCTLR instaladas antes de quitar los soportes de levantar*

LATERAL RESTRAINT/BRACING MATERIAL AND CONNECTIONS
CONNEXIONES Y MATERIALES DE RESTRICCIÓN/ARRIOSTRE LATERAL

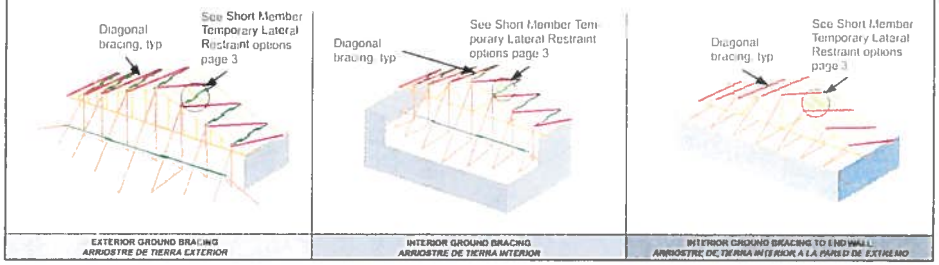
- ☑ Minimum size of bracing and lateral restraint material is 2x4 stress-graded lumber or approved proprietary metal restraint/bracing, unless otherwise specified by the building designer
  El tamaño del material de restricción lateral y arriostre debe ser por lo menos 2x4 madera graduada por esfuerzo o restricción/arriostre de metal patentado aprobado, a menos que especifique el diseñador del edificio
- ☑ All bracing and lateral restraint members must be connected to each truss with at least 2 nails (see minimum sizes below), except for the short member restraints shown in Step 4, Option 2 (see above), which require 2-16d deformed-shank (i.e., ring- or screw shank) nails
  Todos los miembros de restricción lateral y arriostre tienen que ser conectados a cada truss con un mínimo de 2 clavos (ver los tamaños mínimos mostrados abajo) excepto para las restricciones de miembros cortos mostrados en el Paso 4, Opción 2 (vea arriba), cuales requieren 2-16d clavos con largos deformados (Ej. Largos de anillos o tornillos)
- ☑ Drive nails flush. If the temporary restraint and bracing is to be removed when the permanent bracing is installed, use double-headed nails for ease of removal
  Clave los clavos al raso. Si la restricción y arriostre temporal será quitado al instalacio del arriostre permanente, use clavos de dos cabezas para quitarlos más fácilmente

10d (0.128x3")
12d (0.128x3.25")
16d (0.131x3.5")



5. Install Top Chord Diagonal Bracing
Instale El Arriostre Diagonal de la Cuerda Superior

☑ Attach diagonal bracing to the first five trusses. Examples of diagonal bracing on first five trusses include
Coloque el arriostre diagonal a los primeros cinco trusses. Ejemplos de arriostre diagonal en los primeros cinco trusses incluyen

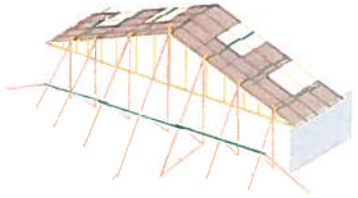


EXTERIOR GROUND BRACING
ARRIOSTRE DE TIERRA EXTERIOR

INTERIOR GROUND BRACING
ARRIOSTRE DE TIERRA INTERIOR

INTERIOR GROUND BRACING TO END WALL
ARRIOSTRE DE TIERRA INTERIOR A LA PARED DE EXTREMO

☑ Or start applying structural sheathing. Example of structural sheathing installed on first five trusses.
O empiece en aplicar el entablado estructural. Ejemplo de entablado estructural instalado en los primeros cinco trusses

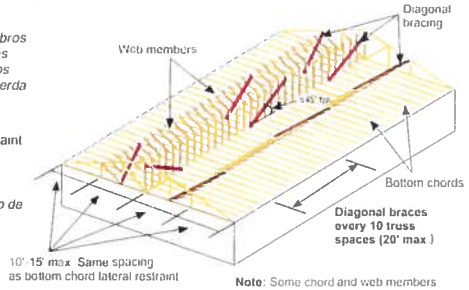


6. Install Web Member Diagonal Bracing
Instale el Arriostre Diagonal de Miembros Secundarios

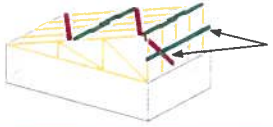
☑ Temporary web member diagonal bracing acts with the top chord and bottom chord temporary lateral restraint and diagonal bracing to form triangulation perpendicular to the plane of the truss and prevents trusses from leaning or dominoing.
El arriostre diagonal temporal de los miembros secundarios trabaja con la restricción lateral y el arriostre diagonal temporales de la cuerda superior e inferior para formar una triangulación perpendicular al plano del truss y evita que los trusses se inclinen o caigan como dominós.

☑ Install diagonal bracing at about 45° to the horizontal on web members (verticals whenever possible) located at or near rows of bottom chord lateral restraint. Web diagonal bracing must extend from the top chord to the bottom chord. Repeat at the intervals shown in the figure below.
Instale el arriostre diagonal a aproximadamente 45 grados en los miembros secundarios (verticales cuando sea posible) colocados en o cerca de las filas de restricción lateral de la cuerda inferior. Arriostre diagonal para los miembros secundarios tiene que extender de la cuerda superior a la cuerda inferior. Repita a los intervalos mostrados en la figura a la derecha

NOTICE The requirements for web permanent individual truss member restraint are specified on the truss design drawing (TDD). Refer to BCSI-B3 for more information.
Los requisitos para la restricción permanente de miembros individuales de truss para miembros secundarios son especificados en el dibujo del diseño de truss. Vea el resumen BCSI-B3 para más información.



Note: Some chord and web members not shown for clarity.



NOTICE Mono trusses, deep flat trusses and other types of trusses with deep ends also require temporary lateral restraint and diagonal bracing on the vertical web member at the deep end of the truss.
Los trusses de una sola pendiente, trusses planos y profundos y otros tipos de trusses con extremos profundos también requieren restricción lateral temporal y arriostre diagonal en los miembros secundarios largos al parte profundo del truss.

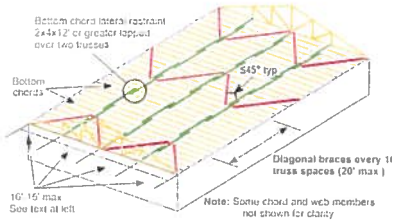
7. Install Bottom Chord Lateral Restraint and Diagonal Bracing
Instale la Restricción Lateral y el Arriostre Diagonal de la Cuerda Inferior

☑ Bottom chord temporary lateral restraint and diagonal bracing stabilizes the bottom chord plane during installation and helps maintain proper spacing of the trusses.
La Restricción lateral temporal y el arriostre diagonal de la cuerda inferior estabilizan el plano de la cuerda inferior durante la instalación y asiste en mantener el espaciamiento apropiado de los trusses.

☑ Install rows of **temporary** lateral restraint at 15' on-center maximum. Remove, if desired, after the permanent ceiling diaphragm is in place.
*Instale filas de restricción lateral **temporal** a 15 pies en el centro como máximo. Quítelos, si así lo desea, después que el diafragma permanente del techo esté colocado.*

☑ Install rows of **permanent** lateral restraint at 10' on-center maximum. Required spacing may be less; check the TDD and/or with the building designer.
*Instale filas de restricción lateral **permanente** a 10 pies en el centro como máximo. El espaciamiento especificado puede ser menor; verifique el dibujo del diseño de truss con el diseñador del edificio.*

☑ Install diagonal bracing at intervals of 20' maximum along the run of trusses.
Instale el arriostre diagonal a intervalos de 20 pies máximo a lo largo de la línea de trusses.



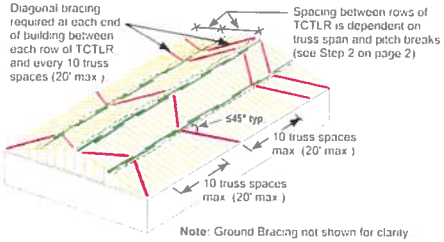
⚠ **CAUTION** Do not remove ground bracing until all top chord, bottom chord and web lateral restraint and bracing is installed on at least the first five trusses.
***CAUTELA** No remueva el arriostre de tierra hasta que toda la restricción lateral y arriostre de la cuerda superior, la cuerda inferior y los miembros secundarios estén instalados en por lo menos los primeros cinco trusses.*

8. Repeat Steps 4 Through 7 with Groups of Four Trusses Using Option A or B
Repita los Pasos 4 a 7 con Grupos de Cuatro Trusses Usando la Opción A o la Opción B

Option A: Install the next four trusses using short member temporary lateral restraint Options 1 - 3 per Step 4 on page 3. Add long-length (minimum 2x4x12') continuous lateral restraint (CLR) to tie trusses together. Overlap the ends of the CLR at least 2 trusses. Install diagonal bracing at intervals of 20' maximum along the run of trusses (see Figure below).

Instale los siguientes cuatro trusses utilizando las opciones 1-3 por el Paso 4 en la página 3 de la restricción lateral de miembros cortos. Añade la restricción lateral continua (CLR) de longitud-largo (mínimo 2x4x12') para atar junto los trusses. Solaparse las puntas del CLR a mínimo de dos trusses. Instale el arriostre diagonal cada 20 pies máximo a lo largo de la línea de trusses (vea la Figura abajo).

NOTICE The maximum diagonal brace spacing provided in this Option assumes ground bracing is properly installed and in place.
El espaciamiento máximo de arriostre diagonal en esta Opcion asume que el arriostre de tierra está en sitio y es instalado correctamente.

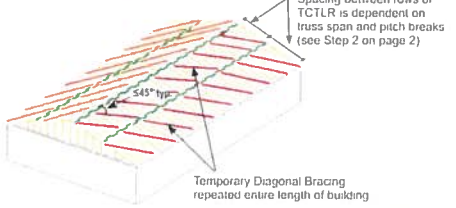


Note: Ground Bracing not shown for clarity.

Option B: Install diagonal bracing on each group of four trusses that have been set with short member temporary lateral restraint per Step 4 on page 3.
Instale el arriostre diagonal en cada grupo de cuatro trusses que han sido colocados con la restricción lateral temporal de miembros cortos por el paso 4 en la página 3.

⚠ **WARNING** After the initial group of five trusses are installed and braced (i.e. lateral restraint and diagonal bracing), **DO NOT** set more than four trusses when using short member temporary lateral restraint before you **STOP**, and diagonally brace as shown. **Option B is NOT permissible without diagonal bracing being installed with each group of four trusses.**

¡ADVERTENCIA!** Después de que el primer grupo de cinco trusses sea instalado y arriostrado (Ej. restricción lateral y arriostre diagonal), **NO** coloque más de cuatro trusses cuando se usa la restricción lateral temporal de los miembros cortos antes que usted **PARA**, y arriostrelo diagonalmente como mostrado. **Esta opción B NO funciona sin el arriostre diagonal aplicado a cada grupo de cuatro trusses.



ENSURE THAT ALL TRUSSES ARE PROPERLY DIAGONALLY BRACED.
ASEGÚRESE QUE TODOS LOS TRUSSES ESTÉN ARRIOSTRADOS DIAGONALMENTE APROPIADAMENTE.

☑ Apply structural sheathing early and often.

⊘ **DO NOT** wait until all trusses are set to apply structural sheathing.
Aplique el entablado estructural temprano y con frecuencia.
***NO** ESPERE hasta que todos los trusses estén colocados para aplicar el entablado estructural.*

⚠ **CAUTION** Remove only as much top chord temporary lateral restraint and diagonal bracing as necessary to nail down the next sheet of structural sheathing. DO NOT exceed truss design load with construction loads. (SEE BCSI-B4)
***CAUTELA** Quite sólo tanta restricción lateral temporal y arriostre diagonal de la cuerda superior como sea necesario para clavar la siguiente hoja de entablado estructural. NO EXCEDA la carga de diseño de truss con cargas de construcción. (VEA BCSI-B4)*

Delivery

Builders FirstSource

Sold To:	Mike Todd Const.	**AppWrt Job No.** 970576	**Ship Date** 1/20/2016
		OnLine Job No. 576	**Quote**
		P.T.	**Account**
		Sales No	**PO**

Plant:	Lake City Truss 2525 E Duval Street Lake City, FL 386-755-6894	**SubDvsn:** MORGAN HOUSE, FL **Lot:** N/A **Model/Elev:** CUSTOM / GABLE **Options** **Shipment** Roof	**Req'rd Engineering** / **Req'rd Layouts**

Sales Rep KIMBER HOLLOWAY **Sales Area** **Dist Center** **Designer** Holloway, Kim	**Directions**	**Job Contacts** / **Site** / **Office** **Name** TIM **Phone** **Fax**	

	Truss ID / Span	Quantity	Type	Slope (Depth)	Left	Right	Stub		Height / Weight/Ply	Total Weight
	F04 15-3-12	9	FLOOR	Depth: 12"						
	F05 15-0-12	4	FLOOR	Depth: 12"						
	F06 14-8-4	9	FLOOR	Depth: 12"						
	F07 14-5-4	4	FLOOR	Depth: 12"						
	F08 7-9-0	4	FLOOR	Depth: 12"						
	F09 7-0-0	4	FLOOR	Depth: 12"						
	Total Trusses:	34								

Miscellaneous Items:	Quantity	Item	Description
	44	LUS46	4x Hanger (LUS46)

Trusses	0	Jacks	0	Beams	0	Hangers	44
Piggy Backs	0	Others	0	TJI	0	TieDowns	0
Valleys	0	Floors	34	Trim-It	0	Misc	0

Delivery Person

Delivered By: _____

Date: _____

Remarks:

On Site Receiver

Received By: _____

Date: _____

Remarks:

Delivery

Builders FirstSource

Sold To: Mike Todd Const.	**AppWrt Job No.** 970576	**Ship Date** 1/20/2016
	OnLine Job No. 576	**Quote**
	P.T.	**Account**
	Sales No	**PO**

Plant: Lake City Truss 2525 E Duval Street Lake City, FL 386-755-6894	**SubDvsn:** MORGAN HOUSE, FL **Lot:** N/A **Model/Elev:** CUSTOM / GABLE **Options** **Shipment** Roof	**Req'rd Engineering** / **Req'rd Layouts**
Sales Rep KIMBER HOLLOWAY **Sales Area** **Dist Center** **Designer** Holloway, Kim	**Directions**	**Job Contacts** Site Office **Name** TIM **Phone** **Fax**

Truss ID / Span	Quantity	Type	Slope (Depth)	Left	Right	Stub		Height / Weight/Ply	Total Weight
F04 15-3-12	9	FLOOR	Depth: 12"						
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F06 14-8-4	9	FLOOR	Depth: 12"						
F07 14-5-4	4	FLOOR	Depth: 12"						
F08 7-9-0	4	FLOOR	Depth: 12"						
F09 7-0-0	4	FLOOR	Depth: 12"						
Total Trusses:	34								

Miscellaneous Items:	Quantity	Item	Description
	44	LUS46	4x Hanger (LUS46)

Trusses	0	Jacks	0	Beams	0	Hangers	44
Piggy Backs	0	Others	0	TJI	0	TieDowns	0
Valleys	0	Floors	34	Trim-It	0	Misc	0

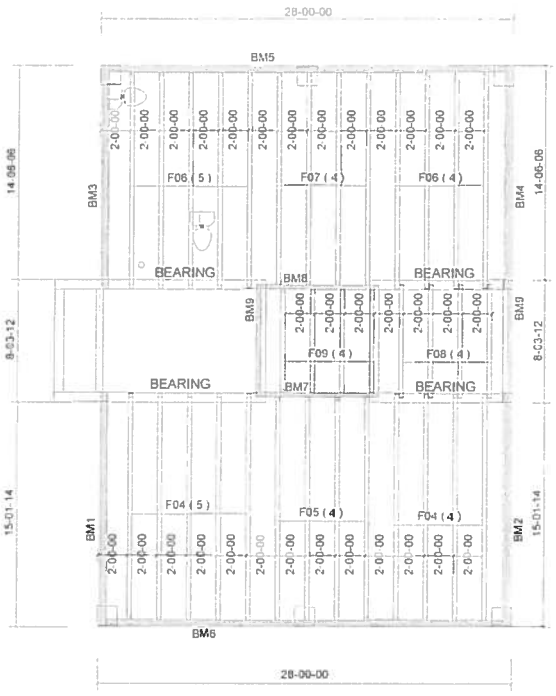
Delivery Person

Delivered By: _____
Date: _____
Remarks:

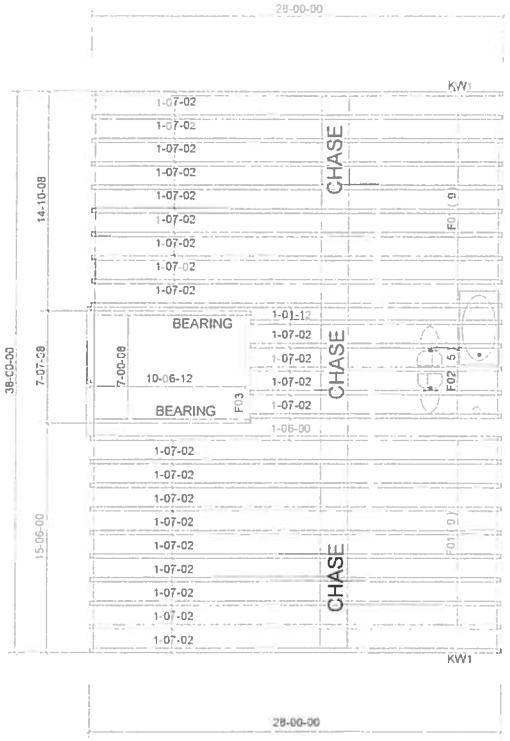
On Site Receiver

Received By: _____
Date: _____
Remarks:

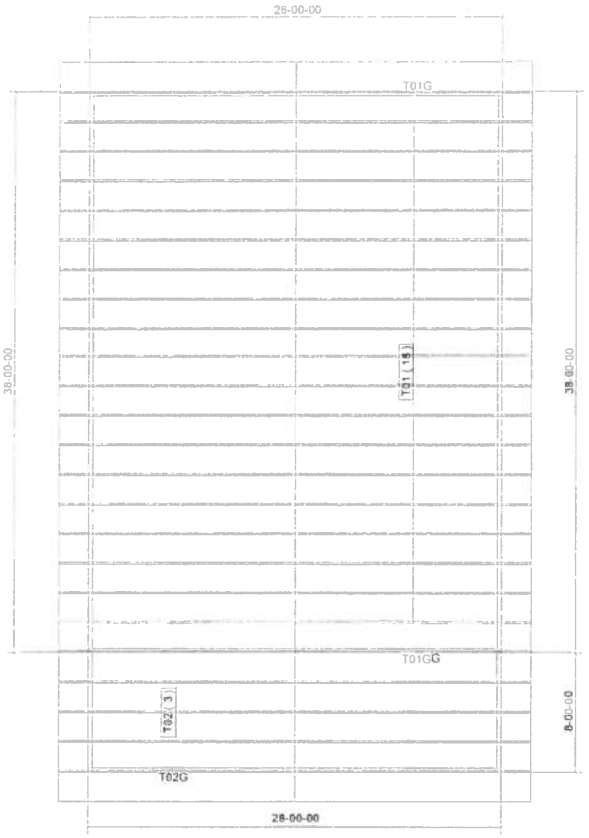
14" DEEP BEAMS
12" DEEP FLOORS
24" O/C



20" DEEP FLOOR
19.2" O/C



5.5/12 PITCH
24" O/H



BM1-BM2-BM3-BM4 = 4 PLY
BM5-BM6 = 3 PLY
BM7-BM8-BM9 = 2PLY

BEARING HEIGHT SCHEDULE

	8' 1-1/8"
	9' 1-1/8"
	10' 1-1/8"
	11' 1-1/8"
	12' 1-1/8"

NOTES:

1) REFER TO MFR RECOMMENDATIONS FOR HANDLING, INSTALLATION AND TEMPORARY BRACING. REFER TO ENGINEERED DRAWINGS FOR PERMANENT BRACING REQUIRED.

2) ALL TRUSSES ENCLOSING TRUSSES (GIRDER, VALLEY, FRAMING) MUST BE COMPLETELY DESIGNED OR REFER TO DETAIL #QM FOR ALTERNATE BRACING REQUIREMENTS.

3) ALL VALLEYS ARE TO BE CONVENTIONALLY FRAMED BY BUILDER.

4) ALL TRUSSES ARE DESIGNED FOR 24" O.C. MAXIMUM SPACING UNLESS OTHERWISE NOTED.

5) ALL WALLS SHOWN ON PLACEMENT PLAN ARE CONSIDERED TO BE LOAD BEARING UNLESS OTHERWISE NOTED.

6) 4X2 TRUSSES MUST BE INSTALLED WITH THE TOP EDGE UP.

7) BEAMS EACH SIDE OF CHIMNEY TO BE FURNISHED BY BUILDER.

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MORGAN RES.		
12-29-16	KLH	755227
		755227

MITEK PLATE APPROVAL #'s 2197.2 - 2197.4, WEYERHAUSER PRODUCT #'s 1630.2 - 1630.10