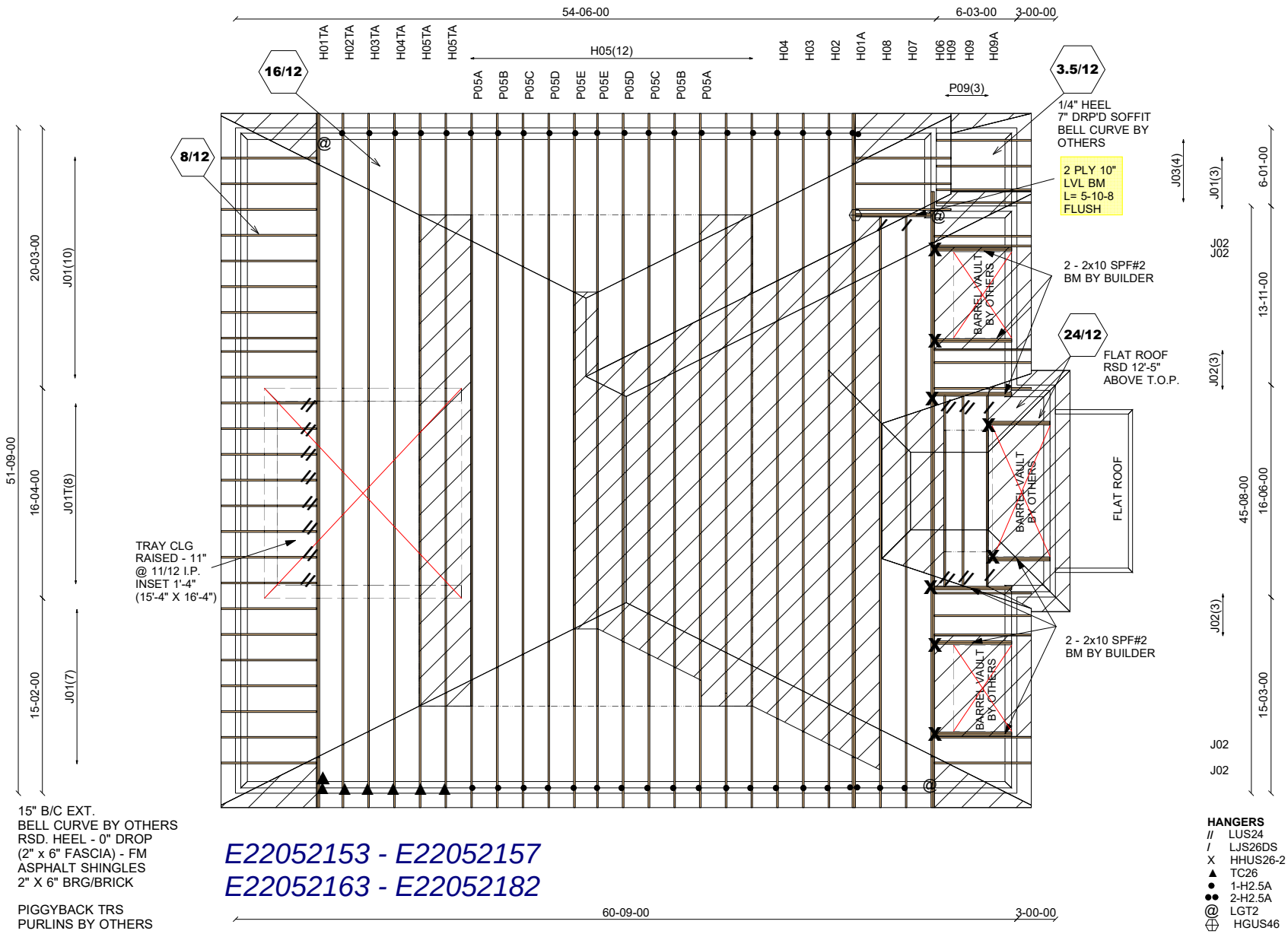
ALPA-BARRIE



15" B/C EXT.
BELL CURVE BY OTHERS
RSD. HEEL - 0" DROP
(2" x 6" FASCIA) - FM
ASPHALT SHINGLES
2" X 6" BRG/BRICK

PIGGYBACK TRS
PURLINS BY OTHERS

E22052153 - E22052157
E22052163 - E22052182

HANGERS

//	LUS24
/	LJS26DS
X	HHUS26-2
▲	TC26
●	1-H2.5A
●●	2-H2.5A
@	LGT2
⊕	HGUS46

Mitek V. 8.2.0

ALL CONVENTIONAL FRAMING TO CONFORM WITH PART 9 O.B.C. LATEST EDITION. ROOF RAFTERS THAT CROSS OVER TRUSSES TO BE 2X4 SPF #2 @ 24" O.C WITH A VERT. POST TO THE TRUSS UNDERNEATH AT EACH CROSS POINT. VERT. POSTS LONGER THAN 6' TO HAVE LATERAL BRACING SO THAT THE DISTANCE BETWEEN END POINTS & BETWEEN ROWS OF BRACING DOES NOT EXCEED 6'

CONVENTIONAL FRAMING BY OTHERS

Job Track: 45147	Builder / Location: GOLD PARK HOMES / VAUGHAN	Model / Elevation: **"THE QUEENSLAND"** 6001 / B OPT 2ND FL	OPT 2ND FL. OR OPT ELEVATOR
Layout ID: 343286	Project: PINE VALLEY PH 2	THESE DRAWINGS CONSTITUTE THE PROPERTY OF ALPA ROOF TRUSSES INC., SHALL NOT BE REPRODUCED, PUBLISHED, OR REDISTRIBUTED IN ANY MANNER OR UTILIZED FOR ANY PURPOSE OTHER THAN THE MANUFACTURE OF TRUSSES BY ALPA ROOF TRUSSES INC AND WILL BE RETRACTED BY ALPA ROOF TRUSSES INC IF UTLILZED FOR ANY OTHER PURPOSE.	
Plan Log: 116408	Date: 2022-04-21 Designer: AMANDA		

EWP DESIGN INC.

(905) 832-2250 FAX (905) 832-0286

RESPONSIBILITIES AND SPECIFICATIONS

RESPONSIBILITIES

1. EWP DESIGN INC. is responsible for the design of trusses as individual components.
2. It is the responsibility of others to ascertain that the design loads utilized on each drawing meet or exceed the actual dead load imposed by the structure, the live load imposed by the intended use and the snow load imposed by local building code or authorities with jurisdictions.
3. All dimensions are to be verified by the owner, contractor, architect or other authorities with jurisdictions before truss fabrication.
4. EWP DESIGN INC. bears no responsibility for the erection of trusses. Persons erecting trusses are cautioned to seek professional advice regarding the temporary and permanent bracing for the system. Bracing shown on EWP DESIGN INC. drawing is specified for the truss as a component only and forms an integral part of the truss design.
5. It is the truss manufacturer's responsibility to ensure that trusses are manufactured in conformance with specifications of EWP DESIGN INC. as outlined below.

SPECIFICATIONS

1. Trusses designed by EWP DESIGN INC. conform to the relevant section of the Ontario Building Code of Canada (Part 9 or Part 4) or to the Canadian code for farm buildings, whichever applies to the building type, as indicated on the EWP DESIGN INC. drawings, and conform to the design procedures established by the Truss Plate Institute of Canada. Unit stresses used for truss designs are as per the edition of CSA-O86 shown on EWP DESIGN INC. drawings.
2. Lumber is to be the size, species and grade as specified on EWP DESIGN INC. drawings.
3. Moisture content of lumber shall not exceed 19% in service unless specified otherwise.
4. Metal connector plates shall be applied to both faces of truss at each joint and shall be positioned as specified.
5. Top chords of trusses are assumed to be continuously braced laterally by roof sheathing or by purlins at intervals not exceeding 12.5 times the thickness of top chord member.
6. Bottom chords shall be laterally braced at intervals not exceeding 3M (10') o.c., where rigid ceiling is not applied directly to the underside of chords.

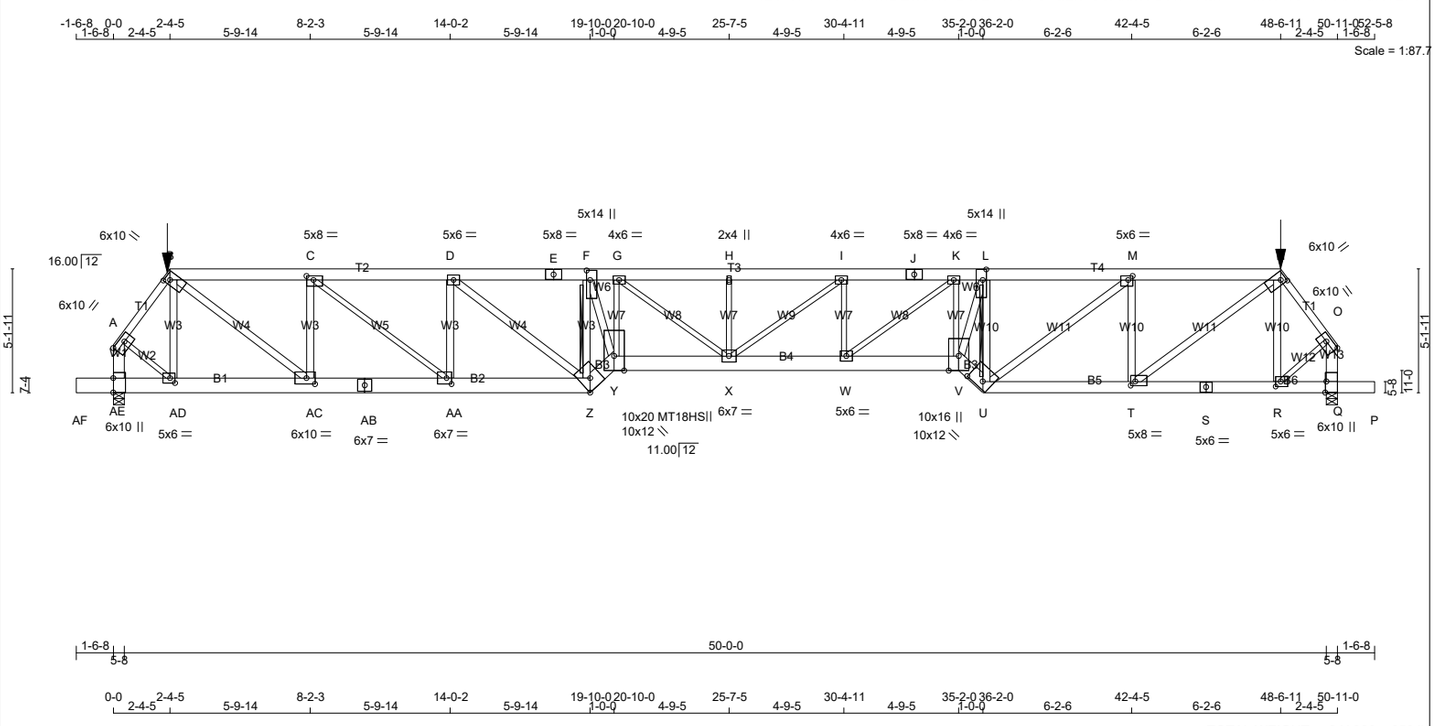
THESE DRAWINGS CONSTITUTE THE PROPERTY OF EWP DESIGN INC., SHALL NOT BE REPRODUCED, PUBLISHED, OR REDISTRIBUTED IN ANY MANNER OR UTILIZED FOR ANY PURPOSE OTHER THAN THE MANUFACTURE OF TRUSSES BY THE ALPA LUMBER GROUP, AND WILL BE RETRACTED BY EWP DESIGN INC. IF UTILIZED FOR ANY OTHER PURPOSE.

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.		DRWG NO.
343286	H01TA		2	TRUSS DESC.	JT 45147	E22052153

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:28:50 2022 Page 1

ID:6tV605vCHTmD2wqljx3DtqzTTXK-q0uLx0gpAkmTSqI7yRa7y568lTXvc NFXX6dKTz6gCB



TOTAL WEIGHT = 2 X 326 = 653 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - B	2x4	DRY	No.2	SPF
B - E	2x6	DRY	1650F 1.5E	SPF
E - J	2x6	DRY	1650F 1.5E	SPF
J - N	2x6	DRY	1650F 1.5E	SPF
N - O	2x4	DRY	No.2	SPF
AE- A	2x6	DRY	No.2	SPF
Q - O	2x6	DRY	No.2	SPF
AF- AB	2x8	DRY	No.2	SPF
AB- Z	2x8	DRY	No.2	SPF
Z - Y	2x8	DRY	1950F 1.7E	SPF
Y - V	2x8	DRY	1950F 1.7E	SPF
V - U	2x8	DRY	1950F 1.7E	SPF
U - S	2x6	DRY	1650F 1.5E	SPF
S - P	2x6	DRY	1650F 1.5E	SPF
ALL WEBS	2x3	DRY	No.2	SPF
EXCEPT				
AD- B	2x4	DRY	1650F 1.5E	SPF
B - AC	2x4	DRY	No.2	SPF
AC- C	2x4	DRY	1650F 1.5E	SPF
AA- D	2x4	DRY	1650F 1.5E	SPF
D - Z	2x4	DRY	No.2	SPF
Z - Y	2x4	DRY	1650F 1.5E	SPF
F - Y	2x4	DRY	2100F 1.8E	SPF
V - L	2x4	DRY	2100F 1.8E	SPF
U - L	2x4	DRY	1650F 1.5E	SPF
U - M	2x4	DRY	No.2	SPF
T - M	2x4	DRY	1650F 1.5E	SPF
T - N	2x4	DRY	No.2	SPF
R - N	2x4	DRY	1650F 1.5E	SPF

DRY: SEASONED LUMBER.

DESIGN CONSISTS OF 2 TRUSSES BUILT SEPARATELY THEN FASTENED TOGETHER AS FOLLOWS:

CHORDS #ROWS		SURFACE SPACING (IN)	LOAD(PLF)
TOP CHORDS : (0.122"X3") SPIRAL NAILS			
A- B	1	12	SIDE(70.1)
N- O	1	12	SIDE(70.1)
B- E	2	12	SIDE(62.4)
E- J	2	12	SIDE(62.4)
J- N	2	12	SIDE(62.4)
AE- A	2	12	TOP
Q- O	2	12	TOP
BOTTOM CHORDS : (0.122"X3") SPIRAL NAILS			
AF- AB	2	12	SIDE(24.2)
AB- Z	2	12	SIDE(24.2)
Z- Y	2	12	SIDE(50.8)
Y- V	2	12	SIDE(68.9)
V- U	2	12	SIDE(49.9)
U- S	2	12	SIDE(24.2)
S- P	2	12	SIDE(24.2)
WEBS : (0.122"X3") SPIRAL NAILS			
2x3	1	6	
2x4	1	6	

NAILS TO BE DRIVEN FROM ONE SIDE ONLY.

GIRDER NAILING ASSUMES NAILED HANGERS ARE FASTENED WITH MIN. 3-0 INCH NAILS.

TOP - COMPONENTS ARE LOADED FROM THE TOP AND MUST BE PLACED ON TOP EDGE OF ALL PLIES FOR THE LOAD TO BE TRANSFERRED TO EACH PLY.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

LICENSED PROFESSIONAL ENGINEER
V. WIDYA
100225448
06/13/2022
PROVINCE OF ONTARIO

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

END VERTICALS ARE NOT EXPOSED TO WIND.

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
AE	7134	0	7301	-94	-1947	5-8	5-8
Q	7125	0	7292	0	-1844	5-8	5-8

PROVIDE ANCHORAGE AT BEARING JOINT AE FOR 1947 LBS FACTORED UPLIFT
PROVIDE ANCHORAGE AT BEARING JOINT Q FOR 1844 LBS FACTORED UPLIFT

PROVIDE FOR 94 LBS FACTORED HORIZONTAL REACTION AT JOINTAE

ALLOW FOR 0.3" OF HORIZONTAL MOVEMENT DUE TO TOTAL LOAD

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
AE	5347	2997 / 0	1085 / 0	0 / 0	1490 / -2276	1376 / 0	0 / 0
Q	5341	2991 / 0	1085 / 0	0 / 0	1413 / -2201	1376 / 0	0 / 0
HORIZONTAL REACTIONS							
AE	---	0 / 0	0 / 0	0 / 0	67 / -67	0 / 0	0 /0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) AE, Q
BEARING SIZE FACTOR = 1.15 AT JNT(S) AE, Q (BASED ON SUPPORT DEPTH = 1-8)

BRACING

MAX. UNBRACED TOP CHORD LENGTH = 2.52 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

2x6 DRY SPF No.2 T-BRACE AT F-Z, L-U

FASTEN T AND I-BRACES TO NARROW EDGE OF WEB WITH ONE ROW PER PLY OF 3" COMMON WIRE NAILS @ 6" O.C. WITH 3" MINIMUM END DISTANCE. BRACE MUST COVER 90% OF WEB LENGTH.

END VERTICAL(S) MUST BE SHEATHED OR HAVE BRACES AS INDICATED IN THE MAX. UNBRACED LENGTH COLUMN OF THE TABLE BELOW

LOADING

TOTAL LOAD CASES: (18)

CHORDS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD LC1 (PLF) FROM	TO	MAX CSI (LC)	MAX. UNBRAC LENGTH
A- B	-6115 / 1711	-95.2	-95.2	0.19 (2)	3.84
B- C	-10860 / 2999	-198.6	-198.6	0.27 (2)	4.10
C- D	-15856 / 4111	-198.6	-198.6	0.39 (2)	3.40
D- E	-19096 / 4642	-198.6	-198.6	0.45 (2)	3.09
E- F	-19096 / 4642	-198.6	-198.6	0.45 (2)	3.09
F- G	-24037 / 5698	-95.2	-95.2	0.62 (2)	2.58
G- H	-24529 / 5565	-95.2	-95.2	0.70 (2)	2.52
H- I	-24529 / 5565	-95.2	-95.2	0.56 (3)	2.68
I- J	-23695 / 5332	-95.2	-95.2	0.65 (3)	2.61
J- K	-23695 / 5332	-95.2	-95.2	0.65 (3)	2.61
K- L	-21230 / 4933	-95.2	-95.2	0.51 (3)	2.84
L- M	-16400 / 3923	-198.6	-198.6	0.47 (3)	3.28
M- N	-11105 / 2869	-198.6	-198.6	0.33 (3)	4.00
N- O	-5998 / 1592	-95.2	-95.2	0.18 (3)	3.88
AE- A	-7128 / 1962	0.0	0.0	0.28 (2)	5.60
Q- O	-7098 / 1852	0.0	0.0	0.29 (3)	5.62
AF-AE	0 / 0	-134.7	-134.7	0.04 (1)	10.00
AE-AD	-91 / 94	-77.8	-77.8	0.09 (6)	6.25
AD-AC	-986 / 3612	-77.8	-77.8	0.27 (2)	6.25
AC-AB	-2906 / 10860	-77.8	-77.8	0.68 (2)	6.25
AB-AA	-2906 / 10860	-77.8	-77.8	0.68 (2)	6.25
AA- Z	-4018 / 15857	-77.8	-77.8	0.96 (2)	6.25
Z- Y	-5956 / 25080	-177.3	-177.3	0.58 (2)	6.25
Y- X	-5566 / 24033	-177.3	-177.3	0.65 (2)	6.25
X- W	-5208 / 23695	-177.3	-177.3	0.65 (3)	6.25
W- V	-4804 / 21271	-177.3	-177.3	0.56 (3)	6.25
V- U	-5053 / 21844	-177.3	-177.3	0.50 (3)	6.25
U- T	-2746 / 11106	-77.8	-77.8	0.53 (3)	6.25
T- S	-873 / 3540	-77.8	-77.8	0.22 (3)	6.25
S- R	-873 / 3540	-77.8	-77.8	0.22 (3)	6.25
R- Q	0 / 0	-77.8	-77.8	0.08 (5)	10.00
Q- P	0 / 0	-134.7	-134.7	0.04 (1)	10.00

WEBS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
AD- B	-1662 / 642	0.14 (2)
B-AC	-2461 / 9250	0.84 (14)
AC- C	-5282 / 1682	0.45 (3)
C-AA	-1431 / 6385	0.79 (3)
AA- D	-3744 / 1131	0.32 (3)
D- Z	-687 / 4127	0.36 (3)
Z- F	-18992 / 4444	0.78 (2)
F- Y	-3992 / 18474	0.76 (2)
Y- G	-343 / 268	0.04 (11)
G- X	0 / 649	0.08 (3)
X- H	-651 / 206	0.07 (2)
X- I	-295 / 1068	0.13 (2)
W- I	-1315 / 395	0.16 (2)
W- K	-515 / 3107	0.38 (2)
V- K	-1346 / 116	0.16 (2)
V- L	-3856 / 18041	0.74 (3)
U- L	-18536 / 4294	0.77 (3)
U- M	-1326 / 6605	0.58 (2)
T- M	-5404 / 1664	0.48 (2)
T- N	-2346 / 9492	0.92 (13)
R- N	-1772 / 637	0.15 (3)
A-AD	-1115 / 4233	0.52 (2)
R- O	-1045 / 4205	0.52 (3)

FACTORED CONCENTRATED LOADS (LBS)

JT	LOC.	LC1	MAX-	MAX+	FACE	DIR.	TYPE	HEEL	CONN.
B	2-4-5	-177	-215	154	FRONT	VERT	TOTAL	---	C1
N	48-6-11	-177	-215	154	FRONT	VERT	TOTAL	---	C1

CONNECTION REQUIREMENTS

1) **C1:** A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED.

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING AS PER NBCC 4.1.6.2.(8)

DESIGN CRITERIA

SPECIFIED LOADS:

TOP	CH.	LL	=	26.7	PSF
		DL	=	6.0	PSF
BOT	CH.	LL	=	10.5	PSF
		DL	=	7.4	PSF
TOTAL	LOAD		=	50.6	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 8.00/12

GIRDER TYPE: CPrimeHip
SIDE SETBACK = 2-4-5
END SETBACK = 5-10-8
END WALL WIDTH = 0-0
CORNER FRAMING TYPE: CONVENTIONAL
END JACK TYPE: CONVENTIONAL
APPLIED TO FRONT SIDE
- ADDT'L LOADS BASED ON 91 % OF GSL.
LOADS APPLIED TO FIRST 19-10-0 OF SPAN MEASURED FROM THE LEFT.

GIRDER TYPE: CPrimeHip
SIDE SETBACK = 2-4-5
END SETBACK = 5-10-8
END WALL WIDTH = 0-0
CORNER FRAMING TYPE: CONVENTIONAL
END JACK TYPE: CONVENTIONAL
APPLIED TO FRONT SIDE
- ADDT'L LOADS BASED ON 91 % OF GSL.
LOADS APPLIED TO FIRST 14-9-0 OF SPAN MEASURED FROM THE RIGHT.

GIRDER TYPE: CStdGirder
START DISTANCE = 19-10-0
START SPAN CARRIED = 5-10-8
END DISTANCE = 36-2-0
END SPAN CARRIED = 5-10-8
END WALL WIDTH = 0-0
APPLIED TO FRONT SIDE OF BOTTOM CHORD.
- ADDT'L LOADS BASED ON 91 % OF GSL.

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.

(80 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 26.7 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.70")
CALCULATED VERT. DEFL.(LL) = L/ 636 (0.96")
ALLOWABLE DEFL.(TL)= L/180 (3.39")
CALCULATED VERT. DEFL.(TL) = L/ 448 (1.36")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")

CSI: TC=0.70/1.00 (G-H:2) , BC=0.96/1.00 (Z-AA:2) , WB=0.92/1.00 (N-T:13) , SSI=0.27/1.00 (F-G:2)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.00 COMP=1.00 SHEAR=1.00 TENS= 1.00

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 1.00
COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE HEELS OFF

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

CONTINUED ON PAGE 2

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343286	H01TA		2	TRUSS DESC. JT 45147	E22052153(2)

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW-t	MT20	6.0	10.0	Edge	5.75
B	TTWW+h	MT20	6.0	10.0	2.50	2.25
C	TMWW-t	MT20	5.0	8.0	2.00	3.50
D	TMWW-t	MT20	5.0	6.0		
E	TS-t	MT20	5.0	8.0		
F	TMWW+t	MT20	5.0	14.0	4.75	1.75
G, I, K						
G	TMWW-t	MT20	4.0	6.0		
H	TMW+w	MT20	2.0	4.0		
J	TS-t	MT20	5.0	8.0		
L	TMWW+t	MT20	5.0	14.0	5.25	1.75
M	TMWW-t	MT20	5.0	6.0	2.00	2.25
N	TTWW+h	MT20	6.0	10.0	2.50	2.25
O	TMVW-t	MT20	6.0	10.0	Edge	5.75
Q	BMV1+t	MT20	6.0	10.0	Edge	0.50
R	BMWW-t	MT20	5.0	6.0	2.50	2.50
S	BS-t	MT20	5.0	6.0		
T	BMWW-t	MT20	5.0	8.0	2.00	2.25
U	BBWW-h	MT20	10.0	12.0	3.25	7.50
V	BBWW+p	MT20	10.0	16.0	Edge	
W	BMWW-t	MT20	5.0	6.0		
X	BMWWW-t	MT20	6.0	7.0		
Y	BBWW+p	MT18HS	10.0	20.0	Edge	
Z	BBWW+h	MT20	10.0	12.0	5.25	Edge
AA	BMWW-t	MT20	6.0	7.0	3.00	2.50
AB	BS-t	MT20	6.0	7.0		
AC	BMWW-t	MT20	6.0	10.0	3.00	4.25
AD	BMWW-t	MT20	5.0	6.0	2.50	2.50
AE	BMV1+t	MT20	6.0	10.0	Edge	

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

CONNECTION REQUIREMENTS

1) **C1:** A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED.

WIND LOAD APPLIED IS DERIVED FROM REFERENCE VELOCITY PRESSURE OF { 9.2} PSF AT {30-0-0} FT-IN-SX REFERENCE HEIGHT ABOVE GRADE AND USING EXTERNAL PEAK COEFFICIENTS, CpCg, BASED ON THE {MAIN WIND FORCE RESISTING SYSTEM}.INTERNAL WIND PRESSURE IS BASED ON DESIGN {CATEGORY 2}. BUILDING MAY BE LOCATED ON {ROUGH TERRAIN) AT MINIMUM {1.000} MILES DISTANCE FROM OPEN TERRAIN., AND TRUSS IS DESIGNED TO BE LOCATED AT LEAST {0-0} FT-IN-SX AWAY FROM EAVE.TRUSS UPLIFT IS BASED ON TOP AND BOTTOM CHORD DEAD LOADS OF 6.0 PSF AND 7.4 PSF RESPECTIVELY.

NAIL VALUES

PLATE	GRIP(DRY) (PSI)		SHEAR (PLI)		SECTION (PLI)	
	MAX	MIN	MAX	MIN	MAX	MIN
MT20	650	371	1747	788	1987	1873
MT18HS	586	403	2455	1382	3163	3004

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.89 (L) (INPUT = 0.90)
JSI METAL= 0.98 (U) (INPUT = 1.00)

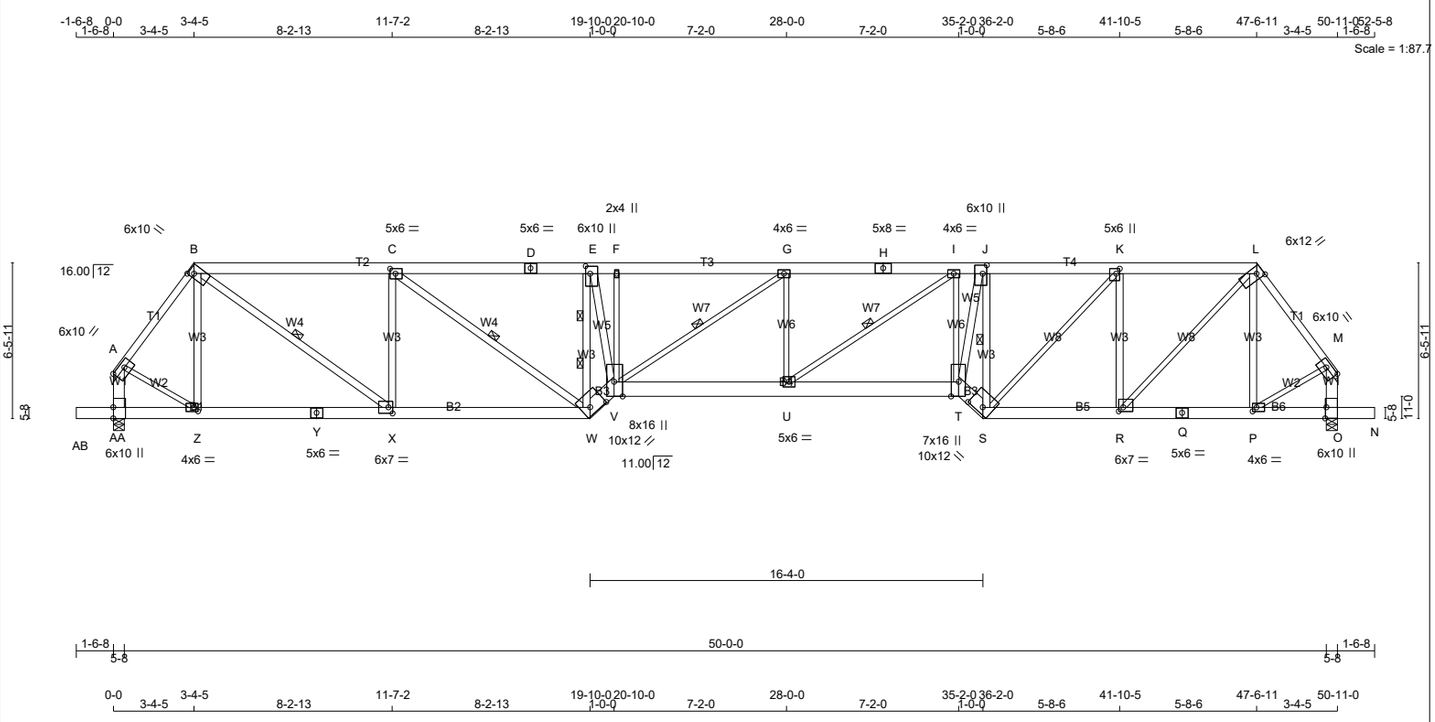
LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343286	H02TA		1	TRUSS DESC. JT 45147	E22052154

Alpha Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:28:55 2022 Page 1

ID:6tV605vCHTmD2wqljx3DtqzTTXK-0 hE?jky GOlZRB5l Alf8p?wUDNHF? hoqO?qz6gC6



TOTAL WEIGHT = 322 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - B	2x4	DRY	No.2	SPF
B - D	2x6	DRY	1650F 1.5E	SPF
D - H	2x6	DRY	1650F 1.5E	SPF
H - L	2x6	DRY	1650F 1.5E	SPF
L - M	2x4	DRY	No.2	SPF
AA- A	2x6	DRY	No.2	SPF
O - M	2x6	DRY	No.2	SPF
AB- Y	2x6	DRY	No.2	SPF
Y - W	2x6	DRY	No.2	SPF
W - V	2x8	DRY	1950F 1.7E	SPF
V - T	2x8	DRY	No.2	SPF
T - S	2x8	DRY	1950F 1.7E	SPF
S - Q	2x6	DRY	No.2	SPF
Q - N	2x6	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF
EXCEPT				
Z - B	2x4	DRY	1650F 1.5E	SPF
B - X	2x4	DRY	No.2	SPF
X - C	2x4	DRY	1650F 1.5E	SPF
C - W	2x4	DRY	No.2	SPF
W - E	2x4	DRY	1650F 1.5E	SPF
E - V	2x4	DRY	1650F 1.5E	SPF
T - J	2x4	DRY	1650F 1.5E	SPF
S - J	2x4	DRY	1650F 1.5E	SPF
R - K	2x4	DRY	1650F 1.5E	SPF
P - L	2x4	DRY	1650F 1.5E	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW-t	MT20	6.0	10.0	Edge	5.75
B	TTWW+h	MT20	6.0	10.0	2.75	2.00
C	TMWW-t	MT20	5.0	6.0	2.50	2.75
D	TS-t	MT20	5.0	6.0		
E	TMWW+t	MT20	6.0	10.0	3.75	2.25
F	TMW+w	MT20	2.0	4.0		
G	TMWW-t	MT20	4.0	6.0		
H	TS-t	MT20	5.0	8.0		
I	TMWW-t	MT20	4.0	6.0		
J	TMWW+t	MT20	6.0	10.0	4.25	2.00
K	TMWW+t	MT20	5.0	6.0	2.50	1.75
L	TTWW+h	MT20	6.0	12.0	3.25	2.75
M	TMVW-t	MT20	6.0	10.0	Edge	5.75
O	BMV1+t	MT20	6.0	10.0	Edge	0.50
P	BMWW-t	MT20	4.0	6.0	2.00	2.00
Q	BS-t	MT20	5.0	6.0		
R	BMWW-t	MT20	6.0	7.0	2.00	2.25
S	BBWW-h	MT20	10.0	12.0	3.00	7.25
T	BBWW+p	MT20	7.0	16.0	Edge	3.75
U	BMWW-t	MT20	5.0	6.0		
V	BBWWW+p	MT20	8.0	16.0	Edge	4.25
W	BBWW-h	MT20	10.0	12.0	3.50	7.75
X	BMWW-t	MT20	6.0	7.0	3.00	2.00
Y	BS-t	MT20	5.0	6.0		
Z	BMWW-t	MT20	4.0	6.0	2.00	2.00
AA	BMV1+t	MT20	6.0	10.0	Edge	

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

END VERTICALS ARE NOT EXPOSED TO WIND.

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
AA	3637	0	3792	-131	-589	5-8	5-8
O	3637	0	3792	0	-589	5-8	5-8

PROVIDE ANCHORAGE AT BEARING JOINT AA FOR 589 LBS FACTORED UPLIFT

PROVIDE ANCHORAGE AT BEARING JOINT O FOR 589 LBS FACTORED UPLIFT

PROVIDE FOR 131 LBS FACTORED HORIZONTAL REACTION AT JOINTAA

ALLOW FOR 0.3" OF HORIZONTAL MOVEMENT DUE TO TOTAL LOAD

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
AA	2734	1547 / 0	567 / 0	0 / 0	416 / -886	724 / 0	0 / 0
O	2734	1547 / 0	567 / 0	0 / 0	384 / -886	724 / 0	0 / 0
HORIZONTAL REACTIONS							
AA	---	0 / 0	0 / 0	0 / 0	94 / -94	0 / 0	0 /0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) AA, O

BEARING SIZE FACTOR = 1.15 AT JNT(S) AA, O (BASED ON SUPPORT DEPTH = 1-8)

BRACING

MAX. UNBRACED TOP CHORD LENGTH = 3.08 FT.

MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

1 LATERAL BRACE(S) AT 1/ 2 LENGTH OF B-X, C-W, G-V, I-U, J-S.

2 LATERAL BRACE(S) AT 1/ 3 LENGTH OF E-W.

END VERTICAL(S) MUST BE SHEATHED OR HAVE BRACES AS INDICATED IN THE MAX. UNBRACED LENGTH COLUMN OF THE TABLE BELOW

LOADING

TOTAL LOAD CASES: (18)

CHORDS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD LC1 (PLF) FROM	TO	MAX CSI (LC)	MAX. UNBRAC LENGTH
A- B	-3210 / 535	-95.2	-95.2	0.39 (2)	3.64
B- C	-5516 / 1002	-95.2	-95.2	0.49 (2)	3.91
C- D	-7435 / 1312	-95.2	-95.2	0.60 (2)	3.38
D- E	-7435 / 1312	-95.2	-95.2	0.60 (2)	3.38
E- F	-8892 / 1539	-95.2	-95.2	0.43 (2)	3.17
F- G	-8885 / 1539	-95.2	-95.2	0.57 (2)	3.13
G- H	-9137 / 1550	-95.2	-95.2	0.58 (3)	3.08
H- I	-9137 / 1550	-95.2	-95.2	0.58 (3)	3.08
I- J	-7865 / 1365	-95.2	-95.2	0.26 (3)	3.54
J- K	-6412 / 1147	-95.2	-95.2	0.28 (3)	3.85
K- L	-4524 / 846	-95.2	-95.2	0.22 (3)	4.48
L- M	-3196 / 541	-95.2	-95.2	0.39 (3)	3.65
AA- A	-3565 / 582	0.0	0.0	0.26 (2)	5.65
O- M	-3551 / 589	0.0	0.0	0.26 (3)	5.66
AB-AA	0 / 0	-134.7	-134.7	0.11 (1)	10.00
AA- Z	-131 / 131	-39.5	-39.5	0.14 (6)	6.25
Z- Y	-292 / 1910	-39.5	-39.5	0.40 (5)	6.25
Y- X	-292 / 1910	-39.5	-39.5	0.40 (5)	6.25
X- W	-872 / 5516	-39.5	-39.5	0.81 (2)	6.25
W- V	-1670 / 10487	-39.5	-39.5	0.44 (2)	6.25
V- U	-1420 / 9137	-39.5	-39.5	1.00 (3)	6.25
U- T	-1226 / 7886	-39.5	-39.5	0.88 (3)	6.25
T- S	-1324 / 8596	-39.5	-39.5	0.36 (3)	6.25
S- R	-673 / 4525	-39.5	-39.5	0.62 (3)	6.25
R- Q	-238 / 1901	-39.5	-39.5	0.31 (3)	6.25
Q- P	-238 / 1901	-39.5	-39.5	0.31 (3)	6.25
P- O	0 / 0	-39.5	-39.5	0.09 (5)	10.00
O- N	0 / 0	-134.7	-134.7	0.11 (1)	10.00

WEBS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
Z- B	-576 / 183	0.18 (2)
B- X	-745 / 4492	0.72 (3)
X- C	-2353 / 579	0.74 (3)
C- W	-407 / 2394	0.38 (3)
W- E	-8403 / 1414	0.70 (3)
E- V	-1140 / 7387	0.86 (3)
V- F	-12 / 366	0.08 (2)
V- G	-327 / 41	0.16 (3)
U- G	-809 / 289	0.29 (10)
U- I	-239 / 1566	0.35 (2)
T- I	-996 / 249	0.38 (2)
T- J	-1165 / 7316	0.85 (3)
S- J	-7707 / 1268	0.96 (3)
S- K	-457 / 2748	0.62 (2)
R- K	-2630 / 562	0.82 (2)
R- L	-632 / 3837	0.86 (2)
P- L	-627 / 162	0.19 (10)
A- Z	-260 / 2098	0.47 (2)
P- M	-264 / 2089	0.47 (3)

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING AS PER NBCC 4.1.6.2.(8)

WIND LOAD APPLIED IS DERIVED FROM REFERENCE VELOCITY PRESSURE OF { 9.2} PSF AT {30-0-0} FT-IN-SX REFERENCE HEIGHT ABOVE GRADE AND USING EXTERNAL PEAK COEFFICIENTS, CpCg, BASED ON THE {MAIN WIND FORCE RESISTING SYSTEM}.INTERNAL WIND PRESSURE IS BASED ON DESIGN {CATEGORY 2}. BUILDING MAY BE LOCATED ON {ROUGH TERRAIN} AT MINIMUM {1.000} MILES DISTANCE FROM OPEN TERRAIN., AND TRUSS IS DESIGNED TO BE LOCATED AT LEAST {0-0} FT-IN-SX AWAY FROM EAVE.TRUSS UPLIFT IS BASED ON TOP AND BOTTOM CHORD DEAD LOADS OF 6.0 PSF AND 7.4 PSF RESPECTIVELY.

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	26.7	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	10.5	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	50.6	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 8.00/12

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.

(80 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 26.7 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.70")
CALCULATED VERT. DEFL.(LL) = L/ 847 (0.72")
ALLOWABLE DEFL.(TL)= L/180 (3.39")
CALCULATED VERT. DEFL.(TL) = L/ 592 (1.03")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")

CSI: TC=0.60/1.00 (C-E:2) , BC=1.00/1.00 (U-V:3) , WB=0.96/1.00 (J-S:3) , SSI=0.44/1.00 (E-F:2)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 1.00
COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE HEELS OFF

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

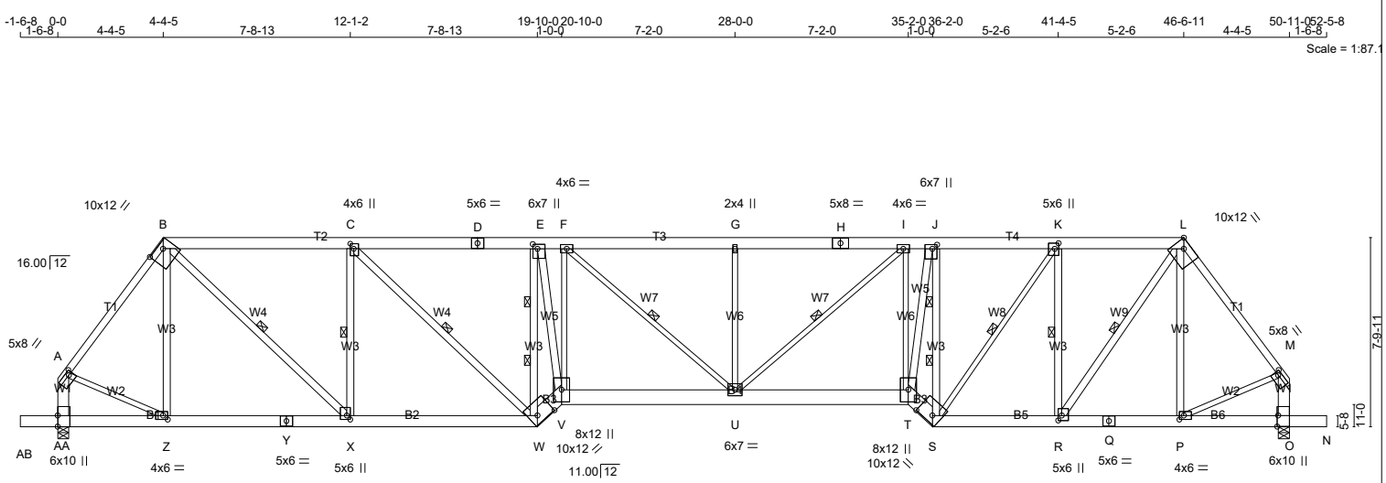
JSI GRIP= 0.89 (X) (INPUT = 0.90)
JSI METAL= 0.88 (S) (INPUT = 1.00)

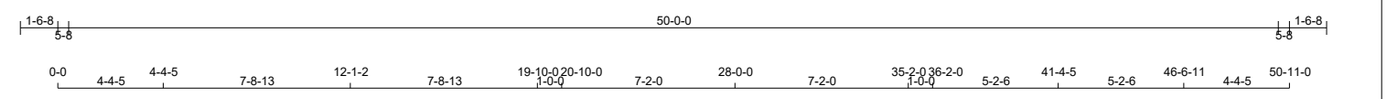
JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343286	H03TA		1	TRUSS DESC. JT 45147	E22052155

Alpha Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:28:59 2022 Page 1

ID:6tV605vCHTmD2wqljx3DtqzTTXK-vlxlq5nS2VuB13Us qEEp dj5e?D2fZcQoc8Rz6gC2





TOTAL WEIGHT = 345 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - B	2x4	DRY	No.2	SPF
B - D	2x6	DRY	No.2	SPF
D - H	2x6	DRY	No.2	SPF
H - L	2x6	DRY	No.2	SPF
L - M	2x4	DRY	No.2	SPF
AA- A	2x6	DRY	No.2	SPF
O - M	2x6	DRY	No.2	SPF
AB- Y	2x6	DRY	No.2	SPF
Y - W	2x6	DRY	No.2	SPF
W - V	2x8	DRY	No.2	SPF
V - T	2x8	DRY	No.2	SPF
T - S	2x8	DRY	No.2	SPF
S - Q	2x6	DRY	No.2	SPF
Q - N	2x6	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF
EXCEPT				
Z - B	2x4	DRY	1650F 1.5E	SPF
B - X	2x4	DRY	No.2	SPF
X - C	2x4	DRY	1650F 1.5E	SPF
C - W	2x4	DRY	No.2	SPF
W - E	2x4	DRY	1650F 1.5E	SPF
E - V	2x4	DRY	No.2	SPF
T - J	2x4	DRY	No.2	SPF
S - J	2x4	DRY	1650F 1.5E	SPF
R - K	2x4	DRY	1650F 1.5E	SPF
R - L	2x4	DRY	No.2	SPF
P - L	2x4	DRY	1650F 1.5E	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW-t	MT20	5.0	8.0	1.75	2.00
B	TTWW-h	MT20	10.0	12.0	2.75	7.25
C	TMWW+t	MT20	4.0	6.0	2.50	1.75
D	TS-t	MT20	5.0	6.0		
E	TMWW+t	MT20	6.0	7.0	2.25	2.25
F	TMWW-t	MT20	4.0	6.0		
G	TMW+w	MT20	2.0	4.0		
H	TS-t	MT20	5.0	8.0		
I	TMWW-t	MT20	4.0	6.0		
J	TMWW+t	MT20	6.0	7.0	2.00	2.25
K	TMWW+t	MT20	5.0	6.0	2.75	2.00
L	TTWW-h	MT20	10.0	12.0	Edge	4.50
M	TMVW-t	MT20	5.0	8.0	1.75	2.00
O	BMV1+t	MT20	6.0	10.0	Edge	0.50
P	BMWW-t	MT20	4.0	6.0	2.00	2.25
Q	BS-t	MT20	5.0	6.0		
R	BMWW+t	MT20	5.0	6.0	2.50	1.75
S	BBWW-h	MT20	10.0	12.0	3.50	7.75
T	BBWW+p	MT20	8.0	12.0		
U	BMWWW-t	MT20	6.0	7.0		
V	BBWW+p	MT20	8.0	12.0		
W	BBWW-h	MT20	10.0	12.0	3.75	8.00
X	BMWW+t	MT20	5.0	6.0	2.00	1.75
Y	BS-t	MT20	5.0	6.0		
Z	BMWW-t	MT20	4.0	6.0	2.00	2.25
AA	BMV1+t	MT20	6.0	10.0	Edge	

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

END VERTICALS ARE NOT EXPOSED TO WIND.

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
AA	3637	0	3779	-170	-584	5-8	5-8
O	3637	0	3779	0	-584	5-8	5-8

PROVIDE ANCHORAGE AT BEARING JOINT AA FOR 584 LBS FACTORED UPLIFT

PROVIDE ANCHORAGE AT BEARING JOINT O FOR 584 LBS FACTORED UPLIFT

PROVIDE FOR 170 LBS FACTORED HORIZONTAL REACTION AT JOINTAA

ALLOW FOR 0.3" OF HORIZONTAL MOVEMENT DUE TO TOTAL LOAD

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
AA	2734	1538 / 0	567 / 0	0 / 0	412 / -882	724 / 0	0 / 0
O	2734	1538 / 0	567 / 0	0 / 0	370 / -882	724 / 0	0 / 0
HORIZONTAL REACTIONS							
AA	---	0 / 0	0 / 0	0 / 0	122 / -122	0 / 0	0 /0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) AA, O

BEARING SIZE FACTOR = 1.15 AT JNT(S) AA, O (BASED ON SUPPORT DEPTH = 1-8)

BRACING

MAX. UNBRACED TOP CHORD LENGTH = 2.64 FT.

MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

1 LATERAL BRACE(S) AT 1/ 2 LENGTH OF B-X, C-X, C-W, F-U, I-U, K-S, K-R, L-R.

2 LATERAL BRACE(S) AT 1/ 3 LENGTH OF E-W, J-S.

END VERTICAL(S) MUST BE SHEATHED OR HAVE BRACES AS INDICATED IN THE MAX. UNBRACED LENGTH COLUMN OF THE TABLE BELOW

LOADING

TOTAL LOAD CASES: (18)

CHORDS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF) FROM	TO	LC1 MAX CSI (LC)	MAX. UNBRAC LENGTH
A- B	-3296 / 552	-95.2	-95.2	0.72 (2)	3.41
B- C	-4619 / 888	-95.2	-95.2	0.64 (2)	3.50
C- D	-6053 / 1115	-95.2	-95.2	0.79 (2)	2.98
D- E	-6053 / 1115	-95.2	-95.2	0.79 (2)	2.98
E- F	-6991 / 1260	-95.2	-95.2	0.66 (2)	2.77
F- G	-7206 / 1265	-95.2	-95.2	0.87 (3)	2.64
G- H	-7206 / 1265	-95.2	-95.2	0.87 (3)	2.64
H- I	-7206 / 1265	-95.2	-95.2	0.87 (3)	2.64
I- J	-6182 / 1121	-95.2	-95.2	0.41 (3)	3.28
J- K	-5225 / 984	-95.2	-95.2	0.39 (3)	3.58
K- L	-3846 / 768	-95.2	-95.2	0.30 (3)	4.16
L- M	-3283 / 556	-95.2	-95.2	0.72 (3)	3.42
AA- A	-3514 / 586	0.0	0.0	0.26 (2)	5.69
O- M	-3500 / 590	0.0	0.0	0.26 (3)	5.70
AB-AA	0 / 0	-134.7	-134.7	0.11 (1)	10.00
AA- Z	-170 / 170	-39.5	-39.5	0.12 (17)	6.25
Z- Y	-297 / 1968	-39.5	-39.5	0.39 (5)	6.25
Y- X	-297 / 1968	-39.5	-39.5	0.39 (5)	6.25
X- W	-720 / 4619	-39.5	-39.5	0.69 (2)	6.25
W- V	-1334 / 8520	-39.5	-39.5	0.83 (2)	6.25
V- U	-1092 / 6988	-39.5	-39.5	0.78 (2)	6.25
U- T	-935 / 6197	-39.5	-39.5	0.71 (3)	6.25
T- S	-1049 / 7034	-39.5	-39.5	0.68 (3)	6.25
S- R	-546 / 3846	-39.5	-39.5	0.52 (3)	6.25
R- Q	-227 / 1959	-39.5	-39.5	0.30 (3)	6.25
Q- P	-227 / 1959	-39.5	-39.5	0.30 (3)	6.25
P- O	0 / 0	-39.5	-39.5	0.07 (17)	10.00
O- N	0 / 0	-134.7	-134.7	0.11 (1)	10.00

WEBS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
Z- B	-439 / 160	0.23 (9)
B- X	-620 / 3697	0.59 (3)
X- C	-2260 / 554	0.41 (3)
C- W	-345 / 2009	0.32 (3)
W- E	-7033 / 1171	0.71 (3)
E- V	-910 / 5956	0.96 (3)
V- F	0 / 201	0.05 (5)
F- U	-43 / 323	0.07 (3)
U- G	-968 / 295	0.62 (10)
U- I	-218 / 1403	0.32 (2)
T- I	-971 / 253	0.64 (2)
T- J	-962 / 6094	0.98 (3)
S- J	-6612 / 1076	0.67 (3)
S- K	-404 / 2405	0.54 (2)
R- K	-2536 / 537	0.46 (2)
R- L	-551 / 3302	0.53 (2)
P- L	-501 / 145	0.27 (10)
A- Z	-241 / 2086	0.47 (2)
P- M	-243 / 2078	0.47 (3)

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING AS PER NBCC 4.1.6.2.(8)

WIND LOAD APPLIED IS DERIVED FROM REFERENCE VELOCITY PRESSURE OF { 9.2} PSF AT {30-0-0} FT-IN-SX REFERENCE HEIGHT ABOVE GRADE AND USING EXTERNAL PEAK COEFFICIENTS, CpCg, BASED ON THE {MAIN WIND FORCE RESISTING SYSTEM}.INTERNAL WIND PRESSURE IS BASED ON DESIGN {CATEGORY 2}. BUILDING MAY BE LOCATED ON {ROUGH TERRAIN} AT MINIMUM {1.000} MILES DISTANCE FROM OPEN TERRAIN., AND TRUSS IS DESIGNED TO BE LOCATED AT LEAST {0-0} FT-IN-SX AWAY FROM EAVE.TRUSS UPLIFT IS BASED ON TOP AND BOTTOM CHORD DEAD LOADS OF 6.0 PSF AND 7.4 PSF RESPECTIVELY.

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	26.7	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	10.5	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	50.6	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 8.00/12

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.

(80 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 26.7 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.70")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.57")
ALLOWABLE DEFL.(TL)= L/180 (3.39")
CALCULATED VERT. DEFL.(TL) = L/ 749 (0.82")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")

CSI: TC=0.87/1.00 (G-I:3) , BC=0.83/1.00 (V-W:2) , WB=0.98/1.00 (J-T:3) , SSI=0.45/1.00 (E-F:3)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 1.00
COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE HEELS OFF

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

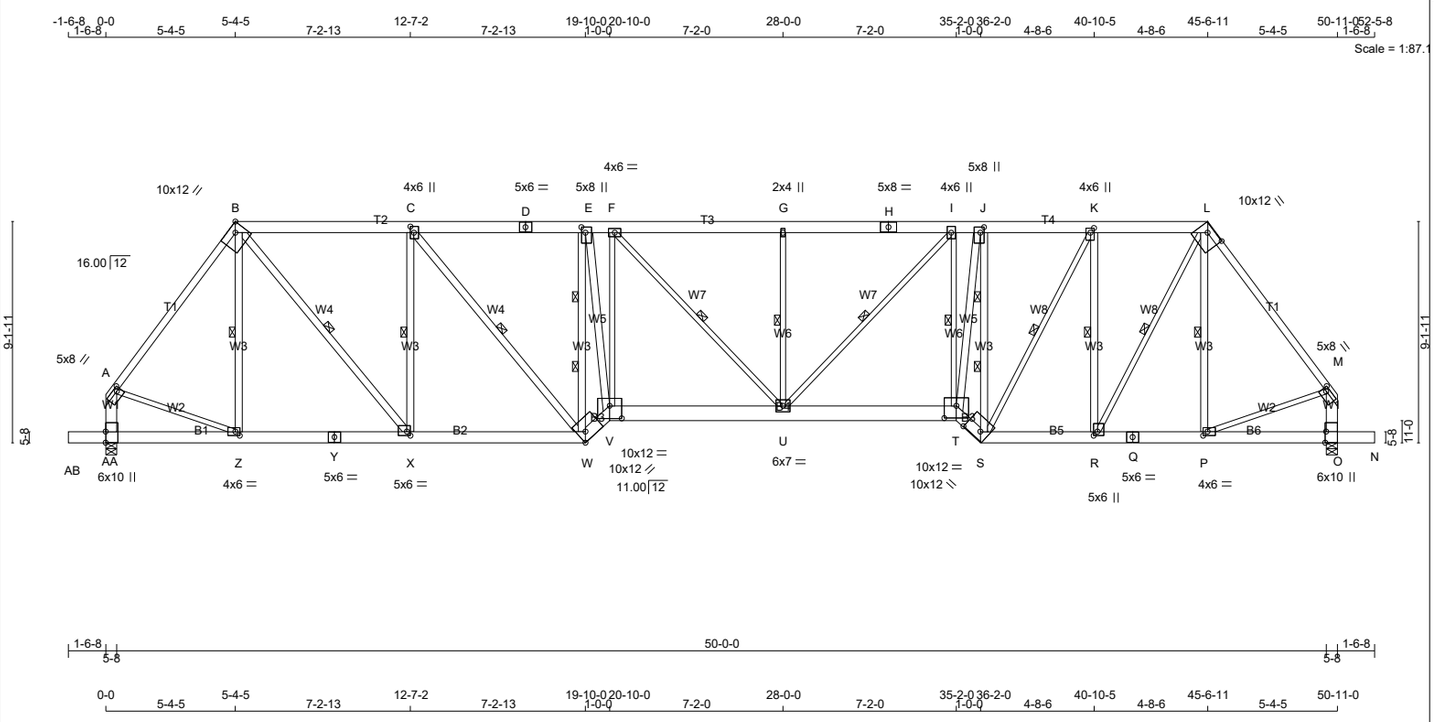
JSI GRIP= 0.89 (E) (INPUT = 0.90)
JSI METAL= 0.94 (X) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343286	H04TA		1	TRUSS DESC. JT 45147	E22052156

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:29:03 2022 Page 1

ID:6tV605vCHTmD2wqljx3DtgzTTXK-nWAGgSrz6kPdWgodDgJAzg8Jmi_k9ur9W2mpHCz6gC_



TOTAL WEIGHT = 362 lb

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - B	2x4	DRY	1650F 1.5E	SPF
B - D	2x6	DRY	No.2	SPF
D - H	2x6	DRY	No.2	SPF
H - L	2x6	DRY	No.2	SPF
L - M	2x4	DRY	1650F 1.5E	SPF
AA- A	2x6	DRY	No.2	SPF
O - M	2x6	DRY	No.2	SPF
AB- Y	2x6	DRY	No.2	SPF
Y - W	2x6	DRY	No.2	SPF
W - V	2x6	DRY	No.2	SPF
V - T	2x8	DRY	No.2	SPF
T - S	2x6	DRY	No.2	SPF
S - Q	2x6	DRY	No.2	SPF
Q - N	2x6	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF
EXCEPT				
Z - B	2x4	DRY	1650F 1.5E	SPF
B - X	2x4	DRY	No.2	SPF
X - C	2x4	DRY	1650F 1.5E	SPF
C - W	2x4	DRY	No.2	SPF
W - E	2x4	DRY	1650F 1.5E	SPF
E - V	2x4	DRY	No.2	SPF
T - J	2x4	DRY	No.2	SPF
S - J	2x4	DRY	1650F 1.5E	SPF
R - K	2x4	DRY	1650F 1.5E	SPF
P - L	2x4	DRY	1650F 1.5E	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW-t	MT20	5.0	8.0	1.75	2.00
B	TTWW-h	MT20	10.0	12.0	Edge	4.50
C	TMWW+t	MT20	4.0	6.0	3.00	1.75
D	TS-t	MT20	5.0	6.0		
E	TMWW+t	MT20	5.0	8.0	2.75	2.00
F	TMWW-t	MT20	4.0	6.0		
G	TMW+w	MT20	2.0	4.0		
H	TS-t	MT20	5.0	8.0		
I	TMWW+t	MT20	4.0	6.0		
J	TMWW+t	MT20	5.0	8.0	2.75	1.75
K	TMWW+t	MT20	4.0	6.0	2.25	1.75
L	TTWW-h	MT20	10.0	12.0	3.00	7.50
M	TMVW-t	MT20	5.0	8.0	1.75	2.00
O	BMV1+t	MT20	6.0	10.0	Edge	0.50
P	BMWW-t	MT20	4.0	6.0	2.00	2.25
Q	BS-t	MT20	5.0	6.0		
R	BMWW+t	MT20	5.0	6.0	2.00	2.00
S	BBWW-h	MT20	10.0	12.0	3.75	8.00
T	BBWW-l	MT20	10.0	12.0	6.00	6.00
U	BMWWW-t	MT20	6.0	7.0		
V	BBWW-l	MT20	10.0	12.0	6.25	6.00
W	BBWW-h	MT20	10.0	12.0	4.00	Edge
X	BMWW-t	MT20	5.0	6.0	2.00	1.75
Y	BS-t	MT20	5.0	6.0		
Z	BMWW-t	MT20	4.0	6.0	2.00	2.25
AA	BMV1+t	MT20	6.0	10.0	Edge	

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

END VERTICALS ARE NOT EXPOSED TO WIND.

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
AA	3637	0	3764	-210	-579	5-8	5-8
O	3637	0	3764	0	-579	5-8	5-8

PROVIDE ANCHORAGE AT BEARING JOINT AA FOR 579 LBS FACTORED UPLIFT

PROVIDE ANCHORAGE AT BEARING JOINT O FOR 579 LBS FACTORED UPLIFT

PROVIDE FOR 210 LBS FACTORED HORIZONTAL REACTION AT JOINTAA

ALLOW FOR 0.3" OF HORIZONTAL MOVEMENT DUE TO TOTAL LOAD

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
AA	2734	1528 / 0	567 / 0	0 / 0	408 / -878	724 / 0	0 / 0
O	2734	1528 / 0	567 / 0	0 / 0	357 / -878	724 / 0	0 / 0
HORIZONTAL REACTIONS							
AA	---	0 / 0	0 / 0	0 / 0	150 / -150	0 / 0	0 /0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) AA, O

BEARING SIZE FACTOR = 1.15 AT JNT(S) AA, O (BASED ON SUPPORT DEPTH = 1-8)

BRACING

MAX. UNBRACED TOP CHORD LENGTH = 3.01 FT.

MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

1 LATERAL BRACE(S) AT 1/ 2 LENGTH OF B-Z, B-X, C-X, C-W, F-U, G-U, I-U, I-T, K-S, K-R, L-R, L-P.

2 LATERAL BRACE(S) AT 1/ 3 LENGTH OF E-W, J-S.

END VERTICAL(S) MUST BE SHEATHED OR HAVE BRACES AS INDICATED IN THE MAX. UNBRACED LENGTH COLUMN OF THE TABLE BELOW

LOADING

TOTAL LOAD CASES: (18)

CHORDS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF) FROM	TO	LC1 CSI (LC)	MAX. UNBRAC LENGTH
A- B	-3331 / 557	-95.2	-95.2	0.87 (2)	3.86
B- C	-3989 / 816	-95.2	-95.2	0.51 (2)	3.87
C- D	-5062 / 981	-95.2	-95.2	0.60 (2)	3.42
D- E	-5062 / 981	-95.2	-95.2	0.60 (2)	3.42
E- F	-5709 / 1080	-95.2	-95.2	0.55 (3)	3.19
F- G	-5938 / 1087	-95.2	-95.2	0.74 (3)	3.01
G- H	-5938 / 1087	-95.2	-95.2	0.74 (3)	3.01
H- I	-5938 / 1087	-95.2	-95.2	0.74 (3)	3.01
I- J	-5047 / 967	-95.2	-95.2	0.36 (3)	3.63
J- K	-4376 / 876	-95.2	-95.2	0.33 (3)	3.91
K- L	-3356 / 719	-95.2	-95.2	0.22 (3)	4.49
L- M	-3329 / 560	-95.2	-95.2	0.87 (3)	3.86
AA- A	-3473 / 588	0.0	0.0	0.26 (2)	5.72
O- M	-3472 / 591	0.0	0.0	0.26 (3)	5.72
AB-AA	0 / 0	-134.7	-134.7	0.11 (1)	10.00
AA- Z	-210 / 210	-39.5	-39.5	0.12 (17)	6.25
Z- Y	-293 / 1992	-39.5	-39.5	0.37 (5)	6.25
Y- X	-293 / 1992	-39.5	-39.5	0.37 (5)	6.25
X- W	-610 / 3989	-39.5	-39.5	0.60 (2)	6.25
W- V	-1090 / 7112	-39.5	-39.5	0.84 (2)	6.25
V- U	-874 / 5707	-39.5	-39.5	0.65 (2)	6.25
U- T	-734 / 5060	-39.5	-39.5	0.59 (3)	6.25
T- S	-844 / 5909	-39.5	-39.5	0.70 (3)	6.25
S- R	-449 / 3356	-39.5	-39.5	0.45 (3)	6.25
R- Q	-212 / 1991	-39.5	-39.5	0.33 (3)	6.25
Q- P	-212 / 1991	-39.5	-39.5	0.33 (3)	6.25
P- O	0 / 0	-39.5	-39.5	0.11 (5)	10.00
O- N	0 / 0	-134.7	-134.7	0.11 (1)	10.00

WEBS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
Z- B	-341 / 146	0.09 (9)
B- X	-541 / 3175	0.51 (3)
X- C	-2145 / 529	0.56 (3)
C- W	-303 / 1731	0.28 (3)
W- E	-6048 / 990	0.78 (3)
E- V	-743 / 4962	0.80 (3)
V- F	0 / 161	0.04 (5)
F- U	-57 / 382	0.09 (3)
U- G	-976 / 296	0.35 (3)
U- I	-216 / 1360	0.31 (2)
T- I	-978 / 260	0.37 (2)
T- J	-813 / 5222	0.84 (3)
S- J	-5826 / 937	0.75 (3)
S- K	-372 / 2188	0.49 (2)
R- K	-2417 / 510	0.63 (2)
R- L	-497 / 2917	0.66 (2)
P- L	-375 / 131	0.09 (10)
A- Z	-220 / 2072	0.47 (2)
P- M	-222 / 2071	0.47 (3)

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING AS PER NBCC 4.1.6.2.(8)

WIND LOAD APPLIED IS DERIVED FROM REFERENCE VELOCITY PRESSURE OF { 9.2} PSF AT {30-0-0} FT-IN-SX REFERENCE HEIGHT ABOVE GRADE AND USING EXTERNAL PEAK COEFFICIENTS, CpCg, BASED ON THE {MAIN WIND FORCE RESISTING SYSTEM}.INTERNAL WIND PRESSURE IS BASED ON DESIGN {CATEGORY 2}. BUILDING MAY BE LOCATED ON {ROUGH TERRAIN} AT MINIMUM {1.000} MILES DISTANCE FROM OPEN TERRAIN., AND TRUSS IS DESIGNED TO BE LOCATED AT LEAST {0-0} FT-IN-SX AWAY FROM EAVE.TRUSS UPLIFT IS BASED ON TOP AND BOTTOM CHORD DEAD LOADS OF 6.0 PSF AND 7.4 PSF RESPECTIVELY.

[M]

DESIGN CRITERIA

SPECIFIED LOADS:

TOP	CH.	LL	=	26.7	PSF
		DL	=	6.0	PSF
BOT	CH.	LL	=	10.5	PSF
		DL	=	7.4	PSF
TOTAL	LOAD		=	50.6	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 8.00/12

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.

(80 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 26.7 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.70")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.48")
ALLOWABLE DEFL.(TL)= L/180 (3.39")
CALCULATED VERT. DEFL.(TL) = L/ 892 (0.68")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")

CSI: TC=0.87/1.00 (A-B:2) , BC=0.84/1.00 (V-W:2) , WB=0.84/1.00 (J-T:3) , SSI=0.45/1.00 (E-F:3)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 1.00
COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE HEELS OFF

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

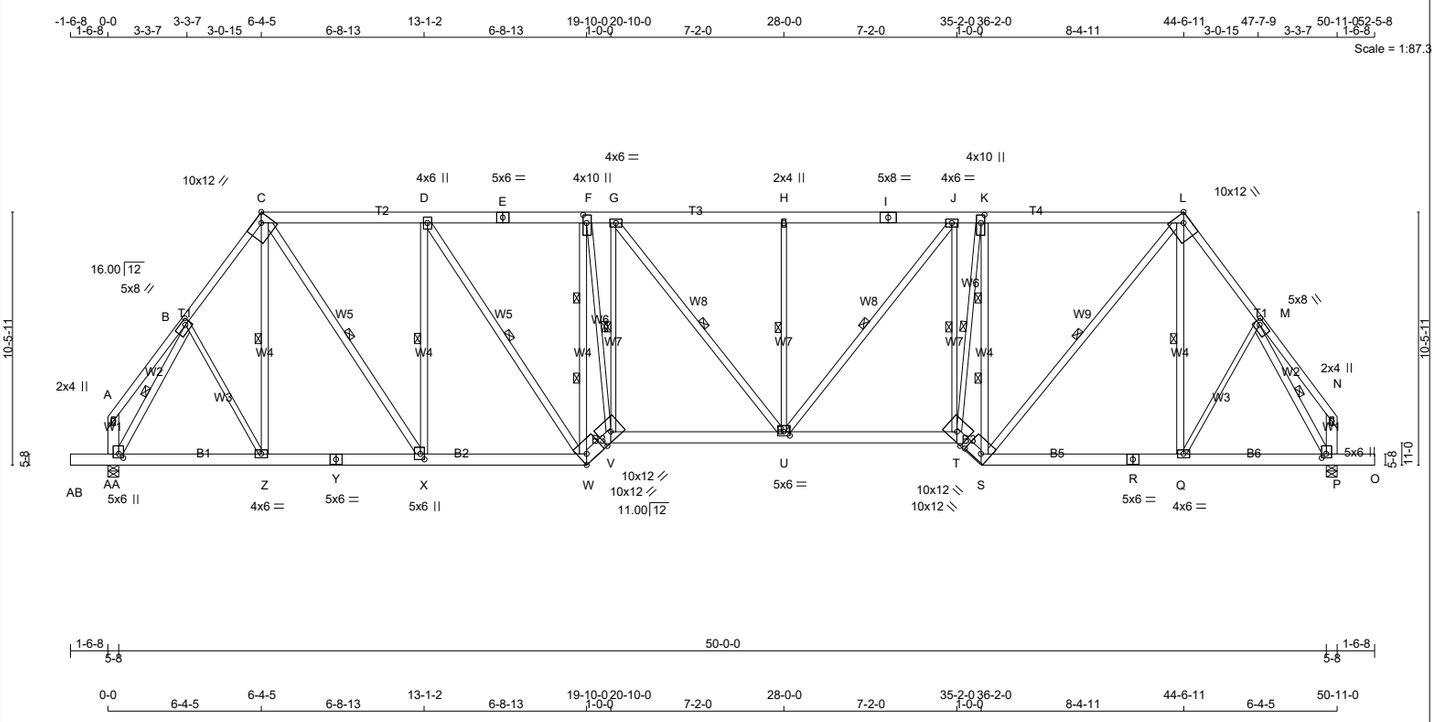
JSI GRIP= 0.90 (Z) (INPUT = 0.90)
JSI METAL= 0.68 (J) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343286	H05TA		1	TRUSS DESC. JT 45147	E22052157

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:29:07 2022 Page 1

ID:6tV605vCHTmD2wqljx3DtqzTTXK-gHQmWquUAyv2?H5OSVN68gJ?6JNj5gklRgk0P z6gBw



TOTAL WEIGHT = 2 X 378 = 756 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - C	2x4	DRY	No.2	SPF
C - E	2x6	DRY	No.2	SPF
E - I	2x6	DRY	No.2	SPF
I - L	2x6	DRY	No.2	SPF
L - N	2x4	DRY	No.2	SPF
AA- A	2x6	DRY	No.2	SPF
P - N	2x6	DRY	No.2	SPF
AB- Y	2x6	DRY	No.2	SPF
Y - W	2x6	DRY	No.2	SPF
W - V	2x6	DRY	No.2	SPF
V - T	2x6	DRY	No.2	SPF
T - S	2x6	DRY	No.2	SPF
S - R	2x6	DRY	No.2	SPF
R - O	2x6	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF
EXCEPT				
Z - C	2x4	DRY	1650F 1.5E	SPF
C - X	2x4	DRY	No.2	SPF
X - D	2x4	DRY	1650F 1.5E	SPF
D - W	2x4	DRY	No.2	SPF
W - F	2x4	DRY	1650F 1.5E	SPF
G - U	2x4	DRY	No.2	SPF
U - J	2x4	DRY	No.2	SPF
S - K	2x4	DRY	1650F 1.5E	SPF
S - L	2x4	DRY	No.2	SPF
Q - L	2x4	DRY	1650F 1.5E	SPF
AA- B	2x4	DRY	No.2	SPF
M - P	2x4	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMV+p	MT20	2.0	4.0		
B	TMWW-t	MT20	5.0	8.0	2.25	2.50
C	TTWW-h	MT20	10.0	12.0	Edge	4.50
D	TMWW+t	MT20	4.0	6.0		
E	TS-t	MT20	5.0	6.0		
F	TMWW+t	MT20	4.0	10.0	4.00	1.75
G	TMWW-t	MT20	4.0	6.0		
H	TMW+w	MT20	2.0	4.0		
I	TS-t	MT20	5.0	8.0		
J	TMWW-t	MT20	4.0	6.0		
K	TMWW+t	MT20	4.0	10.0	4.00	1.75
L	TTWW-h	MT20	10.0	12.0	Edge	4.50
M	TMWW-t	MT20	5.0	8.0	2.25	2.50
N	TMV+p	MT20	2.0	4.0		
P	BMVW1+p	MT20	5.0	6.0	2.00	2.25
Q	BMWW-t	MT20	4.0	6.0		
R	BS-t	MT20	5.0	6.0		
S	BBWW-h	MT20	10.0	12.0	3.50	7.75
T	BBWW-h	MT20	10.0	12.0	Edge	
U	BMWWW-t	MT20	5.0	6.0	2.00	3.00
V	BBWW-h	MT20	10.0	12.0	Edge	
W	BBWW-h	MT20	10.0	12.0	4.00	Edge
X	BMWW+t	MT20	5.0	6.0	2.75	2.00
Y	BS-t	MT20	5.0	6.0		
Z	BMWW-t	MT20	4.0	6.0		
AA	BMVW1+p	MT20	5.0	6.0	2.00	2.25

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

END VERTICALS ARE NOT EXPOSED TO WIND.

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM GROSS REACTION DOWN	HORZ	FACTORED UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
AA	3637	0	3747	-249	-572	5-8	4-6
P	3637	0	3747	0	-572	5-8	4-6

PROVIDE ANCHORAGE AT BEARING JOINT AA FOR 572 LBS FACTORED UPLIFT

PROVIDE ANCHORAGE AT BEARING JOINT P FOR 572 LBS FACTORED UPLIFT

PROVIDE FOR 249 LBS FACTORED HORIZONTAL REACTION AT JOINTAA

ALLOW FOR 0.3" OF HORIZONTAL MOVEMENT DUE TO TOTAL LOAD

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
AA	2734	1517 / 0	567 / 0	0 / 0	402 / -874	724 / 0	0 / 0
P	2734	1517 / 0	567 / 0	0 / 0	346 / -874	724 / 0	0 / 0
HORIZONTAL REACTIONS							
AA	---	0 / 0	0 / 0	0 / 0	178 / -178	0 / 0	0 /0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) AA, P

BRACING

MAX. UNBRACED TOP CHORD LENGTH = 3.17 FT.

MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

1 LATERAL BRACE(S) AT 1/ 2 LENGTH OF C-Z, C-X, D-X, D-W, F-V, G-V, G-U, H-U, J-U, J-T, K-T, L-S, L-Q, B-AA, M-P.

2 LATERAL BRACE(S) AT 1/ 3 LENGTH OF F-W, K-S.

END VERTICAL(S) MUST BE SHEATHED OR HAVE BRACES AS INDICATED IN THE MAX. UNBRACED LENGTH COLUMN OF THE TABLE BELOW

LOADING

TOTAL LOAD CASES: (18)

CHORDS

MEMB. FR-TO	MAX. FORCE (LBS)	FACTORED VERT. LOAD LC1 (PLF) FROM	TO	MAX CSI (LC)	MAX. UNBRAC LENGTH
A- B	-21 / 124	-95.2	-95.2	0.19 (13)	6.25
B- C	-3350 / 744	-95.2	-95.2	0.33 (2)	3.63
C- D	-3517 / 769	-95.2	-95.2	0.40 (2)	4.21
D- E	-4371 / 896	-95.2	-95.2	0.58 (3)	3.63
E- F	-4371 / 896	-95.2	-95.2	0.58 (3)	3.63
F- G	-4809 / 961	-95.2	-95.2	0.54 (3)	3.44
G- H	-5013 / 964	-95.2	-95.2	0.71 (3)	3.25
H- I	-5013 / 964	-95.2	-95.2	0.71 (3)	3.25
I- J	-5013 / 964	-95.2	-95.2	0.71 (3)	3.25
J- K	-4257 / 870	-95.2	-95.2	0.74 (3)	3.17
K- L	-3841 / 830	-95.2	-95.2	0.85 (3)	3.38
L- M	-3366 / 738	-95.2	-95.2	0.33 (3)	3.63
M- N	-20 / 124	-95.2	-95.2	0.19 (14)	6.25
AA- A	-142 / 138	0.0	0.0	0.01 (13)	7.81
P- N	-141 / 138	0.0	0.0	0.01 (14)	7.81
AB-AA	0 / 0	-134.7	-134.7	0.11 (1)	10.00
AA- Z	-399 / 1818	-39.5	-39.5	0.32 (5)	6.25
Z- Y	-284 / 1994	-39.5	-39.5	0.35 (5)	6.25
Y- X	-284 / 1994	-39.5	-39.5	0.35 (5)	6.25
X- W	-524 / 3517	-39.5	-39.5	0.52 (2)	6.25
W- V	-893 / 5987	-39.5	-39.5	0.71 (2)	6.25
V- U	-717 / 4805	-39.5	-39.5	0.70 (2)	6.25
U- T	-589 / 4261	-39.5	-39.5	0.64 (3)	6.25
T- S	-706 / 5103	-39.5	-39.5	0.61 (3)	6.25
S- R	-186 / 2005	-39.5	-39.5	0.43 (6)	6.25
R- Q	-186 / 2005	-39.5	-39.5	0.43 (6)	6.25
Q- P	-243 / 1826	-39.5	-39.5	0.41 (6)	6.25
P- O	0 / 0	-134.7	-134.7	0.11 (1)	10.00

WEBS

MEMB. FR-TO	MAX. FORCE (LBS)	MAX CSI (LC)
B- Z	0 / 485	0.11 (3)
Z- C	-183 / 187	0.07 (10)
C- X	-489 / 2802	0.45 (3)
X- D	-2058 / 506	0.77 (3)
D- W	-284 / 1603	0.26 (3)
W- F	-5193 / 831	0.86 (3)
F- V	-577 / 3942	0.89 (3)
V- G	-3 / 308	0.07 (5)
G- U	-65 / 393	0.06 (3)
U- H	-1023 / 302	0.55 (3)
U- J	-213 / 1309	0.21 (2)
T- J	-373 / 91	0.21 (2)
T- K	-534 / 3951	0.89 (3)
S- K	-5471 / 939	0.91 (2)
S- L	-540 / 2935	0.52 (13)
Q- L	-135 / 307	0.05 (9)
Q- M	-36 / 487	0.11 (2)
AA- B	-3782 / 512	0.76 (2)
M- P	-3800 / 506	0.76 (3)

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING AS PER NBCC 4.1.6.2.(8)

WIND LOAD APPLIED IS DERIVED FROM REFERENCE VELOCITY PRESSURE OF { 9.2} PSF AT {30-0-0} FT-IN-SX REFERENCE HEIGHT ABOVE GRADE AND USING EXTERNAL PEAK COEFFICIENTS, CpCg, BASED ON THE {MAIN WIND FORCE RESISTING SYSTEM}.INTERNAL WIND PRESSURE IS BASED ON DESIGN {CATEGORY 2}. BUILDING MAY BE LOCATED ON {ROUGH TERRAIN} AT MINIMUM {1.000} MILES DISTANCE FROM OPEN TERRAIN., AND TRUSS IS DESIGNED TO BE LOCATED AT LEAST {0-0} FT-IN-SX AWAY FROM EAVE.TRUSS UPLIFT IS BASED ON TOP AND BOTTOM CHORD DEAD LOADS OF 6.0 PSF AND 7.4 PSF RESPECTIVELY.

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	26.7	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	10.5	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	50.6	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 8.00/12

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.

(80 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 26.7 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.70")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.42")
ALLOWABLE DEFL.(TL)= L/180 (3.39")
CALCULATED VERT. DEFL.(TL) = L/ 994 (0.61")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")

CSI: TC=0.85/1.00 (K-L:3) , BC=0.71/1.00 (V-W:2) , WB=0.91/1.00 (K-S:2) , SSI=0.61/1.00 (J-K:2)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 1.00
COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE HEELS OFF

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

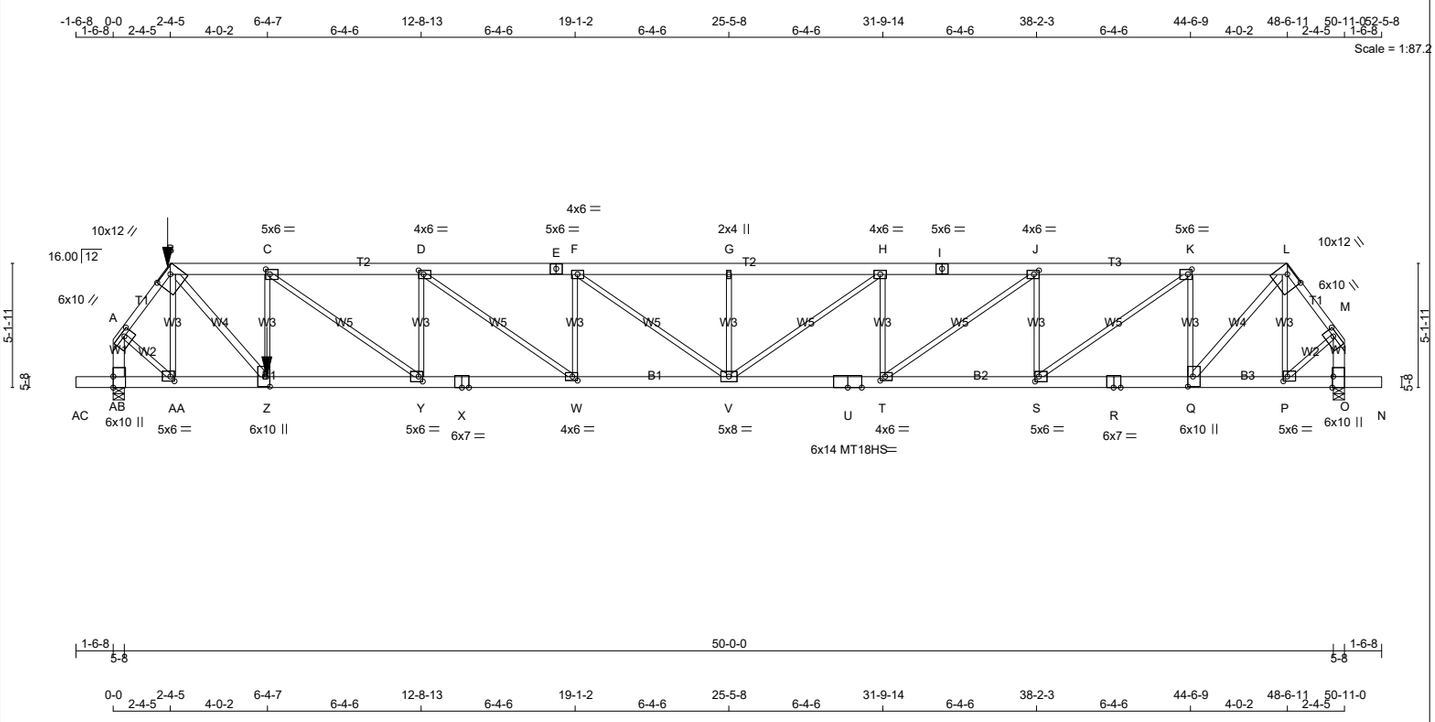
JSI GRIP= 0.90 (U) (INPUT = 0.90)
JSI METAL= 0.65 (M) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343285	H01A		2	TRUSS DESC. JT 45147	E22052163

Alpha Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:16:33 2022 Page 1

ID:6tV605vCHTmD2wqljx3DtqzTTXK-lEskG?mWkIv1XPSUH9sIaq4DBN AQhcm3M47yhz6qNi



TOTAL WEIGHT = 2 X 280 = 559 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - B	2x4	DRY	No.2	SPF
B - E	2x6	DRY	No.2	SPF
E - I	2x6	DRY	No.2	SPF
I - L	2x6	DRY	No.2	SPF
L - M	2x4	DRY	No.2	SPF
AB- A	2x6	DRY	No.2	SPF
O - M	2x6	DRY	No.2	SPF
AC- X	2x6	DRY	No.2	SPF
X - U	2x6	DRY	No.2	SPF
U - R	2x6	DRY	No.2	SPF
R - N	2x6	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF
EXCEPT				
B - Z	2x4	DRY	No.2	SPF
Q - L	2x4	DRY	No.2	SPF

DRY: SEASONED LUMBER.

DESIGN CONSISTS OF 2 TRUSSES BUILT SEPARATELY THEN FASTENED TOGETHER AS FOLLOWS:

CHORDS #ROWS		SURFACE SPACING (IN)	LOAD(PLF)
TOP CHORDS : (0.122"X3") SPIRAL NAILS			
A- B	1	12	SIDE(70.1)
L- M	1	12	TOP
B- E	2	12	SIDE(66.9)
E- I	2	12	TOP
I- L	2	12	TOP
AB- A	2	12	TOP
O- M	2	12	TOP
BOTTOM CHORDS : (0.122"X3") SPIRAL NAILS			
AC- X	2	12	SIDE(204.1)
X- U	2	12	TOP
U- R	2	12	TOP
R- N	2	12	TOP
WEBS : (0.122"X3") SPIRAL NAILS			
2x3	1	6	
C- Z	1	2	SIDE(1137.4)
2x4	1	6	

NAILS TO BE DRIVEN FROM ONE SIDE ONLY.

GIRDER NAILING ASSUMES NAILED HANGERS ARE FASTENED WITH MIN. 3-0 INCH NAILS.

TOP - COMPONENTS ARE LOADED FROM THE TOP AND MUST BE PLACED ON TOP EDGE OF ALL PLIES FOR THE LOAD TO BE TRANSFERRED TO EACH PLY.

SIDE - PLF SHOWN IS THE EQUIVALENT UDL APPLIED TO ONE SIDE THAT THE CORRESPONDING NAILING PATTERN SHALL BE CAPABLE OF TRANSFERING. REMAINING PLF MUST BE APPLIED ON THE OPPOSITE SIDE OR ON THE TOP.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW-t	MT20	6.0	10.0	2.00	4.00
B	TTWW-h	MT20	10.0	12.0	2.75	7.25
C	TMWW-t	MT20	5.0	6.0	2.50	2.00
D	TMWW-t	MT20	4.0	6.0	2.00	2.50
E	TS-t	MT20	5.0	6.0		
F	TMWW-t	MT20	4.0	6.0		
G	TMW+w	MT20	2.0	4.0		
H	TMWW-t	MT20	4.0	6.0		
I	TS-t	MT20	5.0	6.0		
J	TMWW-t	MT20	4.0	6.0	2.00	2.50

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
AB	8632	0	8945	153	-1424	5-8	5-8
O	4299	0	4487	0	-688	5-8	2-6

PROVIDE ANCHORAGE AT BEARING JOINT AB FOR 1424 LBS FACTORED UPLIFT
PROVIDE ANCHORAGE AT BEARING JOINT O FOR 688 LBS FACTORED UPLIFT

PROVIDE FOR 153 LBS FACTORED HORIZONTAL REACTION AT JOINTAB

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	SNOW	MAX./MIN. COMPONENT REACTIONS LIVE	PERM.LIVE	WIND	DEAD	SOIL
AB	6354	4065 / 0	1101 / 0	0 / 0	1179 / -1916	1398 / 0	0 / 0
O	3212	1894 / 0	634 / 0	0 / 0	483 / -1012	809 / 0	0 / 0
HORIZONTAL REACTIONS							
AB	---	0 / 0	0 / 0	0 / 0	110 / -110	0 / 0	0 /0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) AB, O
BEARING SIZE FACTOR = 1.15 AT JNT(S) AB (BASED ON SUPPORT DEPTH = 1-8)

BRACING

MAX. UNBRACED TOP CHORD LENGTH = 3.05 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

LOADING

TOTAL LOAD CASES: (18)

CHORDS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD LC1 (PLF) FROM	TO	MAX CSI (LC)	MAX. UNBRAC LENGTH
A- B	-7369 / 1242	-95.2	-95.2	0.25 (2)	3.47
B- C	-10806 / 1710	-198.6	-198.6	0.36 (2)	3.53
C- D	-12994 / 2057	-95.2	-95.2	0.50 (2)	3.17
D- E	-13889 / 2218	-95.2	-95.2	0.54 (2)	3.05
E- F	-13889 / 2218	-95.2	-95.2	0.54 (2)	3.05
F- G	-13568 / 2178	-95.2	-95.2	0.52 (2)	3.09
G- H	-13568 / 2178	-95.2	-95.2	0.52 (3)	3.09
H- I	-12040 / 1959	-95.2	-95.2	0.43 (3)	3.34
I- J	-12040 / 1959	-95.2	-95.2	0.43 (3)	3.34
J- K	-9280 / 1541	-95.2	-95.2	0.30 (3)	3.85
K- L	-5309 / 931	-95.2	-95.2	0.16 (3)	4.96
L- M	-3544 / 599	-95.2	-95.2	0.10 (14)	4.92
AB- A	-8741 / 1438	0.0	0.0	0.35 (2)	5.10
O- M	-4262 / 686	0.0	0.0	0.17 (3)	6.93
AC-AB	0 / 0	-134.7	-134.7	0.06 (1)	10.00
AB-AA	-133 / 142	-77.8	-77.8	0.09 (3)	6.25
AA- Z	-676 / 4364	-77.8	-77.8	0.37 (2)	6.25
Z- Y	-1578 / 10806	-39.5	-39.5	0.79 (2)	6.25
Y- X	-1925 / 12994	-39.5	-39.5	0.91 (2)	6.25
X- W	-1925 / 12994	-39.5	-39.5	0.91 (2)	6.25
W- V	-2086 / 13889	-39.5	-39.5	0.98 (2)	6.25
V- U	-1815 / 12040	-39.5	-39.5	0.85 (3)	6.25
U- T	-1815 / 12040	-39.5	-39.5	0.85 (3)	6.25
T- S	-1385 / 9280	-39.5	-39.5	0.67 (3)	6.25
S- R	-762 / 5309	-39.5	-39.5	0.39 (3)	6.25
R- Q	-762 / 5309	-39.5	-39.5	0.39 (3)	6.25
Q- P	-253 / 2097	-39.5	-39.5	0.18 (3)	6.25
P- O	-10 / 21	-39.5	-39.5	0.03 (2)	10.00
O- N	0 / 0	-134.7	-134.7	0.06 (1)	10.00

WEBS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
AA- B	-2289 / 474	0.40 (2)
B- Z	-1397 / 9906	0.88 (3)
Z- C	-2370 / 665	0.42 (3)
C- Y	-446 / 2731	0.34 (3)
Y- D	-1334 / 347	0.24 (3)
D- W	-215 / 1126	0.14 (3)
W- F	-458 / 212	0.08 (10)
F- V	-457 / 66	0.28 (9)
V- G	-695 / 227	0.12 (10)
V- H	-287 / 1913	0.24 (2)
T- H	-1785 / 399	0.32 (2)
T- J	-534 / 3441	0.43 (2)
S- J	-2694 / 549	0.48 (2)
S- K	-773 / 4945	0.61 (2)
Q- K	-3525 / 666	0.62 (2)
Q- L	-783 / 4944	0.44 (2)
P- L	-1166 / 205	0.21 (3)
A-AA	-779 / 5191	0.64 (2)
P- M	-327 / 2496	0.31 (3)

FACTORED CONCENTRATED LOADS (LBS)

JT	LOC.	LC1	MAX-	MAX+	FACE	DIR.	TYPE	HEEL	CONN.
B	2-4-5	-177	-231	154	FRONT	VERT	TOTAL	---	C1
Z	6-4-4	-4822	-4989	510	FRONT	VERT	TOTAL	---	C1

CONNECTION REQUIREMENTS

1) **C1:** A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED.

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING AS PER NBCC 4.1.6.2.(8)

WIND LOAD APPLIED IS DERIVED FROM REFERENCE VELOCITY PRESSURE OF { 9.2} PSF AT {30-0-0} FT-IN-SX REFERENCE HEIGHT ABOVE GRADE AND USING EXTERNAL PEAK COEFFICIENTS, CpCg, BASED ON THE {MAIN WIND FORCE RESISTING SYSTEM}.INTERNAL WIND PRESSURE IS BASED ON DESIGN {CATEGORY 2}. BUILDING MAY BE LOCATED ON {ROUGH TERRAIN} AT MINIMUM {1.000} MILES DISTANCE FROM OPEN TERRAIN., AND TRUSS IS DESIGNED TO BE LOCATED AT LEAST {0-0} FT-IN-SX AWAY FROM EAVE.TRUSS UPLIFT IS BASED ON TOP AND BOTTOM CHORD DEAD LOADS OF 6.0 PSF AND 7.4 PSF RESPECTIVELY.

DESIGN CRITERIA

*** SPECIAL LOADS ANALYSIS ***
GEOMETRY AND/OR BASIC LOADS CHANGED BY USER.
LOADS WERE DERIVED FROM USER INPUT
NO FURTHER MODIFICATIONS WERE MADE

SPECIFIED LOADS:

TOP	CH.	LL =	26.7	PSF
		DL =	6.0	PSF
BOT	CH.	LL =	10.5	PSF
		DL =	7.4	PSF
TOTAL	LOAD	=	50.6	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 8.00/12

GIRDER TYPE: CPrimeHip
SIDE SETBACK = 2-4-5
END SETBACK = 5-10-8
END WALL WIDTH = 0-0
CORNER FRAMING TYPE: CONVENTIONAL
END JACK TYPE: CONVENTIONAL
APPLIED TO FRONT SIDE
- ADDT'L LOADS BASED ON 91 % OF GSL.
LOADS APPLIED TO FIRST 6-4-4 OF SPAN MEASURED FROM THE LEFT.

*** NON STANDARD GIRDER ***
ADDT'L USER-DEFINED LOADS APPLIED TO ALL LOAD CASES.

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.

(80 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 26.7 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.70")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.50")
ALLOWABLE DEFL.(TL)= L/180 (3.39")
CALCULATED VERT. DEFL.(TL) = L/ 886 (0.69")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")

CSI: TC=0.54/1.00 (D-F:2) , BC=0.98/1.00 (V-W:2) , WB=0.88/1.00 (B-Z:3) , SSI=0.16/1.00 (B-C:10)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.00 COMP=1.00 SHEAR=1.00 TENS= 1.00

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 1.00
COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE HEELS OFF

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873
MT18HS	586	403	2455	1382	3163	3004

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.90 (AA) (INPUT = 0.90)
JSI METAL= 0.97 (Q) (INPUT = 1.00)

CONTINUED ON PAGE 2

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
K	TMWW-t	MT20	5.0	6.0	2.50	2.00
L	TTWW-h	MT20	10.0	12.0	2.75	7.25
M	TMVW-t	MT20	6.0	10.0	2.00	4.00
O	BMV1+t	MT20	6.0	10.0	Edge	0.50
P	BMWW-t	MT20	5.0	6.0	2.25	2.00
Q	BMWW+t	MT20	6.0	10.0	5.00	2.50
R	BS-t	MT20	6.0	7.0		
S	BMWW-t	MT20	5.0	6.0	2.50	2.00
T	BMWW-t	MT20	4.0	6.0	2.00	2.50
U	BS-t	MT18HS	6.0	14.0		
V	BMWWW-t	MT20	5.0	8.0		
W	BMWW-t	MT20	4.0	6.0	2.00	2.50
X	BS-t	MT20	6.0	7.0		
Y	BMWW-t	MT20	5.0	6.0	2.50	2.00
Z	BMWW+t	MT20	6.0	10.0	5.00	2.50
AA	BMWW-t	MT20	5.0	6.0	2.25	2.00
AB	BMV1+t	MT20	6.0	10.0	Edge	

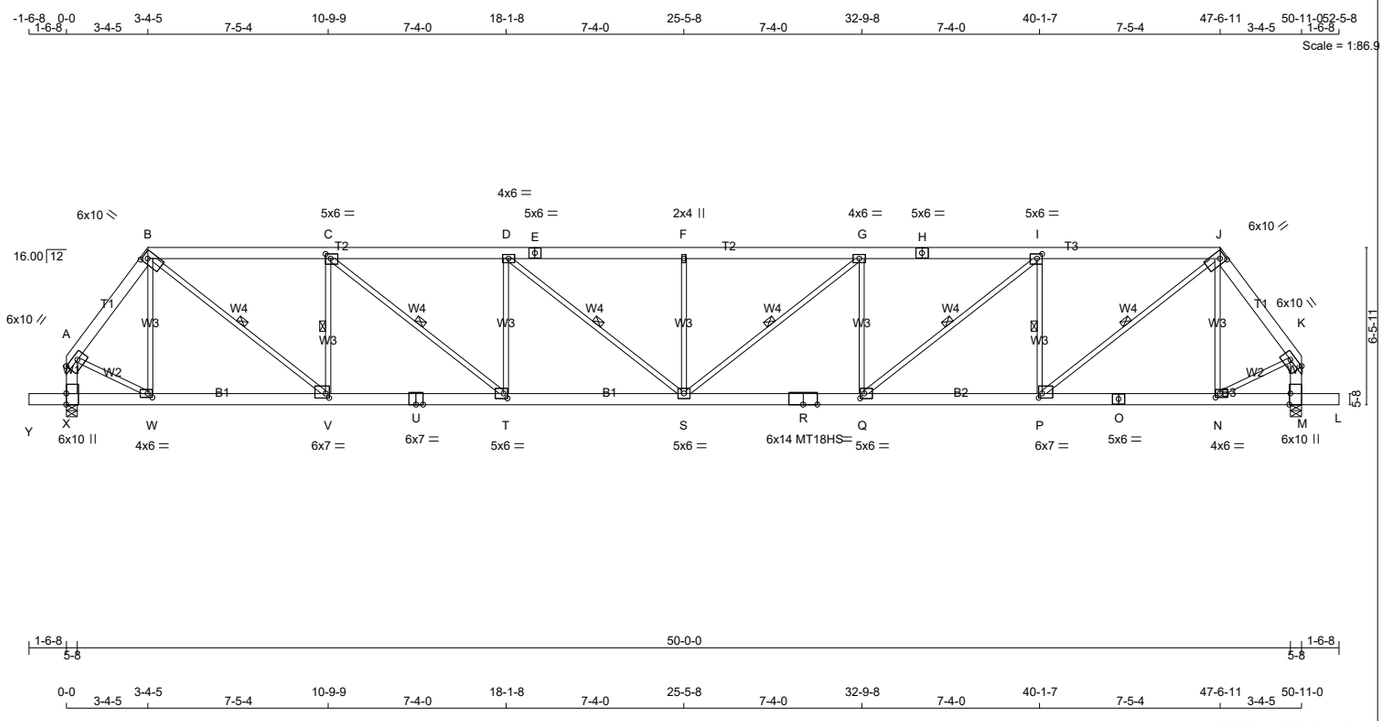
Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343285	H02		1	TRUSS DESC. JT 45147	E22052164

Alpha Roof Truss, Maple

ID:6tV605vCHTmD2wqljx3DtqzTTXK- zv794tAc32m6oeCJYWPRZyiY?3r1kj57Gm5mfz6gNZ



TOTAL WEIGHT = 284 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - B	2x6	DRY	No.2	SPF
B - E	2x6	DRY	No.2	SPF
E - H	2x6	DRY	No.2	SPF
H - J	2x6	DRY	No.2	SPF
J - K	2x6	DRY	No.2	SPF
X - A	2x6	DRY	No.2	SPF
M - K	2x6	DRY	No.2	SPF
Y - U	2x6	DRY	No.2	SPF
U - R	2x6	DRY	No.2	SPF
R - O	2x6	DRY	No.2	SPF
O - L	2x6	DRY	No.2	SPF
ALL WEBS EXCEPT	2x3	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW-t	MT20	6.0	10.0	Edge	5.75
B	TTWW+h	MT20	6.0	10.0	2.50	2.50
C	TMWW-t	MT20	5.0	6.0	2.25	2.50
D	TMWW-t	MT20	4.0	6.0		
E	TS-t	MT20	5.0	6.0		
F	TMW+w	MT20	2.0	4.0		
G	TMWW-t	MT20	4.0	6.0		
H	TS-t	MT20	5.0	6.0		
I	TMWW-t	MT20	5.0	6.0	2.25	2.50
J	TTWW+h	MT20	6.0	10.0	2.50	2.50
K	TMVW-t	MT20	6.0	10.0	Edge	5.75
M	BMV1+t	MT20	6.0	10.0	Edge	0.50
N	BMWW-t	MT20	4.0	6.0	2.00	2.25
O	BS-t	MT20	5.0	6.0		
P	BMWW-t	MT20	6.0	7.0	2.25	1.75
Q	BMWW-t	MT20	5.0	6.0	2.50	2.00
R	BS-t	MT18HS	6.0	14.0		
S	BMWWW-t	MT20	5.0	6.0		
T	BMWW-t	MT20	5.0	6.0	2.50	2.00
U	BS-t	MT20	6.0	7.0		
V	BMWW-t	MT20	6.0	7.0	2.25	1.75
W	BMWW-t	MT20	4.0	6.0	2.00	2.25
X	BMV1+t	MT20	6.0	10.0	Edge	

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
X	3637	0	3792	-188	-589	5-8	5-8
M	3637	0	3792	0	-589	5-8	5-8

PROVIDE ANCHORAGE AT BEARING JOINT X FOR 589 LBS FACTORED UPLIFT
PROVIDE ANCHORAGE AT BEARING JOINT M FOR 589 LBS FACTORED UPLIFT

PROVIDE FOR 188 LBS FACTORED HORIZONTAL REACTION AT JOINTX

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
X	2734	1547 / 0	567 / 0	0 / 0	415 / -886	724 / 0	0 / 0
M	2734	1547 / 0	567 / 0	0 / 0	384 / -886	724 / 0	0 / 0
HORIZONTAL REACTIONS							
X	---	0 / 0	0 / 0	0 / 0	134 / -134	0 / 0	0 /0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) X, M
BEARING SIZE FACTOR = 1.15 AT JNT(S) X, M (BASED ON SUPPORT DEPTH = 1-8)

BRACING

MAX. UNBRACED TOP CHORD LENGTH = 2.72 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

1 LATERAL BRACE(S) AT 1/ 2 LENGTH OF B-V, C-V, C-T, D-S, G-S, I-Q, I-P, J-P.

END VERTICAL(S) MUST BE SHEATHED OR HAVE BRACES AS INDICATED IN THE MAX. UNBRACED LENGTH COLUMN OF THE TABLE BELOW

LOADING

TOTAL LOAD CASES: (18)

CHORDS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	VERT. LOAD LC1 FROM (PLF)	TO	MAX CSI (LC)	MAX. UNBRAC LENGTH
A- B	-3277 / 551	-95.2	-95.2	0.16 (13)	4.59
B- C	-5202 / 959	-95.2	-95.2	0.62 (2)	3.37
C- D	-7068 / 1248	-95.2	-95.2	0.82 (2)	2.76
D- E	-7695 / 1341	-95.2	-95.2	0.79 (2)	2.72
E- F	-7695 / 1341	-95.2	-95.2	0.79 (2)	2.72
F- G	-7695 / 1341	-95.2	-95.2	0.79 (2)	2.72
G- H	-7068 / 1248	-95.2	-95.2	0.82 (3)	2.76
H- I	-7068 / 1248	-95.2	-95.2	0.82 (3)	2.76
I- J	-5202 / 960	-95.2	-95.2	0.62 (3)	3.37
J- K	-3277 / 551	-95.2	-95.2	0.16 (14)	4.59
X- A	-3575 / 584	0.0	0.0	0.25 (2)	5.65
M- K	-3575 / 584	0.0	0.0	0.25 (3)	5.65
Y- X	0 / 0	-134.7	-134.7	0.11 (1)	10.00
X- W	-170 / 180	-39.5	-39.5	0.15 (6)	6.25
W- V	-262 / 1936	-39.5	-39.5	0.36 (2)	6.25
V- U	-789 / 5202	-39.5	-39.5	0.71 (2)	6.25
U- T	-789 / 5202	-39.5	-39.5	0.71 (2)	6.25
T- S	-1076 / 7068	-39.5	-39.5	0.94 (2)	6.25
S- R	-1057 / 7068	-39.5	-39.5	0.94 (3)	6.25
R- Q	-1057 / 7068	-39.5	-39.5	0.94 (3)	6.25
Q- P	-751 / 5202	-39.5	-39.5	0.71 (3)	6.25
P- O	-204 / 1936	-39.5	-39.5	0.36 (3)	6.25
O- N	-204 / 1936	-39.5	-39.5	0.36 (3)	6.25
N- M	-9 / 19	-39.5	-39.5	0.15 (5)	10.00
M- L	0 / 0	-134.7	-134.7	0.11 (1)	10.00

WEBS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
W- B	-512 / 164	0.29 (10)
V- B	-700 / 4208	0.95 (3)
V- C	-2347 / 542	0.59 (3)
C- T	-396 / 2441	0.55 (3)
T- D	-1258 / 346	0.75 (3)
D- S	-144 / 839	0.19 (3)
S- F	-816 / 268	0.47 (10)
S- G	-144 / 839	0.19 (2)
Q- G	-1258 / 346	0.75 (2)
Q- I	-396 / 2441	0.55 (2)
P- I	-2347 / 542	0.59 (2)
P- J	-700 / 4208	0.95 (2)
N- J	-546 / 165	0.31 (10)
A- W	-243 / 2095	0.47 (2)
N- K	-242 / 2095	0.47 (3)

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING AS PER NBCC 4.1.6.2.(8)

WIND LOAD APPLIED IS DERIVED FROM REFERENCE VELOCITY PRESSURE OF { 9.2} PSF AT {30-0-0} FT-IN-SX REFERENCE HEIGHT ABOVE GRADE AND USING EXTERNAL PEAK COEFFICIENTS, CpCg, BASED ON THE {MAIN WIND FORCE RESISTING SYSTEM}.INTERNAL WIND PRESSURE IS BASED ON DESIGN {CATEGORY 2}. BUILDING MAY BE LOCATED ON {ROUGH TERRAIN) AT MINIMUM {1.000} MILES DISTANCE FROM OPEN TERRAIN., AND TRUSS IS DESIGNED TO BE LOCATED AT LEAST {0-0} FT-IN-SX AWAY FROM EAVE.TRUSS UPLIFT IS BASED ON TOP AND BOTTOM CHORD DEAD LOADS OF 6.0 PSF AND 7.4 PSF RESPECTIVELY.

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	26.7	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	10.5	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	50.6	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 8.00/12

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.

(80 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 26.7 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.70")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.48")
ALLOWABLE DEFL.(TL)= L/180 (3.39")
CALCULATED VERT. DEFL.(TL) = L/ 893 (0.68")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")

CSI: TC=0.82/1.00 (C-D:2) , BC=0.94/1.00 (S-T:2) , WB=0.95/1.00 (J-P:2) , SSI=0.27/1.00 (I-J:2)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 1.00
COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE HEELS OFF

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873
MT18HS	586	403	2455	1382	3163	3004

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

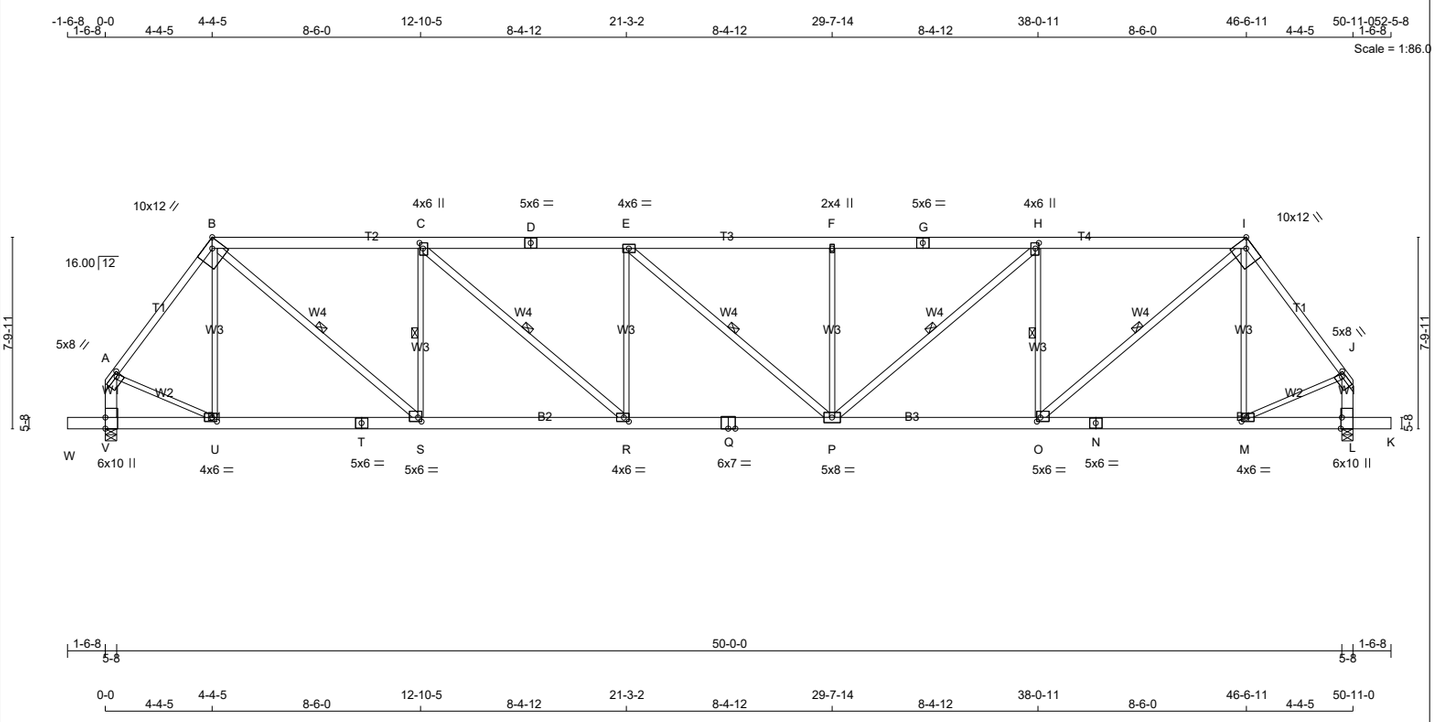
JSI GRIP= 0.90 (T) (INPUT = 0.90)
JSI METAL= 0.83 (U) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343285	H03		1	TRUSS DESC. JT 45147	E22052165

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:16:49 2022 Page 1

ID:6tV605vCHTmD2wqljx3DtqzTTXK-HJqndTyZzCwmSthYDW82E2ls?qTvAwG7ksyzWlz6gNS



TOTAL WEIGHT = 297 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - B	2x4	DRY	No.2	SPF
B - D	2x6	DRY	No.2	SPF
D - G	2x6	DRY	No.2	SPF
G - I	2x6	DRY	No.2	SPF
I - J	2x4	DRY	No.2	SPF
V - A	2x6	DRY	No.2	SPF
L - J	2x6	DRY	No.2	SPF
W - T	2x6	DRY	No.2	SPF
T - Q	2x6	DRY	No.2	SPF
Q - N	2x6	DRY	No.2	SPF
N - K	2x6	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF
EXCEPT				
B - S	2x4	DRY	No.2	SPF
C - R	2x4	DRY	No.2	SPF
E - P	2x4	DRY	No.2	SPF
P - H	2x4	DRY	No.2	SPF
O - I	2x4	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW-t	MT20	5.0	8.0	1.75	2.00
B	TTWW-h	MT20	10.0	12.0	Edge	4.50
C	TMWW+t	MT20	4.0	6.0	2.75	1.75
D	TS-t	MT20	5.0	6.0		
E	TMWW-t	MT20	4.0	6.0		
F	TMW+w	MT20	2.0	4.0		
G	TS-t	MT20	5.0	6.0		
H	TMWW+t	MT20	4.0	6.0	2.75	1.75
I	TTWW-h	MT20	10.0	12.0	Edge	4.50
J	TMVW-t	MT20	5.0	8.0	1.75	2.00
L	BMV1+t	MT20	6.0	10.0	Edge	0.50
M	BMWW-t	MT20	4.0	6.0	2.00	2.25
N	BS-t	MT20	5.0	6.0		
O	BMWW-t	MT20	5.0	6.0	2.00	1.75
P	BMWWW-t	MT20	5.0	8.0		
Q	BS-t	MT20	6.0	7.0		
R	BMWW-t	MT20	4.0	6.0	2.00	2.50
S	BMWW-t	MT20	5.0	6.0	2.00	1.75
T	BS-t	MT20	5.0	6.0		
U	BMWW-t	MT20	4.0	6.0	2.00	2.25
V	BMV1+t	MT20	6.0	10.0	Edge	

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
V	3637	0	3779	-231	-584	5-8	5-8
L	3637	0	3779	0	-584	5-8	5-8

PROVIDE ANCHORAGE AT BEARING JOINT V FOR 584 LBS FACTORED UPLIFT

PROVIDE ANCHORAGE AT BEARING JOINT L FOR 584 LBS FACTORED UPLIFT

PROVIDE FOR 231 LBS FACTORED HORIZONTAL REACTION AT JOINTV

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
V	2734	1538 / 0	567 / 0	0 / 0	412 / -882	724 / 0	0 / 0
L	2734	1538 / 0	567 / 0	0 / 0	371 / -882	724 / 0	0 / 0
HORIZONTAL REACTIONS							
V	---	0 / 0	0 / 0	0 / 0	165 / -165	0 / 0	0 /0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) V, L

BEARING SIZE FACTOR = 1.15 AT JNT(S) V, L (BASED ON SUPPORT DEPTH = 1-8)

BRACING

MAX. UNBRACED TOP CHORD LENGTH = 2.81 FT.

MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

1 LATERAL BRACE(S) AT 1/ 2 LENGTH OF B-S, C-S, C-R, E-P, H-P, H-O, I-O.

END VERTICAL(S) MUST BE SHEATHED OR HAVE BRACES AS INDICATED IN THE MAX. UNBRACED LENGTH COLUMN OF THE TABLE BELOW

LOADING

TOTAL LOAD CASES: (18)

CHORDS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD LC1 (PLF) FROM	TO	MAX CSI (LC)	MAX. UNBRAC LENGTH
A- B	-3302 / 555	-95.2	-95.2	0.73 (2)	3.41
B- C	-4824 / 927	-95.2	-95.2	0.78 (2)	3.29
C- D	-6141 / 1122	-95.2	-95.2	0.93 (2)	2.81
D- E	-6141 / 1122	-95.2	-95.2	0.93 (2)	2.81
E- F	-6138 / 1120	-95.2	-95.2	0.77 (3)	3.05
F- G	-6138 / 1120	-95.2	-95.2	0.93 (3)	2.81
G- H	-6138 / 1120	-95.2	-95.2	0.93 (3)	2.81
H- I	-4825 / 927	-95.2	-95.2	0.78 (3)	3.28
I- J	-3301 / 555	-95.2	-95.2	0.73 (3)	3.41
V- A	-3525 / 583	0.0	0.0	0.26 (2)	5.68
L- J	-3525 / 583	0.0	0.0	0.26 (3)	5.68
W- V	0 / 0	-134.7	-134.7	0.11 (1)	10.00
V- U	-210 / 221	-39.5	-39.5	0.16 (17)	6.25
U- T	-258 / 1974	-39.5	-39.5	0.39 (5)	6.25
T- S	-258 / 1974	-39.5	-39.5	0.39 (5)	6.25
S- R	-718 / 4824	-39.5	-39.5	0.71 (2)	6.25
R- Q	-913 / 6141	-39.5	-39.5	0.85 (2)	6.25
Q- P	-913 / 6141	-39.5	-39.5	0.85 (2)	6.25
P- O	-675 / 4825	-39.5	-39.5	0.71 (3)	6.25
O- N	-186 / 1974	-39.5	-39.5	0.39 (6)	6.25
N- M	-186 / 1974	-39.5	-39.5	0.39 (6)	6.25
M- L	-10 / 21	-39.5	-39.5	0.16 (17)	10.00
L- K	0 / 0	-134.7	-134.7	0.11 (1)	10.00

WEBS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
U- B	-430 / 165	0.42 (9)
B- S	-646 / 3811	0.61 (3)
S- C	-2154 / 539	0.76 (3)
C- R	-297 / 1796	0.29 (3)
R- E	-905 / 306	0.89 (10)
E- P	-32 / 33	0.02 (11)
P- F	-894 / 293	0.88 (10)
P- H	-295 / 1790	0.29 (2)
O- H	-2152 / 538	0.76 (2)
O- I	-646 / 3812	0.61 (2)
M- I	-463 / 166	0.46 (10)
A- U	-221 / 2091	0.47 (2)
M- J	-221 / 2091	0.47 (3)

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING AS PER NBCC 4.1.6.2.(8)

WIND LOAD APPLIED IS DERIVED FROM REFERENCE VELOCITY PRESSURE OF { 9.2} PSF AT {30-0-0} FT-IN-SX REFERENCE HEIGHT ABOVE GRADE AND USING EXTERNAL PEAK COEFFICIENTS, CpCg, BASED ON THE {MAIN WIND FORCE RESISTING SYSTEM}.INTERNAL WIND PRESSURE IS BASED ON DESIGN {CATEGORY 2}. BUILDING MAY BE LOCATED ON {ROUGH TERRAIN} AT MINIMUM {1.000} MILES DISTANCE FROM OPEN TERRAIN., AND TRUSS IS DESIGNED TO BE LOCATED AT LEAST {0-0} FT-IN-SX AWAY FROM EAVE.TRUSS UPLIFT IS BASED ON TOP AND BOTTOM CHORD DEAD LOADS OF 6.0 PSF AND 7.4 PSF RESPECTIVELY.

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	26.7	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	10.5	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	50.6	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 8.00/12

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.

(80 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 26.7 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.70")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.34")
ALLOWABLE DEFL.(TL)= L/180 (3.39")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.50")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")

CSI: TC=0.93/1.00 (F-H:3) , BC=0.85/1.00 (P-R:2) , WB=0.89/1.00 (E-R:10) , SSI=0.31/1.00 (H-I:2)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 1.00
COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE HEELS OFF

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

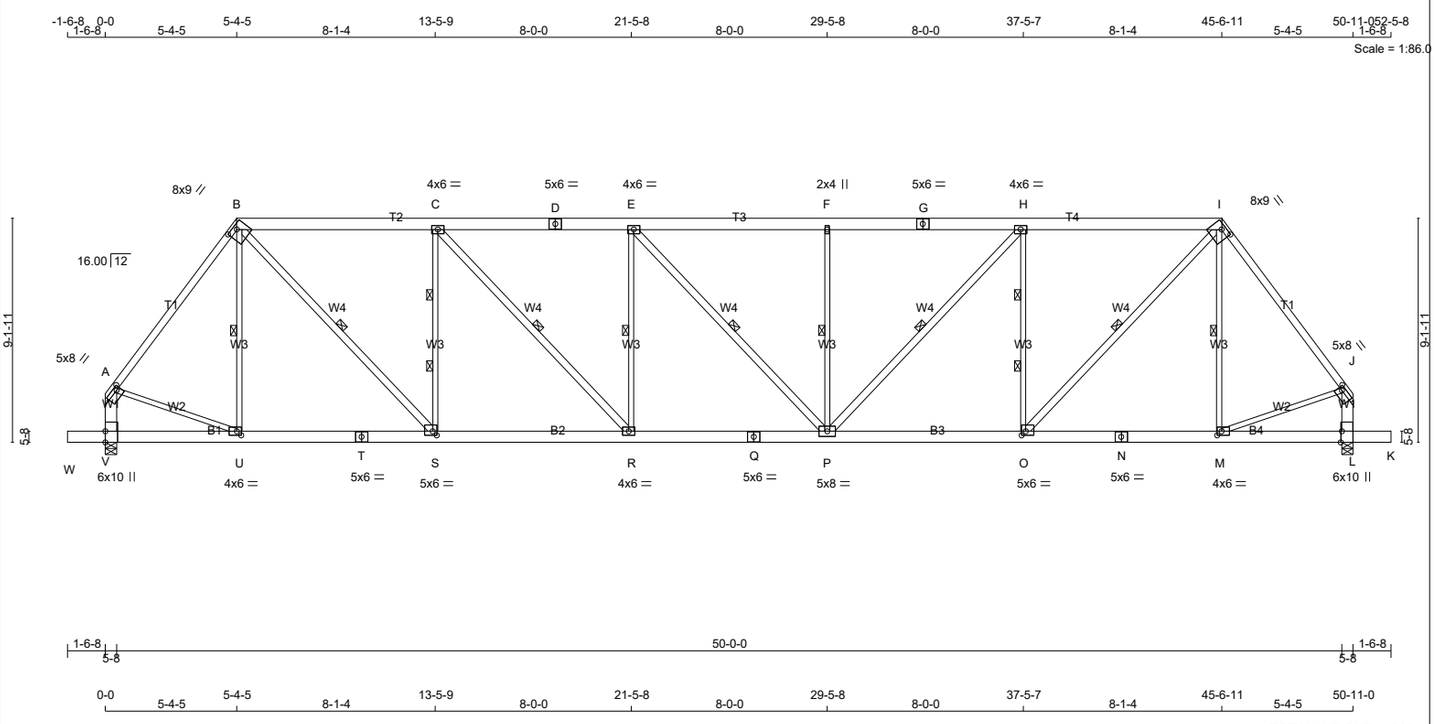
JSI GRIP= 0.90 (O) (INPUT = 0.90)
JSI METAL= 0.98 (Q) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343285	H04		1	TRUSS DESC. JT 45147	E22052166

Alpha Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:16:56 2022 Page 1

ID:6tV605vCHTmD2wqljx3DtgzTTXK-aflQ5t1yJMpmoyjv7Umh0WX4DfuSJ4E9LR9rGrz6gNL



TOTAL WEIGHT = 309 lb

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - B	2x4	DRY	1650F 1.5E	SPF
B - D	2x6	DRY	No.2	SPF
D - G	2x6	DRY	No.2	SPF
G - I	2x6	DRY	No.2	SPF
I - J	2x4	DRY	1650F 1.5E	SPF
V - A	2x6	DRY	No.2	SPF
L - J	2x6	DRY	No.2	SPF
W - T	2x6	DRY	No.2	SPF
T - Q	2x6	DRY	No.2	SPF
Q - N	2x6	DRY	No.2	SPF
N - K	2x6	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF
EXCEPT				
B - S	2x4	DRY	No.2	SPF
C - R	2x4	DRY	No.2	SPF
E - P	2x4	DRY	No.2	SPF
P - H	2x4	DRY	No.2	SPF
O - I	2x4	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW-t	MT20	5.0	8.0	1.75	2.00
B	TTWW-h	MT20	8.0	9.0	2.00	4.50
C, E, H						
C	TMWW-t	MT20	4.0	6.0		
D	TS-t	MT20	5.0	6.0		
F	TMW+w	MT20	2.0	4.0		
G	TS-t	MT20	5.0	6.0		
I	TTWW-h	MT20	8.0	9.0	2.00	4.50
J	TMVW-t	MT20	5.0	8.0	1.75	2.00
L	BMV1+t	MT20	6.0	10.0	Edge	0.50
M	BMWW-t	MT20	4.0	6.0	2.00	2.25
N, Q, T						
N	BS-t	MT20	5.0	6.0		
O	BMWW-t	MT20	5.0	6.0	2.00	2.00
P	BMWWW-t	MT20	5.0	8.0		
R	BMWW-t	MT20	4.0	6.0		
S	BMWW-t	MT20	5.0	6.0	2.00	2.00
U	BMWW-t	MT20	4.0	6.0	2.00	2.25
V	BMV1+t	MT20	6.0	10.0	Edge	

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
V	3637	0	3764	-270	-579	5-8	5-8
L	3637	0	3764	0	-579	5-8	5-8

PROVIDE ANCHORAGE AT BEARING JOINT V FOR 579 LBS FACTORED UPLIFT
PROVIDE ANCHORAGE AT BEARING JOINT L FOR 579 LBS FACTORED UPLIFT

PROVIDE FOR 270 LBS FACTORED HORIZONTAL REACTION AT JOINTV

UNFACTORED REACTIONS

	1ST LCASE	MAX./MIN. COMPONENT REACTIONS					
JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
V	2734	1528 / 0	567 / 0	0 / 0	407 / -878	724 / 0	0 / 0
L	2734	1528 / 0	567 / 0	0 / 0	358 / -878	724 / 0	0 / 0
HORIZONTAL REACTIONS							
V	---	0 / 0	0 / 0	0 / 0	193 / -193	0 / 0	0 /0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) V, L
BEARING SIZE FACTOR = 1.15 AT JNT(S) V, L (BASED ON SUPPORT DEPTH = 1-8)

BRACING

- MAX. UNBRACED TOP CHORD LENGTH = 3.23 FT.
- MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

1 LATERAL BRACE(S) AT 1/ 2 LENGTH OF B-U, B-S, C-R, E-R, E-P, F-P, H-P, I-O, I-M.
2 LATERAL BRACE(S) AT 1/ 3 LENGTH OF C-S, H-O.

END VERTICAL(S) MUST BE SHEATHED OR HAVE BRACES AS INDICATED IN THE MAX. UNBRACED LENGTH COLUMN OF THE TABLE BELOW

LOADING

TOTAL LOAD CASES: (18)

CHORDS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD LC1 (PLF) FROM	TO	MAX CSI (LC)	MAX. UNBRAC LENGTH
A- B	-3334 / 560	-95.2	-95.2	0.87 (2)	3.85
B- C	-4178 / 851	-95.2	-95.2	0.65 (2)	3.64
C- D	-5182 / 995	-95.2	-95.2	0.74 (2)	3.23
D- E	-5182 / 995	-95.2	-95.2	0.74 (2)	3.23
E- F	-5178 / 993	-95.2	-95.2	0.61 (3)	3.42
F- G	-5178 / 993	-95.2	-95.2	0.74 (3)	3.23
G- H	-5178 / 993	-95.2	-95.2	0.74 (3)	3.23
H- I	-4179 / 851	-95.2	-95.2	0.65 (3)	3.64
I- J	-3334 / 560	-95.2	-95.2	0.87 (3)	3.85
V- A	-3481 / 586	0.0	0.0	0.26 (2)	5.71
L- J	-3480 / 586	0.0	0.0	0.26 (3)	5.71
W- V	0 / 0	-134.7	-134.7	0.11 (1)	10.00
V- U	-249 / 260	-39.5	-39.5	0.16 (17)	6.25
U- T	-254 / 1996	-39.5	-39.5	0.38 (5)	6.25
T- S	-254 / 1996	-39.5	-39.5	0.38 (5)	6.25
S- R	-603 / 4178	-39.5	-39.5	0.63 (2)	6.25
R- Q	-747 / 5182	-39.5	-39.5	0.73 (2)	6.25
Q- P	-747 / 5182	-39.5	-39.5	0.73 (2)	6.25
P- O	-554 / 4179	-39.5	-39.5	0.63 (3)	6.25
O- N	-171 / 1996	-39.5	-39.5	0.38 (6)	6.25
N- M	-171 / 1996	-39.5	-39.5	0.38 (6)	6.25
M- L	-10 / 21	-39.5	-39.5	0.16 (17)	10.00
L- K	0 / 0	-134.7	-134.7	0.11 (1)	10.00

WEBS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
U- B	-331 / 152	0.16 (9)
B- S	-560 / 3258	0.52 (3)
S- C	-2060 / 519	0.94 (3)
C- R	-261 / 1543	0.25 (3)
R- E	-867 / 298	0.42 (10)
E- P	-41 / 42	0.03 (11)
P- F	-851 / 279	0.41 (10)
P- H	-258 / 1536	0.25 (2)
O- H	-2057 / 518	0.94 (2)
O- I	-561 / 3260	0.52 (2)
M- I	-359 / 152	0.17 (10)
A- U	-201 / 2076	0.47 (2)
M- J	-201 / 2075	0.47 (3)

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING AS PER NBCC 4.1.6.2.(8)

WIND LOAD APPLIED IS DERIVED FROM REFERENCE VELOCITY PRESSURE OF { 9.2} PSF AT {30-0-0} FT-IN-SX REFERENCE HEIGHT ABOVE GRADE AND USING EXTERNAL PEAK COEFFICIENTS, CpCg, BASED ON THE {MAIN WIND FORCE RESISTING SYSTEM}.INTERNAL WIND PRESSURE IS BASED ON DESIGN {CATEGORY 2}. BUILDING MAY BE LOCATED ON {ROUGH TERRAIN} AT MINIMUM {1.000} MILES DISTANCE FROM OPEN TERRAIN., AND TRUSS IS DESIGNED TO BE LOCATED AT LEAST {0-0} FT-IN-SX AWAY FROM EAVE.TRUSS UPLIFT IS BASED ON TOP AND BOTTOM CHORD DEAD LOADS OF 6.0 PSF AND 7.4 PSF RESPECTIVELY.

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	26.7	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	10.5	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	50.6	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 8.00/12

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.

(80 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 26.7 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.70")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.27")
ALLOWABLE DEFL.(TL)= L/180 (3.39")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.39")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")

CSI: TC=0.87/1.00 (A-B:2) , BC=0.73/1.00 (P-R:2) , WB=0.94/1.00 (C-S:3) , SSI=0.30/1.00 (H-I:2)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 1.00
COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE HEELS OFF

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

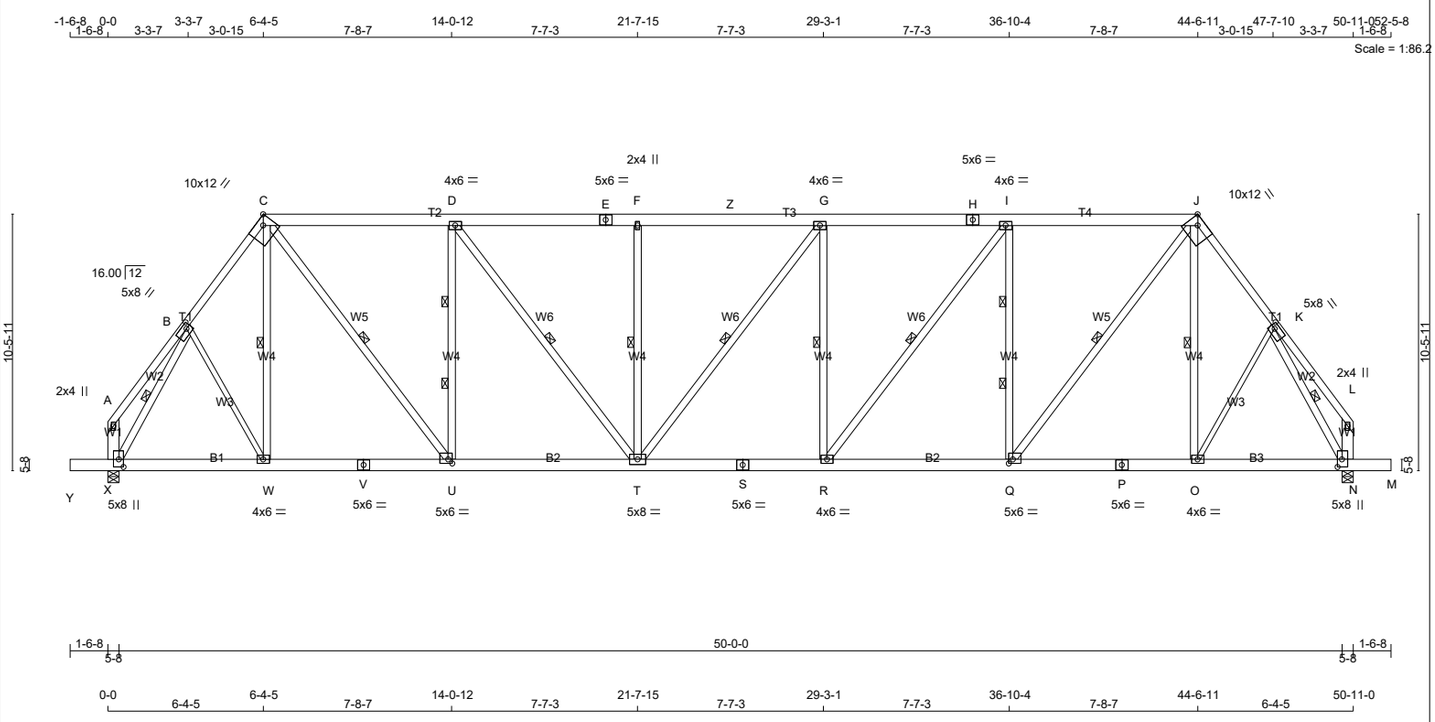
JSI GRIP= 0.90 (U) (INPUT = 0.90)
JSI METAL= 1.00 (Q) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343285	H05		1	TRUSS DESC. JT 45147	E22052167

Alpha Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:17:05 2022 Page 1

ID:6tV605vCHTmD2wqljx3DtqzTTXK-pOoq x8bC7xVNKvd9tQotQPfyH UwAlTQLqp4qz6gNC



TOTAL WEIGHT = 12 X 354 = 4249 lb [M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - C	2x4	DRY	No.2	SPF
C - E	2x6	DRY	No.2	SPF
E - H	2x6	DRY	No.2	SPF
H - J	2x6	DRY	No.2	SPF
J - L	2x4	DRY	No.2	SPF
X - A	2x6	DRY	No.2	SPF
N - L	2x6	DRY	No.2	SPF
Y - V	2x6	DRY	No.2	SPF
V - S	2x6	DRY	No.2	SPF
S - P	2x6	DRY	No.2	SPF
P - M	2x6	DRY	No.2	SPF
ALL WEBS	2x4	DRY	No.2	SPF
EXCEPT				
B - W	2x3	DRY	No.2	SPF
O - K	2x3	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMV+p	MT20	2.0	4.0		
B	TMWW-t	MT20	5.0	8.0	2.25	2.25
C	TTWW-h	MT20	10.0	12.0	Edge	4.50
D, G, I						
D	TMWW-t	MT20	4.0	6.0		
E	TS-t	MT20	5.0	6.0		
F	TMW+w	MT20	2.0	4.0		
H	TS-t	MT20	5.0	6.0		
J	TTWW-h	MT20	10.0	12.0	Edge	4.50
K	TMWW-t	MT20	5.0	8.0	2.25	2.25
L	TMV+p	MT20	2.0	4.0		
N	BMVW1+p	MT20	5.0	8.0	3.75	2.25
O, R, W						
O	BMWW-t	MT20	4.0	6.0		
P, S, V						
P	BS-t	MT20	5.0	6.0		
Q	BMWW-t	MT20	5.0	6.0	2.00	2.00
T	BMWWW-t	MT20	5.0	8.0		
U	BMWW-t	MT20	5.0	6.0	2.00	2.00
X	BMVW1+p	MT20	5.0	8.0	3.75	2.25

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

LICENSED PROFESSIONAL ENGINEER
V. WIDYA
100225448
06/13/2022
PROVINCE OF ONTARIO

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
X	3923	0	3923	-309	-258	5-8	4-15
N	3923	0	3923	0	-258	5-8	4-15

PROVIDE ANCHORAGE AT BEARING JOINT X FOR 258 LBS FACTORED UPLIFT
PROVIDE ANCHORAGE AT BEARING JOINT N FOR 258 LBS FACTORED UPLIFT

PROVIDE FOR 309 LBS FACTORED HORIZONTAL REACTION AT JOINTX

UNFACTORED REACTIONS

	1ST LCASE	MAX./MIN. COMPONENT REACTIONS					
JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
X	2963	1444 / 0	567 / 0	0 / 0	133 / -797	953 / 0	0 / 0
N	2963	1444 / 0	567 / 0	0 / 0	133 / -797	953 / 0	0 / 0
HORIZONTAL REACTIONS							
X	---	0 / 0	0 / 0	0 / 0	221 / -221	0 / 0	0 /0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) X, N

BRACING

FOR SECTION C-J, MAX. UNBRACED TOP CHORD LENGTH = 2.00 FT.
FOR OTHER SECTIONS, MAX. UNBRACED TOP CHORD LENGTH = 3.53 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

1 LATERAL BRACE(S) AT 1/ 2 LENGTH OF C-W, C-U, D-T, F-T, G-T, G-R, I-R, J-Q, J-O, B-X, K-N.
2 LATERAL BRACE(S) AT 1/ 3 LENGTH OF D-U, I-Q.

END VERTICAL(S) MUST BE SHEATHED OR HAVE BRACES AS INDICATED IN THE MAX. UNBRACED LENGTH COLUMN OF THE TABLE BELOW

LOADING

TOTAL LOAD CASES: (18)

CHORDS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD LC1 (PLF) FROM	TO	MAX CSI (LC)	MAX. UNBRAC LENGTH
A- B	-34 / 158	-95.2	-95.2	0.20 (13)	6.25
B- C	-3542 / 415	-95.2	-95.2	0.35 (1)	3.53
C- D	-3925 / 386	-110.2	-110.2	0.65 (2)	2.00
D- E	-4766 / 348	-110.2	-110.2	0.68 (2)	2.00
E- F	-4766 / 348	-110.2	-110.2	0.68 (2)	2.00
F- Z	-4766 / 348	-110.2	-110.2	0.54 (1)	2.00
Z- G	-4766 / 348	-110.2	-110.2	0.54 (1)	2.00
G- H	-4769 / 349	-110.2	-110.2	0.67 (3)	2.00
H- I	-4769 / 349	-110.2	-110.2	0.67 (3)	2.00
I- J	-3924 / 386	-110.2	-110.2	0.64 (3)	2.00
J- K	-3542 / 415	-95.2	-95.2	0.35 (1)	3.53
K- L	-34 / 158	-95.2	-95.2	0.20 (14)	6.25
X- A	-154 / 165	0.0	0.0	0.02 (13)	7.81
N- L	-154 / 165	0.0	0.0	0.02 (14)	7.81
Y- X	0 / 0	-134.7	-134.7	0.11 (1)	10.00
X- W	-191 / 1917	-39.5	-39.5	0.36 (4)	6.25
W- V	-45 / 2109	-39.5	-39.5	0.38 (4)	6.25
V- U	-45 / 2109	-39.5	-39.5	0.38 (4)	6.25
U- T	-101 / 3925	-39.5	-39.5	0.58 (1)	6.25
T- S	0 / 4769	-39.5	-39.5	0.67 (1)	10.00
S- R	0 / 4769	-39.5	-39.5	0.67 (1)	10.00
R- Q	0 / 3924	-39.5	-39.5	0.58 (1)	10.00
Q- P	0 / 2109	-39.5	-39.5	0.38 (4)	10.00
P- O	0 / 2109	-39.5	-39.5	0.38 (4)	10.00
O- N	-38 / 1917	-39.5	-39.5	0.36 (4)	6.25
N- M	0 / 0	-134.7	-134.7	0.11 (1)	10.00

WEBS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
B- W	0 / 373	0.08 (1)
W- C	-140 / 194	0.07 (13)
C- U	-91 / 2977	0.48 (1)
U- D	-2056 / 170	0.48 (1)
D- T	-106 / 1408	0.23 (3)
T- F	-852 / 174	0.43 (2)
T- G	-681 / 673	0.62 (3)
R- G	-841 / 186	0.41 (2)
R- I	-108 / 1412	0.23 (2)
Q- I	-2058 / 171	0.48 (1)
Q- J	-90 / 2976	0.48 (1)
O- J	-141 / 194	0.07 (14)
O- K	0 / 373	0.08 (1)
X- B	-3988 / 122	0.80 (1)
K- N	-3988 / 123	0.80 (1)

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING AS PER NBCC 4.1.6.2.(8)

WIND LOAD APPLIED IS DERIVED FROM REFERENCE VELOCITY PRESSURE OF { 9.2} PSF AT {30-0-0} FT-IN-SX REFERENCE HEIGHT ABOVE GRADE AND USING EXTERNAL PEAK COEFFICIENTS, CpCg, BASED ON THE {MAIN WIND FORCE RESISTING SYSTEM}.INTERNAL WIND PRESSURE IS BASED ON DESIGN {CATEGORY 2}. BUILDING MAY BE LOCATED ON {ROUGH TERRAIN) AT MINIMUM {1.000} MILES DISTANCE FROM OPEN TERRAIN., AND TRUSS IS DESIGNED TO BE LOCATED AT LEAST {0-0} FT-IN-SX AWAY FROM EAVE.TRUSS UPLIFT IS BASED ON TOP AND BOTTOM CHORD DEAD LOADS OF 6.0 PSF AND 7.4 PSF RESPECTIVELY.

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	26.7	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	10.5	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	50.6	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON PIGGYBACK TRUSS WITH SLOPES OF 6.00/12 AND -6.00/12 AND RESPECTIVE HEEL HEIGHTS OF 0-0 AND 0-0 AND AN ADDITIONAL DEAD LOAD OF 6.0 P.S.F.

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.

(80 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 26.7 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.70")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.21")
ALLOWABLE DEFL.(TL)= L/180 (3.39")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.35")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")

CSI: TC=0.68/1.00 (D-F:2) , BC=0.67/1.00 (R-T:1) , WB=0.80/1.00 (K-N:1) , SSI=0.35/1.00 (C-D:2)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 1.00
COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE HEELS OFF

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

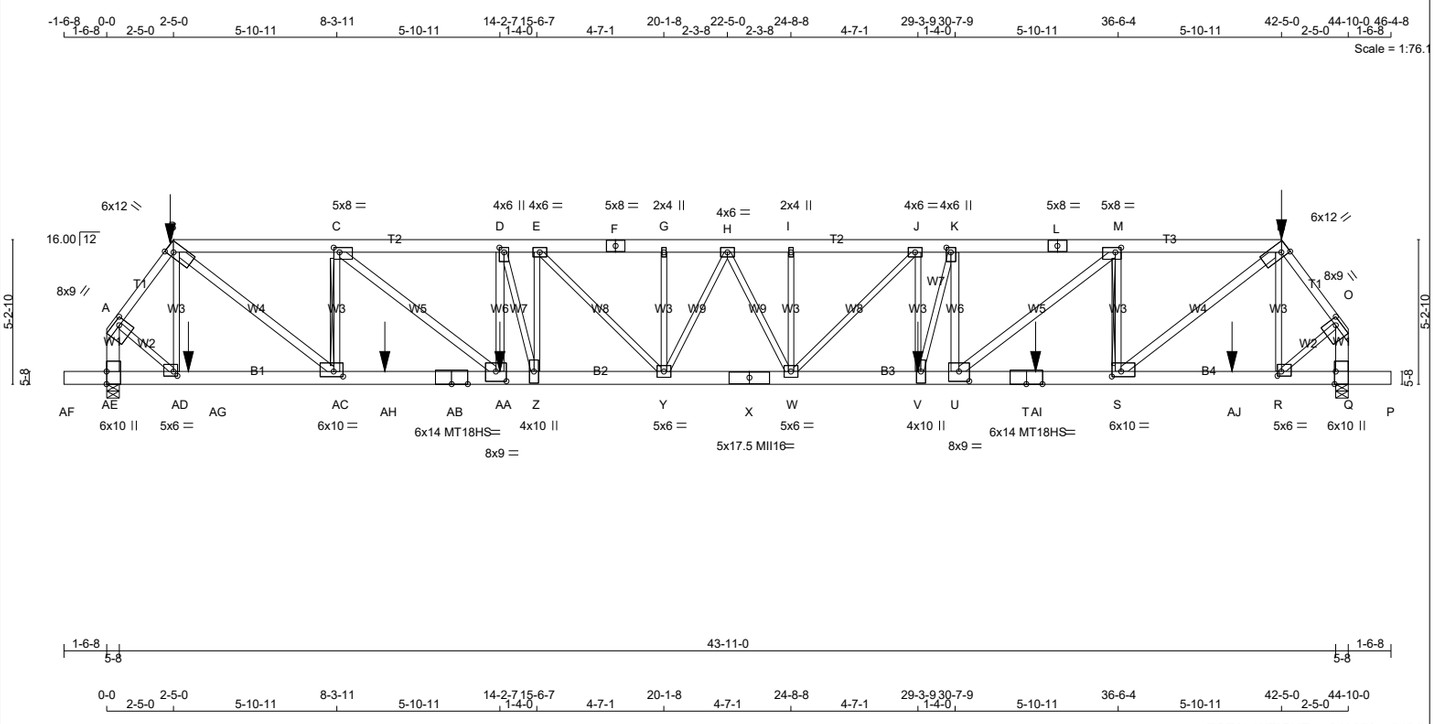
JSI GRIP= 0.89 (K) (INPUT = 0.90)
JSI METAL= 0.93 (S) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343285	H06		2	TRUSS DESC. JT 45147	E22052168

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:17:14 2022 Page 1

ID:6tV605vCHTmD2wqljx3DtgzTTXK-27rEt0FE4u4Dyj5MBG5vkJHEpv27XFkoUEWouoz6gN3



LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - B	2x4	DRY	No.2	SPF
B - F	2x6	DRY	1650F 1.5E	SPF
F - L	2x6	DRY	1650F 1.5E	SPF
L - N	2x6	DRY	1650F 1.5E	SPF
N - O	2x4	DRY	No.2	SPF
AE- A	2x6	DRY	No.2	SPF
Q - O	2x6	DRY	No.2	SPF
AF- AB	2x6	DRY	2100F 1.8E	SPF
AB- X	2x6	DRY	2100F 1.8E	SPF
X - T	2x6	DRY	2100F 1.8E	SPF
T - P	2x6	DRY	2100F 1.8E	SPF
ALL WEBS	2x3	DRY	No.2	SPF
EXCEPT				
B - AC	2x4	DRY	1650F 1.5E	SPF
C - AA	2x4	DRY	No.2	SPF
AA- D	2x4	DRY	No.2	SPF
U - K	2x4	DRY	No.2	SPF
U - M	2x4	DRY	No.2	SPF
S - N	2x4	DRY	1650F 1.5E	SPF

DRY: SEASONED LUMBER.

DESIGN CONSISTS OF 2 TRUSSES BUILT SEPARATELY THEN FASTENED TOGETHER AS FOLLOWS:

CHORDS #ROWS		SURFACE SPACING (IN)	LOAD(PLF)
TOP CHORDS : (0.122"X3") SPIRAL NAILS			
A- B	1	12	SIDE(70.1)
N- O	1	12	SIDE(70.1)
B- F	2	12	SIDE(66.9)
F- L	2	12	SIDE(66.9)
L- N	2	12	SIDE(66.9)
AE- A	2	12	TOP
Q- O	2	12	TOP
BOTTOM CHORDS : (0.122"X3") SPIRAL NAILS			
AF- AB	2	12	SIDE(24.2)
AB- X	2	12	SIDE(221.0)
X- T	2	12	SIDE(221.0)
T- P	2	12	SIDE(24.2)
WEBS : (0.122"X3") SPIRAL NAILS			
2x3	1	6	
J- V	1	2	SIDE(706.8)
D- AA	1	2	SIDE(706.8)
2x4	1	6	

NAILS TO BE DRIVEN FROM ONE SIDE ONLY.

GIRDER NAILING ASSUMES NAILED HANGERS ARE FASTENED WITH MIN. 3-0 INCH NAILS.

TOP - COMPONENTS ARE LOADED FROM THE TOP AND MUST BE PLACED ON TOP EDGE OF ALL PLIES FOR THE LOAD TO BE TRANSFERRED TO EACH PLY.

SIDE - PLF SHOWN IS THE EQUIVALENT UDL APPLIED TO ONE SIDE THAT THE CORRESPONDING NAILING PATTERN SHALL BE CAPABLE OF TRANSFERING. REMAINING PLF MUST BE APPLIED ON THE OPPOSITE SIDE OR ON THE TOP.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW-t	MT20	8.0	9.0	2.25	3.00
B	TTWW+h	MT20	6.0	12.0	3.25	2.00
C	TMWW-t	MT20	5.0	8.0	2.00	2.50
D	TMWW+t	MT20	4.0	6.0	2.00	2.00
E, H, J						
E	TMWW-t	MT20	4.0	6.0		

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

LICENSED PROFESSIONAL ENGINEER
V. WIDYA
100225448
06/13/2022
PROVINCE OF ONTARIO

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
AE	9712	0	9909	-155	0	5-8	5-8
Q	9522	0	9717	0	0	5-8	5-8

PROVIDE FOR 155 LBS FACTORED HORIZONTAL REACTION AT JOINTAE

UNFACTORED REACTIONS

1ST LCASE MAX./MIN. COMPONENT REACTIONS

JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
AE	7383	3021 / 0	955 / 0	0 / 0	1577 / -2003	3538 / 0	0 / 0
Q	7234	3004 / 0	955 / 0	0 / 0	1586 / -2021	3405 / 0	0 / 0
HORIZONTAL REACTIONS							
AE	---	0 / 0	0 / 0	0 / 0	111 / -111	0 / 0	0 /0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) AE, Q
BEARING SIZE FACTOR = 1.15 AT JNT(S) AE, Q (BASED ON SUPPORT DEPTH = 1-8)

BRACING

MAX. UNBRACED TOP CHORD LENGTH = 2.85 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

2x4 DRY SPF No.2 T-BRACE AT C-AC, M-S

FASTEN T AND I-BRACES TO NARROW EDGE OF WEB WITH ONE ROW PER PLY OF 3" COMMON WIRE NAILS @ 6" O.C. WITH 3" MINIMUM END DISTANCE. BRACE MUST COVER 90% OF WEB LENGTH.

END VERTICAL(S) MUST BE SHEATHED OR HAVE BRACES AS INDICATED IN THE MAX. UNBRACED LENGTH COLUMN OF THE TABLE BELOW

LOADING

TOTAL LOAD CASES: (18)

CHORDS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF) FROM	TO	LC1 CSI (LC)	MAX UNBRAC LENGTH
A- B	-8278 / 0	-95.2	-95.2	0.30 (2)	3.23
B- C	-14408 / 0	-198.6	-198.6	0.35 (2)	3.58
C- D	-20727 / 0	-198.6	-198.6	0.54 (2)	2.90
D- E	-20959 / 0	-95.2	-95.2	0.36 (2)	3.01
E- F	-21783 / 0	-95.2	-95.2	0.46 (2)	2.89
F- G	-21783 / 0	-95.2	-95.2	0.46 (2)	2.89
G- H	-21783 / 0	-95.2	-95.2	0.38 (2)	2.94
H- I	-22001 / 0	-95.2	-95.2	0.39 (3)	2.92
I- J	-22001 / 0	-95.2	-95.2	0.49 (3)	2.85
J- K	-21389 / 0	-198.6	-198.6	0.40 (3)	2.94
K- L	-20685 / 0	-198.6	-198.6	0.54 (3)	2.91
L- M	-20685 / 0	-198.6	-198.6	0.54 (3)	2.91
M- N	-14287 / 0	-198.6	-198.6	0.34 (3)	3.59
N- O	-8226 / 0	-95.2	-95.2	0.30 (3)	3.25
AE- A	-9739 / 0	0.0	0.0	0.39 (2)	4.84
Q- O	-9678 / 0	0.0	0.0	0.39 (3)	4.85
AF-AE	0 / 0	-134.7	-134.7	0.03 (1)	10.00
AE-AD	-134 / 145	-77.8	-77.8	0.08 (17)	6.25
AD-AG	0 / 4920	-77.8	-77.8	0.23 (2)	10.00
AG-AC	0 / 4920	-77.8	-77.8	0.23 (2)	10.00
AC-AH	0 / 14408	-77.8	-77.8	0.55 (2)	10.00
AH-AB	0 / 14408	-77.8	-77.8	0.55 (2)	10.00
AB-AA	0 / 14408	-77.8	-77.8	0.55 (2)	10.00
AA- Z	0 / 20727	-39.5	-39.5	0.59 (2)	10.00
Z- Y	0 / 20959	-39.5	-39.5	0.61 (2)	10.00
Y- X	0 / 21935	-39.5	-39.5	0.62 (3)	10.00
X- W	0 / 21935	-39.5	-39.5	0.62 (3)	10.00
W- V	0 / 21389	-39.5	-39.5	0.70 (18)	10.00
V- U	0 / 20685	-77.8	-77.8	0.67 (3)	10.00
U- T	0 / 14287	-77.8	-77.8	0.56 (3)	10.00
T-AI	0 / 14287	-77.8	-77.8	0.56 (3)	10.00
AI- S	0 / 14287	-77.8	-77.8	0.56 (3)	10.00
S-AJ	0 / 4889	-77.8	-77.8	0.26 (3)	10.00
AJ- R	0 / 4889	-77.8	-77.8	0.26 (3)	10.00
R- Q	-10 / 21	-77.8	-77.8	0.13 (2)	10.00
Q- P	0 / 0	-134.7	-134.7	0.03 (1)	10.00

WEBS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
AD- B	-1955 / 0	0.34 (10)
B-AC	0 / 12205	0.78 (3)
AC- C	-6608 / 0	0.78 (3)
C-AA	0 / 8139	0.81 (18)
AA- D	-1677 / 403	0.21 (3)
D- Z	0 / 868	0.11 (3)
Z- E	-985 / 6	0.18 (3)
E- Y	-130 / 1202	0.15 (3)
Y- G	-406 / 135	0.07 (10)
W- I	-459 / 90	0.08 (10)
W- J	-31 / 898	0.11 (2)
V- J	-616 / 184	0.11 (2)
V- K	0 / 2641	0.50 (18)
U- K	-3650 / 0	0.46 (2)
U- M	0 / 8240	0.80 (18)
S- M	-6649 / 0	0.78 (2)
S- N	0 / 12088	0.77 (2)
R- N	-1960 / 0	0.34 (10)
A-AD	0 / 5795	0.72 (2)
R- O	0 / 5758	0.71 (3)
Y- H	-364 / 0	0.08 (3)
H- W	0 / 180	0.03 (18)

FACTORED CONCENTRATED LOADS (LBS)

JT	LOC.	LC1	MAX-	MAX+	FACE	DIR.	TYPE	HEEL	CONN.
B	2-5-0	-181	-237	157	FRONT	VERT	TOTAL	---	C1
N	42-5-0	-181	-237	157	FRONT	VERT	TOTAL	---	C1
V	29-3-9	-2825	-3164	---	FRONT	VERT	DEAD	---	C1
AA	14-2-7	-2825	-3164	---	FRONT	VERT	DEAD	---	C1
AG	2-11-7	-764	-790	81	FRONT	VERT	TOTAL	---	C1
AH	10-0-9	-764	-790	81	FRONT	VERT	TOTAL	---	C1
AI	33-6-7	-764	-790	81	FRONT	VERT	TOTAL	---	C1
AJ	40-7-10	-764	-790	81	FRONT	VERT	TOTAL	---	C1

CONNECTION REQUIREMENTS

1) **C1:** A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED.

DESIGN CRITERIA

*** SPECIAL LOADS ANALYSIS ***
GEOMETRY AND/OR BASIC LOADS CHANGED BY USER.
LOADS WERE DERIVED FROM USER INPUT
NO FURTHER MODIFICATIONS WERE MADE

SPECIFIED LOADS:

TOP CH.	LL	=	26.7	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	10.5	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	50.6	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 8.00/12

GIRDER TYPE: CPrimeHip
SIDE SETBACK = 2-5-0
END SETBACK = 5-10-8
END WALL WIDTH = 0-0
CORNER FRAMING TYPE: CONVENTIONAL
END JACK TYPE: CONVENTIONAL
APPLIED TO FRONT SIDE
- ADDT'L LOADS BASED ON 91 % OF GSL.
LOADS APPLIED TO FIRST 14-2-7 OF SPAN MEASURED FROM THE LEFT.

GIRDER TYPE: CPrimeHip
SIDE SETBACK = 2-5-0
END SETBACK = 5-10-8
END WALL WIDTH = 0-0
CORNER FRAMING TYPE: CONVENTIONAL
END JACK TYPE: CONVENTIONAL
APPLIED TO FRONT SIDE
- ADDT'L LOADS BASED ON 91 % OF GSL.
LOADS APPLIED TO FIRST 15-6-7 OF SPAN MEASURED FROM THE RIGHT.

*** NON STANDARD GIRDER ***
ADDT'L USER-DEFINED LOADS APPLIED TO ALL LOAD CASES.

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.

(80 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 26.7 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.49")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.34")
ALLOWABLE DEFL.(TL)= L/180 (2.99")
CALCULATED VERT. DEFL.(TL) = L/ 621 (0.87")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")

CSI: TC=0.54/1.00 (C-D:2) , BC=0.70/1.00 (V-W:18) , WB=0.81/1.00 (C-AA:18) , SSI=0.34/1.00 (U-V:17)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.00 COMP=1.00 SHEAR=1.00 TENS= 1.00

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 1.00
COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE HEELS OFF

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

CONTINUED ON PAGE 2

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
F	TS-t	MT20	5.0	8.0		
G	TMW+w	MT20	2.0	4.0		
I	TMW+w	MT20	2.0	4.0		
K	TMWW+t	MT20	4.0	6.0	2.00	2.00
L	TS-t	MT20	5.0	8.0		
M	TMWW-t	MT20	5.0	8.0	2.00	2.50
N	TTWW+h	MT20	6.0	12.0	3.25	2.00
O	TMVW-t	MT20	8.0	9.0	2.25	3.00
Q	BMV1+t	MT20	6.0	10.0	Edge	0.50
R	BMWW-t	MT20	5.0	6.0	2.00	1.75
S	BMWW-t	MT20	6.0	10.0	2.25	4.00
T	BS-t	MT18HS	6.0	14.0		
U	BMWW-t	MT20	8.0	9.0	4.25	4.50
V	BMWW+t	MT20	4.0	10.0		
W	BMWWW-t	MT20	5.0	6.0		
X	BS-t	MII16	5.0	17.5		
Y	BMWWW-t	MT20	5.0	6.0		
Z	BMWW+t	MT20	4.0	10.0		
AA	BMWW-t	MT20	8.0	9.0	4.25	4.50
AB	BS-t	MT18HS	6.0	14.0		
AC	BMWW-t	MT20	6.0	10.0	2.25	4.00
AD	BMWW-t	MT20	5.0	6.0	2.00	1.75
AE	BMV1+t	MT20	6.0	10.0	Edge	

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

CONNECTION REQUIREMENTS

1) **C1:** A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED.

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING AS PER NBCC 4.1.6.2.(8)

WIND LOAD APPLIED IS DERIVED FROM REFERENCE VELOCITY PRESSURE OF { 9.2} PSF AT {30-0-0} FT-IN-SX REFERENCE HEIGHT ABOVE GRADE AND USING EXTERNAL PEAK COEFFICIENTS, CpCg, BASED ON THE {MAIN WIND FORCE RESISTING SYSTEM}.INTERNAL WIND PRESSURE IS BASED ON DESIGN {CATEGORY 2}. BUILDING MAY BE LOCATED ON {ROUGH TERRAIN) AT MINIMUM {1.000} MILES DISTANCE FROM OPEN TERRAIN., AND TRUSS IS DESIGNED TO BE LOCATED AT LEAST {0-0} FT-IN-SX AWAY FROM EAVE.TRUSS UPLIFT IS BASED ON TOP AND BOTTOM CHORD DEAD LOADS OF 6.0 PSF AND 7.4 PSF RESPECTIVELY.

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873
MT18HS	586	403	2455	1382	3163	3004
MII16	438	302	2547	1256	4283	1816

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

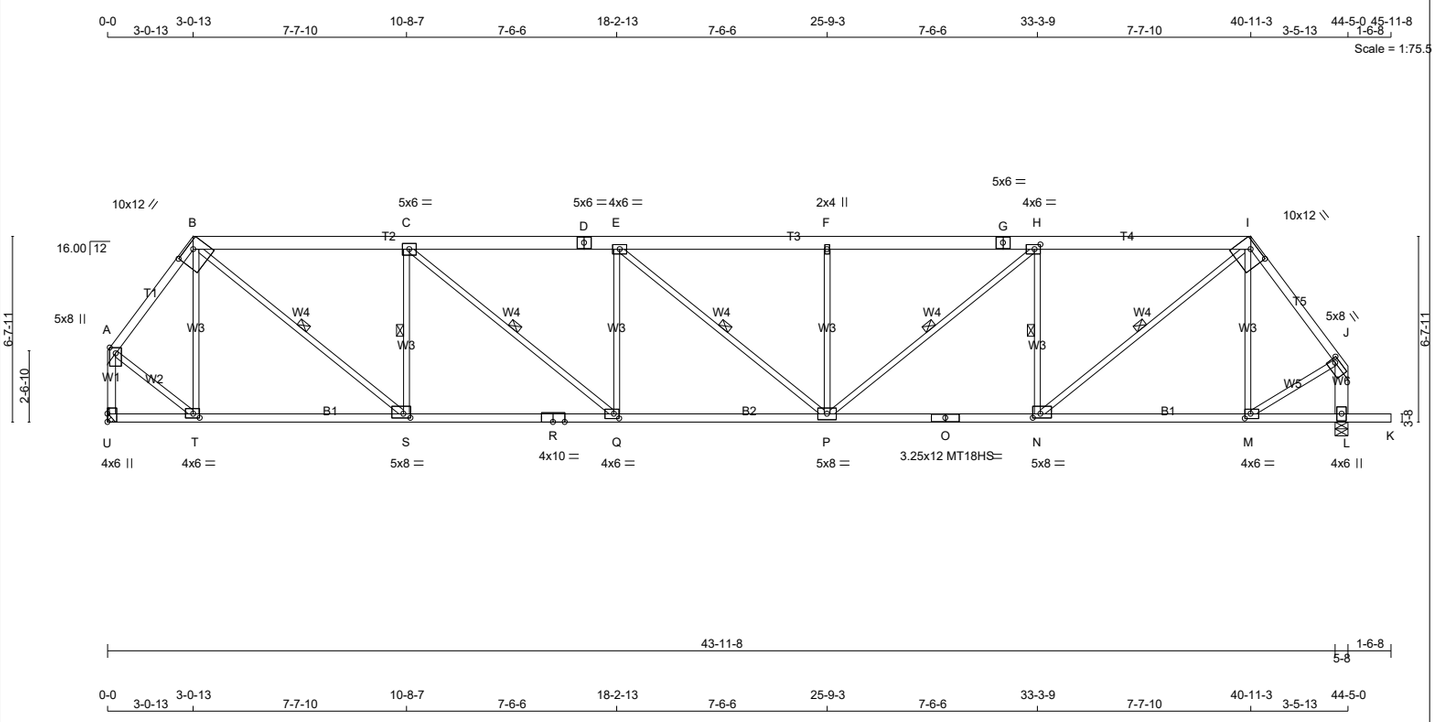
JSI GRIP= 0.90 (M) (INPUT = 0.90)
JSI METAL= 0.91 (X) (INPUT = 1.00)

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343285	H07		1	TRUSS DESC. JT 45147	E22052169

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:17:18 2022 Page 1
ID:6tV605vCHTmD2wqljx3DtgzTTXK-xu4kiOIl86afRKO7Q69rv9StpWO0T2vOPsU?1az6gN?



TOTAL WEIGHT = 212 lb

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - B	2x4	DRY	No.2	SPF
B - D	2x6	DRY	No.2	SPF
D - G	2x6	DRY	No.2	SPF
G - I	2x6	DRY	No.2	SPF
I - J	2x4	DRY	No.2	SPF
U - A	2x4	DRY	No.2	SPF
L - J	2x6	DRY	No.2	SPF
U - R	2x4	DRY	1650F 1.5E	SPF
R - O	2x4	DRY	1650F 1.5E	SPF
O - K	2x4	DRY	1650F 1.5E	SPF
ALL WEBS EXCEPT	2x3	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW+p	MT20	5.0	8.0	2.50	Edge
B	TTWW-h	MT20	10.0	12.0	2.50	7.00
C	TMWW-t	MT20	5.0	6.0		
D	TS-t	MT20	5.0	6.0		
E	TMWW-t	MT20	4.0	6.0		
F	TMW+w	MT20	2.0	4.0		
G	TS-t	MT20	5.0	6.0		
H	TMWW-t	MT20	4.0	6.0	2.00	2.50
I	TTWW-h	MT20	10.0	12.0	2.50	7.00
J	TMVW-t	MT20	5.0	8.0	1.75	2.00
L	BMV1+p	MT20	4.0	6.0		
M	BMWW-t	MT20	4.0	6.0	2.00	2.50
N	BMWW-t	MT20	5.0	8.0	1.75	3.25
O	BS-t	MT18HS	3.25	12.0		
P	BMWWW-t	MT20	5.0	8.0		
Q	BMWW-t	MT20	4.0	6.0	2.00	2.25
R	BS-t	MT20	4.0	10.0		
S	BMWW-t	MT20	5.0	8.0	1.75	3.00
T	BMWW-t	MT20	4.0	6.0	1.75	2.75
U	BMV1+t	MT20	4.0	6.0	3.50	

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
U	2991	0	3122	-207	-495	MECHANICAL	
L	3199	0	3330	0	-513	5-8	5-1

A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT U. MINIMUM BEARING LENGTH AT JOINT U = 3-8.

PROVIDE ANCHORAGE AT BEARING JOINT U FOR 495 LBS FACTORED UPLIFT
PROVIDE ANCHORAGE AT BEARING JOINT L FOR 513 LBS FACTORED UPLIFT

PROVIDE FOR 207 LBS FACTORED HORIZONTAL REACTION AT JOINTU

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
U	2249	1275 / 0	466 / 0	0 / 0	393 / -736	595 / 0	0 / 0
L	2405	1357 / 0	499 / 0	0 / 0	326 / -776	636 / 0	0 / 0
HORIZONTAL REACTIONS							
U	---	0 / 0	0 / 0	0 / 0	142 / -148	0 / 0	0 /0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) L

BRACING

MAX. UNBRACED TOP CHORD LENGTH = 3.23 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

1 LATERAL BRACE(S) AT 1/ 2 LENGTH OF B-S, C-S, C-Q, E-P, H-P, H-N, I-N.

END VERTICAL(S) MUST BE SHEATHED OR HAVE BRACES AS INDICATED IN THE MAX. UNBRACED LENGTH COLUMN OF THE TABLE BELOW

LOADING

TOTAL LOAD CASES: (18)

CHORDS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD LC1 (PLF) FROM	TO	MAX CSI (LC)	MAX. UNBRAC LENGTH	WEBS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
A- B	-2451 / 440	-95.2	-95.2	0.26 (2)	4.19	T- B	-744 / 190	0.51 (2)
B- C	-4186 / 799	-95.2	-95.2	0.56 (2)	3.75	B- S	-601 / 3560	0.80 (3)
C- D	-5468 / 991	-95.2	-95.2	0.67 (2)	3.24	S- C	-1954 / 486	0.53 (3)
D- E	-5468 / 991	-95.2	-95.2	0.67 (2)	3.24	C- Q	-279 / 1698	0.38 (3)
E- F	-5510 / 999	-95.2	-95.2	0.55 (3)	3.38	Q- E	-835 / 278	0.55 (10)
F- G	-5510 / 999	-95.2	-95.2	0.67 (3)	3.23	E- P	-21 / 59	0.01 (14)
G- H	-5510 / 999	-95.2	-95.2	0.67 (3)	3.23	P- F	-805 / 263	0.53 (10)
H- I	-4295 / 819	-95.2	-95.2	0.56 (3)	3.70	P- H	-263 / 1611	0.36 (2)
I- J	-2740 / 470	-95.2	-95.2	0.36 (3)	3.92	N- H	-1898 / 476	0.52 (2)
U- A	-3109 / 502	0.0	0.0	0.43 (2)	4.90	N- I	-587 / 3471	0.78 (2)
L- J	-3094 / 506	0.0	0.0	0.24 (3)	6.00	M- I	-533 / 162	0.35 (10)
						A- T	-192 / 1778	0.40 (2)
U- T	-170 / 193	-39.5	-39.5	0.22 (17)	6.25	M- J	-192 / 1800	0.40 (3)
T- S	-179 / 1457	-39.5	-39.5	0.42 (5)	6.25			
S- R	-621 / 4186	-39.5	-39.5	0.69 (2)	6.25			
R- Q	-621 / 4186	-39.5	-39.5	0.69 (2)	6.25			
Q- P	-814 / 5468	-39.5	-39.5	0.83 (2)	6.25			
P- O	-605 / 4295	-39.5	-39.5	0.71 (3)	6.25			
O- N	-605 / 4295	-39.5	-39.5	0.71 (3)	6.25			
N- M	-151 / 1635	-39.5	-39.5	0.44 (6)	6.25			
M- L	-10 / 22	-39.5	-39.5	0.22 (17)	6.25			
L- K	0 / 0	-134.7	-134.7	0.18 (1)	10.00			

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING AS PER NBCC 4.1.6.2.(8)

WIND LOAD APPLIED IS DERIVED FROM REFERENCE VELOCITY PRESSURE OF { 9.2} PSF AT {30-0-0} FT-IN-SX REFERENCE HEIGHT ABOVE GRADE AND USING EXTERNAL PEAK COEFFICIENTS, CpCg, BASED ON THE {MAIN WIND FORCE RESISTING SYSTEM}.INTERNAL WIND PRESSURE IS BASED ON DESIGN {CATEGORY 2}. BUILDING MAY BE LOCATED ON {ROUGH TERRAIN} AT MINIMUM {1.000} MILES DISTANCE FROM OPEN TERRAIN., AND TRUSS IS DESIGNED TO BE LOCATED AT LEAST {0-0} FT-IN-SX AWAY FROM EAVE.TRUSS UPLIFT IS BASED ON TOP AND BOTTOM CHORD DEAD LOADS OF 6.0 PSF AND 7.4 PSF RESPECTIVELY.

[M]

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	26.7	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	10.5	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	50.6	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 8.00/12

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.

(80 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 26.7 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.48")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.34")
ALLOWABLE DEFL.(TL)= L/180 (2.96")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.50")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.01")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.01")

CSI: TC=0.67/1.00 (F-H:3) , BC=0.83/1.00 (P-Q:2) , WB=0.80/1.00 (B-S:3) , SSI=0.28/1.00 (B-C:3)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 1.00
COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE LEFT HEEL ONLY

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873
MT18HS	586	403	2455	1382	3163	3004

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

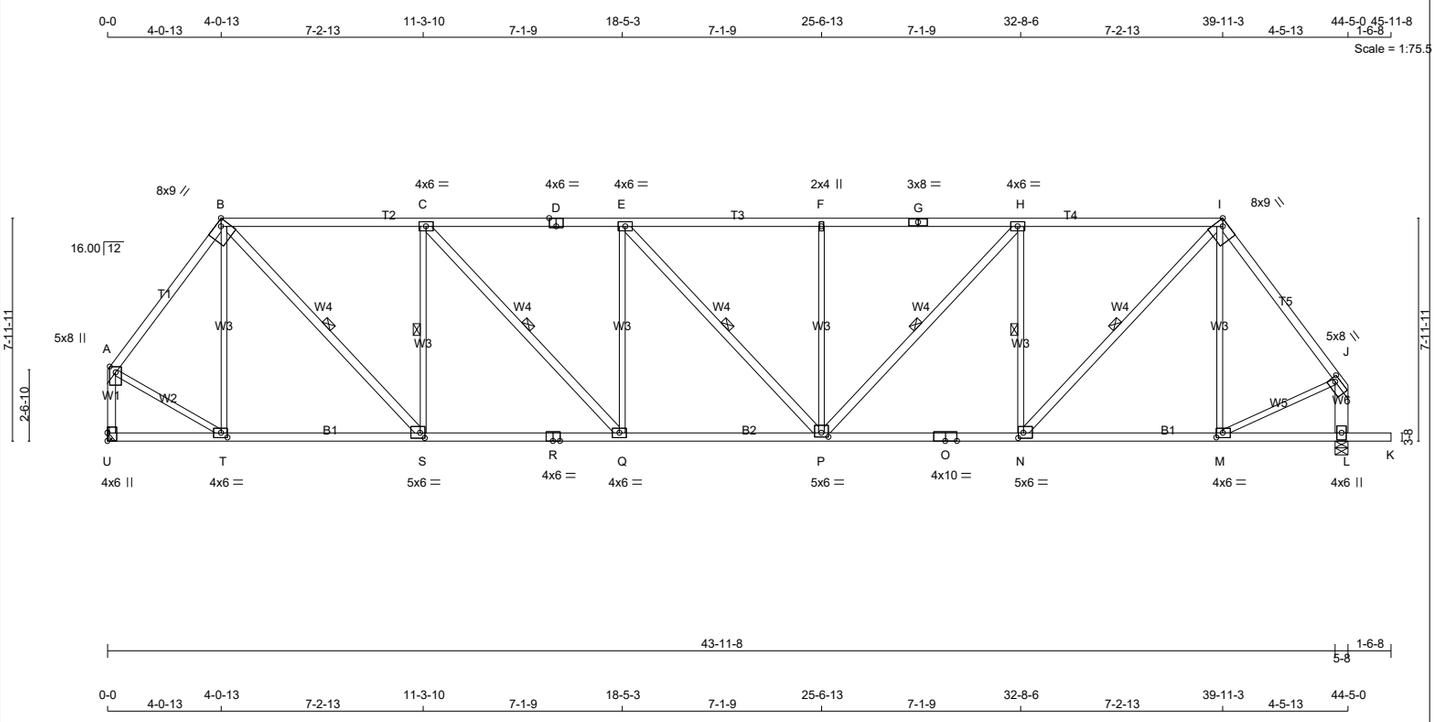
JSI GRIP= 0.90 (Q) (INPUT = 0.90)
JSI METAL= 0.99 (R) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343285	H08		1	TRUSS DESC. JT 45147	E22052170

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:17:21 2022 Page 1

ID:6tV605vCHTmD2wqljx3DtgzTTXK-LTmtLQLdQ1yDIn7i5EjYXo4LwkNDgNNq5qigduz6gMy



TOTAL WEIGHT = 217 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - B	2x4	DRY	No.2	SPF
B - D	2x4	DRY	2100F 1.8E	SPF
D - G	2x4	DRY	2100F 1.8E	SPF
G - I	2x4	DRY	2100F 1.8E	SPF
I - J	2x4	DRY	No.2	SPF
U - A	2x4	DRY	No.2	SPF
L - J	2x6	DRY	No.2	SPF
U - R	2x4	DRY	No.2	SPF
R - O	2x4	DRY	No.2	SPF
O - K	2x4	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF
EXCEPT				
B - S	2x4	DRY	No.2	SPF
C - Q	2x4	DRY	No.2	SPF
E - P	2x4	DRY	No.2	SPF
P - H	2x4	DRY	No.2	SPF
N - I	2x4	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW+p	MT20	5.0	8.0	2.50	Edge
B	TTWW-h	MT20	8.0	9.0	Edge	2.75
C, E, H						
C	TMWW-t	MT20	4.0	6.0		
D	TS-t	MT20	4.0	6.0	Edge	3.00
F	TMW+w	MT20	2.0	4.0		
G	TS-t	MT20	3.0	8.0		
I	TTWW-h	MT20	8.0	9.0	Edge	2.75
J	TMVW-t	MT20	5.0	8.0	2.00	2.00
L	BMV1+p	MT20	4.0	6.0		
M	BMWW-t	MT20	4.0	6.0	2.00	2.75
N	BMWW-t	MT20	5.0	6.0	2.25	2.25
O	BS-t	MT20	4.0	10.0		
P	BMWWW-t	MT20	5.0	6.0	1.75	3.00
Q	BMWW-t	MT20	4.0	6.0		
R	BS-t	MT20	4.0	6.0		
S	BMWW-t	MT20	5.0	6.0	2.25	2.00
T	BMWW-t	MT20	4.0	6.0	2.00	2.75
U	BMV1+t	MT20	4.0	6.0	3.50	

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
U	2991	0	3108	-247	-489	MECHANICAL	
L	3199	0	3316	0	-508	5-8	5-0

A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT U. MINIMUM BEARING LENGTH AT JOINT U = 3-8.

PROVIDE ANCHORAGE AT BEARING JOINT U FOR 489 LBS FACTORED UPLIFT
PROVIDE ANCHORAGE AT BEARING JOINT L FOR 508 LBS FACTORED UPLIFT

PROVIDE FOR 247 LBS FACTORED HORIZONTAL REACTION AT JOINTU

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
		MAX./MIN. COMPONENT REACTIONS					
U	2249	1265 / 0	466 / 0	0 / 0	389 / -732	595 / 0	0 / 0
L	2405	1348 / 0	499 / 0	0 / 0	313 / -772	636 / 0	0 / 0
HORIZONTAL REACTIONS							
U	---	0 / 0	0 / 0	0 / 0	171 / -176	0 / 0	0 /0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) L

BRACING

MAX. UNBRACED TOP CHORD LENGTH = 3.42 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 6.25 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

1 LATERAL BRACE(S) AT 1/ 2 LENGTH OF B-S, C-S, C-Q, E-P, H-P, H-N, I-N.

END VERTICAL(S) MUST BE SHEATHED OR HAVE BRACES AS INDICATED IN THE MAX. UNBRACED LENGTH COLUMN OF THE TABLE BELOW

LOADING

TOTAL LOAD CASES: (18)

CHORDS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF) FROM	TO	LC1 MAX CSI (LC)	MAX. UNBRAC LENGTH	WEBS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
A- B	-2577 / 463	-95.2	-95.2	0.49 (2)	3.94	T- B	-555 / 162	0.66 (9)
B- C	-3519 / 721	-95.2	-95.2	0.75 (2)	3.87	B- S	-503 / 2939	0.47 (3)
C- D	-4450 / 857	-95.2	-95.2	0.86 (2)	3.44	S- C	-1845 / 463	0.74 (3)
D- E	-4450 / 857	-95.2	-95.2	0.86 (2)	3.44	C- Q	-238 / 1413	0.23 (3)
E- F	-4484 / 863	-95.2	-95.2	0.69 (3)	3.66	Q- E	-795 / 269	0.95 (10)
F- G	-4484 / 863	-95.2	-95.2	0.87 (3)	3.42	E- P	-29 / 59	0.02 (11)
G- H	-4484 / 863	-95.2	-95.2	0.87 (3)	3.42	P- F	-760 / 249	0.91 (10)
H- I	-3605 / 737	-95.2	-95.2	0.76 (3)	3.82	P- H	-225 / 1336	0.21 (2)
I- J	-2803 / 481	-95.2	-95.2	0.67 (3)	3.69	N- H	-1789 / 453	0.72 (2)
U- A	-3058 / 507	0.0	0.0	0.42 (2)	4.94	N- I	-491 / 2861	0.46 (2)
L- J	-3048 / 510	0.0	0.0	0.24 (3)	6.04	M- I	-403 / 143	0.48 (10)
						A- T	-170 / 1731	0.39 (2)
U- T	-210 / 233	-39.5	-39.5	0.24 (17)	6.25	M- J	-171 / 1773	0.40 (3)
T- S	-185 / 1530	-39.5	-39.5	0.51 (5)	6.25			
S- R	-503 / 3520	-39.5	-39.5	0.79 (2)	6.25			
R- Q	-503 / 3520	-39.5	-39.5	0.79 (2)	6.25			
Q- P	-638 / 4450	-39.5	-39.5	0.92 (2)	6.25			
P- O	-475 / 3605	-39.5	-39.5	0.81 (3)	6.25			
O- N	-475 / 3605	-39.5	-39.5	0.81 (3)	6.25			
N- M	-137 / 1669	-39.5	-39.5	0.53 (6)	6.25			
M- L	-10 / 22	-39.5	-39.5	0.25 (17)	6.25			
L- K	0 / 0	-134.7	-134.7	0.22 (1)	10.00			

TRUSS HAS BEEN CHECKED FOR UNBALANCED LOADING AS PER NBCC 4.1.6.2.(8)

WIND LOAD APPLIED IS DERIVED FROM REFERENCE VELOCITY PRESSURE OF { 9.2} PSF AT {30-0-0} FT-IN-SX REFERENCE HEIGHT ABOVE GRADE AND USING EXTERNAL PEAK COEFFICIENTS, CpCg, BASED ON THE {MAIN WIND FORCE RESISTING SYSTEM}.INTERNAL WIND PRESSURE IS BASED ON DESIGN {CATEGORY 2}. BUILDING MAY BE LOCATED ON {ROUGH TERRAIN} AT MINIMUM {1.000} MILES DISTANCE FROM OPEN TERRAIN., AND TRUSS IS DESIGNED TO BE LOCATED AT LEAST {0-0} FT-IN-SX AWAY FROM EAVE.TRUSS UPLIFT IS BASED ON TOP AND BOTTOM CHORD DEAD LOADS OF 6.0 PSF AND 7.4 PSF RESPECTIVELY.

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	26.7	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	10.5	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	50.6	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 8.00/12

THIS TRUSS IS DESIGNED FOR COMMERCIAL OR INDUSTRIAL BUILDING REQUIREMENTS OF PART 4, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 4 OF BCBC 2018 , ABC 2019
- PART 4 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- SLOPE REDUCTION FACTOR USED
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.

(80 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) TIMES IMPORTANCE FACTOR EQUALS 26.7 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (1.48")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.26")
ALLOWABLE DEFL.(TL)= L/180 (2.96")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.38")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.01")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.01")

CSI: TC=0.87/1.00 (F-H:3) , BC=0.92/1.00 (P-Q:2) , WB=0.95/1.00 (E-Q:10) , SSI=0.35/1.00 (H-I:2)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

SNOW LOAD IMPORTANCE FACTOR = 1.00
WIND LOAD IMPORTANCE FACTOR = 1.00
LIVE LOAD IMPORTANCE FACTOR = 1.00
COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE LEFT HEEL ONLY

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

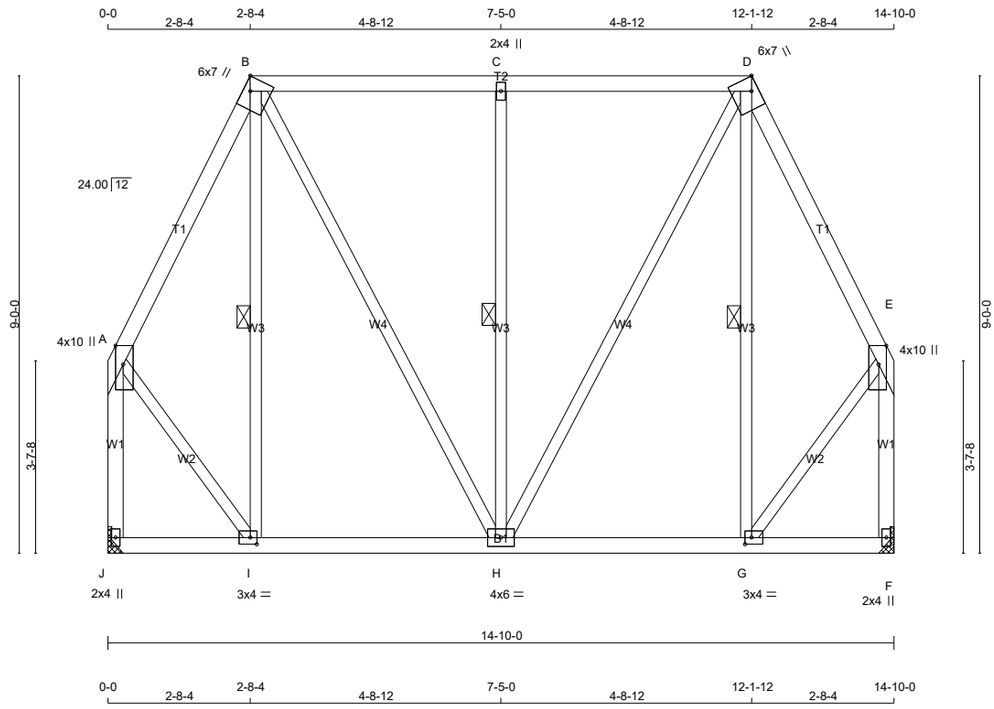
JSI GRIP= 0.89 (N) (INPUT = 0.90)
JSI METAL= 0.88 (O) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343285	H09	1	1	TRUSS DESC. JT 45147	E22052171

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:17:22 2022 Page 1
ID:zZu06ROh8JtpEZqWOlUwGBzTUuV-pfJFYmMFBL44wxiufxEn3?cYr7wAPvMzKUSD9Lz6gMx

Scale = 1:39.8



TOTAL WEIGHT = 2 X 93 = 186 lb
[M]

LUMBER
N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - B	2x4	DRY	No.2	SPF
B - D	2x4	DRY	No.2	SPF
D - E	2x4	DRY	No.2	SPF
J - A	2x4	DRY	No.2	SPF
F - E	2x4	DRY	No.2	SPF
J - F	2x4	DRY	No.2	SPF
ALL WEBS EXCEPT	2x3	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW+p	MT20	4.0	10.0	4.25	Edge
B	TTWW-h	MT20	6.0	7.0	Edge	3.25
C	TMW+w	MT20	2.0	4.0		
D	TTWW-h	MT20	6.0	7.0	Edge	3.25
E	TMVW+p	MT20	4.0	10.0	4.25	Edge
F	BMV1+p	MT20	2.0	4.0		
G	BMWW-t	MT20	3.0	4.0	1.50	1.50
H	BMWWW-t	MT20	4.0	6.0		
I	BMWW-t	MT20	3.0	4.0	1.50	1.50
J	BMV1+p	MT20	2.0	4.0		

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

LICENSED PROFESSIONAL ENGINEER
V. WIDYA
100225448
06/13/2022
PROVINCE OF ONTARIO

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG	REQRD BRG
J	1528	0	1528	0	0	MECHANICAL	
F	1528	0	1528	0	0	MECHANICAL	

A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT J, F. MINIMUM BEARING LENGTH AT JOINT J = 1-10, JOINT F = 1-10.

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
J	1061	805 / 0	0 / 0	0 / 0	0 / 0	256 / 0	0 / 0
F	1061	805 / 0	0 / 0	0 / 0	0 / 0	256 / 0	0 / 0

BRACING
FOR SECTION B-D, MAX. PURLIN SPACING = 2.00 FT.
FOR OTHER SECTIONS, TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.15 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

1 LATERAL BRACE(S) AT 1/ 2 LENGTH OF B-I, C-H, D-G.

END VERTICAL(S) MUST BE SHEATHED OR HAVE BRACES AS INDICATED IN THE MAX. UNBRACED LENGTH COLUMN OF THE TABLE BELOW

LOADING
TOTAL LOAD CASES: (4)

C H O R D S

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	VERT. LOAD (PLF) FROM	TO	MAX CSI (LC)	MAX. UNBRAC LENGTH
A- B	-913 / 0	-177.9	-177.9	0.25 (1)	6.15
B- C	-721 / 0	-192.9	-192.9	0.73 (1)	2.00
C- D	-721 / 0	-192.9	-192.9	0.73 (1)	2.00
D- E	-913 / 0	-177.9	-177.9	0.25 (1)	6.15
J- A	-1514 / 0	0.0	0.0	0.35 (1)	6.68
F- E	-1514 / 0	0.0	0.0	0.35 (1)	6.68
J- I	0 / 0	-18.5	-18.5	0.06 (4)	10.00
I- H	0 / 399	-18.5	-18.5	0.11 (1)	10.00
H- G	0 / 399	-18.5	-18.5	0.11 (1)	10.00
G- F	0 / 0	-18.5	-18.5	0.06 (4)	10.00

W E B S

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
I- B	-371 / 0	0.19 (1)
B- H	0 / 673	0.15 (1)
H- C	-1103 / 0	0.58 (1)
H- D	0 / 673	0.15 (1)
G- D	-371 / 0	0.19 (1)
A- I	0 / 608	0.14 (1)
G- E	0 / 608	0.14 (1)

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	54.3	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	0.0	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	67.7	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON PIGGYBACK TRUSS WITH SLOPES OF 6.00/12 AND -6.00/12 AND RESPECTIVE HEEL HEIGHTS OF 0-0 AND 0-0 AND AN ADDITIONAL DEAD LOAD OF 6.0 P.S.F.

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.

(200 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 54.3 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (0.49")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.02")
ALLOWABLE DEFL.(TL)= L/360 (0.49")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.04")

CSI: TC=0.73/1.00 (B-C:1) , BC=0.11/1.00 (G-H:1) , WB=0.58/1.00 (C-H:1) , SSI=0.44/1.00 (B-C:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

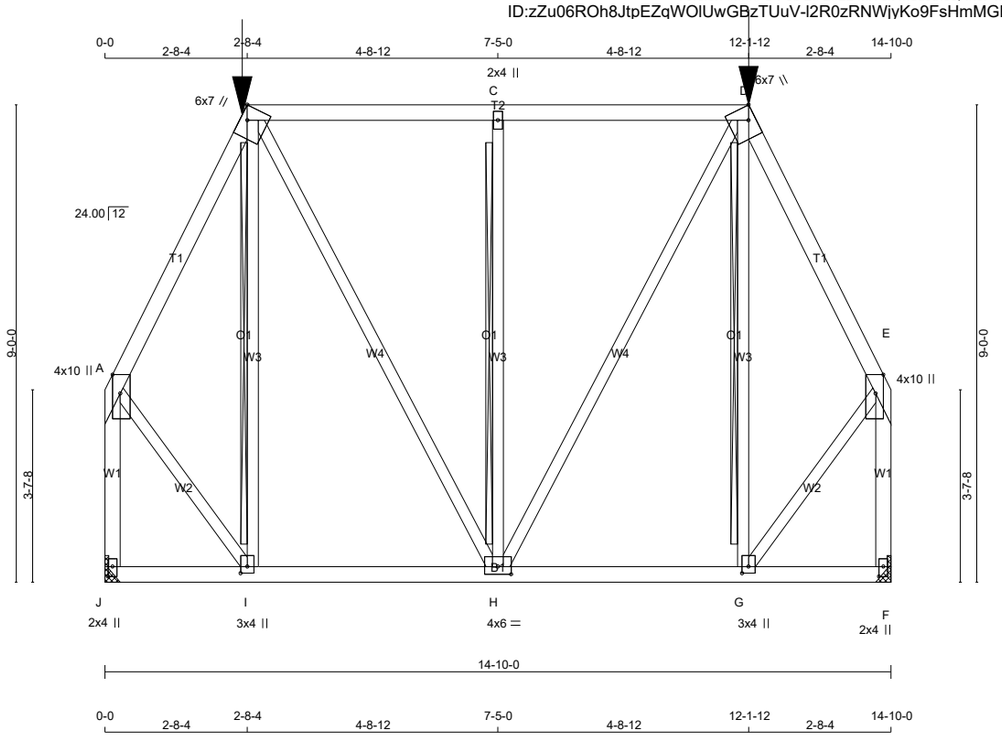
JSI GRIP= 0.90 (I) (INPUT = 0.90)
JSI METAL= 0.32 (J) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343285	H09A		1	TRUSS DESC. JT 45147	E22052172

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:17:24 2022 Page 1
ID:zZu06ROh8JtpEZqWOlUwGBzTUuV-I2R0zRNWjyKo9FsHmMGF8QisCxaHtnlGnoxKEDz6gMv

Scale = 1:39.8



TOTAL WEIGHT = 93 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - B	2x4	DRY	No.2	SPF
B - D	2x4	DRY	No.2	SPF
D - E	2x4	DRY	No.2	SPF
J - A	2x4	DRY	No.2	SPF
F - E	2x4	DRY	No.2	SPF
J - F	2x4	DRY	No.2	SPF
ALL WEBS EXCEPT	2x3	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW+p	MT20	4.0	10.0	4.25	Edge
B	TTWW-h	MT20	6.0	7.0	Edge	3.25
C	TMW+w	MT20	2.0	4.0		
D	TTWW-h	MT20	6.0	7.0	Edge	3.25
E	TMVW+p	MT20	4.0	10.0	4.25	Edge
F	BMV1+p	MT20	2.0	4.0	2.25	1.00
G	BMWW+t	MT20	3.0	4.0	1.50	1.50
H	BMWWW-t	MT20	4.0	6.0	1.75	3.00
I	BMWW+t	MT20	3.0	4.0	1.50	1.50
J	BMV1+p	MT20	2.0	4.0	2.25	1.00

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

LICENSED PROFESSIONAL ENGINEER
V. WIDYA
100225448
06/13/2022
PROVINCE OF ONTARIO

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG	REQRD BRG
J	1848	0	1848	0	0	MECHANICAL	
F	1848	0	1848	0	0	MECHANICAL	

A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT J, F. MINIMUM BEARING LENGTH AT JOINT J = 2-8, JOINT F = 2-8.

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
J	1314	824 / 0	0 / 0	0 / 0	0 / 0	489 / 0	0 / 0
F	1314	824 / 0	0 / 0	0 / 0	0 / 0	489 / 0	0 / 0

BRACING

FOR SECTION B-D, MAX. PURLIN SPACING = 2.00 FT.
FOR OTHER SECTIONS, TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 5.59 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

2x3 DRY SPF No.2 T-BRACE AT B-I, D-G
2x4 DRY SPF No.2 T-BRACE AT C-H

FASTEN T AND I-BRACES TO NARROW EDGE OF WEB WITH ONE ROW PER PLY OF 3" COMMON WIRE NAILS @ 6" O.C. WITH 3" MINIMUM END DISTANCE. BRACE MUST COVER 90% OF WEB LENGTH.

END VERTICAL(S) MUST BE SHEATHED OR HAVE BRACES AS INDICATED IN THE MAX. UNBRACED LENGTH COLUMN OF THE TABLE BELOW

LOADING

TOTAL LOAD CASES: (4)

CHORDS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF) FROM	TO	LC1 CSI (LC)	MAX UNBRAC LENGTH
A- B	-1125 / 0	-187.9	-187.9	0.30 (1)	5.59
B- C	-851 / 0	-206.7	-206.7	0.87 (1)	2.00
C- D	-851 / 0	-206.7	-206.7	0.87 (1)	2.00
D- E	-1125 / 0	-187.9	-187.9	0.30 (1)	5.59
J- A	-1823 / 0	0.0	0.0	0.43 (1)	6.15
F- E	-1823 / 0	0.0	0.0	0.43 (1)	6.15
J- I	0 / 0	-31.6	-31.6	0.12 (4)	10.00
I- H	0 / 491	-31.6	-31.6	0.20 (4)	10.00
H- G	0 / 491	-31.6	-31.6	0.20 (4)	10.00
G- F	0 / 0	-31.6	-31.6	0.12 (4)	10.00

WEBS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
I- B	-422 / 0	0.57 (1)
B- H	0 / 752	0.19 (1)
H- C	-1178 / 0	0.71 (1)
H- D	0 / 752	0.19 (1)
G- D	-422 / 0	0.57 (1)
A- I	0 / 749	0.19 (1)
G- E	0 / 749	0.19 (1)

FACTORED CONCENTRATED LOADS (LBS)

JT	LOC.	LC1	MAX-	MAX+	FACE	DIR.	TYPE	HEEL	CONN.
B	2-8-4	-131	-131	---	FRONT	VERT	TOTAL	---	C1
D	12-1-12	-131	-131	---	FRONT	VERT	TOTAL	---	C1

CONNECTION REQUIREMENTS

1) **C1:** A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED.

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	54.3	PSF
	DL	=	10.0	PSF
BOT CH.	LL	=	0.0	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	71.7	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON PIGGYBACK TRUSS WITH SLOPES OF 6.00/12 AND -6.00/12 AND RESPECTIVE HEEL HEIGHTS OF 0-0 AND 0-0 AND AN ADDITIONAL DEAD LOAD OF 6.0 P.S.F.

GIRDER TYPE: CPrimeHip
SIDE SETBACK = 2-8-4
END SETBACK = 4-10-0
END WALL WIDTH = 0-0
CORNER FRAMING TYPE: CONVENTIONAL
END JACK TYPE: CONVENTIONAL
APPLIED TO FRONT SIDE
- ADDT'L LOADS BASED ON 55 % OF GSL.

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.

(200 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 54.3 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (0.49")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.02")
ALLOWABLE DEFL.(TL)= L/360 (0.49")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.04")

CSI: TC=0.87/1.00 (C-D:1) , BC=0.20/1.00 (H-I:4) , WB=0.71/1.00 (C-H:1) , SSI=0.52/1.00 (B-C:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.00 COMP=1.00 SHEAR=1.00 TENS= 1.00

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

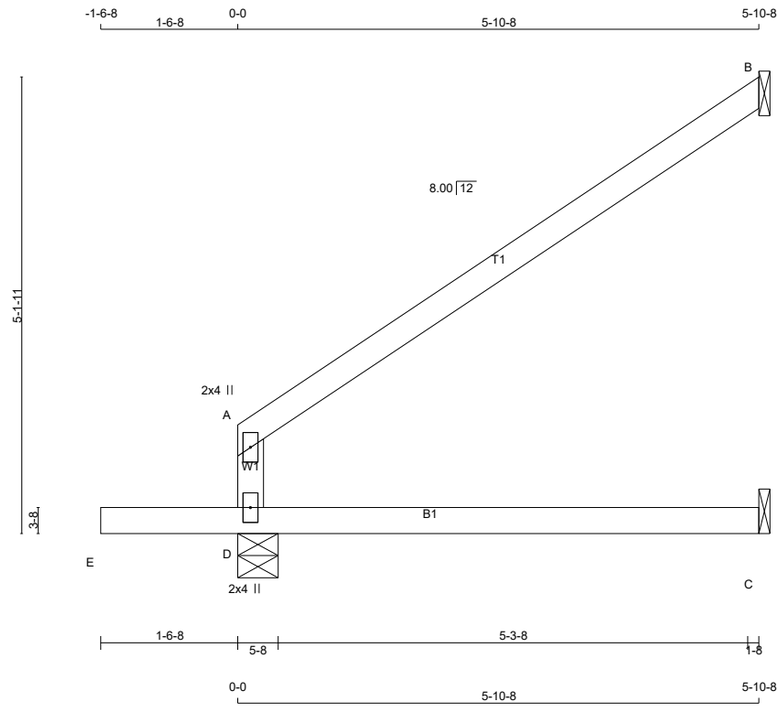
JSI GRIP= 0.79 (I) (INPUT = 0.90)
JSI METAL= 0.38 (J) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343285	J01	1	1	TRUSS DESC. JT 45147	E22052173

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:17:25 2022 Page 1

ID:zZu06ROh8JtpEZqWOlUwGBzTUuV-DE?OAnO8UGSfnPRTK4nUheE9JLxfcP9Q0Sgtmgz6gMu



TOTAL WEIGHT = 21 X 18 = 370 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
D - A	2x4	DRY	No.2	SPF
A - B	2x4	DRY	No.2	SPF
E - C	2x4	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMV+p	MT20	2.0	4.0		
D	BMV1+p	MT20	2.0	4.0		

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
D	487	0	487	0	0	5-8	1-8
B	188	0	188	0	0	1-8	1-8
C	41	0	46	0	0	1-8	1-8

SEE MITEK STANDARD DETAIL MSD2015-H FOR CONNECTION TO JOINT(S) B , C

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
D	348	210 / 0	0 / 0	0 / 0	0 / 0	137 / 0	0 / 0
B	130	101 / 0	0 / 0	0 / 0	0 / 0	29 / 0	0 / 0
C	33	0 / 0	0 / 0	0 / 0	0 / 0	33 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) D, B

BRACING

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

LOADING

TOTAL LOAD CASES: (4)

CHORDS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	VERT. LOAD (PLF) FROM	TO	LC1 MAX CSI (LC)	WEBS MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)	MAX. UNBRAC LENGTH
D- A	-270 / 0	0.0	0.0	0.33 (1)				7.81
A- B	-23 / 0	-78.0	-78.0	0.33 (1)				6.25
E- D	0 / 0	-96.5	-96.5	0.16 (1)				10.00
D- C	0 / 0	-18.5	-18.5	0.19 (4)				10.00

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	21.0	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	0.0	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	34.4	PSF

SPACING = 24.0 IN. C/C

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
-OVERHANG NOT TO BE ALTERED OR CUT OFF.

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(TL)= L/360 (0.20")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.02")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.01")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.01")

CSI: TC=0.33/1.00 (A-D:1) , BC=0.19/1.00 (C-D:4) , WB=0.00/1.00 (n/a:0) , SSI=0.18/1.00 (A-B:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE RIGHT HEEL ONLY

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

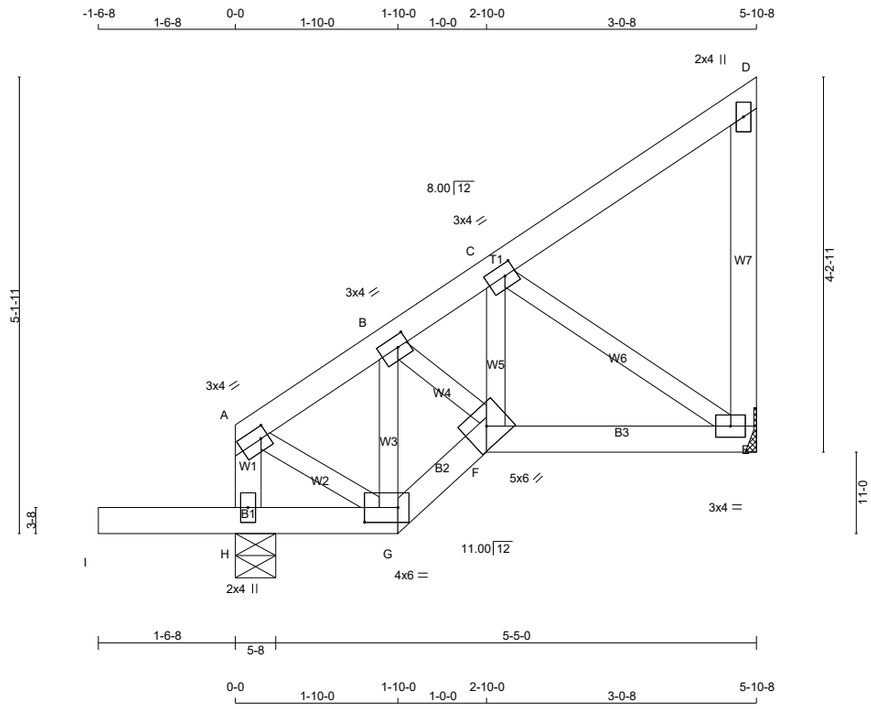
JSI GRIP= 0.17 (A) (INPUT = 0.90)
JSI METAL= 0.14 (A) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.		DRWG NO.
343285	J01T		1	TRUSS DESC.	JT 45147	E22052174

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:17:27 2022 Page 1

ID:zZu06ROh8JtpEZqWOlUwGBzTUuV-Ad78bTPO0tjN0ibsSVqym3JZk8cd4JnjUm9_rYz6gMs



TOTAL WEIGHT = 7 X 30 = 210 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
H - A	2x4	DRY	No.2	SPF
A - D	2x4	DRY	No.2	SPF
E - D	2x4	DRY	No.2	SPF
I - G	2x4	DRY	No.2	SPF
G - F	2x4	DRY	No.2	SPF
F - E	2x4	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW-t	MT20	3.0	4.0	1.50	1.00
B	TMWW-t	MT20	3.0	4.0	1.50	1.50
C	TMWW-t	MT20	3.0	4.0	1.50	1.50
D	TMV+p	MT20	2.0	4.0		
E	BMVW1-t	MT20	3.0	4.0		
F	BBWW-h	MT20	5.0	6.0		
G	BBWW-l	MT20	4.0	6.0	2.00	4.50
H	BMV1+p	MT20	2.0	4.0		

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

LICENSED PROFESSIONAL ENGINEER
V. WIDYA
100225448
06/13/2022
PROVINCE OF ONTARIO

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG	REQRD BRG
H	452	0	452	0	0	5-8	1-8
E	264	0	264	0	0	MECHANICAL	

A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT E. MINIMUM BEARING LENGTH AT JOINT E = 1-8.

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
H	322	197 / 0	0 / 0	0 / 0	0 / 0	125 / 0	0 / 0
E	188	115 / 0	0 / 0	0 / 0	0 / 0	73 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) H

BRACING

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

LOADING

TOTAL LOAD CASES: (4)

CHORDS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF) FROM	TO	MAX CSI (LC)	MAX. UNBRAC LENGTH
H- A	-223 / 0	0.0	0.0	0.02 (1)	7.81
A- B	-165 / 0	-78.0	-78.0	0.04 (1)	6.25
B- C	-239 / 0	-78.0	-78.0	0.08 (1)	6.25
C- D	-11 / 0	-78.0	-78.0	0.08 (1)	6.25
E- D	-95 / 0	0.0	0.0	0.03 (1)	7.81
I- H	0 / 0	-96.5	-96.5	0.16 (1)	10.00
H- G	0 / 0	-18.5	-18.5	0.16 (1)	10.00
G- F	0 / 173	-18.5	-18.5	0.03 (1)	10.00
F- E	0 / 216	-18.5	-18.5	0.07 (4)	10.00

WEBS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
A- G	0 / 154	0.03 (1)
G- B	-220 / 0	0.03 (1)
B- F	0 / 130	0.03 (1)
F- C	0 / 63	0.02 (4)
C- E	-259 / 0	0.06 (1)

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	21.0	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	0.0	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	34.4	PSF

SPACING = 24.0 IN. C/C

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
-OVERHANG NOT TO BE ALTERED OR CUT OFF.

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (0.20")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")
ALLOWABLE DEFL.(TL)= L/360 (0.20")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.01")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.02")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 588 (0.03")

CSI: TC=0.08/1.00 (B-C:1) , BC=0.16/1.00 (G-H:1) , WB=0.06/1.00 (C-E:1) , SSI=0.12/1.00 (H-I:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

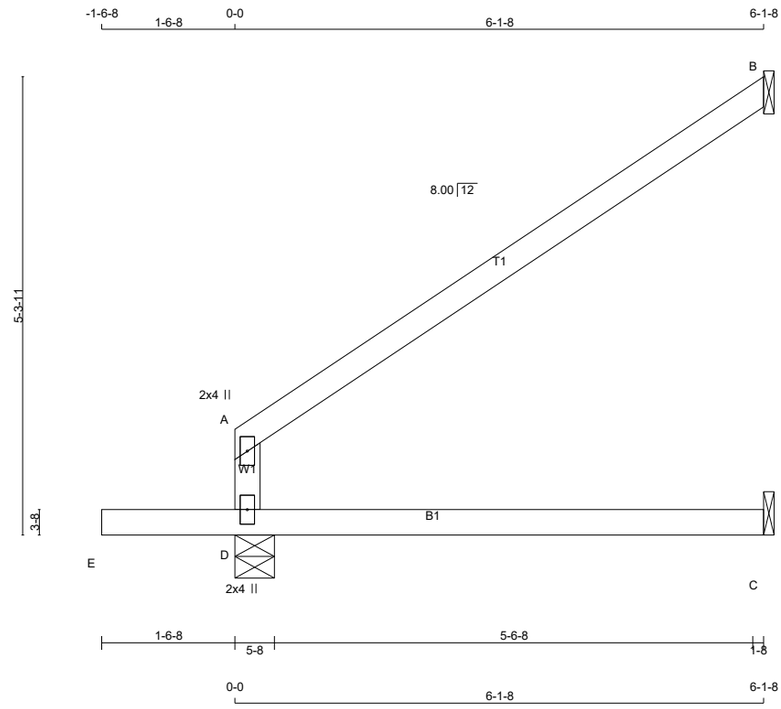
PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.48 (A) (INPUT = 0.90)
JSI METAL= 0.07 (E) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343285	J02		1	TRUSS DESC. JT 45147	E22052175

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:17:28 2022 Page 1
ID:zZu06ROh8JtpEZqWOlUwGBzTUuV-ephWppQ0nBrEes92?CLBJGsq1Yx6pmusiQvXN?z6qMr



TOTAL WEIGHT = 10 X 18 = 182 lb

[M]

LUMBER
N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
D - A	2x4	DRY	No.2	SPF
A - B	2x4	DRY	No.2	SPF
E - C	2x4	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
A	TMV+p	MT20	2.0	4.0		
D	BMV1+p	MT20	2.0	4.0		

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
D	502	0	502	0	0	5-8	1-8
B	195	0	195	0	0	1-8	1-8
C	42	0	48	0	0	1-8	1-8

SEE MITEK STANDARD DETAIL MSD2015-H FOR CONNECTION TO JOINT(S) B , C

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
D	358	217 / 0	0 / 0	0 / 0	0 / 0	141 / 0	0 / 0
B	135	105 / 0	0 / 0	0 / 0	0 / 0	30 / 0	0 / 0
C	34	0 / 0	0 / 0	0 / 0	0 / 0	34 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) D, B

BRACING
TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

LOADING
TOTAL LOAD CASES: (4)

CHORDS MEMB. FR-TO	MAX. FORCE (LBS)	FACTORED VERT. LOAD (PLF) FROM	TO	LC1 MAX CSI (LC)	WEBS MAX. UNBRAC LENGTH	MEMB. FR-TO	MAX. FORCE (LBS)	MAX CSI (LC)
D- A	-282 / 0	0.0	0.0	0.36 (1)	7.81			
A- B	-24 / 0	-78.0	-78.0	0.36 (1)	6.25			
E- D	0 / 0	-96.5	-96.5	0.16 (1)	10.00			
D- C	0 / 0	-18.5	-18.5	0.20 (4)	10.00			

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	21.0	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	0.0	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	34.4	PSF

SPACING = 24.0 IN. C/C

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
-OVERHANG NOT TO BE ALTERED OR CUT OFF.

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(TL)= L/360 (0.20")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.03")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(LL)= L/120 (0.19")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.01")
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.01")

CSI: TC=0.36/1.00 (A-D:1) , BC=0.20/1.00 (C-D:4) , WB=0.00/1.00 (n/a:0) , SSI=0.18/1.00 (A-B:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

AUTOSOLVE RIGHT HEEL ONLY

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

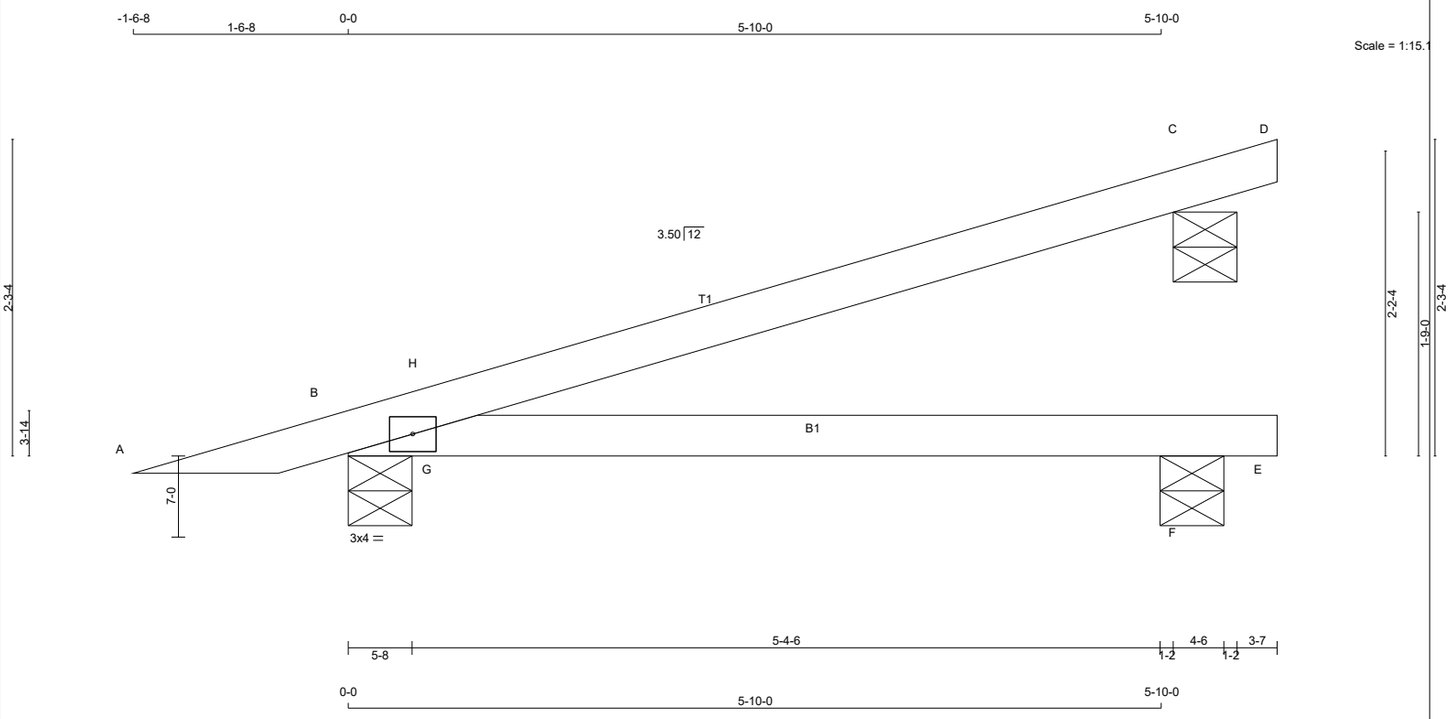
JSI GRIP= 0.17 (A) (INPUT = 0.90)
JSI METAL= 0.14 (A) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343285	J03	.	1	TRUSS DESC. JT 45147	E22052176

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:17:29 2022 Page 1

ID:zZu06ROh8JtpEZqWOlUwGBzTUuV-6?Fv09ReYVz5F0kFZvsQrUPrUyGEYD8?x4f5vRz6gMq



TOTAL WEIGHT = 4 X 17 = 69 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - D	2x4	DRY	No.2	SPF
B - E	2x4	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMB1-I	MT20	3.0	4.0		

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
B	412	0	412	0	0	5-8	1-8
F	98	0	98	0	0	5-8	1-8
C	253	0	253	0	0	5-8	5-8

BEVELED PLATE OR SHIM REQUIRED TO PROVIDE FULL BEARING SURFACE WITH TRUSS CHORD AT JT(S): C

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
B	291	192 / 0	0 / 0	0 / 0	0 / 0	100 / 0	0 / 0
F	74	21 / 0	0 / 0	0 / 0	0 / 0	53 / 0	0 / 0
C	176	132 / 0	0 / 0	0 / 0	0 / 0	44 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) B, F, C

BRACING

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

LOADING

TOTAL LOAD CASES: (4)

CHORDS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF) FROM	TO	LC1 CSI (LC)	MAX MAX. UNBRAC LENGTH
A- B	0 / 15	-78.0	-78.0	0.12 (1)	10.00
B- H	-17 / 7	-78.0	-78.0	0.08 (4)	6.25
H- C	0 / 2	-78.0	-78.0	0.38 (1)	10.00
C- D	-6 / 0	-78.0	-78.0	0.02 (1)	10.00
B- G	0 / 0	-18.5	-18.5	0.27 (1)	10.00
G- F	0 / 0	-18.5	-18.5	0.27 (1)	10.00
F- E	0 / 0	-18.5	-18.5	0.01 (4)	10.00

WEBS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
G- H	-265 / 9	0.00 (1)

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	21.0	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	0.0	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	34.4	PSF

SPACING = 24.0 IN. C/C

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (0.20")
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.07")
ALLOWABLE DEFL.(TL)= L/360 (0.20")
CALCULATED VERT. DEFL.(TL) = L/ 490 (0.15")

CANTILEVER DEFLECTION:
ALLOWABLE DEFL.(TL)= L/120 (0.19")
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.00")

CSI: TC=0.38/1.00 (C-H:1) , BC=0.27/1.00 (F-G:1) , WB=0.00/1.00 (G-H:1) , SSI=0.23/1.00 (B-G:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.26 (B) (INPUT = 0.90)
JSI METAL= 0.07 (B) (INPUT = 1.00)

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

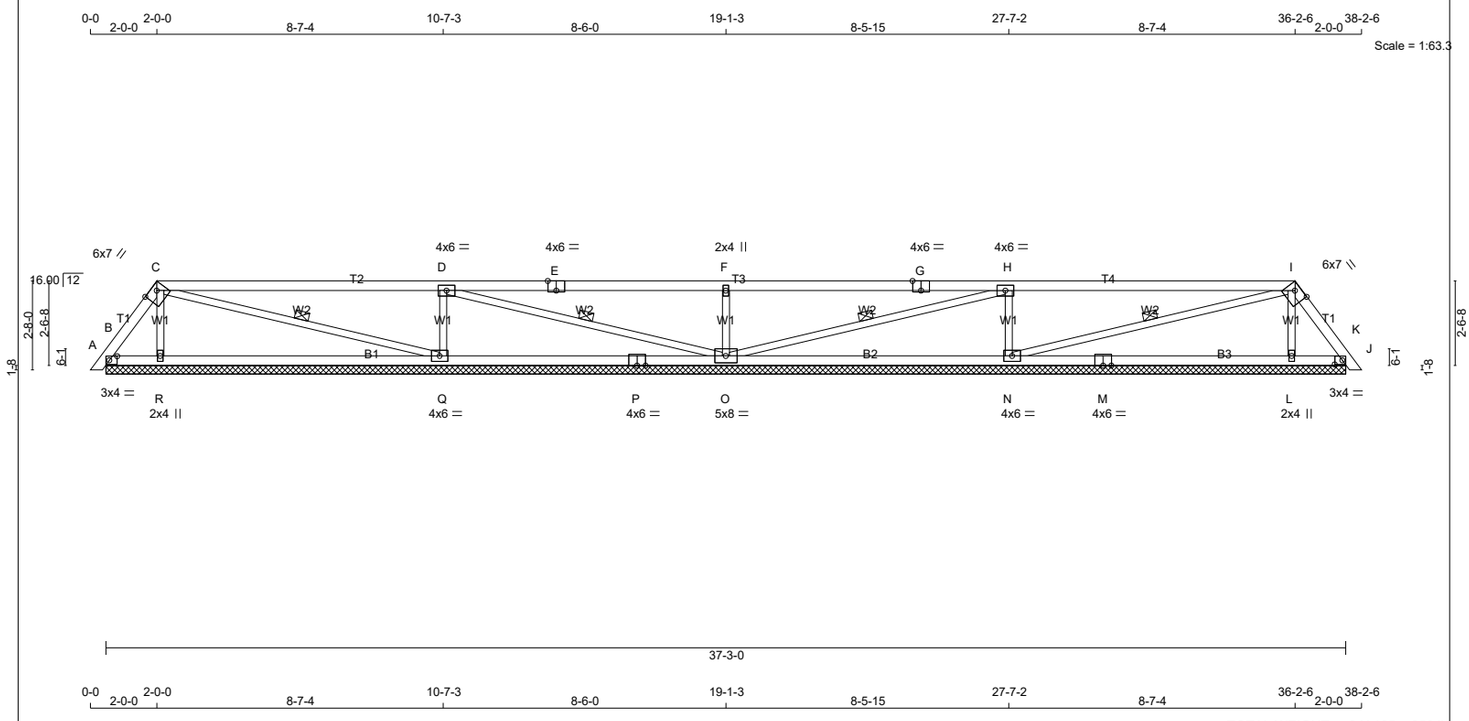
LICENSED PROFESSIONAL ENGINEER
Y. WIDYA
100225448
06/13/2022
PROVINCE OF ONTARIO

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343285	P05A	1	1	TRUSS DESC. JT 45147	E22052177

Alpha Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:17:31 2022 Page 1

ID:zZu06ROh8JtpEZqWOlUwGBzTUuV-2OMfRqTv46DpVKudhKuuxvU2umyq06mIOO8B Jz6gMo



TOTAL WEIGHT = 2 X 125 = 250 lb [M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - C	2x4	DRY	No.2	SPF
C - E	2x4	DRY	No.2	SPF
E - G	2x4	DRY	No.2	SPF
G - I	2x4	DRY	No.2	SPF
I - K	2x4	DRY	No.2	SPF
B - P	2x4	DRY	No.2	SPF
P - M	2x4	DRY	No.2	SPF
M - J	2x4	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMB1-l	MT20	3.0	4.0	1.50	2.75
C	TTWW-h	MT20	6.0	7.0	2.00	4.25
D	TMWW-t	MT20	4.0	6.0		
E	TS-t	MT20	4.0	6.0	Edge	3.00
F	TMW+w	MT20	2.0	4.0		
G	TS-t	MT20	4.0	6.0	Edge	3.00
H	TMWW-t	MT20	4.0	6.0		
I	TTWW-h	MT20	6.0	7.0	2.00	4.25
J	TMB1-l	MT20	3.0	4.0	1.50	2.75
L	BMW1+w	MT20	2.0	4.0		
M	BS-t	MT20	4.0	6.0		
N	BMWW1-t	MT20	4.0	6.0		
O	BMWWW1-t	MT20	5.0	8.0		
P	BS-t	MT20	4.0	6.0		
Q	BMWW1-t	MT20	4.0	6.0		
R	BMW1+w	MT20	2.0	4.0		

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
B	124	0	124	0	-11	37-3-0 (7-3-8)	1-8
R	387	0	387	0	0	37-3-0 (7-3-8)	1-8
Q	921	0	921	0	0	37-3-0 (7-3-8)	1-8
O	786	0	786	0	0	37-3-0 (7-3-8)	1-8
N	921	0	921	0	0	37-3-0 (7-3-8)	1-8
L	387	0	387	0	0	37-3-0 (7-3-8)	1-8
J	124	0	124	0	-11	37-3-0 (7-3-8)	1-8

VALUE IN PARENTHESIS INDICATES EFFECTIVE BEARING LENGTH

PROVIDE ANCHORAGE AT BEARING JOINT B FOR 150 LBS FACTORED UPLIFT
PROVIDE ANCHORAGE AT BEARING JOINT J FOR 150 LBS FACTORED UPLIFT

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
B	81	89 / 0	0 / 0	0 / 0	0 / 0	0 / -8	0 / 0
R	284	129 / 0	0 / 0	0 / 0	0 / 0	155 / 0	0 / 0
Q	655	409 / 0	0 / 0	0 / 0	0 / 0	246 / 0	0 / 0
O	561	340 / 0	0 / 0	0 / 0	0 / 0	221 / 0	0 / 0
N	655	409 / 0	0 / 0	0 / 0	0 / 0	246 / 0	0 / 0
L	284	129 / 0	0 / 0	0 / 0	0 / 0	155 / 0	0 / 0
J	81	89 / 0	0 / 0	0 / 0	0 / 0	0 / -8	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) B, R, Q, O, N, L, J

BRACING

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

1 LATERAL BRACE(S) AT 1/ 2 LENGTH OF C-Q, D-O, H-O, I-N.

LOADING

TOTAL LOAD CASES: (4)

CHORDS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD LC1 (PLF) FROM	TO	MAX CSI (LC)	MAX. UNBRAC LENGTH
A- B	0 / 10	-78.0	-78.0	0.01 (1)	10.00
B- C	-95 / 0	-78.0	-78.0	0.03 (1)	6.25
C- D	-18 / 0	-78.0	-78.0	0.84 (1)	6.25
D- E	0 / 18	-78.0	-78.0	0.84 (1)	10.00
E- F	0 / 18	-78.0	-78.0	0.84 (1)	10.00
F- G	0 / 18	-78.0	-78.0	0.84 (1)	10.00
G- H	0 / 18	-78.0	-78.0	0.84 (1)	10.00
H- I	-18 / 0	-78.0	-78.0	0.84 (1)	6.25
I- J	-95 / 0	-78.0	-78.0	0.03 (1)	6.25
J- K	0 / 10	-78.0	-78.0	0.01 (1)	10.00
B- R	0 / 54	-18.5	-18.5	0.22 (4)	10.00
R- Q	0 / 43	-18.5	-18.5	0.28 (4)	10.00
Q- P	0 / 18	-18.5	-18.5	0.27 (4)	10.00
P- O	0 / 18	-18.5	-18.5	0.27 (4)	10.00
O- N	0 / 18	-18.5	-18.5	0.27 (4)	10.00
N- M	0 / 43	-18.5	-18.5	0.28 (4)	10.00
M- L	0 / 43	-18.5	-18.5	0.28 (4)	10.00
L- J	0 / 54	-18.5	-18.5	0.22 (4)	10.00

WEBS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
R- C	-240 / 0	0.04 (1)
C- Q	-25 / 0	0.01 (1)
Q- D	-754 / 0	0.12 (1)
D- O	-37 / 0	0.02 (1)
O- F	-612 / 0	0.10 (1)
O- H	-37 / 0	0.02 (1)
N- H	-754 / 0	0.12 (1)
N- I	-25 / 0	0.01 (1)
L- I	-240 / 0	0.04 (1)

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	21.0	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	0.0	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	34.4	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

CSI: TC=0.84/1.00 (F-H:1) , BC=0.28/1.00 (L-N:4) , WB=0.12/1.00 (H-N:1) , SSI=0.32/1.00 (H-I:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

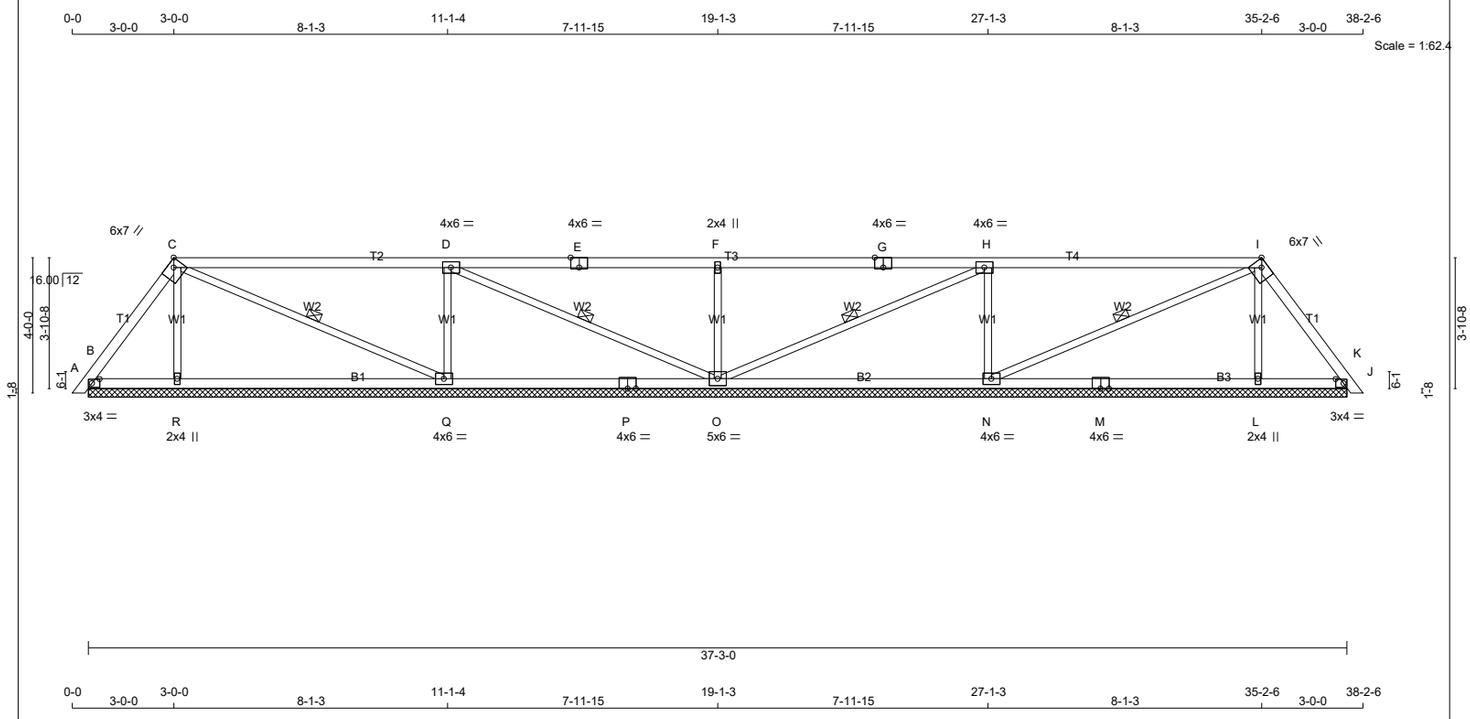
JSI GRIP= 0.90 (C) (INPUT = 0.90)
JSI METAL= 0.26 (E) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343285	P05B	1	1	TRUSS DESC. JT 45147	E22052178

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:17:32 2022 Page 1

ID:zZu06ROh8JtpEZqWOlUwGBzTUuV-Waw1eATXrQLq6UTpE2P7T61F29IKlYOSd2tlWmz6gMn



TOTAL WEIGHT = 2 X 132 = 263 lb [M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - C	2x4	DRY	No.2	SPF
C - E	2x4	DRY	No.2	SPF
E - G	2x4	DRY	No.2	SPF
G - I	2x4	DRY	No.2	SPF
I - K	2x4	DRY	No.2	SPF
B - P	2x4	DRY	No.2	SPF
P - M	2x4	DRY	No.2	SPF
M - J	2x4	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMB1-l	MT20	3.0	4.0	1.50	2.75
C	TTWW-h	MT20	6.0	7.0	Edge	2.75
D	TMWW-t	MT20	4.0	6.0		
E	TS-t	MT20	4.0	6.0	Edge	3.00
F	TMW+w	MT20	2.0	4.0		
G	TS-t	MT20	4.0	6.0	Edge	3.00
H	TMWW-t	MT20	4.0	6.0		
I	TTWW-h	MT20	6.0	7.0	Edge	2.75
J	TMB1-l	MT20	3.0	4.0	1.50	2.75
L	BMW1+w	MT20	2.0	4.0		
M	BS-t	MT20	4.0	6.0		
N	BMWW1-t	MT20	4.0	6.0		
O	BMWWW1-t	MT20	5.0	6.0		
P	BS-t	MT20	4.0	6.0		
Q	BMWW1-t	MT20	4.0	6.0		
R	BMW1+w	MT20	2.0	4.0		

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
B	219	0	219	0	0	37-3-0 (7-3-8)	1-8
R	358	0	358	0	0	37-3-0 (7-3-8)	1-8
Q	852	0	852	0	0	37-3-0 (7-3-8)	1-8
O	790	0	790	0	0	37-3-0 (7-3-8)	1-8
N	852	0	852	0	0	37-3-0 (7-3-8)	1-8
L	358	0	358	0	0	37-3-0 (7-3-8)	1-8
J	219	0	219	0	0	37-3-0 (7-3-8)	1-8

VALUE IN PARENTHESIS INDICATES EFFECTIVE BEARING LENGTH

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
B	151	121 / 0	0 / 0	0 / 0	0 / 0	31 / 0	0 / 0
R	261	126 / 0	0 / 0	0 / 0	0 / 0	135 / 0	0 / 0
Q	607	377 / 0	0 / 0	0 / 0	0 / 0	230 / 0	0 / 0
O	563	347 / 0	0 / 0	0 / 0	0 / 0	216 / 0	0 / 0
N	607	377 / 0	0 / 0	0 / 0	0 / 0	230 / 0	0 / 0
L	261	126 / 0	0 / 0	0 / 0	0 / 0	135 / 0	0 / 0
J	151	121 / 0	0 / 0	0 / 0	0 / 0	31 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) B, R, Q, O, N, L, J

BRACING

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

1 LATERAL BRACE(S) AT 1/ 2 LENGTH OF C-Q, D-O, H-O, I-N.

LOADING

TOTAL LOAD CASES: (4)

CHORDS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD LC1 (PLF) FROM	TO	MAX CSI (LC)	MAX. UNBRAC LENGTH
A- B	0 / 10	-78.0	-78.0	0.01 (1)	10.00
B- C	-120 / 0	-78.0	-78.0	0.09 (1)	6.25
C- D	-27 / 0	-78.0	-78.0	0.74 (1)	6.25
D- E	0 / 50	-78.0	-78.0	0.75 (1)	10.00
E- F	0 / 50	-78.0	-78.0	0.75 (1)	10.00
F- G	0 / 50	-78.0	-78.0	0.75 (1)	10.00
G- H	0 / 50	-78.0	-78.0	0.75 (1)	10.00
H- I	-27 / 0	-78.0	-78.0	0.74 (1)	6.25
I- J	-120 / 0	-78.0	-78.0	0.09 (1)	6.25
J- K	0 / 10	-78.0	-78.0	0.01 (1)	10.00
B- R	0 / 70	-18.5	-18.5	0.18 (4)	10.00
R- Q	0 / 63	-18.5	-18.5	0.25 (4)	10.00
Q- P	0 / 27	-18.5	-18.5	0.25 (4)	10.00
P- O	0 / 27	-18.5	-18.5	0.25 (4)	10.00
O- N	0 / 27	-18.5	-18.5	0.25 (4)	10.00
N- M	0 / 63	-18.5	-18.5	0.25 (4)	10.00
M- L	0 / 63	-18.5	-18.5	0.25 (4)	10.00
L- J	0 / 70	-18.5	-18.5	0.18 (4)	10.00

WEBS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
R- C	-234 / 0	0.05 (1)
C- Q	-39 / 0	0.02 (1)
Q- D	-684 / 0	0.16 (1)
D- O	-85 / 0	0.04 (1)
O- F	-576 / 0	0.13 (1)
O- H	-85 / 0	0.04 (1)
N- H	-684 / 0	0.16 (1)
N- I	-39 / 0	0.02 (1)
L- I	-234 / 0	0.05 (1)

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	21.0	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	0.0	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	34.4	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

CSI: TC=0.75/1.00 (D-F:1) , BC=0.25/1.00 (L-N:4) , WB=0.16/1.00 (D-Q:1) , SSI=0.30/1.00 (C-D:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

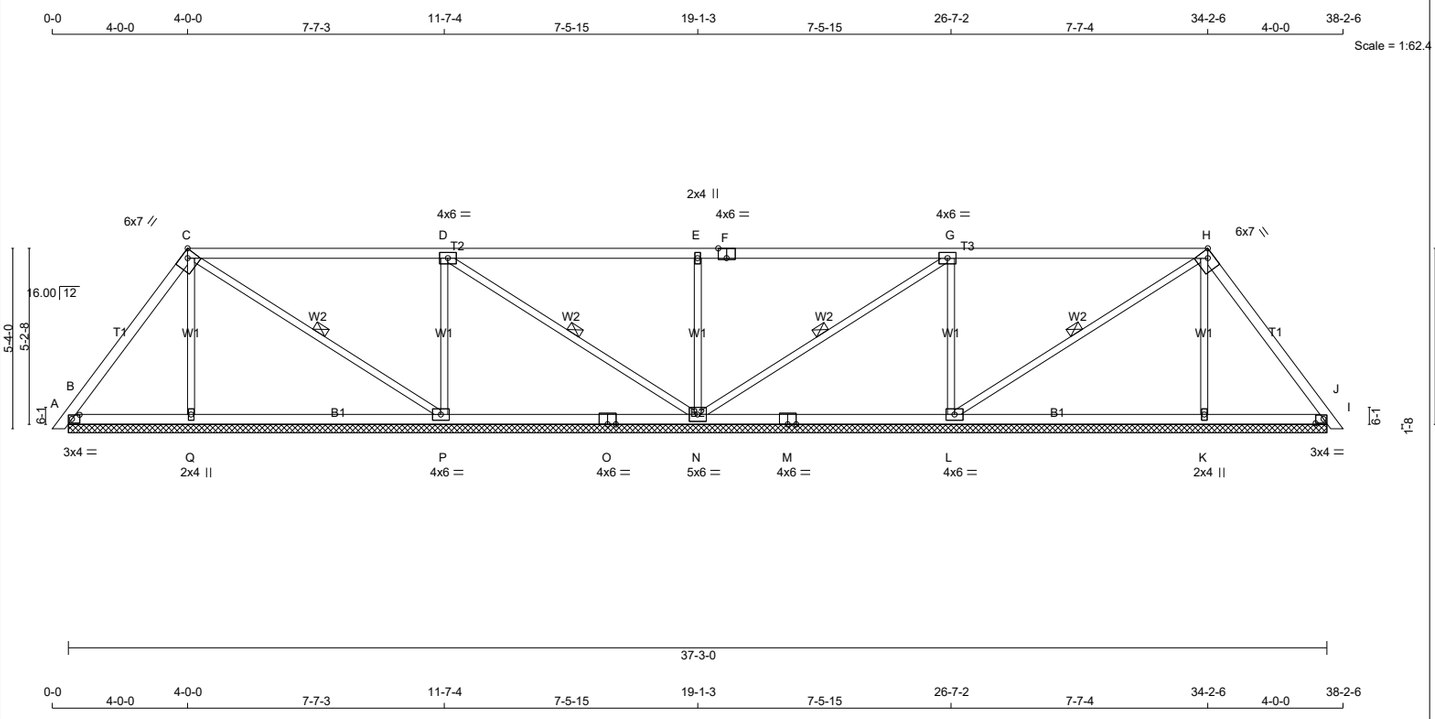
JSI GRIP= 0.89 (C) (INPUT = 0.90)
JSI METAL= 0.31 (E) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343285	P05C	.	1	TRUSS DESC. JT 45147	E22052179

Alpha Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:17:34 2022 Page 1

ID:zZu06ROh8JtpEZqWOlUwGBzTUuV-Tz2o3sVnN1bNMndCMTScYX6cqz FDQdk5MMsbez6gMl



TOTAL WEIGHT = 2 X 139 = 278 lb [M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - C	2x4	DRY	No.2	SPF
C - F	2x4	DRY	No.2	SPF
F - H	2x4	DRY	No.2	SPF
H - J	2x4	DRY	No.2	SPF
B - O	2x4	DRY	No.2	SPF
O - M	2x4	DRY	No.2	SPF
M - I	2x4	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMB1-l	MT20	3.0	4.0	1.50	2.75
C	TTWW-h	MT20	6.0	7.0	Edge	2.75
D	TMWW-t	MT20	4.0	6.0		
E	TMW+w	MT20	2.0	4.0		
F	TS-t	MT20	4.0	6.0	Edge	3.00
G	TMWW-t	MT20	4.0	6.0		
H	TTWW-h	MT20	6.0	7.0	Edge	2.75
I	TMB1-l	MT20	3.0	4.0	1.50	2.75
K	BMW1+w	MT20	2.0	4.0		
L	BMWW1-t	MT20	4.0	6.0		
M	BS-t	MT20	4.0	6.0		
N	BMWWW1-t	MT20	5.0	6.0		
O	BS-t	MT20	4.0	6.0		
P	BMWW1-t	MT20	4.0	6.0		
Q	BMW1+w	MT20	2.0	4.0		

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
B	294	0	294	0	0	37-3-0 (15-11-8)	
Q	346	0	346	0	0	37-3-0 (15-11-8)	
P	771	0	771	0	0	37-3-0 (15-11-8)	
N	827	0	827	0	0	37-3-0 (15-11-8)	
L	771	0	771	0	0	37-3-0 (15-11-8)	
K	346	0	346	0	0	37-3-0 (15-11-8)	
I	294	0	294	0	0	37-3-0 (15-11-8)	

VALUE IN PARENTHESIS INDICATES EFFECTIVE BEARING LENGTH

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
B	205	150 / 0	0 / 0	0 / 0	0 / 0	55 / 0	0 / 0
Q	252	123 / 0	0 / 0	0 / 0	0 / 0	129 / 0	0 / 0
P	549	338 / 0	0 / 0	0 / 0	0 / 0	211 / 0	0 / 0
N	587	372 / 0	0 / 0	0 / 0	0 / 0	215 / 0	0 / 0
L	549	338 / 0	0 / 0	0 / 0	0 / 0	211 / 0	0 / 0
K	252	123 / 0	0 / 0	0 / 0	0 / 0	129 / 0	0 / 0
I	205	150 / 0	0 / 0	0 / 0	0 / 0	55 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) B, Q, P, N, L, K, I

BRACING

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

1 LATERAL BRACE(S) AT 1/ 2 LENGTH OF C-P, D-N, G-N, H-L.

LOADING

TOTAL LOAD CASES: (4)

C H O R D S

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD LC1 (PLF) FROM	TO	MAX CSI (LC)	MAX. UNBRAC LENGTH
A- B	0 / 10	-78.0	-78.0	0.01 (1)	10.00
B- C	-140 / 0	-78.0	-78.0	0.17 (1)	6.25
C- D	-31 / 0	-78.0	-78.0	0.65 (1)	6.25
D- E	0 / 84	-78.0	-78.0	0.66 (1)	10.00
E- F	0 / 84	-78.0	-78.0	0.66 (1)	10.00
F- G	0 / 84	-78.0	-78.0	0.66 (1)	10.00
G- H	-31 / 0	-78.0	-78.0	0.65 (1)	6.25
H- I	-140 / 0	-78.0	-78.0	0.17 (1)	6.25
I- J	0 / 10	-78.0	-78.0	0.01 (1)	10.00
B- Q	0 / 82	-18.5	-18.5	0.16 (4)	10.00
Q- P	0 / 77	-18.5	-18.5	0.22 (4)	10.00
P- O	0 / 31	-18.5	-18.5	0.22 (4)	10.00
O- N	0 / 31	-18.5	-18.5	0.22 (4)	10.00
N- M	0 / 31	-18.5	-18.5	0.22 (4)	10.00
M- L	0 / 31	-18.5	-18.5	0.22 (4)	10.00
L- K	0 / 77	-18.5	-18.5	0.22 (4)	10.00
K- I	0 / 82	-18.5	-18.5	0.16 (4)	10.00

W E B S

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
Q- C	-228 / 0	0.09 (1)
C- P	-54 / 0	0.03 (1)
P- D	-598 / 0	0.24 (1)
D- N	-138 / 0	0.08 (1)
N- E	-539 / 0	0.22 (1)
N- G	-138 / 0	0.08 (1)
L- G	-598 / 0	0.24 (1)
L- H	-54 / 0	0.03 (1)
K- H	-228 / 0	0.09 (1)

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	21.0	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	0.0	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	34.4	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

CSI: TC=0.66/1.00 (E-G:1) , BC=0.22/1.00 (P-Q:4) , WB=0.24/1.00 (G-L:1) , SSI=0.28/1.00 (G-H:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

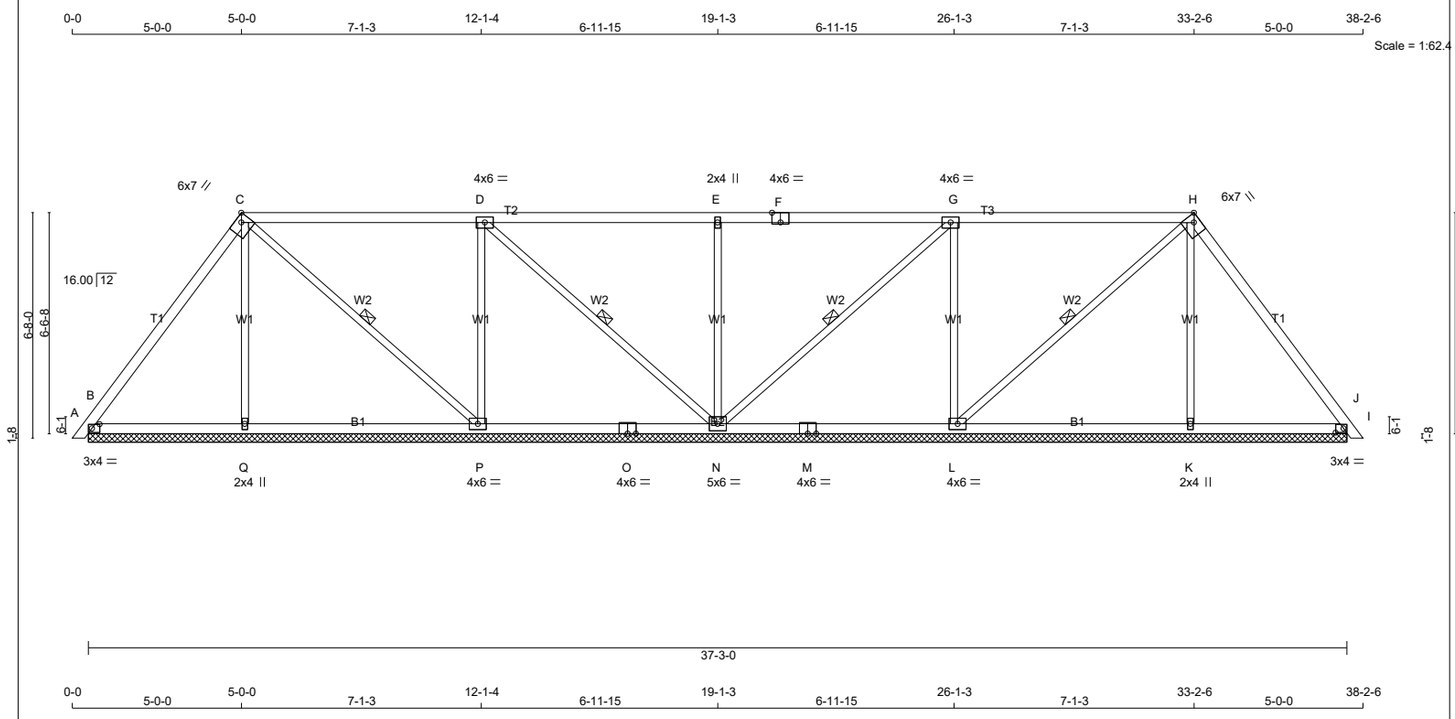
JSI GRIP= 0.78 (C) (INPUT = 0.90)
JSI METAL= 0.20 (F) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343285	P05D	1	1	TRUSS DESC. JT 45147	E22052180

Alpha Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:17:36 2022 Page 1

ID:zZu06ROh8JtpEZqWOlUwGBzTUuV-PLAYUYW1uer5b5nbTuU4dyBzamhChIK1YqryfXz6qMj



TOTAL WEIGHT = 2 X 147 = 295 lb [M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - C	2x4	DRY	No.2	SPF
C - F	2x4	DRY	No.2	SPF
F - H	2x4	DRY	No.2	SPF
H - J	2x4	DRY	No.2	SPF
B - O	2x4	DRY	No.2	SPF
O - M	2x4	DRY	No.2	SPF
M - I	2x4	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMB1-l	MT20	3.0	4.0	1.50	2.75
C	TTWW-h	MT20	6.0	7.0	Edge	2.75
D	TMWW-t	MT20	4.0	6.0		
E	TMW+w	MT20	2.0	4.0		
F	TS-t	MT20	4.0	6.0	Edge	3.00
G	TMWW-t	MT20	4.0	6.0		
H	TTWW-h	MT20	6.0	7.0	Edge	2.75
I	TMB1-l	MT20	3.0	4.0	1.50	2.75
K	BMW1+w	MT20	2.0	4.0		
L	BMWW1-t	MT20	4.0	6.0		
M	BS-t	MT20	4.0	6.0		
N	BMWWW1-t	MT20	5.0	6.0		
O	BS-t	MT20	4.0	6.0		
P	BMWW1-t	MT20	4.0	6.0		
Q	BMW1+w	MT20	2.0	4.0		

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
B	356	0	356	0	0	37-3-0 (15-11-8)	
Q	342	0	342	0	0	37-3-0 (15-11-8)	
P	690	0	690	0	0	37-3-0 (15-11-8)	
N	875	0	875	0	0	37-3-0 (15-11-8)	
L	690	0	690	0	0	37-3-0 (15-11-8)	
K	342	0	342	0	0	37-3-0 (15-11-8)	
I	356	0	356	0	0	37-3-0 (15-11-8)	

VALUE IN PARENTHESIS INDICATES EFFECTIVE BEARING LENGTH

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
B	250	176 / 0	0 / 0	0 / 0	0 / 0	74 / 0	0 / 0
Q	249	120 / 0	0 / 0	0 / 0	0 / 0	130 / 0	0 / 0
P	492	300 / 0	0 / 0	0 / 0	0 / 0	192 / 0	0 / 0
N	619	402 / 0	0 / 0	0 / 0	0 / 0	217 / 0	0 / 0
L	492	300 / 0	0 / 0	0 / 0	0 / 0	192 / 0	0 / 0
K	249	120 / 0	0 / 0	0 / 0	0 / 0	130 / 0	0 / 0
I	250	176 / 0	0 / 0	0 / 0	0 / 0	74 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) B, Q, P, N, L, K, I

BRACING

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

1 LATERAL BRACE(S) AT 1/ 2 LENGTH OF C-P, D-N, G-N, H-L.

LOADING

TOTAL LOAD CASES: (4)

CHORDS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD LC1 (PLF) FROM	TO	MAX CSI (LC)	MAX. UNBRAC LENGTH
A- B	0 / 10	-78.0	-78.0	0.01 (1)	10.00
B- C	-152 / 0	-78.0	-78.0	0.28 (1)	6.25
C- D	-29 / 0	-78.0	-78.0	0.57 (1)	6.25
D- E	0 / 107	-78.0	-78.0	0.58 (1)	10.00
E- F	0 / 107	-78.0	-78.0	0.58 (1)	10.00
F- G	0 / 107	-78.0	-78.0	0.58 (1)	10.00
G- H	-29 / 0	-78.0	-78.0	0.57 (1)	6.25
H- I	-152 / 0	-78.0	-78.0	0.28 (1)	6.25
I- J	0 / 10	-78.0	-78.0	0.01 (1)	10.00
B- Q	0 / 90	-18.5	-18.5	0.16 (4)	10.00
Q- P	0 / 86	-18.5	-18.5	0.19 (4)	10.00
P- O	0 / 29	-18.5	-18.5	0.19 (4)	10.00
O- N	0 / 29	-18.5	-18.5	0.19 (4)	10.00
N- M	0 / 29	-18.5	-18.5	0.19 (4)	10.00
M- L	0 / 29	-18.5	-18.5	0.19 (4)	10.00
L- K	0 / 86	-18.5	-18.5	0.19 (4)	10.00
K- I	0 / 90	-18.5	-18.5	0.16 (4)	10.00

WEBS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
Q- C	-222 / 0	0.16 (1)
C- P	-75 / 0	0.05 (1)
P- D	-508 / 0	0.36 (1)
D- N	-183 / 0	0.11 (1)
N- E	-503 / 0	0.35 (1)
N- G	-183 / 0	0.11 (1)
L- G	-508 / 0	0.36 (1)
L- H	-75 / 0	0.05 (1)
K- H	-222 / 0	0.16 (1)

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	21.0	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	0.0	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	34.4	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

CSI: TC=0.58/1.00 (D-E:1) , BC=0.19/1.00 (P-Q:4) , WB=0.36/1.00 (D-P:1) , SSI=0.26/1.00 (C-D:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

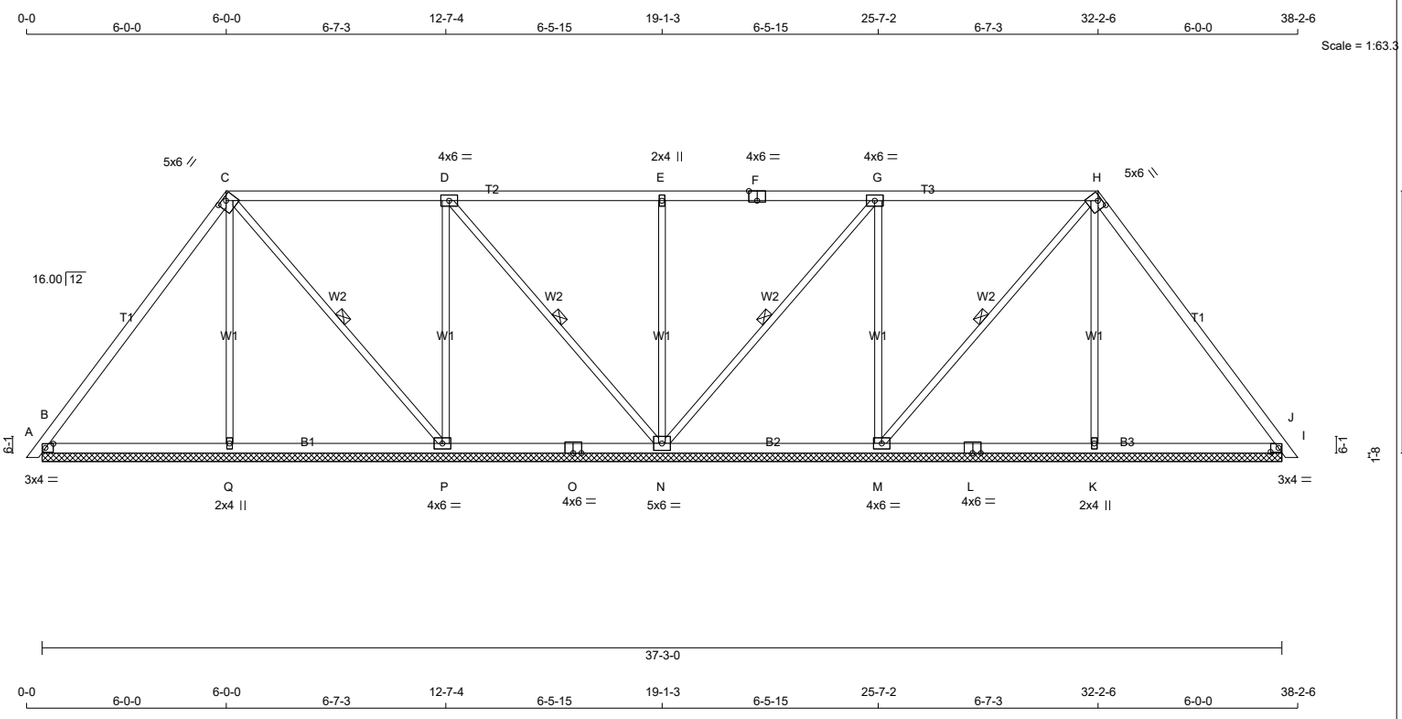
JSI GRIP= 0.71 (C) (INPUT = 0.90)
JSI METAL= 0.17 (I) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343285	P05E	1	1	TRUSS DESC. JT 45147	E22052181

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:17:37 2022 Page 1

ID:zZu06ROh8JtpEZqWOlUwGBzTUuV-tYjwiuXqfyzyDFLn1b?JAAkAWA1nQidBnJbWBzz6gMi



0-0 6-0-0 6-0-0 6-7-3 12-7-4 6-5-15 19-1-3 6-5-15 25-7-2 6-7-3 32-2-6 6-0-0 38-2-6

TOTAL WEIGHT = 2 X 156 = 312 lb [M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - C	2x4	DRY	No.2	SPF
C - F	2x4	DRY	No.2	SPF
F - H	2x4	DRY	No.2	SPF
H - J	2x4	DRY	No.2	SPF
B - O	2x4	DRY	No.2	SPF
O - L	2x4	DRY	No.2	SPF
L - I	2x4	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMB1-l	MT20	3.0	4.0	1.50	2.75
C	TTWW-h	MT20	5.0	6.0	1.25	3.00
D	TMWW-t	MT20	4.0	6.0		
E	TMW+w	MT20	2.0	4.0		
F	TS-t	MT20	4.0	6.0	Edge	3.00
G	TMWW-t	MT20	4.0	6.0		
H	TTWW-h	MT20	5.0	6.0	1.25	3.00
I	TMB1-l	MT20	3.0	4.0	1.50	2.75
K	BMW1+w	MT20	2.0	4.0		
L	BS-t	MT20	4.0	6.0		
M	BMWW1-t	MT20	4.0	6.0		
N	BMWWW1-t	MT20	5.0	6.0		
O	BS-t	MT20	4.0	6.0		
P	BMWW1-t	MT20	4.0	6.0		
Q	BMW1+w	MT20	2.0	4.0		

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
B	409	0	409	0	0	37-3-0 (9-3-8)	1-8
Q	342	0	342	0	0	37-3-0 (9-3-8)	1-8
P	620	0	620	0	0	37-3-0 (9-3-8)	1-8
N	907	0	907	0	0	37-3-0 (9-3-8)	1-8
M	620	0	620	0	0	37-3-0 (9-3-8)	1-8
K	342	0	342	0	0	37-3-0 (9-3-8)	1-8
I	409	0	409	0	0	37-3-0 (9-3-8)	1-8

VALUE IN PARENTHESIS INDICATES EFFECTIVE BEARING LENGTH

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
B	288	199 / 0	0 / 0	0 / 0	0 / 0	89 / 0	0 / 0
Q	250	117 / 0	0 / 0	0 / 0	0 / 0	134 / 0	0 / 0
P	442	270 / 0	0 / 0	0 / 0	0 / 0	172 / 0	0 / 0
N	641	424 / 0	0 / 0	0 / 0	0 / 0	218 / 0	0 / 0
M	442	270 / 0	0 / 0	0 / 0	0 / 0	172 / 0	0 / 0
K	250	117 / 0	0 / 0	0 / 0	0 / 0	134 / 0	0 / 0
I	288	199 / 0	0 / 0	0 / 0	0 / 0	89 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) B, Q, P, N, M, K, I

BRACING

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

1 LATERAL BRACE(S) AT 1/ 2 LENGTH OF C-P, D-N, G-N, H-M.

LOADING

TOTAL LOAD CASES: (4)

C H O R D S

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD LC1 (PLF) FROM	TO	MAX CSI (LC)	MAX. UNBRAC LENGTH
A- B	0 / 10	-78.0	-78.0	0.01 (1)	10.00
B- C	-156 / 0	-78.0	-78.0	0.42 (1)	6.25
C- D	-23 / 0	-78.0	-78.0	0.49 (1)	6.25
D- E	0 / 114	-78.0	-78.0	0.51 (1)	10.00
E- F	0 / 114	-78.0	-78.0	0.51 (1)	10.00
F- G	0 / 114	-78.0	-78.0	0.51 (1)	10.00
G- H	-23 / 0	-78.0	-78.0	0.49 (1)	6.25
H- I	-156 / 0	-78.0	-78.0	0.42 (1)	6.25
I- J	0 / 10	-78.0	-78.0	0.01 (1)	10.00
B- Q	0 / 92	-18.5	-18.5	0.17 (4)	10.00
Q- P	0 / 89	-18.5	-18.5	0.17 (4)	10.00
P- O	0 / 23	-18.5	-18.5	0.16 (4)	10.00
O- N	0 / 23	-18.5	-18.5	0.16 (4)	10.00
N- M	0 / 23	-18.5	-18.5	0.16 (4)	10.00
M- L	0 / 89	-18.5	-18.5	0.17 (4)	10.00
L- K	0 / 89	-18.5	-18.5	0.17 (4)	10.00
K- I	0 / 92	-18.5	-18.5	0.17 (4)	10.00

W E B S

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
Q- C	-216 / 0	0.25 (1)
C- P	-101 / 0	0.07 (1)
P- D	-425 / 0	0.50 (1)
D- N	-211 / 0	0.15 (1)
N- E	-467 / 0	0.54 (1)
N- G	-211 / 0	0.15 (1)
M- G	-425 / 0	0.50 (1)
M- H	-101 / 0	0.07 (1)
K- H	-216 / 0	0.25 (1)

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	21.0	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	0.0	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	34.4	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

(55 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 21.0 P.S.F. SPECIFIED ROOF LIVE LOAD

CSI: TC=0.51/1.00 (D-E:1) , BC=0.17/1.00 (B-Q:4) , WB=0.54/1.00 (E-N:1) , SSI=0.24/1.00 (G-H:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

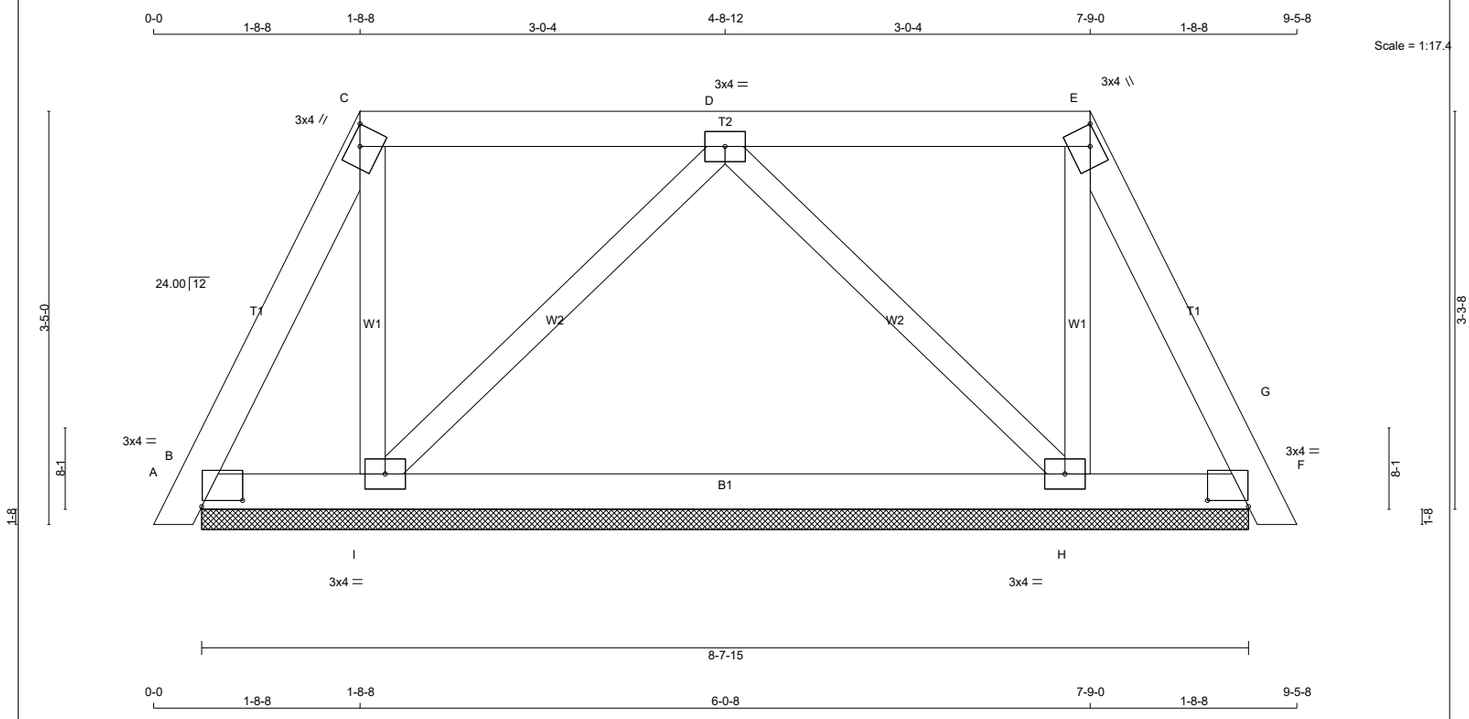
JSI GRIP= 0.82 (C) (INPUT = 0.90)
JSI METAL= 0.23 (F) (INPUT = 1.00)

JOB NAME	TRUSS NAME	QUANTITY	PLY	JOB DESC.	DRWG NO.
343285	P09	1	1	TRUSS DESC. JT 45147	E22052182

Alpa Roof Truss, Maple

Version 8.530 S Feb 23 2022 MiTek Industries, Inc. Mon Jun 13 15:17:39 2022 Page 1

ID:zZu06ROh8JtpEZqWOlUwGBzTUuV-pwrq6aZwBZDqSYVA902nFbpZc_jxuiLUEd4cGsz6gMg



TOTAL WEIGHT = 3 X 36 = 109 lb

[M]

LUMBER

N. L. G. A. RULES

CHORDS	SIZE		LUMBER	DESCR.
A - C	2x4	DRY	No.2	SPF
C - E	2x4	DRY	No.2	SPF
E - G	2x4	DRY	No.2	SPF
B - F	2x4	DRY	No.2	SPF
ALL WEBS	2x3	DRY	No.2	SPF

DRY: SEASONED LUMBER.

PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMB1-I	MT20	3.0	4.0	0.75	4.00
C	TTW-h	MT20	3.0	4.0	Edge	
D	TMWW-t	MT20	3.0	4.0		
E	TTW-h	MT20	3.0	4.0	Edge	
F	TMB1-I	MT20	3.0	4.0	0.75	4.00
H	BMWW1-t	MT20	3.0	4.0		
I	BMWW1-t	MT20	3.0	4.0		

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES EDGE OF CHORD.

LATERAL BRACE(S) SHOWN SHALL BE 2X4 SPF#2

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER

BEARINGS

JT	FACTORED GROSS REACTION VERT	HORZ	MAXIMUM FACTORED GROSS REACTION DOWN	HORZ	UPLIFT	INPUT BRG IN-SX	REQRD BRG IN-SX
B	215	0	215	0	0	8-7-15	1-8
F	215	0	215	0	0	8-7-15	1-8
I	686	0	686	0	0	8-7-15	1-8
H	686	0	686	0	0	8-7-15	1-8

UNFACTORED REACTIONS

JT	1ST LCASE COMBINED	MAX./MIN. COMPONENT REACTIONS SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
B	146	132 / 0	0 / 0	0 / 0	0 / 0	14 / 0	0 / 0
F	146	132 / 0	0 / 0	0 / 0	0 / 0	14 / 0	0 / 0
I	481	339 / 0	0 / 0	0 / 0	0 / 0	142 / 0	0 / 0
H	481	339 / 0	0 / 0	0 / 0	0 / 0	142 / 0	0 / 0

BEARING MATERIAL TO BE SPF NO.2 OR BETTER AT JOINT(S) B, F, I, H

BRACING

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 FT.
MAX. UNBRACED BOTTOM CHORD LENGTH = 10.00 FT OR RIGID CEILING DIRECTLY APPLIED.

ALL PITCH BREAKS AND PERIMETER CORNER JOINTS MUST BE LATERALLY RESTRAINED.

LOADING

TOTAL LOAD CASES: (4)

CHORDS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF) FROM	TO	LC1 CSI (LC)	MAX UNBRAC LENGTH
A- B	0 / 3	-25.0	-25.0	0.00 (4)	10.00
B- C	-115 / 0	-187.9	-187.9	0.06 (1)	6.25
C- D	-37 / 0	-187.9	-187.9	0.28 (1)	6.25
D- E	-37 / 0	-187.9	-187.9	0.28 (1)	6.25
E- F	-115 / 0	-187.9	-187.9	0.06 (1)	6.25
F- G	0 / 3	-25.0	-25.0	0.00 (4)	10.00
B- I	0 / 47	-18.5	-18.5	0.11 (4)	10.00
I- H	0 / 379	-18.5	-18.5	0.12 (1)	10.00
H- F	0 / 47	-18.5	-18.5	0.11 (4)	10.00

WEBS

MEMB. FR-TO	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
I- C	-236 / 0	0.05 (1)
I- D	-489 / 0	0.15 (1)
D- H	-489 / 0	0.15 (1)
H- E	-236 / 0	0.05 (1)

DESIGN CRITERIA

SPECIFIED LOADS:

TOP CH.	LL	=	54.3	PSF
	DL	=	10.0	PSF
BOT CH.	LL	=	0.0	PSF
	DL	=	7.4	PSF
TOTAL LOAD		=	71.7	PSF

SPACING = 24.0 IN. C/C

LOADING IN FLAT SECTION BASED ON A SLOPE OF 2.00/12 MINIMUM

THIS TRUSS IS DESIGNED FOR RESIDENTIAL OR SMALL BUILDING REQUIREMENTS OF PART 9, NBCC 2015

THIS DESIGN COMPLIES WITH:
- PART 9 OF BCBC 2018 , ABC 2019
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

DESIGN ASSUMPTIONS
- PERCENTAGE OF GROUND SNOW LOAD IS USER-DEFINED.

(200 % OF 23.0 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 54.3 P.S.F. SPECIFIED ROOF LIVE LOAD

CSI: TC=0.28/1.00 (C-D:1) , BC=0.12/1.00 (H-I:1) , WB=0.15/1.00 (D-H:1) , SSI=0.27/1.00 (C-D:1)

DOL LUMBER=1.00 NAIL=1.00 LS BEND=1.10 COMP=1.10 SHEAR=1.10 TENS= 1.10

COMPANION LIVE LOAD FACTOR = 1.00

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT .

NAIL VALUES

PLATE	GRIP(DRY) (PSI) MAX	MIN	SHEAR (PLI) MAX	MIN	SECTION (PLI) MAX	MIN
MT20	650	371	1747	788	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.60 (H) (INPUT = 0.90)
JSI METAL= 0.14 (B) (INPUT = 1.00)

LGT/MGT/VGT

Girder Tiedowns

The LGT, MGT and VGT are girder tiedowns for moderate- to high-load applications. The LGT and VGT are also suitable for retrofit applications.

LGT connectors provide a low-profile connection to the studs for easy installation of drywall. Simple to install and can be installed on the inside or outside of the wall.

The variable girder tiedown (VGT) is a higher capacity alternative to the LGT and MGT for girder trusses. It attaches with Strong-Drive® SDS Heavy-Duty Connector screws to the side of truss and features a predeflected crescent washer that allows it to accommodate top chord pitches up to 8:12. The VGT is also available with one flange concealed for attachment to trusses with no overhang.

Material: VGT — 7 gauge, LGT2 — 14 gauge, MGT, LGT3, LGT4 — 12 gauge

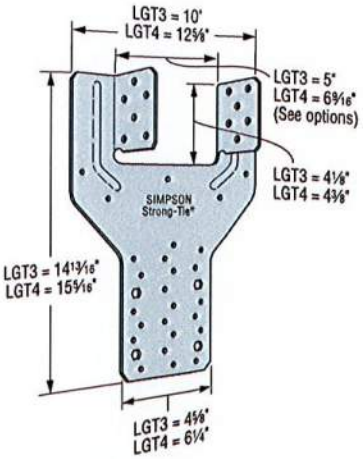
Finish: Galvanized

Installation:

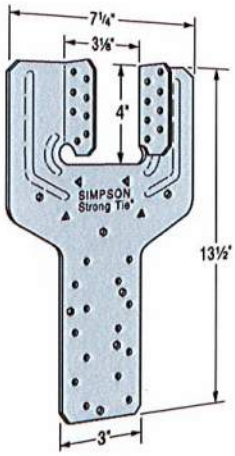
- Before installing fasteners, ensure LGT3-SDS2.5 makes complete contact with bottom of truss.
- Strong-Drive SDS Heavy-Duty Connector screws included with LGT3, LGT4 and VGT series.
- Strong-Drive SDS Heavy-Duty Connector screws driven through truss plates must be approved by the Truss Designer. Predrilling using a 5/32" bit is required.
- VGT — Can be installed on roof pitches up to 8/12 or on a bottom chord designed to transfer the load.
- VGT — Screw holes are configured to allow for double installation on a two-ply (minimum) truss.
- VGT — The product can be installed in a single application or in pairs to achieve a higher uplift capacity.
- VGT — When installed on trusses with no overhangs, specify VGTR/L.
- VGT — Install washer component (provided) so that top of washer is horizontal as well as parallel with top of wall top plate.
- LGT3-SDS2.5 and LGT4-SDS3 — The four large hexagon holes are intended for GFCMU and concrete applications.
- MGT — Install a minimum of (6) 10d nails into the face of roof member that is on same side as MGT base.
- See p. 342 for masonry applications.

Options:

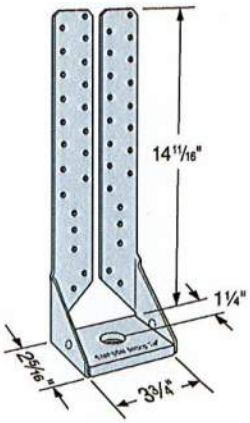
- LGT3 and LGT4 are available with reduced widths of W = 4 13/16" and W = 6 3/8" — order as LGT3N-SDS2.5 and LGT4N-SDS3.



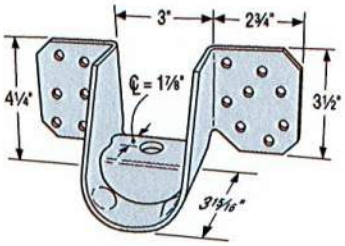
LGT3-SDS2.5
(LGT4-SDS3 similar)



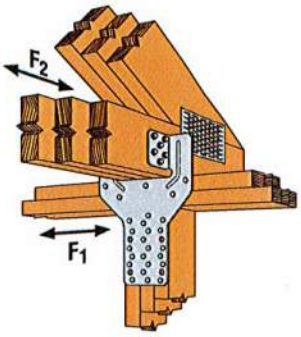
LGT2



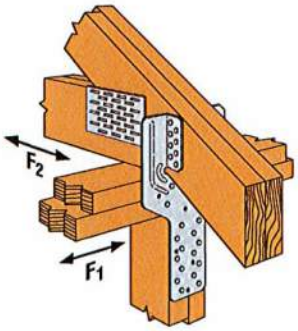
MGT



VGT
U.S. Patent
7,707,785



Typical LGT3-SDS2.5 Installation



Typical LGT2 Installation

C-C-CAN2018 ©2017 SIMPSON STRONG-TIE COMPANY INC.

LGT/MGT/VGT

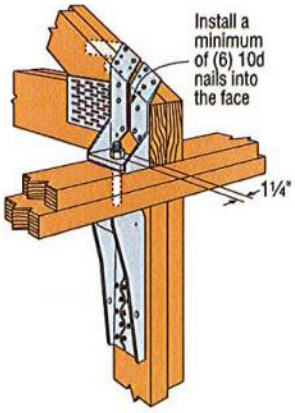
Girder Tiedowns (cont.)

These products are available with additional corrosion protection. For more information, see p. 24.

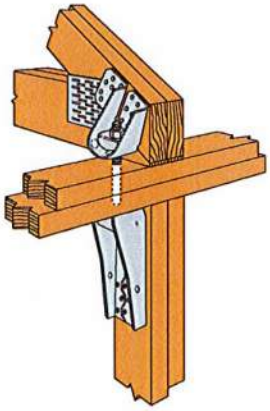
Model No.	Qty.	No. of Plies	Fasteners: Studs or Anchor	Fasteners: Girder Truss	Factored Resistance (K_D = 1.15) D.Fir-L Uplift	D.Fir-L Lateral F_1	D.Fir-L Lateral F_2	S-P-F Uplift	S-P-F Lateral F_1	S-P-F Lateral F_2
					lb.	lb.	lb.	lb.	lb.	lb.
					kN	kN	kN	kN	kN	kN
LGT2	1	2 ply	(14) 10d[4]	(16) 10d	3670	1170	285	2605	830	200
					16.33	5.20	1.27	11.59	3.69	0.89
LGT3-SDS2.5	1	3 ply	(26) 10d	(12) ¼" x 2½" SDS	6415	1335	670	4930	945	475
					28.54	5.94	2.98	21.93	4.20	2.11
LGT4-SDS3	1	4 ply	(30) 10d[5]	(16) ¼" x 3" SDS	6030	2785	1125	3980	1980	800
					26.82	12.39	5.00	17.70	8.81	3.56
MGT	1	2 ply min.	(1) ⅝" diameter	(22) 10d	5610	—	—	3985	—	—
					24.96	—	—	17.73	—	—
VGT	1	2 ply min.	(1) ⅝" diameter	(16) ¼" x 3" SDS	8600	—	—	6195	—	—
					38.26	—	—	27.56	—	—
	2	2 ply min.	(2) ⅝" diameter	(32) ¼" x 3" SDS	11690	—	—	8420	—	—
					52.00	—	—	37.46	—	—
VGTR/L	1	2 ply min.	(1) ⅝" diameter	(16) ¼" x 3" SDS	3475	—	—	2505	—	—
					15.46	—	—	11.14	—	—
	2	2 ply min.	(2) ⅝" diameter	(32) ¼" x 3" SDS	6950	—	—	5010	—	—
					30.92	—	—	22.29	—	—

1. Attached members must be designed to resist the factored resistances.
2. Factored resistances have been increased 15% for uplift with no further increase allowed; reduce where other loads govern.
3. Additional anchorage products to be designed by others.
4. LGT2 — F_2 factored resistance requires installation of (4) 10d nails in optional nail holes.
5. LGT4 — F_2 factored resistance requires installation of (7) 10d nails in optional nail holes.
6. MGT can be installed with straps vertical for full table value provided 26-10d nails are installed to either a solid header or minimum double 2x6 web.
7. **Nails:** 10d = 0.148" dia. x 3" long. See pp. 27–28 for other nail sizes and information.

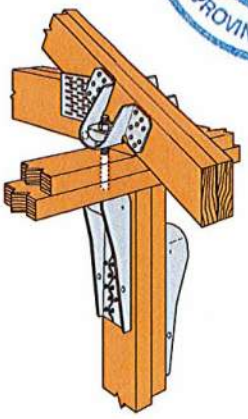
LICENSED PROFESSIONAL ENGINEER
Oct. 19, 2018
G. V. LUBARSKY
100044463
PROVINCE OF ONTARIO



Typical MGT Installation with HDU4



Typical VGTR Single Installation with HDU2



Typical VGT Double Installation with HDU4's

C-C-CAN2018 ©2017 SIMPSON STRONG-TIE COMPANY INC.

H – Seismic and Hurricane Ties

SIMPSON Strong-Tie®

The H connector series provides wind and seismic ties for trusses and rafters.

Material: 18 gauge **Finish:** G90 galvanized

Design: • Factored resistances are in accordance with CSA O86-14

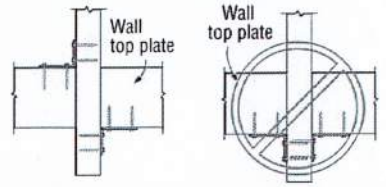
- Factored resistances have been increased 15%. No further increase is permitted.

Installation: • Use all specified fasteners

- Nails: 8d = 0.131" dia. x 2½" long common wire, 8d x 1½" = 0.131" x 1½ long, 10d x 1½" = 0.146" x 1½" long
- H1 can be installed with flanges facing outwards
- Hurricane ties do not replace solid blocking

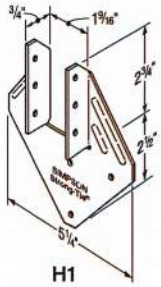
Factored resistances for more than one direction for a single connection cannot be added together. A factored load which can be divided into components in the directions given must be evaluated as follows: Factored Shear/Resisting Shear + Factored Tension/Resisting Tension ≤ 1.0.

Hurricane Tie Installations to Achieve Twice the Load (Top View)

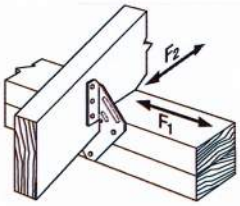


Install diagonally across from each other for minimum 2x truss.

Nailing into both sides of a single ply 2x truss may cause the wood to split.

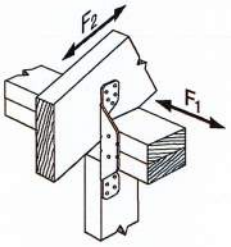


H1

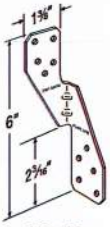


H1 Installation

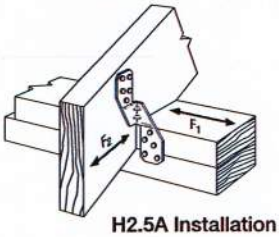
H2A



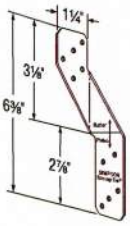
H2A Installation



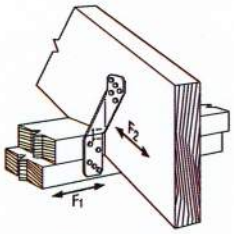
H2.5A



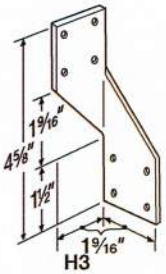
H2.5A Installation



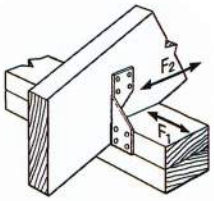
H2.5T



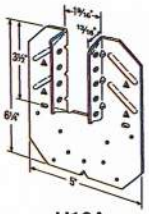
H2.5T Installation (Nails into both top plates)



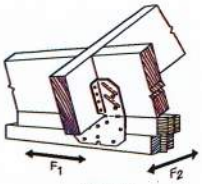
H3



H3 Installation



H10A



H10A Installation

Model No.	Ga.	Fasteners			Factored Resistance (lb.)					
					D.Fir-L			S-P-F		
					Uplift	Normal		Uplift	Normal	
		To Rafter	To Plates	To Studs		F_1	F_2		F_1	F_2
					(K_D=1.15)			(K_D=1.15)		
H1	18	(6) 8d x 1½"	(4) 8d	—	740	685	300	680	485	215
H2A	18	(5) 8d x 1½"	(2) 8d x 1½"	(5) 8d x 1½"	830	220	75	590	155	55
H2.5A	18	(5) 8d	(5) 8d	—	805	160	160	755	160	160
H2.5T	18	(5) 8d	(5) 8d	—	835	175	240	740	160	210
H3	18	(4) 8d	(4) 8d	—	740	180	265	615	125	190
H10A	18	(9) 10d x 1½"	(9) 10d x 1½"	—	1735	795	410	1505	565	290

1. Factored resistances have been increased 15% for earthquake or wind loading with no further increase allowed.
2. Factored resistances are for one anchor. A minimum rafter thickness of 2½" must be used when framing anchors are installed on each side of the joist and on the same side of the plate.
3. When cross-grain bending or cross-grain tension cannot be avoided, mechanical reinforcement to resist such forces should be considered.
4. Hurricane ties are shown installed on the outside of the wall for clarity. Installation on the inside of the wall is acceptable. For a Continuous Load Path, connections must be on same side of the wall.

LICENSED PROFESSIONAL ENGINEER
04/01/2020
B. D. BUNTING
PROVINCE OF ONTARIO

LIMIT STATES DESIGN

This technical bulletin is effective until June 30, 2022, and reflects information available as of April 1, 2020. This information is updated periodically and should not be relied upon after June 30, 2022. Contact Simpson Strong-Tie for current information and limited warranty or see strongtie.com.

© 2020 Simpson Strong-Tie Company Inc.

(800) 999-5099
strongtie.com

LUS – Double Shear Joist Hangers

SIMPSON Strong-Tie®

All LUS hangers have double shear nailing. This patented innovation distributes the load through two points on each joist nail for greater strength. It also allows the use of fewer nails, faster installation and the use of common nails for all connections.

Material: 18 gauge

Finish: G90 galvanized

Design:

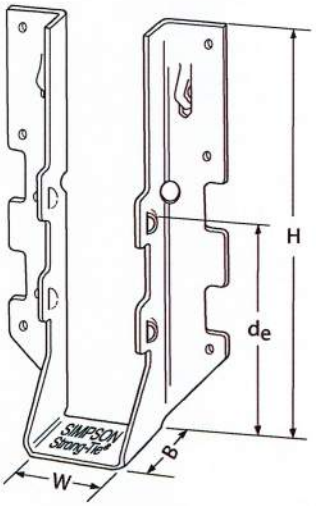
- Factored resistances are in accordance with CSA O86-14.
- Uplift resistances have been increased 15%. No further increase is permitted.
- Wood shear is not considered in the factored resistances given. The specifier must ensure that the joist and header capacities are capable of withstanding these loads.

Installation:

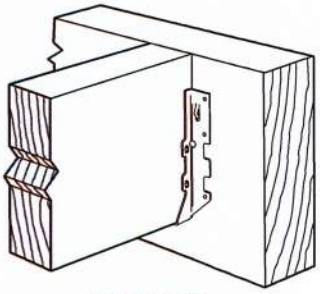
- Use all specified fasteners.
- Nails: 16d = 0.162" dia. x 3½" long common wire, 10d = 0.148" x 3" long common wire.
- Double shear nails must be driven at an angle through the joist or truss into the header to achieve the table loads.
- Not designed for welded or nailer applications.

Options:

- These hangers cannot be modified



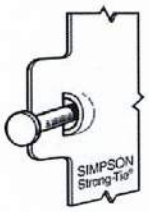
LUS28



Typical LUS Installation

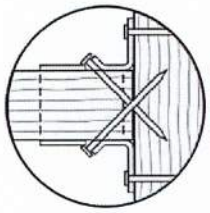
Model No.	Ga.	Dimensions (in.)				Fasteners		Factored Resistance (lb.)			
								D.Fir-L		S-P-F	
		W	H	B	d_e[1]	Face	Joist	Uplift (K_D=1.15)	Normal (K_D=1.00)	Uplift (K_D=1.15)	Normal (K_D=1.00)
LUS24	18	1 9/16	3 1/8	1 3/4	1 15/16	(4) 10d	(2) 10d	710	1630	645	1155
LUS24-2	18	3 1/8	3 1/8	2	1 13/16	(4) 16d	(2) 16d	835	2020	590	1435
LUS26	18	1 9/16	4 3/4	1 3/4	3 5/8	(4) 10d	(4) 10d	1420	2170	1290	1630
LUS26-2	18	3 1/8	4 7/8	2	4	(4) 16d	(4) 16d	1720	2595	1545	1920
LUS26-3	18	4 5/8	4 3/16	2	3 1/4	(4) 16d	(4) 16d	1720	2595	1545	2340
LUS28	18	1 9/16	6 5/8	1 3/4	3 3/4	(6) 10d	(6) 10d	1420	2520	1290	1790
LUS28-2	18	3 1/8	7	2	4	(6) 16d	(4) 16d	1720	3325	1545	2575
LUS28-3	18	4 5/8	6 1/4	2	3 1/4	(6) 16d	(4) 16d	1720	3325	1545	2375
LUS210	18	1 9/16	7 13/16	1 3/4	3 7/8	(8) 10d	(4) 10d	1420	2785	1290	2210
LUS210-2	18	3 1/8	9	2	6	(8) 16d	(6) 16d	2580	4500	2320	3195
LUS210-3	18	4 5/8	8 3/16	2	5 1/4	(8) 16d	(6) 16d	2580	3345	2320	2375

1. d_e is the distance from the seat of the hanger to the highest joist nail.



Dome Double Shear Nailing prevents tabs breaking off (available on some models).

U.S. Patent 5,603,580



Double Shear Nailing Top View.

LICENSED PROFESSIONAL ENGINEER
04/01/2020
B. D. BUNTING
PROVINCE OF ONTARIO

LIMIT STATES DESIGN

This technical bulletin is effective until June 30, 2022, and reflects information available as of April 1, 2020. This information is updated periodically and should not be relied upon after June 30, 2022. Contact Simpson Strong-Tie for current information and limited warranty or see strongtie.com.

© 2020 Simpson Strong-Tie Company Inc.

(800) 999-5099
strongtie.com

TECHNICAL BULLETIN

HUS/LJS – Double Shear Joist Hangers

SIMPSON Strong-Tie®

All hangers have double shear nailing. This patented innovation distributes the load through two points on each joist nail for greater strength. It also allows the use of fewer nails, faster installation and the use of common nails for all connections. Do not bend or remove tabs.

Material: See table

Finish: G90 galvanized

Design:

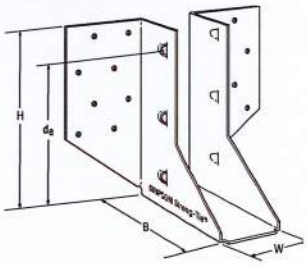
- Factored resistances are in accordance with CSA O86 -14.
- Uplift resistances have been increased 15%. No further increase is permitted.
- Wood shear is not considered in the factored resistances given. The specifier must ensure that the joist and header capacities are capable of withstanding these loads.

Installation:

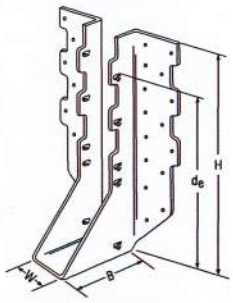
- Use all specified fasteners
- Nails: 16d = 0.162" dia. x 3½" long common wire
- Double shear nails must be driven at an angle through the joist or truss into the header to achieve the table loads
- Not designed for welded or nailer applications

Options:

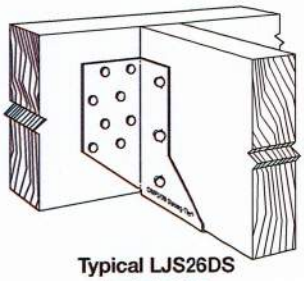
- See current catalogue for options



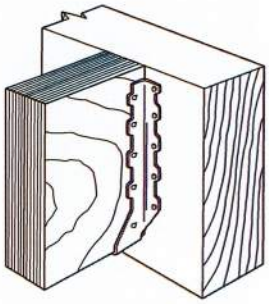
LJS26DS



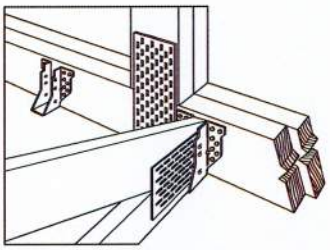
HUS210
(HUS26, HUS28, similar)



Typical LJS26DS Installation



Typical HUS Installation



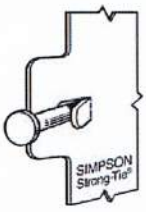
Typical HUS Installation
(Truss Designer to provide fastener quantity for connecting multiple members together)

Model No.	Ga.	Dimensions (in.)				Fasteners		Factored Resistance (lb.)			
								D.Fir-L		S-P-F	
		W	H	B	d_e[1]	Face	Joist	Uplift (K_D=1.15) lb.	Normal (K_D=1.00) lb.	Uplift (K_D=1.15) lb.	Normal (K_D=1.00) lb.
LJS26DS	18	1 9/16	5	3½	4⅝	(16) 16d	(6) 16d	2055	4265	1460	4115
HUS26	16	1⅝	5⅜	3	3 15/16	(14) 16d	(6) 16d	2705	4940	2065	3875
HUS28	16	1⅝	7 3/32	3	6 3/32	(22) 16d	(8) 16d	3605	5365	2675	4345
HUS210	16	1⅝	9 3/32	3	7 31/32	(30) 16d	(10) 16d	4505	5795	4010	4740
HUS1.81/10	16	1 13/16	9	3	8	(30) 16d	(10) 16d	4505	6450	4010	5200

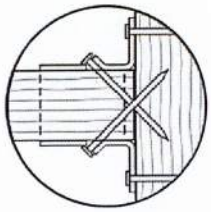
1. d_e is the distance from the seat of the hanger to the highest joist nail.

Dome Double Shear Nailing prevents tabs breaking off (available on some models).

U.S. Patent 5,603,580



Double Shear Nailing Side View. Do not bend tab back.



Double Shear Nailing Top View.

LIMIT STATES DESIGN

This technical bulletin is effective until June 30, 2022, and reflects information available as of April 1, 2020. This information is updated periodically and should not be relied upon after June 30, 2022. Contact Simpson Strong-Tie for current information and limited warranty or see strongtie.com.

© 2020 Simpson Strong-Tie Company Inc.

(800) 999-5099
strongtie.com

TECHNICAL BULLETIN

HHUS – Double Shear Joist Hangers

SIMPSON Strong-Tie®

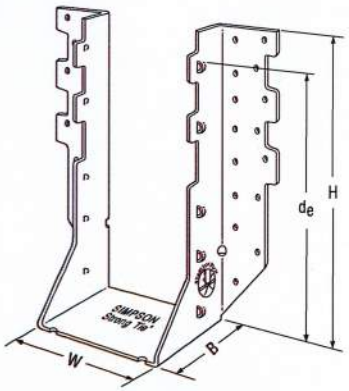
All HHUS hangers have double shear nailing. This patented innovation distributes the load through two points on each joist nail for greater strength. It also allows the use of fewer nails, faster installation and the use of common nails for all connections. Do not bend or remove tabs.

Material: 14 gauge

Finish: G90 galvanized

Design:

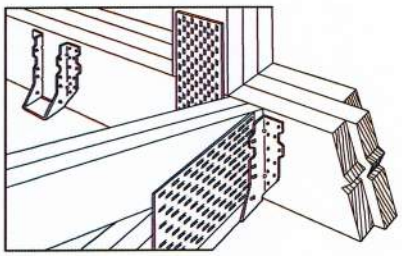
- Factored resistances are in accordance with CSA O86-14.
- Uplift resistances have been increased 15%. No further increase is permitted.
- Wood shear is not considered in the factored resistances given. The specifier must ensure that the joist and header capacities are capable of withstanding these loads.



HHUS410

Installation:

- Use all specified fasteners
- Nails: 16d = 0.162" dia. x 3½" long common wire
- Double shear nails must be driven at an angle through the joist or truss into the header to achieve the table loads
- Not designed for welded or nailer applications



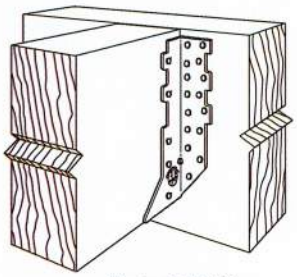
Typical HHUS Installation (Truss Designer to provide fastener quantity for connecting multiple members together)

Options:

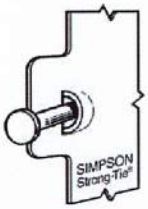
- See current catalogue for options

Model No.	Ga.	Dimensions (in.)				Fasteners		Factored Resistance (lb.)			
								D.Fir-L		S-P-F	
		W	H	B	d_e[1]	Face	Joist	Uplift (K_D=1.15)	Normal (K_D=1.00)	Uplift (K_D=1.15)	Normal (K_D=1.00)
HHUS26-2	14	3 5/16	5 13/16	3	3 15/16	(14) 16d	(6) 16d	2850	7335	2065	5205
HHUS28-2	14	3 5/16	7 7/32	3	6 5/32	(22) 16d	(8) 16d	3765	8940	2675	6345
HHUS210-2	14	3 5/16	9 3/32	3	8	(30) 16d	(10) 16d	4670	9660	4235	7000
HHUS210-3	14	4 11/16	9	3	7 15/16	(30) 16d	(10) 16d	4670	9670	4235	6865
HHUS210-4	14	6 1/8	8 29/32	3	7 27/32	(30) 16d	(10) 16d	4670	10155	4235	7210
HHUS46	14	3 5/8	5 13/32	3	3 15/16	(14) 16d	(6) 16d	2540	7335	2065	5205
HHUS48	14	3 5/8	7 1/8	3	6 1/8	(22) 16d	(8) 16d	3765	8940	2675	6345
HHUS410	14	3 5/8	9	3	8	(30) 16d	(10) 16d	4670	9855	4235	7000
HHUS5.50/10	14	5 1/2	9	3	8	(30) 16d	(10) 16d	4670	10155	4235	7210
HHUS7.25/10	14	7 1/4	9	3 5/16	7 29/32	(30) 16d	(10) 16d	4670	10155	3370	7210

1. d_e is the distance from the seat of the hanger to the highest joist nail.

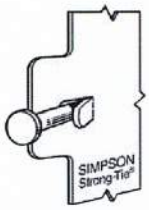


Typical HHUS Installation

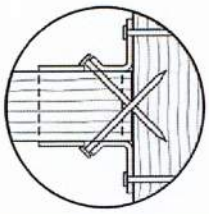


Dome Double Shear Nailing prevents tabs breaking off (available on some models).

U.S. Patent 5,603,580



Double Shear Nailing Side View. Do not bend tab back.



Double Shear Nailing Top View.

LIMIT STATES DESIGN

This technical bulletin is effective until June 30, 2022, and reflects information available as of April 1, 2020. This information is updated periodically and should not be relied upon after June 30, 2022. Contact Simpson Strong-Tie for current information and limited warranty or see strongtie.com.

© 2020 Simpson Strong-Tie Company Inc.

T-SPECHHUS20 3/20 exp. 6/22

(800) 999-5099
strongtie.com

TECHNICAL BULLETIN

HGUS – Double Shear Joist Hangers

SIMPSON Strong-Tie®

All HGUS hangers have double shear nailing. This patented innovation distributes the load through two points on each joist nail for greater strength. It also allows the use of fewer nails, faster installation and the use of common nails for all connections. Do not bend or remove tabs.

Material: 12 gauge

Finish: G90 galvanized

Design:

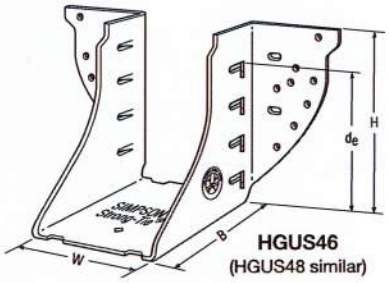
- Factored resistances are in accordance with CSA O86-14.
- Uplift resistances have been increased 15%. No further increase is permitted.
- Wood shear is not considered in the factored resistances given. The specifier must ensure that the joist and header capacities are capable of withstanding these loads.

Installation:

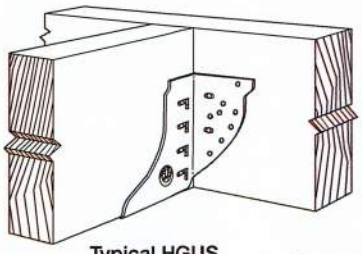
- Use all specified fasteners
- Nails: 16d = 0.162" dia x 3½" long common wire
- Double shear nails must be driven at an angle through the joist or truss into the header to achieve the table loads
- Not designed for welded or nailer applications

Options:

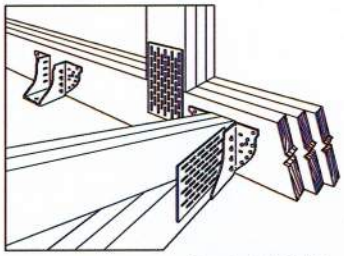
- See current catalogue for options



HGUS46
(HGUS48 similar)



Typical HGUS Installation



Typical HGUS Installation

(Truss Designer to provide fastener quantity for connecting multiple members together)

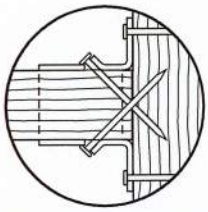
Model No.	Ga.	Dimensions (in.)				Fasteners		Factored Resistance (lb.)			
								D.Fir-L		S-P-F	
		W	H	B	d_e[1]	Face	Joist	Uplift (K_D=1.15)	Normal (K_D=1.00)	Uplift (K_D=1.15)	Normal (K_D=1.00)
HGUS48	12	3⅝	7⅛	4	6 1/16	(36) 16d	(12) 16d	6070	12980	4310	9215
HGUS410	12	3⅝	9	4	8 1/16	(46) 16d	(16) 16d	6840	14015	4855	10270
HGUS412	12	3⅝	10 7/16	4	10 1/16	(56) 16d	(20) 16d	7640	14995	5425	10645
HGUS414	12	3⅝	12 7/16	4	11 1/16	(66) 16d	(22) 16d	10130	16400	7195	11645
HGUS5.50/8	12	5½	6 15/16	4	6⅛	(36) 16d	(12) 16d	6070	12980	4310	9215
HGUS5.50/10	12	5½	8 15/16	4	8⅛	(46) 16d	(16) 16d	6840	14645	4855	10400
HGUS5.50/12	12	5½	10½	4	10⅛	(56) 16d	(20) 16d	7640	14995	5425	10645
HGUS5.50/14	12	5½	12½	4	11⅛	(66) 16d	(22) 16d	10130	16400	7195	11645
HGUS7.25/8	12	7¼	7 7/32	4	6 13/32	(36) 16d	(12) 16d	6070	12980	4310	9215
HGUS7.25/10	12	7¼	8⅝	4	8¼	(46) 16d	(16) 16d	6840	15760	4855	11190
HGUS7.25/12	12	7¼	10⅝	4	10¼	(56) 16d	(20) 16d	7640	16110	5425	11435
HGUS7.25/14	12	7¼	12⅝	4	11¼	(66) 16d	(22) 16d	10130	18200	7195	12920

1. d_e is the distance from the seat of the hanger to the highest joist nail.

Dome Double Shear Nailing prevents tabs breaking off (available on some models).

U.S. Patent 5,603,580

Double Shear Nailing Side View. Do not bend tab back.



Double Shear Nailing Top View.

LIMIT STATES DESIGN

This technical bulletin is effective until June 30, 2022, and reflects information available as of April 1, 2020. This information is updated periodically and should not be relied upon after June 30, 2022. Contact Simpson Strong-Tie for current information and limited warranty or see strongtie.com.

© 2020 Simpson Strong-Tie Company Inc.

(800) 999-5099
strongtie.com

TC – Truss Connectors

SIMPSON Strong-Tie®

The TC truss connector is an ideal connector for scissor trusses and can allow horizontal movement up to 1¼". The TC also attaches plated trusses to top plates or sill plates to resist uplift forces. Typically used on one or both ends of truss as determined by the building designer.

Material: 16 gauge

Finish: G90 galvanized

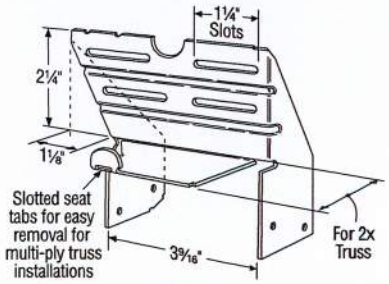
Design: Factored resistances are in accordance with CSA 086-14

Installation:

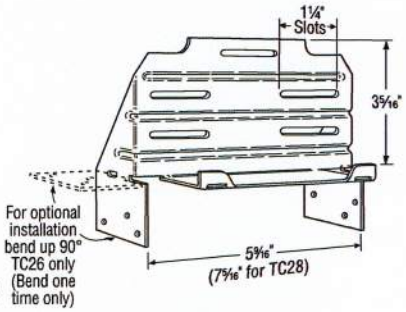
- Use all specified fasteners.
- Nails: 10d = 0.148" dia. x 3" long common wire, 10d x 1½ = 0.148" dia. x 1½" long.
- Drive 10d nails into the truss at the inside end of the slotted holes (inside end is towards the centre of the truss) and clinch on the back side. Do not seat these nails into the truss–allow room under the nail head for movement of the truss with respect to the wall.

Optional TC Installation:

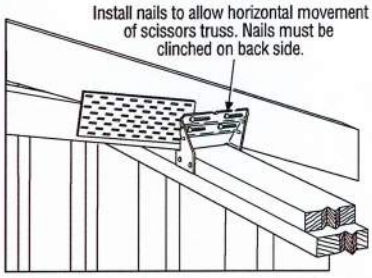
- Bend one flange up 90°. Drive specified nails into the top and face of the top plates or install Titen® screws into the top and face of masonry wall. See optional load tables and installation details.



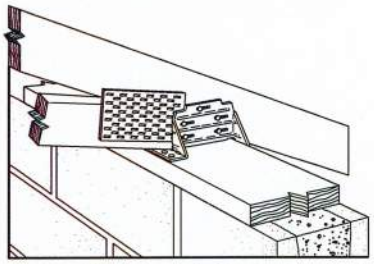
TC24
U.S. Patent 4,932,173



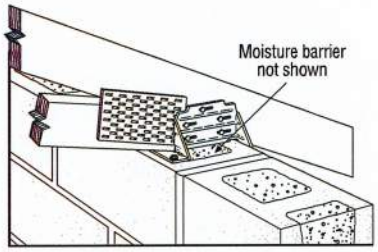
TC26
(TC28 Similiar)



Typical TC24 Installation



Optional TC26 Installation for Grouted Concrete Block using a Wood Nailer
(8", 10", 12" Wall Installation Similar)



Optional TC26 Installation for Grouted Concrete Block using Titen Screws

Model No.	Fasteners		Factored Resistance	
	Truss	Wall Plates	D.Fir-L	S-P-F
			Uplift (K_D=1.15)	Uplift (K_D=1.15)
			lb.	lb.
TC24	(4) 10d	(4) 10d	605	430
TC26	(5) 10d	(6) 10d	1015	720
TC28	(5) 10d	(6) 10d	1015	720

Optional TC Installation Table

Model No.	Fasteners		Factored Resistance	
	Truss	Wall Plates	D.Fir-L	S-P-F
			Uplift (K_D=1.15)	Uplift (K_D=1.15)
			lb.	lb.
TC26	(5) 10d	(6) 10d x 1½"	810	660
	(5) 10d	(6) 10d	930	660

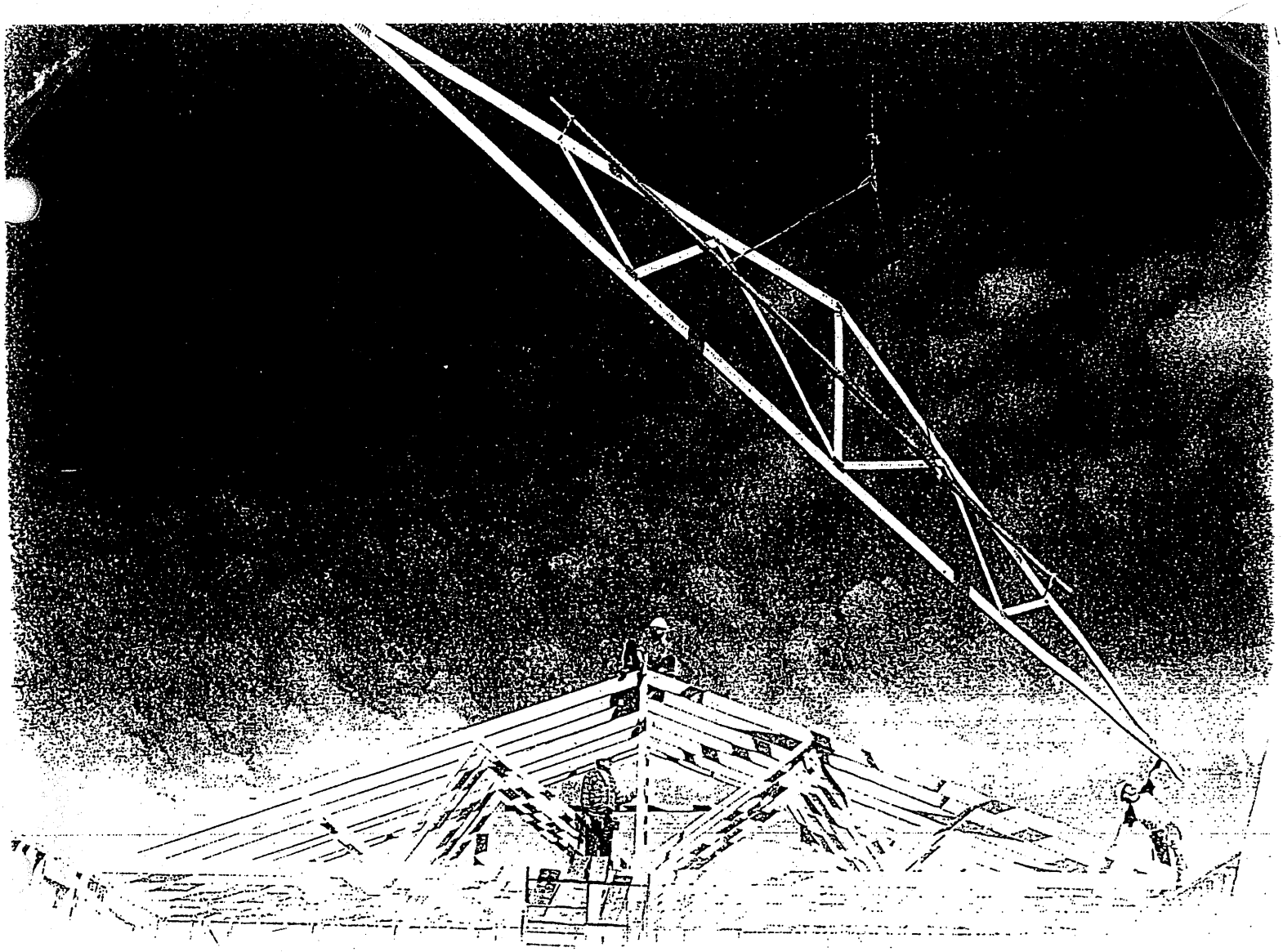
1. Factored resistances have been increased 15% for earthquake or wind loading; no further increase allowed; reduce where other loads govern.
2. Grout strength is 15 MPa minimum.
3. Optional TC26 installation with 10d nails requires minimum 3" top plate thickness.
4. TC26 fastened to grouted concrete block with (6) – ⁹⁄₁₆" x 2¼" Titen screws has a factored uplift resistance of 275 lb.

LIMIT STATES DESIGN

This technical bulletin is effective until June 30, 2022, and reflects information available as of April 1, 2020. This information is updated periodically and should not be relied upon after June 30, 2022. Contact Simpson Strong-Tie for current information and limited warranty or see strongtie.com.

© 2020 Simpson Strong-Tie Company Inc.

(800) 999-5099
strongtie.com



Wood Truss Installation

A Guide to proper handling, erecting and bracing metal plate connected wood trusses

Table of Content

Warning.....4

1 Unloading & Lifting.....5

2 Job Site Handling.....5

3 Hoisting.....6

4 Beginning the Erection Process.....7

5 Erection Tolerance.....8

6 Bracing.....8

7 Bracing Requirements for 3 Planes of Roof.....9

8 Stacking Materials.....10

Caution Notes.....11

Warning

General

Familiarity with the **Construction Design Documents**, the **Truss Design Drawings**, and **Truss Placement Plans** (if required by the **Construction Design Documents**) is required to properly erect, brace, and connect the trusses to the building system.

All of the care and quality involved in the design and manufacture of wood trusses can be jeopardized if the trusses are not properly handled, erected, and braced.

The consequences of improper handling, erecting, and bracing may be a collapse of the structure, which at best is a substantial loss of time and materials, and at worst is a loss of life. The majority of truss accidents occur during truss installation and not as a result of improper design or manufacture.

Prior to truss erection, the builder/erector shall meet with the erection crew for a safety and planning meeting, making sure each crew member understands his or her roles and responsibilities during the erection process.

Temporary Erection Bracing

Trusses are not marked in any way to identify the frequency, or location of temporary erection bracing.

All temporary bracing shall comply with the latest edition of *Commentary and Recommendations for Handling, Installing & Bracing Metal Plate Connected Wood Trusses* (HIB), published by the Truss Plate Institute, and/or as specified in the **Construction Design Documents** prepared by the building designer.

Permanent Truss Bracing

Permanent bracing for the roof or floor trusses is the responsibility of the building designer and should be shown on the **Construction Design Documents**. Permanent bracing locations for individual compression members of a wood truss are shown on the **Truss Design Drawings**, and shall be installed by the building or erection contractor. This bracing is needed for the proper performance of individual trusses within the roof or floor system. The design and connection of the bracing to the truss and then to the overall building system is the responsibility of the building designer, and is in addition to the permanent bracing plan, which is also specified by the building designer.

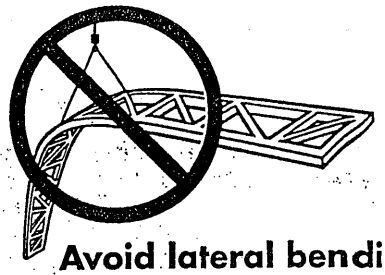
Special Design Requirements

Special design requirements, such as wind bracing, portal bracing, seismic bracing, diaphragms, shear walls, or other load transfer elements and their connections to wood trusses must be considered separately by the building designer, who shall determine size, location, and method of connections for all bracing as needed to resist these forces.

1 Unloading & Lifting

Never handle trusses flat

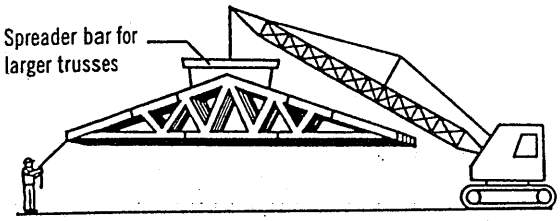
Beginning with the unloading process, and throughout all phases of construction, care must be taken to avoid **lateral bending** of trusses, which can cause damage to the lumber and metal connector plates at the joints.

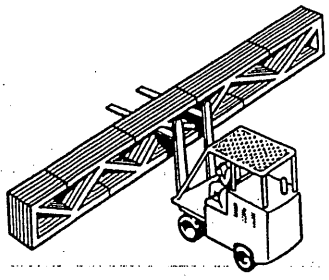


Avoid lateral bending

- **Use special care in windy weather.**
- **If using a crane within 10 feet of an electric line, contact the local power company.**
- **If using a crane within 5 miles of an airport, contact the airport 30 days prior to erection to learn about any safety regulations that must be followed.**

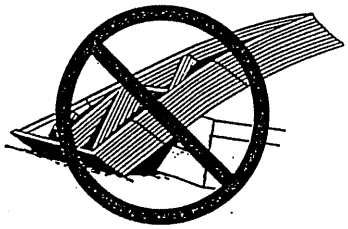
2 Job Site Handling





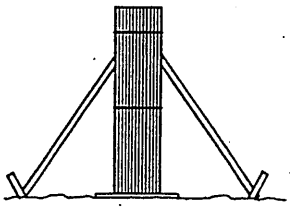
All trusses should be picked up at the top chords in a vertical position only

Proper banding and smooth ground allow for unloading of trusses without damage. This should be done as close to the building site as possible to minimize handling. **Do not** break banding until installation begins. Hand erection of trusses is allowed, provided excessive lateral bending is prevented.



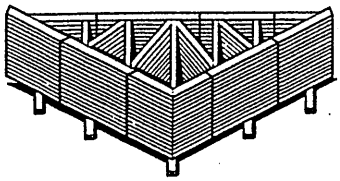
Do not store unbraced bundles upright

If trusses are stored vertically they shall be braced in a manner that will prevent tipping or topping. Generally cuting of the banding is done just prior to installation.



Do not store on uneven ground

If trusses are stored horizontally, blocking should be used on eight to ten foot centers, or as required, to minimize lateral bending and moisture gain.

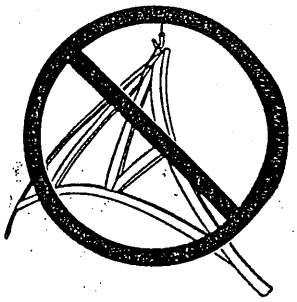


Care should be exercised when removing banding to avoid damaging trusses.

During long term storage, trusses shall be protected from the environment in a manner that provides for adequate ventilation of the trusses. If tarpaulins or other material is used, the ends shall be left open for ventilation. Plastic is not recommended, since it can trap moisture.

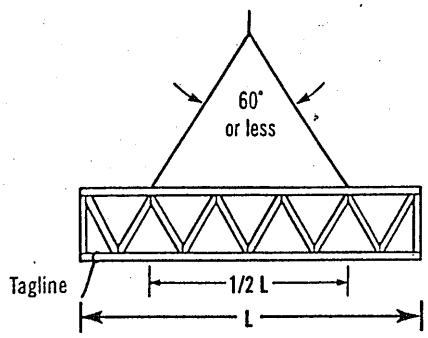
3 Hoisting

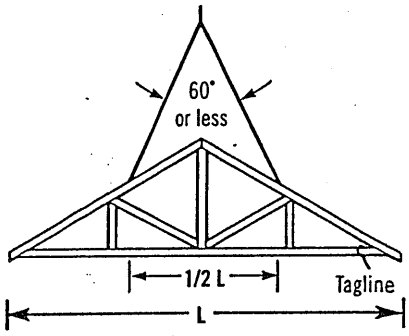
All trusses that are erected one at a time shall be held safely in position by the erection equipment until such time as all necessary bracing has been installed and the ends of the trusses are securely fastened to the building.



Avoid lateral bending

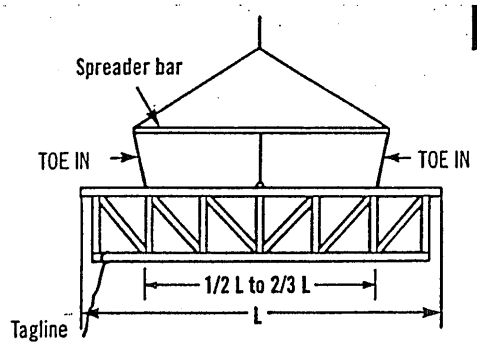
L ≤ 30'

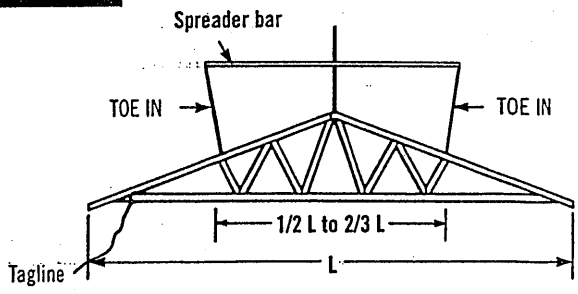




Truss sling is acceptable where these criteria are met.

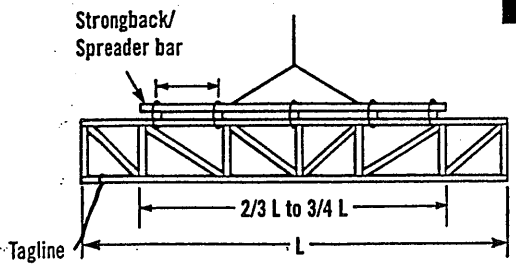
30' < L ≤ 60'

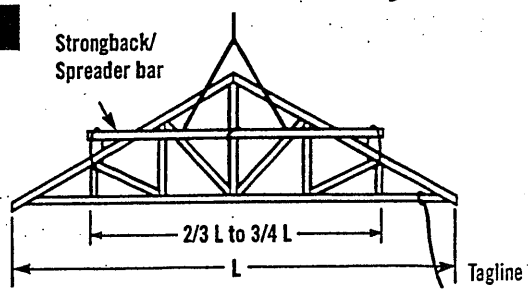




Use spreader bar in all other cases. It should be noted that the lines from the ends of the spreader bar "**TOE IN**"; if these lines should "**TOE OUT**" the truss may fold in half.

L > 60'





For lifting trusses with spans in excess of 60 feet, it is recommended that a strongback/spreader bar be used as illustrated. The strongback/spreader bar should be attached to the top chord and web members at intervals of approximately 10 feet. Further, the strongback/spreader bar should be at or above the mid-height of the truss to prevent overturning. The strongback/spreader bar can be of any material with sufficient strength to safely carry the weight of the truss and sufficient rigidity to adequately resist bending of the truss.

4 Beginning the Erection Process

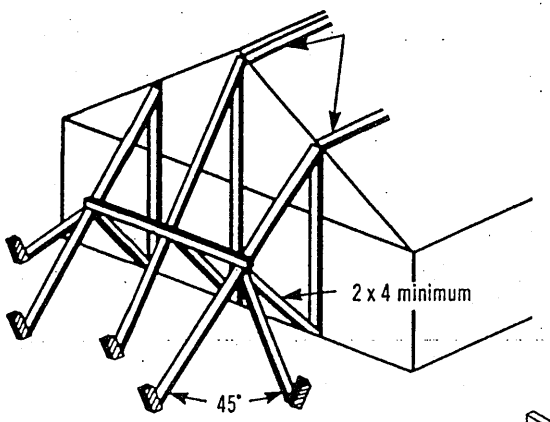
It is important for the builder or erection contractor to provide substantial bracing for the first truss erected. The two or more trusses making up the rest of the first set are tied to and rely upon the first truss for stability. Likewise, after this first set of trusses is adequately cross-braced, the remaining trusses installed rely upon this first set for stability. Thus, the performance of the truss bracing system depends to a great extent on how well the first group of trusses is braced.

Ground Brace – Exterior

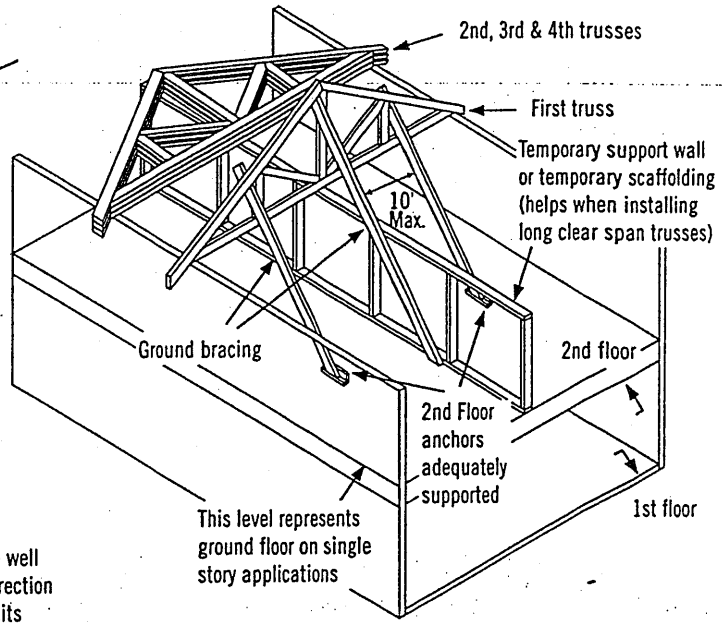
One satisfactory method ties the first unit of trusses off to a series of braces that are attached to a stake driven into the ground and securely anchored. The ground brace itself should be supported as shown below or it is apt to buckle. Additional ground braces in the opposite direction, inside the building, are also recommended.

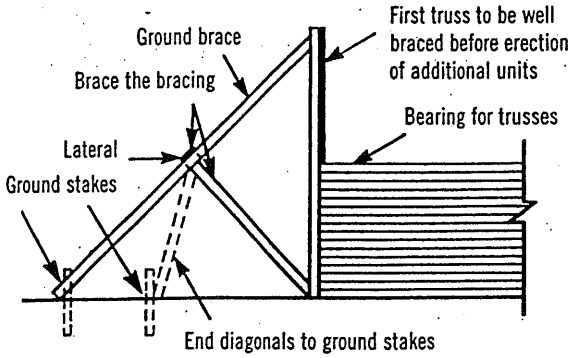
Ground Brace – Interior

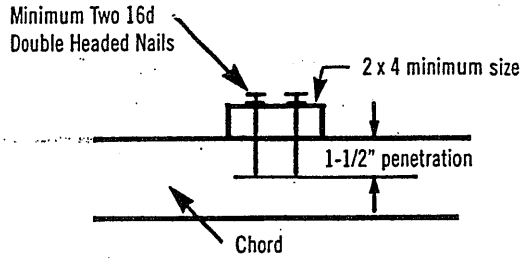
Another satisfactory method where height of building or ground conditions prohibit bracing from the exterior is to tie the first truss rigidly in place from the interior at the floor level, provided the floor is substantially completed and capable of supporting the ground bracing forces. Securely fasten the first truss to the middle of the building. Brace the bracing similar to exterior ground bracing shown at left. Set trusses from the middle toward the end of the building. Properly cross-brace the first set of trusses before removing floor braces and setting remaining trusses.



Note: Locate ground braces for first truss directly in line with all rows of top chord continuous lateral bracing (either temporary or permanent).





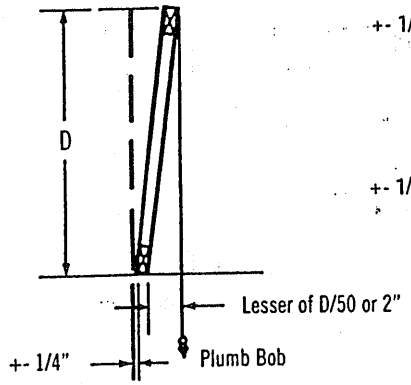


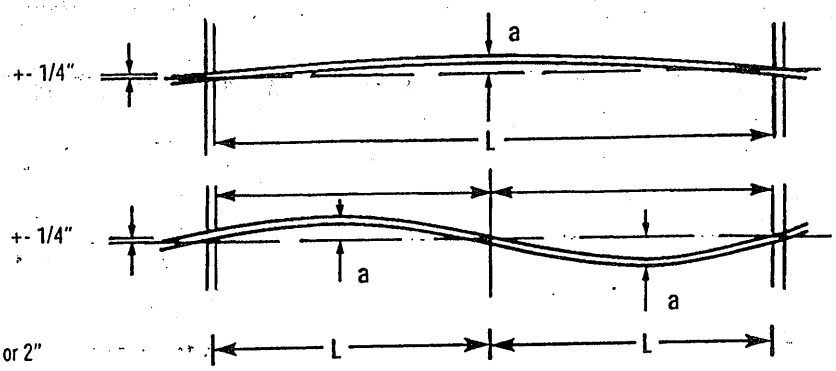
Inadequate size of bracing material or inadequate fastening is a major cause of erection dominoing.

5 Erection Tolerance

Complying with erection tolerances is critical to achieving an acceptable roof or floor line, and to accomplishing effective bracing. Setting trusses within tolerance the first time will prevent the need for the hazardous practice of respacing or adjusting trusses when roof sheathing or roof purlins are installed. Trusses leaning or bowing can cause nails to miss the top chords when sheathing is applied, and create cumulative stresses on the bracing, which is a frequent cause of dominoing.

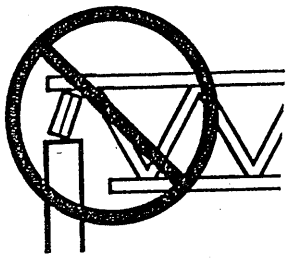
When sheathing, make sure nails are driven into the top chord of the trusses.



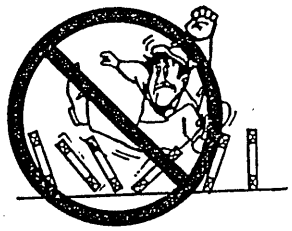


L = 16' to 32', a = 1"
L = 32' & over, a = 2"

6 Bracing

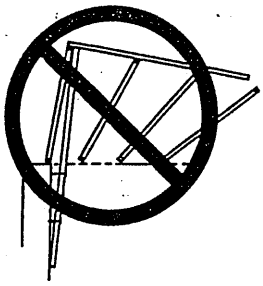


Do not install trusses on temporarily connected supports



Do not walk on unbraced trusses

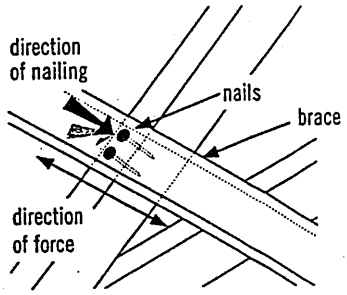
Do not walk on trusses or gable ends lying flat



Nails in withdrawal (parallel to force)

All anchors, hangers, tie-downs, seats, bearing ledgers, etc., that are part of the supporting structure shall be accurately and properly placed and permanently attached before truss installation begins. No trusses shall ever be installed on anchors or ties that have temporary connections to the supporting structure.

Nailing scabs to the end of the building to brace the first truss is not recommended.
All nailing of bracing should be done so that nails are driven perpendicular to the direction of force, as shown at right.



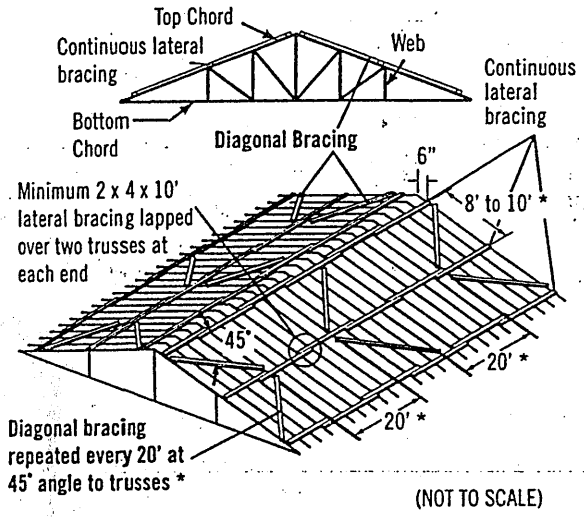
Well nailed (perpendicular to force)

7 Bracing Requirements for 3 Planes of Roof

Temporary erection bracing must be applied to three planes of the roof system to ensure stability: Plane 1) **Top Chord** (sheathing), Plane 2) **Bottom Chord** (ceiling plane), and Plane 3) **Web Member** plane or vertical plane perpendicular to trusses.

1) Top Chord Plane

Most important to the builder or erection contractor is bracing in the plane of the top chord. Truss top chords are susceptible to lateral buckling before they are braced or sheathed.

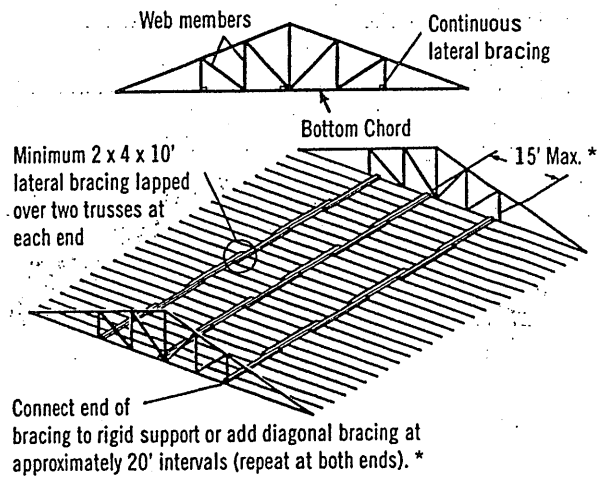


(NOT TO SCALE)

Exact spacing between trusses should be maintained as bracing is installed to avoid the hazardous practice of removing bracing to adjust spacing. This act of "adjusting spacing" can cause trusses to topple if connections are removed at the wrong time.

2) Bottom Chord Plane

In order to hold proper spacing on the bottom chord, temporary bracing is recommended on the top of the bottom chord.



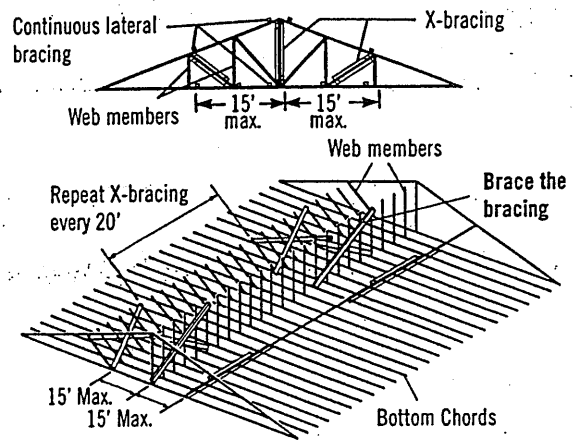
* Long spans, heavy loads or other spacing configurations may require closer spacing between lateral bracing and closer intervals between diagonals. Consult the building designer or HIB and DSB (*Recommended Design Specification for Temporary Bracing of Metal-Plate Connected Wood Trusses*) for details.

Diagonal or cross-bracing is very important!

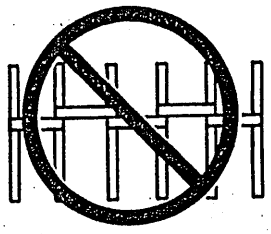
3) Web Member Plane

"X" bracing, as shown, is critical in preventing trusses from leaning or dominoing. Repeat as shown to create a succession of rigid units.

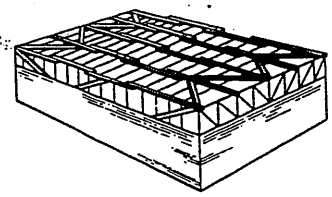
X-bracing should be installed on vertical web members wherever possible, at or near lateral bracing. Plywood or OSB may be substituted for X-bracing.



Note: Top chords and some web members are not shown, in order to make drawings more readable.



Do not use short blocks to brace individual trusses without a specific bracing plan detailing their use

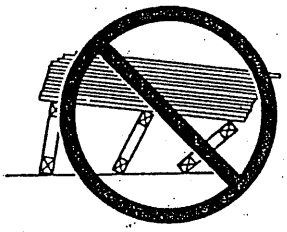


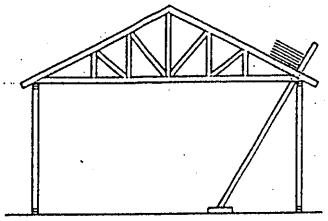
Bracing requirements using the same principles apply to parallel chord trusses

8 Stacking Materials

Do not proceed with building completion until all bracing is securely and properly in place

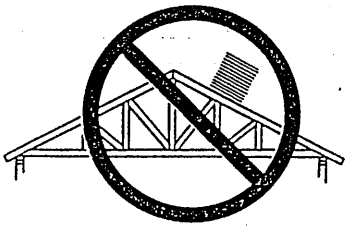
Never stack materials on unbraced or inadequately braced trusses

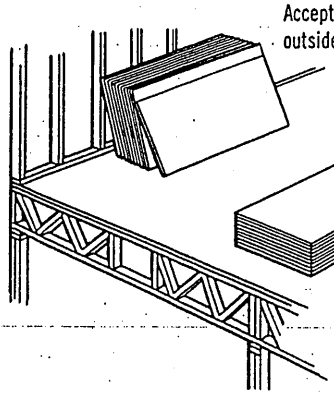




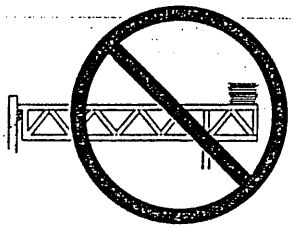
Proper distribution of construction materials is a must during construction.

Never stack materials near a peak

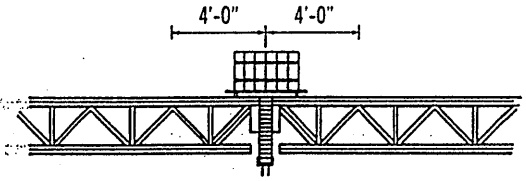


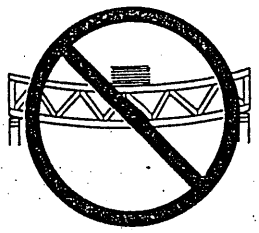


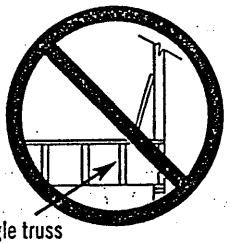
Never stack materials on the cantilever of a truss



Always stack materials over two or more trusses.



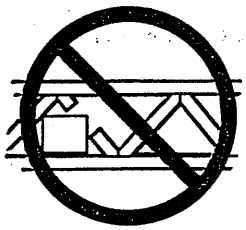


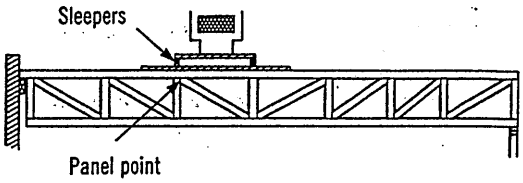


Roofing and mechanical contractors are cautioned to stack materials only along outside supporting members or directly over inside supporting members. Trusses are not designed for dynamic loads (i.e., moving vehicles). Extreme care should be taken when loading and stacking construction materials (rolled roofing, mechanical equipment, etc.) on the roof or floor system.

Never overload small groups or single trusses. Position load over as many trusses as possible.

Never cut any structural member of a truss.





Sleepers for mechanical equipment should be located at panel points (joints) or over main supporting members, and only on trusses that have been designed for such loads.

Caution Notes

Errors in building lines and/or dimensions, or errors by others shall be corrected by the contractor or responsible construction trade subcontractor or supplier **before** erection of trusses begins.

Cutting of nonstructural overhangs is considered a part of normal erection and shall be done by the builder or erection contractor.

Any field modification that involves the cutting, drilling, or relocation of any structural truss member or connector plate shall not be done without the approval of the truss manufacturer or a licensed design professional.

The methods and procedures outlined are intended to ensure that the overall construction techniques employed will put floor and roof trusses **safely** in place in a completed structure. These recommendations for bracing wood trusses originate from the collective experience of leading technical personnel in the wood truss industry, but must, due to the nature of responsibilities involved, be presented only as a **guide** for use by a qualified building designer, builder, or erection contractor. Thus, the Wood Truss Council of America expressly disclaims any responsibility for damages arising from the use, application, or reliance on the recommendations and information contained herein.

[Selected text and figures referenced or reproduced from HIB and DSB by permission of the Truss Plate Institute, Madison, WI.]

THE CANADIAN WOOD TRUSS ASSOCIATION

L'ASSOCIATION CANADIENNE DES FABRICANTS DE FERMES DE BOIS

1400 Blair Place, Suite 210, Ottawa, ON K1J 9B8
Tel.: 613-747-5544 Fax: 613-747-6264

Wood Truss Council of America

One WTCA Center
6300 Enterprise Lane, Madison, WI 53719-1140
Tel.: 608-274-4849 Fax: 608-274-3329
wtca@woodtruss.com www.woodtruss.com