**LUMBER**

N. L. G. A. RULES	CHORDS	SIZE	LUMBER
A - B	2x4	DRY	No.2
B - C	2x4	DRY	No.2
F - A	2x4	DRY	No.2
D - C	2x4	DRY	No.2
F - D	2x4	DRY	No.2

ALL WEBS 2x3 DRY No.2  
EXCEPT

DRY: SEASONED LUMBER.

**PLATES (table is in inches)**

JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW+p	MT20	4.0	4.0	1.25	2.00
B	TTW+p	MT20	3.0	4.0	2.25	1.50
C	TMVW+p	MT20	4.0	4.0	1.25	2.00
D	BMV1+p	MT20	2.0	4.0		
E	BMVWWH	MT20	4.0	6.0		
F	BMV1+p	MT20	2.0	4.0		

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

BEARINGS							
	FACTORED		MAXIMUM FACTORED			INPUT	REQRD
	GROSS REACTION		GROSS REACTION			BRG	BRG
JT	VERT	HORZ	DOWN	HORZ	UPLIFT	IN-SX	IN-SX
F	723	0	723	0	0	MECHANICAL	
D	723	0	723	0	0	MECHANICAL	

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

**UNFACTORED REACTIONS**

1ST LCASE		MAX./MIN. COMPONENT REACTIONS					
JT	COMBINED	SNOW	LIVE	PERM. LIVE	WIND	DEAD	SOIL
F	505	365 / 0	0 / 0	0 / 0	0 / 0	140 / 0	0 / 0
D	505	365 / 0	0 / 0	0 / 0	0 / 0	140 / 0	0 / 0

**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					WEBS			
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	LC1	MAX CSI (LC)	MAX. UNBRAC LENGTH	MEMB.	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
FR-TO		FROM	TO			FR-TO		
A-B	-513 / 0	-119.4	-119.4	0.43 (1)	6.25	E-B	-58 / 81	0.03 (4)
B-C	-513 / 0	-119.4	-119.4	0.42 (1)	6.25	A-E	0 / 435	0.10 (1)
F-A	-686 / 0	0.0	0.0	0.07 (1)	7.81	E-C	0 / 435	0.10 (1)
D-C	-686 / 0	0.0	0.0	0.07 (1)	7.81			
F-E	0 / 0	-18.2	-18.2	0.14 (4)	10.00			
E-D	0 / 0	-18.2	-18.2	0.14 (4)	10.00			

**DESIGN CRITERIA****SPECIFIED LOADS:**

TOP CH. LL	=	34.8	PSF
DL	=	6.0	PSF
BOT CH. LL	=	0.0	PSF
DL	=	7.3	PSF
TOTAL LOAD	=	48.1	PSF

**SPACING = 24.0 IN./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, NBC-2019AE
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

(55 % OF 48.1 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD)  
EQUALS 34.8 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL) =  $L/360$  (0.35")  
CALCULATED VERT. DEFL.(LL) =  $L/999$  (0.01")  
ALLOWABLE DEFL.(TL) =  $L/360$  (0.35")  
CALCULATED VERT. DEFL.(TL) =  $L/999$  (0.02")

CSI: TC=0.43/0.97 (A-B:1), BC=0.14/0.97 (E-F:4),  
WB=0.10/0.97 (C-E:1), SSI=0.20/1.00 (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

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

**NAIL VALUES**

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

PLATE PLACEMENT TOL. = 0.250 inches

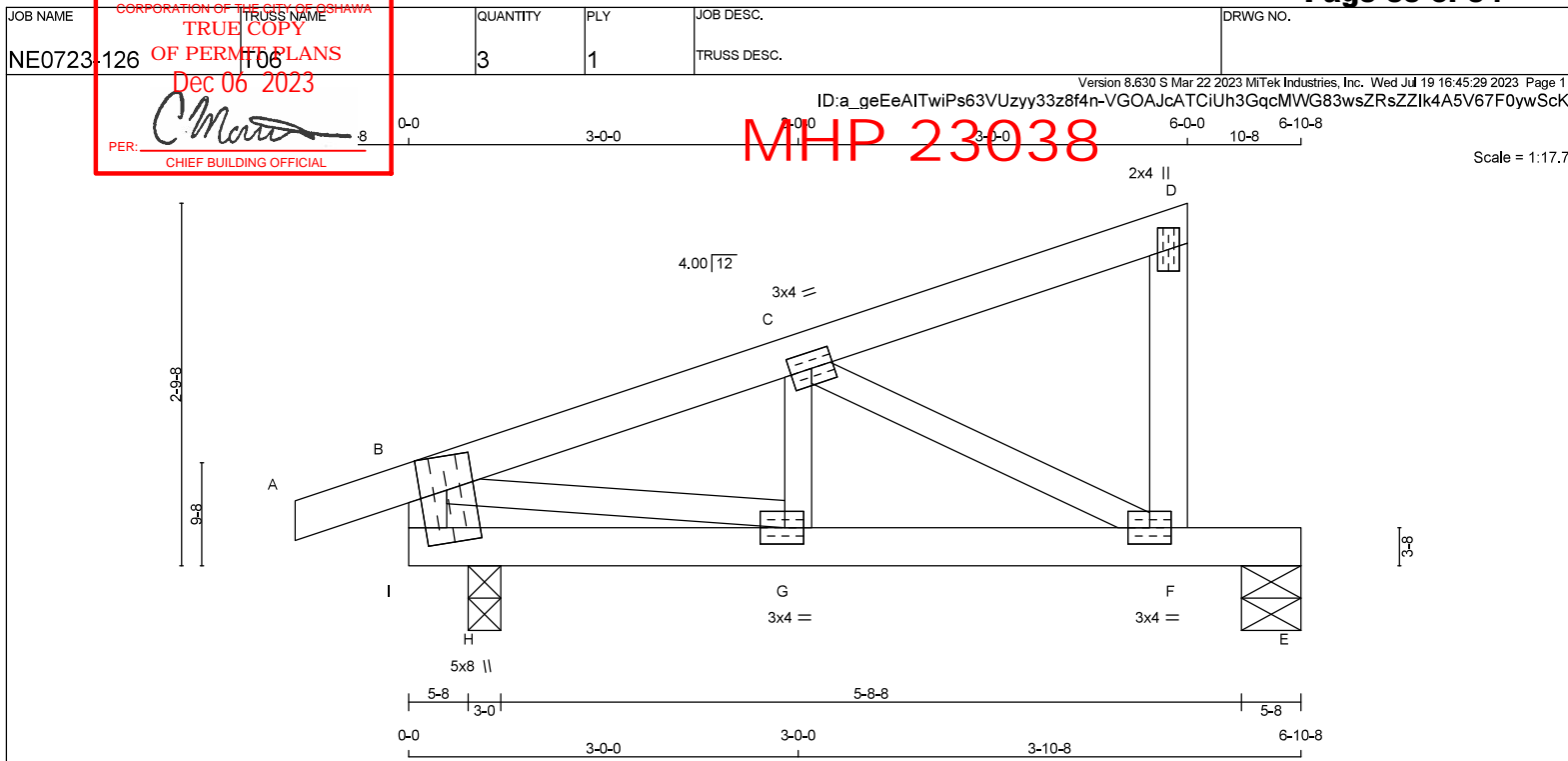
PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.57 (E) (INPUT = 0.90)  
JSI METAL= 0.15 (C) (INPUT = 1.00)



READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTES: TRUSSES. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.





TOTAL WEIGHT = 3 X 25 = 74 lb

**LUMBER**

N. L. G. A. RULES	CHORDS	SIZE	LUMBER
A - D	2x4	DRY	No.2
F - D	2x4	DRY	No.2
I - B	2x4	DRY	No.2
I - E	2x4	DRY	No.2
ALL WEBS EXCEPT	2x3	DRY	No.2

DRY: SEASONED LUMBER.

**PLATES (table is in inches)**

JT	TYPE	PLATES	W	LEN	Y	X
B						
C	TMWW-I	MT20	3.0	4.0		
D	TMV+p	MT20	2.0	4.0		
F	BMVW-I	MT20	3.0	4.0		
G	BMVW-I	MT20	3.0	4.0	1.50	1.75
I						
I	TMBVW*+m	MT20	5.0	8.0	Edge	

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

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

FACTORED GROSS REACTION			MAXIMUM FACTORED GROSS REACTION			INPUT BRG	REQRD BRG
JT	VERT	HORZ	DOWN	HORZ	UPLIFT	IN-SX	IN-SX
E	304	0	304	0	0	5-8	1-8
H	648	0	648	0	0	3-0	1-8

**UNFACTORED REACTIONS**

JT	1ST LCASE	SNOW	LIVE	PERM. LIVE	WIND	DEAD	SOIL
E	214	145 / 0	0 / 0	0 / 0	0 / 0	69 / 0	0 / 0
H	451	336 / 0	0 / 0	0 / 0	0 / 0	115 / 0	0 / 0

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

**BRACING**TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 6.25 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: (4)

CHORDS				WEBS			
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	MAX. LC1 (LC)	MEMB.	MAX. FACTORED FORCE (LBS)	MAX. UNBRACED LENGTH	FR-TO
FR-TO		FROM	TO	FR-TO			
A-B	0 / 17	-119.4	-119.4 0.07 (1)	10.00	G-C	-116 / 24	0.02 (1)
B-C	-387 / 0	-119.4	-119.4 0.14 (1)	6.25	C-F	-274 / 0	0.06 (1)
C-D	-116 / 0	-119.4	-119.4 0.11 (1)	6.25	B-G	0 / 648	0.15 (1)
F-D	-154 / 0	0.0	0.0 0.19 (1)	7.81			
I-B	-539 / 0	0.0	0.0 0.17 (1)	7.81			
I-H	-278 / 0	-18.2	-18.2 0.17 (1)	6.25			
H-G	-278 / 0	-18.2	-18.2 0.17 (1)	6.25			
G-F	0 / 360	-18.2	-18.2 0.16 (1)	10.00			
F-E	0 / 0	-18.2	-18.2 0.35 (1)	10.00			

**DESIGN CRITERIA****SPECIFIED LOADS:**

TOP CH. LL	=	34.8	PSF
DL	=	6.0	PSF
BOT CH. LL	=	0.0	PSF
DL	=	7.3	PSF
TOTAL LOAD	=	48.1	PSF

**SPACING = 24.0 IN./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, NBC-2019AE
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

**DESIGN ASSUMPTIONS**

-OVERHANG NOT TO BE ALTERED OR CUT OFF.

(55 % OF 48.1 P.S.F., G.S.L. PLUS 8.4 P.S.F. RAIN LOAD)  
EQUALS 34.8 P.S.F. SPECIFIED ROOF LIVE LOADALLOWABLE DEFL.(LL)= L/360 (0.21")  
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.03")  
ALLOWABLE DEFL.(TL)= L/360 (0.21")  
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.05")**CANTILEVER DEFLECTION:**ALLOWABLE DEFL.(LL)= L/120 (0.18")  
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.00")  
ALLOWABLE DEFL.(TL)= L/120 (0.18")  
CALCULATED VERT. DEFL.(TL) = L/ 959 (0.01")CSI: TC=0.19/0.97 (D-F:1) , BC=0.35/0.97 (E-F:1) ,  
WB=0.15/0.97 (B-G:1) , SSI=0.43/1.00 (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)	SHEAR	SECTION
(PSI)	(PLI)	(PLI)	
MAX	MIN	MAX	MIN
MIN	MAX	MIN	MAX
MT20	650	371	1747 788 1987 1873

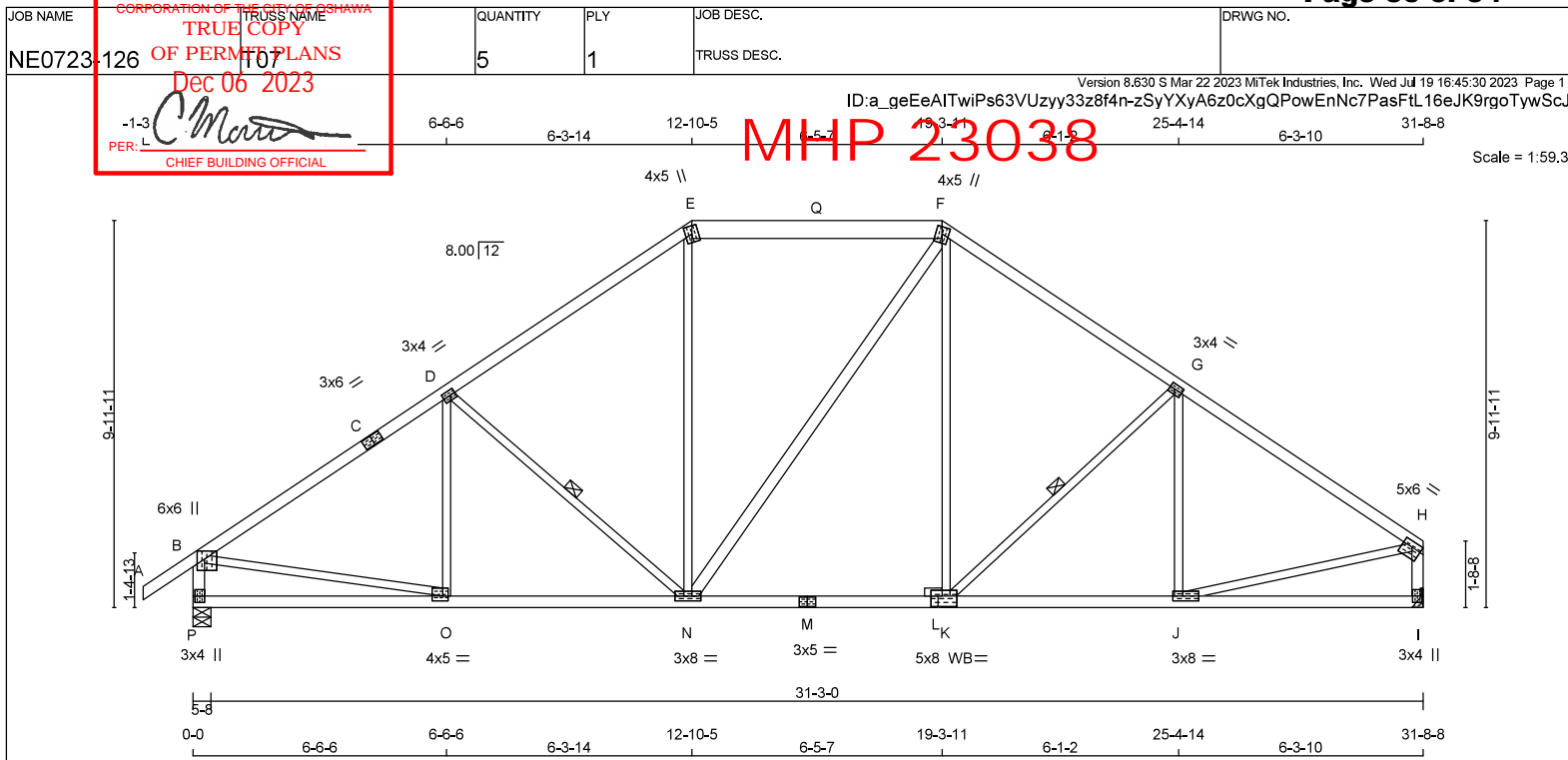
PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.82 (G) (INPUT = 0.90)  
JSI METAL= 0.22 (G) (INPUT = 1.00)

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTES: TRUSSES. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.





## LUMBER

N. L. G. A. RULES	CHORDS	SIZE	LUMBER
A - C	2x4	DRY	No.2
C - E	2x4	DRY	No.2
E - F	2x6	DRY	No.2
F - H	2x4	DRY	No.2
P - B	2x4	DRY	No.2
I - H	2x4	DRY	No.2
P - M	2x4	DRY	No.2
M - L	2x4	DRY	No.2
L - I	2x4	DRY	No.2
ALL WEBS	2x3	DRY	No.2
EXCEPT			
N - F	2x4	DRY	No.2

DRY: SEASONED LUMBER.

## PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMVW+p	MT20	6.0	6.0	Edge	3.75
C	TS4	MT20	3.0	6.0		
D	TMVW+4	MT20	3.0	4.0	1.50	1.50
E	TTW+m	MT20	4.0	5.0		
F	TTVW+m	MT20	4.0	5.0	2.25	2.00
G	TMVW+4	MT20	3.0	4.0	1.50	1.50
H	TMVW+4	MT20	5.0	6.0	1.75	Edge
I	BMV1+p	MT20	3.0	4.0		
J	BMVW+4	MT20	3.0	8.0	1.50	3.00
K	BBVW+4	MT20	5.0	8.0	3.25	2.00
L	BS4	MT20	3.0	5.0		
N	BMVW+4	MT20	3.0	8.0		
O	BMVW+4	MT20	4.0	5.0	1.50	1.75
P	BMV1+p	MT20	3.0	4.0	2.00	0.50

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

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

## DESIGNER

## BEARINGS

JT	VERT	HORZ	DOWN	HORZ	UPLIFT	IN-SX	IN-SX
P	2371	0	2371	0	0	5-8	4-3
I	2207	0	2207	0	0	MECHANICAL	

A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT I. MINIMUM BEARING LENGTH AT JOINT I = 3-11.

## UNFACTORED REACTIONS

JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
P	1657	1199 / 0	0 / 0	0 / 0	0 / 0	457 / 0	0 / 0
I	1545	1104 / 0	0 / 0	0 / 0	0 / 0	441 / 0	0 / 0

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

## BRACING

FOR SECTION E-F, MAX. PURLIN SPACING = 2.00 FT.  
FOR OTHER SECTIONS, TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 3.18 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 - 1x4 LATERAL BRACE(S) AT 1/2 LENGTH OF D-N, G-K, DBS = 20-0-0, CBF = 76 LBS.

DBS = DIAGONAL BRACE SPACING (MAX). CBF = CUMULATIVE BRACING FORCE (PER BRACE). FASTEN LATERAL BRACE(S) USING (0.122"x3") SPIRAL NAILS : 1 NAIL FOR 2x3 BRACE(S), 2 FOR 1x4, 2x4, 2x5, 3 FOR 2x6, 4 FOR 2x8, 5 FOR 2x10, AND 6 FOR 2x12.

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	MAX. FACTORED	FACTORED	VERT. LOAD	LC1	MAX	WEBS	MAX. FACTORED	MAX
MEMB.	FORCE	VERT. LOAD	LC1	MAX	UNBRAC	MEMB.	FORCE	MAX
FR-TO	(LBS)	(PLF)	(LC)	(LBS)	LENGTH	FR-TO	(LBS)	CSI (LC)
A-B	0 / 45	-119.4	-119.4	0.16 (1)	10.00	O-D	-246 / 41	0.13 (1)
B-C	-2631 / 0	-119.4	-119.4	0.85 (1)	3.18	D-N	-604 / 0	0.28 (1)
C-D	-2631 / 0	-119.4	-119.4	0.85 (1)	3.18	N-E	0 / 484	0.11 (1)
D-E	-2183 / 0	-119.4	-119.4	0.76 (1)	3.58	N-F	0 / 40	0.01 (1)
E-Q	-1771 / 0	-126.9	-126.9	0.46 (1)	2.00	K-F	0 / 446	0.10 (1)
Q-F	-1771 / 0	-126.9	-126.9	0.46 (1)	2.00	K-G	-486 / 0	0.22 (1)
F-G	-2154 / 0	-119.4	-119.4	0.70 (1)	3.73	J-G	-344 / 9	0.19 (1)
G-H	-2486 / 0	-119.4	-119.4	0.77 (1)	3.42	B-O	0 / 2262	0.51 (1)
P-B	-2320 / 0	0.0	0.0	0.24 (1)	5.52	J-H	0 / 2160	0.49 (1)
I-H	-2158 / 0	0.0	0.0	0.23 (1)	5.71			
P-O	0 / 0	-18.2	-18.2	0.17 (4)	10.00			
O-N	0 / 2232	-18.2	-18.2	0.45 (1)	10.00			
N-M	0 / 1749	-18.2	-18.2	0.37 (1)	10.00			
M-L	0 / 1749	-18.2	-18.2	0.37 (1)	10.00			
L-K	0 / 1749	-18.2	-18.2	0.37 (1)	10.00			
K-J	0 / 2109	-18.2	-18.2	0.41 (1)	10.00			
J-I	0 / 0	-18.2	-18.2	0.16 (4)	10.00			

## DESIGN CRITERIA

## SPECIFIED LOADS:

TOP CH. LL	=	34.8	PSF
DL	=	6.0	PSF
BOT CH. LL	=	0.0	PSF
DL	=	7.3	PSF
TOTAL LOAD	=	48.1	PSF

SPACING = 24.0 IN./C

LOADING IN FLAT SECTION BASED ON PIGGYBACK TRUSS WITH SLOPES OF 8.00/12 AND -8.00/12 AND RESPECTIVE HEEL HEIGHTS OF 0-0 AND 0-0 AND AN ADDITIONAL DEAD LOAD OF 3.0 P.S.F.

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

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

(55 % OF 48.1 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD)  
EQUALS 34.8 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL) = L/360 (1.06")  
CALCULATED VERT. DEFL.(LL) = L/999 (0.09")  
ALLOWABLE DEFL.(TL) = L/360 (1.06")  
CALCULATED VERT. DEFL.(TL) = L/999 (0.19")

CSI: TC=0.85/0.97 (B-D:1), BC=0.45/0.97 (N-O:1),  
WB=0.51/0.97 (B-O:1), SSI=0.31/1.00 (B-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) SHEAR SECTION  
(PSI) (PLI) (PLI)  
MAX MIN MAX MIN MAX MIN  
MT20 650 371 1747 788 1987 1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

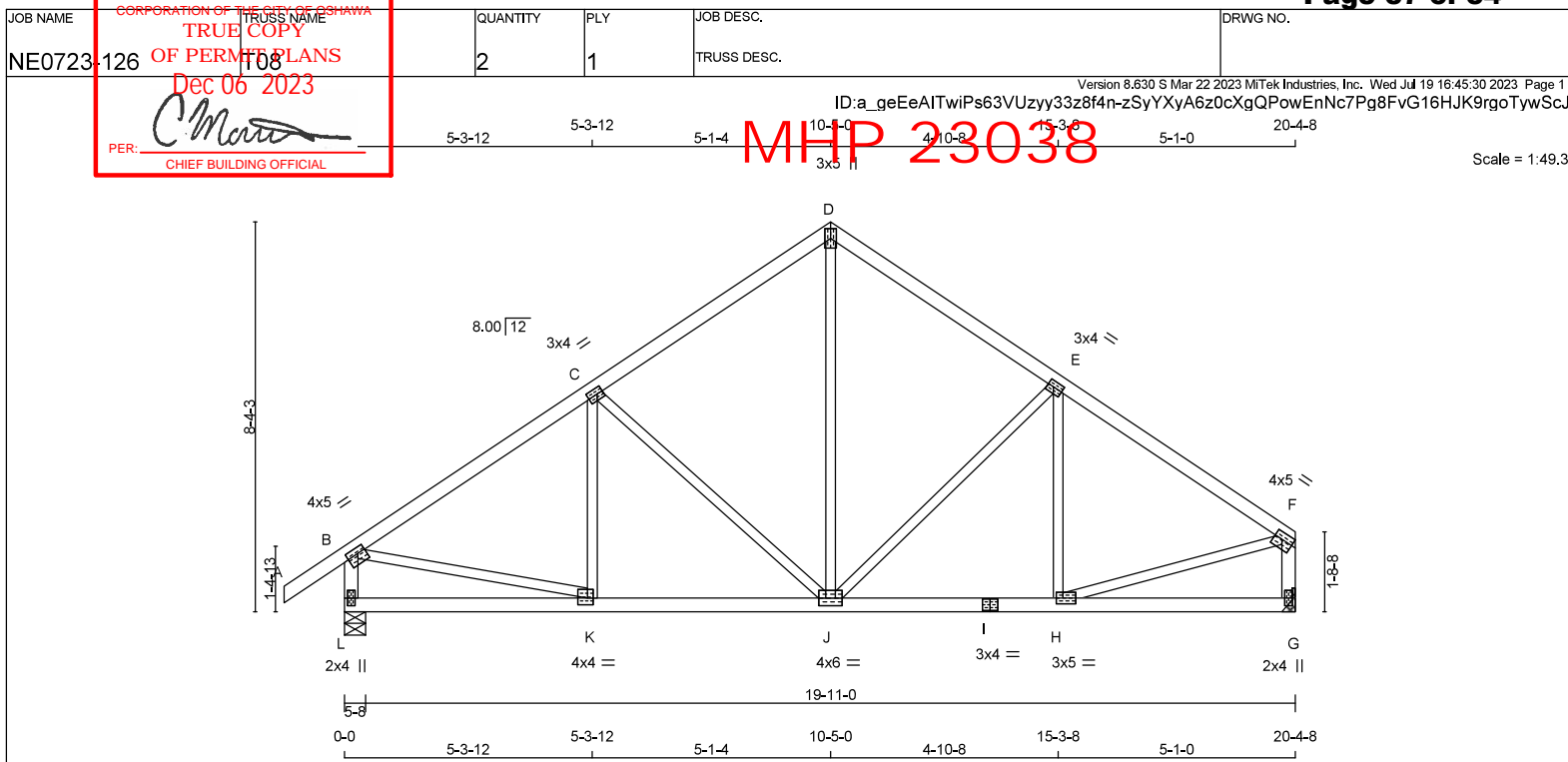
JSI GRIP= 0.90 (J) (INPUT = 0.90)  
JSI METAL = 0.64 (H) (INPUT = 1.00)



READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTES: TRUSSES. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.







TOTAL WEIGHT = 2 X 88 = 176 lb

**LUMBER**

N. L. G. A. RULES	CHORDS	SIZE	LUMBER
A - D	2x4	DRY	No.2
D - F	2x4	DRY	No.2
L - B	2x4	DRY	No.2
G - F	2x4	DRY	No.2
L - I	2x4	DRY	No.2
I - G	2x4	DRY	No.2

ALL WEBS 2x3 DRY No.2 EXCEPT

DRY: SEASONED LUMBER.

**PLATES (table is in inches)**

JT	TYPE	PLATES	W	LEN	Y	X
B	TMVW-H	MT20	4.0	5.0	1.50	2.00
C	TMVW-H	MT20	3.0	4.0	1.50	1.50
D	TTV+p	MT20	3.0	5.0		
E	TMVW-H	MT20	3.0	4.0	1.50	1.50
F	TMVW-H	MT20	4.0	5.0	1.75	Edge
G	BMV1+p	MT20	2.0	4.0		
H	BMVW-H	MT20	3.0	5.0	1.50	1.75
I	BS-t	MT20	3.0	4.0		
J	BMVW-H	MT20	4.0	6.0		
K	BMVW-H	MT20	4.0	4.0	1.75	1.50
L	BMV1+p	MT20	2.0	4.0		

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

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

JT	VERT	HORZ	DOWN	HORZ	UPLIFT	IN-SX	IN-SX
L	1567	0	1567	0	0	5-8	1-11
G	1403	0	1403	0	0	MECHANICAL	

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

**UNFACTORED REACTIONS**

JT	COMBINED	SNOW	LIVE	PERM. LIVE	WIND	DEAD	SOIL
L	1092	805 / 0	0 / 0	0 / 0	0 / 0	287 / 0	0 / 0
G	980	709 / 0	0 / 0	0 / 0	0 / 0	271 / 0	0 / 0

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

**BRACING**TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 4.77 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				WEBS			
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	MAX. VERT. LOAD (LC)	MEMB.	MAX. FACTORED FORCE (LBS)	MAX. VERT. LOAD (LC)	
FR-TO		FROM	TO	FR-TO			
A-B	0 / 45	-119.4	-119.4 0.16 (1)	10.00	K-C	-158 / 51 0.06 (1)	
B-C	-1503 / 0	-119.4	-119.4 0.45 (1)	4.77	C-J	-527 / 0 0.47 (1)	
C-D	-1117 / 0	-119.4	-119.4 0.43 (1)	5.38	J-D	0 / 745 0.17 (1)	
D-E	-1115 / 0	-119.4	-119.4 0.39 (1)	5.45	J-E	-432 / 0 0.37 (1)	
E-F	-1406 / 0	-119.4	-119.4 0.41 (1)	4.97	H-E	-230 / 26 0.09 (1)	
L-B	-1525 / 0	0.0	0.0 0.16 (1)	6.58	B-K	0 / 1310 0.29 (1)	
G-F	-1363 / 0	0.0	0.0 0.15 (1)	6.87	H-F	0 / 1246 0.28 (1)	
L-K	0 / 0	-18.2	-18.2 0.12 (4)	10.00			
K-J	0 / 1284	-18.2	-18.2 0.26 (1)	10.00			
J-I	0 / 1202	-18.2	-18.2 0.24 (1)	10.00			
I-H	0 / 1202	-18.2	-18.2 0.24 (1)	10.00			
H-G	0 / 0	-18.2	-18.2 0.11 (4)	10.00			

**DESIGN CRITERIA****SPECIFIED LOADS:**

TOP CH. LL	=	34.8	PSF
DL	=	6.0	PSF
BOT CH. LL	=	0.0	PSF
DL	=	7.3	PSF
TOTAL LOAD	=	48.1	PSF

**SPACING = 24.0 IN./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, NBC-2019AE
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

(55 % OF 48.1 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD)  
EQUALS 34.8 P.S.F. SPECIFIED ROOF LIVE LOADALLOWABLE DEFL.(LL) =  $L/360$  (0.68")  
CALCULATED VERT. DEFL.(LL) =  $L/999$  (0.04")  
ALLOWABLE DEFL.(TL) =  $L/360$  (0.68")  
CALCULATED VERT. DEFL.(TL) =  $L/999$  (0.08")CSI: TC=0.45/0.97 (B-C:1), BC=0.26/0.97 (H-K:1),  
WB=0.47/0.97 (C-J:1), SSI=0.25/1.00 (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)	SHEAR	SECTION
	(PSI)	(PLI)	(PLI)
MT20	650	371	1747
	788	1987	1873

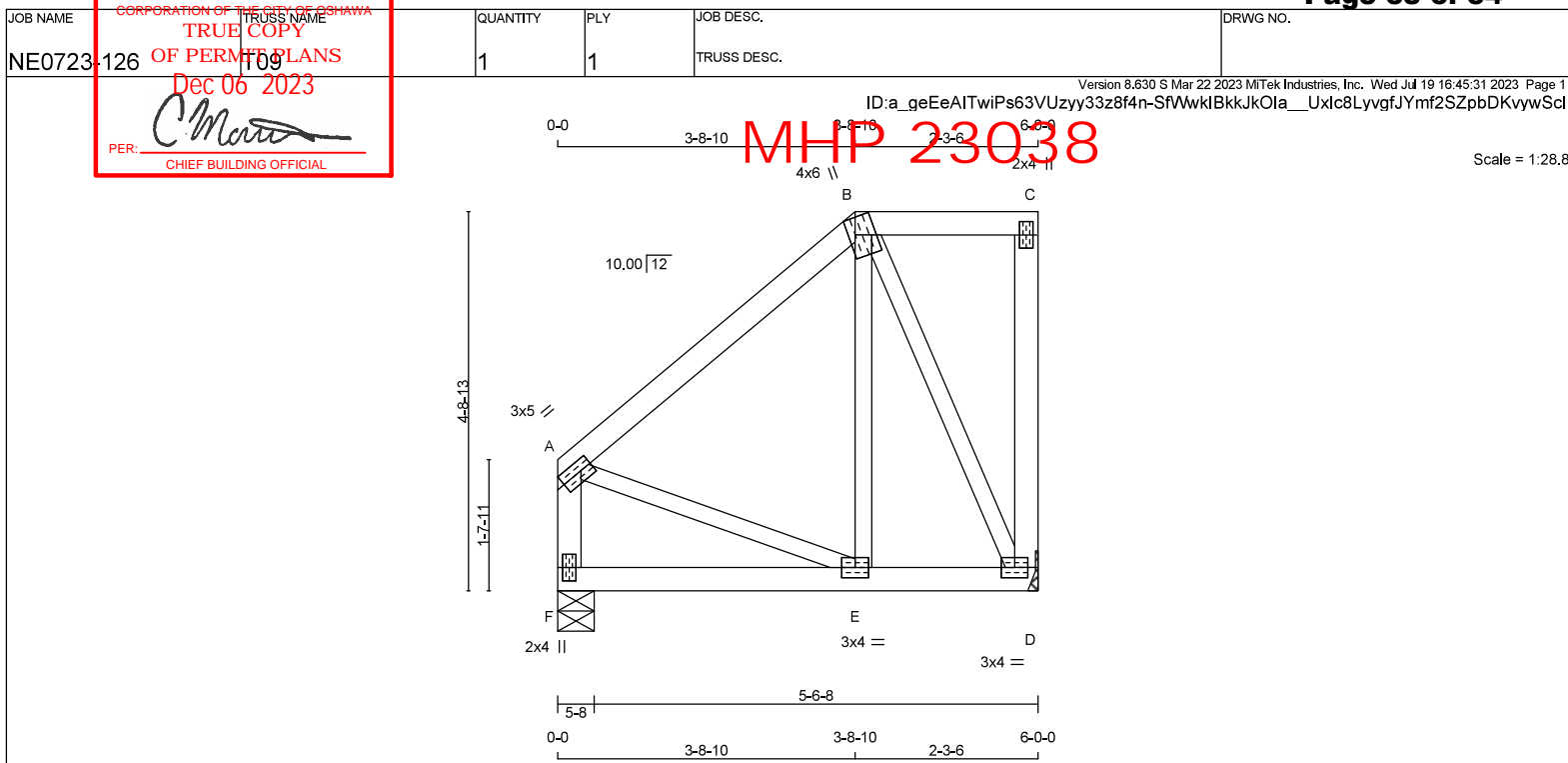
PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.88 (H) (INPUT = 0.90)  
JSI METAL = 0.51 (B) (INPUT = 1.00)

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTES: TRUSSES. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.





TOTAL WEIGHT = 31 lb

[M][F]

**LUMBER**

N. L. G. A. RULES	CHORDS	SIZE	LUMBER
A - B	2x4	DRY	No.2
B - C	2x4	DRY	No.2
D - C	2x4	DRY	No.2
F - A	2x4	DRY	No.2
F - D	2x4	DRY	No.2

ALL WEBS 2x3 DRY No.2  
 EXCEPT

DRY: SEASONED LUMBER.

**PLATES (table is in inches)**

JT	TYPE	PLATES	W	LEN	Y	X
A	TMVW4	MT20	3.0	5.0	1.50	1.75
B	TTVW+m	MT20	4.0	6.0	Edge	1.00
C	TMV+p	MT20	2.0	4.0		
D	BMVW14	MT20	3.0	4.0		
E	BMVW4	MT20	3.0	4.0		
F	BMV1+p	MT20	2.0	4.0		

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

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

JT	VERT	HORZ	DOWN	HORZ	UPLIFT	IN-SX	IN-SX
D	413	0	413	0	0	MECHANICAL	
F	413	0	413	0	0	5-8	1-8

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

**UNFACTORED REACTIONS**

JT	COMBINED	SNOW	LIVE	PERM. LIVE	WIND	DEAD	SOIL
D	289	209 / 0	0 / 0	0 / 0	0 / 0	80 / 0	0 / 0
F	289	209 / 0	0 / 0	0 / 0	0 / 0	80 / 0	0 / 0

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

**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)

MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PL)	MAX. UNBRACED LENGTH (LC)	MEMB.	MAX. FACTORED FORCE (LBS)	MAX. UNBRACED LENGTH (LC)
FR-TO		FROM TO		FR-TO		
A-B	-178 / 0	-119.4 -119.4	0.21 (1)	6.25	E-B	0 / 66
B-C	0 / 0	-119.4 -119.4	0.11 (1)	10.00	B-D	-299 / 0
D-C	-136 / 0	0.0 0.0	0.05 (1)	7.81	A-E	0 / 144
F-A	-383 / 0	0.0 0.0	0.04 (1)	7.81		
F-E	0 / 0	-18.2 -18.2	0.05 (4)	10.00		
E-D	0 / 137	-18.2 -18.2	0.06 (4)	10.00		

**DESIGN CRITERIA**

SPECIFIED LOADS:  
 TOP CH. LL = 34.8 PSF  
 DL = 6.0 PSF  
 BOT CH. LL = 0.0 PSF  
 DL = 7.3 PSF  
 TOTAL LOAD = 48.1 PSF

**SPACING = 24.0 IN./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, NBC-2019AE
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

(55 % OF 48.1 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD)  
 EQUALS 34.8 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")

CSI: TC=0.21/0.97 (A-B:1) , BC=0.06/0.97 (D-E:4) ,  
 WB=0.11/0.97 (B-D:1) , SSI=0.13/1.00 (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

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

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

PLATE PLACEMENT TOL. = 0.250 inches

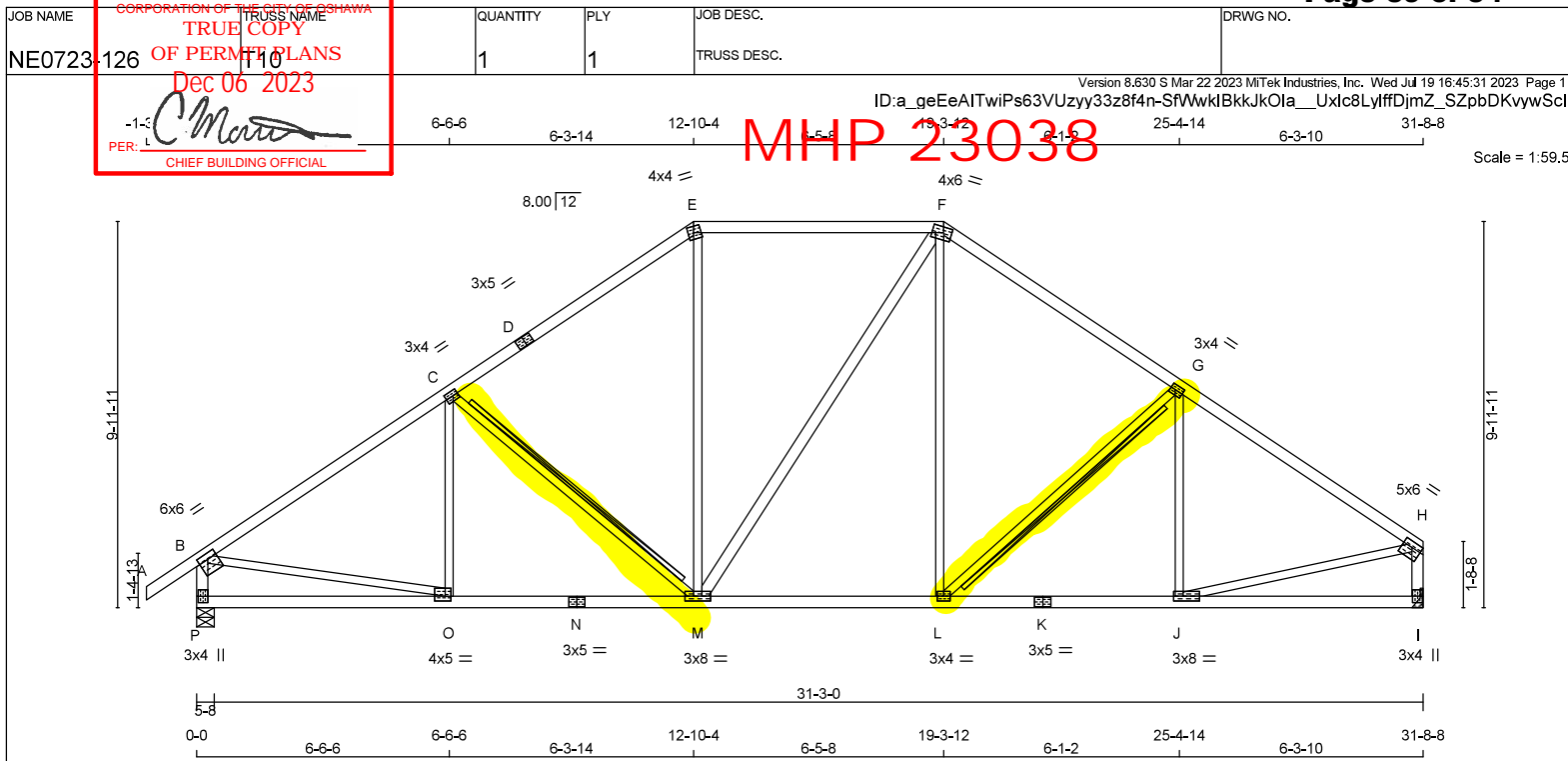
PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.38 (D) (INPUT = 0.90 )  
 JSI METAL = 0.09 (A) (INPUT = 1.00 )



READ ALL NOTES ON THIS PAGE AND ON THE  
 ENGINEERING NOTES: TRUSSES. THE NOTE PAGE  
 IS AN INTEGRAL PART OF THIS DRAWING AS IT  
 CONTAINS SPECIFICATIONS AND CRITERIA USED  
 IN THE DESIGN OF THIS COMPONENT.





## LUMBER

N. L. G. A. RULES	CHORDS	SIZE	LUMBER
A - D	2x4	DRY	No.2
D - E	2x4	DRY	No.2
E - F	2x4	DRY	2100F 1.8E
F - H	2x4	DRY	No.2
P - B	2x4	DRY	No.2
I - H	2x4	DRY	No.2
P - N	2x4	DRY	No.2
N - K	2x4	DRY	No.2
K - I	2x4	DRY	No.2

ALL WEBS 2x3 DRY No.2  
EXCEPT  
M - F 2x4 DRY No.2  
DRY: SEASONED LUMBER.

## PLATES (table is in inches)

JT	TYPE	PLATES	W	LEN	Y	X
B	TMVW-4	MT20	6.0	6.0	1.75	3.00
C	TMVW-4	MT20	3.0	4.0	1.50	1.50
D	TS-4	MT20	3.0	5.0		
E	TTVW-m	MT20	4.0	4.0	2.00	1.75
F	TTVW-m	MT20	4.0	6.0	1.75	2.50
G	TMVW-4	MT20	3.0	4.0	1.50	1.50
H	TMVW-4	MT20	5.0	6.0	1.75	Edge
I	BMV1+p	MT20	3.0	4.0		
J	BMVW-4	MT20	3.0	8.0	1.50	3.00
K	BS-4	MT20	3.0	5.0		
L	BMVW-4	MT20	3.0	4.0		
M	BMVW-4	MT20	3.0	8.0		
N	BS-4	MT20	3.0	5.0		
O	BMVW-4	MT20	4.0	5.0	1.50	1.75
P	BMV1+p	MT20	3.0	4.0	2.00	0.50

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

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

## DESIGNER

## BEARINGS

JT	VERT	HORZ	DOWN	HORZ	UPLIFT	IN-SX	IN-SX
P	2347	0	2347	0	0	5-8	4-2
I	2183	0	2183	0	0	MECHANICAL	

A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT I. MINIMUM BEARING LENGTH AT JOINT I = 3'-10".

## UNFACTORED REACTIONS

JT	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
P	1637	1199 / 0	0 / 0	0 / 0	0 / 0	438 / 0	0 / 0
I	1525	1104 / 0	0 / 0	0 / 0	0 / 0	422 / 0	0 / 0

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

## BRACING

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 3.20 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.

2x4 DRY SPF No.2 T-BRACE AT C-M, G-L

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				WEBS			
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	MAX. FACTORED VERT. LOAD (LC1)	MEMB.	MAX. FACTORED FORCE (LBS)	MAX. FACTORED VERT. LOAD (LC1)	
FR-TO		FROM	TO	FR-TO		FROM	TO
A-B	0 / 45	-119.4	-119.4 0.16 (1)	10.00	O-C	-238 / 50	0.12 (1)
B-C	-2598 / 0	-119.4	-119.4 0.85 (1)	3.20	C-M	-625 / 0	0.34 (1)
C-D	-2131 / 0	-119.4	-119.4 0.76 (1)	3.61	M-E	0 / 488	0.11 (1)
D-E	-2131 / 0	-119.4	-119.4 0.76 (1)	3.61	M-F	0 / 39	0.01 (1)
E-F	-1733 / 0	-119.4	-119.4 0.44 (1)	5.41	L-F	0 / 450	0.10 (1)
F-G	-2104 / 0	-119.4	-119.4 0.70 (1)	3.77	L-G	-506 / 0	0.27 (1)
G-H	-2453 / 0	-119.4	-119.4 0.76 (1)	3.44	J-G	-334 / 20	0.18 (1)
P-B	-2296 / 0	0.0	0.0 0.24 (1)	5.55	B-O	0 / 2234	0.50 (1)
I-H	-2134 / 0	0.0	0.0 0.23 (1)	5.73	J-H	0 / 2132	0.48 (1)
P-O	0 / 0	-18.2	-18.2 0.18 (4)	10.00			
O-N	0 / 2204	-18.2	-18.2 0.44 (1)	10.00			
N-M	0 / 2204	-18.2	-18.2 0.44 (1)	10.00			
M-L	0 / 1711	-18.2	-18.2 0.36 (1)	10.00			
L-K	0 / 2082	-18.2	-18.2 0.41 (1)	10.00			
K-J	0 / 2082	-18.2	-18.2 0.41 (1)	10.00			
J-I	0 / 0	-18.2	-18.2 0.17 (4)	10.00			

## DESIGN CRITERIA

## SPECIFIED LOADS:

TOP CH. LL	=	34.8	PSF
DL	=	6.0	PSF
BOT CH. LL	=	0.0	PSF
DL	=	7.3	PSF
TOTAL LOAD	=	48.1	PSF

SPACING = 24.0 IN./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, NBC-2019AE
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

(55 % OF 48.1 P.S.F., G.S.L. PLUS 8.4 P.S.F. RAIN LOAD) EQUALS 34.8 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL) = L / 360 (1.06")  
CALCULATED VERT. DEFL.(LL) = L / 999 (0.09")  
ALLOWABLE DEFL.(TL) = L / 360 (1.06")  
CALCULATED VERT. DEFL.(TL) = L / 999 (0.18")

CSI: TC=0.85/0.97 (B-C:1) , BC=0.44/0.97 (M-O:1) , WB=0.50/0.97 (B-O:1) , SSI=0.31/1.00 (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)	SHEAR	SECTION
(PL)	(PS)	(PL)	(PL)
MAX	MIN	MAX	MIN
MT20	650	371	1747
		788	1987

PLATE PLACEMENT TOL. = 0.250 inches

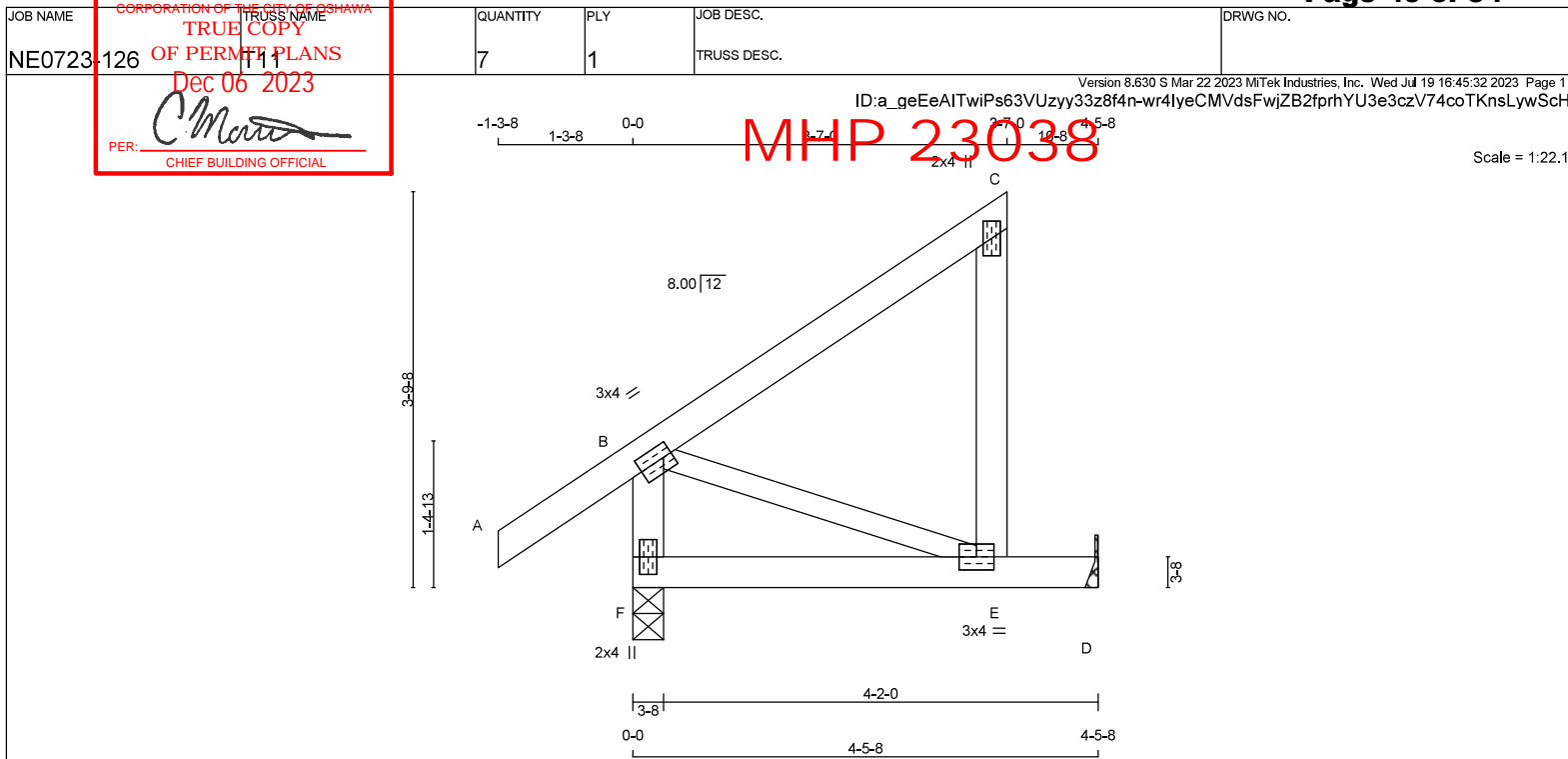
PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.89 (B) (INPUT = 0.90)  
JSI METAL= 0.71 (N) (INPUT = 1.00)



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**LUMBER**

N. L. G. A. RULES	CHORDS	SIZE	LUMBER
A - C	2x4	DRY	No.2
E - C	2x4	DRY	No.2
F - B	2x4	DRY	No.2
F - D	2x4	DRY	No.2
ALL WEBS	2x3	DRY	No.2
DRY: SEASONED LUMBER.			

**PLATES (table is in inches)**

JT	TYPE	PLATES	W	LEN	Y	X
B	TMVW4	MT20	3.0	4.0	1.50	1.00
C	TMV+p	MT20	2.0	4.0		
E	BMVW4	MT20	3.0	4.0		
F	BMV1+p	MT20	2.0	4.0		

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

JT	VERT	HORZ	FACTORED GROSS REACTION	MAXIMUM FACTORED GROSS REACTION	INPUT BRG	REQRD BRG
F	461	0	461	0	0	3-8
D	213	0	213	0	0	MECHANICAL

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

**UNFACTORED REACTIONS**

JT	1ST LCASE	MAX./MIN. COMPONENT REACTIONS	SNOW	LIVE	PERM. LIVE	WIND	DEAD	SOIL
F	COMBINED	320	245 / 0	0 / 0	0 / 0	0 / 0	75 / 0	0 / 0
D	150	100 / 0	0 / 0	0 / 0	0 / 0	0 / 0	50 / 0	0 / 0

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

**BRACING**

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 10.00 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)

MEMB.	CHORDS	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PL)	MAX. FACTORED VERT. LOAD (LC)	MAX. FACTORED VERT. LOAD (LC)	MEMB.	WEBS	MAX. FACTORED FORCE (LBS)	MAX. FACTORED VERT. LOAD (LC)
FR-TO						FR-TO			
A-B	0 / 45	-119.4	-119.4	0.16 (1)	10.00	B-E	0 / 0	0.00 (1)	
B-C	0 / 0	-119.4	-119.4	0.26 (1)	10.00				
E-C	-214 / 0	0.0	0.0	0.05 (1)	7.81				
F-B	-378 / 0	0.0	0.0	0.04 (1)	7.81				
F-E	0 / 0	-18.2	-18.2	0.24 (1)	10.00				
E-D	0 / 0	-18.2	-18.2	0.24 (1)	10.00				

**DESIGN CRITERIA****SPECIFIED LOADS:**

TOP CH. LL	=	34.8	PSF
DL	=	6.0	PSF
BOT CH. LL	=	0.0	PSF
DL	=	7.3	PSF
TOTAL LOAD	=	48.1	PSF

**SPACING = 24.0 IN./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, NBC-2019AE
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

(55 % OF 48.1 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD)  
EQUALS 34.8 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL) = L/360 (0.19")  
CALCULATED VERT. DEFL.(LL) = L/999 (0.03")  
ALLOWABLE DEFL.(TL) = L/360 (0.19")  
CALCULATED VERT. DEFL.(TL) = L/842 (0.06")

CSI: TC=0.26/0.97 (B-C:1), BC=0.24/0.97 (D-E:1),  
WB=0.00/0.97 (B-E:1), SSI=0.17/1.00 (D-E: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)	SHEAR (PSI)	SECTION (PLI)
MT20	650	371	1747
		788	1987
		1873	

PLATE PLACEMENT TOL. = 0.250 inches

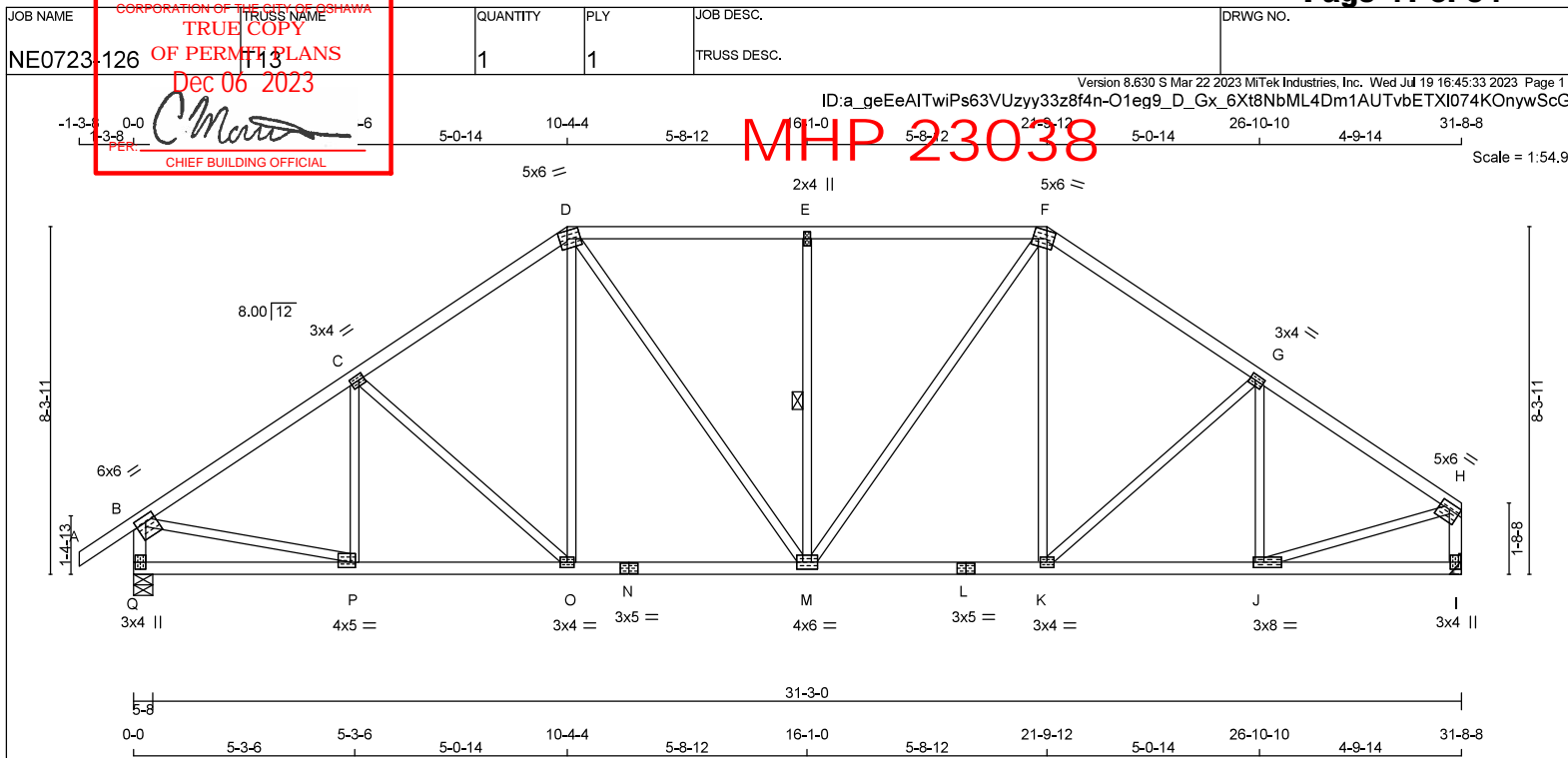
PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP= 0.33 (B) (INPUT = 0.90)  
JSI METAL= 0.11 (C) (INPUT = 1.00)



READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTES: TRUSSES. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.





TOTAL WEIGHT = 142 lb

**LUMBER**

N. L. G. A. RULES

CHORDS	SIZE	LUMBER	DESCR.
A - D	2x4	DRY No.2	SPF
D - F	2x4	DRY No.2	SPF
F - H	2x4	DRY No.2	SPF
Q - B	2x4	DRY No.2	SPF
I - H	2x4	DRY No.2	SPF
Q - N	2x4	DRY No.2	SPF
N - L	2x4	DRY No.2	SPF
L - I	2x4	DRY No.2	SPF

ALL WEBS 2x3 DRY No.2  
EXCEPT SPF

DRY: SEASONED LUMBER.

**PLATES (table is in inches)**

JT TYPE	PLATES	W	LEN	Y	X
B TMWW4	MT20	6.0	6.0	1.75	3.00
C TMWW4	MT20	3.0	4.0	1.50	1.50
D TTWW-m	MT20	5.0	6.0	2.25	2.25
E TMW-w	MT20	2.0	4.0		
F TTWW-m	MT20	5.0	6.0	2.25	2.00
G TMWW4	MT20	3.0	4.0	1.50	1.50
H TMWW4	MT20	5.0	6.0	1.75	Edge
I BMV1+p	MT20	3.0	4.0		
J BMWW4	MT20	3.0	8.0	1.50	3.00
K BMWW4	MT20	3.0	4.0		
L BS4	MT20	3.0	5.0		
M BMWWWW4	MT20	4.0	6.0		
N BS4	MT20	3.0	5.0		
O BMWW4	MT20	3.0	4.0		
P BMWW4	MT20	4.0	5.0	1.50	1.50
Q BMV1+p	MT20	3.0	4.0	2.00	0.50

Edge - INDICATES REFERENCE CORNER OF PLATE TOUCHES  
EDGE OF CHORD.**DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING****DESIGNER****BEARINGS**

	FACTORED GROSS REACTION	MAXIMUM FACTORED GROSS REACTION	INPUT BRG	REQRD BRG
JT VERT	0	0	0	0
Q 2347	0	2347	0	5-8
I 2183	0	2183	0	MECHANICAL

A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT I. MINIMUM BEARING LENGTH AT JOINT I = 3'-10."

**UNFACTORED REACTIONS**

	1ST CASE	MAX. MIN. COMPONENT REACTIONS					
JT COMBINED	SNOW	LIVE	PERM. LIVE	WIND	DEAD	SOIL	
Q 1637	1199 / 0	0 / 0	0 / 0	0 / 0	438 / 0	0 / 0	
I 1525	1104 / 0	0 / 0	0 / 0	0 / 0	422 / 0	0 / 0	

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

**BRACING**TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 3.75 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 - 1x4 LATERAL BRACE(S) AT 1/2 LENGTH OF E-M. DBS = 20'-0". CBF = 105 LBS.

DBS = DIAGONAL BRACE SPACING (MAX). CBF = CUMULATIVE BRACING FORCE (PER BRACE). FASTEN LATERAL BRACE(S) USING (0.122"x3") SPIRAL NAILS: 1 NAIL FOR 2x3 BRACE(S), 2 FOR 1x4, 2x4, 2x5, 3 FOR 2x6, 4 FOR 2x8, 5 FOR 2x10, AND 6 FOR 2x12.

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				WEBS			
MEMB.	MAX. FACTORED FORCE (LBS)	VERT. LOAD (PLF)	MAX. UNBRACED LENGTH (LC)	MEMB.	MAX. FACTORED FORCE (LBS)	MAX. UNBRACED LENGTH (LC)	
FR-TO		FROM TO		FR-TO			
A-B	0 / 45	-119.4 -119.4	0.16 (1)	10.00	P-C	-348 / 0	0.12 (1)
B-C	-2576 / 0	-119.4 -119.4	0.53 (1)	3.75	C-O	-364 / 0	0.33 (1)
C-D	-2334 / 0	-119.4 -119.4	0.49 (1)	3.94	O-D	0 / 344	0.08 (1)
D-E	-2222 / 0	-119.4 -119.4	0.57 (1)	3.86	D-M	0 / 538	0.12 (1)
E-F	-2222 / 0	-119.4 -119.4	0.57 (1)	3.86	M-E	-837 / 0	0.37 (1)
F-G	-2277 / 0	-119.4 -119.4	0.46 (1)	4.04	M-F	0 / 616	0.14 (1)
G-H	-2388 / 0	-119.4 -119.4	0.46 (1)	3.96	K-F	0 / 245	0.06 (1)
Q-B	-2304 / 0	0.0 0.0	0.24 (1)	5.55	K-G	-214 / 0	0.19 (1)
I-H	-2144 / 0	0.0 0.0	0.23 (1)	5.72	J-G	-488 / 0	0.17 (1)
					B-P	0 / 2221	0.50 (1)
					J-H	0 / 2102	0.47 (1)
Q-P	0 / 0	-18.2 -18.2	0.11 (4)	10.00			
P-O	0 / 2176	-18.2 -18.2	0.41 (1)	10.00			
O-N	0 / 1909	-18.2 -18.2	0.37 (1)	10.00			
N-M	0 / 1909	-18.2 -18.2	0.37 (1)	10.00			
M-L	0 / 1864	-18.2 -18.2	0.36 (1)	10.00			
L-K	0 / 1864	-18.2 -18.2	0.36 (1)	10.00			
K-J	0 / 2020	-18.2 -18.2	0.38 (1)	10.00			
J-I	0 / 0	-18.2 -18.2	0.10 (4)	10.00			

**DESIGN CRITERIA****SPECIFIED LOADS:**

TOP CH. LL	=	34.8	PSF
DL	=	6.0	PSF
BOT CH. LL	=	0.0	PSF
DL	=	7.3	PSF
TOTAL LOAD	=	48.1	PSF

**SPACING = 24.0 IN./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 CBC 2018, NBC-2019AE
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

(55 % OF 48.1 P.S.F., G.S.L. PLUS 8.4 P.S.F. RAIN LOAD)  
EQUALS 34.8 P.S.F. SPECIFIED ROOF LIVE LOADALLOWABLE DEFL.(LL) = L/360 (1.06")  
CALCULATED VERT. DEFL.(LL) = L/999 (0.10")  
ALLOWABLE DEFL.(TL) = L/360 (1.06")  
CALCULATED VERT. DEFL.(TL) = L/999 (0.18")CSI: TC=0.57/0.97 (E-F:1), BC=0.41/0.97 (O-P:1),  
WB=0.50/0.97 (B-P:1), SSI=0.33/1.00 (E-F: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)	SHEAR (PSI)	SECTION (PL)
MT20	650	371
	1747	788
	1987	1873

PLATE PLACEMENT TOL. = 0.250 inches

PLATE ROTATION TOL. = 5.0 Deg.

JSI GRIP = 0.90 (B) (INPUT = 0.90)  
JSI METAL = 0.68 (B) (INPUT = 1.00)

READ ALL NOTES ON THIS PAGE AND ON THE  
ENGINEERING NOTES: TRUSSES. THE NOTE PAGE  
IS AN INTEGRAL PART OF THIS DRAWING AS IT  
CONTAINS SPECIFICATIONS AND CRITERIA USED  
IN THE DESIGN OF THIS COMPONENT.









<b>LUMBER</b>				
N. L. G. A. RULES				
CHORDS		SIZE	LUMBER	DESCR.
A - D	2x4	DRY	2100F 1.8E	SPF
D - E	2x4	DRY	2100F 1.8E	SPF
E - F	2x4	DRY	2100F 1.8E	SPF
F - J	2x4	DRY	2100F 1.8E	SPF
Q - B	2x4	DRY	No.2	SPF
K - I	2x4	DRY	No.2	SPF
Q - N	2x4	DRY	No.2	SPF
N - M	2x4	DRY	No.2	SPF
M - G	2x3	DRY	No.2	SPF
L - K	2x4	DRY	No.2	SPF
ALL WEBS EXCEPT	2x3	DRY	No.2	SPF
O - E	2x4	DRY	No.2	SPF
E - L	2x4	DRY	No.2	SPF

DIMENSIONS, SUPPORTS AND LOADINGS SPECIFIED BY FABRICATOR TO BE VERIFIED BY BUILDING DESIGNER									
BEARINGS									
	FACTORED GROSS REACTION			MAXIMUM FACTORED GROSS REACTION			INPUT BRG	REQRD BRG	
	VERT	HORZ		VERT	HORZ	UPLIFT	IN-SX	IN-SX	
JT	1988	0		1988	0	0	5-8	2-15	
K	1988	0		1988	0	0	5-8	2-2	

**DESIGN CRITERIA**

SPECIFIED LOADS:

TOP CH.	LL	=	34.8	PSF
	DL	=	6.0	PSF
BOT CH.	LL	=	0.0	PSF
	DL	=	7.3	PSF
TOTAL LOAD		=	48.1	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 , NBC-2019AE
- PART 9 OF OBC 2012 (2019 AMENDMENT)

PLATES (table is in inches)					
JT	TYPE	PLATES	W	LEN	Y X
B	TMVW-t	MT20	5.0	6.0	1.75 3.00
C	CTMWW-t	MT20	3.0	4.0	1.50 1.50
D	TS-t	MT20	3.0	6.0	
E	TTWW-t	MT20	4.0	8.0	2.00 5.00
F	TS-t	MT20	3.0	4.0	
G	TMV+p	MT20	2.0	4.0	
H	TMVWW-t	MT20	3.0	8.0	1.50 2.50
I	TMV+p	MT20	2.0	4.0	
K	BMVW1-t	MT20	4.0	5.0	1.50 2.00
L	BVMWWWW-t	MT20	6.0	8.0	3.00 3.00
M	BMV+p	MT20	2.0	4.0	
N	BS-t	MT20	3.0	4.0	
O	BMVWWWW-t	MT20	3.0	10.0	1.50 2.50
P	BMVWW-t	MT20	4.0	5.0	2.00 1.50
Q	BMV1+p	MT20	2.0	4.0	2.25 1.00

2x4 DRY SPF No.2 T-BRACE AT C-O

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)

C H O R D S				W E B S			
MEMB.	MAX. FACTORED FORCE (LBS)	FACTORED VERT. LOAD (PLF)	MAX LC1 CSI (LC)	MAX. UNBRAC LENGTH	MEMB.	MAX. FACTORED FORCE (LBS)	MAX CSI (LC)
FR-TO		FROM TO		FR-TO			
A-B	0 / 45	-119.4 -119.4	0.10 (1)	10.00	P-C	-133 / 84	0.08 (1)

ALLOWABLE DEF<sub>L</sub>(L<sub>1</sub>) = L/360 (0.88")  
CALCULATED VERT. DEF<sub>L</sub>(L<sub>1</sub>) = L/999 (0.07")  
ALLOWABLE DEF<sub>T</sub>(T<sub>1</sub>) = L/360 (0.88")  
CALCULATED VERT. DEF<sub>T</sub>(T<sub>1</sub>) = L/999 (0.15")

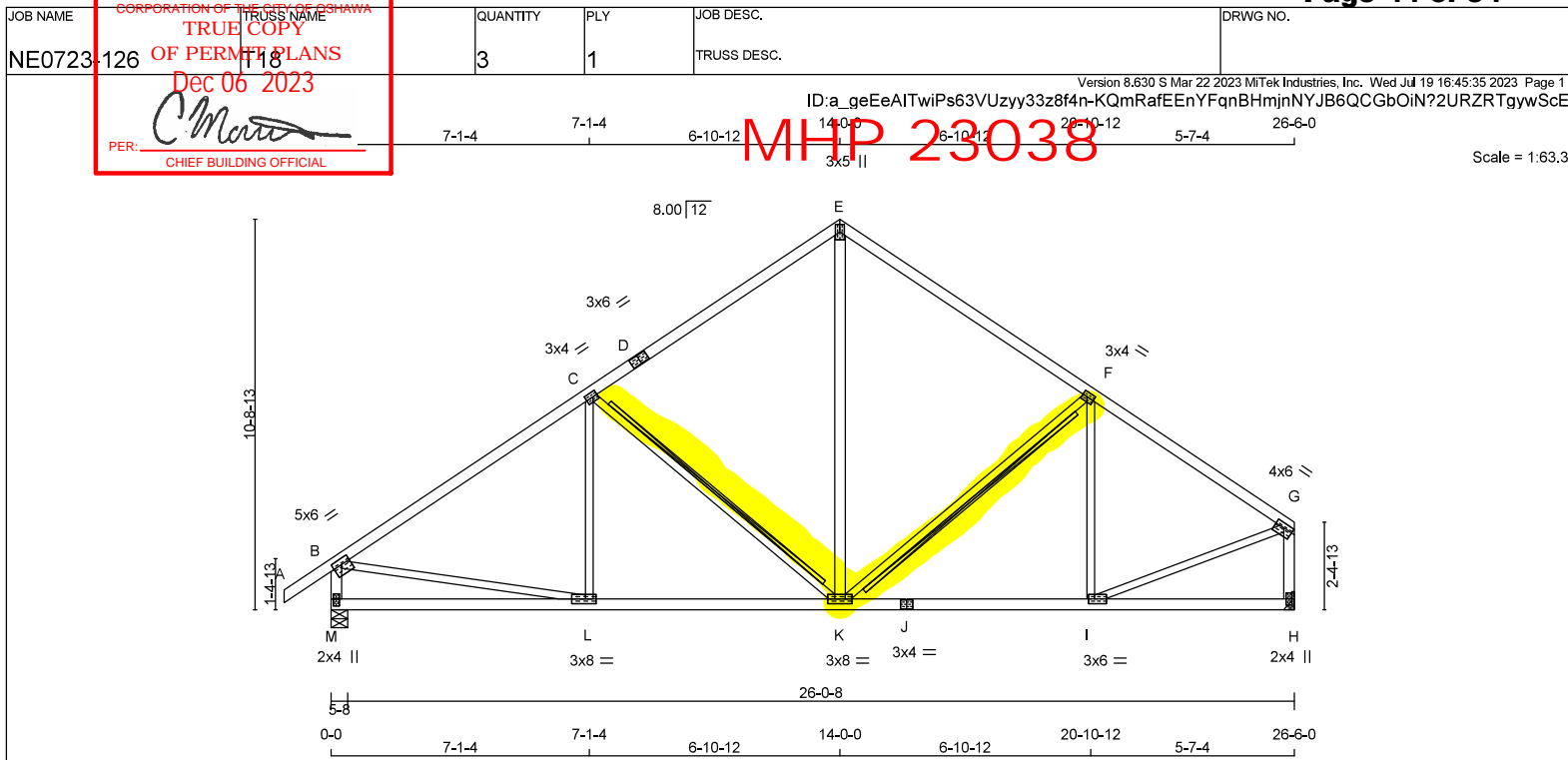
CSI: TC=0.57/0.97 (B-C-1), BC=0.43/0.97 (G-L-1),  
WB=0.63/0.97 (H-K-1), SS=0.34/1.00 (B-C-1)

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

AUTOSOLVE LEFT HEEL ONLY

TRUSS PLATE MANUFACTURER IS NOT RESPONSIBLE  
FOR QUALITY CONTROL IN THE TRUSS



LUMBER				
N. L. G. A. RULES				
CHORDS	SIZE		LUMBER	DESCR
A - D	2x4	DRY	No.2	SPF
D - E	2x4	DRY	No.2	SPF
E - G	2x4	DRY	No.2	SPF
M - B	2x4	DRY	No.2	SPF
H - G	2x4	DRY	No.2	SPF
M - J	2x4	DRY	No.2	SPF
J - H	2x4	DRY	No.2	SPF
ALL WEBS EXCEPT	2x3	DRY	No.2	SPF
K - E	2x4	DRY	No.2	SPF

DRY: SEASONED LUMBER.

**PLATES (table is in inches)**

JT	TYPE	PLATES	W	LEN	Y	X
B	TMWV-4	MT20	5.0	6.0	1.75	3.00
C	TMWV-4	MT20	3.0	4.0	1.50	1.50
D	TS-4	MT20	3.0	6.0		
E	TTWV+p	MT20	3.0	5.0		
F	TMWV-4	MT20	3.0	4.0	1.50	1.50
G	TMWV-4	MT20	4.0	6.0	1.50	3.00
H	BMV1+p	MT20	2.0	4.0		
I	BMWV-4	MT20	3.0	6.0	1.50	2.00
J	BS-4	MT20	3.0	4.0		
K	BMWVWV-4	MT20	3.0	8.0		
L	BMWV-4	MT20	3.0	8.0	1.50	3.50
M	BMV1+p	MT20	2.0	4.0	2.25	1.00

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

**DESIGNER**

FACTORED GROSS REACTION			MAXIMUM FACTORED GROSS REACTION			INPUT BRG	REQ'D BRG
JT	VERT	HORZ	DOWN	HORZ	UPLIFT	IN-SX	IN-SX
M	1988	0	1988	0	0	5-8	2-15
H	1824	0	1824	0	0	MECHANICAL	

A SUITABLE HANGER/MECHANICAL CONNECTION IS REQUIRED AT JOINT H. MINIMUM BEARING LENGTH AT JOINT H = 2'-7".

## UNFACTORED REACTIONS

JT	1ST LCASE	MAX./MIN. COMPONENT REACTIONS					
	COMBINED	SNOW	LIVE	PERM.LIVE	WIND	DEAD	SOIL
M	1387	1018 / 0	0 / 0	0 / 0	0 / 0	369 / 0	0 / 0
H	1275	922 / 0	0 / 0	0 / 0	0 / 0	352 / 0	0 / 0

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

## BRACING

TOP CHORD TO BE SHEATHED OR MAX. PURLIN SPACING = 3.14 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.

2x4 DRY SPF No.2 T-BRACE AT C-K, F-K

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)**

C H O R D S				W E B S			
MAX. FACTORED		FACTORED		MAX. FACTORED			
MEMB.	FORCE	VERT. LOAD	LC1	MAX	MAX.	MEMB.	MAX. FORCE
	(LBS)	(PLF)	CSI (LC)	UNBRAC			(LBS)
FR-TO		FROM TO		LENGTH	FR-TO		MAX CSI (LC)
A-B	0 / 45	-119.4	-119.4	0.16 (1)	10.00	L-C	-129 / 89
B-C	-2068 / 0	-119.4	-119.4	0.94 (1)	3.14	K-E	-790 / 0
C-D	-1456 / 0	-119.4	-119.4	0.84 (1)	3.88	K-K	0 / 917
D-E	-1456 / 0	-119.4	-119.4	0.84 (1)	3.88	K-F	-437 / 0
E-F	-1446 / 0	-119.4	-119.4	0.75 (1)	4.21	I-F	-433 / 0
F-G	-1741 / 0	-119.4	-119.4	0.68 (1)	4.05	B-L	0 / 1787
M-B	-1934 / 0	0.0	0.0	0.20 (1)	5.97	I-G	0 / 1597
H-G	-1784 / 0	0.0	0.0	0.23 (1)	6.18		
M-L	0 / 0	-18.2	-18.2	0.21 (4)	10.00		
L-K	0 / 1767	-18.2	-18.2	0.39 (1)	10.00		
K-J	0 / 1497	-18.2	-18.2	0.34 (1)	10.00		
J-I	0 / 1497	-18.2	-18.2	0.34 (1)	10.00		
I-H	0 / 0	-18.2	-18.2	0.16 (4)	10.00		

## DESIGN CRITERIA

SPECIFIED LOADS:

TOP	CH.	LL	=	34.8	PSF
		DL	=	6.0	PSF
BOT	CH.	LL	=	0.0	PSF
		DL	=	7.3	PSF
TOTAL LOAD				=	48.1 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 , NBC-2019AE
- PART 9 OF OBC 2012 (2019 AMENDMENT)
- CSA 086-14
- TPIC 2014

(55 % OF 48.1 P.S.F. G.S.L. PLUS 8.4 P.S.F. RAIN LOAD)  
EQUALS 34.8 P.S.F. SPECIFIED ROOF LIVE LOAD

ALLOWABLE DEFL.(LL)= L/360 (0.88")  
CALCULATED VERT. DEFL.(LL) = L/ 999 (0.07")  
ALLOWABLE DEFL.(TL)= L/360 (0.88")  
CALCULATED VERT. DEFL.(TL) = L/ 999 (0.13")

CSI: TC=0.94/0.97 (B-C:1), BC=0.39/0.97 (K-L:1), WB=0.50/0.97 (C-K:1), SSI=0.34/1.00 (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)		SHEAR (PLI)		SECTION (PLI)	
	MAX	MIN	MAX	MIN	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 (H) (INPUT = 0.90 )  
JSI METAL= 0.57 (B) (INPUT = 1.00 )

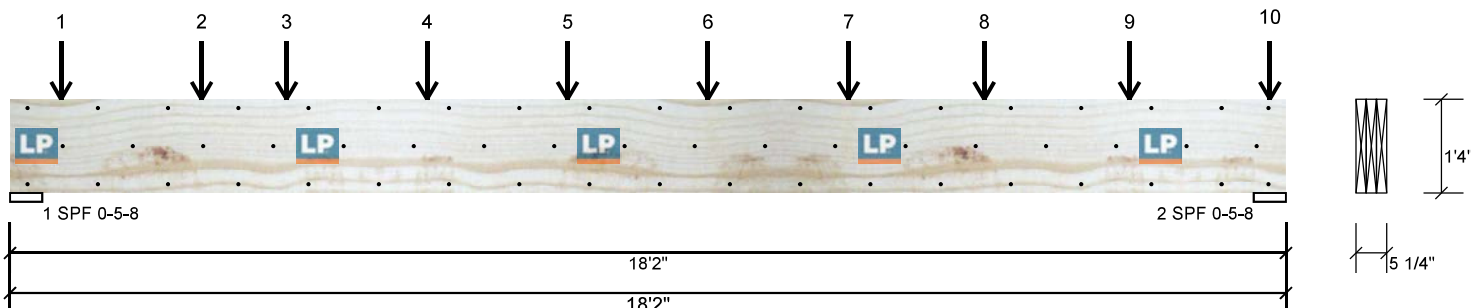


**READ ALL NOTES ON THIS PAGE AND ON THE  
ENGINEERING NOTES: TRUSSES. THE NOTE PAGE  
IS AN INTEGRAL PART OF THIS DRAWING AS IT  
CONTAINS SPECIFICATIONS AND CRITERIA USED  
IN THE DESIGN OF THIS COMPONENT.**



Client: **NE0723-166**  
Project: **GREENPARK - ZADORRA**  
Address: **ESTATES - VILLA 11-2**Date: 6/16/23  
Input by: RB  
Job Name: ZADORRA ESTATES VILLA 11 ELEV 1&2  
Project #:

Page 1 of 3

RB-1 PER **LP-LEVEL 2.0E** 1.750" X 16.000" 3-Ply **PASSED** Level: Level**MHP-23038**

## Member Information

Type:	Girder	Application:	Roof (Residential)
Plies:	3	Slope:	0/12
Moisture Condition:	Dry	Design Method:	LSD
Deflection LL:	360	Building Code:	NBCC 2015
Deflection TL:	360		OBC 2012(2020 Update)
Importance:	Normal - II	Load Sharing:	Yes
		Deck:	Not Checked
		Vibration:	Not Checked

## Unfactored Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	0	2432	5802	0
2	Vertical	0	2082	4963	0

## Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	66%	3041 / 8702	11743	L	1.25D+1.5S
2 - SPF	5.500"	Vert	57%	2603 / 7445	10048	L	1.25D+1.5S

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	48641 ft-lb	9'11 1/4"	89862 ft-lb	0.541 (54%)	1.25D+1.5S	L
Shear	9989 lb	1'9 1/2"	26712 lb	0.374 (37%)	1.25D+1.5S	L
LL Defl inch	0.401 (L/521)	9'2 1/4"	0.580 (L/360)	0.691 (69%)	S	L
TL Defl inch	0.568 (L/367)	9'2 3/16"	0.580 (L/360)	0.980 (98%)	D+S	L

## Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3.5.
- 2 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3.5.
- 3 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 4 Dead Load Deflection: Instant = 0.168", Long Term = 0.251".
- 5 Fasten all plies using 3 rows of Pneumatic Gun Nail (.120x3.25") at 12" o.c. Maximum end distance not to exceed 6". Nail from both sides. Clinch Nails where possible.
- 6 Refer to last page of calculations for fasteners required for specified loads.
- 7 Girders are designed to be supported on the bottom edge only.
- 8 Top loads must be supported equally by all plies.
- 9 Top must be laterally braced at a maximum of 4'7 7/16" o.c.
- 10 Bottom must be laterally braced at end bearings.



READ ALL NOTES ON THIS PAGE AND ON THE  
ENGINEERING NOTES: TRUSSES. THE NOTE PAGE  
IS AN INTEGRAL PART OF THIS DRAWING AS IT  
CONTAINS SPECIFICATIONS AND CRITERIA USED  
IN THE DESIGN OF THIS COMPONENT.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-8-12		Top	422 lb	0 lb	1104 lb	0 lb	
	Bearing Length	0-3-8							
2	Point	2-8-12		Top	422 lb	0 lb	1104 lb	0 lb	

Continued on page 2...

## Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

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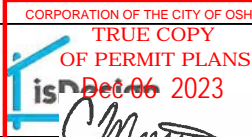
## Manufacturer Info

Louisiana-Pacific Corp  
414 Union Street, Suite 2000  
Nashville, TN 37219  
(888) 820-0325  
www.lpcorp.com  
CCMC: 11518-R, APA: PR-L280 (C)

Kott Group  
14 Anderson Blvd., On  
L4A7X4  
905-642-4400



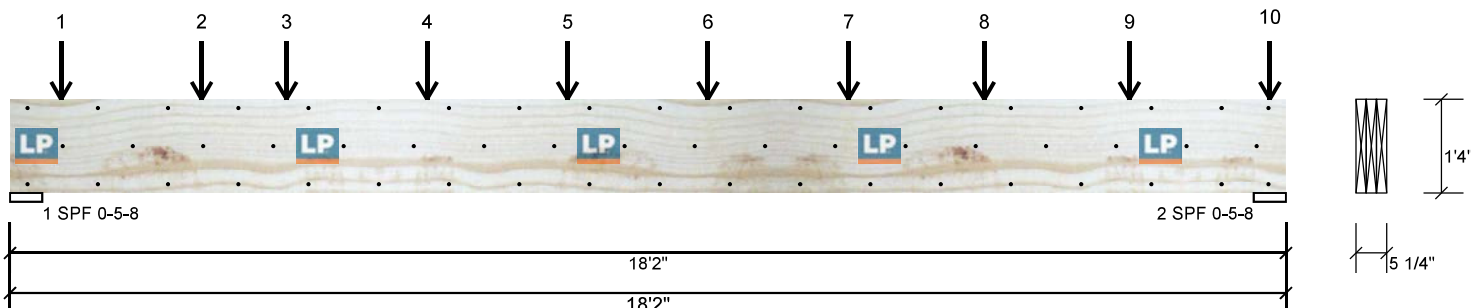
This design is valid until 4/28/26



Client: **NE0723-166**  
 Project: **GREENPARK - ZADORRA**  
 Address: **ESTATES - VILLA 11-2**

Date: 6/16/23  
 Input by: RB  
 Job Name: ZADORRA ESTATES VILLA 11 ELEV 1&2  
 Project #:

RB-1 PER **LP-LVL 2000F-D-2.0E** 1.750" X 16.000" 3-Ply **PASSED** Level: Level



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Bearing Length	0-3-8							
3	Point	3-11-4		Top	422 lb	0 lb	1104 lb	0 lb	
	Bearing Length	0-3-8							
4	Point	5-11-4		Top	422 lb	0 lb	1104 lb	0 lb	
	Bearing Length	0-3-8							
5	Point	7-11-4		Top	422 lb	0 lb	1104 lb	0 lb	
	Bearing Length	0-3-8							
6	Point	9-11-4		Top	422 lb	0 lb	1104 lb	0 lb	
	Bearing Length	0-3-8							
7	Point	11-11-4		Top	422 lb	0 lb	1104 lb	0 lb	
	Bearing Length	0-3-8							
8	Point	13-10-7		Top	1058 lb	0 lb	2791 lb	0 lb	
	Bearing Length	0-3-8							
9	Point	15-11-4		Top	33 lb	0 lb	123 lb	0 lb	
	Bearing Length	0-3-8							
10	Point	17-11-4		Top	33 lb	0 lb	123 lb	0 lb	
	Bearing Length	0-3-8							
	Self Weight				24 PLF				

READ ALL NOTES ON THIS PAGE AND ON THE  
 ENGINEERING NOTES: TRUSSES. THE NOTE PAGE  
 IS AN INTEGRAL PART OF THIS DRAWING AS IT  
 CONTAINS SPECIFICATIONS AND CRITERIA USED  
 IN THE DESIGN OF THIS COMPONENT.



#### Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

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#### Manufacturer Info

Louisiana-Pacific Corp  
 414 Union Street, Suite 2000  
 Nashville, TN 37219  
 (888) 820-0325  
 www.lpcorp.com  
 CCMC: 11518-R, APA: PR-L280 (C)

Kott Group  
 14 Anderson Blvd., On  
 L4A7X4  
 905-642-4400

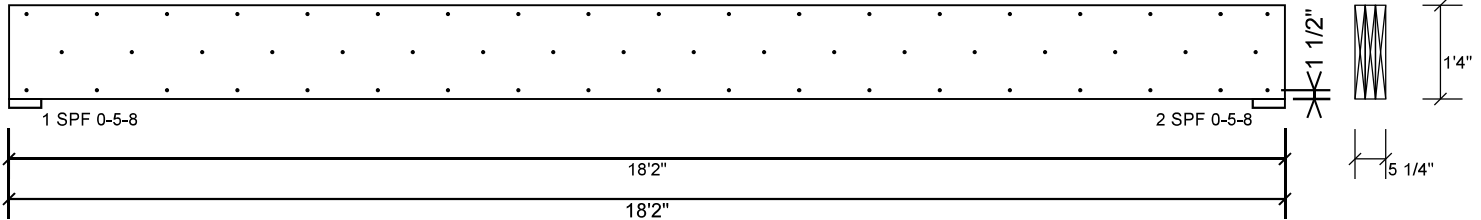


This design is valid until 4/28/26

CORPORATION OF THE CITY OF OSHAWA

TRUE COPY  
OF PERMIT PLANS  
Dec 06 2023Client: **NE0723-166**  
Project: **GREENPARK - ZADORRA**  
Address: **ESTATES - VILLA 11-2**Date: 6/16/23  
Input by: RB  
Job Name: ZADORRA ESTATES VILLA 11 ELEV 1&2

Page 3 of 3

RB-1 PER **LP-LVL 2900F-D-2.0E** 1.750" X 16.000" 3-Ply **PASSED** Level: Level  
MHP 23038**Multi-Ply Analysis**

Fasten all plies using 3 rows of Pneumatic Gun Nail (.120x3.25") at 12" o.c.. Nail from both sides. Maximum end distance not to exceed 6". Clinch Nails where possible.

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	383.1 PLF
Yield Limit per Fastener	127.7 lb.
Yield Mode	g
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

READ ALL NOTES ON THIS PAGE AND ON THE  
ENGINEERING NOTES: TRUSSES. THE NOTE PAGE  
IS AN INTEGRAL PART OF THIS DRAWING AS IT  
CONTAINS SPECIFICATIONS AND CRITERIA USED  
IN THE DESIGN OF THIS COMPONENT.

**Notes**

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

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## OF PERMIT PLANS

Dec 06 2023

## KOTT TRUSS BEARING CAPACITY TABLE

(INTERNAL USE ONLY)

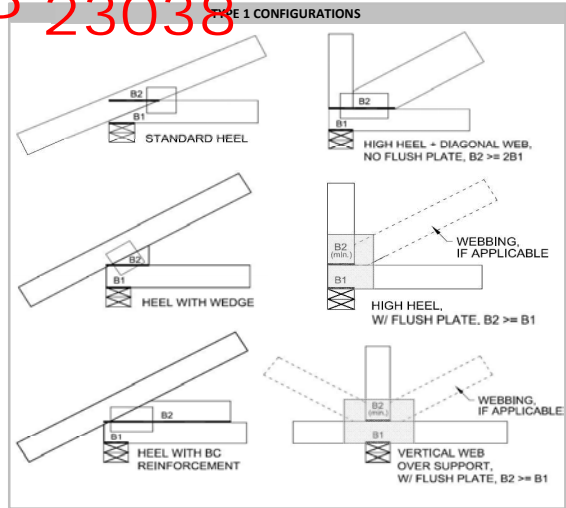
PER: *C. M...*

TRUSS LUMBER TYPE (SUPPORTED ON SPF #2 TOP PLATE)

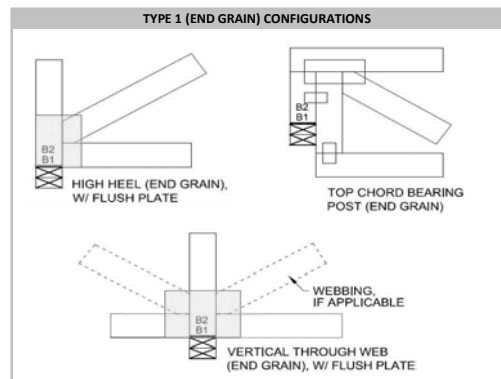
1-Jun-21

MHP 23038

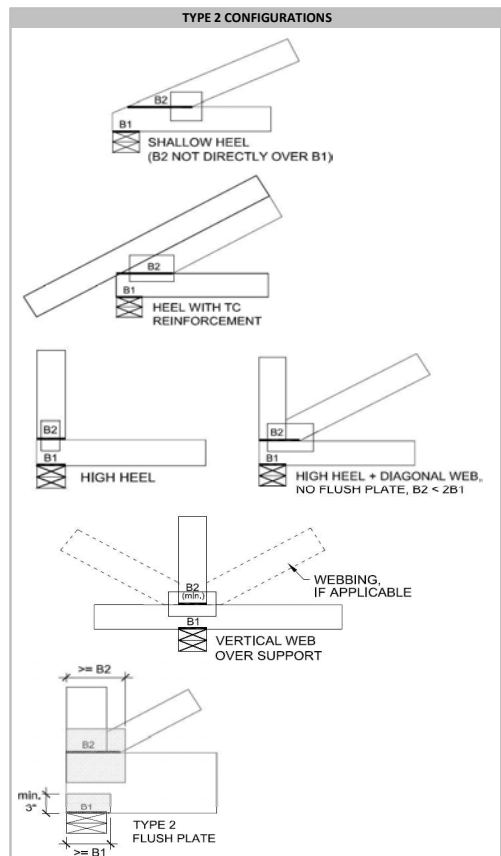
CHIEF BUILDING BEARING	BEARING PLATE (B1)	TYPE 1, NO FLUSH PLATE, B2 >= 2B1							
		1-PLY		2-PLY		3-PLY		4-PLY	
		MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950
NO BEARING ENHANCER	1 1/2"	1383		2767		4151		5534	
	2x4	3712	3228	7425	6457	11138	9685	14851	12914
	2x6	5834	5073	11668	10146	17503	15220	23337	20293
	2x8	7690	6687	15381	13375	23072	20063	30763	26750
FLUSH PLATE	BEARING PLATE (B1)	TYPE 1, FLUSH PLATE							
		MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950
	1 1/2"	1383		2767		4151		5534	
	2x4	3712		7425		11138		14851	
	2x6	5834		11668		17503		23337	
BEARING ENHANCER	BEARING PLATE (B1)	TYPE 1, FLUSH PLATE + BEARING ENHANCER							
		MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950
	CPn-4 (Simpson)	2x4	4515		9030		13545		18065
	CPn-6 (Simpson)	2x6	7095		14190		21285		28390
	CP4-9 (KOTT)	2x4	6007	4898	12014	9796	18021	14694	19592
	CP6-9 (KOTT)	2x6	8677	7075	17354	14150	26031	21225	31117
	SBP4 (MiTek)	2x4	7288		11001		14714		18427
	SBP6 (MiTek)	2x6	11030		16865		22699		28534
	SBP6 (MiTek)	2x8	12886		20578		28269		35960



END GRAIN	BEARING PLATE (B1)	POST (B2) ABOVE BEARING	TYPE 1 (END GRAIN)							
			1-PLY		2-PLY		3-PLY		4-PLY	
			MSR2100 (EG)	SPF No.2 (EG)	MSR2100 (EG)	SPF No.2 (EG)	MSR2100 (EG)	SPF No.2 (EG)	MSR2100 (EG)	SPF No.2 (EG)
END GRAIN	2x4	2x4	3712		7425		11138		14851	
	2x6	2x6	5834		11668		17503		23337	
			MSR1950 (EG)	SPF No.2 (EG)	MSR1950 (EG)	SPF No.2 (EG)	MSR1950 (EG)	SPF No.2 (EG)	MSR1950 (EG)	SPF No.2 (EG)
	2x8	2x8	7690		15381		23072		30763	
END GRAIN, BEARING ENHANCER	BEARING PLATE (B1)	POST (B2) ABOVE BEARING	TYPE 1 (END GRAIN), FLUSH PLATE + BEARING ENHANCER							
			MSR2100 (EG)	SPF No.2 (EG)	MSR2100 (EG)	SPF No.2 (EG)	MSR2100 (EG)	SPF No.2 (EG)	MSR2100 (EG)	SPF No.2 (EG)
	CPn-4 (Simpson)	2x4	4515		9030		13545		18065	
	CPn-6 (Simpson)	2x6	7095		14190		21285		28390	
	CP4-9 (KOTT)	2x4	15585	9006	19801	18013	19801		19801	
			MSR1950 (EG)	SPF No.2 (EG)	MSR1950 (EG)	SPF No.2 (EG)	MSR1950 (EG)	SPF No.2 (EG)	MSR1950 (EG)	SPF No.2 (EG)
	CP6-9 (KOTT)	2x6	21834	13009	31117	26019	31117		31117	



NO BEARING ENHANCER	BEARING PLATE (B1)	POST (B2) ABOVE BEARING	TYPE 2, NO FLUSH PLATE, B2 < 2B1							
			1-PLY		2-PLY		3-PLY		4-PLY	
			MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950
NO BEARING ENHANCER	2x4	2x4	2639	2152	5279	4304	7919	6457	10588	8609
		2x6	3393	2767	6787	5534	10181	8302	13575	11069
	2x6	2x4	3393	2767	6787	5534	10181	8302	13575	11069
		2x6	4147	3382	8296	6764	12444	10146	16592	13529
		2x8	4808	3920	9616	7840	14424	11761	19232	15681
		2x10	5562	4535	11124	9070	16686	13606	22248	18141
	2x8	2x4	3959	3228	7919	6457	11878	9685	15838	12914
		2x6	4808	3920	9616	7840	14424	11761	19232	15681
		2x8	5467	4458	10935	8916	16403	13375	21871	17833
FLUSH PLATE	BEARING PLATE (B1)	POST (B2) ABOVE BEARING	TYPE 2, FLUSH PLATE							
			MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950
	2x4	2x4								
		2x6	TYPE 1 APPLIES							
	2x6	2x4	4672	3809	9344	7619	14016	11429	18689	15238
		2x6								
		2x8	TYPE 1 APPLIES							
		2x10								
	2x8	2x4	4672	3809	9344	7619	14016	11429	18689	15238
		2x6	7342	5986	14684	11973	22026	17959	29368	23946
		2x8	TYPE 1 APPLIES							



## NOTES:

- Factored truss reaction shall not exceed bearing capacity corresponding to: configuration type, size of bearing surfaces, truss lumber, # of plies, and applicable enhancers.
- Values in table are in conformance with CSA O86-14 Cl. 6.5.7 and TPIC 2014-Update 2, and may be used for residential or commercial designs.
- Values in table are in conformance with MiTek Canada Detail B37821Q "SPF Bearing Capacities".
- Values in table are in conformance with Simpson Catalogue C-C-CAN2020.
- Conditions for use of table values include: standard duration ( $K_{d1}=1$ ), dry lumber ( $K_{d2}=1$ ), untreated lumber ( $K_{d3}=1$ ), length of bearing factor not applied ( $K_{d4}=1$ ).
- Size factor ( $K_{d5}$ ) applied to support material calculation when acceptable. Flush plate factor ( $K_p$ ) applied to truss material calculation when acceptable (ie. excludes end grain).
- Flat roof factor ( $K_r$ ) must applied for trusses making up a flat roof system; to do so, multiply bearing capacity values by 0.75 for this application.
- Bearing plate is to be specified by the project engineer; values in table assume a bearing material of SPF #2 (or better).
- When required, flush plate must not be located further than 1/4" away from bearing surface, and must cover the entire bearing plate length (B1).
- When required, bearing enhancer must be installed as per manufacturer's guidelines.
- Type 2 bearing configurations can be converted to use Type 1 table values as outlined in TPIC 2014-Update 1 Cl. 7.5.9.
- This table is not valid after April 30, 2022.



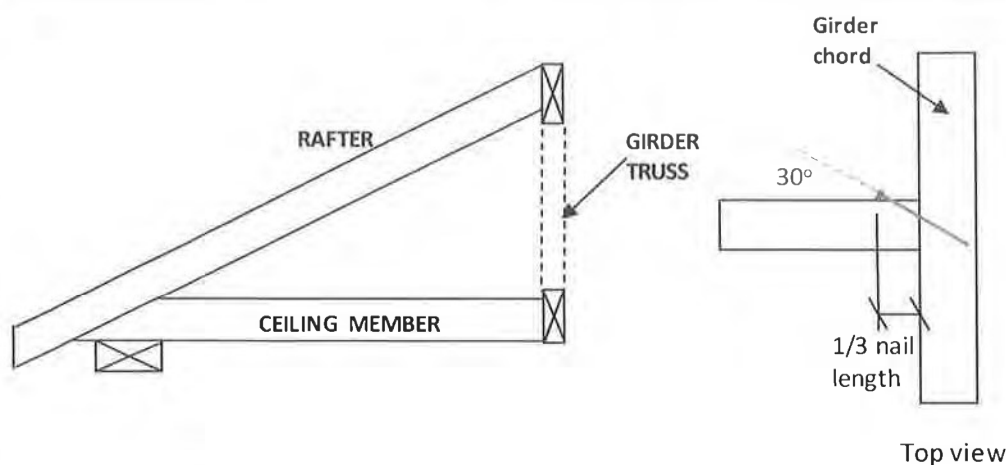
## TOE-NAIL CAPACITY DETAILS

## LATERAL AND WITHDRAWAL RESISTANCE OF BEARING ANCHORAGE BY TOE-NAILS

NAIL TYPE	Length (in)	Diameter (in)	LATERAL Resistance per nail (Lbs.)		WITHDRAWAL Resistance per nail (Lbs.)	
			SPF	D. FIR	SPF	D. FIR
COMMON WIRE	3.00	0.144	122	139	30	42
	3.25	0.144	127	144	32	45
	3.50	0.160	152	173	38	52
COMMON SPIRAL	3.00	0.122	96	108	26	36
	3.25	0.122	97	108	28	40
	3.50	0.152	142	161	36	50
3.25" Gun nail	3.25	0.120	94	105	28	39

**Note:** If using truss with D. Fir lumber and SPF bearing plate, use tabulated SPF values in table.

Nail type:	Common wire	Common spiral	Common wire	Common spiral	Gun Nail
Diameter (in.)	0.160	0.152	0.144	0.122	0.120
Length (in.)	3.50	3.50	3.00	3.00	3.25
LUMBER	MAXIMUM NUMBER OF TOE-NAILS				
2x4 SPF	2	2	3	3	3
2x6 SPF	4	4	4	5	5
2x4 D. FIR	2	2	2	2	2
2x6 D. FIR	3	3	3	4	4



**Figure 1: Toe-Nailing Rafter / Ceiling Member to Girder Truss**





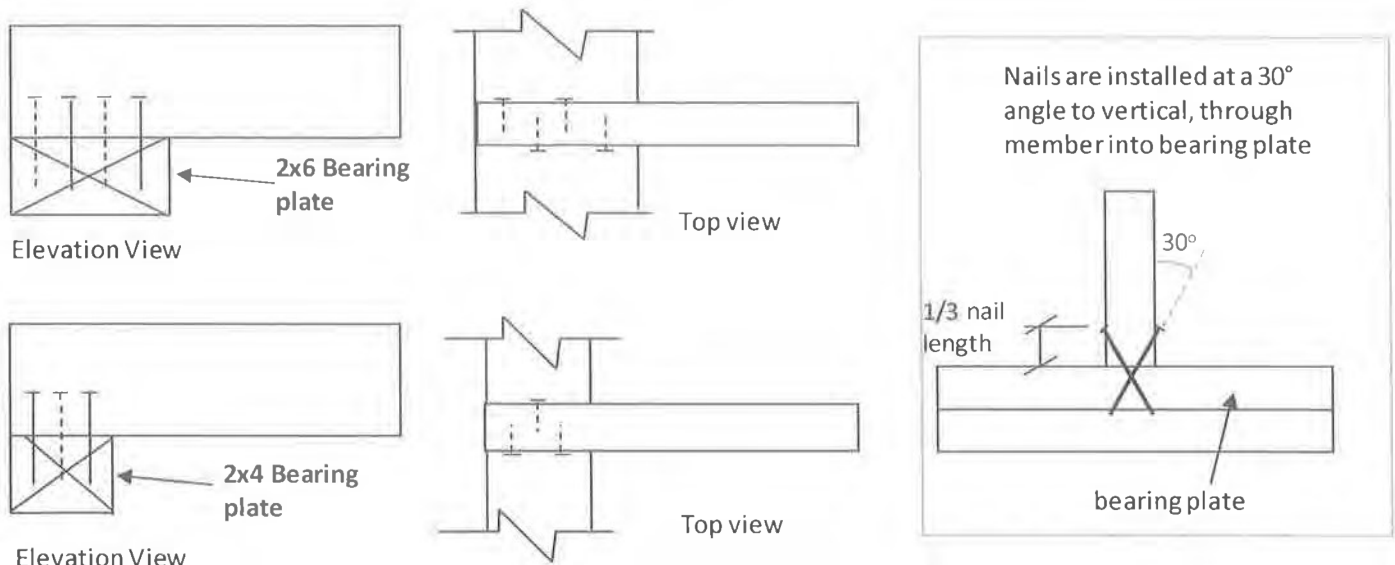
## STANDARD DETAIL MSD2015-H

MHP 23038

Issued: MARCH 1, 2022  
Expiry: APRIL 30, 2024

## TOE-NAIL CAPACITY DETAILS

Figure 2: Toe-Nail Anchorage to Bearing Plate for Uplift



## NOTES:

1. Rafter and ceiling members may be connected to top and bottom chords of girder truss by toe-nailing the members into the girder chords (see fig. 1), provided the factored vertical reactions of the supported members do not exceed the lateral resistance of the toe-nails. Mechanical connectors (hangers) are required if factored vertical reactions exceed the toe-nail capacity, or if the connection must resist horizontal loads (loads perpendicular to the face of girder or rafter).
2. Trusses, rafters or ceiling members may be anchored to the bearing plate with toe-nails (see fig. 2), provided that the factored uplift reactions due to **wind or earthquake loads** do not exceed the **withdrawal resistance of the toe-nails**. Mechanical anchors (tie-downs) are required for reactions that exceed the toe-nail withdrawal capacity. Toe-nail anchorage to bearing plates is **NOT** permitted if uplift reactions are generated from gravity loads (snow, floor live, dead).
3. Tabulated toe-nail resistances on page 1 are for **one** toe-nail. Multiply unit values by the number of nails used in the connection. Maximum number of nails in a connection shall not exceed the tabulated limits shown on page 1 for a given lumber size /species.
4. Nail values are based on specific gravity of  $G = 0.42$  (SPF) and  $G = 0.49$  (D. Fir).
5. Toe-nails shall be driven at approximately  $1/3$  the nail length from the edge of the joist/truss chord and driven at an angle of  $30^\circ$  to the grain of the member.
6. For wind / earthquake loads, tabulated lateral resistances may be multiplied by 1.15 ( $K_D$  factor). No increases are permitted for tabulated withdrawal resistances.
7. Lumber must be dry ( $< 19\%$  moisture content) at the time of nail installation.
8. Nail values in this table comply with CSA O86-19, Clause 12.9.

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## STANDARD DETAIL MSD2015-J

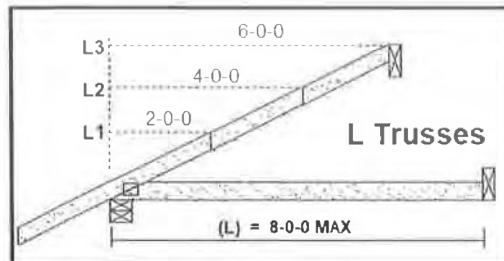
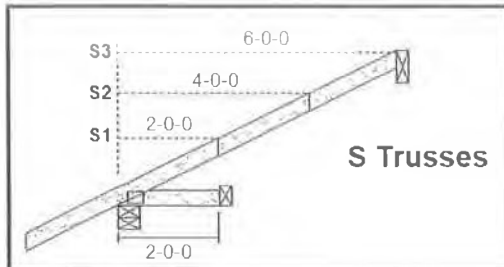
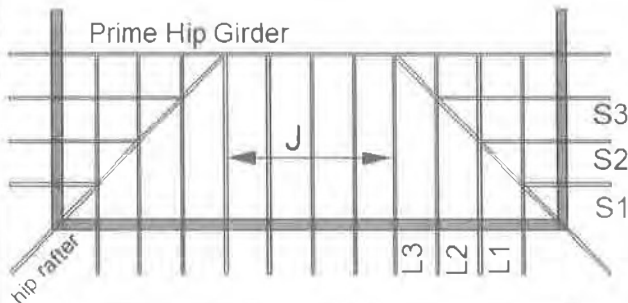
MHP 23038

Issued: MARCH 17, 2021

Expiry: APRIL 30, 2023

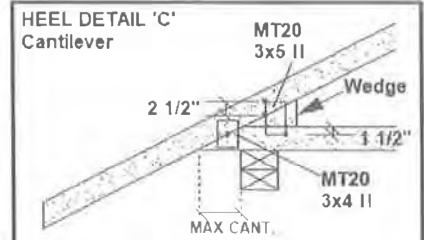
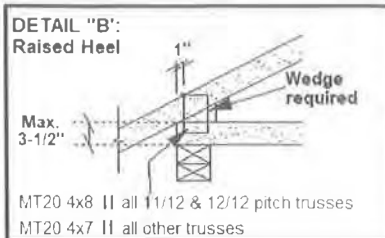
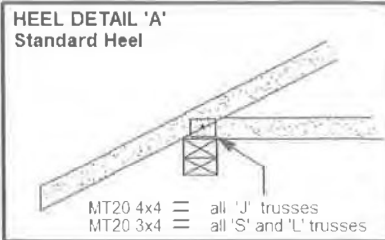
## STANDARD HIP END FRAMING

## PLAN VIEW



## Specified Load Rating:

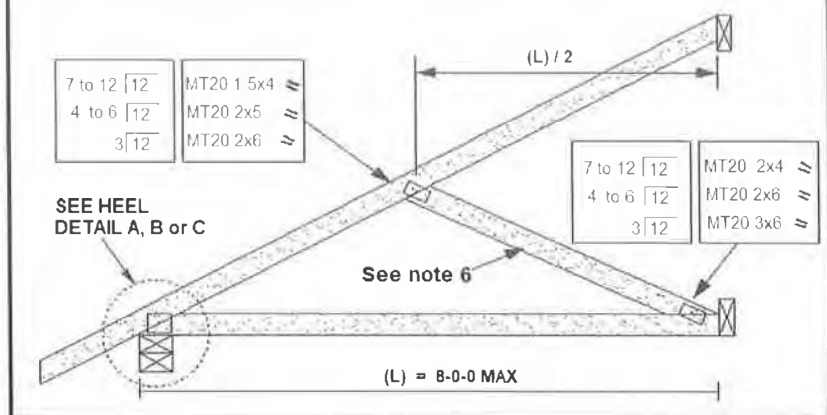
Top chord Live:	51.0 PSF or less
Top chord Dead:	6.0 PSF or less
Bottom chord Live:	0.0 PSF
Bottom chord Dead:	7.3 PSF or less



## CANTILEVER DETAIL 'C'

SLOPE	MAX CANT.	WEDGE PLATE	WEDGE SIZE
3/12	17"	3 X 5	2 X 3
4/12	14"	3 X 5	2 X 3
5/12	12"	3 X 5	2 X 4
6/12	10"	3 X 5	2 X 4
7/12	9"	3 X 5	2 X 6
8/12	8 5/8"	3 X 5	2 X 6
9/12	8"	3 X 5	2 X 6
10/12	7 5/8"	3 X 5	2 X 6

## J Trusses



PEO

Certificate No. 10889485

## NOTES:

1. This detail is valid only for projects conforming to **PART 9 NBCC 2015** that do not require a wind analysis to be incorporated into the design of the trusses.
2. Overhang length shall not exceed 24 inches.
3. All lumber shall be 2x4 SPF (or D-Fir) DRY No. 2 grade or better.
4. All plates specified are MITEK MT20, pressed into both faces of each truss. Heel plates of all trusses shall conform to heel details 'A', 'B' or 'C'.
5. Diagonal hip rafter design shall conform to section 9.23.14.6 of NBCC 2015.
6. For 6.0 ft. or less span, diagonal web on truss 'J' is optional. Girder design must reflect choice of partial jack ('J' with diagonal web) or open jack ('J' without diagonal web)
7. All truss-to-rafter and truss-to-truss connections shall be specified as per MITEK standard detail 'MSD2015-H: Toe-Nail Capacity Details'





## STANDARD GABLE END DETAIL

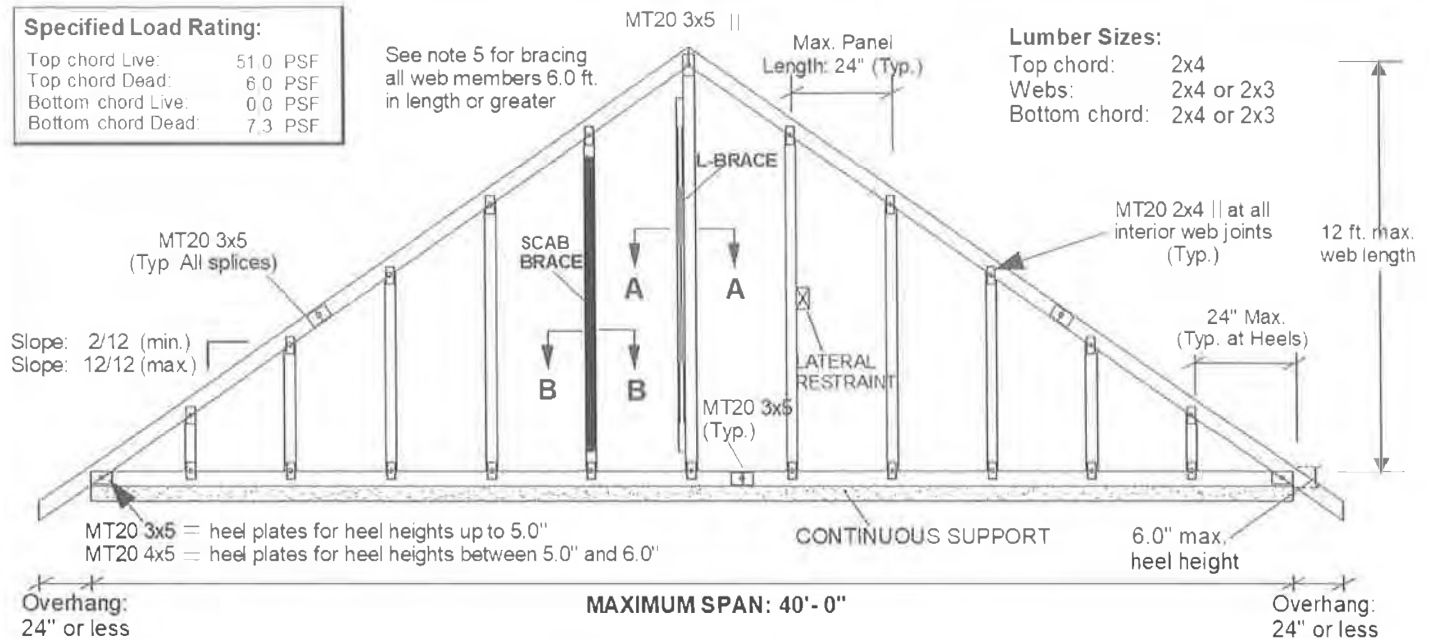
### Specified Load Rating:

Top chord Live:	51.0 PSF
Top chord Dead:	6.0 PSF
Bottom chord Live:	0.0 PSF
Bottom chord Dead:	7.3 PSF

See note 5 for bracing  
all web members 6.0 ft.  
in length or greater

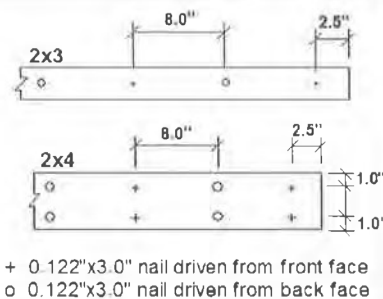
### Lumber Sizes:

Top chord:	2x4
Webs:	2x4 or 2x3
Bottom chord:	2x4 or 2x3

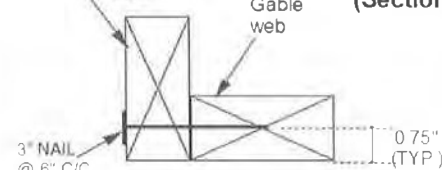


### SCAB BRACE DETAIL (Section B-B)

Gable Web  
SPF No. 2 DRY Scab, same size as web. Scab brace must cover 90% of web length



### L BRACE DETAIL (Section A-A)



Fasten L-Brace to narrow edge of web with one row of 0.122" x 3.0" nails spaced at 6.0" c/c along entire length of web. Brace must cover 90% of the web length. Respect a 2.5" minimum end distance.

### Notes:

1. This detail is only valid for projects conforming to **Part 9, NBCC 2015** that do not require a wind analysis to be incorporated into the design of the truss.
2. This detail is for vertical (gravity) load rating of the truss only. Truss must be continuously supported over the entire length of bottom chord.
3. Maximum web length not to exceed 12.0 ft. Spacing of gable stud webs in the truss not to exceed 24 inches cc.
4. Splice joints shall not be located in the first panel adjacent to the heel joint or peak joint.
5. Lateral restraint required at half-length of all webs over 6.0 ft. long. Alternatively install an L-Brace or scab brace as shown above. Scab braces shall be limited to 10 ft. long webs or less.
6. All plates are MITEK MT20 pressed into both faces of truss.
7. All lumber to be SPF (or D-Fir) DRY and of No.2 grade or better.
8. Additional building bracing is typically installed to brace the face of the end wall assembly. See BCSI Canada 'Building Designer Responsibilities for Gable End Frame Bracing' for additional information on building bracing for gable-end assemblies.

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**AVERTISSEMENT!** GUIDE POUR LA MANIPULATION, L'INSTALLATION, LA RETENUE ET LE CONTREVENTEMENT DES FERMES  
Les portées supérieures à 18,3 m (60 pi) peuvent exiger un contreventement permanent complexe. Veuillez toujours consulter un concepteur professionnel enregistré.



**CANADA B3C BCSI-B3C SUMMARY SHEET - PERMANENT RESTRAINT/BRACING OF CHORDS & WEB MEMBERS**  
Truss clear spans of 60' or greater may require complex permanent bracing. Please always consult a registered design professional.

**NEVER DISCARD** Overloading permanent restraint/bracing is a major cause of truss field performance problems and has been known to lead to roof or floor system collapse.  
NEVER DISCARD Les fermes ayant les portées libres de 18,3m (60 pi) et plus peuvent exiger un contreventement permanent complexe. Veuillez toujours consulter un concepteur professionnel agréé.

**Restraint/Bracing Materials & Fasteners**  
**Matériaux et attaches de retenue et de contreventement**

Commonly used restraint/bracing materials include wood structural panels, gypspan board sheathing, stress-graded lumber, proprietary metal products, and metal pulleys and straps.  
Les matériaux de retenue et de contreventement communs incluent les panneaux structuraux de bois, le revêtement de panneaux de gypse, les bois classés par résistance mécanique, les produits métalliques exclusifs, les anneaux et les fixateurs métalliques.

Minimum Allowable Requirements for Lateral Restraint/Bracing - Les exigences minimales des attaches pour la contrainte latérale	Minimum Number of Spacing Devices per Chord or Member - Minimum nombre de dispositifs par Chord ou Membre
2x4 stress-graded lumber or 2x6 wood joist 2x4 bois classés par résistance mécanique	2 2 dispositifs (0,1225 m) 2x4 bois classés par résistance mécanique
2x6 stress-graded lumber or 2x8 wood joist 2x6 bois classés par résistance mécanique	3 3 dispositifs (0,1225 m) 2x6 bois classés par résistance mécanique

**Permanent Bracing for the Various Planes of a Truss**  
**Contreventement permanent pour les divers plans d'une ferme**

Permanent bracing is important because it:  
Le contreventement permanent est important parce qu'il:  
1. Top chord plane  
2. Bottom chord plane  
3. Web member plane  
Les fermes exigent un contreventement permanent dans TOUS les plans suivants:  
1. Le plan de la membrure supérieure  
2. Le plan de la membrure inférieure  
3. Le plan de la membrure d'âme

**1. Permanent Bracing for the Top Chord Plane**  
**Contreventement permanent pour le plan de la membrure supérieure**

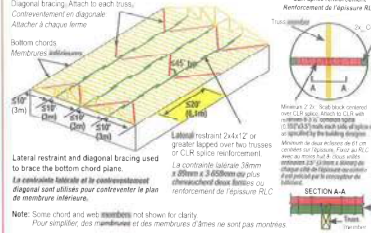
Use plywood, oriented strand board (OSB), or wood or metal structural purlins that are properly braced. Attach to each truss.  
Utilisez du contreplaqué, des panneaux OSB ou des pannes structurales de bois ou de métal correctement contreventées. Fixez à chaque ferme.  
The truss design drawing (TDD) provides information on the assumed support for the top chord.  
Le dessin de concepteur de ferme (DCF) fournit des renseignements sur le support prévu pour la membrure supérieure.

Fastener size and spacing requirements and grade for the sheathing, purlins and bracing are provided in the building code and/or by the building designer.  
Le code du bâtiment et/ou le concepteur du bâtiment fournissent les exigences relatives à la taille des attaches, à l'espacement et au classement du revêtement, des pannes et du contreventement.

**2. Permanent Bracing for the Bottom Chord Plane**  
**Contreventement permanent pour le plan de la membrure inférieure**

Use rows of continuous lateral restraint with diagonal bracing, gypspan board sheathing or some other ceiling material capable of functioning as a diaphragm.  
Utilisez des rangées de retenues latérales continues avec un contreventement diagonal, un revêtement de panneaux de gypse ou un autre matériau en mesure de fonctionner comme diaphragme.  
The TDD provides information on the assumed support for the bottom chord.  
Le DCF fournit des renseignements sur le support prévu pour la membrure inférieure.

Install bottom chord permanent lateral restraint at the spacing indicated on the TDD and/or by the building designer with a maximum of 10 (3 m) on center.  
Installez la retenue latérale permanente de la membrure inférieure à l'espacement indiqué sur le DCF et/ou par le concepteur du bâtiment avec un maximum de 3m (10 pi) entraxes.



**3. Permanent Bracing for the Web Member Plane**  
**Contreventement permanent pour le plan de la membrure d'âme**

Web member permanent bracing collects and transfers building restraint forces and/or lateral loads from wind and seismic forces. The same bracing can often be used for both functions.  
Le contreventement permanent de la membrure d'âme recueille et transfère les forces de retenue de flambement et/ou les charges latérales des forces du vent et des forces sismiques. Le même contreventement peut souvent être utilisé pour les deux fonctions.

**Individual Web Member Permanent Restraint & Bracing**  
**Retenue et contreventement permanents des membrures d'âme individuelles**

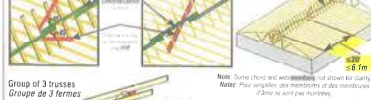
Check the TDD to determine which web members (if any) require restraint to resist buckling.  
Vérifiez le DCF pour déterminer quelles membrures d'âme (s'il y a lieu) nécessitent une retenue pour résister au flambement.

Restrain and brace with:  
A. continuous lateral restraint (CLR) and diagonal bracing  
B. individual member web reinforcement  
C. diagonal bracing and web reinforcement  
D. a diagonal lateral restraint and/or a diagonal bracing  
E. a diagonal bracing and web reinforcement

**A. Continuous Lateral Restraint (CLR) and Diagonal Bracing**  
**Retenue latérale continue (RLC) et contreventement diagonal**

Attach each row of CLR at the locations shown on the TDD.  
Fixez la RLC aux emplacements indiqués sur le DCF.  
The CLR is to be placed at an angle of less than or equal to 45° to the CLR and position so that it crosses the web to close proximity to the CLR. Attach the diagonal brace as close to the CLR as is practical and possible without voiding its function. Repeat every 20' (6,1 m) or less.  
Installez le contreventement diagonal à un angle de 45° ou moins par rapport à la RLC et le positionnez le plus près possible de la membrure d'âme à proximité de la RLC. Fixez le contreventement diagonal aussi près que possible des membrures supérieures et inférieures et de chaque âme qu'il croise. Répétez à tous les 6,1 m (20 pi) ou moins.

**Examples of Diagonal Bracing with Continuous Restraint**  
**Exemples de contreventement diagonal avec la contrainte latérale continue**



**Group of 3 trusses**  
**Groupe de 3 fermes**

**Group of 2 trusses**  
**Groupe de 2 fermes**

Lateral restraint and diagonal bracing can also be used with small groups of trusses (i.e., three or less). Attach the lateral restraint and diagonal brace to each web member they cross.  
Les retenues latérales et le contreventement diagonal peuvent également être utilisés avec de petits groupes de fermes (i.e., trois ou moins). Fixez la retenue latérale et le contreventement diagonal à chaque membrure d'âme qu'ils traversent.

**ALWAYS DIAGONALLY BRACE THE CONTINUOUS LATERAL RESTRAINT!**  
**CONTREVENTEZ TOUJOURS EN DIAGONAL LA RETENUE LATÉRALE CONTINUE!**

**Individual Web Member Reinforcement**  
**Renforcement des membrures d'âme individuelles**

Use of steel reinforcement bars (rebar) and/or steel reinforcement mesh (rebar mesh) is an alternative to the use of steel reinforcement bars (rebar) and/or steel reinforcement mesh (rebar mesh) for the reinforcement of web members.  
L'utilisation de barres d'acier renforcées (barres) et/ou de treillis d'acier renforcé (treillis) est une alternative à l'utilisation de barres d'acier renforcées (barres) et/ou de treillis d'acier renforcé (treillis) pour le renforcement des membrures d'âme.

**Web Member Plane Permanent Building Stability Bracing to Transfer Wind & Seismic Forces**  
**Contreventement permanent pour assurer la stabilité du bâtiment des plans des membrures d'âme pour transférer les forces du vent et les forces sismiques**

The web member restraint or reinforcement specified on a TDD is required to resist buckling due to axial forces caused by the system loads applied to the truss. Additional restraint and bracing within the web member plane may also be required to transfer lateral loads due to wind and/or seismic loads applied perpendicular to the plane of the trusses. This restraint and bracing is typically specified by the building designer.  
La retenue ou le renforcement des membrures d'âme précisé sur le DCF est requis pour résister aux forces axiales causées par les charges verticales. Une contrainte ou un renforcement supplémentaire peut être requis dans le plan de la membrure d'âme pour transférer les forces latérales causées par le vent ou les charges sismiques exercées perpendiculairement au plan des fermes. Cette contrainte et ce renforcement sont typiquement précisés par le concepteur du bâtiment.

**Individual Web Member Permanent Restraint & Bracing**  
**Retenue et contreventement permanents des membrures d'âme individuelles**

Check the TDD to determine which web members (if any) require restraint to resist buckling.  
Vérifiez le DCF pour déterminer quelles membrures d'âme (s'il y a lieu) nécessitent une retenue pour résister au flambement.

Restrain and brace with:  
A. continuous lateral restraint (CLR) and diagonal bracing  
B. individual member web reinforcement  
C. diagonal bracing and web reinforcement  
D. a diagonal lateral restraint and/or a diagonal bracing  
E. a diagonal bracing and web reinforcement

**A. Continuous Lateral Restraint (CLR) and Diagonal Bracing**  
**Retenue latérale continue (RLC) et contreventement diagonal**

Attach each row of CLR at the locations shown on the TDD.  
Fixez la RLC aux emplacements indiqués sur le DCF.  
The CLR is to be placed at an angle of less than or equal to 45° to the CLR and position so that it crosses the web to close proximity to the CLR. Attach the diagonal brace as close to the CLR as is practical and possible without voiding its function. Repeat every 20' (6,1 m) or less.  
Installez le contreventement diagonal à un angle de 45° ou moins par rapport à la RLC et le positionnez le plus près possible de la membrure d'âme à proximité de la RLC. Fixez le contreventement diagonal aussi près que possible des membrures supérieures et inférieures et de chaque âme qu'il croise. Répétez à tous les 6,1 m (20 pi) ou moins.

**Cable End Frames and Slagged Bottom Chords**  
**Forme du bout de câble et des membrures inférieures en pente**

The cable end frame should always match the profile of the adjacent trusses to permit installation of proper bottom chord plane restraint & bracing unless special bracing is designed to support the end wall.  
La forme du pignon dorsal toujours correspondre au profil des fermes adjacentes pour permettre l'installation de la retenue et du contreventement appropriés du plan de la membrure inférieure. À moins qu'un contreventement spécial soit conçu pour supporter le mur d'extrémité.

**Permanent Bracing for Special Conditions**  
**Contreventement permanent pour des conditions spéciales**

**Sway Bracing - Entrelaço de contreventement**  
Sway bracing is installed at the discretion of the building designer to help stabilize the truss system and minimize the lateral movement due to wind and seismic loads.  
L'entrelaço de contreventement est installé à la discrétion du concepteur du bâtiment pour aider à stabiliser le système de fermes et à minimiser le mouvement latéral causé par les charges du vent et les charges sismiques.

**Permanent Bracing for Special Conditions**  
**Contreventement permanent pour des conditions spéciales**

**Repeat diagonal bracing (10' to 12' intervals) as specified**  
**Répétez le contreventement diagonal (10' à 12' d'entraxes) comme spécifié**

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