

Alpine, an ITW Company
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FL REG# 278, Yoonhwak Kim, FL PE #86367
Florida Certificate of Product Approval #FL 1999

06/30/2023

Site Information:	Page 1:
Customer: W. B. Howland Company, Inc.	Job Number: 23-9592
Job Description: Walters 2 story	
Address:	

Job Engineering Criteria:			
Design Code: FBC 7th Ed. 2020 Res.		IntelliVIEW Version: 21.02.00B	
		JRef #: 1XQY2150008	
Wind Standard: ASCE 7-16	Wind Speed (mph): 130	Design Loading (psf): 40.00, 65.00	
Building Type: Closed			

This package contains general notes pages, 10 truss drawing(s) and 2 detail(s).

Item	Drawing Number	Truss
1	181.23.1233.05197	A01
3	181.23.1233.16457	A03
5	181.23.1233.22783	F02
7	181.23.1233.30877	J01HJ
9	181.23.1233.35893	J03
11	STRBRIBR1014	

Item	Drawing Number	Truss
2	181.23.1233.06680	A02
4	181.23.1233.18860	F01
6	181.23.1233.25397	J01
8	181.23.1233.34013	J02
10	181.23.1233.40267	J04
12	DEFLCAMB1014	

General Notes

Truss Design Engineer Scope of Work, Design Assumptions and Design Responsibilities:

The design responsibilities assumed in the preparation of these design drawings are those specified in ANSI/TPI 1, Chapter 2; and the National Design Standard for Metal Plate Connected Wood Truss Construction, by the Truss Plate Institute. The truss component designs conform to the applicable provisions of ANSI/TPI 1 and NDS, the National Design Specification for Wood Construction by AWC. The truss component designs are based on the specified loading and dimension information furnished by others to the Truss Design Engineer. The Truss Design Engineer has no duty to independently verify the accuracy or completeness of the information provided by others and may rely on that information without liability. The responsibility for verification of that information remains with others neither employed nor controlled by the Truss Design Engineer. The Truss Design Engineer's seal and signature on the attached drawings, or cover page listing these drawings, indicates acceptance of professional engineering responsibility solely for the truss component designs and not for the technical information furnished by others which technical information and consequences thereof remain their sole responsibility.

The suitability and use of these drawings for any particular structure is the responsibility of the Building Designer in accordance with ANSI/TPI 1 Chapter 2. The Building Designer is responsible for determining that the dimensions and loads for each truss component match those required by the plans and by the actual use of the individual component, and for ascertaining that the loads shown on the drawings meet or exceed applicable building code requirements and any additional factors required in the particular application. Truss components using metal connector plates with integral teeth shall not be placed in environments that will cause the moisture content of the wood in which plates are embedded to exceed 19% and/or cause corrosion of connector plates and other metal fasteners.

The Truss Design Engineer shall not be responsible for items beyond the specific scope of the agreed contracted work set forth herein, including but not limited to: verifying the dimensions of the truss component, calculation of any of the truss component design loads, inspection of the truss components before or after installation, the design of temporary or permanent bracing and their attachment required in the roof and/or floor systems, the design of diaphragms or shear walls, the design of load transfer connections to and from diaphragms and shear walls, the design of load transfer to the foundation, the design of connections for truss components to their bearing supports, the design of the bearing supports, installation of the truss components, observation of the truss component installation process, review of truss assembly procedures, sequencing of the truss component installation, construction means and methods, site and/or worker safety in the installation of the truss components and/or its connections.

This document may be a high quality facsimile of the original engineering document which is a digitally signed electronic file with third party authentication. A wet or embossed seal copy of this engineering document is available upon request.

Temporary Lateral Restraint and Bracing:

Temporary lateral restraint and diagonal bracing shall be installed according to the provisions of BCSI chapters B1, B2, B7 and/or B10 (Building Component Safety Information, by TPI and SBCA), or as specified by the Building Designer or other Registered Design Professional. The required locations for lateral restraint and/or bracing depicted on these drawings are only for the permanent lateral support of the truss members to reduce buckling lengths, and do not apply to and may not be relied upon for the temporary stability of the truss components during their installation.

Permanent Lateral Restraint and Bracing:

The required locations for lateral restraint or bracing depicted on these drawings are for the permanent lateral support of the truss members to reduce buckling lengths. Permanent lateral support shall be installed according to the provisions of BCSI chapters B3, B7 and/or B10, or as specified by the Building Designer or other Registered Design Professional. These drawings do not depict or specify installation/erection bracing, wind bracing, portal bracing or similar building stability bracing which are parts of the overall building design to be specified, designed, and detailed by the Building Designer.

Connector Plate Information:

Alpine connector plates are made of ASTM A653 or ASTM A1063 galvanized steel with the following designations, gauges and grades: W=Wave, 20ga, grade 40; H=High Strength, 20ga, grade 60; S=Super Strength, 18ga, grade 60. Information on model code compliance is contained in the ICC Evaluation Service report ESR-1118, available on-line at www.icc-es.org.

Fire Retardant Treated Lumber:

Fire retardant treated lumber must be properly re-dried and maintained below 19% or less moisture level through all stages of construction and usage. Fire retardant treated lumber may be more brittle than untreated lumber. Special handling care must be taken to prevent breakage during all handling activities.

General Notes (continued)

Key to Terms:

Information provided on drawings reflects a summary of the pertinent information required for the truss design. Detailed information on load cases, reactions, member lengths, forces and members requiring permanent lateral support may be found in calculation sheets available upon written request.

BCDL = Bottom Chord standard design Dead Load in pounds per square foot.

BCLL = Bottom Chord standard design Live Load in pounds per square foot.

CL = Certified lumber.

Des Ld = total of TCLL, TCDL, BCLL and BCDL Design Load in pounds per square foot.

FRT = Fire Retardant Treated lumber.

FRT-DB = D-Blaze Fire Retardant Treated lumber.

FRT-DC = Dricon Fire Retardant Treated lumber.

FRT-FP = FirePRO Fire Retardant Treated lumber.

FRT-FL = FlamePRO Fire Retardant Treated lumber.

FRT-FT = FlameTech Fire Retardant Treated lumber.

FRT-PG = PYRO-GUARD Fire Retardant Treated lumber.

FRT-PR = ProWood Fire Retardant Treated lumber.

g = green lumber.

HORZ(LL) = maximum Horizontal panel point deflection due to Live Load, in inches.

HORZ(TL) = maximum Horizontal panel point long term deflection in inches, due to Total Load, including creep adjustment.

HPL = additional Horizontal Load added to a truss Piece in pounds per linear foot or pounds.

Ic = Incised lumber.

FJ = Finger Jointed lumber.

L/# = user specified divisor for limiting span/deflection ratio for evaluation of actual L/defl value.

L/defl = ratio of Length between bearings, in inches, divided by the vertical Deflection due to creep, in inches, at the referenced panel point. Reported as 999 if greater than or equal to 999.

Loc = Location, starting location of left end of bearing or panel point (joint) location of deflection.

Max BC CSI = Maximum bending and axial Combined Stress Index for Bottom Chords for all load cases.

Max TC CSI = Maximum bending and axial Combined Stress Index for Top Chords for all load cases.

Max Web CSI = Maximum bending and axial Combined Stress Index for Webs for all load cases.

NCBCLL = Non-Concurrent Bottom Chord design Live Load in pounds per square foot.

PL = additional Load applied at a user specified angle on a truss Piece in pounds per linear foot or pounds.

PLB = additional vertical load added to a Bottom chord Piece of a truss in pounds per linear foot or pounds

PLT = additional vertical load added to a Top chord Piece of a truss in pounds per linear foot or pounds.

PP = Panel Point.

R = maximum downward design Reaction, in pounds, from all specified gravity load cases, at the indicated location (Loc).

-R = maximum upward design Reaction, in pounds, from all specified gravity load cases, at the identified location (Loc).

Rh = maximum horizontal design Reaction in either direction, in pounds, from all specified gravity load cases, at the indicated location (Loc).

RL = maximum horizontal design Reaction in either direction, in pounds, from all specified non-gravity (wind or seismic) load cases, at the indicated location (Loc).

Rw = maximum downward design Reaction, in pounds, from all specified non-gravity (wind or seismic) load cases, at the identified location (Loc).

TCDL = Top Chord standard design Dead Load in pounds per square foot.

TCLL = Top Chord standard design Live Load in pounds per square foot.

U = maximum Upward design reaction, in pounds, from all specified non-gravity (wind or seismic) load cases, at the indicated location (Loc).

VERT(CL) = maximum Vertical panel point deflection in inches due to Live Load and Creep Component of Dead Load in inches.

VERT(CTL) = maximum Vertical panel point deflection ratios due to Live Load and Creep Component of Dead Load, and maximum long term Vertical panel point deflection in inches due to Total load, including creep adjustment.

VERT(LL) = maximum Vertical panel point deflection in inches due to Live Load.

VERT(TL) = maximum Vertical panel point long term deflection in inches due to Total load, including creep adjustment.

W = Width of non-hanger bearing, in inches.

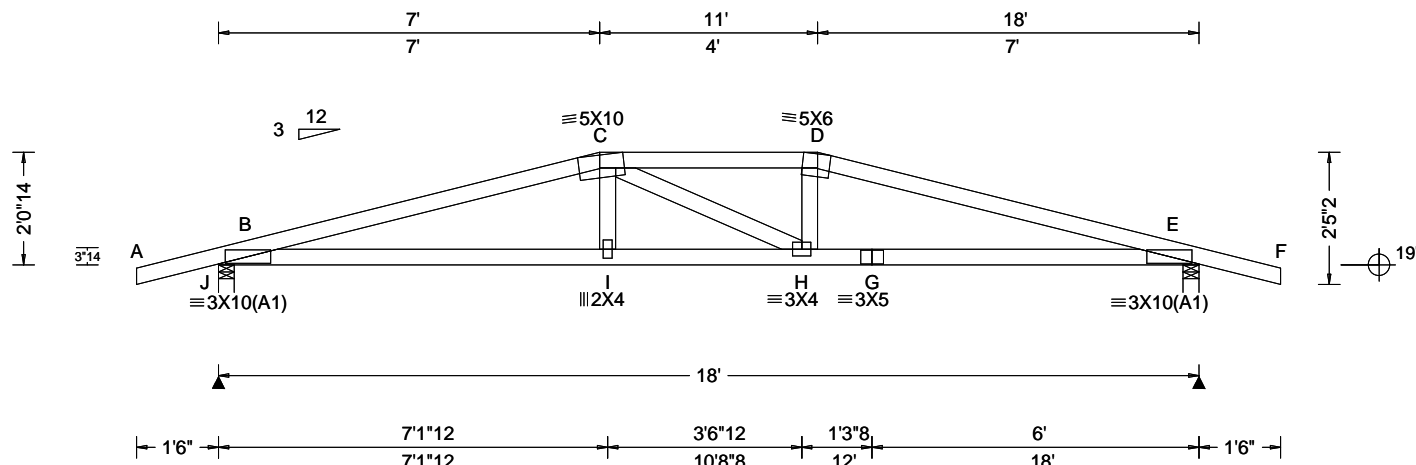
Refer to ASCE-7 for Wind and Seismic abbreviations.

Uppercase Acronyms not explained above are as defined in TPI 1.

References:

1. AWC: American Wood Council; 222 Catoctin Circle SE, Suite 201; Leesburg, VA 20175; www.awc.org.
2. ICC: International Code Council; www.iccsafe.org.
3. Alpine, a division of ITW Building Components Group Inc.: 155 Harlem Ave, North Building, 4th Floor, Glenview, IL 60025; www.alpineitw.com.
4. TPI: Truss Plate Institute, 2670 Crain Highway, Suite 203, Waldorf, MD 20601; www.tpinst.org.
5. SBCA: Wood Truss Council of America, 6300 Enterprise Lane, Madison, WI 53719; www.sbcacomponents.com.

SEQN: 136333 FROM:	HIPS Ply: 1 Qty: 1	Job Number: 23-9592 Walters 2 story Truss Label: A01	Cust: R 215 JRef: 1XQY2150008 T15 DrwNo: 181.23.1233.05197 GA / YK 06/30/2023
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Loading Criteria (psf)	Wind Criteria	Snow Criteria (Pg, Pf in PSF)	Defl/CSI Criteria	▲ Maximum Reactions (lbs)
TCLL: 20.00 TCDL: 10.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 40.00 NCBCLL: 10.00 Soffit: 2.00 Load Duration: 1.25 Spacing: 24.0 "	Wind Std: ASCE 7-16 Speed: 130 mph Enclosure: Closed Risk Category: II EXP: B Kzt: NA Mean Height: 20.01 ft TCDL: 5.0 psf BCDL: 5.0 psf MWFRS Parallel Dist: 0 to h/2 C&C Dist a: 3.00 ft Loc. from endwall: not in 4.50 ft GCp: 0.18 Wind Duration: 1.60	Pg: NA Ct: NA CAT: NA Pf: NA Ce: NA Lu: NA Cs: NA Snow Duration: NA Building Code: FBC 7th Ed. 2020 Res. TPI Std: 2014 Rep Fac: Varies by Ld Case FT/RT: 20(0)/10(0) Plate Type(s): WAVE	PP Deflection in loc L/def L/# VERT(LL): 0.100 H 999 240 VERT(CL): 0.196 H 999 180 HORZ(LL): 0.025 E - - HORZ(TL): 0.049 E - - Creep Factor: 2.0 Max TC CSI: 0.255 Max BC CSI: 0.328 Max Web CSI: 0.081 VIEW Ver: 21.02.00B.1108.20	Gravity Loc R+ / R- / Rh / Rw / U / RL J 975 -/- /- /- /125 -/ E 975 -/- /- /- /125 -/ Wind reactions based on MWFRS J Brg Wid = 3.5 Min Req = 1.5 (Truss) E Brg Wid = 3.5 Min Req = 1.5 (Truss) Bearings J & E are a rigid surface. Members not listed have forces less than 375# Maximum Top Chord Forces Per Ply (lbs) Chords Tens.Comp. Chords Tens. Comp. B - C 269 -2450 D - E 270 -2447 C - D 239 -2364

Lumber

Top chord: 2x4 SP M-31;
Bot chord: 2x4 SP M-31;
Webs: 2x4 SP #3;

Special Loads

----- (Lumber Dur.Fac.=1.25 / Plate Dur.Fac.=1.25)

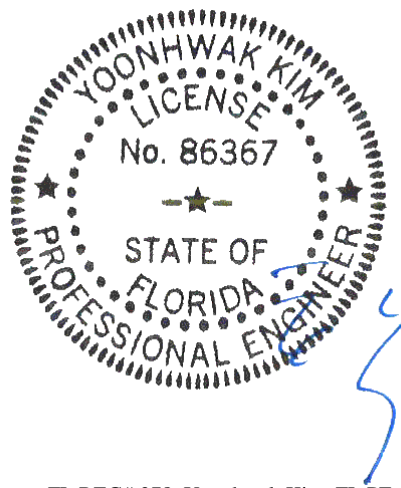
TC: From 61 plf at -1.50 to 61 plf at 19.50
BC: From 4 plf at -1.50 to 4 plf at 0.00
BC: From 20 plf at 0.00 to 20 plf at 18.00
BC: From 4 plf at 18.00 to 4 plf at 19.50
TC: 185 lb Conc. Load at 9.00
BC: 120 lb Conc. Load at 9.00

Purlins

In lieu of structural panels use purlins to brace all flat
TC @ 24" oc.

Wind

Wind loads and reactions based on MWFRS.
Wind loading based on both gable and hip roof types.

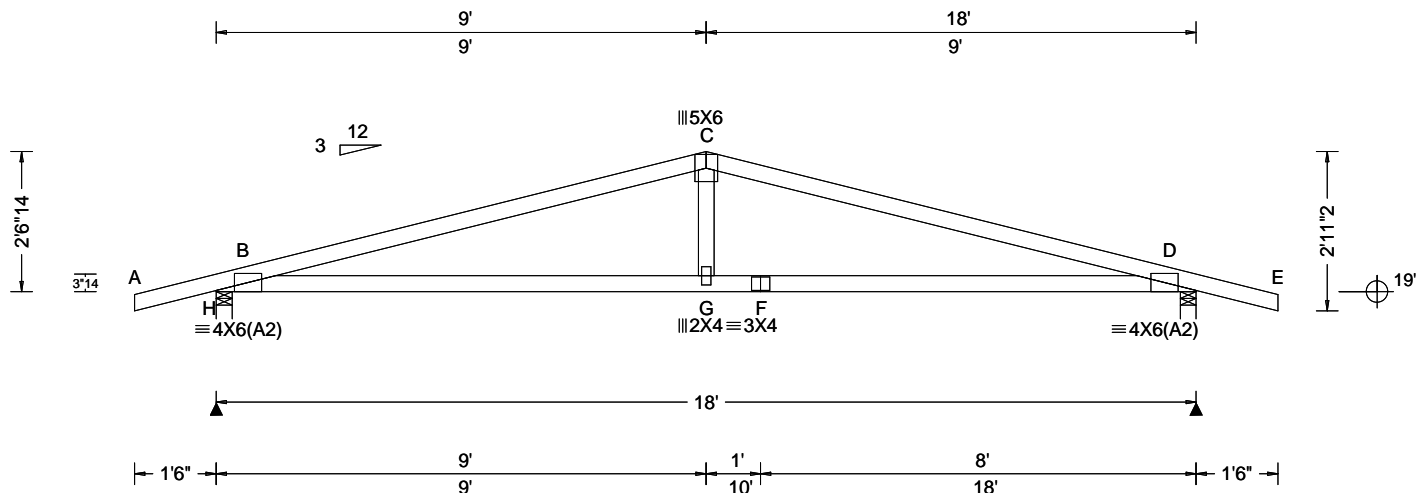


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****WARNING**** READ AND FOLLOW ALL NOTES ON THIS DRAWING!
****IMPORTANT**** FURNISH THIS DRAWING TO ALL CONTRACTORS INCLUDING THE INSTALLERS
Trusses require extreme care in fabricating, handling, shipping, installing and bracing. Refer to and follow the latest edition of BCSI (Building Component Safety Information, by TPI and SBCA) for safety practices prior to performing these functions. Installers shall provide temporary bracing per BCSI. Unless noted otherwise, top chord shall have properly attached structural sheathing and bottom chord shall have a properly attached rigid ceiling. Locations shown for permanent lateral restraint of webs shall have continuous lateral restraint (CLR), installed with diagonal bracing installed on the CLR per BCSI sections B3, B7, or B10, as applicable. Apply plates to each face of truss and position as shown above and on the Joint Details, unless noted otherwise. Refer to drawings 160A-Z for standard plate positions. Refer to job's General Notes page for additional information.
Alpine, a division of ITW Building Components Group Inc. shall not be responsible for any deviation from this drawing, any failure to build the truss in conformance with ANSI/TPI 1, or for handling, shipping, installation and bracing of trusses. A seal on this drawing or cover page listing this drawing, indicates acceptance of professional engineering responsibility solely for the design shown. The suitability and use of this drawing for any structure is the responsibility of the Building Designer per ANSI/TPI 1 Sec.2.
For more information see these web sites: Alpine: alpineitw.com; TPI: tpinst.org; SBCA: sbcacomponents.com; ICC: iccsafe.org; AWC: awc.org

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155 Harlem Ave
North Building, 4th Floor
Glenview, IL 60025

SEQN: 136346 FROM:	COMN Ply: 1 Qty: 8	Job Number: 23-9592 Walters 2 story Truss Label: A02	Cust: R 215 JRef: 1XQY2150008 T9 DrwNo: 181.23.1233.06680 GA / YK 06/30/2023
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Loading Criteria (psf)	Wind Criteria	Snow Criteria (Pg, Pf in PSF)	Defl/CSI Criteria	▲ Maximum Reactions (lbs)
TCLL: 20.00 TCDL: 10.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 40.00 NCBCLL: 10.00 Soffit: 2.00 Load Duration: 1.25 Spacing: 24.0 "	Wind Std: ASCE 7-16 Speed: 130 mph Enclosure: Closed Risk Category: II EXP: B Kzt: NA Mean Height: 20.26 ft TCDL: 5.0 psf BCDL: 5.0 psf MWFRS Parallel Dist: h/2 to h C&C Dist a: 3.00 ft Loc. from endwall: not in 9.00 ft GCpi: 0.18 Wind Duration: 1.60	Pg: NA Ct: NA CAT: NA Pf: NA Ce: NA Lu: NA Cs: NA Snow Duration: NA Building Code: FBC 7th Ed. 2020 Res. TPI Std: 2014 Rep Fac: Yes FT/RT: 20(0)/10(0) Plate Type(s): WAVE	PP Deflection in loc L/defl L/# VERT(LL): 0.075 G 999 240 VERT(CL): 0.146 G 999 180 HORZ(LL): 0.016 D - - HORZ(TL): 0.032 D - - Creep Factor: 2.0 Max TC CSI: 0.773 Max BC CSI: 0.419 Max Web CSI: 0.154 VIEW Ver: 21.02.00B.1108.20	Gravity Non-Gravity Loc R+ / R- / Rh / Rw / U / RL H 823 -/- /- /407 /69 /29 D 823 -/- /- /407 /69 /- Wind reactions based on MWFRS H Brg Wid = 3.5 Min Req = 1.5 (Truss) D Brg Wid = 3.5 Min Req = 1.5 (Truss) Bearings H & D are a rigid surface. Members not listed have forces less than 375# Maximum Top Chord Forces Per Ply (lbs) Chords Tens.Comp. Chords Tens. Comp. B - C 98 - 1711 C - D 98 - 1711

Lumber

Top chord: 2x4 SP #2;
Bot chord: 2x4 SP M-31;
Webs: 2x4 SP #3;

Wind

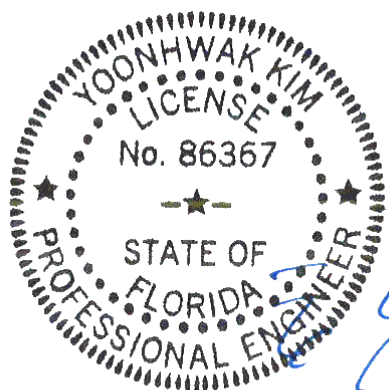
Wind loads based on MWFRS with additional C&C member design.
Wind loading based on both gable and hip roof types.

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.Comp.	Chords	Tens. Comp.
B - G	1611 -48	F - D	1611 -48
G - F	1611 -48		

Maximum Web Forces Per Ply (lbs)

Webs	Tens.Comp.
C - G	404 0

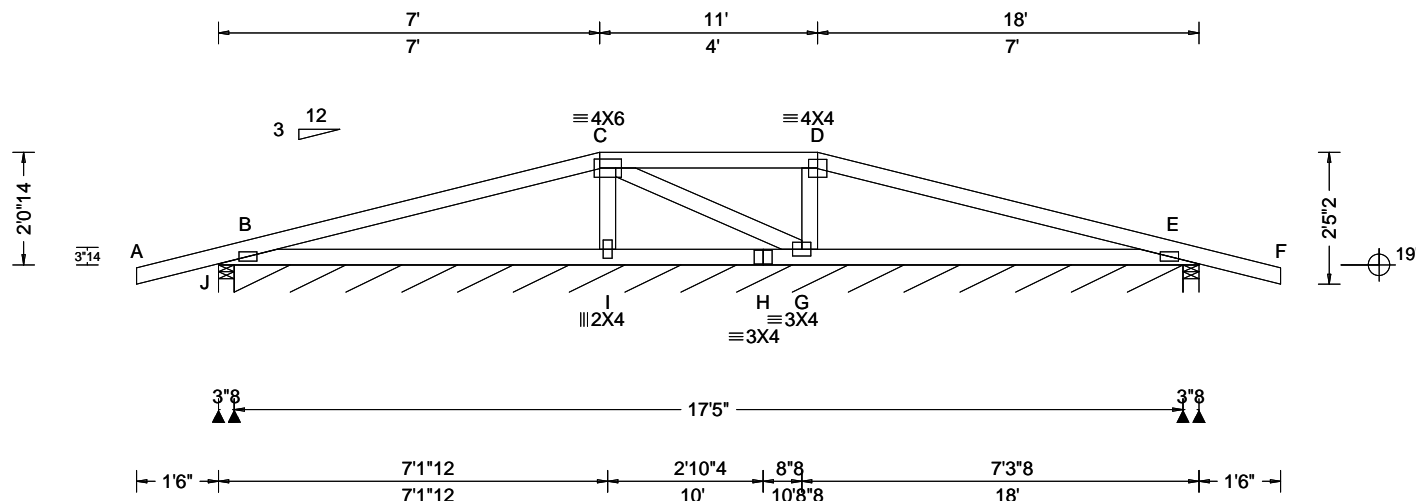


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AN ITW COMPANY
155 Harlem Ave
North Building, 4th Floor
Glenview, IL 60025

SEQN: 136290 FROM:	HIPS Ply: 1 Qty: 1	Job Number: 23-9592 Walters 2 story Truss Label: A03	Cust: R 215 JRef: 1XQY2150008 T14 DrwNo: 181.23.1233.16457 GA / YK 06/30/2023
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Loading Criteria (psf)	Wind Criteria	Snow Criteria (Pg, Pf in PSF)	Defl/CSI Criteria	▲ Maximum Reactions (lbs), or *=PLF
TCLL: 20.00 TCDL: 10.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 40.00 NCBCLL: 10.00 Soffit: 2.00 Load Duration: 1.25 Spacing: 24.0 "	Wind Std: ASCE 7-16 Speed: 130 mph Enclosure: Closed Risk Category: II EXP: B Kzt: NA Mean Height: 20.01 ft TCDL: 5.0 psf BCDL: 5.0 psf MWFRS Parallel Dist: 0 to h/2 C&C Dist a: 3.00 ft Loc. from endwall: not in 4.50 ft GCpi: 0.18 Wind Duration: 1.60	Pg: NA Ct: NA CAT: NA Pf: NA Ce: NA Lu: NA Cs: NA Snow Duration: NA Building Code: FBC 7th Ed. 2020 Res. TPI Std: 2014 Rep Fac: Varies by Ld Case FT/RT:20(0)/10(0) Plate Type(s): WAVE	PP Deflection in loc L/def L/# VERT(LL): 0.036 E 999 240 VERT(CL): 0.070 E 999 180 HORZ(LL): 0.010 B - - HORZ(TL): 0.020 B - - Creep Factor: 2.0 Max TC CSI: 0.316 Max BC CSI: 0.489 Max Web CSI: 0.067 VIEW Ver: 21.02.00B.1108.20	Gravity Loc R+ / R- / Rh Non-Gravity / Rw / U / RL J 428 /- /- /- /72 /- J* 63 /- /- /- /6 /- E 427 /- /- /- /70 /- H /-261 Wind reactions based on MWFRS J Brg Wid = 3.5 Min Req = 1.5 (Truss) J Brg Wid = 209 Min Req = - E Brg Wid = 3.5 Min Req = 1.5 (Truss) Bearings J, J, & E are a rigid surface. Members not listed have forces less than 375#

Lumber

Top chord: 2x4 SP M-31;
Bot chord: 2x4 SP #2;
Webs: 2x4 SP #3;

Special Loads

----- (Lumber Dur.Fac.=1.25 / Plate Dur.Fac.=1.25)

TC: From 61 plf at -1.50 to 61 plf at 19.50
BC: From 4 plf at -1.50 to 4 plf at 0.00
BC: From 20 plf at 0.00 to 20 plf at 18.00
BC: From 4 plf at 18.00 to 4 plf at 19.50
TC: 185 lb Conc. Load at 9.00
BC: 120 lb Conc. Load at 9.00

Plating Notes

All plates are 2X4(A1) except as noted.

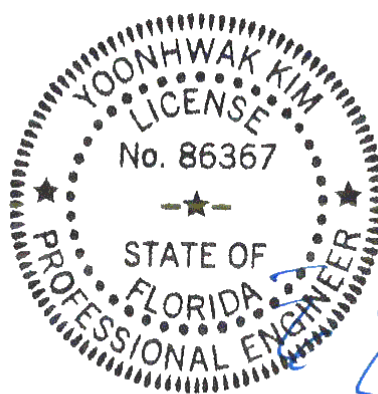
Purlins

In lieu of structural panels use purlins to brace all flat TC @ 24" oc.

Wind

Wind loads and reactions based on MWFRS.

Wind loading based on both gable and hip roof types.

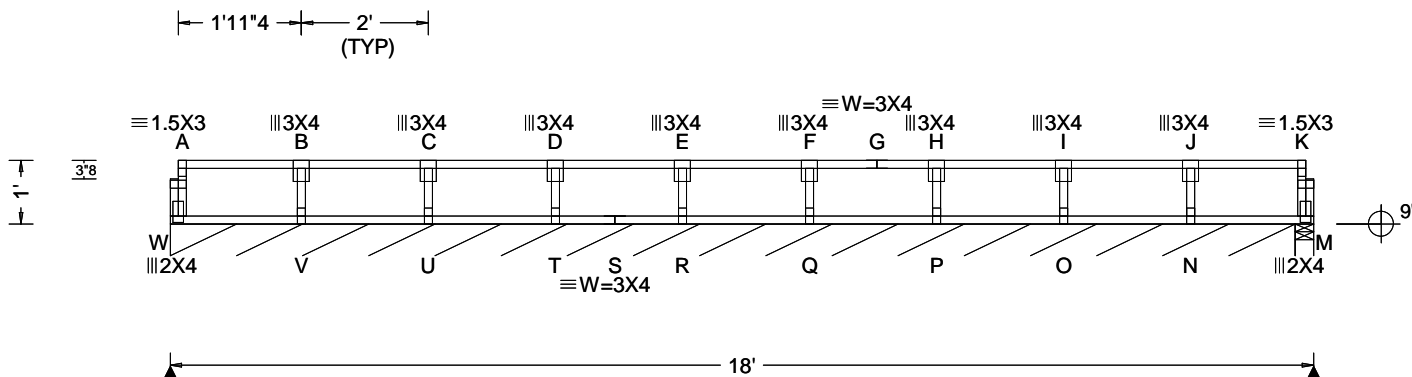


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AN ITW COMPANY
155 Harlem Ave
North Building, 4th Floor
Glenview, IL 60025

SEQN: 136325 FROM:	SY42 Qty: 2	Ply: 1 Walters 2 story Truss Label: F01	Cust: R 215 JRef: 1XQY2150008 T13 DrwNo: 181.23.1233.18860 GA / YK 06/30/2023
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Loading Criteria (psf)	Wind Criteria	Snow Criteria (Pg, Pf in PSF)	Defl/CSI Criteria	▲ Maximum Reactions (lbs), or *=PLF
TCLL: 40.00 TCDL: 15.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 65.00 NCBCLL: 10.00 Soffit: 2.00 Load Duration: 1.00 Spacing: 24.0 "	Wind Std: NA Speed: NA mph Enclosure: NA Category: NA EXP: NA Kzt: NA Mean Height: NA ft TCDL: NA psf BCDL: NA psf MWFRS Parallel Dist: NA C&C Dist a: NA ft Loc. from endwall: NA I: NA GCpi: NA Wind Duration: NA	Pg: NA Ct: NA CAT: NA Pf: NA Ce: NA Lu: NA Cs: NA Snow Duration: NA Building Code: FBC 7th Ed. 2020 Res. TPI Std: 2014 Rep Fac: Yes FT/RT: 20(0)/10(0) Plate Type(s): WAVE	PP Deflection in loc L/defl L/# VERT(LL): 0.001 B 999 480 VERT(CL): 0.001 B 999 360 HORZ(LL): 0.000 B - - HORZ(TL): 0.001 B - - Creep Factor: 2.0 Max TC CSI: 0.099 Max BC CSI: 0.058 Max Web CSI: 0.054 VIEW Ver: 21.02.00B.1108.20	Gravity Loc R+ / R- / Rh / Rw / U / RL Non-Gravity W* 125 -/- /- /- /- /- M 100 -/- /- /- /- /- W Brg Wid = 212 Min Req = - M Brg Wid = 3.5 Min Req = 1.5 (Truss) Bearings W & M are a rigid surface. Members not listed have forces less than 375#

Lumber

Top chord: 4x2 SP M-31;
Bot chord: 4x2 SP #2;
Webs: 4x2 SP #3;

Bracing

Sheathing is required for any longitudinal(drag) forces. All connections to be designed by the building designer.

Fasten rated sheathing to one face of this frame.

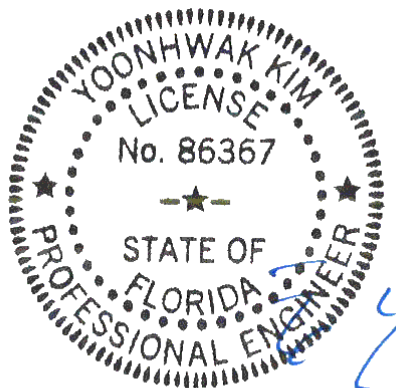
Plating Notes

All plates are 1.5X3 except as noted.

Additional Notes

See detail STRBRIBR1014 for bracing and bridging recommendations.

Truss must be installed as shown with top chord up.

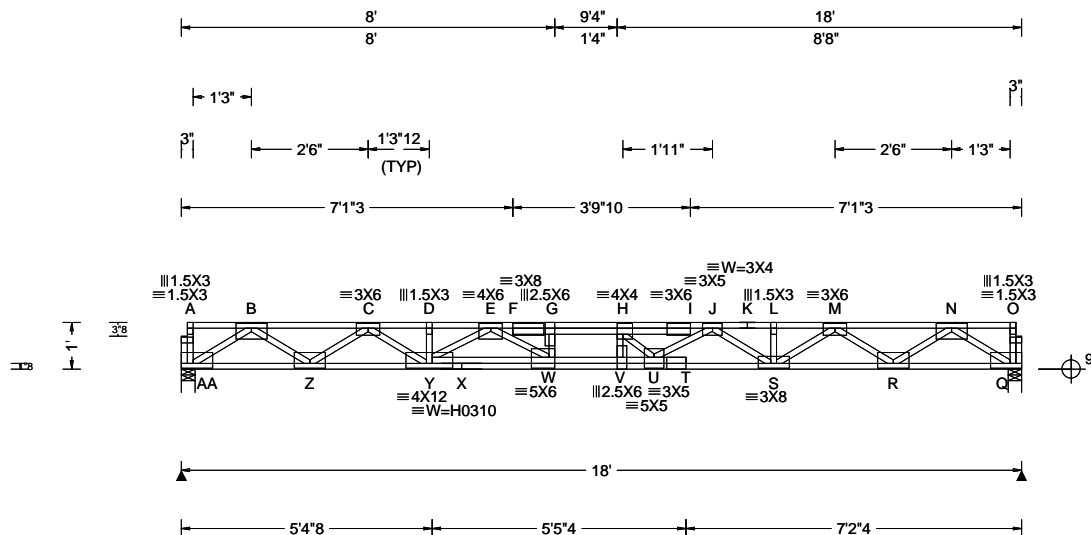


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155 Harlem Ave
North Building, 4th Floor
Glenview, IL 60025

SEQN: 136318 FROM:	SY42 Qty: 11	Ply: 1 Walters 2 story Truss Label: F02	Cust: R 215 JRef: 1XQY2150008 T1 DrwNo: 181.23.1233.22783 GA / YK 06/30/2023
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Loading Criteria (psf)	Wind Criteria	Snow Criteria (Pg,Pf in PSF)	Defl/CSI Criteria	▲ Maximum Reactions (lbs)
TCLL: 40.00 TCDL: 15.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 65.00 NCBCLL: 10.00 Soffit: 2.00 Load Duration: 1.00 Spacing: 24.0 "	Wind Std: NA Speed: NA mph Enclosure: NA Category: NA EXP: NA Kzt: NA Mean Height: NA ft TCDL: NA psf BCDL: NA psf MWFRS Parallel Dist: NA C&C Dist a: NA ft Loc. from endwall: NA I: NA GCpi: NA Wind Duration: NA	Pg: NA Ct: NA CAT: NA Pf: NA Ce: NA Lu: NA Cs: NA Snow Duration: NA Building Code: FBC 7th Ed. 2020 Res. TPI Std: 2014 Rep Fac: Yes FT/RT:12(0)/10(0) Plate Type(s): WAVE, HS	PP Deflection in loc L/def L/# VERT(LL): 0.348 V 607 480 VERT(CL): 0.567 V 373 360 HORZ(LL): 0.047 Q - - HORZ(TL): 0.077 Q - - Creep Factor: 2.0 Max TC CSI: 0.627 Max BC CSI: 0.734 Max Web CSI: 0.184 VIEW Ver: 21.02.00B.1108.20	Gravity Loc R+ / R- / Rh Non-Gravity / Rw / U / RL AA 1156 -/- /- /- /- /- Q 1156 -/- /- /- /- /- AA Brg Wid = 3.5 Min Req = 1.5 (Truss) Q Brg Wid = 3.5 Min Req = 1.5 (Truss) Bearings AA & Q are a rigid surface. Members not listed have forces less than 375# Maximum Top Chord Forces Per Ply (lbs) Chords Tens.Comp. Chords Tens. Comp. B - C 0 -2796 H - I 0 -6080 C - D 0 -4816 I - J 0 -6073 D - E 0 -4816 J - K 0 -4713 E - F 0 -6559 K - L 0 -4713 F - G 0 -6566 L - M 0 -4713 G - H 0 -6592 M - N 0 -2820

Lumber

Top chord: 4x2 SP M-31;
Bot chord: 4x2 SP M-31;
Webs: 4x2 SP M-31;

Plating Notes

All plates are 4X8 except as noted.

Deflection

Max JT VERT DEFL: LL: 0.35" DL: 0.23". See detail DEFLCAMB1014 for camber recommendations.

Additional Notes

See detail STRBRIBR1014 for bracing and bridging recommendations.

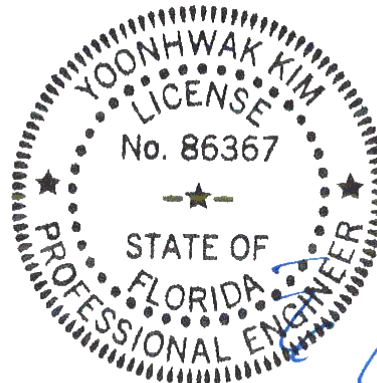
Truss must be installed as shown with top chord up.

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.Comp.	Chords	Tens. Comp.
AA- Z	1610 0	V - U	6579 0
Z - Y	3951 0	U - T	5340 0
Y - X	5544 0	T - S	5354 0
X - W	5555 0	S - R	3914 0
W - V	6592 0	R - Q	1621 0

Maximum Web Forces Per Ply (lbs)

Webs	Tens.Comp.	Webs	Tens. Comp.
AA- B	0 -1935	H - U	0 -867
B - Z	1449 0	U - J	906 0
Z - C	0 -1410	J - S	0 -769
C - Y	1040 0	S - M	961 0
Y - E	0 -888	M - R	0 -1335
E - W	1275 0	R - N	1463 0
W - G	0 -407	N - Q	0 -1949

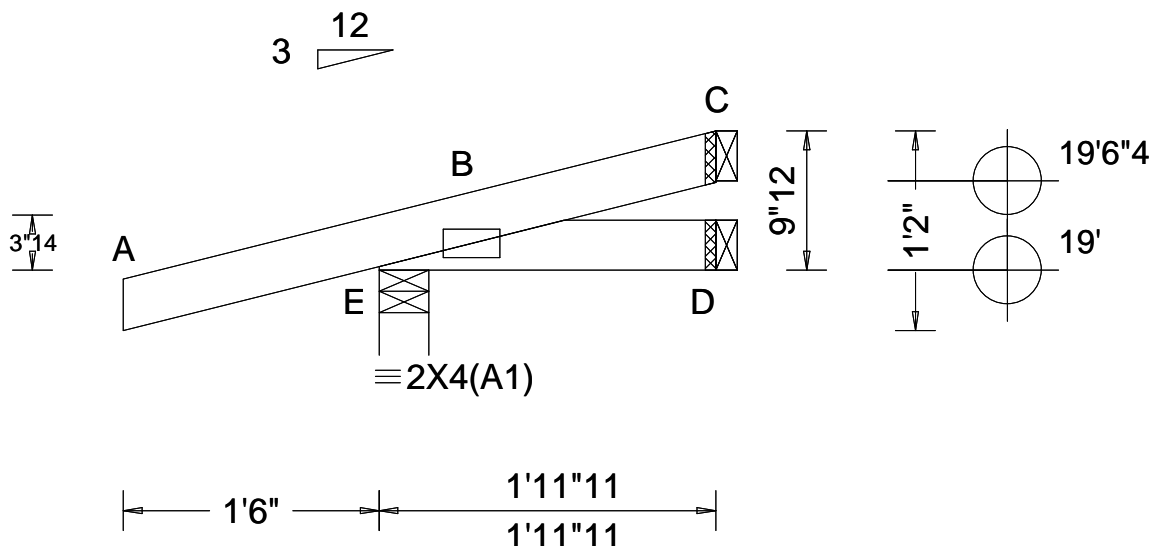


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155 Harlem Ave
North Building, 4th Floor
Glenview, IL 60025

SEQN: 136328 FROM:	JACK Ply: 1 Qty: 8	Job Number: 23-9592 Walters 2 story Truss Label: J01	Cust: R 215 JRef: 1XQY2150008 T2 DrwNo: 181.23.1233.25397 GA / YK 06/30/2023
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Loading Criteria (psf)	Wind Criteria	Snow Criteria (Pg,Pf in PSF)	Defl/CSI Criteria	▲ Maximum Reactions (lbs)
TCLL: 20.00 TCDL: 10.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 40.00 NCBCLL: 10.00 Soffit: 2.00 Load Duration: 1.25 Spacing: 24.0 "	Wind Std: ASCE 7-16 Speed: 130 mph Enclosure: Closed Risk Category: II EXP: B Kzt: NA Mean Height: 19.38 ft TCDL: 5.0 psf BCDL: 5.0 psf MWFRS Parallel Dist: 0 to h/2 C&C Dist a: 3.00 ft Loc. from endwall: Any GCp: 0.18 Wind Duration: 1.60	Pg: NA Ct: NA CAT: NA Pf: NA Ce: NA Lu: NA Cs: NA Snow Duration: NA Building Code: FBC 7th Ed. 2020 Res. TPI Std: 2014 Rep Fac: Yes FT/RT:20(0)/10(0) Plate Type(s): WAVE	PP Deflection in loc L/defl L/# VERT(LL): NA VERT(CL): NA HORZ(LL): 0.000 B - - HORZ(TL): 0.000 B - - Creep Factor: 2.0 Max TC CSI: 0.148 Max BC CSI: 0.021 Max Web CSI: 0.000 VIEW Ver: 21.02.00B.1108.20	Gravity Non-Gravity Loc R+ / R- / Rh / Rw / U / RL E 231 - / - /122 /63 /26 D 23 - / - /15 /2 - C 21 - / - /13 /6 - Wind reactions based on MWFRS E Brg Wid = 3.5 Min Req = 1.5 (Truss) D Brg Wid = 1.5 Min Req = - C Brg Wid = 1.5 Min Req = - Bearing E is a rigid surface. Members not listed have forces less than 375#

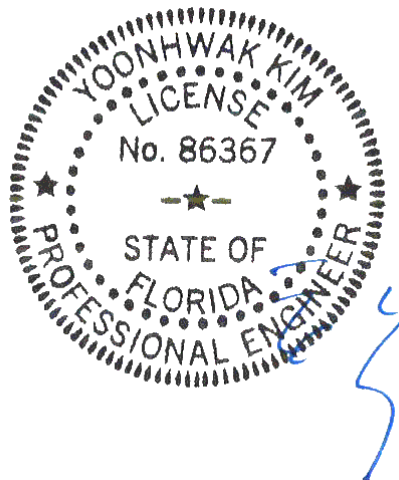
Lumber

Top chord: 2x4 SP #2;
Bot chord: 2x4 SP #2;

Wind

Wind loads based on MWFRS with additional C&C member design.

Wind loading based on both gable and hip roof types.

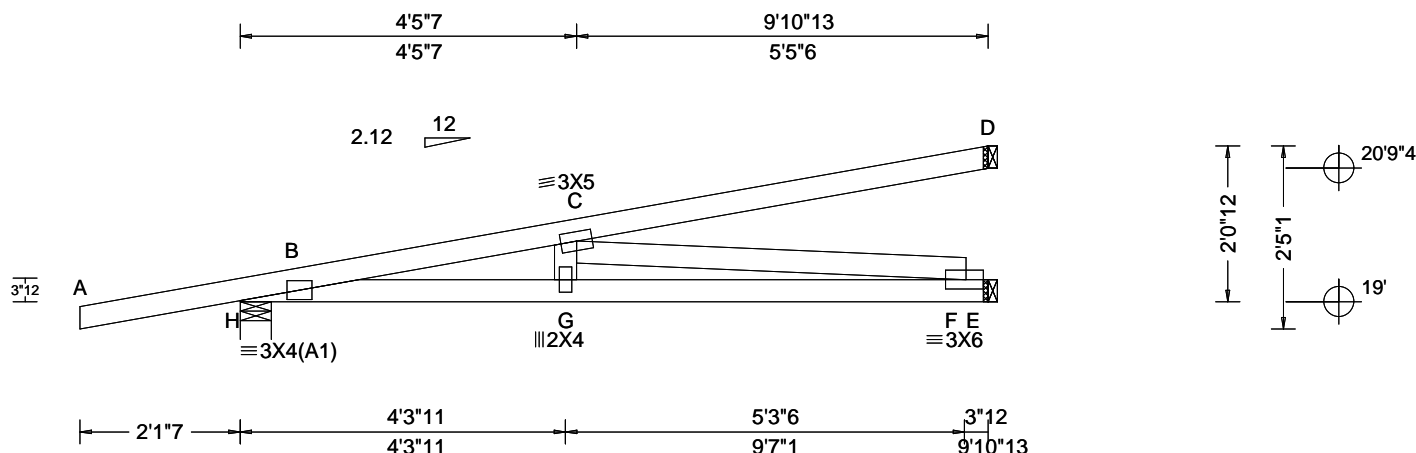


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155 Harlem Ave
North Building, 4th Floor
Glenview, IL 60025

SEQN: 136341 FROM:	HIP_	Ply: 1 Qty: 4	Job Number: 23-9592 Walters 2 story Truss Label: J01HJ	Cust: R 215 JRRef: 1XQY2150008 T10 DrwNo: 181.23.1233.30877 GA / YK 06/30/2023
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Loading Criteria (psf)	Wind Criteria	Snow Criteria (Pg, Pf in PSF)	Defl/CSI Criteria	▲ Maximum Reactions (lbs)
TCLL: 20.00 TCDL: 10.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 40.00 NCBCLL: 0.00 Soffit: 2.00 Load Duration: 1.25 Spacing: 24.0 "	Wind Std: ASCE 7-16 Speed: 130 mph Enclosure: Closed Risk Category: II EXP: B Kzt: NA Mean Height: 20.00 ft TCDL: 5.0 psf BCDL: 5.0 psf MWFRS Parallel Dist: 0 to h/2 C&C Dist a: 3.00 ft Loc. from endwall: NA GCp: 0.18 Wind Duration: 1.60	Pg: NA Ct: NA CAT: NA Pf: NA Ce: NA Lu: NA Cs: NA Snow Duration: NA Building Code: FBC 7th Ed. 2020 Res. TPI Std: 2014 Rep Fac: No FT/RT: 20(0)/10(0) Plate Type(s): WAVE	PP Deflection in loc L/def L/# VERT(LL): 0.067 C 999 240 VERT(CL): 0.132 C 886 180 HORZ(LL): 0.008 F - - HORZ(TL): 0.016 F - - Creep Factor: 2.0 Max TC CSI: 0.888 Max BC CSI: 0.334 Max Web CSI: 0.824 VIEW Ver: 21.02.00B.1108.20	Gravity Loc R+ / R- / Rh / Rw / U / RL H 450 -/- /- /65 -/ E 317 -/- /- /22 -/- D 291 -/- /- /87 -/ Non-Gravity H Brg Wid = 4.9 Min Req = 1.5 (Truss) E Brg Wid = 1.5 Min Req = - D Brg Wid = 1.5 Min Req = - Bearing H is a rigid surface. Members not listed have forces less than 375# Maximum Top Chord Forces Per Ply (lbs) Chords Tens.Comp.

Lumber

Top chord: 2x4 SP #2;
Bot chord: 2x4 SP M-31;
Webs: 2x4 SP #3;

Loading

Hipjack supports 7-0-0 setback jacks with no webs.

Wind

Wind loads and reactions based on MWFRS.
Wind loading based on both gable and hip roof types.

Maximum Bot Chord Forces Per Ply (lbs)

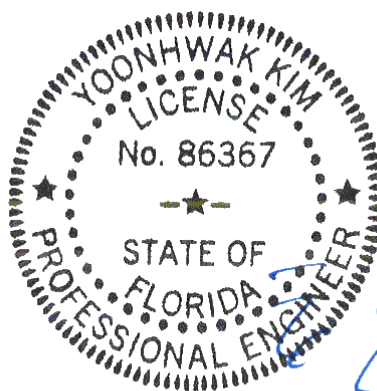
Chords Tens.Comp. Chords Tens. Comp.

B - G 1401 -131 G - F 1391 -145

Maximum Web Forces Per Ply (lbs)

Webs Tens.Comp.

C - F 147 -1408

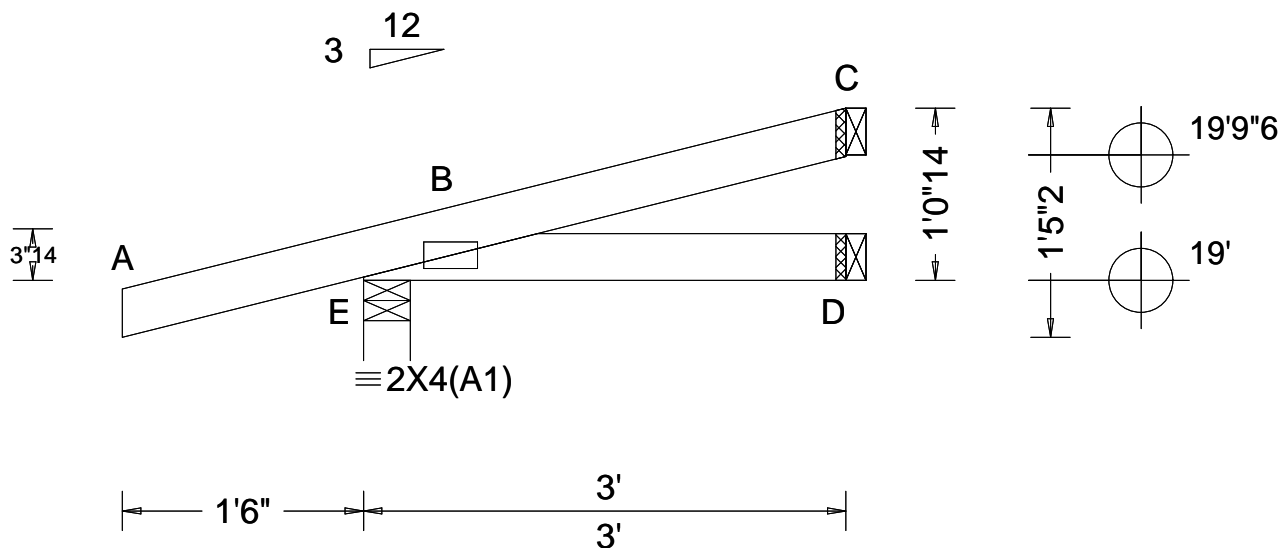


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06/30/2023

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155 Harlem Ave
North Building, 4th Floor
Glenview, IL 60025

SEQN: 136305 FROM:	JACK Ply: 1 Qty: 8	Job Number: 23-9592 Walters 2 story Truss Label: J02	Cust: R 215 JRef: 1XQY2150008 T4 DrwNo: 181.23.1233.34013 GA / YK 06/30/2023
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Loading Criteria (psf)	Wind Criteria	Snow Criteria (Pg,Pf in PSF)	Defl/CSI Criteria	▲ Maximum Reactions (lbs)
TCLL: 20.00 TCDL: 10.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 40.00 NCBCLL: 10.00 Soffit: 2.00 Load Duration: 1.25 Spacing: 24.0 "	Wind Std: ASCE 7-16 Speed: 130 mph Enclosure: Closed Risk Category: II EXP: B Kzt: NA Mean Height: 19.51 ft TCDL: 5.0 psf BCDL: 5.0 psf MWFRS Parallel Dist: 0 to h/2 C&C Dist a: 3.00 ft Loc. from endwall: not in 4.50 ft GCp: 0.18 Wind Duration: 1.60	Pg: NA Ct: NA CAT: NA Pf: NA Ce: NA Lu: NA Cs: NA Snow Duration: NA Building Code: FBC 7th Ed. 2020 Res. TPI Std: 2014 Rep Fac: Yes FT/RT:20(0)/10(0) Plate Type(s): WAVE	PP Deflection in loc L/defl L/# VERT(LL): NA VERT(CL): NA HORZ(LL): 0.001 B - - HORZ(TL): 0.001 B - - Creep Factor: 2.0 Max TC CSI: 0.148 Max BC CSI: 0.058 Max Web CSI: 0.000 VIEW Ver: 21.02.00B.1108.20	Gravity Non-Gravity Loc R+ / R- / Rh / Rw / U / RL E 255 - / - /134 /58 /32 D 46 - / - /25 - / - C 59 - / - /26 /17 - Wind reactions based on MWFRS E Brg Wid = 3.5 Min Req = 1.5 (Truss) D Brg Wid = 1.5 Min Req = - C Brg Wid = 1.5 Min Req = - Bearing E is a rigid surface. Members not listed have forces less than 375#

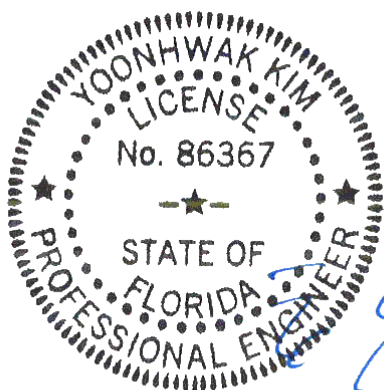
Lumber

Top chord: 2x4 SP #2;
Bot chord: 2x4 SP #2;

Wind

Wind loads based on MWFRS with additional C&C member design.

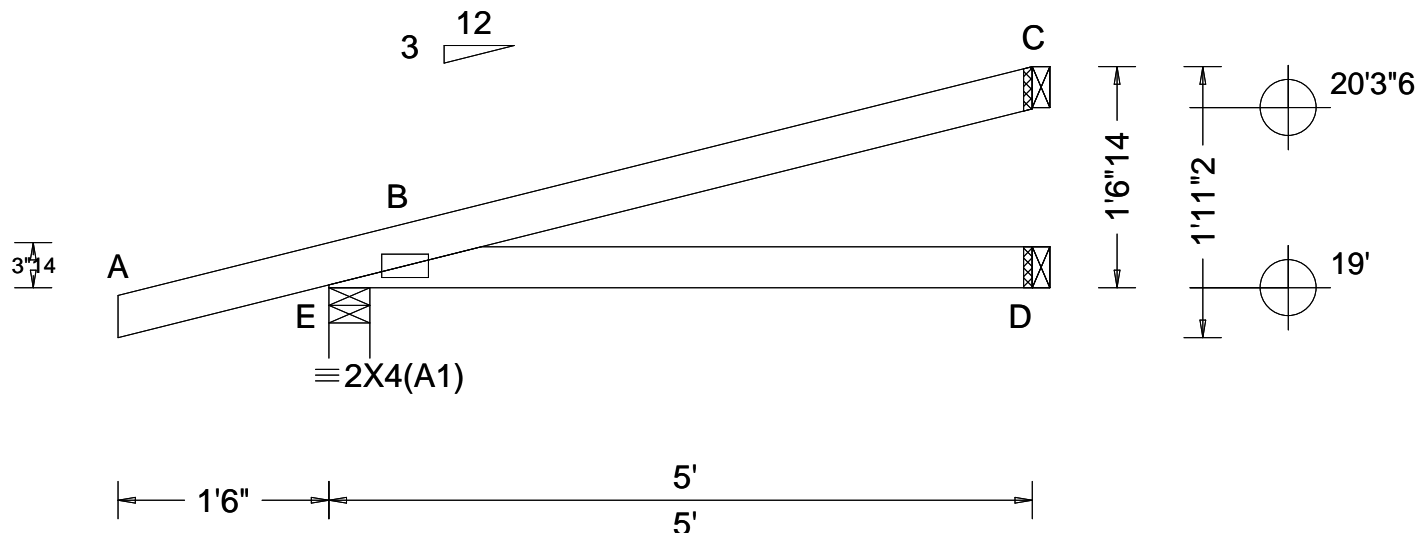
Wind loading based on both gable and hip roof types.



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North Building, 4th Floor
Glenview, IL 60025



Loading Criteria (psf)		Wind Criteria		Snow Criteria (Pg,Pf in PSF)		Defl/CSI Criteria		▲ Maximum Reactions (lbs)							
TCLL: 20.00		Wind Std: ASCE 7-16		Pg: NA Ct: NA CAT: NA		PP Deflection in loc L/defl L/#		Gravity Non-Gravity							
TCDL: 10.00		Speed: 130 mph		Pf: NA Ce: NA		VERT(LL): NA		Loc		R+ / R-		/ Rh		/ Rw / U / RL	
BCLL: 0.00		Enclosure: Closed		Lu: NA Cs: NA		VERT(CL): NA		E 323		/-		/-		/169 /56 /45	
BCDL: 10.00		Risk Category: II		Snow Duration: NA		HORZ(LL): 0.005 B - -		D 86		/-		/-		/47 /- /-	
Des Ld: 40.00		EXP: B Kzt: NA				HORZ(TL): 0.009 B - -		C 121		/-		/-		/49 /35 /-	
NCBCLL: 10.00		Mean Height: 19.76 ft		Building Code:		Creep Factor: 2.0		Wind reactions based on MWFRS							
Soffit: 2.00		TCDL: 5.0 psf		FBC 7th Ed. 2020 Res.		Max TC CSI: 0.278		E Brg Wid = 3.5 Min Req = 1.5 (Truss)							
Load Duration: 1.25		BCDL: 5.0 psf		TPI Std: 2014		Max BC CSI: 0.212		D Brg Wid = 1.5 Min Req = -							
Spacing: 24.0 "		MWFRS Parallel Dist: 0 to h/2		Rep Fac: Yes		Max Web CSI: 0.000		C Brg Wid = 1.5 Min Req = -							
		C&C Dist a: 3.00 ft		FT/RT:20(0)/10(0)				Bearing E is a rigid surface.							
		Loc. from endwall: not in 4.50 ft		Plate Type(s):				Members not listed have forces less than 375#							
		GCpi: 0.18													
		Wind Duration: 1.60		WAVE		VIEW Ver: 21.02.00B.1108.20									

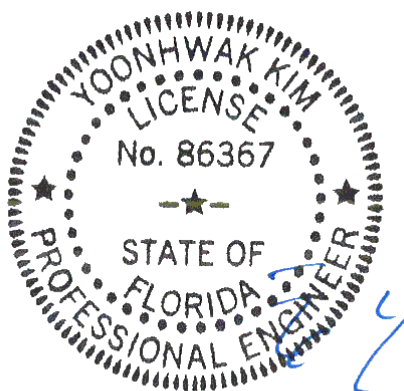
Lumber

Top chord: 2x4 SP #2;
Bot chord: 2x4 SP #2:

Wind

Wind loads based on MWFRS with additional C&C member design.

Wind loading based on both gable and hip roof types.

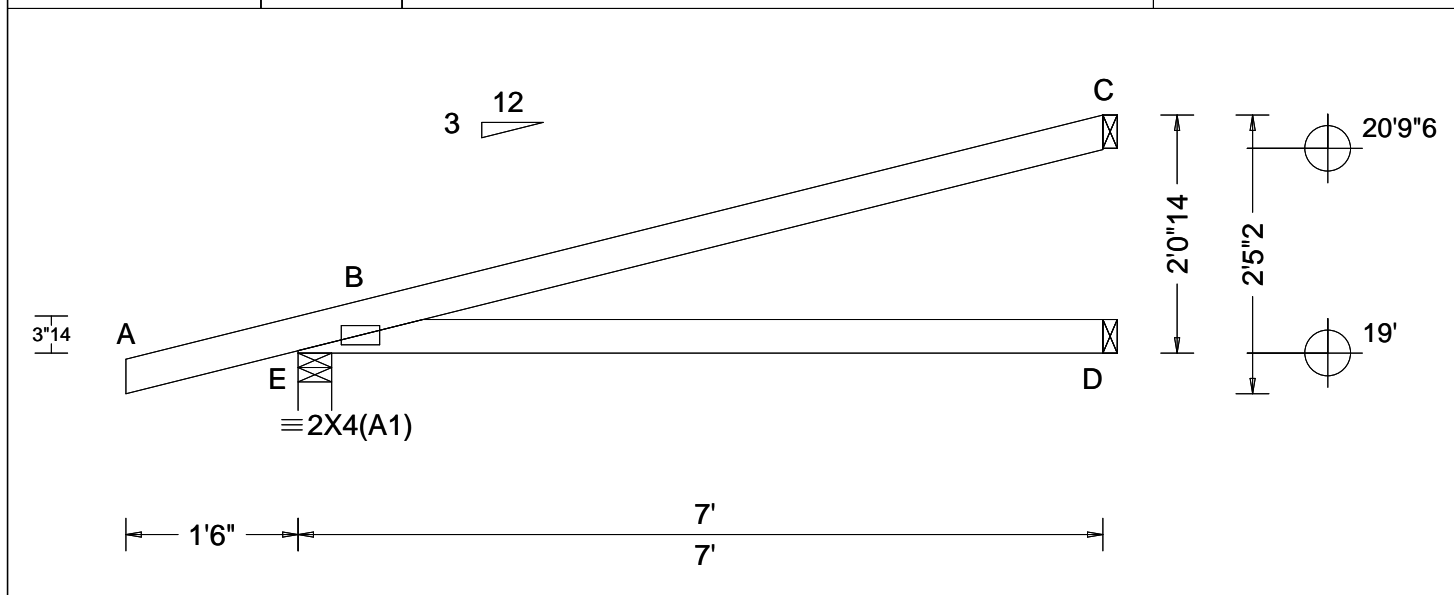


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SEQN: 136338 FROM:	EJAC Ply: 1 Qty: 6	Job Number: 23-9592 Walters 2 story Truss Label: J04	Cust: R 215 JRRef: 1XQY2150008 T6 DrwNo: 181.23.1233.40267 GA / YK 06/30/2023
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Loading Criteria (psf)	Wind Criteria	Snow Criteria (Pg,Pf in PSF)	Defl/CSI Criteria	▲ Maximum Reactions (lbs)
TCLL: 20.00 TCDL: 10.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 40.00 NCBCLL: 10.00 Soffit: 2.00 Load Duration: 1.25 Spacing: 24.0 "	Wind Std: ASCE 7-16 Speed: 130 mph Enclosure: Closed Risk Category: II EXP: B Kzt: NA Mean Height: 20.01 ft TCDL: 5.0 psf BCDL: 5.0 psf MWFRS Parallel Dist: 0 to h/2 C&C Dist a: 3.00 ft Loc. from endwall: not in 4.50 ft GCp: 0.18 Wind Duration: 1.60	Pg: NA Ct: NA CAT: NA Pf: NA Ce: NA Lu: NA Cs: NA Snow Duration: NA Building Code: FBC 7th Ed. 2020 Res. TPI Std: 2014 Rep Fac: Yes FT/RT:20(0)/10(0) Plate Type(s): WAVE	PP Deflection in loc L/defl L/# VERT(LL): NA VERT(CL): NA HORZ(LL): 0.013 B - - HORZ(TL): 0.025 B - - Creep Factor: 2.0 Max TC CSI: 0.268 Max BC CSI: 0.444 Max Web CSI: 0.000 VIEW Ver: 21.02.00B.1108.20	Gravity Loc R+ / R- / Rh / Rw / U / RL Non-Gravity Loc R+ / R- / Rh / Rw / U / RL E 398 - / - / - /207 /57 /60 D 120 - / - / - /65 - / - C 185 - / - / - /74 /54 - Wind reactions based on MWFRS E Brg Wid = 3.5 Min Req = 1.5 (Truss) D Brg Wid = 1.5 Min Req = - C Brg Wid = 1.5 Min Req = - Bearing E is a rigid surface. Members not listed have forces less than 375#

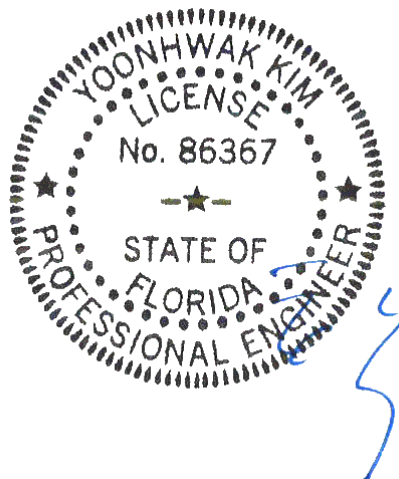
Lumber

Top chord: 2x4 SP M-31;
Bot chord: 2x4 SP #2;

Wind

Wind loads based on MWFRS with additional C&C member design.

Wind loading based on both gable and hip roof types.

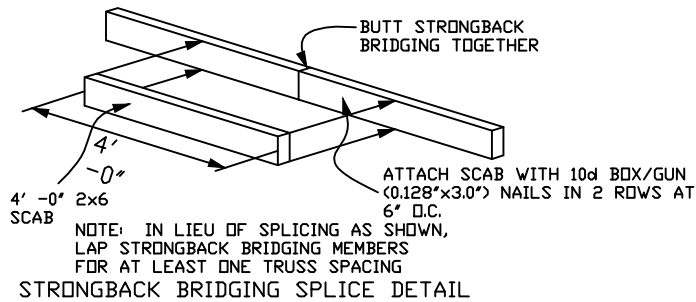


FL REG# 278, Yoonhwak Kim, FL PE #86367
Florida Certificate of Product Approval #FL 1999

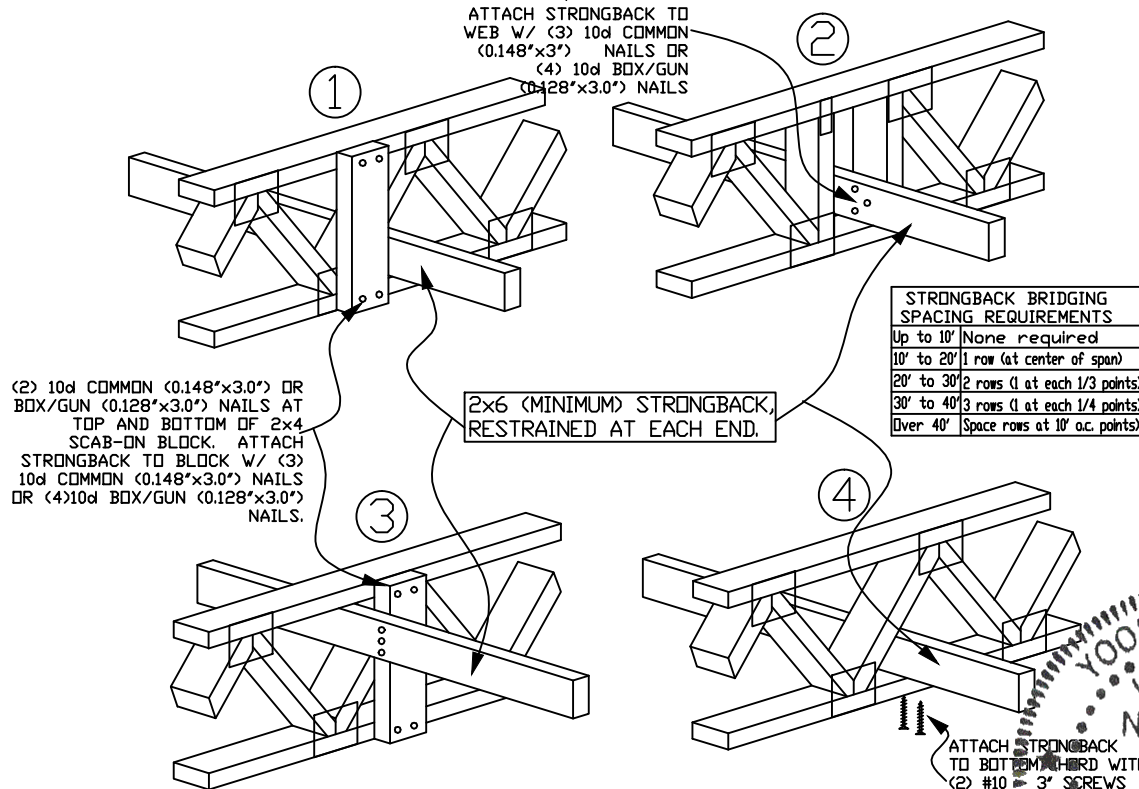
****WARNING**** READ AND FOLLOW ALL NOTES ON THIS DRAWING!
****IMPORTANT**** FURNISH THIS DRAWING TO ALL CONTRACTORS INCLUDING THE INSTALLERS
Trusses require extreme care in fabricating, handling, shipping, installing and bracing. Refer to and follow the latest edition of BCSI (Building Component Safety Information, by TPI and SBCA) for safety practices prior to performing these functions. Installers shall provide temporary bracing per BCSI. Unless noted otherwise, top chord shall have properly attached structural sheathing and bottom chord shall have a properly attached rigid ceiling. Locations shown for permanent lateral restraint of webs shall have continuous lateral restraint (CLR), installed with diagonal bracing installed on the CLR per BCSI sections B3, B7, or B10, as applicable. Apply plates to each face of truss and position as shown above and on the Joint Details, unless noted otherwise. Refer to drawings 160A-Z for standard plate positions. Refer to job's General Notes page for additional information.
Alpine, a division of ITW Building Components Group Inc. shall not be responsible for any deviation from this drawing, any failure to build the truss in conformance with ANSI/TPI 1, or for handling, shipping, installation and bracing of trusses. A seal on this drawing or cover page listing this drawing, indicates acceptance of professional engineering responsibility solely for the design shown. The suitability and use of this drawing for any structure is the responsibility of the Building Designer per ANSI/TPI 1 Sec.2.
For more information see these web sites: Alpine: alpineitw.com; TPI: tpinst.org; SBCA: sbccomponents.com; ICC: iccsafe.org; AWC: awc.org

ALPINE
AN ITW COMPANY
155 Harlem Ave
North Building, 4th Floor
Glenview, IL 60025

STRONGBACK BRIDGING RECOMMENDATIONS



NOTE: Details 1 and 2 are the preferred attachment methods

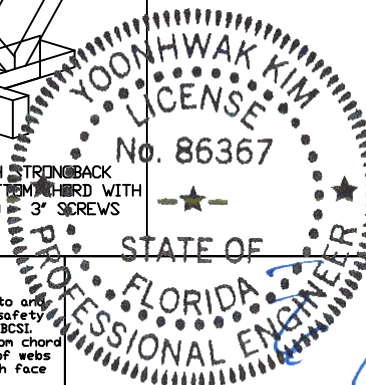


STRONGBACK BRIDGING SPACING REQUIREMENTS	
Up to 10'	None required
10' to 20'	1 row (at center of span)
20' to 30'	2 rows (1 at each 1/3 points)
30' to 40'	3 rows (1 at each 1/4 points)
Over 40'	Space rows at 10' o.c. points

- All scab-on blocks shall be a minimum 2x4 "stress graded lumber."
- All strongback bridging and bracing shall be a minimum 2x6 "stress graded lumber."
- The purpose of strongback bridging is to develop load sharing between individual trusses, resulting in an overall increase in the stiffness of the floor system. 2x6 strongback bridging, positioned as shown in details, is recommended at 10' - 0" o.c. (max.)
- The terms "bridging" and "bracing" are sometimes mistakenly used interchangeably. "Bracing" is an important structural requirement of any floor or roof system. Refer to the Truss Design Drawing (TDD) for the bracing requirements for each individual truss component. "Bridging," particularly "strongback bridging" is a recommendation for a truss system to help control vibration. In addition to aiding in the distribution of point loads between adjacent truss, strongback bridging serves to reduce "bounce" or residual vibration resulting from moving point loads, such as footsteps.

The performance of all floor systems are enhanced by the installation of strongback bridging and therefore is strongly recommended by Alpine.

For additional information regarding strongback bridging, refer to BCSI (Building Component Safety Information).



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For more information see this Job's general notes page and these web sites:
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TC LL	PSF	REF	STRONGBACK
TC DL	PSF	DATE	10/01/14
BC DL	PSF	DRWG	STRBRIBR1014
BC LL	PSF		
DT. LD.	PSF		
DUR. FAC.	1.00		
SPACING			

Commentary: Deflection and Camber

Camber may be built into trusses to compensate for the vertical deflection that results from the application of loads. Providing camber has the following advantages:

- Helps to ensure level ceilings and floors after dead loads are applied.
- Facilitates drainage to avoid ponding on flat or low slope roofs.
- Compensates for different deflection characteristics between adjacent trusses.
- Improves appearance of garage door headers and other long spans that can appear to "sag."
- Avoids "dips" in roof ridgelines at the transition from the gable to adjacent clear span trusses.

In accordance with ANSI/TPI 1 the Building Designer, through the Construction Documents, shall provide the location, direction, and magnitude of all loads attributable to ponding that may occur due to the design of the roof drainage system. The Building Designer shall also specify any dead load, live load, and in-service creep deflection criteria for flat or low-slope roofs subject to ponding loads.

The amount of camber is dependent on the truss type, span, loading, application, etceteras.

More restrictive limits for allowable deflection and slenderness ratio (L/D) may be required to help control vibration.

The following tables are provided as guidelines for limiting deflection and estimating camber. Conditions or codes may exist that require exceeding these recommendations, or past experience may warrant using more stringent limitations.

L = Span of Truss (inches)
D = Depth of Truss at Deflection Point (inches)

Recommended Truss Deflection Limits

Truss Type	L/D	Deflection Limits	
		Live Load	Total Load
Pitched Roof Trusses	24	L/240 (vertical)	L/180 (vertical)
Floor of Room-In-Attic Trusses	24	L/360 (vertical)	L/240 (vertical)
Flat or Shallow Pitched Roof Trusses	24	L/360 (vertical)	L/240 (vertical)
Residential Floor Trusses	24	L/360 (vertical)	L/240 (vertical)
Commercial Floor Trusses	20	L/480 (vertical)	L/240 (vertical)
Scissors Trusses	24	0.75" (horizontal)	1.25" (horizontal)

Truss Type	Recommended Camber
Pitched Trusses	1.00 x Deflection from Actual Dead Load
Sloping Parallel Chord Trusses	1.5 x Vertical Deflection from Actual Dead Load
Floor Trusses	(0.25 x Deflection from Live Load) + Actual Dead Load
Flat Roof Trusses	(0.25 x Deflection from Live Load) + Design Dead Load Deflection

Note: The actual dead load may be considerably less than the design dead load.

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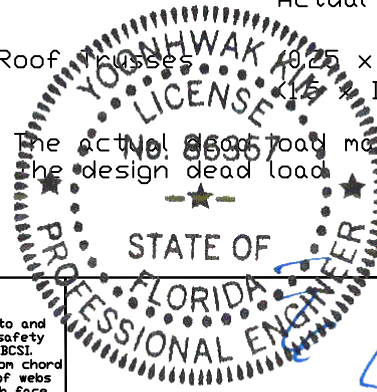
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06/30/2023

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REF	DEFLEC/CAMB
DATE	10/01/14
DRWG	DEFLCAMB1014