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**MiTek, Inc.**

16023 Swingley Ridge Rd.  
Chesterfield, MO 63017  
314.434.1200

Re: 240654  
Lot 13 TCR

The truss drawing(s) referenced below have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Wheeler - Waverly.

Pages or sheets covered by this seal: I67783666 thru I67783668

My license renewal date for the state of Missouri is December 31, 2025.

Missouri COA: Engineering 001193

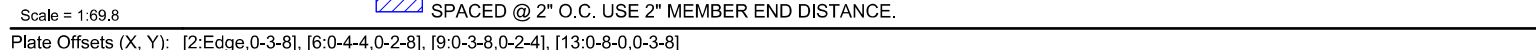


August 27, 2024

Sevier, Scott, Engineer

**IMPORTANT NOTE:** The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek or TRENCO. Any project specific information included is for MiTek's or TRENCO's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek or TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.

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August 27, 2024

 **WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

**WARNING – Verify design parameters and READ NOTES on this and INCLUDED INTER-REL-REFERENCE PAGE 1473 before using.**  
 Design valid for use only with MiTek® connectors. This design is based only on parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria**, and **DSB-22** available from Truss Plate Institute ([www.tpinet.org](http://www.tpinet.org)) and **BCSI Building Component Safety Information** available from the Structural Building Component Association ([www.sbcsccomponents.com](http://www.sbcsccomponents.com))

MiTek®

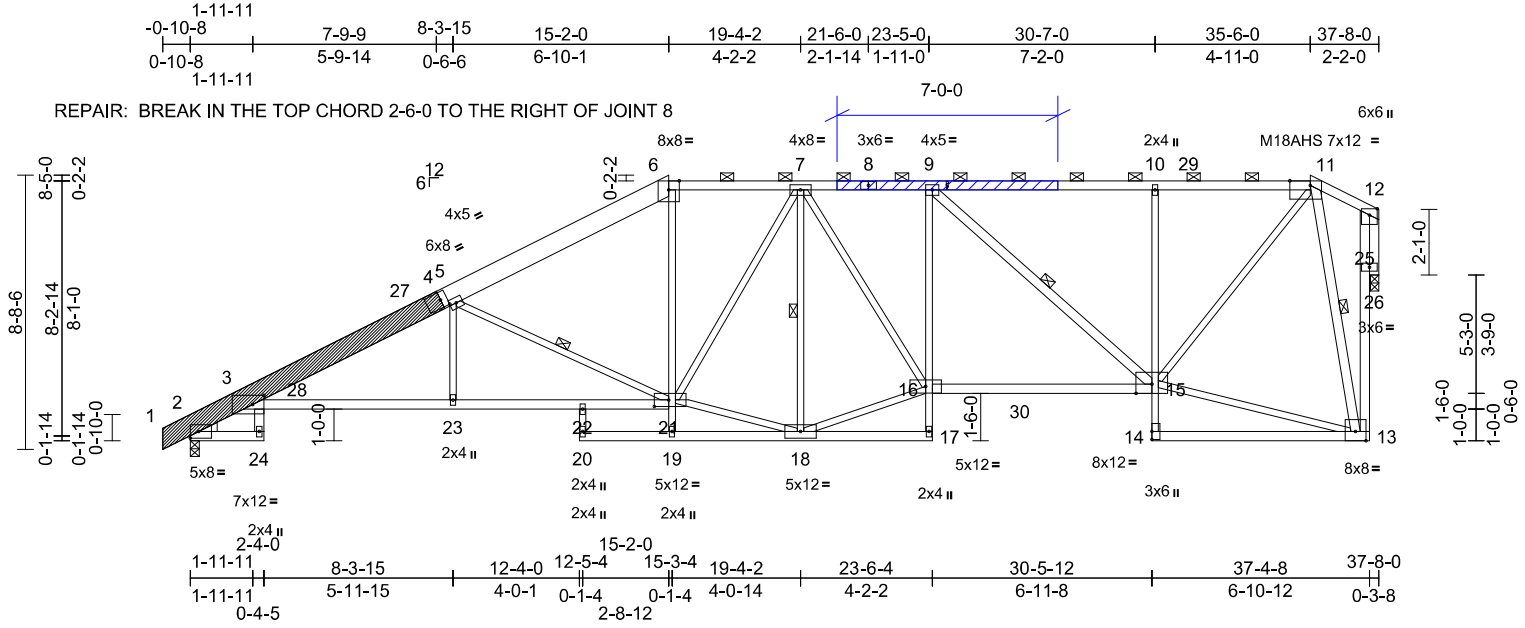
16023 Swingley Ridge Rd.  
Chesterfield, MO 63017  
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Lot 13 TCR	I67783668
240654	H3	Hip	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Fri Aug 23 16:18:20  
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Page: 1



APPLY 2 X 4 X 7' SPF/DF/SP NO.2 SCAB(S) TO EACH FACE OF TRUSS CENTERED ON DAMAGE. ATTACH WITH (0.131" X 3") NAILS PER THE FOLLOWING NAIL SCHEDULE:  
2 x 4'S - 2 ROWS: SPACED @ 4" O.C. STAGGER NAIL SPACING FROM FRONT FACE AND BACK FACE FOR A NET 2" O.C SPACING IN THE TRUSS. USE 2" MEMBER END DISTANCE.

Scale = 1:73

Plate Offsets (X, Y): [3:0-4-5,0-3-8], [4:0-2-6,0-3-0], [11:0-7-12,Edge], [21:0-5-8,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.97	Vert(LL)	-0.36	15-16	>999	360	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.70	Vert(CT)	-0.57	15-16	>785	240	M18AHS	142/136
TCDL	10.0	Rep Stress Incr	YES	WB	0.90	Horz(CT)	0.35	26	n/a	n/a		
BCLL	10.0*	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.15	21	>999	240		
BCDL	10.0											
											Weight: 255 lb	FT = 10%

**LUMBER**  
TOP CHORD 2x4 SPF No.2 \*Except\* 4-6,4-1:2x8 SP 2400F 2.0E  
BOT CHORD 2x4 SPF No.2 \*Except\* 3-21,16-15:2x4 SPF 2100F 1.8E, 17-9,10-14:2x3 SPF No.2  
WEBS 2x3 SPF No.2 \*Except\*  
24-3,15-9,13-11,13-12:2x4 SPF No.2  
OTHERS 2x4 SPF No.2  
LBR SCAB 1-4 SP 2400F 2.0E one side  
WEDGE Left: 2x4 SPF No.2

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 5-1-5 oc purlins, except end verticals, and 2-0-0 oc purlins (3-0-12 max.): 6-11.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

WEBS 1 Row at midpt 5-21, 9-15, 11-13, 7-18  
**REACTIONS** (size) 2=0-3-8, 26=0-3-2, (req. 0-3-3)  
Max Horiz 2=281 (LC 9)  
Max Uplift 2=-188 (LC 12), 26=-247 (LC 9)  
Max Grav 2=2140 (LC 3), 26=2044 (LC 42)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/6, 2-3=-1265/22, 3-5=-4254/353, 5-6=-3132/330, 6-7=-2705/317, 7-9=-2901/373, 9-10=-1931/248, 10-11=-1927/252, 11-12=-212/85, 13-25=-300/2009, 12-25=-301/2003  
BOT CHORD 2-24=-35/0, 3-23=-514/3913, 22-23=-512/3913, 21-22=-512/3913, 19-20=0/0, 18-19=0/44, 17-18=-39/23, 16-17=0/105, 9-16=0/645, 15-16=-455/2914, 14-15=0/185, 10-15=-643/204, 13-14=-7/13

**WEBS** 3-24=0/72, 20-22=0/35, 5-21=-1445/312, 19-21=0/273, 6-21=-44/1064, 7-16=-150/879, 9-15=-1359/170, 13-15=-135/526, 11-15=-326/2347, 11-13=-1988/367, 5-23=0/425, 7-18=-1273/270, 16-18=-375/2622, 18-21=-387/2473, 7-21=-116/637, 12-26=-2064/247

#### NOTES

- Attached 10-0-0 scab 1 to 4, front face(s) 2x8 SP 2400F 2.0E with 2 row(s) of 10d (0.131"x3") nails spaced 9" o.c. except : starting at 0-3-13 from end at joint 1, nail 2 row(s) at 7" o.c. for 3-9-2; starting at 8-0-1 from end at joint 1, nail 2 row(s) at 7" o.c. for 2-0-0.
- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=20.4 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.

- WARNING: Required bearing size at joint(s) 26 greater than input bearing size.
- All bearings are assumed to be SPF No.2 .
- Bearing at joint(s) 26 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 188 lb uplift at joint 2 and 247 lb uplift at joint 26.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

**LOAD CASE(S)** Standard



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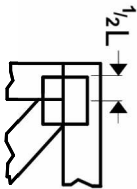
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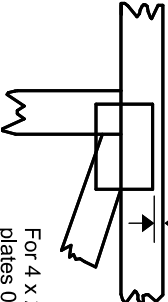
# Symbols

## PLATE LOCATION AND ORIENTATION


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



For 4 x 2 orientation, locate plates 0- <sup>1</sup>/<sub>16</sub>" from outside edge of truss.



This symbol indicates the required direction of slots in connector plates.




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

## PLATE SIZE

4 X 4

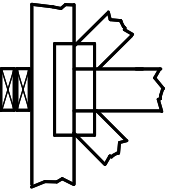
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## LATERAL BRACING LOCATION



Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.

## BEARING



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

## Industry Standards:

ANSI/TP11: National Design Specification for Metal Plate Connected Wood Truss Construction.  
DSB-22: Design Standard for Bracing.  
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

The diagram illustrates a truss structure with joints numbered 1 through 4. The top chord is labeled 'TOP CHORD' and the bottom chord is labeled 'BOTTOM CHORD'. The joints are identified by their ID (top left to bottom right): 1, 2, 3, and 4. The truss members are labeled with their respective ESR numbers: C1-2, C2-3, C3-4, C4-5, C5-6, C6-7, C7-8, W1-2, W2-3, W3-4, W4-5, W5-6, W6-7, W7-8, W8-9, W9-10, W10-11, W11-12, W12-13, W13-14, W14-15, W15-16, W16-17, W17-18, W18-19, W19-20, W20-21, W21-22, W22-23, W23-24, W24-25, W25-26, W26-27, W27-28, W28-29, W29-30, W30-31, W31-32, W32-33, W33-34, W34-35, W35-36, W36-37, W37-38, W38-39, W39-40, W40-41, W41-42, W42-43, W43-44, W44-45, W45-46, W46-47, W47-48, W48-49, W49-50, W50-51, W51-52, W52-53, W53-54, W54-55, W55-56, W56-57, W57-58, W58-59, W59-60, W60-61, W61-62, W62-63, W63-64, W64-65, W65-66, W66-67, W67-68, W68-69, W69-70, W70-71, W71-72, W72-73, W73-74, W74-75, W75-76, W76-77, W77-78, W78-79, W79-80, W80-81, W81-82, W82-83, W83-84, W84-85, W85-86, W86-87, W87-88, W88-89, W89-90, W90-91, W91-92, W92-93, W93-94, W94-95, W95-96, W96-97, W97-98, W98-99, W99-100, W100-101, W101-102, W102-103, W103-104, W104-105, W105-106, W106-107, W107-108, W108-109, W109-110, W110-111, W111-112, W112-113, W113-114, W114-115, W115-116, W116-117, W117-118, W118-119, W119-120, W120-121, W121-122, W122-123, W123-124, W124-125, W125-126, W126-127, W127-128, W128-129, W129-130, W130-131, W131-132, W132-133, W133-134, W134-135, W135-136, W136-137, W137-138, W138-139, W139-140, W140-141, W141-142, W142-143, W143-144, W144-145, W145-146, W146-147, W147-148, W148-149, W149-150, W150-151, W151-152, W152-153, W153-154, W154-155, W155-156, W156-157, W157-158, W158-159, W159-160, W160-161, W161-162, W162-163, W163-164, W164-165, W165-166, W166-167, W167-168, W168-169, W169-170, W170-171, W171-172, W172-173, W173-174, W174-175, W175-176, W176-177, W177-178, W178-179, W179-180, W180-181, W181-182, W182-183, W183-184, W184-185, W185-186, W186-187, W187-188, W188-189, W189-190, W190-191, W191-192, W192-193, W193-194, W194-195, W195-196, W196-197, W197-198, W198-199, W199-200, W200-201, W201-202, W202-203, W203-204, W204-205, W205-206, W206-207, W207-208, W208-209, W209-210, W210-211, W211-212, W212-213, W213-214, W214-215, W215-216, W216-217, W217-218, W218-219, W219-220, W220-221, W221-222, W222-223, W223-224, W224-225, W225-226, W226-227, W227-228, W228-229, W229-230, W230-231, W231-232, W232-233, W233-234, W234-235, W235-236, W236-237, W237-238, W238-239, W239-240, W240-241, W241-242, W242-243, W243-244, W244-245, W245-246, W246-247, W247-248, W248-249, W249-250, W250-251, W251-252, W252-253, W253-254, W254-255, W255-256, W256-257, W257-258, W258-259, W259-260, W260-261, W261-262, W262-263, W263-264, W264-265, W265-266, W266-267, W267-268, W268-269, W269-270, W270-271, W271-272, W272-273, W273-274, W274-275, W275-276, W276-277, W277-278, W278-279, W279-280, W280-281, W281-282, W282-283, W283-284, W284-285, W285-286, W286-287, W287-288, W288-289, W289-290, W290-291, W291-292, W292-293, W293-294, W294-295, W295-296, W296-297, W297-298, W298-299, W299-300, W300-301, W301-302, W302-303, W303-304, W304-305, W305-306, W306-307, W307-308, W308-309, W309-310, W310-311, W311-312, W312-313, W313-314, W314-315, W315-316, W316-317, W317-318, W318-319, W319-320, W320-321, W321-322, W322-323, W323-324, W324-325, W325-326, W326-327, W327-328, W328-329, W329-330, W330-331, W331-332, W332-333, W333-334, W334-335, W335-336, W336-337, W337-338, W338-339, W339-340, W340-341, W341-342, W342-343, W343-344, W344-345, W345-346, W346-347, W347-348, W348-349, W349-350, W350-351, W351-352, W352-353, W353-354, W354-355, W355-356, W356-357, W357-358, W358-359, W359-360, W360-361, W361-362, W362-363, W363-364, W364-365, W365-366, W366-367, W367-368, W368-369, W369-370, W370-371, W371-372, W372-373, W373-374, W374-375, W375-376, W376-377, W377-378, W378-379, W379-380, W380-381, W381-382, W382-383, W383-384, W384-385, W385-386, W386-387, W387-388, W388-389, W389-390, W390-391, W391-392, W392-393, W393-394, W394-395, W395-396, W396-397, W397-398, W398-399, W399-400, W400-401, W401-402, W402-403, W403-404, W404-405, W405-406, W406-407, W407-408, W408-409, W409-410, W410-411, W411-412, W412-413, W413-414, W414-415, W415-416, W416-417, W417-418, W418-419, W419-420, W420-421, W421-422, W422-423, W423-424, W424-425, W425-426, W426-427, W427-428, W428-429, W429-430, W430-431, W431-432, W432-433, W433-434, W434-435, W435-436, W436-437, W437-438, W438-439, W439-440, W440-441, W441-442, W442-443, W443-444, W444-445, W445-446, W446-447, W447-448, W448-449, W449-450, W450-451, W451-452, W452-453, W453-454, W454-455, W455-456, W456-457, W457-458, W458-459, W459-460, W460-461, W461-462, W46

## General Safety Notes

### Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSL.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor 1 bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and ware at joint locations are regulated by ANSI/TPI 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TPI 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.