

**Position Statement on
Sealed Truss Placement Diagrams
for the 2012 or 2015
International Building Code**

Overview
Revised 3/22/2017

SBCA

SBCA has been the voice of the structural building components industry since 1983, providing educational programs and technical information, disseminating industry news, and facilitating networking opportunities for manufacturers of roof trusses, wall panels and floor trusses. **SBCA** endeavors to expand component manufacturers' market share and enhance the professionalism of the component manufacturing industry.

Copyright © 2017 Structural Building Components Association.

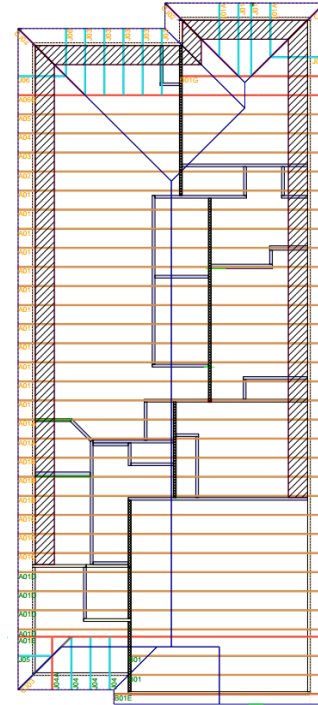
Why not seal TPDs?

- Compare a truss to a window: both are manufactured and in turn installed within a building.
- A window may be a highly engineered component of a house with specific installation specifications and instructions.
- However, there is no requirement to provide an engineer's seal on the installation instructions for windows.



Purpose of TPDs

- To assist the builder in positioning or locating the trusses and components supplied by the manufacturer.
- To serve as detailed installation instructions
- To indicate the manufacturer's assumed location for each truss and component



Background

- The code language regarding Truss Placement Diagrams in the 2012 and 2015 *IBC* was introduced in the 2006 *IBC* code change process (S165-04/05).
- The proposal was intended to improve clarity in terminology and included only a definition of a TPD :
 - **2303.4.2 Truss placement diagrams.** Diagrams supplied by the truss manufacturer that identify the individually designated truss design drawings do not require the seal of a truss design engineer.

Background

- The proposal was modified during the 2006 *IBC* hearing process as follows:
 - **2303.4.1.3 Truss Placement Diagram.** The truss manufacturer shall provide a truss placement diagram that identifies the proposed location for each individually designated truss and references the corresponding truss design drawing. The truss placement diagram shall be provided as part of the truss submittal package, and with the shipment of trusses delivered to the job site. Truss placement diagrams shall not be required to bear the seal or signature of the truss designer.
 - **Exception:** When the Truss Placement Diagram is prepared under the direct supervision of a registered design professional, it is required to be signed and sealed.

Background

- In the 2009 *IBC* the definition of a TPD was revised again (S217-07/08) as proposed by the National Council of Structural Engineers Associations (NCSEA):
 - **2303.4.2 Truss placement diagram.** The truss manufacturer shall provide a truss placement diagram that identifies the proposed location for each individually designated truss and references the corresponding truss design drawing. The truss placement diagram shall be provided as part of the truss submittal package, and with the shipment of trusses delivered to the job site. Truss placement diagrams that serve only as a guide for installation and do not deviate from the permit submittal drawings shall not be required to bear the seal or signature of the truss designer.

Background

- The rationale for the change proposed by S217-07/08 is as follows:
 - The truss placement diagram is an erection diagram that replicates the information on the approved construction documents per Section 106.3. As it requires no engineering input, direct supervision and the signature and seal of a registered design professional is not required.

Analysis – IBC

- The 2012 and 2015 *IBC* include the following relevant sections that lay out the differences between TDDs and TPDs:
 - [2303.4.1.4.1 Truss design drawings](#)
 - [2303.4.2 Truss placement diagram](#)
 - [2303.4.3 Truss submittal package](#)

Analysis – IBC

- The 2012 and 2015 IBC [Section 107](#) provide that the plans and specifications for a project shall be prepared by a licensed architect or engineer where required by the law of the jurisdiction in which the project is being constructed.
- The plans and specifications should in turn clearly define the scope of the work proposed by the Building Designer.
- 107.1 General
- 107.2.1 Information on construction documents

Analysis – Statutes for Professional Engineering

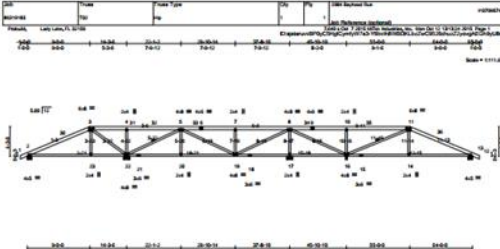
- A state's professional engineering law(s) and the IBC provide the basis upon which to evaluate the need to provide an engineer's seal on a TPD.
- Requiring the TPD to be sealed, where it is not prepared by an engineer or under his/her immediate personal supervision, is contrary to most state engineering laws which typically include language regarding sealing construction documents.
- Based on the above, a TPD does not require a professional engineer's seal for any building project in jurisdictions with similar statutes.

Analysis – ANSI/TPI 1

- ANSI/TPI 1, referenced by both the 2015 (14) and 2012 (07) *IBC*, clearly states that TPDs do not require an engineer's seal when they serve only as a guide for Truss installation
- The commentary further explains the intent of the standard
- 2.3.6.4 Truss Placement Diagram. ...When the Truss Placement Diagram serves only as a guide for Truss installation and requires no engineering input, it does not require the seal of any Truss Design Engineer or Registered Design Professional.

Analysis – ANSI/TPI 1

- The Truss Designer's sole responsibility is to design the individual trusses according to information provided by the RDP or Building Designer
- The Truss Designer is therefore specifically responsible for the single truss design depicted on each TDD.



Technical drawing showing a truss structure with dimensions and material specifications. The drawing includes a title block, a scale of 1/8" = 1'-0", and a list of materials and dimensions for various components.

Item	Material	Dimensions
CHORDS (TOP & BOTTOM)	2x8	12'-0" x 8'-0"
CHORDS (SIDE)	2x6	10'-0" x 6'-0"
MEMBERS (TOP & BOTTOM)	2x4	10'-0" x 4'-0"
MEMBERS (SIDE)	2x4	10'-0" x 4'-0"
BRACING	2x4	10'-0" x 4'-0"

REVISIONS:


No.	Description	Date
1	Issued	10/13/11

NOTES:

- 1) Manufactured roof bracing has been incorporated for this design.
- 2) Check all steel for proper connections. Verify all steel connections are properly detailed and welded.
- 3) This truss has been designed for a 150 psf uniform dead load and 20 psf uniform live load in all areas where a maximum 1440 lb-ft by 240 lb wide steel joist is used.
- 4) This truss has been designed for a 10 psf uniform live load on the bottom chord in all areas where a maximum 1440 lb-ft by 240 lb wide steel joist is used.
- 5) Verify all steel connections are properly detailed and welded.
- 6) Verify all steel connections are properly detailed and welded.
- 7) Provide mechanical connections for bracing in all areas where a maximum 1440 lb-ft by 240 lb wide steel joist is used.
- 8) Provide mechanical connections for bracing in all areas where a maximum 1440 lb-ft by 240 lb wide steel joist is used.

LOAD CASES: Standard

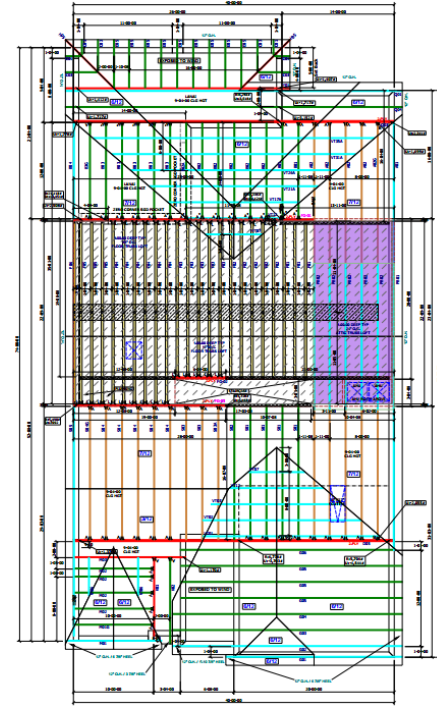
October 13, 2011



Logo for D.J. Engineering, Inc. featuring the letters 'DJI' in a stylized font.

Analysis – ANSI/TPI 1

- TPDs are typically prepared by component manufacturer personnel other than Truss Designers.
- The TPDs may not be reviewed or even seen by the Truss Designer.
- It is therefore understood that TPDs are not prepared under the Truss Designer's direct supervision.



Findings

- The 2012 and 2015 *IBC* [Section 2303.4.2](#) both specify that a TPP does not require the seal of the truss designer when the TDD serves as a guide for installers.
- It is the responsibility of the Building Designer to review the TPD, if provided, and verify that it does not deviate from the permit submittal documents.

Conclusion

- Truss Design Engineers should NOT be asked by RDPs, Building Designers or Building Code Officials to seal TPDs.

References

- ANSI/ TPI, National Design Standard for Metal Plate Connected Wood Truss Construction, Truss Plate Institute, 2007, 2014
- International Building Code, International Code Council, 2006, 2009, 2012, 2015