

Frequently Asked Questions

Sealed Placement Plans by Ryan J. Dexter

Placement plans are drawings that identify the assumed location for each truss based on the truss manufacturer's interpretation of the construction design documents. These drawings do not require engineering expertise. They are also not intended to replace, but rather supplement and clarify, the framing layout contained in the construction design documents. Placement plans should only be used by the contractor as a guide in locating each individual truss on the job.

Most state laws assert that the work of engineering requires engineering education, training and experience in the application of the mathematical, physical and engineering sciences. The creation of a placement plan does not fit this definition of engineering and as such cannot be considered part of the practice of engineering as defined by most state practice of engineering laws. Since the plan is not an engineering document, a seal is unnecessary. A seal on a placement plan only indicates that the engineer has reviewed how each truss is to be placed and spaced, which does not require any engineering expertise. Any other interpretation of a seal on a placement plan would require an engineer to take responsibility for someone else's work, which is a clear violation of all state engineering laws.

Mistakenly, some local jurisdictions require sealed placement plans prior to the approval of the building permit. This requirement may be imposed, even if it is out of compliance with state law. In this instance, an engineer must, by law, explicitly define what his/her seal means, in terms of the scope of the work, when it is placed on the placement plan. Consider attaching the following sample notes, which describe an engineer's scope of work, to any placement plans along with the seal of the engineer doing the work for the component manufacturer.

SCOPE OF WORK NOTE A

The truss designer's signature on this placement plan certifies that the individual truss designs are based on the truss positioning shown. The truss designer's seal on the attached truss design drawings indicates acceptance of professional engineering responsibility solely for the individual truss design drawings shown. The suitability and use of this component for any particular building is the responsibility of the building designer, per ANSI/TPI 1-1995 Section 2 and WTCA 1-1995 Section 3.0. No building design or inspection is implied by the seals on the truss design drawings or truss placement plan. Verification that positions, dimensions and loads for each truss matches the construction design documents and/or intent is the responsibility of the building designer. The truss designer is responsible for the correct application of the specified loading provided to him/her by the building designer and for the truss to truss connections. The truss designer is NOT responsible for:

- The transfer of lateral load from the roof to the shear walls.
- The connection of trusses to the bearing support.
- The design of the bearing supports.
- Temporary and permanent building bracing required in the roof and/or floor system.
- The transfer of vertical loads down to the foundation.
- The design of the foundation and soil.
- Analysis of the roof and/or floor diaphragms of the building.
- Connection of roof and/or floor diaphragm to the truss.
- Specifying loading used in the design of the trusses.

The building designer shall ascertain that the loads utilized on the truss design drawings meet or exceed the loading imposed by the building code.

SCOPE OF WORK NOTE B

THIS IS A TRUSS PLACEMENT PLAN ONLY. These trusses are designed as individual building components to be incorporated into the overall building design through the specification of the building designer. Please see the individual truss design drawings for each truss design identified on the truss placement plan. Please verify that all dimensions match the dimensions found on the job. The building designer is responsible for the permanent bracing of the roof and floor system and its integration into the bracing for the overall structure. The design of the truss support structure including headers, beams, walls and columns is the responsibility of the building designer.

QUESTION:

Is it the responsibility of the truss manufacturer to provide a sealed layout drawing for roof trusses?

ANSWER:

The short answer is no. It is not the truss manufacturer's responsibility to supply a sealed layout or placement plan.

The long answer is that a placement plan is simply a map showing how to lay out the trusses. It contains no structural or engineering information. From an engineering viewpoint, nothing on it has been engineered and therefore, nothing requires a seal.

A seal on a placement plan may imply that the sealing engineer has reviewed the structural drawings and blueprints and has verified that all loads from the roof system have been accounted for in the building's structural design. This is well beyond the scope of the truss designer and the manufacturer's personnel, who have expertise in individual component design and fabrication. Sealing the placement plan may cause the truss designer to be viewed as the building designer, a task which they may not be qualified to perform, one for which they are not being compensated and one that should be performed by the project architect or engineer, who has the expertise to undertake this work.

If the project architect or engineer has already provided a sealed structural framing plan, then a truss engineer's placement plan becomes redundant at best, and in violation of state engineering laws at worst. If there is no professional engineer or architect for the project and no specified structural framing plan, the builder, contractor or building owner becomes the building designer and is ultimately responsible for the overall design and construction. This scenario is typically called an "exempt structure." What this means is that state laws do not require that the building design be sealed by a design professional. In the event of a structure that is exempt, it would seem improper to require a sealed placement plan from the truss manufacturer.

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