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**Post & Beam/Pole Barn/Light Frame Construction – Permanent Truss Bracing**

“*Permanent Truss Bracing*.” Truss System documentation, Interpretation, and Implementation is often ambiguous. The Shop Drawings for each pre-manufactured component of a Truss system, conversely, is very specific and detailed.

The following determinations regarding *Truss system* *Permanent Bracing* based upon “BCSI\_B3 Summary Sheet – Permanent Restraint/Bracing of Chords & Web Members – WTCA”:

1. *Trusses require Permanent Bracing* within ALL the following planes:
   1. Top chord plane
   2. Bottom chord plane
   3. Web member plane
2. *Permanent Bracing* for the Top Chord Plane is generally, in residential construction, achieved by a continuous layer of sheathing or Purlins spaced at regular intervals, attached with fastener spacing and sizes per the referenced guide standard and or the Building Code.
3. *Permanent Bracing* for the Bottom Chord is generally, in residential construction, achieved by a continuous layer of Gypsum Board sheathing, rigid ceiling, or bracing spaced at a designed interval. However, Lateral Restraint Bottom Chord Bracing is also required; permanent Bottom Chord Lateral Restraint Bracing is to be as indicated on the Truss Design Drawings (TDD) and/or by the Building Designer with a maximum of 10 feet on center. See BCSI\_B3 Summary Sheet for graphic representation.
   1. Diagonal Bracing of the Bottom Chord lateral Bracing (typically the “ribbon Board” (2x4)) is to be installed at a maximum of 20 feet between Diagonals.

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1. *Permanent Bracing* for Web Plane(s) are more difficult to interpret. The Truss Design Drawings shall show/indicate which Web members (if any) require restraint to resist buckling (bracing).
   1. Continuous Lateral Restraint (CLR) & Diagonal Bracing, or
   2. Individual Member – web Bracing is required to comply with BCSI\_B3 Summary Sheet, when the TDD shows a Web member requires CLR bracing.
   3. Install Diagonal Bracing of the CLR at approximately 45° to the CLR and extend from top Chord to the Bottom Chord, attaching to each web that it crosses. Repeat every 20 feet or less. See BCSI\_B3 Summary Sheet for graphic representation.
   4. Additionally, Web member(s), which are required to have CLR Bracing, are also typically required to resist the additional Lateral Loads imposed by Wind and/or Seismic forces. See BCSI\_B3 Summary Sheet for graphic representation.
2. Special Conditions also impose unique Bracing conditions and shall be installed per BCSI\_B3 Summary Sheet for specifics and consult with the Building Designer.

Note: The “Building Designer” is typically the Architect (NYS licensed) who designed the entire Dwelling. The Truss Design Drawings (TDD) are often called the Shop Drawings and are typically produced by the Truss Manufacture. Most TDD/Shop Drawings are for an individual component not a Truss System.

The Building Designer (licensed Architect and/or Engineer) should be providing, but often does not, a Truss System Drawing/specification, which specifically calls out the System required Bracing elements and locations.

Please provide a Truss System Drawing for all projects; the roof framing drawing included in the construction documents should show Truss component locations and or any Bracing callouts.