

**PROCEDURES FOR THE PREPARATION
OF
STAMPED SHOP DRAWINGS
FOR
DESIGN OF WOOD TRUSS SYSTEMS**

FOREWORD

The principal mandate or objective of the Association of Professional Engineers and Geoscientists of Newfoundland (APEGN) is to regulate the practice of professional engineering and geoscience and to govern its members in order that the public interest may be best served. These procedures reflect APEGN's interpretation of the National Building Code of Canada, which is, all wood truss systems must be designed by a professional engineer (The Structural Engineer of Record), since it fits within the definition of the "practice of engineering" as contained in the Engineers and Geoscientists Act. These procedures will be used as a reference document in disciplinary cases when adjudicating allegations of unskilled practice of the profession.

Effective engineering design requires sufficient documentation to convey the design intent and should: permit review; ensure that *codes* and *standards* are met; facilitate accurate tendering of the work; minimize change orders due to omissions or conflicts; provide an accurate record of the installation and

be helpful in the operation and/or use of the engineered structure, system or facility. Effective communication through the preparation of engineering drawings and specifications is essential for the implementation of a cost effective design and for the ultimate protection of the public interest. These procedures are intended for members of the engineering profession and represent a standard of practice all members are encouraged to adopt. These procedures deal in an advisory way with matters of practice and procedure rather than with matters of substantive engineering. It is not a legal document and is not intended to supersede or replace contractual arrangements designed to satisfy specific situations where good engineering practice might, in certain circumstances, dictate departure from these procedures.

These procedures should be read in conjunction with Guidelines for Structural Engineering Services as published by APEGN.

Procedures

1. The Structural Engineer of Record (SER), completes and

- stamps design documents which clearly define the overall truss system with the level of detail identified in attached Appendix "A".
2. The truss fabricator, tenders on the project based on the SER's design documents.
 3. The successful truss fabricator prepares shop drawings, stamped by a professional engineer registered with APEGN, with the level of detail indicated in Appendix "B", and submits to the contractor.
 4. The SER reviews the shop drawings, but only after they have been stamped by the contractor, stating that he/she reviewed them for compliance with the contract documents.
 5. Changes requested to the SER's drawings, prior to shop drawing review, must be approved by the SER in writing, before submission by the fabricator. Proposed changes during construction must be approved by the SER, incorporated into the shop drawings by the truss fabricator, and resubmitted to the SER for review.
 6. The contractor completing the installation shall be responsible for obtaining a declaration signed and sealed by a professional engineer, stating that all structural work is in accordance with the erection drawings provided by the truss fabricator. (It is recommended that the professional engineer be the individual who provides these erection drawings).

Appendix A

Items to be shown on Contract Documents prepared by the SER

1. Design criteria indicating all superimposed vertical and horizontal loads used in the design including live, snow, earthquake, wind and dead loads (such as partition and equipment loads). These loads should be designated as unfactored.
2. A clear indication of the location and width of all load bearing elements.
3. Layout of all trusses including miscellaneous framing impacting on truss design/detailing.
4. Details of minimum permanent bracing required for the truss system.
5. Deflection limitations.
6. General details of truss connections to load bearing elements.

Appendix B

Items to be shown on Shop Drawings

1. Specific loading conditions for each truss type.
2. Bearing details including any special bearing plates.
3. Location of bracing required for the strength and stability of the individual truss members.
4. Connection details to the structure or to other trusses including but not limited to hurricane clips, hangers, truss connectors. Working capacities of all connections to be indicated.
5. Location of temporary bracing for the stability of the truss system during erection.
6. Special details.
7. Sequence of erection, if required.
8. Markings or colour coding of trusses to relate to truss types.
9. Special requirements for handling of large trusses during all stages of the manufacturing and construction process.
10. Layout to scale identifying each individual truss and cross referencing truss design drawings as generally provided by the truss plate manufacturer to the truss fabricator.
11. Details provided by the truss plate manufacturer such as individual truss details, stresses in members, sizes, grade of member, support conditions, deflections, and any other information deemed necessary for the fabrication of the trusses.
12. Professional Engineer's stamp signed and dated.