

Manufactured Floor Joist, Beam and Truss Roof Systems Information Required for Building Permit Application & Inspection

Overview: This guide is provided to assist in determining building design information and documents required for Building Permit application and inspection.

Design Criteria

All manufactured roof, beam, and floor joist systems must be designed using the Limit States Design method. Loads identified on plans submitted are to be unfactored, with live and dead loads totaled.

Where proposed truss design exceeds the limits of Section 9.4 of the BC Building Code, for example if truss spans exceed 40 feet or attic trusses support floor loads on bottom chords, the entire building must be designed by a structural engineer.

The following **site-specific** information is required to determine compliance to the *2018 BC Building Code*:

The required information detailed below should be on the drawings submitted electronically with the Online Building Permit Application.

Application – Information Required

Identify the property:

1. Civic address
2. Building Permit number (if known)

Details of roof systems:

1. Dimensioned truss layout showing bearing, intermediate support, and areas framed by others.
2. Identify the end reactions of girders and wall trusses unfactored (live and dead loads to be totaled). Identify all the loads (i.e., span of floor system carried) and if wall trusses carry floor loads.
3. Identify roof loads, live, and dead unfactored.
4. Roof slope and roofing material (e.g., concrete tile).
5. Maximum truss height.

Details of floor/beam/lintel systems:

1. Dimensioned floor & beam layout to include bearing, intermediate support, areas framed by others, beam-end reactions unfactored (live and dead loads to be totaled), and joist direction and spacing.
2. Identify the product by the manufacturer's specific product name, size, and number.
3. Identify required assembly of components needed to meet the vibration criteria:
 - thickness and type of subfloor
 - subfloor glued
 - type of blocking, strapping or ceiling finish (directly applied) required
4. Identify floor loads, live and dead.

Individual point loads (end reactions) less than 2000 lbs. do not need to be identified on the plans unless the combined point loads from floor, truss, and beams exceed 2000 lbs.

Manufactured Floor Joist, Beam and Truss Roof Systems


Inspection Information Required

Documents required for Framing Inspection:

1. Computer-generated proprietary designs for each engineered beam, including a layout plan.
2. Engineer-certified beam documents for engineered beams.
3. Computer-generated proprietary designs for engineered floor joist systems, including a layout plan.
4. Engineer-certified truss documents, including a layout plan.

All documents required for Framing Inspection must:

1. reference "Limit States Design" and vibration criteria;
2. have a unique number identifying each engineered product that is referenced on the layout;
3. identify product name and size; and
4. as applicable, describe the
 - assembly components,
 - construction details,
 - loads,
 - reactions (with live and dead loads totalled),
 - bearing locations,
 - end grain or squash requirements, and
 - size of bearing.

Additional guides are available on the City of Nanaimo website at www.nanaimo.ca .

If you have any questions or require clarification, please contact a building official at our office at 250-755-4429. This guideline should not be used as a substitute for existing building codes and other regulations. The building owner is responsible for compliance with all codes, bylaws, and other regulations whether or not described in this guideline.