

Information Bulletin

Alternate solutions for houses with fire-rated cantilevered floor systems

To reduce the potential for a fire to spread from a building to an adjacent property, exposing building faces must be protected. This is especially applicable for buildings that are closer to their property lines. The Manitoba Building Code addresses these protective requirements for Part 9 buildings in Subsection 9.10.15, Spatial Separation Between Houses.

The City of Winnipeg recognizes that the prescriptive requirements in the Building Code do not adequately address junctions where the floor system adjoins the exterior wall in exposing building faces of cantilevered floor systems requiring a 45-minute fire-resistance rating. A number of alternative solutions have been previously accepted by City Housing Plan Examiners and Housing Building Inspectors and are printed below. If constructing to these accepted installations, a submitted alternative solution with associated fee is **not** required but the selected detail must be clearly indicated on the submitted drawings.

Manitoba Building Code definition:

Exposing building face means that part of the exterior wall of a *building* that faces one direction and is located between ground level and the ceiling of its top *storey* or, where a *building* is divided into *fire compartments*, the exterior wall of a *fire compartment* faces one direction.

Code requirements

The construction of an exposing building face (exterior wall) facing a neighbouring property is subject to spatial separation requirements. With respect to exterior walls with a limiting distance less than 1.2 m (4 ft.), the following is required:

- No unprotected openings (glazed openings) allowed, as per MBC Article 9.10.15.4., and
- Exposing building faces (exterior wall) shall have a fire-resistance rating of not less than 45 minutes, as per MBC Article 9.10.15.5.

The intents of MBC Article 9.10.15.5. are as follows:

Intent 1:

To limit the probability that an exposing building face will have insufficient fire resistance, which could lead to the spread of fire from the subject building to an adjacent building.

during the time required for emergency responders to perform their duties, and which could lead to damage to the adjacent building.

Intent 2:

To limit the probability that an exposing building face will be ignited and contribute to, or be involved in, a fire which could lead to the spread of fire from the subject building to an adjacent building and which could lead to damage to the adjacent building.

Accepted options for alternative solutions

The City of Winnipeg recognizes that challenges exist when proposed assemblies do not meet the prescriptive requirements of the Code. Specifically, at the junction where floor joists are supported on the exterior wall and at cantilevered areas.

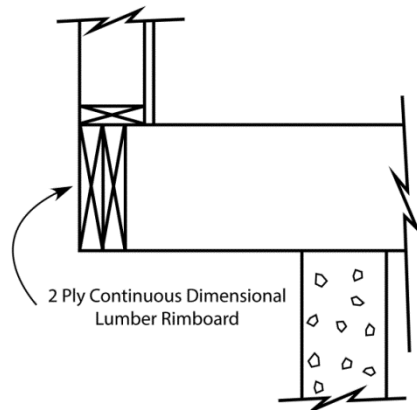
Considerations:

1. Cantilever projections into side yards are typically 6 ft. wide by 8 ft. high, representing a proportionally small area of the building face as a projection into a 4 ft. side yard; and
2. The header joist is not part of the wall assembly but rather, part of an extended floor assembly; and
3. In combination, the intent of life safety provisions is to warn occupants of a fire emergency so that they may exit the building as the primary purpose along with mitigating the spread of fire to adjacent buildings.

The following details are deemed as acceptable options for use and, in the opinion of the City of Winnipeg, are equivalent solutions to the rating requirements of MBC 9.10.3.3.(2).

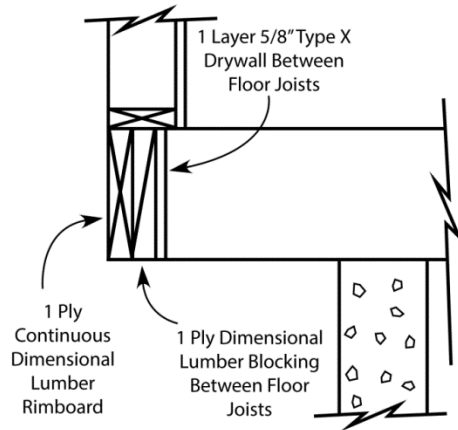
Option 1

2-ply continuous rim board of dimensional lumber.



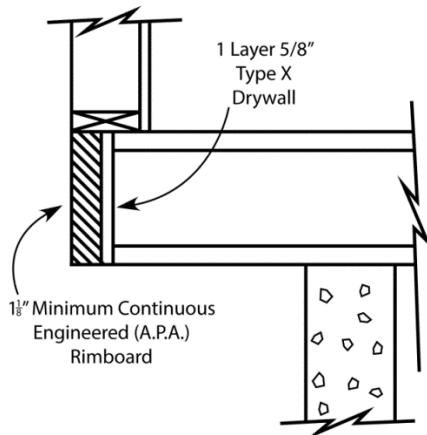
Option 2

1-ply continuous rim board of dimensional lumber, 1-ply dimensional lumber blocking between floor joists, 1 layer of 5/8" Type X* between floor joists on the inside face of the blocking.



Option 3

1-ply 1-1/8" thick minimum continuous engineered (APA**) rim board, 1 layer of 5/8" Type X drywall applied continuous[†] or discontinuous^{††} to the interior face of the rim board.



All other variations and/or proposed assemblies that do not meet the above options must be submitted as an alternative solution and will be reviewed on a case-by-case basis by the Housing Plan Examination and Inspections branches. There is a fee for alternative solution submissions. See the Planning, Development and Building Fees and Charges schedule for more information at winnipeg.ca/ppd/fees/.

Note: Ensure the proposed projections into side yards are permitted by the Winnipeg Zoning By-law and prior development permit approvals or applications.

*Type C drywall may be substituted for Type X

**American Plywood Association or any other engineered rim board product tested in accordance with CAN/ULC-S101.

†For continuous protection, the fire-rated drywall shall be continuous along the length of the engineered rim board.

††For discontinuous protection, fire-rated drywall shall be installed on the engineered rim board and between the floor joists with gaps no greater than 1/16".