

Alternative Solutions

ITS 20-012

The purpose of this bulletin is to explain the requirements and procedures relating to submissions for Alternative Solutions as outlined in the Manitoba Building Code.

What is an Alternative Solution?

Conformance with the Manitoba Building, Plumbing and Energy Codes (the Codes) is mandatory. The codes permit two options for conformance. The first being the prescriptive approach as laid out in Division B of the Codes. The second option is to propose an Alternative Solution in accordance with the requirements outlined in Section 2.3 of Division C of the Manitoba Building Code.

Some important facts regarding Alternative Solutions include:

- a) An Alternative Solution is specific to a project and cannot arbitrarily be transferred or applied to other designs or projects.
- b) Each Alternative Solution must be demonstrated as meeting the level of performance required by the objective, intent and function statements of the Code article. Every effort must be made to demonstrate that an alternative solution will perform as well as a design that would satisfy the applicable acceptable solution in Division B – not “well enough” but “as well as”.
- c) All proposals for an Alternative Solution are to be made by a registered professional, skilled and experienced in the matter.
- d) A proposed Alternative Solution is proprietary to that registered professional.

Acceptance of an Alternative Solution is based on satisfactory documentation submitted to the Authority Having Jurisdiction to justify the proposal and not to an existing condition or approval from other projects.

What are the submission requirements?

The person requesting the use of an alternative solution must demonstrate that the proposed alternative solution complies with the Code. The proposal for an Alternative Solution is to include the necessary supporting documentation identified in subsection 2.3.1.1., Division C of the Manitoba Building Code.

The documentation must include a *Code analysis* outlining the analytical methods and rationales used to determine that a proposed alternative solution will achieve at least the level of performance required by the applicable acceptable solution in Division B of the Code.

Together with the “Request for Evaluation of an Alternative Solution” form Subsection 2.3.1.1. the *Code analysis* is to include the documentation listed below.

- 1) A description of the proposed Alternative Solution
- 2) The applicable Division B provisions
- 3) Objectives and Functional Statements of Applicable Acceptable Solutions
- 4) Intent Statements of applicable Acceptable Solutions
- 5) Evaluation of Performance Levels of the Acceptable Solutions
- 6) Evaluation of Performance Levels of the proposed Alternative Solution
- 7) Identify any special maintenance or operational requirements

- 8) Identify any assumptions, limiting or restricting factors
- 9) Testing procedures, engineering studies or building performance parameters considered
- 10) Comparison of performance levels of Acceptable Solution vs. Alternative Solution
- 11) Other supporting documents
- 12) Qualifications of the design professional

The documentation is to provide sufficient detail to convey the design intent and to support the validity, accuracy relevance and precision of the *Code analysis*. The proposals are to be submitted with each building permit application and be accepted prior to the issuance of any building permit.

What are the tools available that can be used to demonstrate equivalent levels of performance?

Design professionals preparing Alternative Solution proposals may use various engineering tools to demonstrate equivalent level of performance, such as fire and smoke modelling, timed exit analysis, fire zone analysis, fire performance assessment of assemblies, fire hazard analysis, etc.

How to apply for an Alternative Solution?

Applications for Alternative Solutions can be submitted to:

Inspection and Technical Services
Municipal Relations
508-401 York Avenue, Winnipeg, MB R3C 0P8
TechnicalServices@gov.mb.ca

Is there an opportunity to review my Alternative Solution proposal prior to submitting my application?

Consultation meetings to discuss pre-design questions and proposed Alternative Solution strategies can be arranged with Engineering Services of the Inspection and Technical Services (ITS). While the preparation and submission of the Alternative Solution is the responsibility of the registered professional, the ITS may provide comment on the Alternative Solution strategy or may make suggestions to enhance the proposal prior to formal submission.

What happens next?

Upon completion of the alternative solution proposal review, the ITS will issue an evaluation report stating if the proposal is accepted or rejected; the ITS may request additional supporting documentation. Refusal or acceptance of any proposal is at discretion of the ITS and applies only to the building under consideration. Acceptance of a proposal is not to be interpreted as creating any precedent or obligation for its acceptance on subsequent projects.

Letter of Certification for Completion

If the Alternative Solution(s) are accepted, a "Letter of Certification for Completion of Alternative Solution", signed and sealed by the responsible design professional, is to be submitted to the assigned Building Inspector upon completion of the work covered by the Alternative Solution and prior to the final inspection by the Building Inspector. An occupancy permit will not be issued until this letter of assurance is submitted.

Further information

Please contact the Inspection and Technical Services at 204-945-3373 with any questions or for clarifications.