

Discussion Paper – Interim Changes to the 2012 Building Code to support innovation, increase housing supply and improve firefighter safety

February 11, 2022

Introduction

In this discussion paper, the Ministry of Municipal Affairs and Housing is seeking input on three proposed amendments to the Building Code (Ontario Regulation 332/12):

- Phased occupancy of super-tall buildings
- Factory-built, modular construction of multi-unit residential and other buildings
- Notification program for truss and lightweight construction.

The proposed amendments for phased occupancy of super-tall buildings and modular construction support More Homes, More Choice: Ontario's Housing Supply Action Plan and Ontario's interest in safely removing barriers to innovative construction techniques that can bring costs down and allow projects to be completed more quickly to provide needed housing.

Regarding the phased occupancy of super-tall buildings, the Ministry is seeking input on potential amendments to how completed parts of a super-tall building can be allowed to be safely occupied while other parts of the building are still under construction.

In addition, consideration is requested of a potential Building Code amendment that would provide an accelerated compliance path for extending current standards for modular construction projects to larger multi-unit residential and other buildings. If these proposals were to proceed, amendments to the 2012 Building Code could help to reduce barriers for delivering needed housing safely and quickly.

The Ministry is also seeking input on proposed administrative amendments that would establish a notification program so that fire departments know when a building is constructed or renovated using certain truss and lightweight construction systems. This would provide an additional tool when fire departments are making decisions about appropriate fire suppression strategies.

Some minor housekeeping amendments are also proposed to update the lists of applicable law because of changes to other provincial statutes.

Partial or Phased Occupancy of Super-tall Buildings

As condominium buildings and other skyscrapers are becoming taller, construction is taking longer, meaning that the occupancy of “super-tall” buildings may take as many as five to six years. These delays regarding occupancy are increasing costs and in the case of condos it contributes to reduced affordability.

This proposed Building Code amendment would be intended to establish new prescriptive requirements specific to the partial or phased occupancy of “super-tall” buildings. The ministry is exploring opportunities to allow safe occupancy of lower floors before the building’s structure and enclosing walls are completed. This could help reduce delays for businesses to open their doors and people to move into housing.

The existing provisions in the Building Code address early occupancy when the entire building’s structure and enclosing walls are completed to the roof. The existing provisions in the Building Code reflect typical high-rise building construction practices. There may be ways to amend the current provisions to address challenges related to partial occupancy of super-tall buildings while continuing to protect safety. Should the Building Code be amended to permit earlier phased or partial occupancy for super-tall buildings, the change would support new and more modern building design and reflect current approaches.

This Discussion Paper outlines and is seeking input on whether prescriptive requirements to allow earlier partial occupancy for super tall buildings should be developed for inclusion in the Building Code and what those requirements should be.

Background – Partial or Phased Occupancy of Super-tall Buildings

Occupancy requirements in the Code are intended to protect the health and safety of the building occupants and the members of the public that will be allowed into or near the partially completed building, including onsite construction trades and first responders. In addition, the requirements help ensure the safe and orderly occupation of a building still under construction.

Super-tall buildings are becoming more common. Because of the unique construction challenges, super-tall buildings can take two to three years longer to fully complete than a typical high-rise building. Because of the construction methods used for these buildings, an early phase may be fully ready for occupancy before the remaining phases are fully complete. If the Building Code be amended, it may seek to establish clarity through prescriptive requirements for partial occupancy in these circumstances. This change would reduce delays and reduce carrying costs incurred by developers that can increase the cost of residential units and negatively impact affordability, and support More Homes, More Choice Ontario’s Housing Supply Action Plan, by supporting earlier delivery of new housing supply.

There are important health and safety considerations related to this proposed Building Code amendment. Fire safety and protection features would need to be complete before a portion of a super-tall building can be occupied. As well, all measures would need to be in place for firefighter and other first responder access and operations. Building mechanical, plumbing, energy and electrical systems would need to be

designed and installed to allow for phased occupancy. As well, all construction site safety measures would need to be fully in place and maintained to protect occupants, residents, and members of the public from overhead hazards due to construction, and to protect building occupants against the spread of dust, as well as the attenuation of sound from construction sites.

Existing Partial Occupancy Requirements

Currently, the Building Code allows the partial occupancy of high buildings, when certain stages of construction are complete, including that the building's structure and enclosing walls are completed to the roof. Occupancy requirements in the Building Code are intended to ensure the health and safety of the building occupants and the members of the public that will be allowed into or near the partially completed building, including onsite construction trades, first responders and passersby. In addition, the requirements also help ensure the orderly occupation of a building still under construction.

Under the Building Code, municipal chief building officials, or their designates, are responsible for issuing occupancy permits for buildings, including those still under construction. The current requirements of the Building Code are generally interpreted that the structural elements of a building, as well as the exterior enclosing walls, must be completed to the roof before a chief building official can issue an occupancy permit to partially occupy a building.

For existing provisions, click on the icon:



Phased Occupancy

Consultation Discussion Items – Partial or Phased Occupancy of Super Tall Buildings

1. If the Building Code was amended to establish new requirements for the partial occupancy of super-tall buildings:
 - a. Should early occupancy be allowed:
 - in accordance with a detailed and prescribed list,
 - at the chief building official's discretion, or
 - a combination of a detailed list and at the discretion of the chief building official?
 - b. Should a request to allow partial occupancy of super-tall buildings be required to be submitted at the time of the building permit application, or should permit holders be permitted to request partial occupancy at any time during the construction process?

- c. What types of buildings should the new occupancy provisions apply to (e.g. based on number of storeys, buildings with podiums)?
 - d. Should the Building Code be amended to include a definition of the term “super-tall building”?
 - e. Permit holder and/or builder to enter into an agreement with the chief building official that sets out conditions governing the partial or phased occupancy?
2. What extra technical life, fire, health, and safety measures, beyond those the Building Code presently requires in Article 1.3.3.1. of Division C, should be required, if the Building Code was to be amended to allow earlier partial occupancy specifically for super-tall buildings, while construction of the structure continues at higher floors? Are there additional stages of construction that should be required to be completed before occupancy is permitted on lower storeys?
 3. What additional administrative requirements should be included in a detailed and prescribed list?
 - a. Permit holder and/or builder to enter into an agreement with the Ministry of Labour, Training and Skills Development or fire department?
 - b. Specific supervisory, audit or administrative requirements?
 4. Are there other guidelines, plans, training, or legislative requirements that should be considered as a partially occupied super-tall building remain an active construction site?
 5. Are there any other concerns or feedback related to the partial occupancy of super-tall buildings that you wish to share?

Modular construction of multi-unit residential buildings

Construction of modular or factory-built buildings has existed for decades. This process of construction produces economical, well-built buildings or components of buildings more rapidly than conventional construction. Currently, there are some barriers to its wide-spread use. The Ministry is seeking to enhance the use of modular construction, including housing, in Ontario.

In particular, the Ministry is seeking input on a proposed amendment that would extend a Canadian Standards Association (CSA) standard/approval process to larger factory-built buildings. This standard already applies to factory-built houses.

The Canadian Standards Association (CSA) standard – “Procedures for Factory Certification of Buildings” (CSA A277) - is currently referenced in Ontario’s Building Code. Although the standard includes provisions that would otherwise apply to large buildings, the Building Code presently only provides a clear compliance path for smaller residential buildings (e.g. houses); not for multi-residential and large buildings of other occupancies.

To support the Housing Supply Action Plan and to reduce barriers for the building and manufacturing sectors generally, the Ministry is considering amending the Building Code to extend the application of the CSA standard so that it can be relied upon in respect of the construction of larger buildings.

Because the modules that comprise these larger building projects are built and can be almost completed in a factory and then moved to the building site, the buildings can be constructed more quickly and with less disruption to existing neighbourhoods. As a result, this change would reduce current barriers to the use of modular housing, particularly to address housing need.

Background – Modular construction of multi-residential buildings

CSA Standard - A277-08: “Procedures for Factory Certification of Buildings” – has been in use in Ontario for many years for houses, and requirements for using this standard are well known to building officials.

A modular building is built using prefabricated components or modules. It is constructed partially or completely off-site in a manufacturing facility under the certification program administered by the agencies accredited by the Standards Council of Canada, and then transported to a property and assembled there.

The CSA standard provides requirements for:

- certification of the factory quality program
- certification of the modules
- auditing the factory quality program
- in-factory inspection of the modules

When modules that comprise a house are built according to this standard in Ontario, they do not need to be inspected by municipal building officials in the municipality where the building will be located. This is because the Building Code deems houses that are designed and constructed in compliance with the standard to comply with the Building

Code. The standard includes processes for inspection and quality control by certified inspectors to help ensure that the factory-built modules meet Ontario's Building Code. Municipal building officials are still responsible for inspecting the foundation and other site work on the property where the building will be located and for inspecting the building after the modules arrive on the property and are connected to each other.

These larger modular buildings have been constructed elsewhere in Canada, particularly in provinces (Quebec and Alberta) that do not restrict the use of the CSA A277 to houses. In Ontario, by using the alternative solution compliance pathway in the Building Code, larger modular buildings have also been built here, but this can sometimes involve municipal building officials needing to travel to the facility, which can be in another municipality, to do inspections. As a result, inspection processes may take more time and be more expensive than if the standard applied.

Proposed amendments, if made, could:

- A. Add a new Section in Division C, Part 1 to indicate that CSA A277 can also be applied to larger (Part 3) buildings.
- B. Reference the new edition of the standard (CSA A277-16) instead of the old one (CSA A277-08).
- C. For smaller (Part 9) buildings, remove the occupancy limitation and allow the standard to apply to all occupancies along with houses.

Existing Building Code provisions for modular construction of multi-residential buildings

Ontario's Building Code does not reference the CSA A277 standard for Part 3 buildings (e.g. buildings greater than 600 m² and higher than three storeys)

Currently, Part 3 buildings are not deemed to comply with the Building Code even if they are designed and constructed to the CSA A277 standard. As a result, inspection processes may take more time and be more expensive than if the standard applied.

Ontario's Building Code currently limits Part 9 buildings that are deemed to comply with the Building Code when they are designed and constructed to the CSA A277 standard, to residential occupancy and does not specify that it can be used for parts of a building.

Ontario's Building Code currently references the 2008 version of CSA A277 (CSA A277-08).

Proposed Amendment

Click on the icon to see the proposed amendment:



Modular
construction of multi-

Please provide your comments on the proposal, including any additional considerations that should be addressed. If this change is made, when should it come into effect?

Truss and lightweight construction notification program

In 2011, two firefighters - Kenneth Rea and Ray Walter - died fighting a fire in Listowel when a commercial building's roof structure, which was constructed of a truss and lightweight system, collapsed on them. Subsequently, requirements were proposed to identify buildings that are constructed using truss and lightweight systems. A private members bill was introduced in the Ontario Legislature that would have, if passed, amended the Building Code Act and the Fire Protection and Prevention Act to require identification of a building that is constructed using truss and lightweight systems to alert firefighters in the event of fire.

The Ministry is proposing an amendment to the Building Code that would require the local building department to provide relevant information to the local fire department (or the clerk of a municipality that does not have a fire department), when a building permit has been issued for buildings constructed using a truss and lightweight system.

This Discussion Paper outlines and is seeking input on potential amendments that would establish a notification program to cover buildings other than houses when new construction is proposed.

Background – Truss and lightweight construction notification program

Truss and lightweight construction systems are commonly used in houses and other buildings in Canada. They are designed to meet Building Code requirements and can be prefabricated and transported to the building site. In many situations, these systems are protected by materials that help to delay the spread of fire. However, they are not required to be protected in every situation. While all buildings are designed so that there is enough time to evacuate people from a building in the event of fire, if the unprotected structural components fail, there may not be enough time for first responders fighting the fire from inside the building to safely evacuate.

Many municipal building departments already provide information to fire departments when certain buildings are constructed so that fire departments can use the information to strategize how to best fight a potential fire. This proposal expands upon these existing local practices to require notification between building and fire departments about planned construction using truss and lightweight construction techniques where a building permit is issued.

Because it is understood by fire departments that most houses built today are built using these floor and/or roof systems, it is proposed that the notification program would not apply to houses.

Building departments can only be expected to provide consistent information on a go-forward basis about new construction when a building permit is issued.

This amendment is proposed to alert fire departments that a building is being constructed using truss and lightweight systems.

Proposed amendments would, if made, generally:

- A. Require that building departments give information to fire departments if a building permit pertains to certain buildings that are constructed or renovated,

using lightweight pre-engineered floor or roof systems containing lightweight elements or when solid wood of less than a certain size has been used for these purposes.

- B. Require that the building department provides this notification within 45 business days of issuing the permit and specify what information needs to be provided.
- C. Describe the kinds of systems that need to be reported to fire departments.
- D. Exclude *houses* from the notification requirement.

Existing Notification Requirements in the Building Code

There are currently no notification requirements prescribed in the Building Code for a chief building official to provide information to the municipal fire chief. However, there is precedent for similar notification processes. Article 1.3.1.6 of Subsection 1.3.1 (Permits) of Division C in the Building Code requires the chief building official to provide similar information to Tarion Warranty Corporation. When a building permit is issued for a new home, information about the building permit application is required to be provided to assist with enforcement of the Ontario New Home Warranty Plan Act and the New Home Construction Act, 2017. This information includes the permit number, the date it was issued, the address where the building is located and other relevant information.

Proposed Amendment

Click on the icon to see the proposed amendment:



Consultation Discussion Items - Notification Program:

1. Can you suggest other options/alternatives to help fire departments be aware of light weight roof and floor systems in buildings?
2. Are there other ways to describe these truss and lightweight systems that would be easily understood by both building and fire departments?
3. Are there considerations related to implementation of setting up and maintaining this proposed notification requirement that the Ministry should be aware of?
4. Should the requirement specify that the information must be provided in writing?
5. How much time would be needed for building departments to establish this program and begin to report?
6. Should this proposal only apply to these systems when they are unprotected?

SEEKING YOUR INPUT

Public consultation is an important part of developing legislation and regulations in Ontario. By providing your feedback on this consultation paper, you can help the Ministry of Municipal Affairs and Housing develop a robust regulation.

These proposed amendments are posted on the Regulatory Registry for a 30 day consultation period. Comments on the proposed amendments can be made through the Regulatory Registry posting.

In addition,

You can send comments in writing to:
Ministry of Municipal Affairs and Housing
Building and Development Branch
Attn: Building Code Consultation
777 Bay St., 16th Floor
Toronto, Ontario
M5G 2E5

Or by email:

buildingcode.consultation@ontario.ca

The ministry requests your feedback by March 14, 2022.

Personal information provided in responses to Building Code consultations is collected under the authority of the Ministry of Municipal Affairs and Housing Act for consultative purposes and for contacting you should we need to clarify your response to this consultation. Responses to consultations (minus addresses, where provided) may be shared with provincial and national building and fire code development committees.