

Manitoba Building and Fire Code Updates for Farm Buildings Frequently Asked Questions

General

Q: Why are large farm building requirements being updated now?

A: On October 20, 2022, following a 45-day public consultation on a proposal to adopt the 2015 national model construction codes (building, plumbing, energy and fire) published by the National Research Council (NRC), the Manitoba government announced it would by-pass the 2015 editions of the codes in favour of accelerated adoption of the 2020 editions. The 2020 National Building Code (NBC) and National Fire Code (NFC) have updates to large farm building requirements that will be adopted along with the 2020 editions of the codes.

[Province of Manitoba | News Releases | Manitoba Government to Accelerate Adoption of 2020 Standards for National Building, Plumbing, Fire and Energy Codes](#)

Who developed the updated requirements for large farm buildings?

A: In developing the NBC and NFC 2020 requirements for large farm buildings, the NRC's Standing Committees and their Joint Task Group (JTG) on Large Farm Buildings included the participation of builders, engineers, skilled trade workers, architects, building owners, building operators, fire and building officials, manufacturers and representatives of general interests, representing themselves or their organizations.

The JTG had a total of 27 meetings to develop an extensive package of proposed changes covering fire and life safety, structural design and HVAC systems, as well as hazardous materials and activities that are related to large farm buildings.

The proposed changes developed by the JTG were reviewed by several Standing Committees regarding the relevant changes within their mandates:

- Standing Committee on Fire Protection;
- Standing Committee on Use and Egress;
- Standing Committee on Hazardous Materials and Activities;
- Standing Committee on Structural Design; and
- Standing Committee on HVAC and Plumbing.

Various industry, general interest groups and regulators across Canada attended one or more meetings of the JTG and Standing Committee. The public also submitted numerous comments on the proposed changes during the public review process (see next question).

Q: Did the NRC consult on changes to farm building requirements?

A: Yes, the NRC develops the national model building, plumbing, energy and fire codes and does its own consulting on proposed changes. Farm building changes were publicly posted for feedback by the NRC from January 13 to March 13, 2020. The archived posting can be viewed here:

[Public review on proposed changes to Codes Canada publications - winter 2020 - National Research Council Canada](#)

Q: What is the best way to participate in the national code development process in the future?

A: Anyone interested in contributing to the national code development process can visit: <https://ccbfc-cccipi.ca/en/get-involved/>

The NRC also offers an e-mail newsletter and alert subscription service for those who want to stay notified about changes at the national level:

<https://nrc.canada.ca/en/subscribe/>

Q: When will the changes come into force?

A: Changes come into force on January 1, 2024, which means that building permits approved from that date should conform to the updated requirements based on the 2020 NBC.

Q: What is considered a “large farm building” under the construction codes?

A: A large farm building is a building over three storeys in building height or with a footprint larger than 600 square metres.

Q: Will it still be mandatory that a designer take responsibility for a large farm building being constructed in Manitoba?

A: Yes, an architect or professional engineer will still need to assume responsibility for the design of large farm buildings in Manitoba.

Q: Manitoba doesn't currently regulate the construction requirements of small farm buildings (three or less storeys and under 600 square metres); is that changing when Manitoba adopts the 2020 NBC requirements?

A: The 2020 adoption will not result in immediate regulation of small farm buildings in Manitoba. However, Manitoba recognizes that this is a code variation that may need to

be addressed in the future because of commitments under the Canadian Free Trade Agreement (see section on CFTA/RCT below).

Canadian Free Trade Agreement (CFTA) and Reconciliation Agreement on Construction Codes

Q: What is the CFTA?

A: The CFTA is a Canada-wide trade agreement to reduce trade barriers within Canada. It came into force on July 1, 2017 and replaced the previously adopted Agreement on Internal Trade (AIT). In contrast to the AIT, the CFTA's rules apply automatically to almost all areas of economic activity in Canada, with any exceptions being clearly identified. The CFTA enhances the flow of goods and services, investment and labour mobility, eliminates technical barriers to trade, greatly expands procurement coverage and promotes regulatory cooperation within Canada

Q: What is an RCT agreement?

A: The CFTA establishes a regulatory reconciliation process to address barriers to trade that companies may experience when doing business across provincial and territorial borders. This allows jurisdictions to identify trade barriers and submit the matter to an inter-jurisdictional Regulatory Reconciliation and Cooperation Table (RCT) established under the CFTA. The jurisdictions can then sign onto agreements to reconcile their regulations to remove the trade barriers under their own regulations. These are known as "RCT agreements."

Q: What is the Reconciliation Agreement on Construction Codes and why was it needed?

A: The Reconciliation Agreement on Construction Codes is an RCT agreement signed in 2020 that addresses Canada's diverging building codes. Under Canada's constitution, building codes are the responsibility of the provinces and territories. While the NRC develops national model codes, the provinces adopt the codes for enforcement in their jurisdiction. The provinces have a history of adopting editions on varying timeframes and with many ad-hoc amendments which leads to a patchwork of different requirements across the country.

[*Construction-Codes-RA-2019.pdf \(cfta-alec.ca\)](#)

Q. What does the RCT Agreement on Construction Codes do?

A. The RCT Agreement on Construction Codes does several key things:

- 1) It requires the Canadian jurisdictions to adopt the national codes within fixed timeframes of their release by the NRC. The mandatory adoption is within 24

months of the release of the 2020 editions and within 18 months of the subsequent editions. Since the NRC released the 2020 editions of the codes in March of 2022, jurisdictions have to adopt the 2020 editions by March of 2024.

- 2) It requires that the national model codes published by NRC be made freely available online. Since hard copies of the code are expensive, the codes have historically been hard to access for average Canadians, which means that they had to follow legal requirements without easily being able to find out what those requirements were. By making the codes available for free online, this problem has been addressed. The 2020 editions and past editions of the codes are available for free at:
<https://nrc-publications.canada.ca/eng/search/?q=NRCCode&q=&q=&ps=50&s=ntp&m=1>
- 3) It requires the national code development system to be reformed to allow greater direction of the provinces and territories. This transition is happening now with the replacement of the Canadian Commission on Building and Fire Codes (CCBFC) with the Canadian Table for Harmonized Construction Codes Policy effective November 22, 2022.
- 4) It requires provinces to work to harmonize with the National Model Codes and remove unnecessary code variations in technical provisions from their building regulations unless it meets a “legitimate objective” which may include:
 - a. public security and safety;
 - b. protection of human, animal or plant life or health;
 - c. protection of the environment;
 - d. consumer protection; or
 - e. protection of the health, safety, and well-being of workers

considering, among other things, if appropriate, fundamental climatic or other geographical factors, technological or infrastructure factors, or scientific justification.

Q: I’ve heard that some provinces don’t have requirements for farm buildings at all, or allow municipalities to decide if they want to adopt the farm building requirements or not. Is that allowed under the CFTA/RCT Agreement?

A: Under the RCT Agreement on Construction Codes, the non-applicability of codes, including farm building requirements, is considered a variation and must be reported on for transparency under the section which addresses provinces and territories reducing or eliminating variations. Manitoba currently does not apply National Farm Building Code requirements to small farm buildings (three storeys and under or with a building footprint less than 600 square metres) and recognizes that this is a variation. Manitoba may work with the other jurisdictions and partners to coordinate application of such

requirements in the future but recognizes that the national framework is still very much in transition. Ultimately, the CFTA and RCT agreements have a dispute resolution process to address non-compliance that may be used by the jurisdictions.

Q: If some provinces don't uniformly regulate farm buildings, can Manitoba adopt the National Building Code requirements for farm buildings but with amendments to certain requirements?

A: Manitoba already regulates large farm buildings and any amendments to the national requirements is treated by the RCT Agreement on Construction Codes as a specific type of variation referred to as a variation of a "technical provision," which includes:

- (a) acceptable solutions or other performance or prescriptive provisions related to the design, construction, or alteration of buildings;
- (b) provisions for existing buildings or premises related to minimum levels of fire, safety, fire protection or fire prevention;
- (c) objectives and functional statements;
- (d) titles or headings under which the provisions set out in paragraphs (a) through (c) are organized; or
- (e) definitions of terms related to provisions covered under paragraphs (a) through (d).

Variations in technical provisions are treated a bit differently than non-application under the RCT Agreement and have to be eliminated per the implementation requirements under the RCT Agreement unless they meet the legitimate objectives under the agreement (e.g., enhanced public security and safety). Manitoba and the other Canadian jurisdictions have to submit Implementation Plans to the NRC to identify the elimination of variations in technical provisions.

Q: What is the benefit of removing trade barriers in construction codes and ensuring consistent requirements across Canada?

A: As noted in the RCT Agreement on Construction Codes, the economic benefit to Canada attributable to the harmonization and timely adoption of Construction Codes has been estimated at \$750 million to \$1 billion by 2028.

Updated Building Code Requirements for Large Farm Building Requirements in Manitoba:

Q: How were large farm buildings treated in Manitoba before adoption of the 2020 NBC?

A: On January 25, 2017, Manitoba changed the requirements for large farm buildings by copying requirements from the National Farm Building Code, but with added safety requirements from the NBC that normally apply to industrial buildings. These requirements were added to a Section 3.10 of the Manitoba Building Code regulation.

Q: How are large farm buildings treated under the 2020 NBC updates?

A: The 2020 NBC puts large farm building requirements under a new Part 2, so designers only need to focus on 22 pages of requirements instead of the 190 pages that apply to other large buildings. It also makes a new “G” occupancy for these buildings with four types of “G” buildings:

- G1 – High-hazard agricultural occupancies (right now these are not treated as farm buildings, but as high-hazard industrial occupancies);
- G2 – Agricultural occupancies not elsewhere classified in Group G (most farm buildings);
- G3 – Greenhouse agricultural occupancies; and
- G4 – Agricultural occupancies with no human occupants (e.g., potato storage).

Q: Are buildings housing livestock with a below floor storage area for liquid manure considered high-hazard agricultural occupancies?

A: Not necessarily. The definition of a high-hazard agricultural occupancy is tied to the building containing sufficient quantities of highly combustible and flammable or explosive materials which, because of their inherent characteristics, constitute a special fire hazard. This is the same criteria which would have previously shifted a farm building into the high-hazard industrial occupancy category under the Manitoba Building Code amendments. In other words, a farm building that would have previously been classified as a high-hazard industrial occupancy would be treated as a high-hazard agricultural occupancy under the 2020 NBC.

Q: What is the difference between the previous Manitoba requirements for large farm buildings and the 2020 NBC requirements?

A: The biggest difference from the current requirements is that the 2020 code will allow most farm buildings to be built to any size (footprint). Previously, the Manitoba requirements meant that buildings were restricted in size as follows, unless the building is separated into sections:

| Building area restrictions only apply to high-hazard agricultural occupancies under the 2020 NBC: | |
|--|---------------------|
| Number of Storeys | Floor Area |
| 1 | 4800 m ² |
| 2 | 2400 m ² |
| 3 | 1600 m ² |

Under the 2020 NBC, these types of size restrictions would only be for high-hazard buildings, that weren't treated as farm buildings previously. Instead, most farm buildings can be any size.

Q: Other than building size requirements, are there significant differences between Manitoba's previous requirements and the 2020 NBC requirements?

A: The 2020 NBC's large farm building requirements mostly follow a similar approach to the existing Manitoba requirements but give designers more options and also allows them to meet the intent of the code through alternative solutions.

Q: Will Manitoba have to remove its exclusions to the national farm building requirements?

A: Yes. Manitoba has several exclusions for farm buildings that will have to be removed because of the CFTA/RCT Agreement on Construction Codes. These include exclusions for the requirement to cover foamed plastic insulation in potato storage buildings, door swing requirements in areas with livestock, exclusions for emergency lighting in buildings with poultry or egg production and perimeter exiting provisions for some buildings. The NBC has either addressed these concerns or allows designers expanded flexibility to meet the intent of the code, which Manitoba's amendments did not previously accommodate. Several of the exclusions will be carried over until adoption of the 2025 edition of the NBC to allow industry time to adjust (see below for more details).

Q: Will covering foamed plastic insulation cause problems in potato storage facilities?

A: The requirement to cover foamed plastics has been a requirement for the National Farm Building Code of Canada since at least 1995, which means it is currently required in the jurisdictions that adopt these requirements including Ontario, British Columbia and municipalities in Saskatchewan and Quebec. Manitoba reached out to Ontario, who assured Manitoba that this has not been an issue in their jurisdiction. The NBC provides multiple options to cover foamed plastics and designers can choose the most appropriate option for their buildings or submit an alternative solution.

Note: the exclusion to the requirement to covered foamed plastic insulation in unoccupied high humidity horticultural facilities where agricultural products are stored (such as potato storage facilities) will be carried over until adoption of the 2025 NBC.

Q: Is the problem of livestock pushing doors open addressed in the 2020 NBC large farm building requirements?

A: Yes. The requirement to have doors swing open when providing access to exits is restricted to high-hazard large farm buildings and there is an exclusion for all areas containing livestock within these buildings. The requirement for exit doors themselves to swing open also does not apply to G2 Agricultural Occupancies where they house livestock.

Note: G4 – Agricultural Occupancies with no human occupants are excluded from all exiting requirements.

Q: Will the requirement to have emergency lighting provided cause any problems for areas used for poultry or egg production?

A: The requirement for emergency lighting is very minimal (10 lux at the floor and tread level and one lux elsewhere) and only applies in exits, principal routes providing access to exit in open floor areas and in service rooms. Depending on the design of the building the lighting may not be needed in areas containing poultry. Also, unlike the existing Manitoba requirement, the new requirements provide designers with objective statements¹ and functional statements², which allow the designer to meet the intent of the code through alternate solutions.

Note: the exclusion to emergency lighting requirements in areas of poultry or egg production will be carried over until adoption of the 2025 NBC.

Q: Emergency lighting requires an emergency power supply to maintain lighting from a power source such as batteries or generators. Would a generator in this case have to be of the type that would power a hospital?

A: No. The NBC requirement for a generator in this situation is that it is designed and installed such that, upon failure of the regular power, it will assume the electrical load automatically for a period of 30 minutes. This actually mirrors the previous requirement for backup power under Manitoba's large farm building amendments.

¹ OS3.1 – tripping, slipping, falling, contact, drowning or collision; OS3.7 – persons being delayed in or impeded from moving to a safe place during an emergency; OS1.5 – persons being delayed in or impeded from moving to a safe place during a fire emergency.

² F10 To facilitate the timely movement of persons to a safe place in an emergency; F30 To minimize the risk of injury to persons as a result of tripping, slipping, falling, contact, drowning or collision.

Q: Are exit signs required throughout farm buildings?

A: Exit signs would not be typically required in farm buildings, as the building would have to be more than two storeys in building height or have an occupant load of more than 150 (people). This mirrors the current requirements for industrial occupancies, which some farm buildings would be required to be classified as under Manitoba's current amendments.

Q: The definitions associated with the new agricultural occupancy (Group G) do not directly reference “farming equipment” or machinery. How are these treated under the updated requirements?

A: The appendix explanatory material in the code presents “storage facilities for farming equipment, implements and machinery” as an example of a G2 – Agricultural Occupancies not elsewhere classified in Group G.

Q: In the 2020 NBC large farm building section, when a guard is required to protect against falling on an adjacent surface that is 2 feet lower, a toe guard is required. Won't that prevent manure from being cleared out in livestock areas and therefore present hygienic and maintenance issues?

A: The toe guard requirement is only where tools or other objects could fall from an upper floor surface onto a person on an adjacent lower surface which you wouldn't typically see where manure is accumulating. If such a scenario did present itself, the designer could submit an alternative solution to meet the intent of this requirement³.

Q: Why is perimeter exiting (exiting spaced 60 metres apart along the perimeter of a floor area) only permitted for greenhouses?

A: While the NRC allows perimeter exiting for all small farm buildings under the National Farm Building Code, when they evaluated the new G occupancies for large farm buildings, they determined that perimeter exiting was only appropriate for greenhouses where the main aisles of the floor area lead directly to an exit in at least two opposite directions. Otherwise, the maximum travel distance a person should have to travel to get to an exit is determined by the type of G occupancy. At the same time, the maximum travel distance has been extended from the previous 45 metres to 60 metres for most buildings making compliance easier. Alternative solutions can also be proposed to meet the intent of this statement by a designer.

Note: G4 – Agricultural Occupancies with no human occupants are excluded from all exiting requirements.

³ OS3.1 – tripping, slipping, falling, contact, drowning or collision; F30 To minimize the risk of injury to persons as a result of tripping, slipping, falling, contact, drowning or collision.

Note: amendments for expanded perimeter exiting provisions will be carried over until adoption of the 2025 NBC.

Q: Is sprinklering required in large farm buildings under the updated 2020 NBC?

A: Not typically, but it may be considered as an option where the designer wants to go beyond size/height limitations of the type of building (e.g., more than three storeys for a typical farm building).

Q: Is a fire alarm required for large farm buildings under the updated 2020 NBC?

A: Not typically. For the requirement to apply, the building would have to be an unsprinklered high-hazard agricultural occupancy with an occupant load of more than 25 people or an unsprinklered farm building (other than high-hazard) with an occupant load of more than 150 people, of multiple storeys or with a basement used for purposes other than housing service equipment. In other words, when the buildings start to approach what would currently be considered an industrial occupancy under Manitoba's building code, you start to see a requirement for fire alarms. Designers can also submit alternative solutions for consideration of other notification systems.

Q: Why does Oriented Strand Board (OSB) used as fire blocking material need to be 12.5 millimetres thick?

A: This is the standard thickness for OSB used as a fire blocking material in the NBC for both large or complex buildings under Part 3 as well as housing and small buildings under Part 9. The requirement for 12.5 millimetre thick OSB as a fire blocking material for large farm buildings is consistent with the requirement for all buildings under the NBC.

Q: Who can I contact if I have questions about Manitoba's building code requirements for farm buildings?

A: The Manitoba government's Inspection and Technical Services branch (ITS) is responsible for the Manitoba Building Code and is available to answer questions about the code. The Building Code Section at ITS can be reached at 204-945-3373 in Winnipeg, 204-648-7413 in Dauphin or by e-mail at TechnicalServices@gov.mb.ca.

Updated Fire Code Requirements for Farm Buildings

Q: What are the 2020 National Fire Code changes that affect farm buildings?

A: Large farm buildings (over three storeys in building height or 600 square metres) will be required to have their mechanical and electrical installations inspected by a qualified person. These are not requirements for the municipality to inspect the large farm building, but for the owner to have their equipment inspected and fix any issues. The building owner will need to make sure they keep records of these inspections. All farm buildings, including small farm buildings, will need to follow requirements for signage, the control of flammable/toxic gases and vapours (including below-floor manure storage) and storage of containers and tanks of flammable/combustible liquids including flammable pesticides.

Q: How often will the inspections of electrical and mechanical installations in large farm buildings be required?

A: For electrical installations, the inspection must be done every 12 months for farm buildings containing wet or corrosive environments and every three years for all other farm buildings. The electrical inspection requirement also includes a requirement for a thermographic inspection of electrical systems at least every three years.

Q: What is a “thermographic inspection”?

A: Thermographic inspection refers to the non destructive testing (NDT) of parts, materials or systems through the imaging of the temperature fields, gradients and/or patterns ("thermograms") at the object's surface.

Q: Who would be considered a “qualified person” for carrying out inspections of electrical and mechanical installations in large farm buildings?

A: For electrical installations, the qualified person would be an electrician and for mechanical installations, the qualified person would be someone familiar with the equipment, which may include the owner or an operator.

Q: What are the new 2020 NFC signage requirements that apply to all farm buildings regardless of size?

A: The 2020 NFC has the added requirements for warning signage:

- 1) A sign indicating the danger of potentially hazardous concentrations of flammable or toxic gases or vapours shall be installed at each access to a liquid manure storage tank or below-floor manure transfer chamber.

- 2) A sign indicating the danger of silo gas shall be installed adjacent to each chute or ladder on a tower silo.
- 3) A sign indicating the danger of entrapment shall be installed at each access to a grain storage structure or bottom-unloading tower silo.
- 4) A sign indicating the danger of stored pesticides shall be installed at each entrance to a pesticide storage area.
- 5) A sign indicating the danger of unsafe oxygen levels shall be installed at each entrance to a controlled-atmosphere storage area.

Q: What are the new 2020 NFC requirements that apply to all farm buildings regardless of size addressing the control of flammable gases and vapours?

A: Rooms or parts of farm buildings used for the storage of products capable of releasing flammable or toxic gases or vapours have to have ventilation that satisfies building code requirements to exhaust such gases or vapours outdoors to an area where the gases and vapours will not return to the farm building.

Q: What are the new 2020 NFC requirements that apply to all farm buildings regardless of size addressing the control of flammable liquids?

A: Farm buildings housing livestock with a below-floor storage area for liquid manure have to be provided with a ventilation system that satisfies building code requirements to supply outside air to remove the risk of explosion and limit toxic gases in accordance with dangerous goods/toxic gases regulations with an absolute minimum of two air exchanges an hour. This requirement does not apply where the farm building is unoccupied and the liquid manure has been removed from the storage area.

Q: Currently, municipalities are required to inspect high-hazard industrial occupancies for compliance with the Manitoba Fire Code every 24 months; will this requirement apply to high-hazard agricultural occupancies?

A: The requirements for inspection of high hazard F1 industrial occupancies is specific to those types of occupancies and do not apply to agricultural occupancies classified as Group G.

Q: Who can I contact if I have questions about Manitoba's Fire Code requirements for farm buildings?

A: Manitoba's Office of the Fire Commissioner (OFC) is responsible for Manitoba's fire code and will help with the rollout of the new requirements. The Fire Safety Section of the OFC can be reached at 204-945-3322 in Winnipeg, 204-726-6855 in Brandon or by e-mail at firecomm@gov.mb.ca .