2012 ONTARIO BUILDING CODE

Highlights of changes that take effect January 1, 2014

2012 ONTARIO BUILDING CODE

Please note:

for those who have purchased a 2012 Building Code, there is an amendment that takes effect on January 1, 2014 that was not included in the printed document.

The amendment has not been made available as of yet, but can be reviewed on elaws.

2012 Building Code, O. Reg 332/12

Building and Development Branch
Ministry of Municipal Affairs and Housing

Introduction

- This slide deck is intended as a brief overview that highlights the changes included in the new 2012 Building Code
- For definitive information concerning the revised Building Code please consult O. Reg 332/12

Next Edition of the Building Code: Status

- On November 2, 2012, the 2012 Building Code was filed as O.Reg. 332/12
  - It can be found at e-Laws
  - The new Building Code will, for the most part, come into force on January 1, 2014
  - Certain energy efficiency related provisions will come into force on January 1, 2014, 2015 and 2017
  - Certain changes related to on-site sewage systems will come into force December 31, 2016

- This timeline gives the industry time to learn about the new changes and prepare for implementation

2012 Edition of the Building Code

- The 2012 Building Code changes provide a balanced package that:
  - Builds on health and safety and environmental protection requirements
  - Helps the competitiveness of Ontario's building sector through:
    - New and updated standards
    - Clarifying Building Code requirements
    - Allowing for the use of new products
    - Recognition of best practices
    - More flexible requirements
    - Maintaining Ontario's harmonization with model National Building Code requirements in areas such as structural design
  - Maintains Ontario's leadership in energy and water conservation
  - Has potential for savings of operating costs over time for building owners (e.g. through energy and water savings)

Property Protection and Health

- The 2012 Building Code contains enhancements to property protection and health, including:
  - Removing window screens as an acceptable fall protection device
    - Window guards or controlled sashes will still be required under the Code
  - Revising the average annual concentration of radon threshold in the Building Code to reflect the new national threshold (from 250 Bq/m^3 to 200 Bq/m^3)
    - i.e., less radon is needed to trigger radon protection requirements
    - Change affects only three areas in Ontario currently identified in the Code
  - Clarifying that sewage back-water valves are required in residential buildings connected to a public sewage system, if deemed necessary at a local level
  - Protecting public water supplies from contamination from "medium hazard" uses (e.g. multi-unit residential buildings, commercial buildings, hotels, manufacturing plants) by requiring backflow preventers as premis isolation devices

Fire Safety

- The 2012 Building Code contains specific requirements in order to enhance fire protection of large and small buildings, including:
  - Requiring hard-wired smoke alarms with battery back-up in each sleeping room for houses and large buildings (Part 3 and Part 9)
  - Requiring integrated sprinkler and fire alarm systems in multi-unit residential buildings

    - Mandating sprinkler protection for all retirement homes

Code Objectives

- The 2012 Building Code expands the list of Building Code sub-objectives and related functional statements to reference:
  - Limiting the extent to which construction strains infrastructure capacity (e.g., electrical grid capacity)
  - Protecting atmospheric quality
    - Limiting green house gas emissions
    - Limiting the release of pollutants
  - Protecting water and soil quality

Energy Conservation Requirements

•Large Buildings

- The 2012 Building Code promotes energy conservation through building design and construction by:
  - Requiring that large buildings for which building permits are applied, on or after January 1, 2017, meet an energy efficiency level that is 13% higher than that required in 2012

- Similar to the approach taken with the energy requirements included in the 2006 Code, MMAH intends to work with the building sector to develop compliance alternatives

Energy Conservation Requirements 2

•Houses

- The 2012 Building Code promotes energy conservation through building design and construction by:
  - Requiring that houses for which building permits are applied, on or after January 1, 2017, meet an energy efficiency level that is 15% higher than that required in 2012
  - Providing compliance alternatives on how to achieve that goal
  - Over the 5-year Code cycle, requiring a number of other energy-conserving incremental changes
- As with the approach taken with large buildings, MMAH intends to work with the building sector to develop compliance alternatives to achieve these future requirements

Water Conservation

- The 2012 Building Code promotes the conservation of Ontario's water by:
  - Requiring newly installed toilets in residential occupancies to be high efficiency
  - Requiring newly installed urinals to be high efficiency
  - Requiring high-efficiency showerheads in residential occupancies

- Opportunities for innovation are provided by:
  - Allowing for drainless composting toilets in areas with municipal services
  - Expanding the end uses of rainwater and other non-potable water
  - Clarifying the design requirements of non-potable water systems

  - Specifically related to pipe sizing

On-Site Sewage Systems

- The 2012 Building Code contains new requirements for on-site sewage systems, including:
  - Referencing a new national industry standard (CAN-BNQ 3680-600) for certifying residential wastewater treatment technologies
    - Manufacturers will have until 2016 to meet the new standard
  - Setting standards for two different types of on-site sewage dispersal beds to manage effluent from certain residential wastewater treatment technologies
    - Two types of dispersal beds, one with prescriptive requirements and one with performance requirements
  - Adopting a number of changes and updating technical, maintenance, and monitoring requirements
    - Examples include adding detailed specifications for effluent filters and clarifying requirements for filter bed construction

Harmonization and Consistency

- The 2012 Building Code enhances harmonization with the model National Building and Plumbing Codes, including:
  - Editorial changes and updated standard references, stemming from changes to the model national codes
  - Clarifying technical requirements to ensure consistency and clarity in enforcement
  - Allowing more flexible, performance-oriented methods design and installation of some building elements

- Amendments to the Building Code enhance consistency with the Electrical Safety Code (no changes to Electrical Safety Code required)

- Meter mounting has been removed from OBC.

Administrative Changes

- The 2012 Building Code:
  - Requires that copies of Minister's Rulings authorizing the use of innovative building materials be kept at the construction site where a Ruling applies
  - Requires thermal protection for foam plastic insulation as a condition for residential occupancy
  - Removes requirement for final site grading as a condition of occupancy permit issuance for certain residential uses

Knowledge Maintenance

- The 2012 Building Code contains “knowledge maintenance” requirements for qualified practitioners
- These replace the requalification requirements set out in the 2006 Code
- Practitioners will have 18 months to successfully complete a knowledge maintenance exam for a given qualification category, following the release of that exam
- The ministry will determine the date, no sooner than the date the regulation takes effect, of the release and the qualification categories of Knowledge Maintenance exams
- Options for design, maintenance and delivery of online courses are being explored
- Exploring online delivery of exams as well

Accessibility

- Ontario's Building Code has included requirements for barrier-free design since 1975
- The *Accessibility for Ontarians with Disabilities Act, 2005 (AODA)* called for the creation of standards to make Ontario accessible for persons with disabilities by 2025
- In July 2010, a Final Proposed Accessible Built Environment Standard was submitted for government's consideration
- Public consultation on updated accessibility requirements in Ontario's Building Code concluded March 1, 2013
- Feedback received is being considered by government to determine what will become law and when

- Expect changes to the 2012 code to accommodate built environmental standards
- At this time no new changes

Implementation of the 2012 Edition

- Code Publication:
  - MMAH has published the 2012 Building Code:
    - Hard copy "compendium" version available now at Publications Ontario
    - Potential development of an electronic and mobile devices
    - MMAH has conducted a survey to seek input of business needs for an e-version
- Updated Guidelines and Best Practices:
  - MMAH is reviewing current guidelines and best practices to determine which ones should be updated to reflect the content of the next edition of the Code
- Additional material on the 2012 Building Code will be available shortly
- Studying 6 storey mid rise wood buildings to be introduced in the Code.

Further Information

- More detailed material will be posted on this website in coming months
- For updates, follow the ministry on Twitter.com/OntMMAH or subscribe to Code News at http://www.mah.gov.on.ca

BRANCH CHANGES

- New director is Brenda Lewis
- Contracted out education to George Brown College and examinations to Seneca College
- Focusing on code development and code interpretation
- No longer will provide advice to the public
- Will designate a code advisor for each region in the province

OVERVIEW

This presentation is intended to provide a broad overview of the changes to the Ontario Building Code (O.Reg. 332/12) which take effect on January 1, 2014.

Some changes have intentionally been left out of this presentation as they were simply clarifications or rewording of existing clauses.

SESSION 1
MODERATED BY GARY SCHRYER

DIVISION A, PART 1

DIVISION B, PART 3

DIVISION B, PART 4

DIVISION B, PART 5

Please hold all question until the end of the presentation. Building Division staff will be available to answer any questions as time permits. If you have further questions feel free to contact any Building Division Staff member and we will be happy to assist you.

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ARTICLE 1.4.1.2. DEFINED TERMS

2006 Ontario Building Code

Care occupancy (Group B, Division 3) means an *occupancy* in which persons receive special or supervisory care because of cognitive or physical limitations, but does not include a *dwelling unit*.

2012 Ontario Building Code

Care occupancy (Group B, Division 3) means an *occupancy* in which special care is provided by a facility, directly through its staff or indirectly through another provider, to residents of the facility,

(a) who require special care because of cognitive or physical limitations, and

(b) who, as a result of those limitations, would be incapable of evacuating the *occupancy*, if necessary, without the assistance of another person.

ARTICLE 1.4.1.2. DEFINED TERMS

2006 Ontario Building Code

Residential occupancy means the *occupancy* or use of a *building* or part of a *building* by persons for whom sleeping accommodation is provided but who are not harboured or detained there to receive medical care or treatment or who are not involuntarily detained there.

2012 Ontario Building Code

Residential occupancy means an *occupancy* in which sleeping accommodation is provided to residents who are not harboured for the purpose of receiving special care or treatment and are not involuntarily detained.

ARTICLE 3.1.2.7. STORAGE OF COMBUSTIBLE FIBRES

2006 Ontario Building Code

Article did not exist in the 2006 edition of the code.

2012 Ontario Building Code

Buildings or parts of them used for the storage of baled *combustible fibres* shall be classified as *medium hazard industrial occupancies*.

Combustible fibres means finely divided combustible vegetable or animal fibres and thin sheets or flakes of such materials which, in a loose, unbaled condition, present a flash fire hazard, and includes cotton, wool, hemp, sisal, jute, kapok, paper and cloth.

ARTICLE 3.1.4.4. NONMETALIC RACEWAYS

2006 Ontario Building Code

Article did not exist in the 2006 edition of the code.

2012 Ontario Building Code

(1) Totally enclosed nonmetallic raceways used in a plenum in a building permitted to be of combustible construction shall meet the requirements of Clause 3.1.5.20.(1)(a).

ARTICLE 3.1.5.5. COMBUSTIBLE COMPONENTS FOR EXTERIOR WALLS

2006 Ontario Building Code

Article included 5 sentences outlining the criteria to allow combustible components where non-combustible construction is required.

2012 Ontario Building Code

Sentence 2 is a new sentence

(2) Except as permitted by Articles 3.2.3.10. and 3.2.3.11., where the area of unprotected openings determined in accordance with Tables 3.2.3.1.B. to 3.2.3.1.E. is required to be not more than 10% of the exposing building face, the construction requirements of Table 3.2.3.7. shall be met.

ARTICLE 3.1.9.1. FIRE STOPS

2006 Ontario Building Code

Sentence 2 has been replaced by 4 sentences outlining the types & locations of fire stopping.

(2) Piping, tubing, ducts, chimneys, optical fibre cables, electrical wires and cables, totally enclosed noncombustible raceways, electrical outlet boxes and other similar building services that penetrate a firewall or a horizontal fire separation that is required to have a fire-resistance rating in conformance with Article 3.2.1.2., shall be sealed at the penetration by a fire stop system that, when subjected to the fire test method in CAN4-S115-M, “Fire Tests of Firestop Systems”, has an FT rating not less than the fire-resistance rating for the fire separation.

2012 Ontario Building Code

(2) Penetrations of a firewall or a horizontal fire separation that is required to have a fire-resistance rating in conformance with Article 3.2.1.2. shall be sealed at the penetration by a fire stop that, when subjected to the fire test method in CAN/ULC-S115, “Fire Tests of Firestop Systems”, has an FT rating not less than the fire-resistance rating required for the fire separation.

(3) Penetrations of a fire separation in conformance with Sentence 3.6.4.2.(2) shall be sealed by a fire stop that, when subjected to the fire test method in CAN/ULC-S115, “Fire Tests of Firestop Systems”, has an FT rating not less than the fire-resistance rating required for the fire separation of the assembly.

ARTICLE 3.1.9.1. FIRE STOPS (CONTINUED)

2006 Ontario Building Code

Sentence 2 has been replaced by 4 sentences outlining the types & locations of fire stopping.

(2) Piping, tubing, ducts, chimneys, optical fibre cables, electrical wires and cables, totally enclosed noncombustible raceways, electrical outlet boxes and other similar building services that penetrate a firewall or a horizontal fire separation that is required to have a fire-resistance rating in conformance with Article 3.2.1.2., shall be sealed at the penetration by a fire stop system that, when subjected to the fire test method in CAN4-S115-M, “Fire Tests of Firestop Systems”, has an FT rating not less than the fire-resistance rating for the fire separation.

2012 Ontario Building Code

(4) Sprinklers are permitted to penetrate a fire separation or a membrane forming part of an assembly required to have a fire-resistance rating without having to meet the fire stop requirements of Sentence (1), (2) or (3), provided the annular space created by the penetration of a fire sprinkler is covered by a metal escutcheon plate in accordance with NFPA 13, “Installation of Sprinkler Systems”.

(5) Unless specifically designed with a fire stop, fire dampers are permitted to penetrate a fire separation or a membrane forming part of an assembly required to have a fire-resistance rating without having to meet the fire stop requirements of Sentence (1), (2) or (3), provided the fire damper is installed in conformance with NFPA 80, “Fire Doors and Other Opening Protectives”.

SENTENCE 3.1.9.3.(6)
PENETRATION BY WIRES, CABLES AND OUTLET BOXES

2006 Ontario Building Code

(6) Outlet boxes that penetrate opposite sides of a wall assembly shall be offset where necessary to maintain the integrity of the fire separation.

2012 Ontario Building Code

Noncombustible electrical outlet boxes that penetrate a *fire separation* or a membrane forming part of an assembly required to have a *fire-resistance rating* need not meet the requirements of Article 3.1.9.1. provided,

(a) they do not exceed,

(i) 100 cm^2 each in area, and

(ii) an aggregate area of 650 cm^2 in any 9.3 m^2 of surface area, and

(b) the annular space between the membrane and the box does not exceed 3 mm.

SENTENCE 3.1.9.3.(7)
PENETRATION BY WIRES, CABLES AND OUTLET BOXES

2006 Ontario Building Code

(6) Outlet boxes that penetrate opposite sides of a wall assembly shall be offset where necessary to maintain the integrity of the fire separation.

2012 Ontario Building Code

(7) Unless provided with a fire stop in accordance with CAN/ULC-S115, “Fire Tests of Firestop Systems”, electrical outlet boxes on opposite sides of a vertical fire separation required to have a fire-resistance rating shall be,

(a) separated by a horizontal distance of not less than 600 mm, or

(b) installed in adjacent stud cavities.

SUBSECTION 3.1.19. CLEARANCE TO ELECTRICAL CONDUCTORS

2006 Ontario Building Code

(1) Where a *building* is to be *constructed* in proximity to existing above ground electrical conductors of a voltage not less than 2.5 kV and not more than 46 kV,

(a) the *building* shall not be located beneath the conductors, and

(b) the horizontal clearance between the *building* and the maximum conductor swing shall be not less than 3 m.

(2) Where a *building* is to be *constructed* in proximity to existing above ground electrical conductors of a voltage more than 46 kV, the clearances between the *building* and the conductors shall conform to the requirements of CAN/CSA-C22.3 No.1, “Overhead Systems”.

2012 Ontario Building Code

(1) A *building* shall not be located beneath existing above ground electrical conductors.

(2) The horizontal clearance measured from the maximum conductor swing to the *building*, including balconies, fire escapes, flat roofs or other accessible projections beyond the face of the *building*, shall,

(a) be not less than 1 m, for electrical conductors carrying voltages 750 V or less, except where necessary to connect to the electrical wiring of the *building*,

(b) be not less than 3 m, for electrical conductors carrying voltages greater than 750 V but not exceeding 46 kV,

(c) be not less than 3.7 m, for electrical conductors carrying voltages greater than 46 kV but not exceeding 69kV, or

SUBSECTION 3.1.19. (CONTINUED) CLEARANCE TO ELECTRICAL CONDUCTORS

2006 Ontario Building Code

(1) Where a *building* is to be *constructed* in proximity to existing above ground electrical conductors of a voltage not less than 2.5 kV and not more than 46 kV,

(a) the *building* shall not be located beneath the conductors, and

(b) the horizontal clearance between the *building* and the maximum conductor swing shall be not less than 3 m.

(2) Where a *building* is to be *constructed* in proximity to existing above ground electrical conductors of a voltage more than 46 kV, the clearances between the *building* and the conductors shall conform to the requirements of CAN/CSA-C22.3 No.1, “Overhead Systems”.

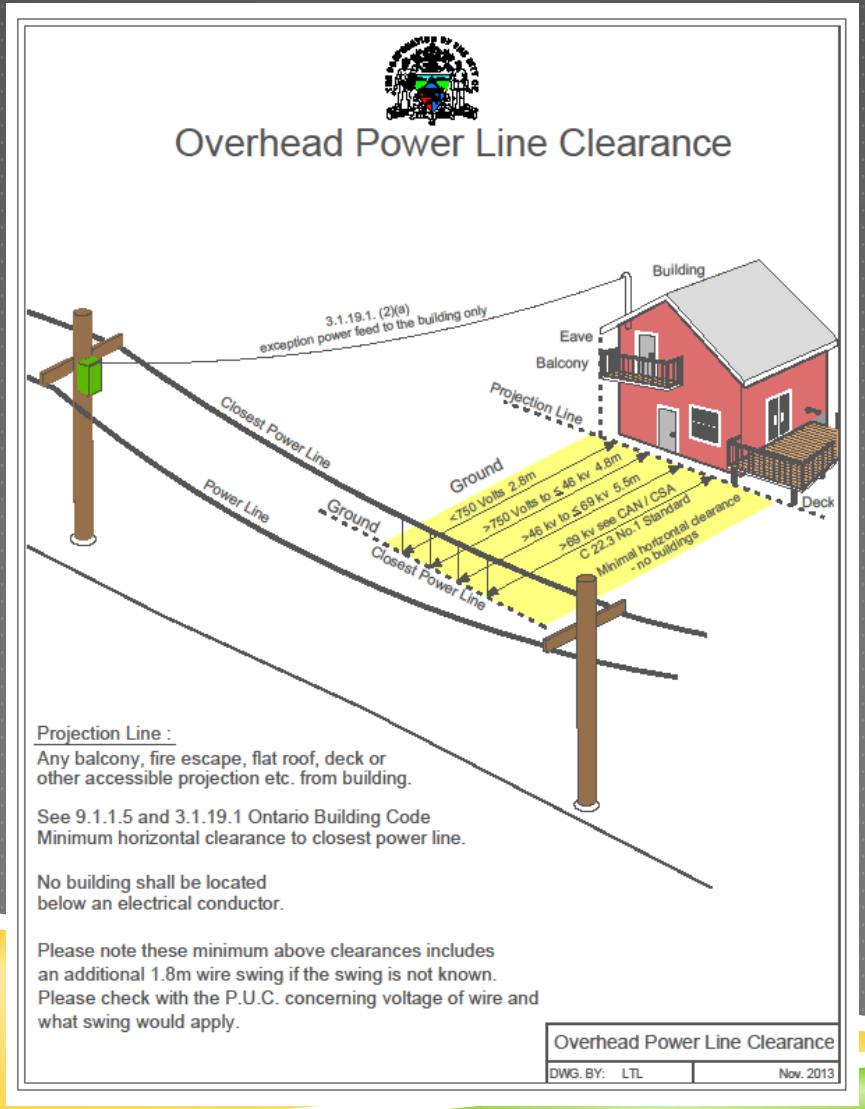
2012 Ontario Building Code

(d) conform to the requirements of CAN/CSA-C22.3 No.1, “Overhead Systems”, for electrical conductors carrying voltages greater than 69kV.

(3) Where the swing of an above ground electrical conductor not owned or operated by an electrical supply authority is not known, a swing of not less than 1.8 m shall be used.

(4) Sentences (1) to (3) do not apply to a *building* containing electrical equipment and electrical installations used exclusively in the generation, transformation or transmission of electrical power or energy intended for sale or distribution to the public.

SUBSECTION 3.1.19. (CONTINUED) CLEARANCE TO ELECTRICAL CONDUCTORS



ARTICLE 3.2.2.44. 3.2.2.46. AND 3.2.2.47 GROUP C OCCUPANCIES – NOT SPRINKLERED

2006 Ontario Building Code

Sprinklers were not required regardless of the occupancy of the building.

2012 Ontario Building Code

A retirement home regulated under the *Retirement Homes Act, 2010* shall be *sprinklered*.

"retirement home" means a residential complex or the part of a residential complex,
(a) that is occupied primarily by persons who are 65 years of age or older,
(b) that is occupied or intended to be occupied by at least the prescribed number of persons who are not related to the operator of the home, and
(c) where the operator of the home makes at least two care services available, directly or indirectly, to the residents, but does not include,
(d) premises or parts of premises that are governed by or funded under, (i) Repealed: 2010, c. 11, s. 123 (1). (ii) Repealed: 2010, c. 11, s. 123 (2). (iii) the Homes for Special Care Act, (iv) Repealed: 2010, c. 11, s. 123 (1). (v) the Long-Term Care Homes Act, 2007, (vi) the Ministry of Community and Social Services Act, (vii) Repealed: 2010, c. 11, s. 123 (1). (viii) the Private Hospitals Act,
(ix) the Public Hospitals Act, or (x) the Services and Supports to Promote the Social Inclusion of Persons with Developmental Disabilities Act, 2008,
(e) premises at which emergency hostel services are provided under the Ontario Works Act, 1997, or
(f) the other premises that are prescribed; ("maison de retraite")

ARTICLE 3.2.3.1. LIMITING DISTANCE AND AREA OF UNPROTECTED OPENINGS

2006 Ontario Building Code

Did not address exposing building face with a limiting distance of 2 meters or less

2012 Ontario Building Code

Except for buildings that are sprinklered, where the limiting distance is 2 m or less, the area of each individual unprotected opening in an exposing building face shall not be greater than,

(a) the area in Table 3.2.3.1.A., or

(b) for a limiting distance equal to or greater than 1.2 m, the area calculated as follows:

Area = 0.24 [(2 x LD) - 1.2]2

where,

Area = area of the unprotected opening in m2, and

LD = limiting distance in m.

ARTICLE 3.2.3.1. LIMITING DISTANCE AND AREA OF UNPROTECTED OPENINGS (CONTINUED)

2006 Ontario Building Code

Did not address exposing building face with a limiting distance of 2 meters or less

2012 Ontario Building Code

(6) The distance between individual *unprotected openings* described in Sentence (5) that serve a single room or space described in Sentence (7) shall not be less than,

(a) 2 m measured horizontally where the *unprotected openings* are on the same *exposing building face*, or

(b) 2 m measured vertically where the *unprotected openings* both serve, (i) the single room or space, or

(ii) another room or space on the same *storey*.

(7) For the purpose of Sentence (6), “single room or space” means a room or space that,

(a) is not divided by a wall, (b) is divided by,

(i) a wall that extends less than 1.5 m from the interior face of the exterior wall, or (ii) a partial height wall, or

(c) consists of two or more stacked spaces that are on the same *storey*.

ARTICLE 3.2.3.6. COMBUSTIBLE PROJECTIONS

2006 Ontario Building Code

Except for a building containing one or 2 dwelling units only, combustible projections on the exterior of a wall that could expose an adjacent building to fire spread and are more than 1 000 mm above ground level, including balconies, platforms, canopies, eave projections and stairs, shall not be permitted within,

(a) 1 200 mm of a property line or the centreline of a public way, or

(b) 2 400 mm of a combustible projection on another building on the same property.

2012 Ontario Building Code

(2) Where the exposing building face has a limiting distance of not more than 0.45 m, projecting roof soffits shall not be constructed above the exposing building face.

(3) Where the exposing building face has a limiting distance of more than 0.45 m, the face of roof soffits above the exposing building face shall not project to less than 0.45 m from the property line.

ARTICLE 3.2.3.6. COMBUSTIBLE PROJECTIONS (CONTINUED)

2006 Ontario Building Code

Except for a building containing one or 2 dwelling units only, combustible projections on the exterior of a wall that could expose an adjacent building to fire spread and are more than 1 000 mm above ground level, including balconies, platforms, canopies, eave projections and stairs, shall not be permitted within,

(a) 1 200 mm of a property line or the centreline of a public way, or

(b) 2 400 mm of a combustible projection on another building on the same property.

2012 Ontario Building Code

(4) Where roof soffits project to less than 1.2 m from the centre line of a lane or public thoroughfare or from an imaginary line between two buildings or fire compartments on the same property, they shall,

(a) have no openings, and (b) be protected by, (i) not less than 0.38 mm thick sheet steel, (ii) unvented aluminum conforming to CAN/CGSB-93.2-M, “Prefinished Aluminum Siding, Soffits and Fascia, for Residential Use”, (iii) not less than 12.7 mm thick gypsum soffit board or gypsum ceiling board installed according to CSA A82.31-M, “Gypsum Board Application”, (iv) not less than 11 mm thick plywood, (v) not less than 12.5 mm thick OSB or waferboard, or (vi) not less than 11 mm thick lumber.

(5) For buildings of combustible construction, materials installed to provide the required protection of soffits may be covered with a combustible or noncombustible finish material.

ARTICLE 3.2.3.7. CONSTRUCTION OF EXPOSING BUILDING FACE

2006 Ontario Building Code

Requirements for the construction of exposing building face were broken down in sentence form by occupancy and percentage of unprotected openings.

2012 Ontario Building Code

New Table 3.2.3.7.

Table 3.2.3.7.
Minimum Construction Requirements for Exposing Building Faces

Forming Part of Sentences 3.2.3.7.(1), (5) and (6)

Item	Column 1	Column 2	Column 3	Column 4	Column 5
	Occupancy Classification of *Building* or *Fire Compartment*	Maximum Area of *Unprotected Openings* Permitted, % of *Exposing Building Face* Area	Minimum Required *Fire-Resistance Rating*	Type of Construction Required	Type of Cladding Required
1.	Group A, B, C, D, or	0 to 10	1 h	*Noncombustible*	*Noncombustible*
	Group F, Division 3	> 10 to 25	1 h	*Combustible or Noncombustible*	*Noncombustible*
		> 25 to 50	45 min	*Combustible or Noncombustible*	*Noncombustible*
		> 50 to < 100	45 min	*Combustible or Noncombustible*	*Combustible or Noncombustible*
2.	Group E, or Group F,	0 to 10	2 h	*Noncombustible*	*Noncombustible*
	Division 1 or 2	> 10 to 25	2 h	*Combustible or Noncombustible*	*Noncombustible*
		> 25 to 50	1 h	*Combustible or Noncombustible*	*Noncombustible*
		> 50 to < 100	1 h	*Combustible or Noncombustible*	*Combustible or Noncombustible*

ARTICLE 3.2.3.21. INSTALLATION OF SERVICE LINES UNDER BUILDINGS

2006 Ontario Building Code

2006 code was silent on service lines under buildings

2012 Ontario Building Code

A building shall not be constructed over an existing buried flammable gas main unless the gas main is encased in a gas-tight conduit in conformance with CSA Z662, “Oil and Gas Pipeline Systems”.

ARTICLE 3.2.4.6. COMMISSIONING OF LIFE SAFETY AND FIRE PROTECTION SYSTEMS

2006 Ontario Building Code

Previous Code allowed testing of systems independently of each other.

2012 Ontario Building Code

Where life safety and fire protection systems are installed to comply with the provisions of this Code or the Fire Code made under the Fire Protection and Prevention Act, 1997, the commissioning of these integrated systems must be performed as a whole to ensure the proper operation and inter-relationship between the systems.

ARTICLE 3.2.4.8. SIGNALS TO FIRE DEPARTMENT

2006 Ontario Building Code

(1) If a fire alarm system is required to be installed and a single stage system is provided, the system shall be designed to notify the fire department in conformance with Sentence (4) that an alarm signal has been initiated in,

(a) a Group A occupancy having an occupant load more than 300,

(b) a Group B occupancy,

(c) a Group F, Division 1 occupancy,

(d) a building regulated by the provisions of Subsection 3.2.6., or

(e) a building containing interconnected floor space required to conform to Articles 3.2.8.3. to 3.2.8.11.

2012 Ontario Building Code

(1) If a fire alarm system is required to be installed and a single stage system is provided, the system shall be designed to notify the fire department in conformance with Sentence (4) that an alarm signal has been initiated in,

(a) a Group A occupancy having an occupant load more than 300,

(b) a Group B occupancy,

(c) a Group F, Division 1 occupancy,

(d) a building regulated by the provisions of Subsection 3.2.6.,

(e) a building containing interconnected floor space required to conform to Articles 3.2.8.3. to 3.2.8.11., or

(f) a retirement home regulated under the Retirement Homes Act, 2010 that is a Group C occupancy.

ARTICLE 3.2.4.22. SMOKE ALARMS

2006 Ontario Building Code

3.2.4.21.(3)

On any storey of a dwelling unit containing sleeping rooms, a smoke alarm shall be installed in a location between the sleeping rooms and the remainder of the storey, and if the sleeping rooms are served by a hallway, the smoke alarm shall be located in the hallway.

2012 Ontario Building Code

3.2.4.22.(3)

On any storey of a dwelling unit containing sleeping rooms, a smoke alarm shall be installed in,

(a) each sleeping room, and

(b) a location between the sleeping rooms and the remainder of the storey, and if the sleeping rooms are served by a hallway, the smoke alarm shall be located in the hallway.

ARTICLE 3.2.4.22. SMOKE ALARMS

2006 Ontario Building Code

3.2.4.21.(5)

A smoke alarm shall be installed with permanent connections to an electrical circuit and shall have no disconnect switches between the overcurrent device and the smoke alarm.

2012 Ontario Building Code

3.2.4.22.(5)

Except as permitted by Sentence (6), smoke alarms required by Sentence (1) shall,

(a) be installed with permanent connections to an electrical circuit,

(b) have no disconnect switch between the overcurrent device and the smoke alarm, and

(c) in case the regular power supply to the smoke alarm is interrupted, be provided with a battery as an alternative power source that can continue to provide power to the smoke alarm for a period of not less than seven days in the normal condition, followed by 4 min of alarm.

ARTICLE 3.2.4.22. SMOKE ALARMS

(6) Suites of residential occupancy are permitted to be equipped with smoke detectors in lieu of smoke alarms, provided the smoke detectors, (a) are capable of independently sounding audible signals within the individual suites, (b) except as provided by Sentence (7), are installed in conformance with CAN/ULC-S524, "Installation of Fire Alarm Systems", and verified in conformance with CAN/ULC-S537, "Verification of Fire Alarm Systems", and (c) form part of the fire alarm system.

(7) Smoke detectors permitted to be installed in lieu of smoke alarms as provided in Sentence (6) are not required under Clause (6)(b) to sound an alarm throughout the rest of the building, provided they sound localized alarms within individual suites and otherwise meet the requirements of Clause (6)(b).

(10) Except as permitted by Sentence (11), a manually operated silencing device shall be incorporated within the circuitry of a smoke alarm installed in a dwelling unit so that it will silence the signal emitted by the smoke alarm for a period of not more than 10 min, after which the smoke alarm will reset and again sound the alarm if the level of smoke in the vicinity is sufficient to reactuate the smoke alarm.

(11) Suites of residential occupancy equipped with smoke detectors installed in conformance with CAN/ULC-S524, "Installation of Fire Alarm Systems", as part of the fire alarm system in lieu of smoke alarms as permitted by Sentence (6), need not incorporate the manually operated silencing device required by Sentence (10).

(12) The sound patterns of smoke alarms shall, (a) meet the temporal patterns of alarm signals, or (b) be a combination of temporal pattern and voice relay.

ARTICLE 3.2.5.13. AUTOMATIC SPRINKLER SYSTEMS

2006 Ontario Building Code

New sentence – retirement home requirements did not exist in 2006 code.

2012 Ontario Building Code

(8) The sprinkler system described in Sentence (3) shall be provided with a minimum 20 min water supply when installed in a retirement home regulated under the Retirement Homes Act, 2010.

ARTICLE 3.2.7.1.
MINIMUM LIGHTING REQUIREMENTS

2006 Ontario Building Code

(1) An exit, a public corridor, a corridor providing access to exit for the public, a corridor serving patients or residents in a Group B, Division 2 or Division 3 occupancy, a corridor serving classrooms, an electrical equipment room, a transformer vault and a hoistway pit shall be equipped to provide illumination to an average level not less than 50 lx at floor or tread level and at angles and intersections at changes of level where there are stairs or ramps.

2012 Ontario Building Code

(1) An exit, a public corridor, a corridor providing access to exit for the public, a corridor serving patients or residents in a Group B, Division 2 or 3 occupancy, a corridor serving classrooms, an electrical equipment room, a transformer vault and a hoistway pit shall be equipped to provide illumination to an average level not less than 50 lx at floor or tread level and at all points such as angles and intersections at changes of level where there are stairs or ramps.

(2) The minimum value of the illumination required by Sentence (1) shall not be less than 10 lx.

ARTICLE 3.2.7.10. PROTECTION OF ELECTRICAL CONDUCTORS

2006 Ontario Building Code

(1) An exit, a public corridor, a corridor providing access to exit for the public, a corridor serving patients or residents in a Group B, Division 2 or Division 3 occupancy, a corridor serving classrooms, an electrical equipment room, a transformer vault and a hoistway pit shall be equipped to provide illumination to an average level not less than 50 lx at floor or tread level and at angles and intersections at changes of level where there are stairs or ramps.

2012 Ontario Building Code

(1) Electrical conductors shall conform to Sentences (2) to (9) if they,

(a)are within buildings identified in Article 3.2.6.1. and serve, (i) fire alarm systems, or (ii) emergency equipment within the scope of Articles 3.2.6.2. to 3.2.6.8.,

(b) serve fire pumps required to be installed under Article 3.2.5.19.,

(c) serve mechanical systems related to, (i) compartments referred to in Clause 3.3.3.6.(1)(b), (ii) contained use areas referred to in Clauses 3.3.3.7.(4)(a) and (b), or (iii) provisions of Articles 3.2.8.4. to 3.2.8.6. and 3.2.8.9., or

(d) serve emergency lighting described in Article 3.2.7.3.

SUB-SECTION 3.3.6. DESIGN OF HAZARDOUS AREAS

2006 Ontario Building Code

Design of hazardous areas was not part of the 2006 Code.

2012 Ontario Building Code

3.3.6.1. Application

3.3.6.2. Storage of Explosives

3.3.6.3. Indoor Storage of Compressed Gases

3.3.6.4. Storage and Dispensing Rooms for Flammable Liquids and Combustible Liquids

3.3.6.5. Tire Storage

3.3.6.6. Ammonium Nitrate Storage

3.3.6.7. Flooring Materials

3.3.6.8. Fire Separations in Process Plants

3.3.6.9. Basements and Pits

SUB-SECTION 3.4.5. EXIT SIGNS

2006 Ontario Building Code

2006 Code requirements for exit signs included the word “EXIT” or “EXIT/SORTIE” and the sign had to be illuminated.

2012 Ontario Building Code

New exit signs must consist of a green pictogram and white graphic symbol and are now permitted to be photoluminescent and self-luminous.

ARTICLE 3.4.6.4. DIMENSIONS OF LANDINGS

2006 Ontario Building Code

Landing dimensions were grouped together with 3.4.6.3. Landing and Maximum Vertical Rise of Stair Flights.

2012 Ontario Building Code

Dimensions of Landings has been separated into its own article 3.4.6.4.

ARTICLE 3.7.4.15. CLEARANCES FOR WATER CLOSETS

2006 Ontario Building Code

2006 Code was silent on clearances in front of a water closet.

2012 Ontario Building Code

Except in a dwelling unit and except as required by Section 3.8., a minimum clearance of 380 mm shall be provided in front of a water closet.

ARTICLE 3.7.4.16. PRIVACY

2006 Ontario Building Code

(1) If a room contains not more than 1 water closet, the doorway to the room shall be provided with a full height door that is capable of being locked from the inside.

(2) If a room contains no fewer than 2 water closets or at least 1 water closet and 1 urinal, the room shall be designed so that water closets, urinals and lavatories are not visible from the entrance to the room.

2012 Ontario Building Code

(1) If a room contains not more than 1 water closet, the doorway to the room shall be provided with a full height door that is capable of being locked from the inside.

(2) Except in a room for private use, water closets, urinals, lavatories, showers and bathtubs shall not be visible from the entrance to the room where it contains at least,

(a) two water closets,

(b) one water closet and one urinal,

(c) one shower stall, or

(d) one bathtub.

ARTICLE 3.15.5.2.
CLEARANCE FOR EXTEROR SIGNS

2006 Ontario Building Code

Clearances to electrical conductors were not addressed in the 2006 Code.

2012 Ontario Building Code

(4) A sign shall not be located in proximity to existing above ground electrical conductors, unless the sign meets the clearance requirements of Subsection 3.1.19.

SENTENCE 3.17.1.1.(1) ADDITIONAL REQUIREMENTS FOR CHANGE OF USE

2006 Ontario Building Code

(a) a change of the major occupancy of all or part of a building that is designated with a “Y” in Table 1.3.1.4. of Division C,

(b) a suite of a Group C major occupancy is converted into more than one suite of a Group C major occupancy,

(c) a suite or part of a suite of a Group A, Division 2 or a Group A, Division 4 major occupancy is converted to a gaming premises,

(d) a farm building or part of a farm building is changed to a major occupancy,

(e) a building or part of a building is changed to a post-disaster building, or

(f) the use of a building or part of a building is changed and the previous major occupancy of the building or part of the building cannot be determined.

2012 Ontario Building Code

(a) a change of the major occupancy of all or part of a building that is designated with a “Y” in Table 1.3.1.4. of Division C,

(b) a suite of a Group C major occupancy is converted into more than one suite of a Group C major occupancy,

(c) a suite or part of a suite of a Group A, Division 2 or a Group A, Division 4 major occupancy is converted to a gaming premises,

(d) a farm building or part of a farm building is changed to a major occupancy,

(e) a building or part of a building is changed to a post-disaster building,

(f) a building or part of a building is changed to a retirement home regulated under the Retirement Homes Act, 2010, or

(g) the use of a building or part of a building is changed and the previous major occupancy of the building or part of the building cannot be determined.

ARTICLE 4.1.3.2. STRENGTH AND STABILITY

2006 Ontario Building Code

2006 code did not separate crane loads for calculating the factored loads for ultimate limit states design.

2012 Ontario Building Code

(2) Except as provided in Sentence (3), the effect of factored loads for a building or structural component shall be determined in accordance with the requirements of this Article and the following load combination cases, the applicable combination being that which results in the most critical effect:

(a) for load cases without crane loads, the load combinations listed in Table 4.1.3.2.A., and

(b) for load cases with crane loads, the load combinations listed in Table 4.1.3.2.B.

(3) Other load combinations that must also be considered are the principal loads acting with the companion loads taken as zero.

ARTICLE 4.1.8.17. SITE STABILITY

2006 Ontario Building Code

Site stability was not part of the 2006 Code.

2012 Ontario Building Code

(1) The potential for slope instability and its consequences, such as slope displacement, shall be evaluated based on site-specific material properties and ground motion parameters referenced in Subsection 1.1.2. and shall be taken into account in the design of the structure and its foundations.

SUB-SECTION 5.10.2. WINDOWS, DOORS AND SKYLIGHTS

2006 Ontario Building Code

This sub-section did not exist in the 2006 Code.

2012 Ontario Building Code

This sub-section has been added to harmonize reference standards for windows, doors and skylights.

END OF SESSION 1

Questions?

SESSION 2
MODERATED BY FREDDIE POZZEBON

DIVISION B, PART 6

DIVISION B, PART 7

Please hold all question until the end of the presentation. Building Division staff will be available to answer any questions as time permits. If you have further questions feel free to contact any Building Division Staff member and we will be happy to assist you.

2012 ONTARIO BUILDING CODE

Please note:

for those who have purchased a 2012 Building Code, there is an amendment that takes effect on January 1, 2014 that was not included in the printed document.

The amendment has not been made available as of yet, but can be reviewed on elaws.

ARTICLE 6.2.1.1.
GOOD ENGINEERING PRACTICE

2006 Ontario Building Code

Sentence 1 lists the appropriate guides and manuals that should be referenced when designing heating, ventilation and air-conditioning systems.

2012 Ontario Building Code

Clause (l) has been added - EPA/625/R-92/016, "Radon Prevention in the Design and Construction of Schools and Other Large Buildings".

ARTICLE 6.2.3.8.
EXHAUST DUCTS AND OUTLETS

2006 Ontario Building Code

(6) Exhaust systems are permitted to exhaust into a storage garage, provided,

(a) they serve rooms that are accessible only from that storage garage,

(b) the exhaust contains no contaminants that would adversely affect the air quality in the storage garage, and

(c) they are designed in accordance with Sentence 6.2.3.9.(3).

2012 Ontario Building Code

(6) Auxiliary rooms, mechanical rooms or storage rooms are permitted to be ventilated through a storage garage, provided that,

(a) they are accessible only from that storage garage,

(b) they have no openings or duct penetrations through the walls separating the room from adjacent spaces other than that storage garage and other auxiliary, mechanical or storage rooms,

(c) the exhaust contains no contaminants that would adversely affect the air quality in the storage garage, and

(d) they are provided with,

(i) carbon monoxide monitoring devices in accordance with Sentences 6.2.2.3.(1) and (2), or

(ii) a light switch which is interlocked with the operation of the exhaust fan serving the room.

ARTICLE 6.2.3.10. DUCTS IN EXITS

2006 Ontario Building Code

(1) Duct penetration of fire separations separating exits from the remainder of the building shall be in accordance with Article 3.4.4.4.

2012 Ontario Building Code

(1) Except as permitted in Sentence (2), duct penetration of fire separations separating exits from the remainder of the building shall be in accordance with Article 3.4.4.4.

(2) Duct penetration of fire separations separating exits from the remainder of the building is permitted if the duct,

(a) is designed for the purposes of Subsection 3.2.6., or

(b) only serves the exit from a dedicated roof top air make-up unit.

ARTICLE 6.2.4.3. CONSTRUCTION AND INSTALLATION OF DUCTS AND PLENUMS

2006 Ontario Building Code

(11) Ductwork passing through unconditioned spaces shall have all joints taped or be otherwise sealed to ensure that the ducts are airtight throughout their length.

2012 Ontario Building Code

(11) Where a supply duct or return duct is located in an unconditioned space or outdoors, all joints of the ductwork shall be sealed to a Class A seal level in accordance with the SMACNA, "HVAC Duct Construction Standards – Metal and Flexible".

(12) Where a supply duct is located in a conditioned space, the ductwork shall be sealed to a Class C seal level in accordance with the SMACNA, "HVAC Duct Construction Standards – Metal and Flexible".

ARTICLE 7.1.5.3.
WATER DISTRIBUTION SYSTEMS

2006 Ontario Building Code

(1) Except as provided in Sentence (2), every water distribution system shall be connected,

(a) to a watermain that is part of a municipal drinking water system, or

(b) to a drinking water system, if a watermain described in Clause (a) is not available.

(2) Storm sewage or greywater that is free of solids may be used for the flushing of water closets, urinals or the priming of traps.

(3) Piping conveying the non-potable water described in Sentence (2) shall be installed in conformance with Section 7.7.

2012 Ontario Building Code

(2) Storm sewage or greywater that is free of solids and treated to conform to Article 7.7.4.1. is permitted to be used as a water supply for, (a) water closets, (b) urinals, (c) sub-surface irrigation, or (d) the priming of traps.

(3) Rainwater that is free of solids and treated to conform to Article 7.7.4.1. is permitted to be used as a water supply for,

(a) clothes washers, (b) laundry trays, (c) mop sinks,

(d) bedpan washers, (e) water closets, (f) urinals,

(g) hose bibbs, (h) sub-surface irrigation, or

(i) the priming of traps.

ARTICLE 7.2.3.2. INTERCEPTORS

2006 Ontario Building Code

(1) Every interceptor shall be designed so that it can be readily cleaned.

(2) Every grease interceptor shall be designed so that it does not become air bound.

2012 Ontario Building Code

(1) Every interceptor shall be designed so that it can be readily cleaned.

(2) Every grease interceptor shall be designed so that it does not become air bound.

(3) Where a grease interceptor is required by Sentence 7.4.4.3.(1), the interceptor shall conform to,

(a) CAN/CSA-B481.1, "Testing and Rating of Grease Interceptors Using Lard", or

(b) CAN/CSA-B481.2, "Testing and Rating of Grease Interceptors Using Oil".

ARTICLE 7.2.10.7.
LININGS AND COATINGS OF DOMESTIC WATER TANKS

2006 Ontario Building Code

7.2.10.7. Reserved

2012 Ontario Building Code

(1) Linings and coatings of domestic water tanks that come into contact with potable water shall be certified to NSF/ANSI 61, "Drinking Water System Components - Health Effects".

ARTICLE 7.2.10.17. DRINKING WATER TREATMENT SYSTEMS

2006 Ontario Building Code

Article did not exist in 2006 Code.

2012 Ontario Building Code

(1) A drinking water treatment system or device shall be certified to CAN/CSA-B483.1, "Drinking Water Treatment Systems".

ARTICLE 7.3.3.12. COPPER JOINTS USED UNDERGROUND

2006 Ontario Building Code

Article did not exist in 2006 Code.

2012 Ontario Building Code

(1) Except as provided in Sentence (2), joints in copper tubes installed underground shall be,

(a) made with either flared or compression fittings, or

(b) brazed using a brazing alloy within the American Welding Society's AWS-BCuP range.

(2) Compression fittings shall not be used underground under a building.

ARTICLE 7.3.6.1.
TESTING AND INSPECTION OF DRAINAGE OR VENTING SYSTEM

2006 Ontario Building Code

Article did not include sentence 6 in 2006 Code.

2012 Ontario Building Code

(6) A sewer lateral extension need not be tested and inspected if the sewer lateral extension was constructed, tested and inspected at the time of the installation of the public sewer.

ARTICLE 7.4.10.4. HYDRAULIC LOADS FROM ROOFS OR PAVED SURFACES

2006 Ontario Building Code

(2) Flow control roof drains may be installed provided,

(a) the maximum drain down time does not exceed 24 h,

(b) the roof structure has been designed to carry the load of the accumulated water,

(c) one or more scuppers are installed so that the maximum depth of water on the roof cannot exceed 150 mm,

(d) they are located not more than 15 m from the edge of the roof and not more than 30 m from adjacent drains, and

(e) there is at least one drain for each 900 m2.

2012 Ontario Building Code

(2) Flow control roof drains may be installed provided,

(b) the roof structure is designed to carry the load of the stored water,

(c) one or more scuppers are installed not more than 30 m apart along the perimeter of the building so that, (i) the scuppers are designed to handle at least 200% of the 15-minute rainfall intensity, and (ii) the maximum depth of controlled water is limited to 150 mm,

(3) Where the height of the parapet is more than 150 mm or exceeds the height of the adjacent wall flashing,

(a) emergency roof overflows or scuppers described in Clause (2) (c) shall be provided, and

(b) there shall be a minimum of two roof drains.

ARTICLE 7.5.2.1. WET VENTING

2006 Ontario Building Code

(g) the hydraulic load to be considered when sizing a continuous vent, that serves a wet vent only includes the hydraulic load that is wet vented,

(h) when a wet vent extends through more than one storey, the total discharge from any one storey above the first storey does not exceed 4 fixture units,

(i) there is not more than one nominally horizontal offset in the wet vent, and, (i) the offset does not exceed 1 200 mm for pipes 2 in. or less in size, or (ii) the offset does not exceed 2 500 mm for pipes larger than 2 in. in size,

(j) the wet vented portion is not reduced in size except for the portion that is upstream of floor drains in accordance with Clauses 7.5.1.1.(3)(a) to (c), and

(k) the length of the wet vent is not limited.

2012 Ontario Building Code

(g) the hydraulic load of separately vented fixtures that drain into the wet vent is not included when sizing the continuous vent that serves the wet vent,

(h) where a wet vent extends through more than 1 storey, the total discharge from any 1 storey above the first storey does not exceed four fixture units,

(i) where a wet vent extends through more than 1 storey, there is not more than one nominally horizontal offset in the wet vent, and, (i) the offset does not exceed 1 200 mm for pipes 2 in. or less in size, or (ii) the offset does not exceed 2 500 mm for pipes larger than 2 in. in size,

(j) the wet vented portion is not reduced in size except for the portion that is upstream of floor drains in accordance with Clauses 7.5.1.1.(3)(a) to (c),

(k)the highest fixture is connected to a vertical portion of the wet vent, upstream of any other fixtures, in the form of a continuous vent, and

(l)the length of the wet vent is not limited.

ARTICLE 7.6.2.3. PROTECTION FROM BACKFLOW

2006 Ontario Building Code

7.6.2.3. Reserved

2012 Ontario Building Code

(1) Except as provided in Sentence (3) and Articles 7.6.2.4. to 7.6.2.6., where a backflow preventer is required by this Subsection, the backflow preventer shall be selected, installed and tested in conformance with CSA B64.10, “Selection and Installation of Backflow Preventers”.

(2) Backflow preventers shall be provided in conformance with Sentence 7.2.10.10.(1).

(3) Tank type water closet valves shall be provided with a back-siphonage preventer in conformance with Sentence 7.2.10.10.(2).

ARTICLE 7.6.2.6. PREMISE ISOLATION

2006 Ontario Building Code

7.6.2.6. Reserved

2012 Ontario Building Code

(1) Buildings or facilities where a moderate hazard or severe hazard may be caused by backflow shall be provided with premise isolation of the potable water system by the installation of a backflow preventer selected in accordance with Clauses 5.3.4.2.(b) and (c) of CSA B64.10, “Selection and Installation of Backflow Preventers”.

(2) Buildings of residential occupancy within the scope of Part 9 are not required to be isolated unless they have access to an auxiliary water supply.

(3) Except as provided in Sentence (1), where no direct connection exists between the auxiliary water supply and the potable water system, premise isolation shall be provided by a dual check valve backflow preventer conforming to CAN/CSA-B64.6, “Dual Check Valve Backflow Preventers (DuC)”.

ARTICLE 7.6.3.1.
DESIGN, CONSTRUCTION AND INSTALLATION

2006 Ontario Building Code

(1) Except as permitted in Sentences (2) and (3), the size of every pipe in a water distribution system that supplies water to a fixture or device and the flow pressures at the supply openings shall be designed to provide peak demand flow in conformance to Table 7.6.3.1.

(2) A tail piece or connector not more than 750 mm long and not less than ¼ in. inside diameter may be used to supply water to a fixture or device.

(3) A water distribution system that serves not more than a single dwelling unit does not need to conform to Column 3 of Table 7.6.3.1.

(4) No water system between the point of connection with the water service pipe or the water meter and the first branch that supplies a water heater, shall be less than ¾ in. size.

(5) Every pipe that supplies a fixture shall have a capacity that will produce a flow in the fixture that will flush the fixture and keep it in a sanitary condition.

2012 Ontario Building Code

(1) Every water distribution system shall be designed to provide peak demand flow when the flow pressures at the supply openings conform to the plumbing supply fitting manufacturer's specifications.

(2) A potable water system shall be designed, constructed and installed to conform to good engineering practice appropriate to the circumstances, such as that described in the ASHRAE Handbooks and ASPE Data Books.

(3) Every pipe that supplies a fixture shall have a capacity that will produce a flow in the fixture that will flush the fixture and keep it in a sanitary condition.

ARTICLE 7.6.3.2. HYDRAULIC LOAD

2006 Ontario Building Code

(1) Except as provided in Sentence (3), the hydraulic load of a fixture or device that is listed in Table 7.6.3.1. shall be the number of fixture units given in the Table.

(2) Except as provided in Sentences (1) and (3), the hydraulic load of a fixture that is not listed in Table 7.6.3.1. is the number of fixture units listed in Table 7.6.3.2.

(3) Where fixtures are supplied with both hot and cold water, the hydraulic loads for maximum separate demands shall be 75% of the hydraulic load of the fixture units given in Tables 7.6.3.1. and 7.6.3.2. when using a detailed engineering design method.

2012 Ontario Building Code

(1) Except as provided in Sentence (3), the hydraulic load of a fixture or device that is listed in Table 7.6.3.2.A. shall be the number of fixture units given in the Table.

(2) Except as provided in Sentences (1) and (3), the hydraulic load of a fixture that is not listed in Table 7.6.3.2.A. is the number of fixture units listed in Table 7.6.3.2.D.

(3) Where fixtures are supplied with both hot and cold water, the hydraulic loads for maximum separate demands shall be 75% of the hydraulic load of the fixture units given in Tables 7.6.3.2.A. and 7.6.3.2.D. when using a detailed engineering design method.

(4) The hydraulic load of urinals and water closets with direct flush valves shall be the number of fixture units listed in Tables 7.6.3.2.B. and 7.6.3.2.C.

ARTICLE 7.6.3.4. SIZE

2006 Ontario Building Code

(1) Every water service pipe shall be sized according to the peak demand flow but shall not be less than ¾ in. size.

2012 Ontario Building Code

(1) Every water service pipe shall be sized according to the peak demand flow but shall not be less than ¾ in. in size.

(2) Except as permitted in Sentence (3), the size of a supply pipe that serves a fixture or device shall conform to Table 7.6.3.2.A.

(3) For fixtures listed in Table 7.6.3.2.A that have a permitted supply pipe size of ⅜ in., a connector not more than 750 mm long and not less than 6.3 mm inside diameter may be used to supply water to the fixture or device.

(4) No water system between the point of connection with the water service pipe or the water meter and the first branch that supplies a water heater that serves more than one fixture shall be less than ¾ in. in size.

(5) Where both hot and cold water is supplied to fixtures in residential buildings containing one or two dwelling units or row houses with separate water service pipes, the water system may be sized in accordance with Table 7.6.3.4. where,

(a) the hydraulic loads for maximum separate demands on water distribution system piping are not less than 100% of the total hydraulic load of the fixture units given in Tables 7.6.3.2.A., 7.6.3.2.B., 7.6.3.2.C. and 7.6.3.2.D. for private use,

(b) the minimum water pressure at the entry to the building is 200 kPa, and

(c) the total maximum length of the water system is 90 m.

ARTICLE 7.6.4.2. PLUMBING FIXTURES

2006 Ontario Building Code

(1) Water closets and urinals shall be certified to CAN/CSA-B45.0, “General Requirements for Plumbing Fixtures”.

(2) The flush cycle for each fixture that is a water closet or urinal shall not exceed the maximum flush cycle listed for that fixture in Table 7.6.4.2.

(3) Sentence (2) does not apply to a fixture located in an existing building where the chief building official is satisfied that compliance with the requirement is impracticable because of maintenance or operational difficulties.

TABLE 7.6.4.2.B. REVOKED: O. Reg. 503/09, s. 114.

(4) REVOKED: O. Reg. 503/09, s. 114.

2012 Ontario Building Code

(1) Water closets and urinals shall be certified to CAN/CSA-B45.0, “General Requirements for Plumbing Fixtures”.

(2) Except as provided in Sentence (3), the flush cycle for each fixture that is a water closet or urinal shall not exceed the maximum water consumption per flush cycle listed for that fixture in Table 7.6.4.2.A.

(3) In buildings classified as Group C occupancy, the flush cycle for each fixture that is a water closet or urinal shall not exceed the maximum water consumption per flush cycle listed for that fixture in Table 7.6.4.2.B.

(4) Sentences (2) and (3) do not apply to a fixture located in an existing building where the chief building official is satisfied that compliance with the requirement is impracticable because of maintenance or operational difficulties.

ARTICLE 7.7.1.1. NON-POTABLE CONNECTION

2006 Ontario Building Code

(1) A non-potable water system shall not be connected to a potable water system.

2012 Ontario Building Code

(1) Except as permitted by Sentences (2) and (3), a non-potable water system shall not be connected to a potable water system.

(2) Make-up water may be supplied to the non-potable water system by,

(a) a reduced pressure backflow preventer, or

(b) an air gap.

(3) Where a clothes washer is supplied by a rainwater system and a potable water system, the potable water system shall be protected by dual check valve backflow preventers conforming to CAN/CSA-B64.6, “Dual Check Valve Backflow Preventers (DuC)” for,

(a) area isolation, and

(b) premise isolation.

ARTICLE 7.7.2.1. MARKINGS REQUIRED

2006 Ontario Building Code

(1) Non-potable water piping shall be identified by markings that are permanent, distinct and easily recognized.

2012 Ontario Building Code

(1) Non-potable water piping shall be identified by markings that are permanent, distinct and easily recognized.

(2) Non-potable water system for re-use purposes shall be marked in accordance with Section 12 of CAN/CSA-B128.1, “Design and Installation of Non-Potable Water Systems”.

(3) A sign containing the words NON-POTABLE WATER, DO NOT DRINK shall be in letters at least 25 mm high with a 5 mm stroke and posted immediately above a fixture that is permitted to receive non-potable water.

ARTICLE 7.7.4.1. MARKINGS REQUIRED

2006 Ontario Building Code

Sub-Section 7.7.4. did not exist in the 2006 Code

2012 Ontario Building Code

7.7.4. Non-Potable Water Systems for Re-use Purposes

7.7.4.1. Conformance to Standards

(1) Non-potable water systems for re-use purposes shall be designed, constructed and installed to conform to good engineering practice appropriate to the circumstances such as described in,

(a) the ASHRAE Handbooks,

(b) ASPE Data Books, or

(c) CAN/CSA-B128.1, “Design and Installation of Non-Potable Water Systems”.

END OF SESSION 2

Questions?

SESSION 3
MODERATED BY FRANK BENTROVATO

DIVISION B, PART 9

DIVISION B, PART 11

Please hold all question until the end of the presentation. Building Division staff will be available to answer any questions as time permits. If you have further questions feel free to contact any Building Division Staff member and we will be happy to assist you.

2012 ONTARIO BUILDING CODE

Please note:

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The amendment has not been made available as of yet, but can be reviewed on elaws.

ARTICLE 9.3.2.9.
TERMIT AND DECAY PROTECTION

2006 Ontario Building Code

Sentence 4 did not exist in 2006 Code.

2012 Ontario Building Code

(4) In localities where termites are known to occur and where windows or other openings at or below grade contain wood elements, the bottom of window wells or adjacent ground shall be at least 150 mm below the nearest wood unless the wood is pressure-treated with a chemical toxic to termites.

ARTICLE 9.3.2.9.
TERMIT AND DECAY PROTECTION

2006 Ontario Building Code

(5) Where wood is required by this Article to be treated to resist termites or decay, such treatment shall be in accordance with the requirements of, (a) CSA O80.1 (b) CSA O80.2 (c) CSA O80.9 (d) CSA O80.15 (e) CSA O80.34 (f) CSA O80.36

2012 Ontario Building Code

(6) Where wood is required by this Article to be treated to resist termites or decay, such treatment shall be in accordance with Table 2, "Use Categories for Specific Products, Uses, and Exposures", of CAN/CSA-O80.1, "Specification of Treated Wood", as follows:

(a)Use Category 1, where the wood member is used in, (i) interior construction, (ii) above-ground applications, and (iii) applications where the wood member remains dry,

(b) Use Category 2, where the wood member is used in, (i) interior construction, (ii) above-ground applications, and (iii) applications where the wood member may be subjected to occasional sources of moisture,

(c) Use Category 3.2, where the wood member is used in, (i) exterior construction, (ii) above-ground applications, and (iii) applications where the wood member is uncoated or is used in a configuration conducive to moisture accumulation,

(d) Use Category 4.1, where, (i) the wood member is used in contact with the ground, (ii) the wood member is used in contact with fresh water, or (iii) the vertical clearance between the wood element and the finished ground level is less than 150 mm and the wood elements are not separated from permeable supporting materials by a moisture barrier, or

(e) Use Category 4.2, where the wood member is used in critical structural components, including permanent wood foundations.

SECTION 9.7. WINDOWS, DOORS AND SKYLIGHTS

2006 Ontario Building Code

The 2006 Code had 7 sub-sections:

9.7.1. General

9.7.2. Window Standards

9.7.3. Glass

9.7.4. Caulking and Glazing

9.7.5. Protection of Windows in Public Areas

9.7.6. Resistance to Forced Entry

9.7.7. Skylights

2012 Ontario Building Code

This entire Section has been rewritten with requirements falling into the following sub-sections:

9.7.1. General

9.7.2. Required Windows, Doors and Skylights

9.7.3. Performance of Windows, Doors and Skylights

9.7.4. Manufactured Windows, Doors and Skylights

9.7.5. Site-Built Windows, Doors and Skylights

9.7.6. Installation

SECTION 9.8.
STAIRS, RAMPS, HANDRAILS AND GUARDS

2006 Ontario Building Code

9.8.1.2. Exit Stairs, Ramps and Landings

(1) Where a stair, ramp or landing forms part of an exit, the appropriate requirements in Sections 9.9. and 9.10. shall also apply.

2012 Ontario Building Code

9.8.1.2. Stairs, Ramps, Landings, Handrails and Guards in Garages

(1) Except as provided in Sentence 9.8.6.2. (3), stairs, ramps, landings, handrails and guards in a garage that serves a single dwelling unit shall conform to the requirements for stairs, ramps, landings, handrails and guards within a dwelling unit.

ARTICLE 9.8.2.1. STAIR WIDTH

2006 Ontario Building Code

(1) Required exit stairs and public stairs shall have a width, measured between wall faces or guards, of not less than 900 mm.

(2) At least 1 stair between each floor level within a dwelling unit, and exterior stairs serving a single dwelling unit except required exit stairs, shall have a width of not less than 860 mm.

2012 Ontario Building Code

(1) Except as provided in Sentence (2), required exit stairs and public stairs serving buildings of residential occupancy shall have a width, measured between wall faces or guards, of not less than 900 mm.

(2) At least one stair between each floor level within a dwelling unit, and exterior stairs and required exit stairs serving a single dwelling unit, shall have a width of not less than 860 mm.

(3) Required exit stairs and public stairs serving buildings of other than residential occupancy shall have a width of not less than the greater of,

(a) 900 mm, or

(b) 8 mm per person based on the occupant load limits specified in Table 3.1.17.1.

SUB-SECTION 9.8.4. - STEP DIMENSIONS

2006 Ontario Building Code

9.8.4.1. Uniformity and Tolerances for Risers & Treads

(1) Except as provided in Sentence (2), risers shall have uniform height in any one flight with a maximum tolerance of, (a) 6 mm between adjacent treads or landings, and (b) 6 mm between the tallest and shortest risers in a flight.

(2) Except for required exit stairs, where the top or bottom riser in a stair adjoins a sloping finished walking surface such as a garage floor, driveway or sidewalk, the height of the riser across the stair shall vary by not more than 1 in 12.

(3) Treads shall have uniform run and tread depth, with a maximum tolerance of, (a) 6 mm between adjacent treads, and (b) 6 mm between the deepest and shallowest runs and treads in a flight.

(4) Where angled treads or winders are incorporated into a stair, the treads in all sets of angled treads or winders within a flight shall turn in the same direction.

(5) Cross slope of treads shall not exceed 1 in 100.

2012 Ontario Building Code

9.8.4.4. Uniformity and Tolerances for Risers & Treads

(1) Except as provided in Sentence (2), risers shall be of uniform height in any one flight with a maximum tolerance of, (a) 5 mm between adjacent treads or landings, and (b) 10 mm between the tallest and shortest risers in a flight.

(2) Except for required exit stairs, where the top or bottom riser in a stair adjoins a sloping finished walking surface such as a garage floor, driveway or sidewalk, the height of the riser across the stair shall vary by not more than 1 in 12.

(3) Treads shall have uniform run with a maximum tolerance of, (a) 5 mm between adjacent treads, and (b) 10 mm between the deepest and shallowest treads in a flight.

(4) Where angled treads or winders are incorporated into a stair, the treads in all sets of angled treads or winders within a flight shall turn in the same direction.

(5) The slope of treads shall not exceed 1 in 50.

ARTICLE 9.8.7.4. HEIGHT OF HANDRAILS

2006 Ontario Building Code

(1) The height of handrails on stairs and ramps shall be measured vertically from the top of the handrail to, (a) a line drawn through the leading edge of the stair treads served by the handrail, or (b) the surface of the ramp, floor or landing served by the handrail.

(2) Except as provided in Sentence (3), the height of handrails on stairs and ramps shall be,

(a) not less than 800 mm, and

(b)not more than 965 mm.

(3) Where guards are required, handrails required on landings shall be not more than 1070 mm in height.

2012 Ontario Building Code

(1) The height of handrails on stairs and ramps shall be measured vertically from the top of the handrail to, (a) a straight line drawn tangent to the tread nosings of the stair served by the handrail, or (b) the surface of the ramp, floor or landing served by the handrail.

(2) Except as provided in Sentences (3) and (4), the height of handrails on stairs and ramps shall be, (a) not less than 865 mm, and (b) not more than 965 mm.

(3) Where guards are required, handrails required on landings shall be not more than 1 070 mm in height.

(4) Handrails installed in addition to required handrails need not comply with Sentence (2).

ARTICLE 9.8.8.6.
DESIGN TO PREVENT CLIMBING

2006 Ontario Building Code

(1) Guards required by Article 9.8.8.1., except those in industrial occupancies and where it can be shown that the location and size of openings do not represent a hazard, shall be designed so that no member, attachment or opening will facilitate climbing.

(2) Guards shall be deemed to comply with Sentence (1) where any elements protruding from the vertical and located within the area between 140 mm and 900 mm above the floor or walking surface protected by the guard, (a) are located more than 450 mm horizontally and vertically from each other, (b) provide not more than 15 mm horizontal offset, (c) do not provide a toe-space more than 45 mm horizontally and 20 mm vertically, or (d) present more than a 1-in-2 slope on the offset.

2012 Ontario Building Code

(1) Guards required by Article 9.8.8.1., except those in industrial occupancies and where it can be shown that the location and size of openings do not represent a hazard, shall be designed so that no member, attachment or opening located between 140 mm and 900 mm above the floor or walking surface protected by the guard will facilitate climbing.

ARTICLE 9.9.10.
EGRESS FROM BEDROOMS

2006 Ontario Building Code

Egress requirements were covered under Article 9.7.1.3. in the 2006 Code.

2012 Ontario Building Code

Sub-Section 9.9.10. now specifically addresses egress from bedrooms and provides more detail for window requirements.

SUB-SECTION 9.9.10. (9.9.11.3. IN 2012 CODE) SIGNAGE (EXIT SIGNS IN 2012 CODE)

2006 Ontario Building Code

2006 Code requirements for exit signs included the word “EXIT” or “EXIT/SORTIE” and the sign had to be illuminated.

2012 Ontario Building Code

New exit signs must consist of a green pictogram and white graphic symbol and are now permitted to be photoluminescent and self-luminous.

ARTICLE 9.10.9.6. PENETRATION OF FIRE SEPARATIONS

2012 Ontario Building Code

(2) Penetrations of a firewall shall be sealed at the penetration by a fire stop that, when subjected to the fire test method in CAN/ULC-S115, “Fire Tests of Firestop Systems”, has an FT rating not less than the fire-resistance rating for the fire separation.

(5) Single conductor metal-sheathed cables with combustible jacketing that are more than 25 mm in overall diameter are permitted to penetrate a fire separation required to have a fire-resistance rating without being incorporated in the assembly at the time of testing as required in Sentence (3), provided the cables are not grouped and are spaced a minimum of 300 mm apart.

(11) Sprinklers are permitted to penetrate a fire separation or a membrane forming part of an assembly required to have a fire-resistance rating without having to meet the fire stop requirements of Sentence (1), provided the annular space created by the penetration of a fire sprinkler is covered by a metal escutcheon plate in accordance with NFPA 13, “Installation of Sprinklers”.

(13) Fire dampers are permitted to penetrate a fire separation or a membrane forming part of an assembly required to have a fire-resistance rating without having to meet the fire stop requirements of Sentence (1), provided the fire damper is,

(a) installed in conformance with NFPA 80, “Fire Doors and Other Opening Protectives,” or

(b) designed specifically with a fire stop.

ARTICLE 9.10.18.10. COMMISSIONING OF LIFE SAFETY AND FIRE PROTECTION SYSTEMS

2012 Ontario Building Code

(1) Where life safety and fire protection systems are installed to comply with the provisions of this Code or the Fire Code made under the Fire Protection and Prevention Act, 1997, the commissioning of these integrated systems must be performed as a whole to ensure the proper operation and inter-relationship of the systems.

(2) Sentence (1) does not apply to a building that contains only dwelling units and has no dwelling unit above another dwelling unit.

ARTICLE 9.10.19.2.
SOUND PATTERNS OF SMOKE ALARMS

2006 Ontario Building Code

Sound patterns of smoke alarms were not addressed in the 2006 Code.

2012 Ontario Building Code

(1) The sound patterns of smoke alarms shall,

(a) meet the temporal patterns of alarm signals, or

(b) be a combination of temporal pattern and voice relay.

ARTICLE 9.10.19.3. LOCATION OF SMOKE ALARMS

2006 Ontario Building Code

(1) Within dwelling units, sufficient smoke alarms shall be installed so that, (a) there is at least one smoke alarm on each floor level, including basements, that is 900 mm or more above or below an adjacent floor level, (b) each bedroom is protected by a smoke alarm either inside the bedroom or, if outside, within 5 m, measured following corridors and doorways, of the bedroom door, and (c) the distance, measured following corridors and doorways, from any point on a floor level to a smoke alarm on the same level does not exceed 15 m.

(2) Smoke alarms required in Article 9.10.19.1. and Sentence (1) shall be installed on or near the ceiling.

(3) Smoke alarms required in Sentences (1) and (2) shall be audible within the bedrooms when the intervening doors are closed.

(4) Smoke alarms required in Sentences (1) and (2) shall be installed in conformance with the manufacturers instructions.

2012 Ontario Building Code

(1) Within dwelling units, sufficient smoke alarms shall be installed so that, (a) there is at least one smoke alarm installed on each storey, including basements, and (b) on any storey of a dwelling unit containing sleeping rooms, a smoke alarm is installed,

(i) in each sleeping room, and

(ii) in a location between the sleeping rooms and the remainder of the storey, and if the sleeping rooms are served by a hallway, the smoke alarm shall be located in the hallway.

(2) A smoke alarm required in Sentence (1) shall be installed in conformance with CAN/ULC-S553, “Installation of Smoke Alarms”.

(3) Smoke alarms required in Article 9.10.19.1. and Sentence (1) shall be installed on or near the ceiling.

ARTICLE 9.10.19.4. POWER SUPPLY

2006 Ontario Building Code

(1) Except as permitted in Sentence (2), smoke alarms shall be installed by permanent connections to an electrical circuit and shall have no disconnect switch between the overcurrent circuit device and the smoke alarm.

(2) Where the building is not supplied with electrical power, smoke alarms are permitted to be battery operated.

2012 Ontario Building Code

(1) Except as provided in Sentences (2) and (3), smoke alarms required in Sentence 9.10.19.1.(1) shall,

(a) be installed with permanent connections to an electrical circuit,

(b) have no disconnect switch between the overcurrent device and the smoke alarm, and

(c) in case the regular power supply to the smoke alarm is interrupted, be provided with a battery as an alternative power source that can continue to provide power to the smoke alarm for a period of not less than 7 days in the normal condition, followed by 4 min of alarm.

(2) Where the building is not supplied with electrical power, smoke alarms are permitted to be battery operated.

ARTICLE 9.13.2.2. MATERIAL STANDARDS

2006 Ontario Building Code

(1) Except as otherwise specified in this Section, materials used for exterior dampproofing shall conform to,

(a) CAN/CGSB-37.1-M,

(b) CAN/CGSB-37.2-M,

(c) CGSB 37-GP-6Ma,

(d) CAN/CGSB-37.16-M,

(e) CGSB 37-GP-18Ma,

(f) CAN/CGSB-51.34-M,

(g) CAN/CSA-A123.4,

2012 Ontario Building Code

(1) Except as otherwise specified in this Section, materials used for exterior dampproofing shall conform to,

(a) CAN/CGSB-37.1-M,

(b) CAN/CGSB-37.2-M,

(c) CGSB 37-GP-6Ma,

(d) CAN/CGSB-37.16-M

(e) CGSB 37-GP-18Ma,

(f) CAN/CGSB-51.34-M,

(g) CAN/CSA-A123.4,

(h) CGSB 37-GP-56M, “Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing”.

ARTICLE 9.14.5.2. SUMP PITS

2006 Ontario Building Code

(1) Where gravity drainage is not practical, a covered sump with an automatic pump shall be installed to discharge the water into a sewer, drainage ditch or dry well.

(2) Covers for sump pits shall be designed to resist removal by children.

2012 Ontario Building Code

(1) Where gravity drainage is not practical, a covered sump with an automatic pump shall be installed to discharge the water into a sewer, drainage ditch or dry well.

(2) Covers for sump pits shall be,

(a) designed to resist removal by children, and

(b) sealed in accordance with Sentence 9.25.3.3.(16).

ARTICLE 9.15.4.2. FOUNDATION WALL THICKNESS AND REQUIRED LATERAL SUPPORT

2006 Ontario Building Code

(1) Except as required in Sentence (2), the thickness of foundation walls made of unreinforced concrete block or solid concrete and subject to lateral earth pressure shall conform to Table 9.15.4.2.A. for walls not exceeding 2.5 m in unsupported height.

(4) Where average stable soils are encountered and wind loads on the exposed portion of the foundation are no greater than 0.70 kPa, the thickness and reinforcing of foundation walls made of reinforced concrete block and subject to lateral earth pressure shall conform to Table 9.15.4.2.B. and Sentences (5) to (10).

2012 Ontario Building Code

(1) Except as required in Sentence (2), the thickness of foundation walls made of unreinforced concrete block or solid concrete and subject to lateral earth pressure shall conform to Table 9.15.4.2.A. for walls not exceeding 3.0 m in unsupported height.

(4) The thickness and reinforcing of foundation walls made of reinforced concrete block and subject to lateral earth pressure shall conform to Table 9.15.4.2.B. and Sentences (5) to (8) where,

(a) the walls are laterally supported at the top,

(b) average stable soils are encountered, and

(c) wind loads on the exposed portion of the foundation are no greater than 0.70 kPa.

ARTICLE 9.15.4.2. FOUNDATION WALL THICKNESS AND REQUIRED LATERAL SUPPORT

2006 Ontario Building Code

(6) Where foundation walls are laterally unsupported, the footing shall be designed according to Part 4 to resist overturning and sliding, if the maximum height of finished ground above the basement floor or crawl space ground cover exceeds 1.50 m.

(7) At the base of concrete block walls required to be reinforced and where the height of finished ground above the basement floor or crawl space ground cover exceeds 2.0 m, not less than one 15M intermediate vertical bar reinforcement shall be installed midway between adjacent continuous vertical reinforcement, and shall, (a) extend to not less than 600 mm above the top of the footing, and (b) have not less than 50 mm embedment into the footing, if the floor slab does not provide lateral support at the wall base.

2012 Ontario Building Code

Sentence 6 and 7 have been removed from the 2012 Code.

ARTICLE 9.20.13.3. LOCATION OF FLASHING

2006 Ontario Building Code

(1) Flashing shall be installed in masonry and masonry veneer walls,

(a) beneath jointed masonry window sills,

(b) over the back and top of parapet walls,

(c) over the heads of glass block panels, beneath weep holes, and

(d) over the heads of window and door openings in exterior walls when the vertical distance between the top of a window or door frame and the bottom edge of the eave exceeds one-quarter of the horizontal eave overhang.

(2) Throughwall flashing shall be provided in a masonry veneer wall such that any moisture that accumulates in the air space will be directed to the exterior of the building.

2012 Ontario Building Code

(1) Flashing shall be installed in masonry and masonry veneer walls,

(a) beneath jointed masonry window sills,

(b) over the back and top of parapet walls,

(c) over the heads of glass block panels,

(d) beneath weep holes, and

(e) over the heads of window and door openings in exterior walls when the vertical distance between the top of a window or door frame and the bottom edge of the eave exceeds one-quarter of the horizontal eave overhang.

(2) Throughwall flashing shall be provided in a masonry veneer wall such that any moisture that accumulates in the air space will be directed to the exterior of the building.

ARTICLE 9.20.17.4.
LINTELS OVER OPENINGS IN LOADBEARING FLAT INSULATING CONCRETE FORM WALLS

2006 Ontario Building Code

(1) In loadbearing flat insulating concrete form walls, lintels shall be provided over all openings wider than 900 mm.

(2) Lintels described in Sentence (1) shall be constructed in accordance with Tables A-17, A-18 or A-19.

(3) Lintels described in Sentence (1) over openings wider than 1 200 mm shall be reinforced for shear with 10M stirrups at a maximum spacing of half the distance from the bottom reinforcing bar to the top of the lintel.

2012 Ontario Building Code

(1) No openings shall occur within 1.2 m of interior and exterior corners of exterior loadbearing flat insulating concrete form walls.

(2) In loadbearing flat insulating concrete form walls, lintels shall be provided over all openings wider than 900 mm.

(3) Lintels described in Sentence (2) shall be constructed in accordance with Tables A-17, A-18 or A-19.

(4) Lintels described in Sentence (2) over openings wider than 1.2 m shall be reinforced for shear with 10M stirrups at a maximum spacing of half the distance from the bottom reinforcing bar to the top of the lintel.

SECTION 9.25.
HEAT TRANSFER, AIR LEAKAGE, AND CONDENSATION CONTROL

2006 Ontario Building Code

9.25.1.1. Application

(1) This Section applies to the application of thermal insulation and measures to control condensation, heat transfer and air leakage for buildings of residential occupancy intended for use on a continuing basis during the winter months.

(2) Insulation and sealing of heating and ventilating ducts shall conform to Sections 9.32. and 9.33.

9.25.1.2. General

2012 Ontario Building Code

9.25.1.1. Scope and Application

(1) This Section applies to heat, air and water vapour transfer and measures to control condensation.

(2) All walls, ceilings and floors separating conditioned space from unconditioned space, the exterior air or the ground shall be,

(a) provided with, (i) thermal insulation conforming to Subsection 9.25.2., (ii) an air barrier system conforming to Subsection 9.25.3., and (iii) a vapour barrier conforming to Subsection 9.25.4., and

(b) constructed in such a way that the properties and relative position of all materials conform to Subsection 9.25.5.

(3) Insulation and sealing of heating and ventilating ducts shall conform to Sections 9.32. and 9.33.

ARTICLE 9.25.4.3. INSTALLATION OF VAPOUR BARRIERS

2006 Ontario Building Code

(1) Vapour barriers shall be installed to protect the entire surfaces of thermally insulated wall, ceiling and floor assemblies.

(2) Vapour barriers shall be installed sufficiently close to the warm side of insulation to prevent condensation at design conditions.

2012 Ontario Building Code

(1) Products installed to function as the vapour barrier shall protect the warm side of wall, ceiling and floor assemblies.

(2) Where different products are used for the vapour barrier and the insulation, the vapour barrier shall be installed sufficiently close to the warm side of the insulation to prevent condensation at design conditions.

(3) Where the same product is used for the vapour barrier and the insulation, the product shall be installed sufficiently close to the warm side of the assembly to prevent condensation at design conditions.

SUB-SECTION 9.25.5. PROPERTIES AND POSITION OF MATERIALS IN BUILDING ENVELOPE

2006 Ontario Building Code

Sub-Section 9.25.5. did not exist in the 2006 Code.

2012 Ontario Building Code

9.25.5.1. General

9.25.5.2. Position of Low Permeance Materials

Forming Part of Sentence 9.25.5.2.(1)

Item	Column 1	Column 2
	Heating Degree Days of *Building* Location(1), Celsius Degree-days	Minimum Ratio, Total Thermal Resistance Outboard of Material's Inner Surface to Total Thermal Resistance Inboard of Material's Inner Surface
1.	Up to 4 999	0.20
2.	5 000 to 5 999	0.30
3.	6 000 to 6 999	0.35
4.	7 000 to 7 999	0.40

Notes to Table 9.25.5.2.:

(1) See MMAH Supplementary Standard SB-1, "Climatic and Seismic Data".

ARTICLE 9.31.4.1. REQUIRED FIXTURES

2006 Ontario Building Code

(1) In a dwelling unit with a water distribution system, a kitchen sink, lavatory, bathtub or shower stall and water closet shall be provided.

2012 Ontario Building Code

(1) A dwelling unit with a water distribution system shall contain,

(a) a kitchen sink,

(b) a lavatory,

(c) a bathtub or shower stall, and

(d) a water closet or a drainless composting toilet.

ARTICLE 9.31.6.1.
HOT WATER TEMPERATURE

2006 Ontario Building Code

(1) Where a hot water supply is required by Article 9.31.4.3., equipment shall be installed to provide to every dwelling unit an adequate supply of service hot water with a temperature range from 45°C to 60°C.

2012 Ontario Building Code

(1) Where a hot water supply is required by Article 9.31.4.3., equipment shall be installed to provide to every dwelling unit an adequate supply of service hot water with a temperature range from 45°C to 60°C.

(2) An electric storage-type service water heater shall have a minimum set storage temperature of 60°C.

ARTICLE 9.33.2.2. EQUIPMENT SIZING

2006 Ontario Building Code

9.33.2.1. Residential Heating Systems

(1) Residential buildings intended for use in the winter months on a continuing basis shall be equipped with heating facilities conforming to this Section.

2012 Ontario Building Code

9.33.2.1. Residential Heating Systems

(1) Residential buildings intended for use in the winter months on a continuing basis shall be equipped with heating facilities conforming to this Section.

9.33.2.2. Equipment Sizing

(1) The heating system capacity shall be based on the heating load calculated in accordance with Sentence 6.2.1.1.(1).

(2) Where a cooling system is installed, the cooling system capacity shall be based on the cooling load calculated in accordance with Sentence 6.2.1.1.(1).

(3) The heating and cooling equipment capacities shall be determined in accordance with the requirements of CAN/CSA-F280-M, “Determining the Required Capacity of Residential Space Heating and Cooling Appliances”.

SENTENCE 9.40.1.1.(1) ADDITIONAL REQUIREMENTS FOR CHANGE OF USE

2006 Ontario Building Code

(a) a change of the major occupancy of all or part of a building that is designated with a “Y” in Table 1.3.1.4. of Division C,

(b) a suite of a Group C major occupancy is converted into more than one suite of a Group C major occupancy,

(c) a farm building or part of a farm building is changed to a major occupancy,

(d) a building or part of a building is changed to a post-disaster building, or

(e) the use of a building or part of a building is changed and the previous major occupancy of the building or part of the building cannot be determined.

2012 Ontario Building Code

(a) a change of the major occupancy of all or part of a building that is designated with a “Y” in Table 1.3.1.4. of Division C,

(b) a suite of a Group C major occupancy is converted into more than one suite of a Group C major occupancy,

(c) a farm building or part of a farm building is changed to a major occupancy,

(d) a building or part of a building is changed to a post-disaster building,

(e) a building or part of a building is changed to a retirement home regulated under the Retirement Homes Act, 2010, or

(f) the use of a building or part of a building is changed and the previous major occupancy of the building or part of the building cannot be determined.

SENTENCE 11.4.3.4.(7) CHANGE IN MAJOR OCCUPANCY

2006 Ontario Building Code

2006 code did not address retirement homes.

2012 Ontario Building Code

(7) Where the performance level of an existing building is reduced under Clause 11.4.2.3.(1)(f), the following requirements apply:

(a) the retirement home shall be sprinklered,

(b) a voice communication system conforming to Article 3.2.4.23. shall be provided in the building, if Clause 3.2.6.8.(1)(b) or (c), as applicable, requires that such a voice communication system be provided in the building, and

(c) doors to suites and sleeping rooms not within suites in the retirement home, other than doors leading directly to the exterior, shall be equipped with self-closing devices.

TABLE 11.5.1.1.C
COMPLIANCE ALTERNATIVES FOR RESIDENTIAL OCCUPANCIES

2006 Ontario Building Code

NUMBER	PART 12 REQUIREMENTS	PART 11 COMPLIANCE ALTERNATIVE
C199	12.3.1.2.(1)	Existing acceptable.
C200	12.3.2.	(a) Where the framing systems are being altered to match the existing framing, lesser amounts and extent of insulation and *vapour barrier* will be permitted. (b) Existing acceptable for Articles 12.3.2.5. and 12.3.2.7. (c) Existing previously occupied log houses that are dismantled and reconstructed are exempt from Article 12.3.2.9.

2012 Ontario Building Code

199.	C199	12.2.1.1.(3)	(a) Where the framing systems are being altered to match the existing framing, lesser amounts and extent of insulation and *vapour barrier* is acceptable. (b) Existing acceptable for Article 2.1.1.9. of MMAH Supplementary Standard SB-12, "Energy Efficiency for Housing". (c) Existing previously occupied log houses that are dismantled and reconstructed are exempt from Article 2.1.1.5. of MMAH Supplementary Standard SB-12, "Energy Efficiency for Housing".

END OF SESSION 3

Questions?

SESSION 4
MODERATED BY FRANCIOS COUTURE

DIVISION B, PART 12
DIVISION C, PART 1
DIVISION C, PART 3

Please hold all question until the end of the presentation. Building Division staff will be available to answer any questions as time permits. If you have further questions feel free to contact any Building Division Staff member and we will be happy to assist you.

2012 ONTARIO BUILDING CODE

Please note:

for those who have purchased a 2012 Building Code, there is an amendment that takes effect on January 1, 2014 that was not included in the printed document.

The amendment has not been made available as of yet, but can be reviewed on elaws.

ARTICLE 12.2.1.1. ENERGY EFFICIENCY DESIGN BEFORE JANUARY 1, 2017

This article has been rewritten to include energy efficiency before January 1, 2017 and completely replaces the article in the 2006 code.

MMAH SUPPLEMENTARY STANDARD SB-1 CLIMATIC AND SEISMIC DATA

Location	Design Temperature				Degree Days Below 18°C	15 Min Rainfall, mm	One Day Rainfall, 1/50, mm	Annual Rainfall, mm	Annual Total Precipita-tion, mm	Driving Rain Wind Pressures, Pa, 1/5	Snow Load, kPa, 1/50		Hourly Wind Pressures, kPa		Seismic Data				
	January		July 2.5%										1/10	1/50	$S_a(0.2)$	$S_a(0.5)$	$S_a(1.0)$	$S_a(2.0)$	PGA
	2.5%, °C	1%, °C	Dry, °C	Wet, °C							S_s	S_r							
Sault Ste. Marie	-25	-28	29	21	5100	25	103	660	950	200	3.1	0.4	0.32	0.40	0.12	0.056	0.026	0.010	0.059
Sault Ste. Marie	-25	-28	29	22	4960	23	97	660	950	200	3.1	0.4	0.34	0.44	0.095	0.057	0.032	0.012	0.036

ARTICLE 12.3.1.3. TEMPERATURE CONTROL IN DWELLING UNITS

2006 Ontario Building Code

2006 Code did not address temperature control.

2012 Ontario Building Code

(1) Except as provided in Sentence (3) and except where space heating energy is provided by a solid fuel-burning appliance or a ground source heat pump, the indoor air temperature in a dwelling unit shall be controlled by at least one programmable thermostatic control device.

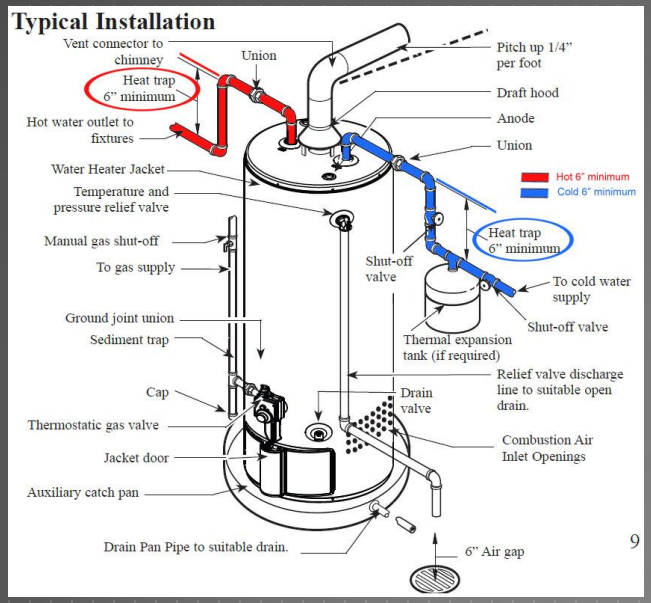
(2) The programmable thermostatic control device required in Sentence (1) shall, (a) allow the setting of different air temperatures for at least, (i) four time periods per day, and (ii) two different day-types per week, (b) include a manual override, and (c) allow the setting of the air temperature to, (i) 13°C or lower in heating mode, and (ii) 29°C or higher in cooling mode, where air-conditioning is provided.

(3) A manual thermostatic control device is permitted if it, (a) controls a heating or cooling system where the heating or cooling capacity is not more than 2 kW, or (b) serves an individual room or space.

ARTICLE 12.3.1.4.
HOT WATER PIPING INSULATION

2006 Ontario Building Code

2006 Code did not address insulation for pipes at hot water tanks.



2012 Ontario Building Code

(1) Hot water pipes that are vertically connected to a hot water storage tank shall have heat traps on both inlet and outlet piping as close as practical to the tank, except where the tank,

(a) has an integral heat trap, or

(b) serves a recirculating system.

(2) The first 2.5 m of hot water outlet piping of a hot water storage tank serving a non-recirculating system shall be insulated to provide a thermal resistance of not less than RSI 0.62.

(3) The inlet pipe of a hot water storage tank between the heat trap and the tank serving a non-recirculating system shall be insulated to provide a thermal resistance of not less than RSI 0.62.

ARTICLE 12.3.1.5.
RESIDENTIAL FURNACES AFTER DECEMBER, 31 2014

2006 Ontario Building Code

2006 Code did not address furnace motors.

2012 Ontario Building Code

(1) Sentence (2) applies to construction for which a permit has been applied for after December 31, 2014.

(2) A furnace serving a dwelling unit shall be equipped with an electronically commutated motor.

ARTICLE 12.3.1.6.
ENERGY SUPPLY FOR KITCHEN AND LAUNDRY FACILITIES AFTER DECEMBER 31, 2014

2006 Ontario Building Code

2006 Code did not require a supply of electrical, natural gas, or propane to kitchens or laundry rooms.

2012 Ontario Building Code

(1) This Article applies to construction for which a permit has been applied for after December 31, 2014.

(2) In order to supply energy to cooking appliances and clothes dryers, every kitchen and laundry space shall be provided with,

(a) an electrical outlet,

(b) a natural gas line, or

(c) a propane line.

SECTION 1.2. DIVISION C DESIGN AND GENERAL REVIEW

2006 Ontario Building Code

2006 required design and review by an Architect or a Professional Engineer or both.

2012 Ontario Building Code

The 2012 Code has replaced design by an Architect or Professional Engineer with “a suitably qualified and experienced person”. This is not a defined term in the code.

The requirements for general review have been rewritten so that any building, shelf and rack storage system, sprinkler protected glazed wall, sign, tent, or foundation constructed below the level of footings of an adjacent building or buildings listed in Table 1.2.2.1. must be reviewed by an Architect or Professional Engineer.

ARTICLE 1.3.3.4. DIVISION C OCCUPANCY PERMIT – CERTAIN BUILDINGS OF RESIDENTIAL OCCUPANCY

2006 Ontario Building Code

Site grading with respect to the building must be substantially complete prior to issuance of an occupancy permit.

2012 Ontario Building Code

2012 code has removed this requirement.

SUB-CLAUSE 1.3.3.4.(4)(f)(iv) DIVISION C OCCUPANCY PERMIT – CERTAIN BUILDINGS OF RESIDENTIAL OCCUPANCY

2006 Ontario Building Code

Protection of foamed plastics was not required for occupancy in the 2006 code.

2012 Ontario Building Code

(f) the following building components and systems are complete and operational for the dwelling unit to be occupied:

(i) required exits, floor access and egress systems, handrails, guards, smoke alarms, carbon monoxide detectors and fire separations, including, but not limited to, fire stopping,

(ii) required exhaust fume barriers and self-closing devices on doors between an attached or built-in garage and the dwelling unit,

(iii) water supply, sewage disposal, lighting and heating systems, and

(iv) protection of foamed plastics required by Article 9.10.17.10. of Division B,

ARTICLE 3.1.5.1. DIVISION C KNOWLEDGE MAINTENANCE

2006 Ontario Building Code

(1) When an examination that is part of an examination program referred to in Clause 3.1.2.1.(1)(a), 3.1.3.1.(1)(a) or (b) or 3.1.4.1.(1)(a) is replaced with a new examination, the director shall give notice of the new examination to every person who has, pursuant to Clause 3.1.2.1.(1)(c), 3.1.3.1(1)(c) or 3.1.4.1.(1)(b), informed the director that the person completed the examination before it was replaced or who is deemed to have successfully completed the examination program.

(3) It is a prescribed qualification for the purposes of subsections 15.11 (1), (2) and (3) of the Act that, not later than 180 days after the day on which a notice referred to in Sentence (1) is sent, the person to whom the notice is given shall, (a) successfully complete all new examinations referred to in the notice, and (b) file the information set out in Sentence 3.1.6.1.(1) with the director in a form established by the director.

2012 Ontario Building Code

(1) It is a prescribed qualification for the purposes of subsections 15.11 (1), (2) and (3) of the Act, that, by the end of the eighteenth month following the month in which the director gives notice of a knowledge maintenance exam to a person under Sentence (2), the person to whom the notice is given shall successfully complete the knowledge maintenance examination referred to in the notice.

(2) The director shall give notice of a knowledge maintenance examination administered or authorized by the Ministry of Municipal Affairs and Housing in respect of changes described in Sentence (3) that relate to the subject matter of an examination program referred to in Clause 3.1.2.1.(1)(a), 3.1.3.1.(1)(a) or (b) or 3.1.4.1.(1)(a), as applicable, to every person who is deemed under Article 3.1.2.1., 3.1.3.1. or 3.1.4.1., as applicable, to have successfully completed the examination program.

ARTICLE 3.3.3.2. DIVISION C REGISTRATION AND RENEWAL OF REGISTRATION

2006 Ontario Building Code

Sentence 3 did not exist in 2006 Code.

2012 Ontario Building Code

(3) For the purposes of a registration or a renewal of a registration, a person who, on December 31, 2013, has the qualifications set out in Clause 3.3.3.2.(1)(a) of Ontario Regulation 350/06 (Building Code) is deemed to have the qualifications set out in Clause 3.3.3.2.(1)(a) of this Code, but ceases to be deemed to have these qualifications if the person does not successfully complete a knowledge maintenance examination as required under Clause 3.3.3.7.(1)(b).

END OF SESSION 4

Questions?