

20th Annual Industry Workshop

Session 1: Part 9 Residential

November 21, 2024

Presented By:
The City Of Kitchener Building Division

Agenda

Morning

9:00 am	Welcome / Administration
9:15 am	Planning Div. – AUDs in Kitchener
9:40 am	2024 OBC - General & Misc.
9:55 am	Secondary Suites
10:25 am	Break (10 minutes)
10:35 am	ADUs & 3+ Dwelling Units
11:05 am	Soil Gas & Radon Control
11:25 am	Fire Protection
12:00 pm	Lunch (30 – 45 minutes)

Afternoon

12:45 pm	Stair Requirements
12:55 pm	Part 9 Structural
1:15 pm	Plumbing
1:35 pm	Ventilation & Heating Systems
2:00 pm	Wrap up

Disclaimer

The Building Code portions of this presentation have been based on Ontario's 2024 Building Code (O.Reg 163/24 as amended by O.Reg 203/24, 2020 National Building Code and Ontario Amendment Document (May 15, 2024). Any content should be verified against any subsequent amendments to the Code.

The information provided in this presentation is general in nature, is not intended as legal or technical advice, and should not be relied on as such.

If and when any building permit is applied for a project, all pertinent Code requirements will be reviewed at that time.

Under the Building Code Act, the local municipality is the authority having jurisdiction (AHJ) for enforcing the Act and its Regulations, and permit applicants should contact the appropriate official/AHJ with respect to any specific proposal.

Permit Fees & Development Charges

2025 Permit Fee's

NO CHANGE;

- Singles, semis, towns - \$1.07/sq. ft.
- Apartment Building - \$1.07/sq. ft.
- Interior Finishes - \$0.37/sq. ft.
(basement finishes & major renovations)
- Deck - \$95.00 each
- Solar Panels - \$ 95.00 for singles and duplex's
- Residential Revisions -\$0.20/sq. ft. (min. \$106.00), will be charged for each revision submitted

Development Charge Increase

2025 Development Charge Rates (check website)

- City of Kitchener (4.8% increase from current)*
- Region of Waterloo (4.8% increase from current)*
- School Boards (WRDSB & WCDSB) rates remain unchanged until June 1, 2025 (unless amended)

Complete applications for permits with a 10 business day review period must have been applied for before end of day **Nov. 15th, 2024.**

The new development charge rates will apply to all permits issued on or after Dec. 1, 2024

Public Portal Changes

Portal Change Improvements

- Starting on January 2, 2025, the portal for building applications will feature updated drop-down menus designed to streamline the application process.
- All application types will be accessible through this updated portal, making it easier for users to find the right category for their projects.
- In Winter 2025, Kitchener will be launching an updated portal that we hope will make the application process even more user-friendly. Stay tuned for more information!

Portal Changes

Here's a step-by-step guide to the new selections:

Step 1 : Select if the property type is residential or non-residential

Step 2 : Under “application type”, select the general use of the structure like residential or a pool enclosure

Step 3 : Under “application sub type”, select the specific use of the building like stacked townhouse or deck

Step 4 : Under “application work type”, select the type of construction activity (e.g. new construction or alterations/improvements to building)

Step 5 : Select the address that the construction will take place

Step 6 : Enter a detailed description of the work that will be taking place

Step 7 : Enter information into each of the requested fields

Step 8 : Add all the required documents and drawings for a completed application

Additional Dwelling Units in Kitchener

Katie Anderl

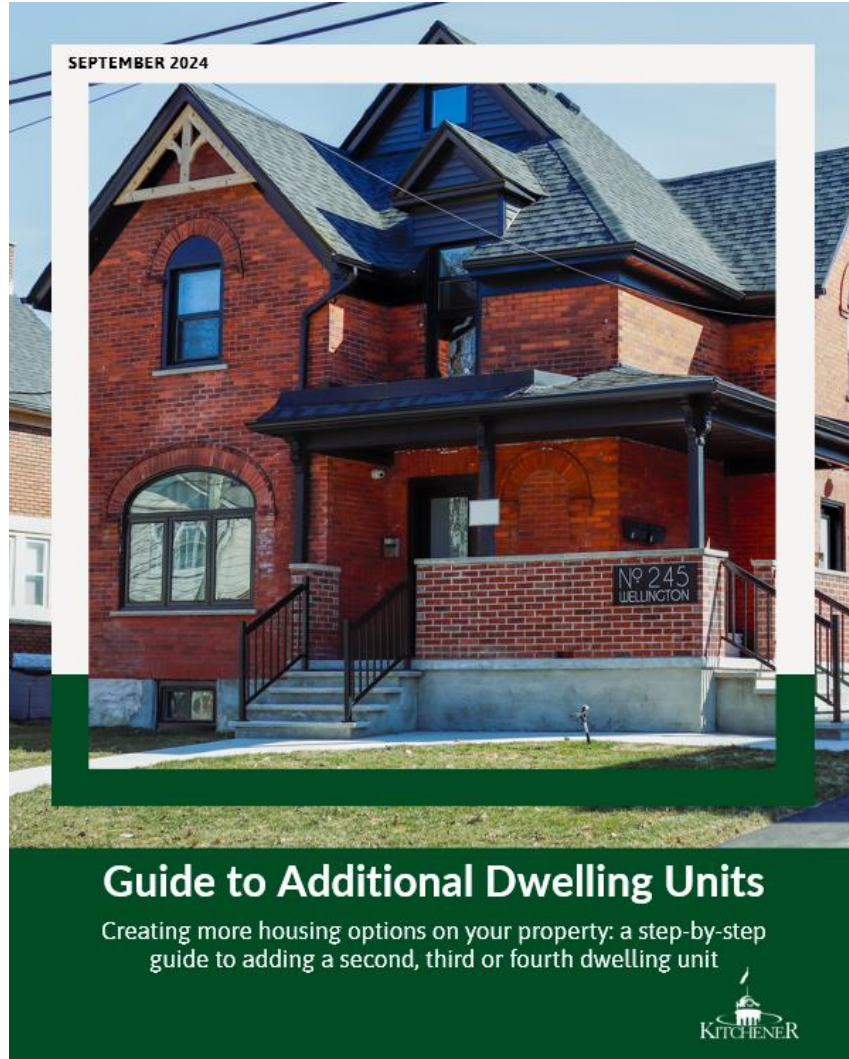
Project Manager - Planning

Presentation Overview

- Review the new zoning regulations and what can and cannot be built
- Provide an overview of the application and permitting process
- Provide guidance on resources that are available



Guide to Additional Dwelling Units



Visit kitchener.ca/ADUs or scan this QR code to download the guide.

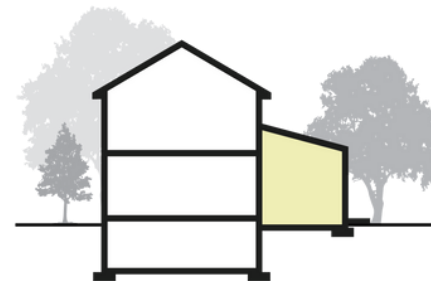
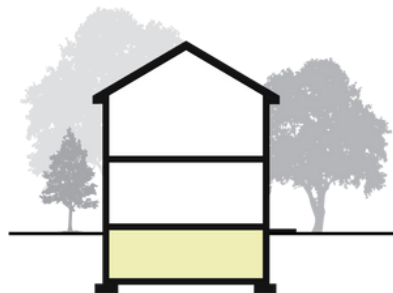


What are Additional Dwelling Units?



Attached ADUs

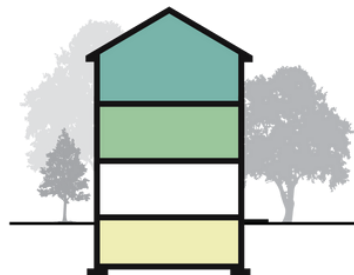
Duplex



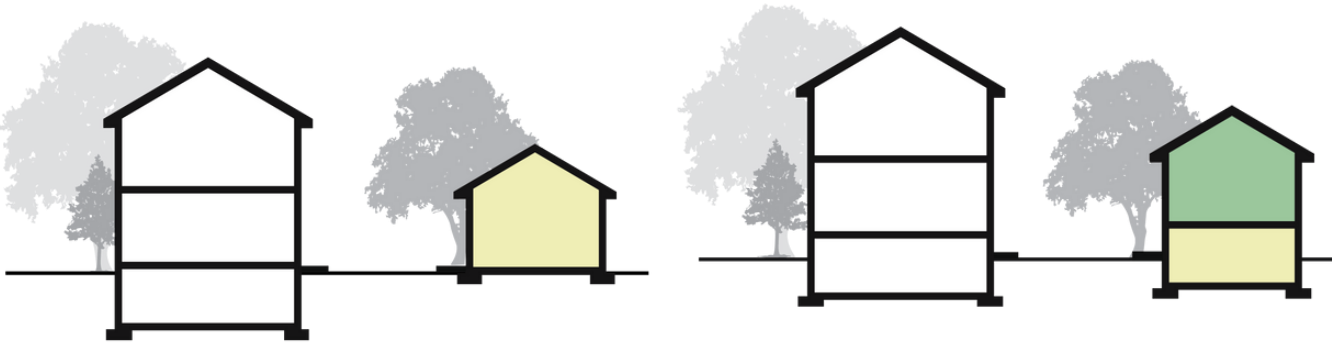
Triplex



Fourplex



Detached ADUs



Combination of attached and detached



Zoning By-law

- Up to 3 ADUs permitted on lots where a single detached, semi-detached or street-fronting townhouse dwelling are permitted (4 units in total).
- Must also comply with regulations.

Check with staff if you are unsure what applies!

Email: planning@kitchener.ca

Phone: 519-741-2426



Interactive Online Mapping

Check zoning with the online mapping tool.

OnPoint Quick Reference
OnPoint is a web application that provides access to the City's Geographic Information System (GIS) in a user-friendly manner.

Map Tabs
Map Tabs provide different views of the City's GIS. Each tab provides a specialized grouping of Layers.

Search Tools
These are search routines that allow you to find an address, street or intersection as well as searching specific information related to individual properties, features, plans or locations.

Map Scale
Use to change map to a set map scale i.e. 1000.

Map Contents
Table of contents and Legend used to turn layers on and off.

Map Tools
More map tools.

Base Maps
Use to change the base map.

Map Tools
Most of the tools.

Open Data Portal
Link to Open Data site

Tools
Hover over tools to see what they do.

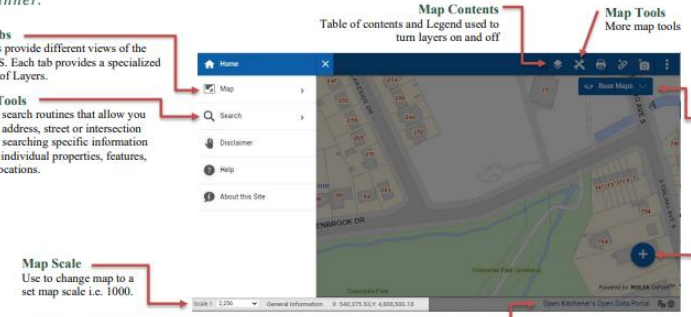
Identify
Get information about features on the map.

Address Search
Use Google's Address search to find an address. Note you must include Kitchener in the address. For example, 200 King St W, Kitchener.

Markup
Allows you to interactively annotate a map that can be saved or emailed to other users.

Measure
Allows you to measure distance by drawing a line or determine area by drawing a polygon, circle or rectangle.

Full documentation available online under the help button in OnPoint



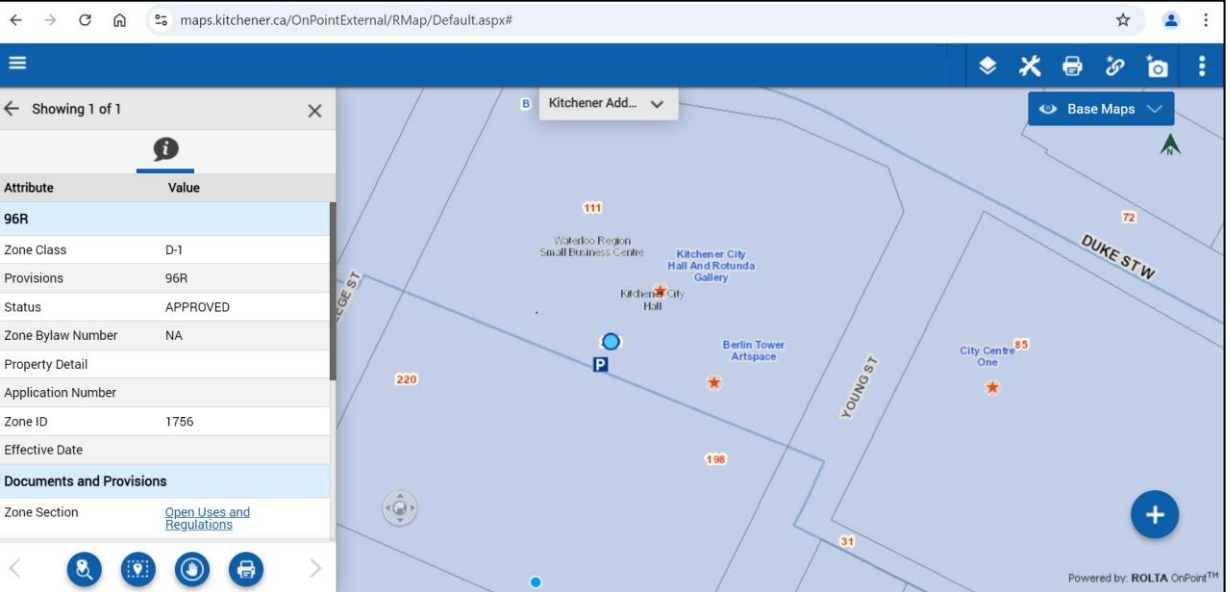
maps.kitchener.ca/OnPointExternal/RMap/Default.aspx#

Showing 1 of 1

Attribute	Value
Zone Class	D-1
Provisions	96R
Status	APPROVED
Zone Bylaw Number	NA
Property Detail	
Application Number	
Zone ID	1756
Effective Date	

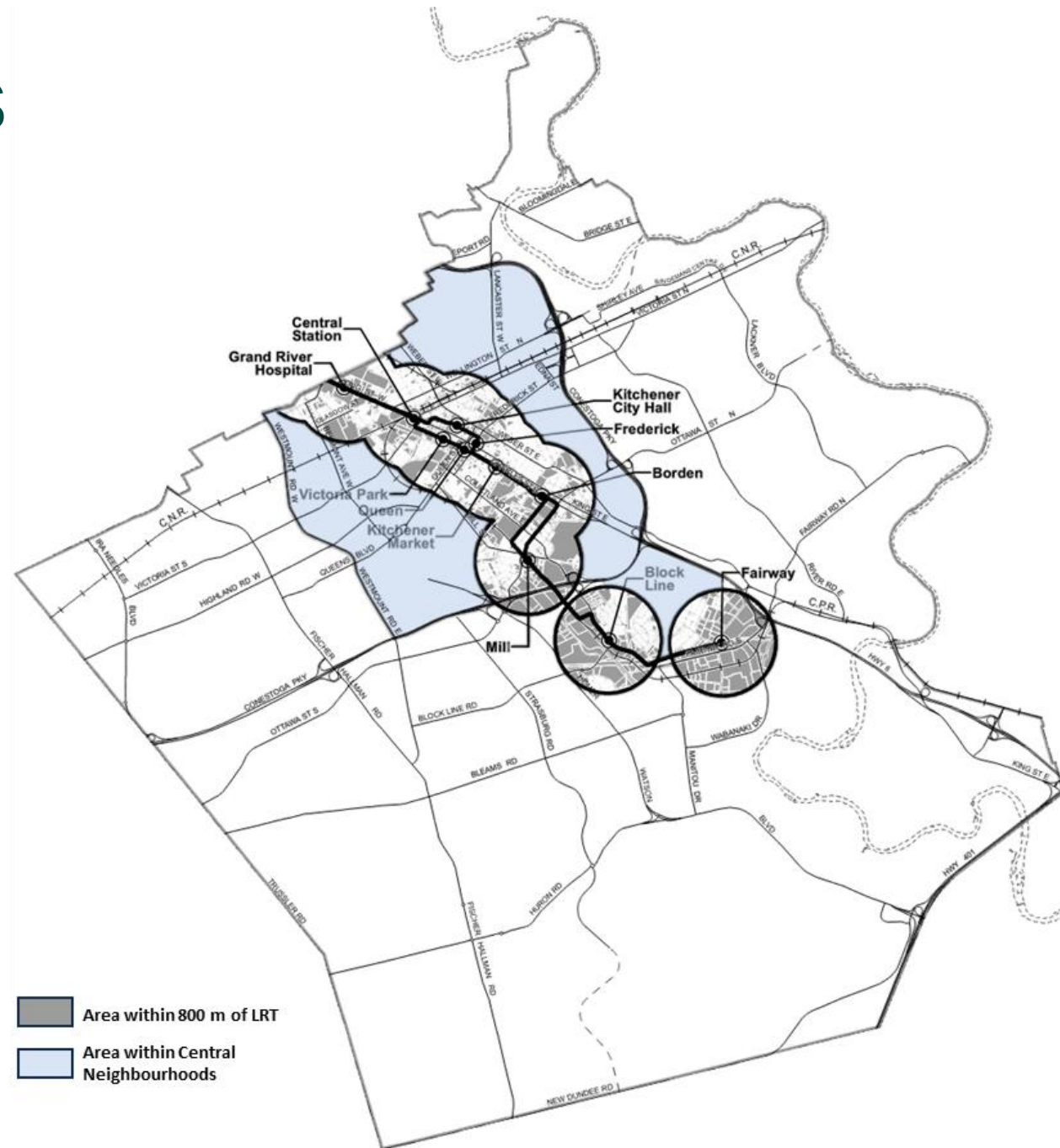
Documents and Provisions

Zone Section [Open Uses and Regulations](#)



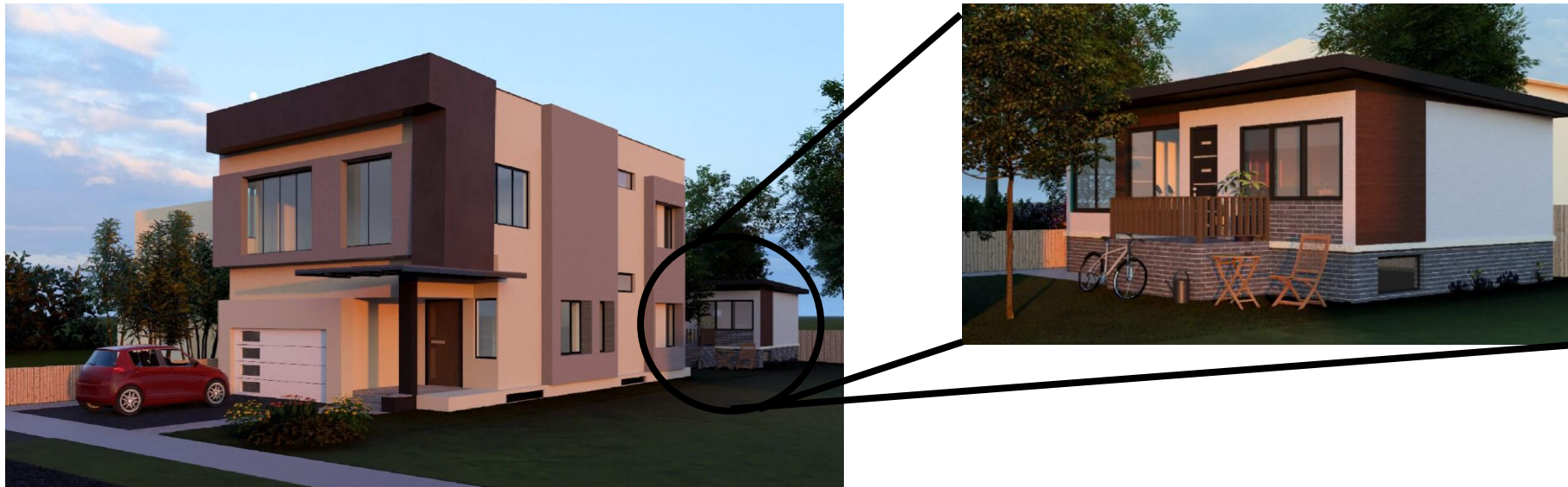
Zoning Highlights All ADUs

- rules for lot width, lot area and parking depend on geography and # of units

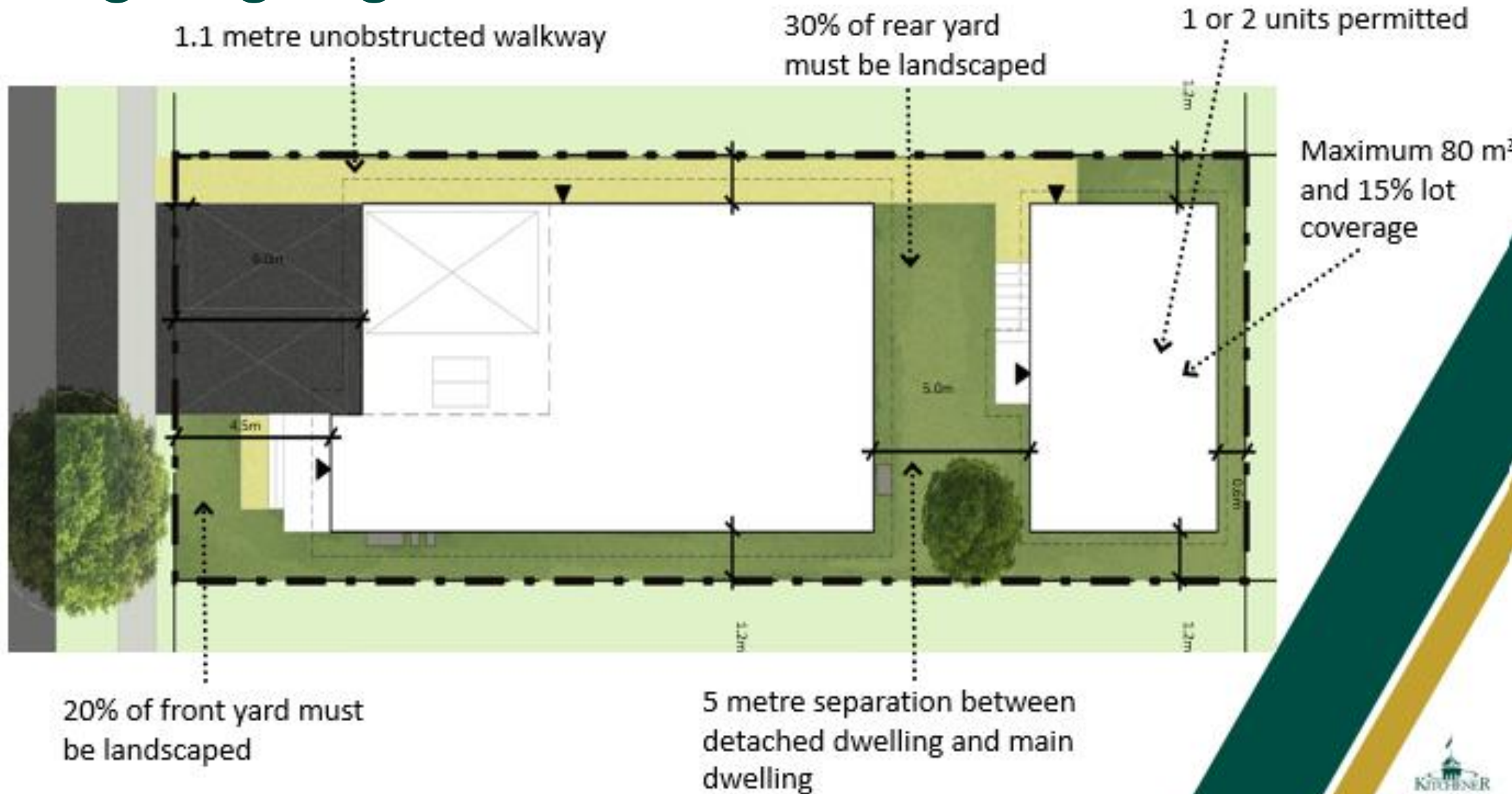


Zoning Highlights

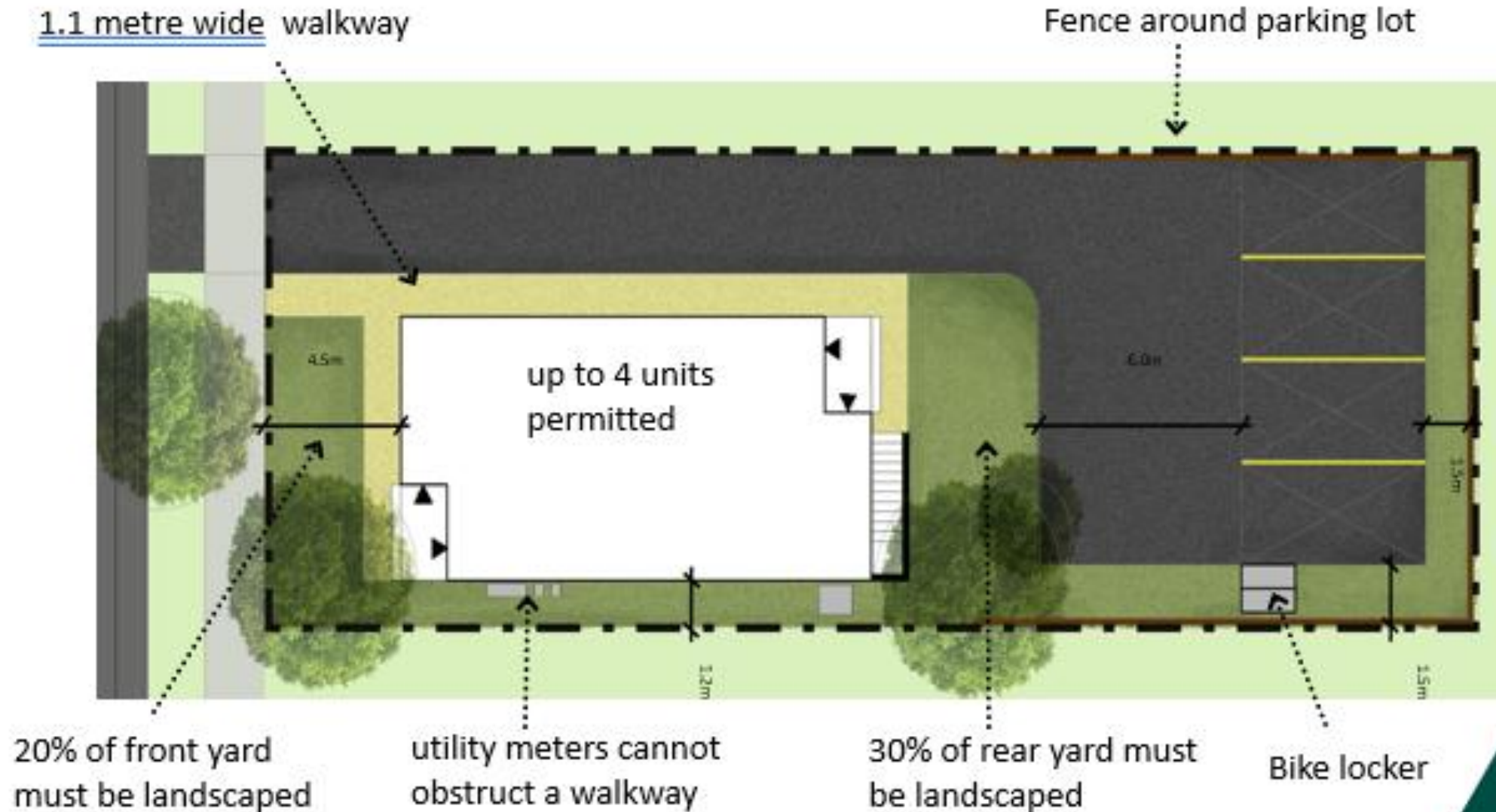
- must be connected to full municipal services
- must be located on the same lot as the principal dwelling
- 1.1 metre wide walkway to the entrance of each unit not on a street facing facade



Zoning Highlights: Detached ADUs



Zoning Highlights: Attached ADUs



Zoning Highlights: Buildings

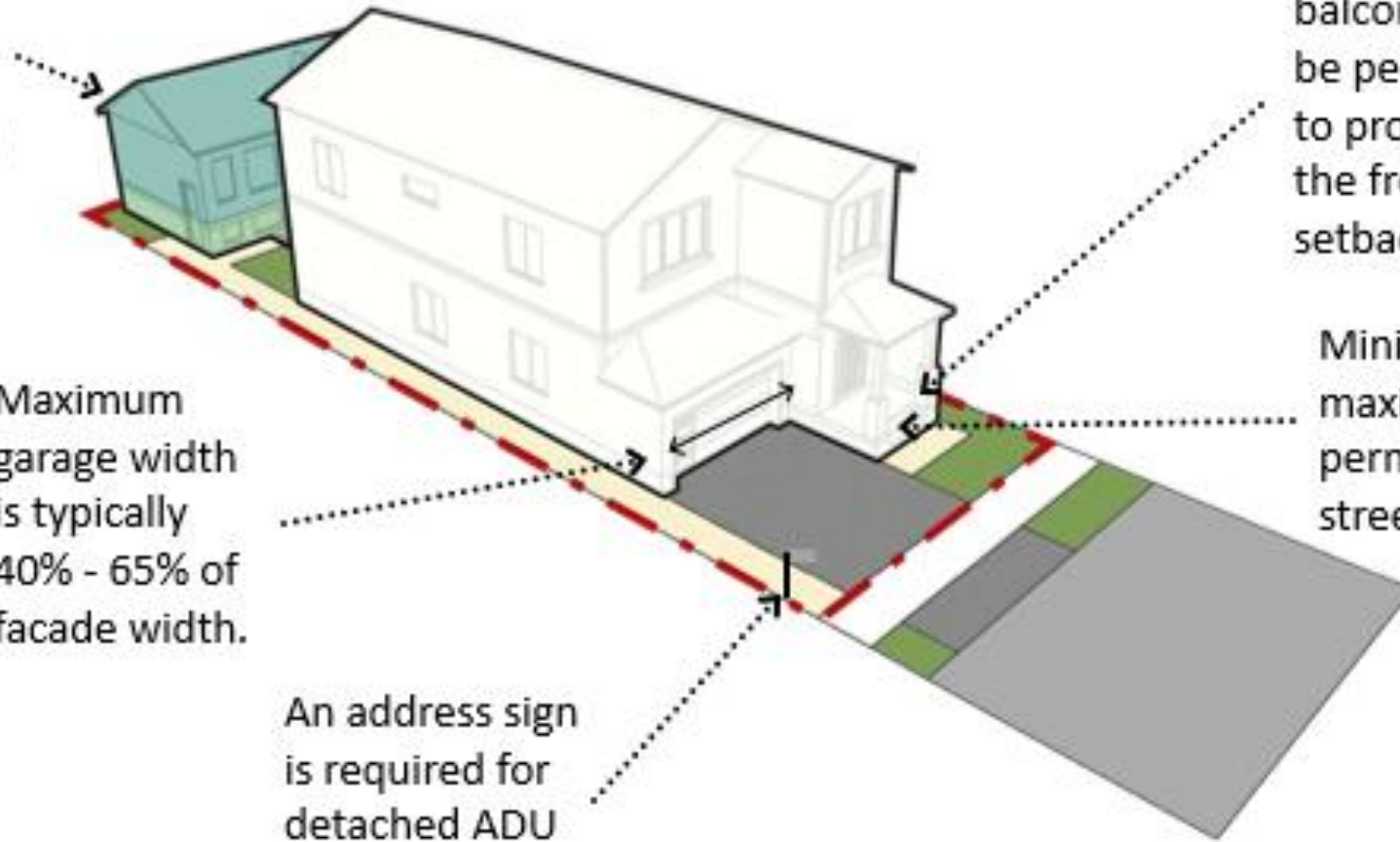
Detached ADUs are permitted to a maximum height of 4.5 metres - 6.0 metres.

Maximum garage width is typically 40% - 65% of facade width.

An address sign is required for detached ADU not facing a street.

Some front porches and balconies may be permitted to project into the front yard setback.

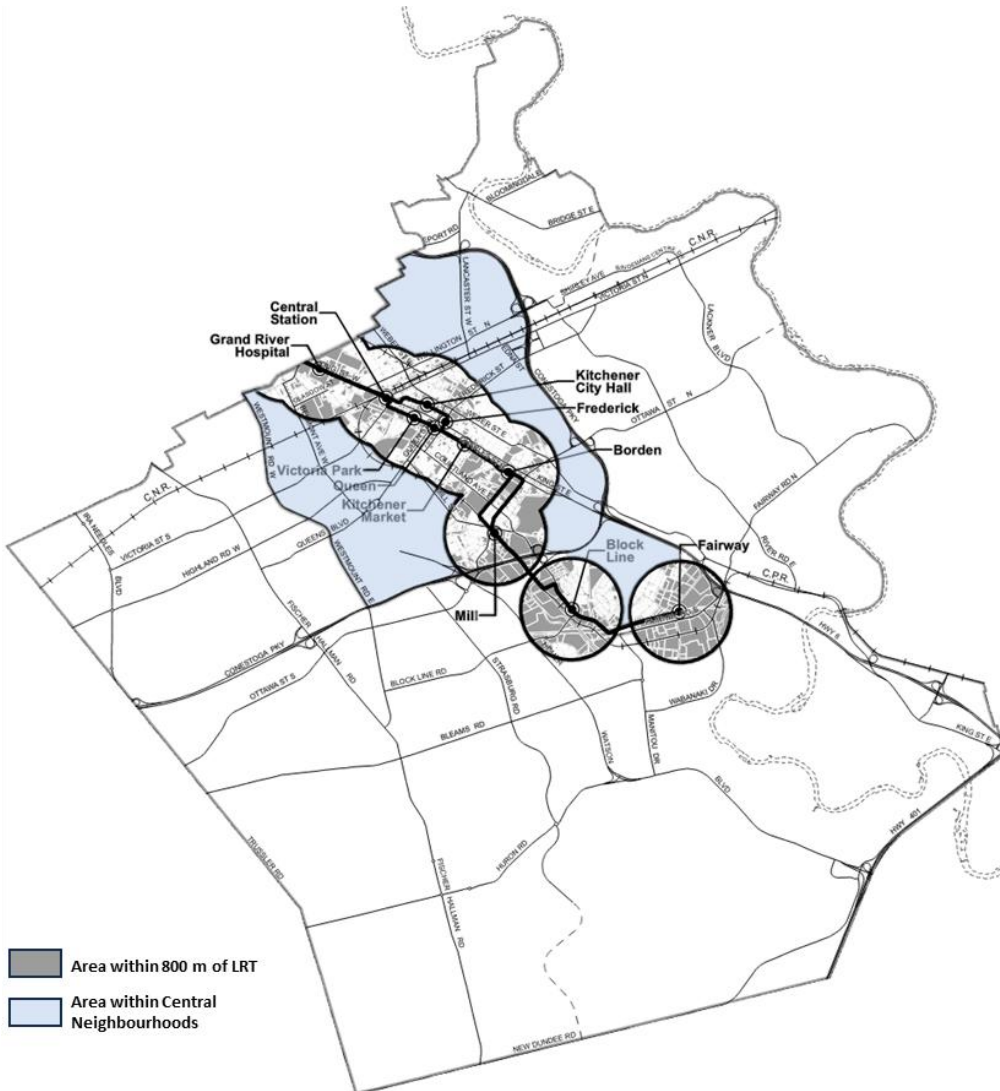
Minimum of one door and maximum of two doors are permitted to face the same street.



Zoning Highlights: Parking

Parking:

- The minimum number of parking spaces varies depending on location.
- Secure, weather-protected bicycle parking is required for 3 or 4 units on a lot and can be in a garage, shed, bike locker or other dedicated area.

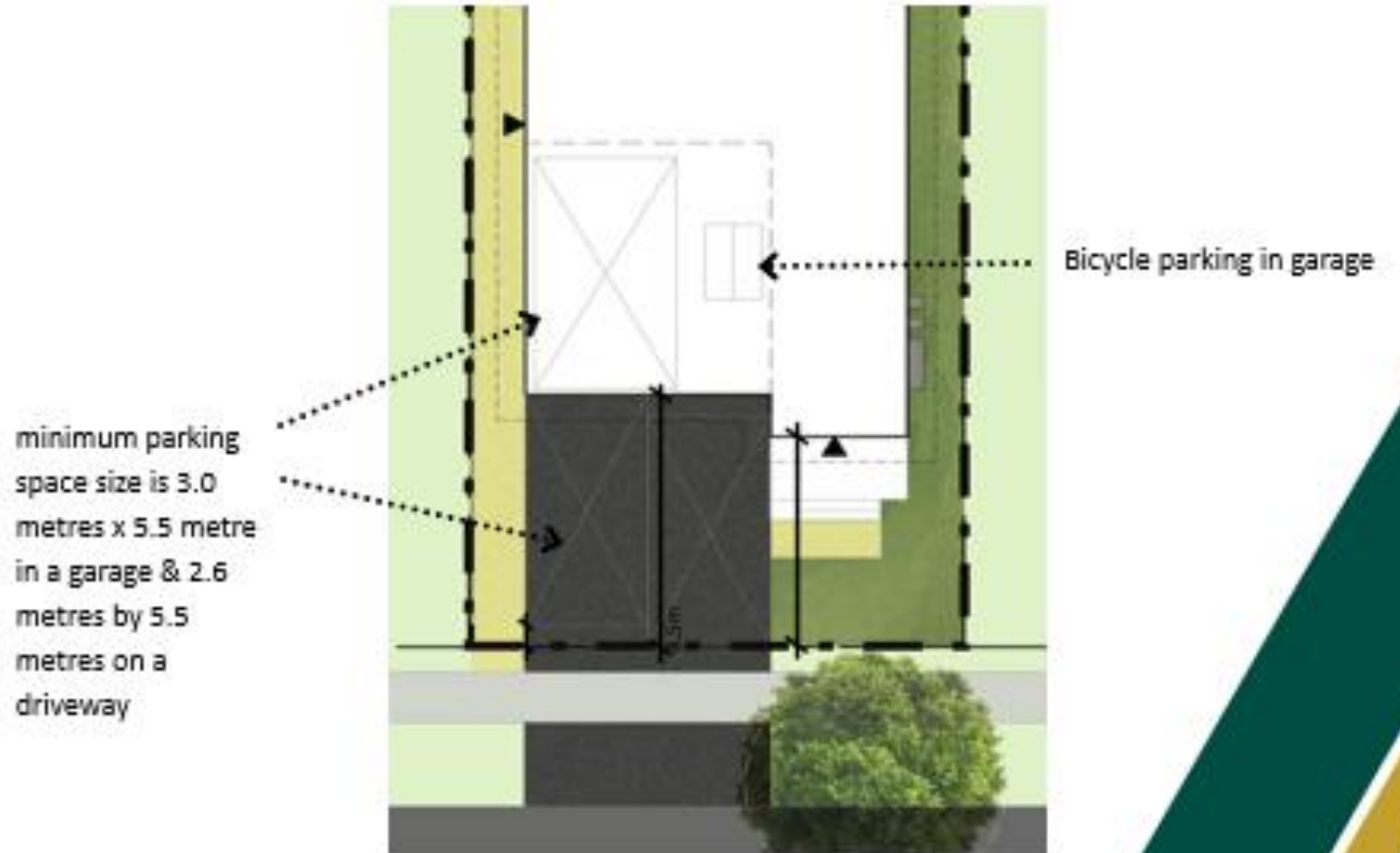


Location	First unit	Additional units (2-3)	Total
Within 800 m of an ION station	0 to 1	0	0 to 1
Central neighbourhood	1	(0.3/unit) 1	2
All other areas	1	(0.6/unit) 2	3

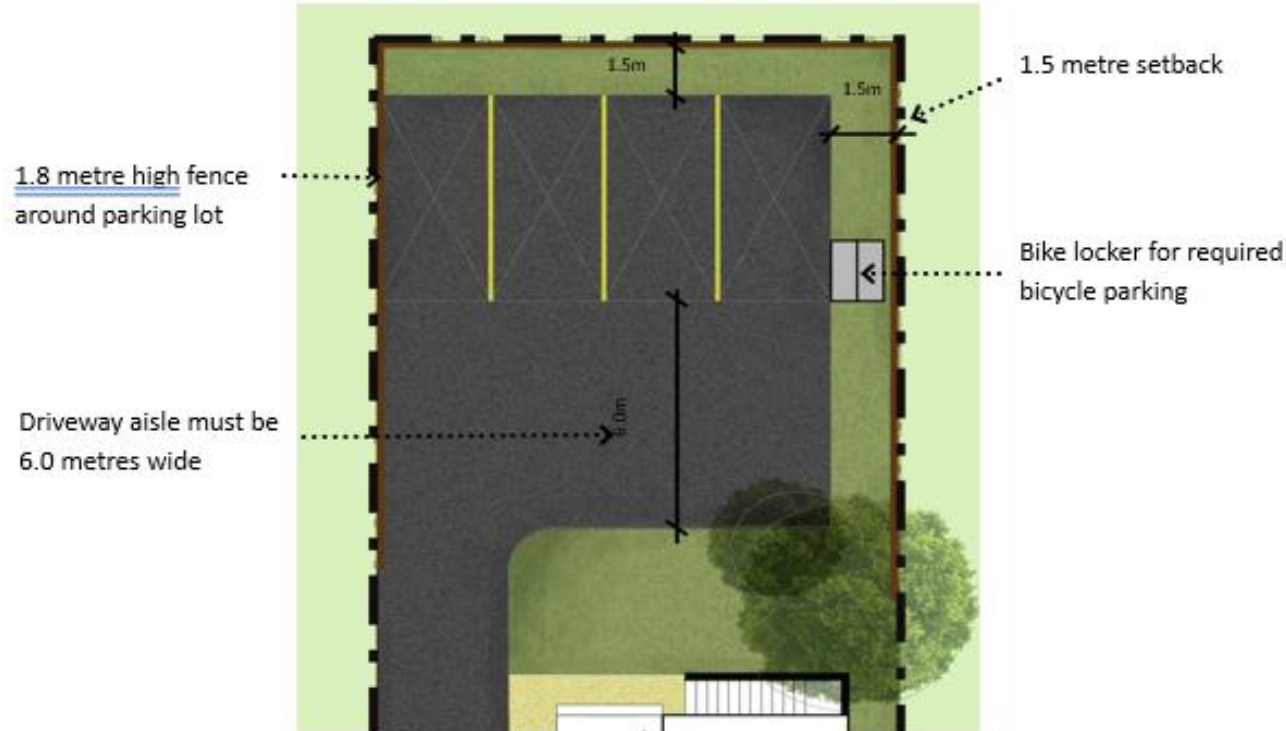
Zoning Highlights: Driveways

General Driveway Regulations:

- A maximum of one driveway is permitted from each street.
- The minimum width of a driveway is 2.6 metres.
- Maximum driveway width varies by dwelling type, and is generally 40 to 65% of the width of a lot, to a maximum width of 8 metres.
- a driveway must be a consistent material and separate from walkways



Zoning Highlights: Parking Lot



Parking Lot Regulations:

- Permitted for a dwelling with 3 or 4 units and must be located in rear yard.
- Must be setback 1.5 metres from property lines (except on the driveway side).
- Must be screened by a visual barrier, such as a fence, along the interior side and rear lot lines.
- The drive aisle must be 6.0 metres wide.

Zoning Certificate

- Confirms that your project will comply with all zoning regulations
- Required for all ADUs except for adding one attached unit to a single detached dwelling, semi-detached dwelling, or street townhouse dwelling
 - Apply before or together with your Building Permit
 - Applications will be reviewed within 15 business days
 - A zoning inspection is required to confirm compliance

Connect with Planning to learn more.

Scan the QR code to visit our webpage:

Phone: 519-741-2426

Email: planning@kitchener.ca



Building Permit

- Building Permits are always required to add an additional dwelling unit
 - Permits for all ADUs except for duplexes require drawings prepared by a licensed (BCIN) designer or architect.

Connect with the Building Division to learn more about Building Permit Applications, Process, Timing and Fees

Phone: 519-741-2312

Email: building@kitchener.ca

Scan the QR code to visit our webpage (kitchener.ca/building):



Other Permits/Applications:

- Application for Residential Curb-cutting or Driveway Widening: required if you plan to widen a driveway or create a new one
- Minor Variance: required if your project does not comply with the zoning bylaw and it cannot be redesigned to comply
- Heritage Permit: required if your property is individually designated or located in a Heritage Conservation District
- Road Occupancy/Work Permit: required if you need to occupy or close any city road, sidewalk or boulevard during construction
- Off-Site Works Agreement: required if you have new service connections or paving proposed within the municipal right-of-way

How much does adding an ADU cost?

- Application and Permit Fees will vary depending on the type of ADU(s) you are proposing, and the applications and permits that may be required.
- Development Charges vary by the type of unit and location in the city.
 - Total development charges from the City, Region and both school boards can range from \$0.00 for one ADU being added to a single detached dwelling, to approximately \$125,000 for a new build four-plex.
 - Contact Building Division if you have questions about how development charges will apply to a project.

City staff are here to help!

Contact us by phone, by email or in person at City Hall.

Scan the QR code to visit our webpage (kitchener.ca/ADUs):



Contact Planning:

Phone: 519-741-2426

Email: planning@kitchener.ca

Contact Building:

Phone: 519-741-2312

Email: building@kitchener.ca

In Person: City Hall, 200 King St W, Kitchener

- Book an appointment plan your visit
- Drop in during business hours Monday to Friday 8:30 am - 5:00 pm

2024 OBC – Administrative Changes

Matt Ruetz

MBO Technical Specialist

2024 Ontario Building Code



Two-volume Binder Set- \$195

<https://www.publications.gov.on.ca/301540>

Digital PDF – FREE

<https://www.ontario.ca/form/get-2024-building-code-compendium-non-commercial-use>

2024 OBC – Already Amended

MMAH has recently made amendments to the 2024 OBC, which will come into effect on January 1, 2025 and include;

- EMTC up to 18 Storeys (Part 3)
- Minor housekeeping and editorial changes

Still waiting on an updated Ontario Compendium

This presentation does not reflect these recent amendments.

2024 OBC Change Presentation Scope

This presentation focuses on highlights of the 2024 OBC changes applicable to **Part 9 Residential buildings** and to types of projects common in the City of Kitchener.

Topics NOT included in this presentation include but are not limited to;

- Part 2 – Farm Buildings
- Part 4 – Structural
- Part 6 – HVAC
- Part 8 – Septic Systems

For full details on all applicable OBC changes, Code practitioners shall refer to the full 2024 OBC.

2024 OBC - Transition

Scenario 1: Only 2012 OBC Applies

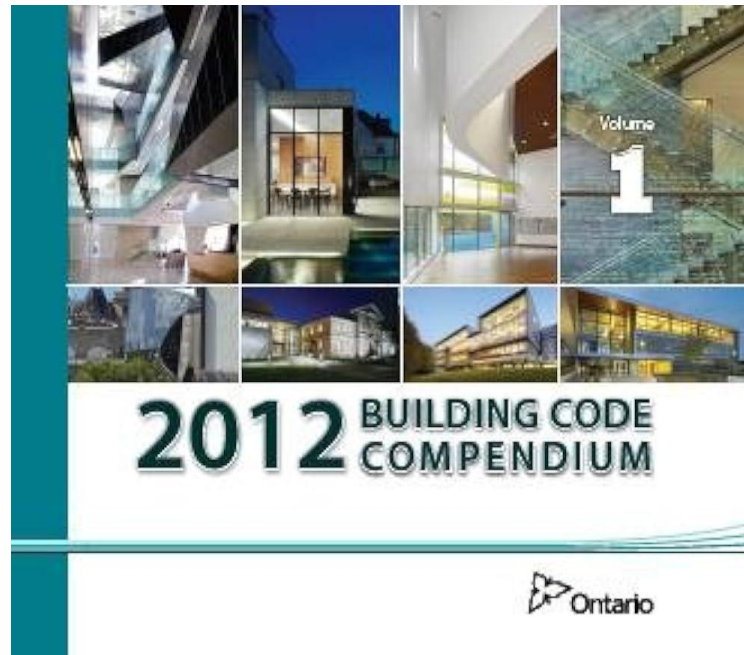
Complete Permit
Application is Received
on or BEFORE
December 31, 2024



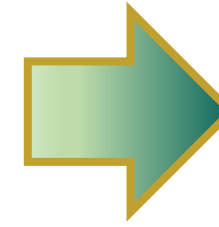
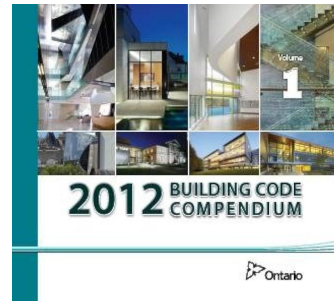
**2012
OBC
applies**



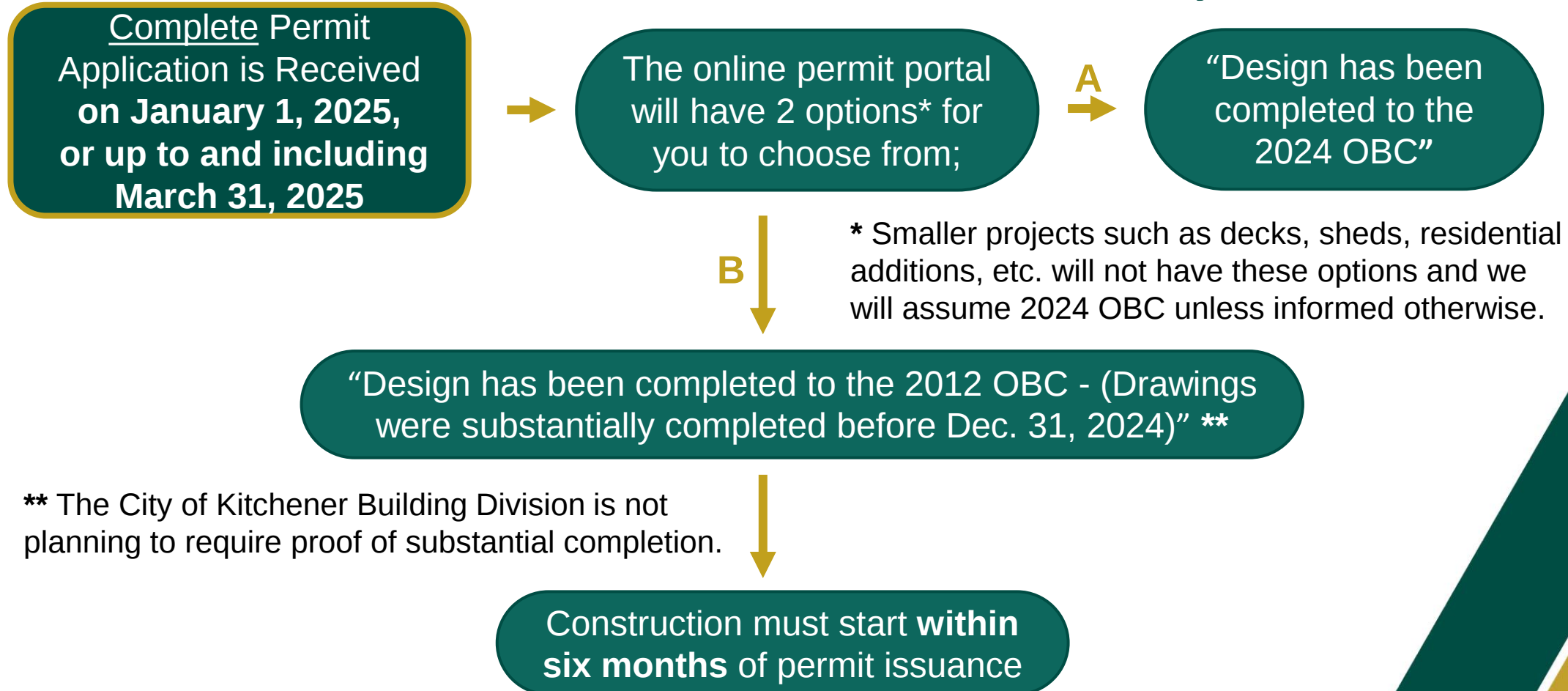
Construction must start **within
six months** of permit issuance



2024 OBC - Transition



Scenario 2: Transition - Either 2012 or 2024 OBC may be used



2024 OBC - Transition

Scenario 3: Only 2024 OBC Applies

Complete Permit
Application is Received
on or AFTER
April 1, 2025



2024
OBC
applies



OBC re-organization and re-numbering

Numerous Code provisions have been relocated within the Code to align with locations in the National Building Code

e.g. Standpipe provisions relocated from Subsection 3.2.9. to 3.2.5.

Some Articles have re-arranged the order of the Sentences within the Article to align with the NBC structure.

OBC re-organization and re-number

Some provisions specific to the OBC have been inserted within the NBC numbering structure and may appear unusual;

9.5.1.0A. Application

- (1) Except as otherwise specified in this Part, this Section applies only to *dwelling units* that are intended for use on a continuing year-round basis as the principal residence of the occupant.

9.5.3D.1. Areas of Bedrooms

- (1) Except as provided in Articles 9.5.3D.2. and 9.5.3D.3., bedrooms in *dwelling units* shall have an area not less than 7 m,² where built-in cabinets are not provided and not less than 6 m² where built-in cabinets are provided.

2024 OBC Miscellaneous Changes

Hard Conversions vs. Soft Conversions

Many dimensions in the Code have changed from hard metric conversions (ex. 24" = 610 mm) to soft metric conversions (ex. 24" = 600 mm)



MMAH indicated (Part 9 presentation slide 84) it is intended that for the purposes of framing dimensions, both conversions are acceptable.

This also just reverts back to how it was in the 2006 Code.

Voluntary Installations

Voluntary installations of fire protection features and other building elements such as grab bars or guards are required to comply with the Building Code, relevant standards, and good engineering practice.

This is now explained in a number of places throughout the 2024 OBC;

- Preface to the Code
- A-1.3.3.
- A-3
- A-9.10.1.3.(8) and (9)

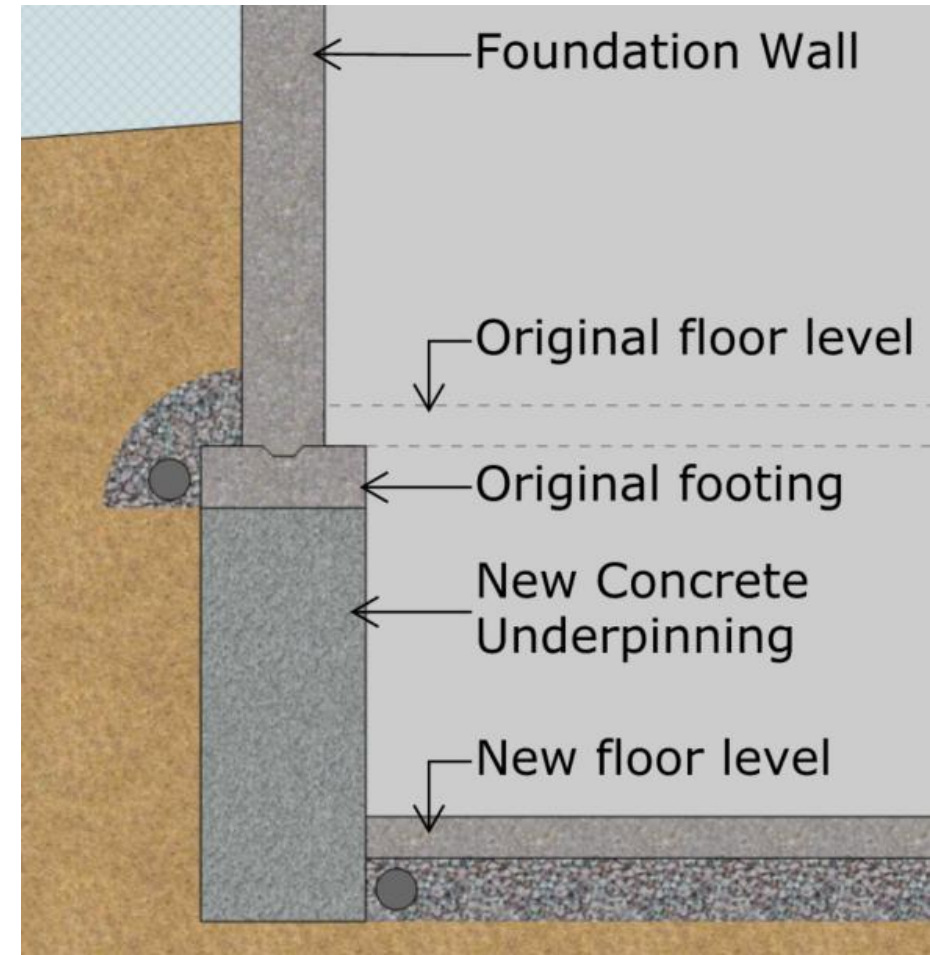
Underpinning

Definition added to the OBC (Div.A 1.4.1.2.);

Underpinning means the process of strengthening the *foundation* or lowering the level of a *foundation* of an existing *building*.

Underpinning of a foundation now requires a professional engineer for the;

- **Design** (Div.C 1.2.1.2.(1)(c)), and
- **General Review** (Div.C 1.2.2.1.(4)(b))



Part 10 & 11

There have been very minimal changes to Part 10 & 11.

Mainly just adding Agricultural occupancies.

Note however that some Compliance Alternatives (CAs) have been added or deleted so the numbering of the CAs you commonly have used may be a different CA number under the 2024 OBC, so be sure to check the Code to ensure you are referencing correctly.

Part 12 & SB-12

Part 12: Resource Conservation and Environmental Integrity

- minimal changes

SB-12: Energy Efficiency For Housing

- **NO CHANGES**
- OBC did not harmonize with the NBC on energy efficiency i.e. Tier 3



Secondary Suites

Secondary Suites

Definitions – Div. A, 1.4.1.2.

The definition of *house* has been removed from the 2024 OBC

~~**House** means a detached house, semi-detached house or row house containing not more than two dwelling units.~~

New definition *secondary suite* has been added;

Secondary suite means a self-contained *dwelling unit* located in a *building* or portion of a *building* of only *residential occupancy* that contains only one other *dwelling unit* and common spaces, and where both *dwelling units* constitute a single real estate entity.

Secondary Suites

General wording changes throughout OBC

There are many places throughout the Code where wording has been updated to reflect the removal of *house* and addition of *secondary suite*.

Example:

2012 OBC

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 **house or an individual dwelling unit** shall conform to the requirements for stairs, ramps, landings, handrails and guards within a *dwelling unit*.

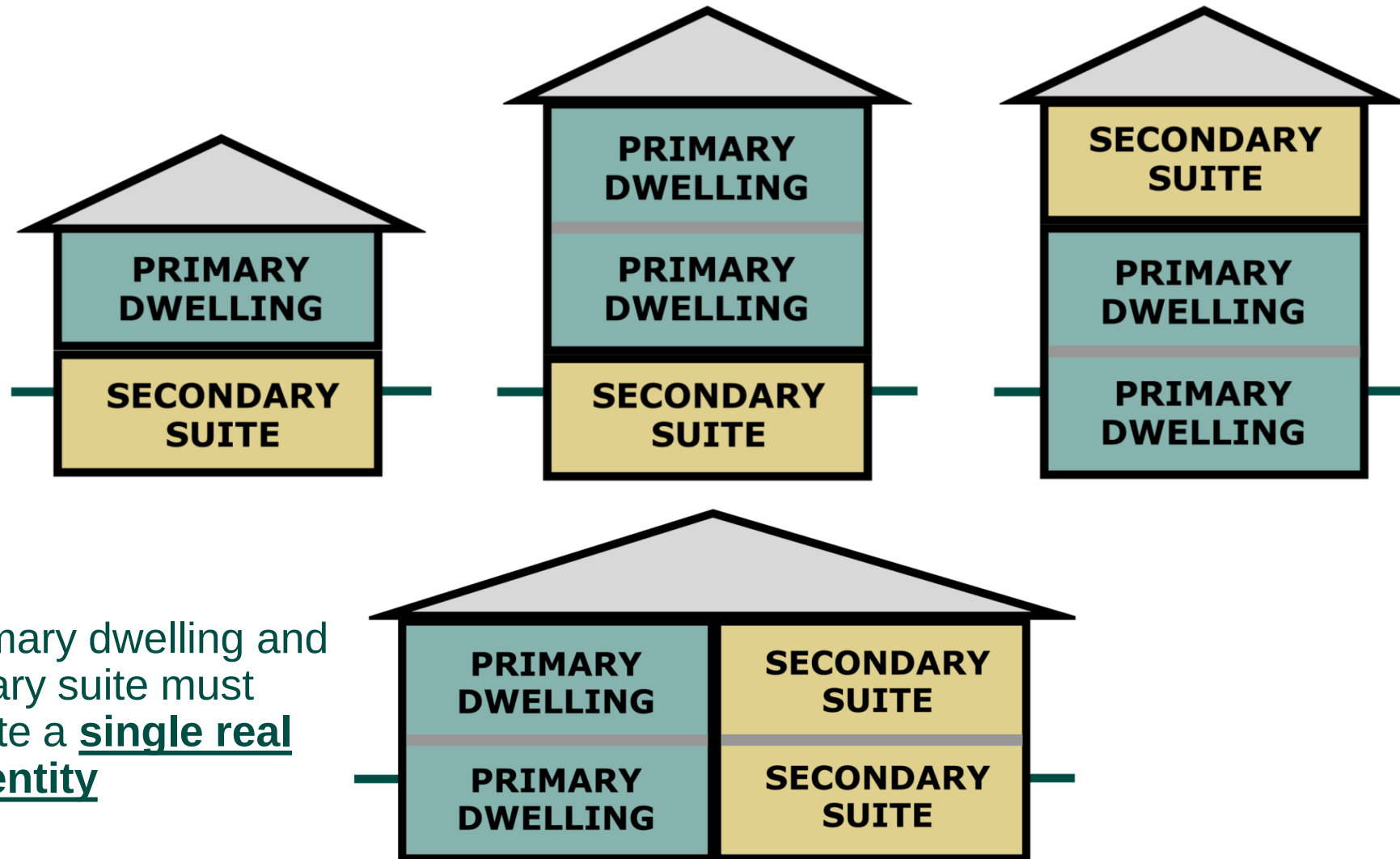
2024 OBC

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 or a house with a secondary suite** shall conform to the requirements for stairs, *ramps*, landings, handrails and guards within a *dwelling unit*.

Secondary Suites

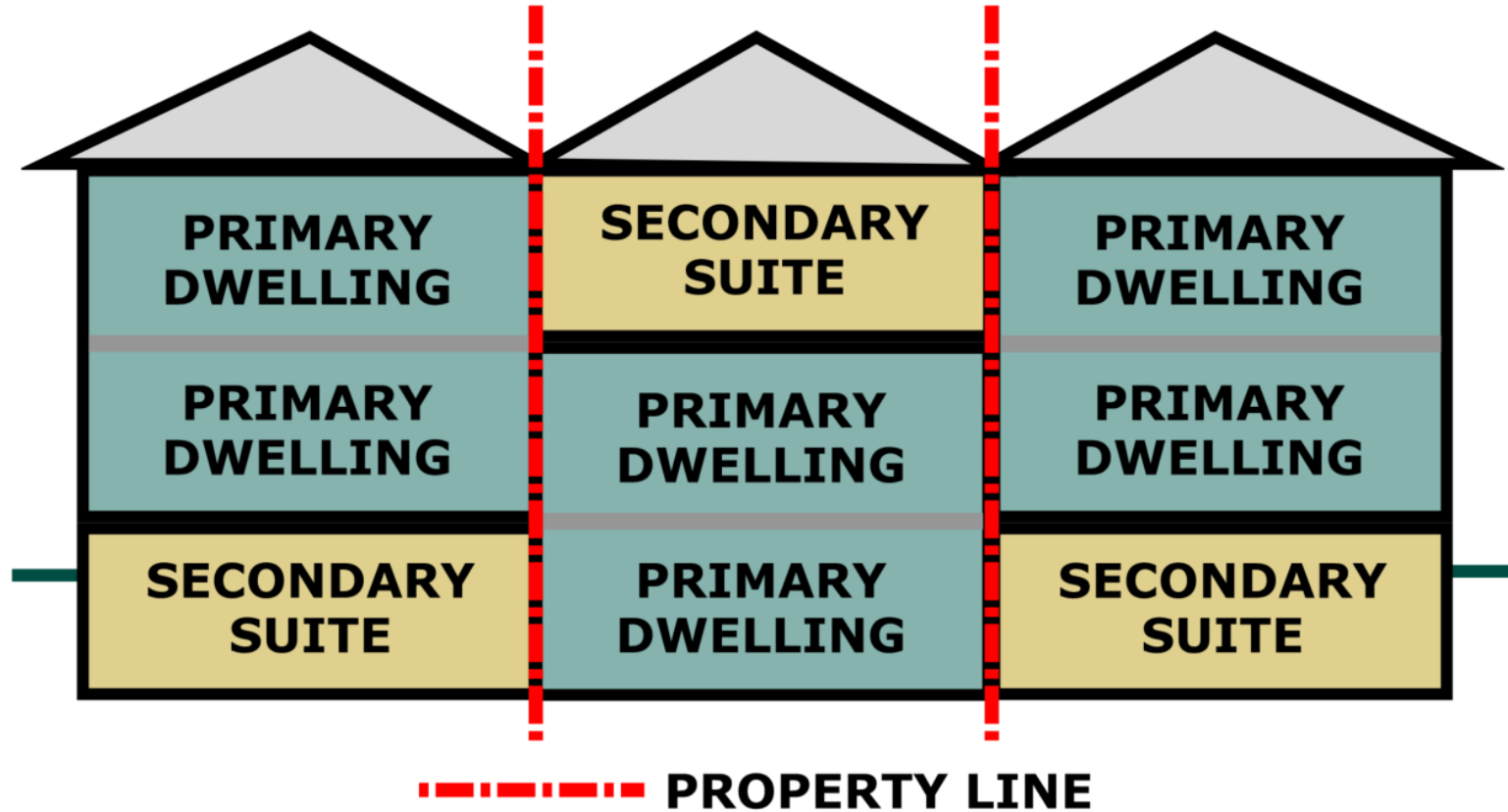
Permitted Configurations



The primary dwelling and secondary suite must constitute a single real estate entity

Secondary Suites

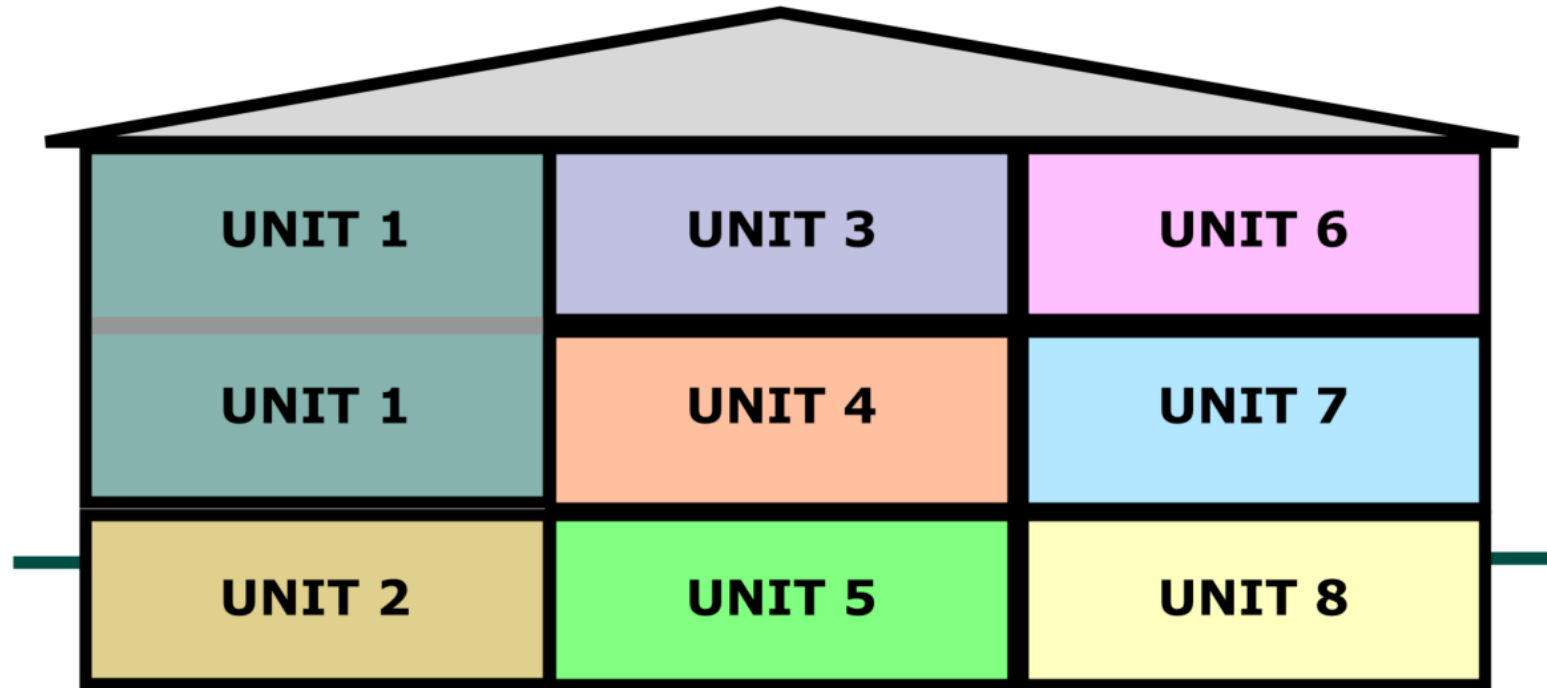
Permitted Configurations



Each primary dwelling and secondary suite must constitute a single real estate entity

Secondary Suites

NOT Permitted Configurations



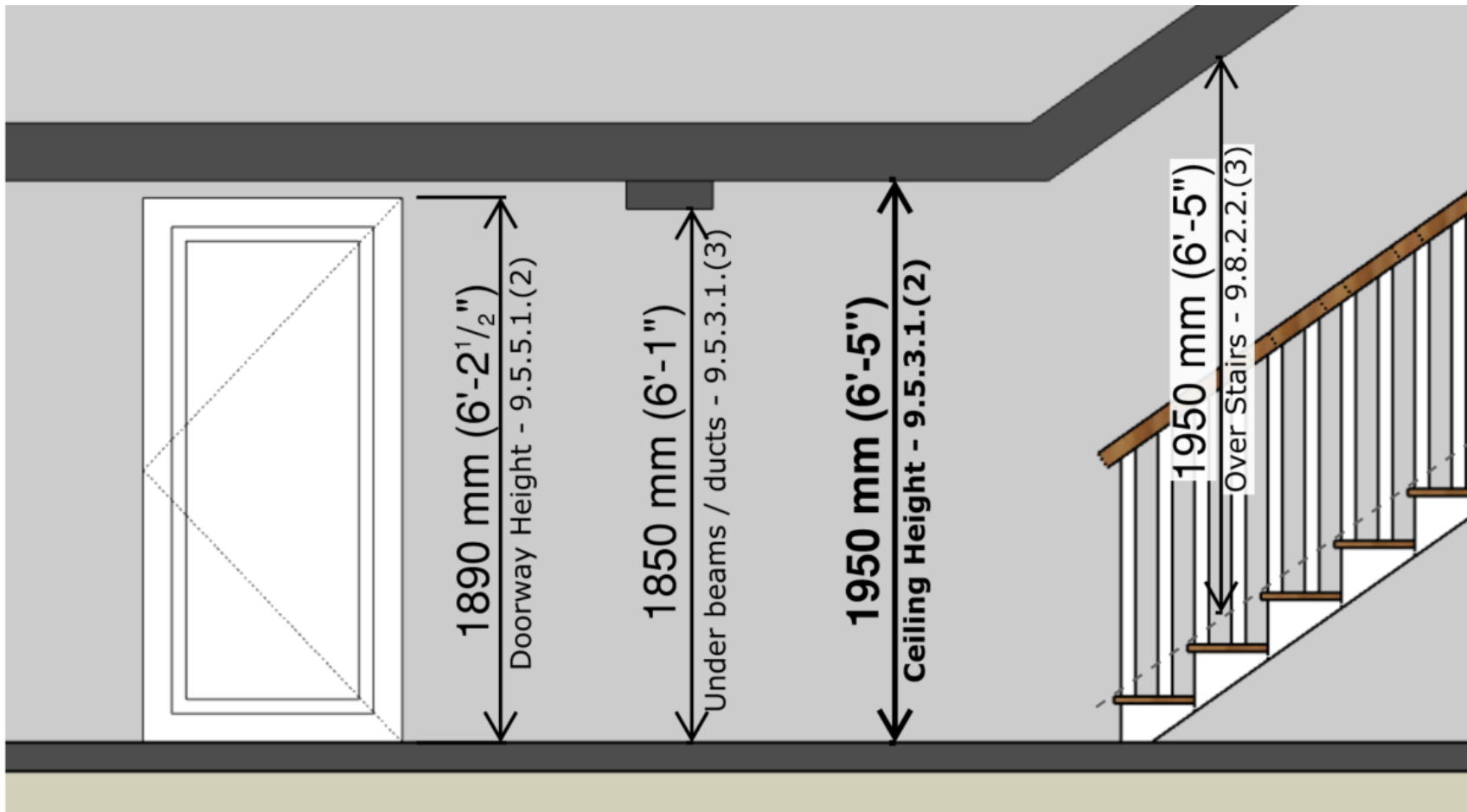
Each dwelling constitutes a single real estate entity

NOT a Secondary Suite

Secondary Suites

Ceiling and Door Heights – 9.5.3.1.

Reduced ceiling heights are permitted in secondary suites



Secondary Suites

Fire Protection – Separation of Secondary Suites - 9.10.9.16.(4)

Walls and floor/ceiling assemblies that separate dwelling units from each other or dwelling units for ancillary spaces and common spaces are to be protected by a **continuous smoke-tight barrier** of not less than 15.9 mm (5/8") thick Type X gypsum board installed on;

- (a) both sides of walls, and
- (b) the underside of floor-ceiling framing

“Continuous smoke-tight barrier” is not an OBC defined term.

However, 9.10.9.2.(2) clarifies that the smoke-tight barrier shall be constructed as a continuous barrier against the spread of smoke.

Secondary Suites

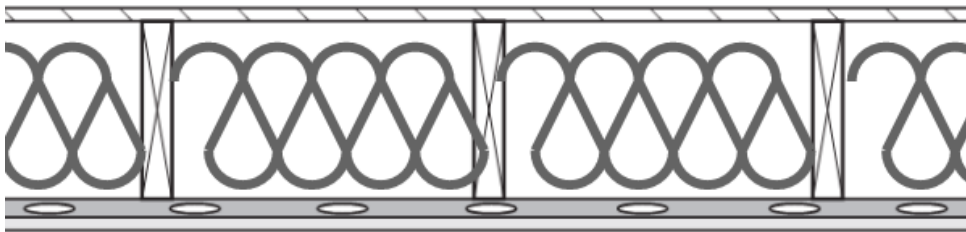
Sound Transmission – Separation of Secondary Suites - 9.11.1.1.

Assemblies separating dwelling units and dwelling units to common spaces require a minimum;

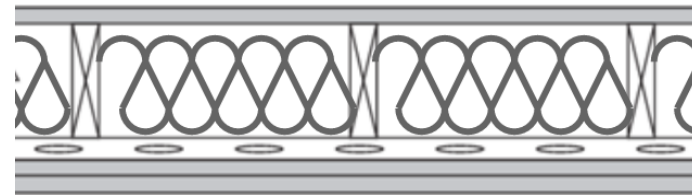
- 47 ASTC, or
- 50 STC



Resilient channels and insulation in the joist / stud cavities will still commonly be required to achieve the sound transmission requirements.



Sample **Floor** Assembly



Sample **Wall** Assembly

Secondary Suites

Fire Protection – Separation of Secondary Suites

Openings shall be protected with closures

- New Sentence 9.10.9.3.(2) is currently missing, however MMAH is aware and working on it;

(2) Doors in smoke-tight barriers shall

(a) be solid-core, wood doors at least 45 mm thick, and

(b) have a self-closing device.

Loadbearing elements shall be protected by not less than 15.9 mm (5/8") Type X gypsum board. (9.10.8.3.(2))

Secondary Suites

Fire Protection – Separation of Secondary Suites

Table 9.10.8.1.
Fire Resistance Ratings for Floors and Roofs
Forming Part of Sentence 9.10.8.1.(1)

<i>Major Occupancy</i>	<i>Maximum Building Height, Storeys</i>	<i>Minimum Fire-Resistance Rating by Building Element, min</i>		
		Floors Except Floors over Crawl Spaces	<i>Mezzanine</i> Floors	Roofs
<i>Residential</i> (Group C)	3	45	45	--

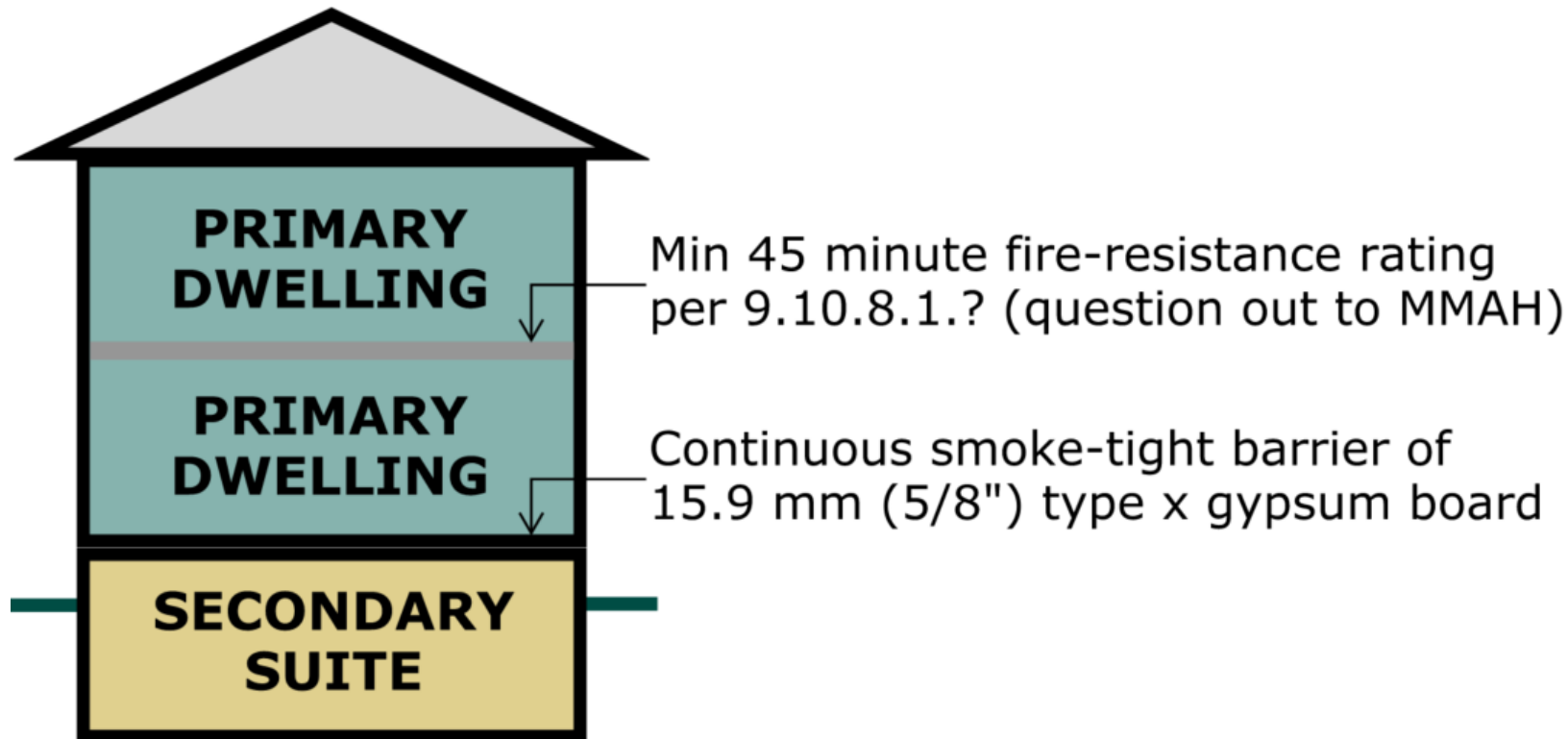
9.10.8.10. Non-Application to Houses

- (1) Table 9.10.8.1. does not apply to
- (a) a dwelling unit that has no other dwelling unit above or below it,
 - (b) houses with a secondary suite, where the floor framing is protected' underside by a continuous smoke-tight barrier of not less than 15.' thick gypsum board, or
 - (c) a dwelling unit that is not above or below another major occupar

Secondary Suites

Fire Protection – Separation of Secondary Suites

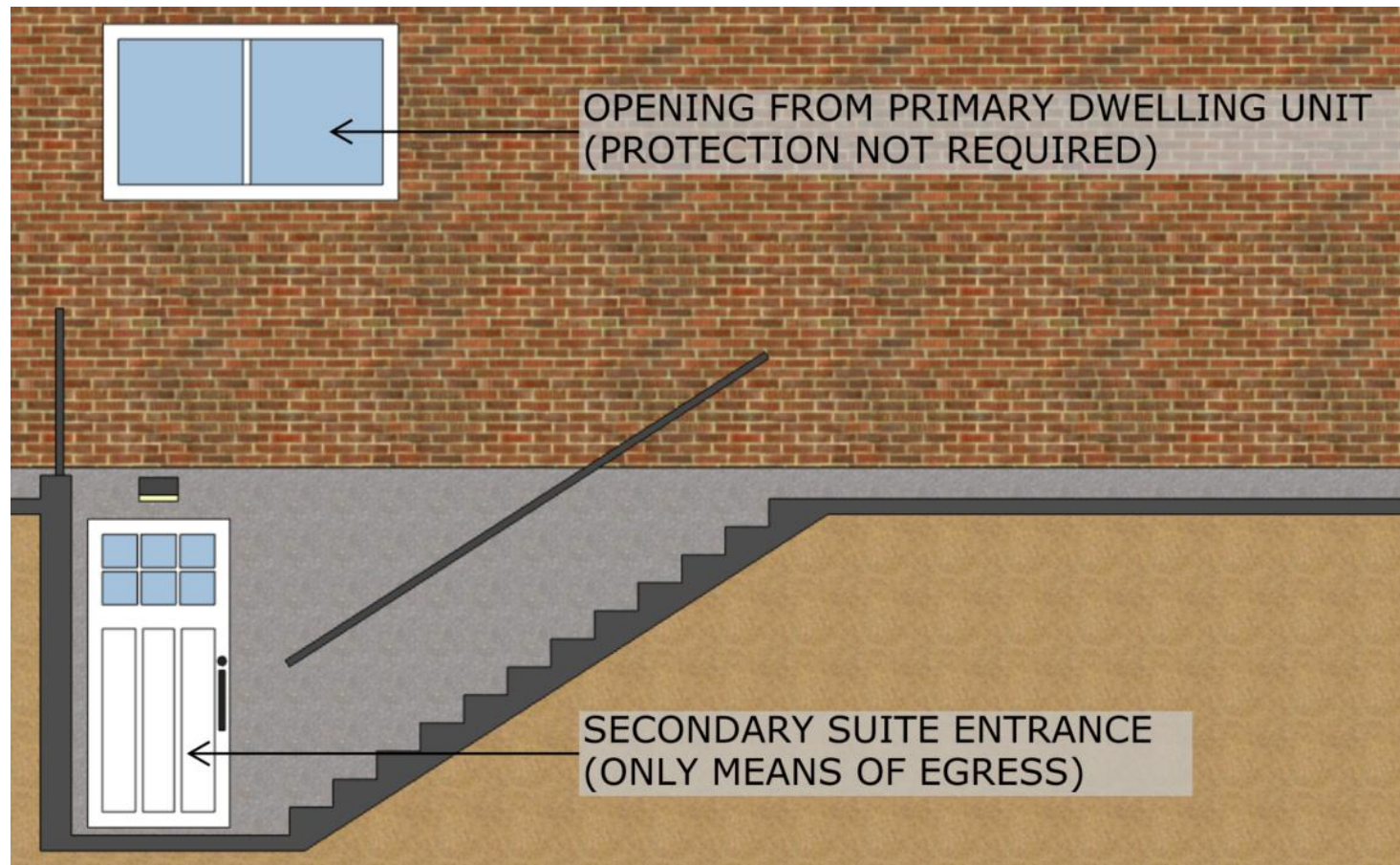
Currently, Article 9.10.8.1. requires floor assemblies within the same dwelling unit to be constructed with a minimum 45 minute fire-resistance rating.



Secondary Suites

Fire Protection – Exterior Elements

Protection of Unenclosed Exterior Exit Stairs – 9.9.4.4.



Protection not required as the primary dwelling unit and secondary suite are not separate *fire compartments*.

Secondary Suites

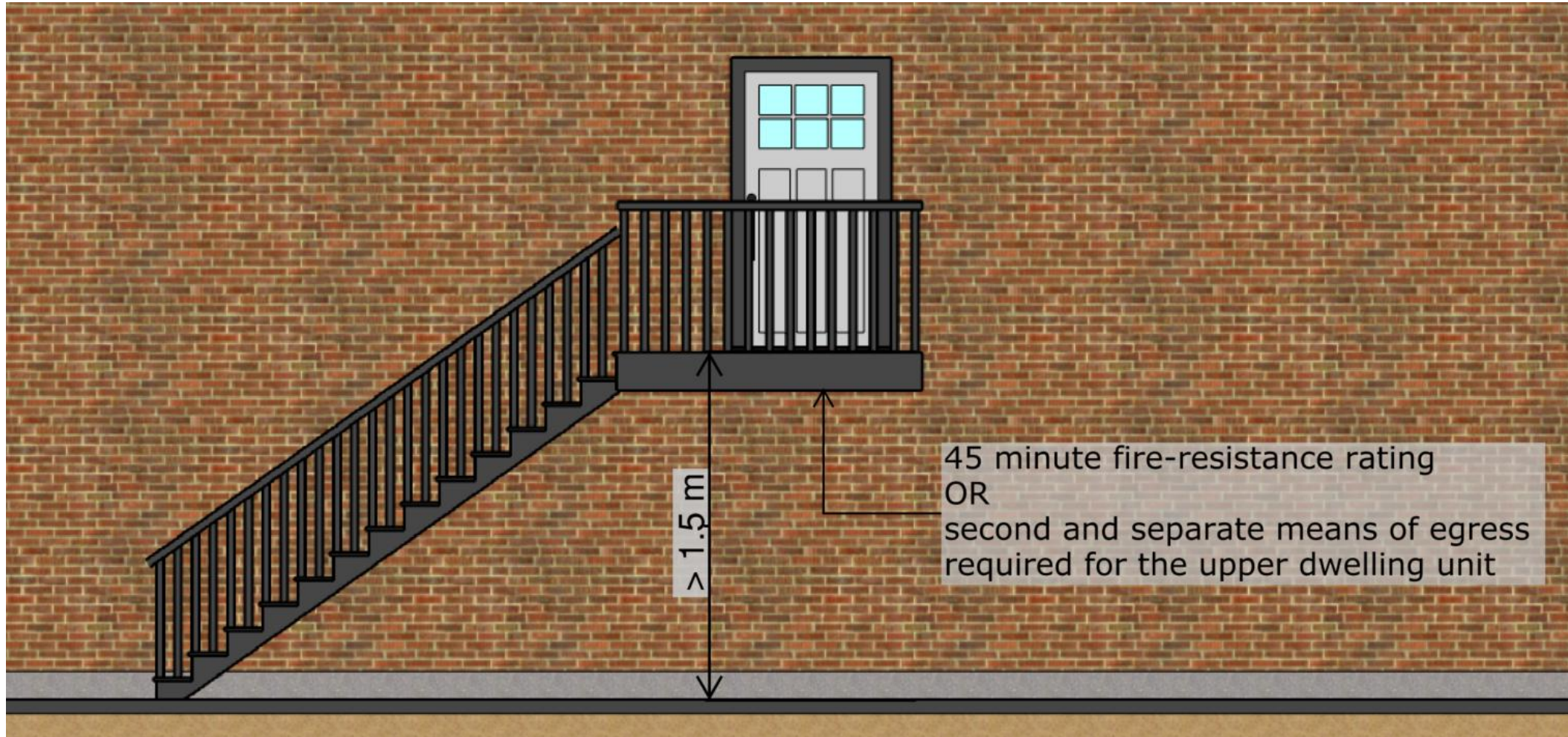
Fire Protection – Exterior Elements – 9.9.9.3.(2)

Where a dwelling unit is located above another dwelling unit or common space in a house with a secondary suite, the upper dwelling unit shall be provided with as second and separate means of egress where an egress door from that dwelling unit opens onto an exterior passageway that

- (a) has a floor assembly with a fire-resistance rating less than 45 min,
- (b) is served by a single exit stairway or ramp, and
- (c) is located more than 1.5 m above adjacent ground level.

Secondary Suites

Fire Protection – Exterior Elements – 9.9.9.3.(2)



Secondary Suites

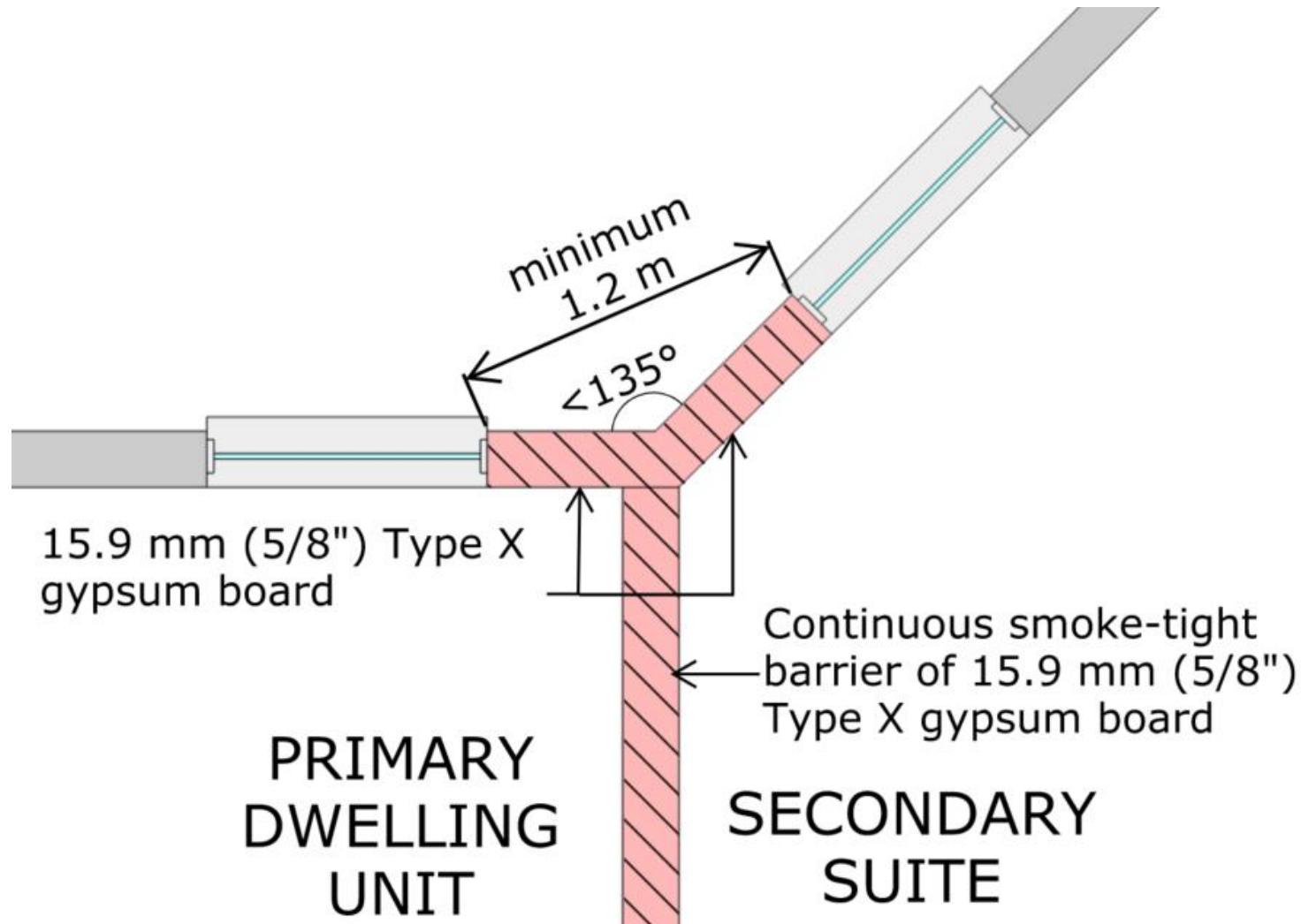
Fire Protection – Exterior Elements – 9.10.12.3.

9.10.12.3. Exterior Walls Meeting at an Angle

- (1) Except as provided in Article 9.9.4.5., where exterior walls of a building meet at an external angle of 135° or less, the horizontal distance from an unprotected opening in one exterior wall to an unprotected opening in the other exterior wall shall be not less than 1.2 m, where these openings are
- (a) in different fire compartments, or
 - (b) in different dwelling units, ancillary spaces or common spaces in a house with a secondary suite.
- (3) Where interior walls between dwelling units, ancillary spaces or common spaces in a house with a secondary suite are not constructed as fire separations, the exterior wall of each dwelling unit, ancillary space or common space referred to in Sentence (1) within the 1.2 m distance shall be finished on the interior with not less than 15.9 mm thick Type X gypsum board.

Secondary Suites

Fire Protection – Exterior Elements – 9.10.12.3.



Secondary Suites

Spatial Separations – 9.10.15.

9.10.15. Spatial Separation Between Houses

9.10.15.1. Application

(1) This Subsection applies to

(a) *buildings* that contain only *dwelling units* and have no *dwelling unit* above another *dwelling unit*, and

(b) houses with a *secondary suite* including their common spaces.

All stacked townhouses will now fall under 9.10.14. as a result of the change in definition from *house* to *secondary suite*.

Secondary Suites

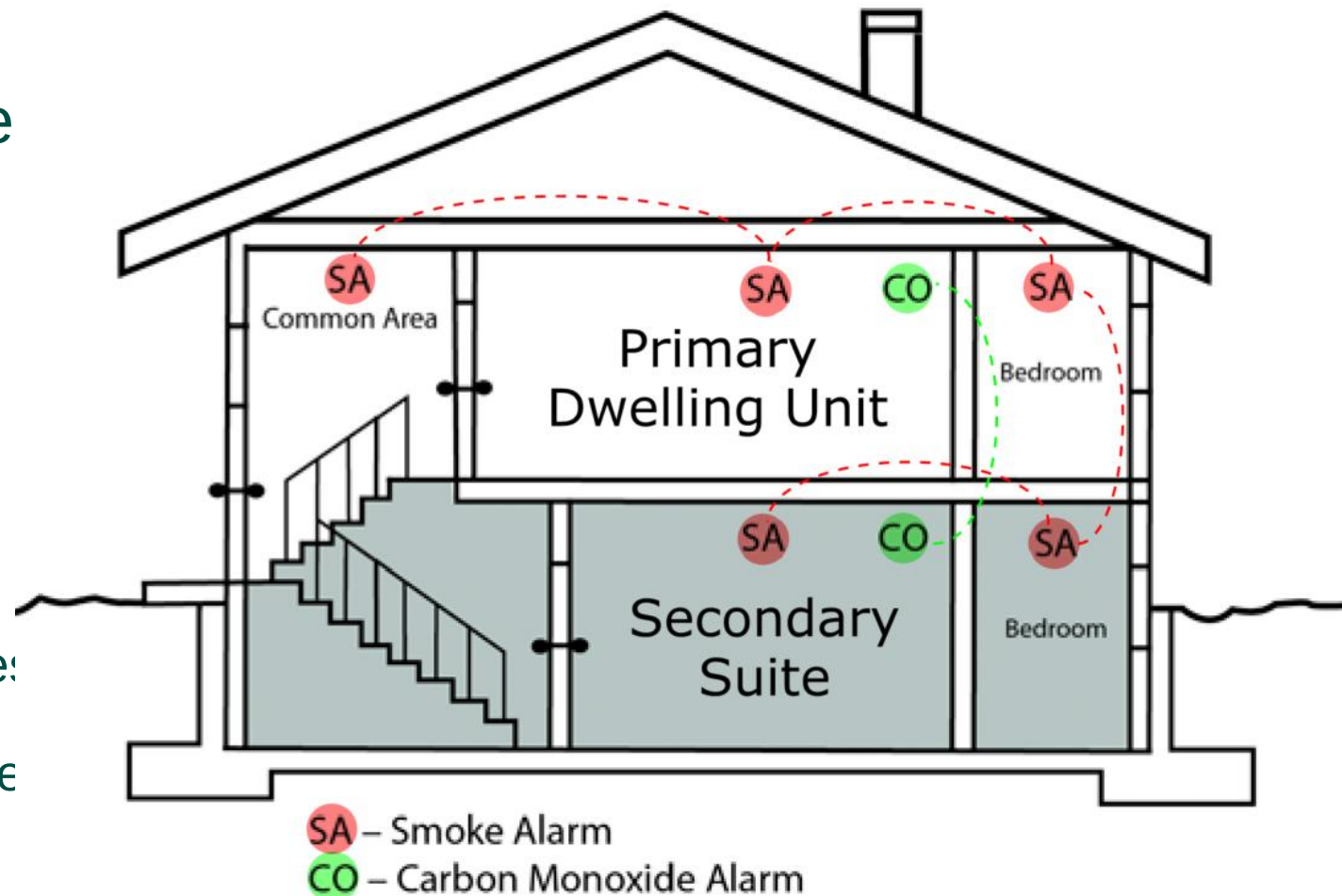
Interconnection of Smoke Alarms - 9.10.19.5.(2)

Smoke Alarms shall be interconnected between both suites.

- Permitted to be interconnected hard-wire or wirelessly

Appendix Note:

Electrical regulations may require that separate power sources be provided for smoke alarms in the main dwelling unit and the secondary suite where the units have separate electrical services. In these situations, interconnection of smoke alarms between the units can be achieved through wireless communication.

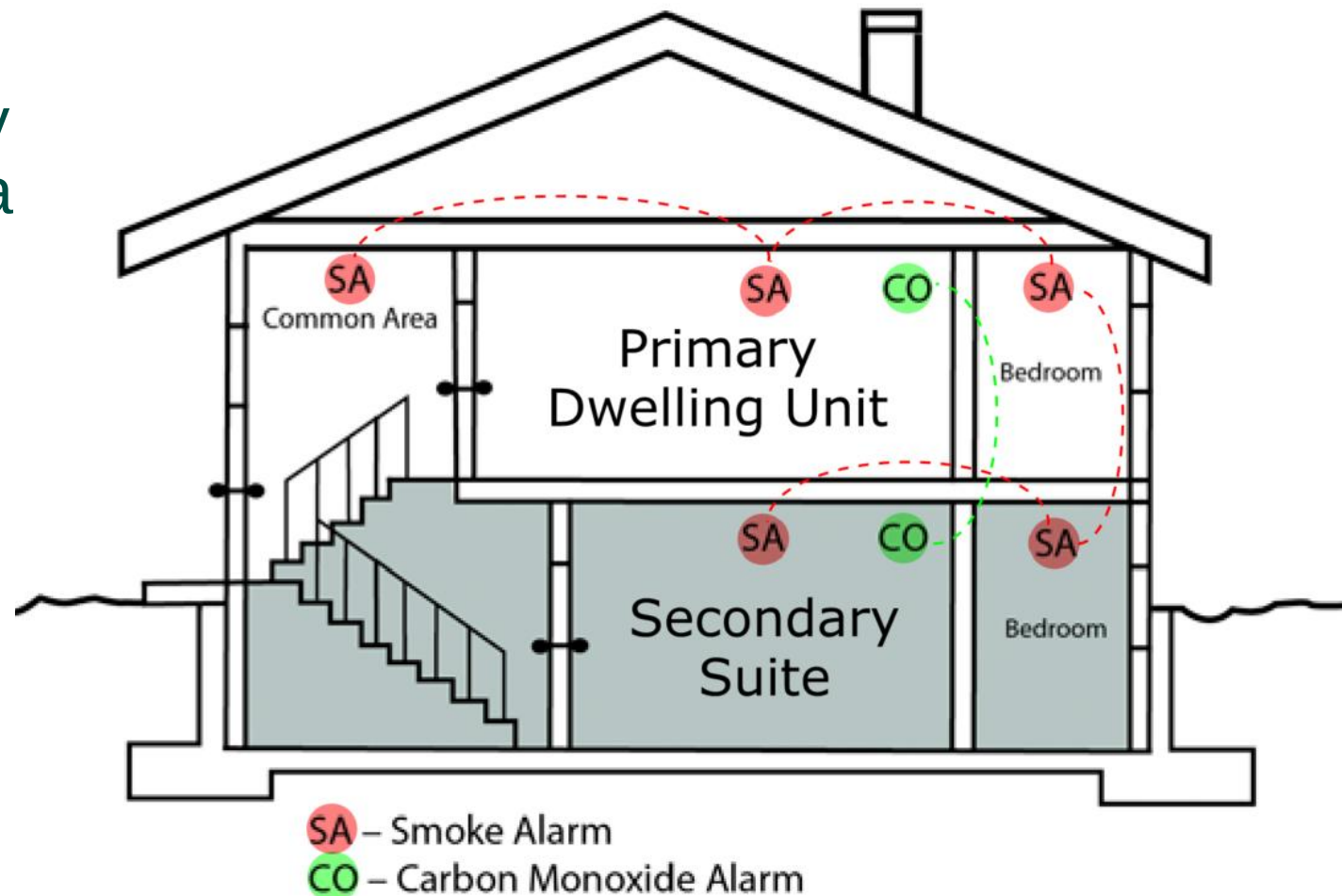


Secondary Suites

Interconnection of Carbon Monoxide Alarms - 9.32.3.9C.(1)(c)(ii)

CO Alarms shall be interconnected between both suites.

- Currently the 2024 Code only permits interconnection by hard wire, not wireless.



Secondary Suites

Egress

9.9.9.2. Two Separate Exits

(1) Except as provided in Sentence 9.9.7.3.(1) and **except for dwelling units in a house with a secondary suite**, where an egress door from a dwelling unit opens onto a public corridor or exterior passageway it shall be possible from the location where the egress door opens onto the corridor or exterior passageway to go in opposite directions to 2 separate exits unless the dwelling unit has a second and separate means of egress.

9.9.5.9. Ancillary Rooms

(1) **Except in houses with a secondary suite**, ancillary rooms such as storage rooms, washrooms, toilet rooms, laundry rooms and service rooms shall not open directly into an exit.

Secondary Suites

Heating and Ventilation

Section 9.33. Heating and Air-Conditioning

9.33.1. General

9.33.1.1. Application

(3) Air duct distribution systems serving one of the dwelling units in a house with a secondary suite shall not be directly interconnected with other parts of the house.

9.33.4.3. Heating System Control

(1) Each dwelling unit shall be provided with a temperature control in accordance with Article 12.3.1.3.

Secondary Suites

Heating and Ventilation – Conversions Under Part 11

When adding a Secondary Suite to an existing building where Part 11 is applicable the compliance alternative may still be used;

C.A. Number	Division B Requirements	Compliance Alternative
C200	9.33.1.1.	In a <i>building</i> containing not more than four <i>dwelling units</i> , the existing heating or <i>air-conditioning</i> system may be altered to serve more than one <i>dwelling unit</i> , provided <i>smoke alarms</i> are installed in each <i>dwelling unit</i> and provided a <i>smoke detector</i> is installed in the supply or return air duct system serving the entire <i>building</i> which would turn off the fuel supply and electrical power to the heating system upon activation of such detector.

Note that this compliance alternative is NOT applicable when adding a Secondary Suite where 9.41. of the Code is applicable. (building less than 5 years old)

Secondary Suites

Heating and Ventilation

9.32.1.2. Required Ventilation

(3) In houses that contain a secondary suite, heating-season ventilation need not be provided for

- (a) exits,
- (b) public corridors, and
- (c) ancillary spaces that are not within a dwelling unit

Secondary Suites

Local Collaboration & Consistency

Secondary Suites Task Group

- The Wellington Waterloo Regional Chief Building Officials Committee (WWRCBOC) have created a task group to further examine the new secondary suite provisions, aiming to achieve more consistency in local interpretation and enforcement.

The information and interpretations provided in this presentation may be adjusted based on the outcomes of those discussions.

A free secondary suite guide will be made available and posted on our website when completed.
(expected Fall 2025)

AUDs & 3 or More Dwelling Units

Leslie Collins

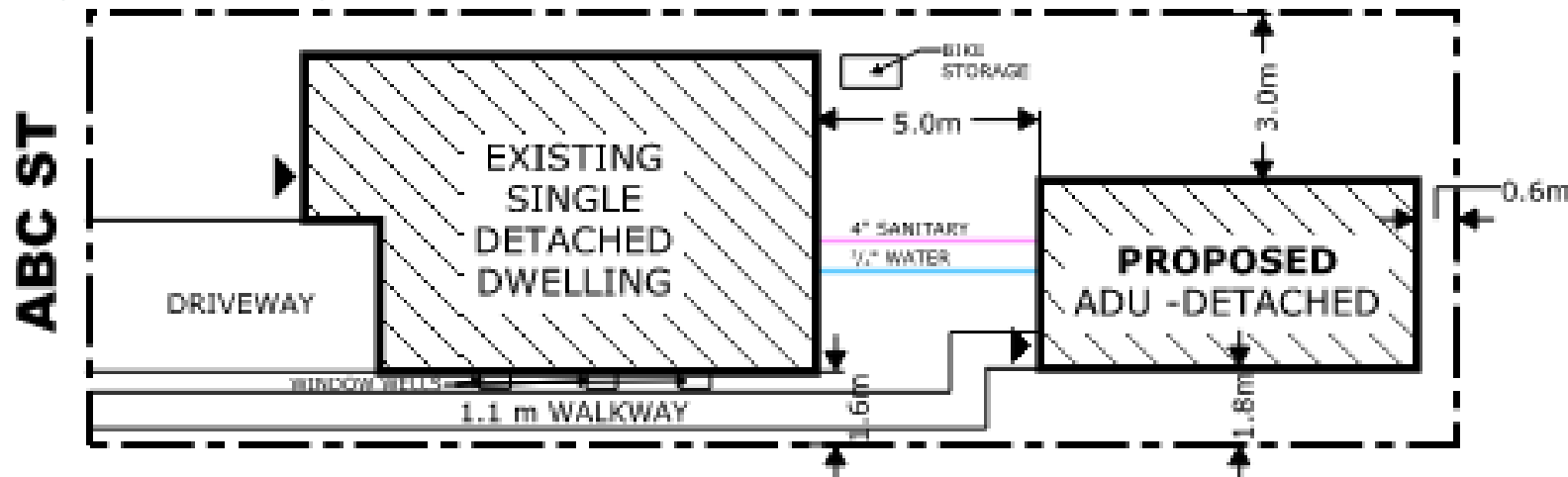
Municipal Building Official II

Additional Dwelling Units (ADUs)

Detached Additional Dwelling Units

Site plans:

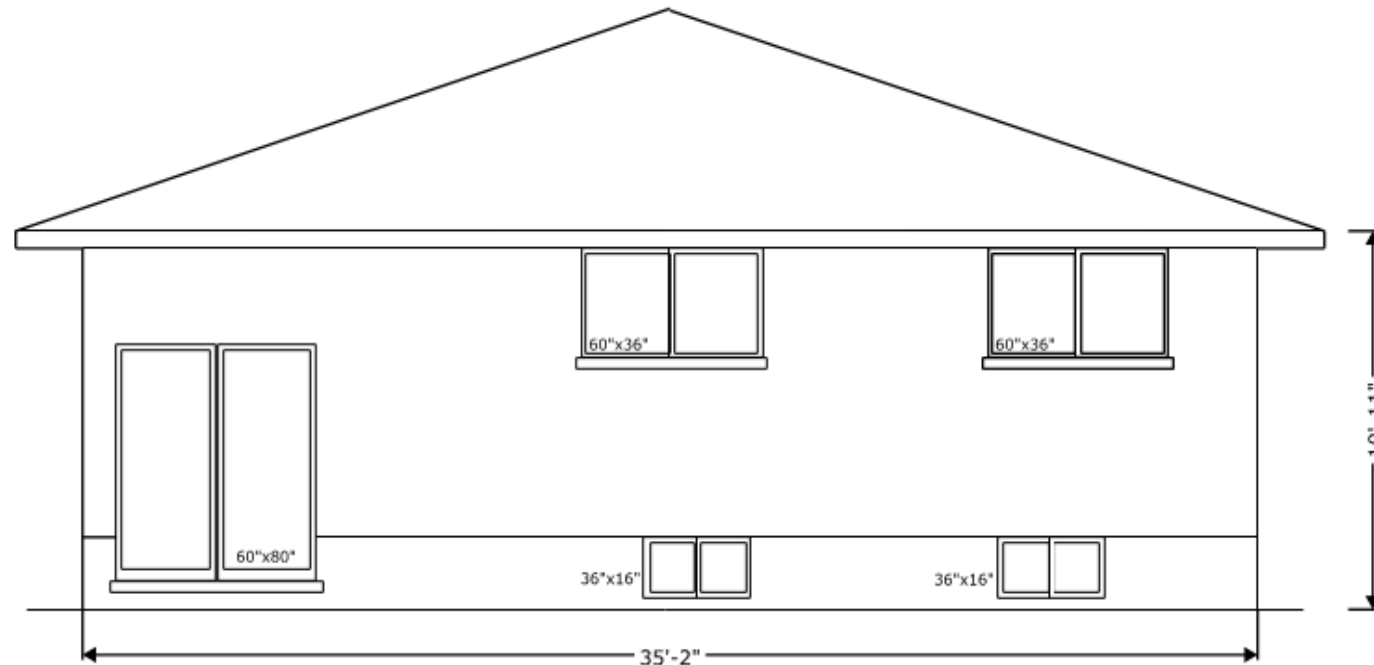
- 1.1m walkway from the new detached ADU to the street (Zoning by-law 4.14.3.(n))
- All window wells and air conditioning units
- The sanitary and water service to the new detached ADU and the size of each service that is being installed
- Setbacks to all the property lines and between the two buildings on the site and any accessory structures.
- Bicycle storage area



Detached Additional Dwelling Units

Existing Building:

Provide an elevation of the wall face of the existing building that will be that facing the proposed ADU. The elevation is to include the building height and width and the size of all openings.



LIMITING DISTANCE CALCULATION

REQUIRED LIMITING DISTANCE = 2.75 m
EXISTING EXPOSED BUILDING FACE = 383.9SF
EXISTING OPENINGS = 71.3SF RSO
MAX. PERMITTED = 18.6% = 71.4SF

Detached Additional Dwelling Units

All minimum room areas are to be provide in accordance with 9.5.3.A to 9.5.3.D.

ROOM TYPE	MINIMUM ROOM SIZE	ROOM TYPE	MINIMUM ROOM SIZE
Living Room	145 ft ² (13.5 m ²)	For Combined Room Spaces:	
Dining Room	75 ft ² (7 m ²)	Living Room Area (More than 1 Bedroom)	145 ft ² (13.5 m ²)
Kitchen (More than 1 Bedroom)	45 ft ² (4.2 m ²)	Living Room Area (Only 1 Bedroom)	118 ft ² (11 m ²)
Kitchen (Only 1 Bedroom)	40 ft ² (3.7 m ²)	Dining Room Area	35 ft ² (3.25 m ²)
Primary Bedroom (with closets)	95 ft ² (8.8 m ²)	Kitchen Area (More than 1 Bedroom)	45 ft ² (4.2 m ²)
Primary bedroom (without closets)	105 ft ² (9.8 m ²)	Kitchen (Only 1 Bedroom)	40 ft ² (3.7m ²)
Other Bedrooms (with closets)	65 ft ² (6 m ²)	Bedroom Area	45 ft ² (4.2 m ²)
Other Bedrooms (without closets)	75 ft ² (7 m ²)	Bachelor (Living, Dining, Bedroom and Kitchen)	145 ft ² (13.5 m ²)
Bathroom	sufficient space for fixtures		

All proposed stairs are to be designed to meet the rise and run requirements of Table 9.8.4.1.

ADU's located 0.6m from the property line require a 45-minute fire resistance rating with no permitted openings as per Table 9.10.15.4. and 9.10.15.5(1.1)(b),

3 or More Dwelling Units

Part 9 Barrier-Free Requirements

The barrier-free requirements of 3.8. apply to all buildings except:

- Detached Houses
- Semi-Detached Houses
- Houses with a Secondary Suite
- Triplexes
- Rowhouses
- Boarding or Rooming houses with 7 or less boarders or roomers

3 or more dwelling units

Common errors on Part 11 code matrix:

- The Construction Index is to reflect the fire resistance ratings the ratings are in place before construction in the existing building

Table 11.2.1.1.A.
Construction Index
Forming Part of Sentence 11.2.1.1.(1)

Fire-Resistance Rating			Type of Construction	C.I. ⁽²⁾
Floors over Basement	Other Floors	Roof		
3 h	3 h	1.5 h	Noncombustible	8 ⁽¹⁾
2 h	2 h	1 h	Noncombustible	7
1 h	1 h	45 min	Noncombustible	6
45 min	45 min	0 h	Noncombustible	5
45 min	45 min	45 min	Heavy Timber	5
45 min	45 min	45 min	Combustible	5
45 min	0 h	0 h	Noncombustible	4
45 min	45 min	0 h	Combustible	4
30 min	0 h	0 h	Noncombustible	3
30 min	30 min	0 h	Combustible	3
0 h	30 min	0 h	Combustible	2
0 h	0 h	0 h	Combustible	1 ⁽¹⁾
Column 1	2	3	4	5

3 or more dwelling units

Common errors on Part 11 code matrix:

- As per 11.4.2.3.(1)(b) when additional residential units are added to an existing Group C building this a change in major occupancy
- Sewage systems means a septic system not the connection to City services
- List all compliance alternative that you have used in the design at the bottom of the matrix

3 or more dwelling units

Items to be include on the drawings:

- Provide floor plans of all floor levels
- Specify the ceiling heights that will be provided on each floor level
- A schedule of all existing and proposed rated assemblies and how the rating is being achieved (e.g., SB-2, SB-3 or HUD)
- Heating equipment locations to be provided
- Provide elevations to confirm compliance with 9.9.4.4.
- All window sizes, including for existing openings
- Specify which compliance approach will be used, early warning system or increasing the construction index

3 or more dwelling units

Resubmissions:

Prepare a response letter addressing each item listed in the status letter, including comments from the designer detailing how each issue was resolved or referencing the drawing number where the change was implemented

Do not resubmit items on the status letter one at a time. Please wait until all items have been resolved **before** re-submitting the revised drawings / documents.

3 or more dwelling units

Bedroom Egress

9.9.10.1.(1) Except where a door on the same floor level as the bedroom provides direct access to the exterior, every floor level containing a bedroom in a suite shall be provide with at least one outside window that

- (a) Is openable from the inside without the use of tools,
- (b) Provides an individual, unobstructed open portion having a minimum area of 0.35m² with no dimension less than 380 mm, and
- (c) Maintains the required opening described in Clause (b) without the need for additional support.

Q: May a bedroom egress window be used as a means of egress for your unit for conformance with 9.9.9.3?

A: No, a window cannot serve as a means of egress. A means of egress is a continuous pathway to a separate building, open public thoroughfare and a protected open space. To comply with the requirements of 9.9.9.2 and 9.9.9.3. a door will be required to be installed

3 or more dwelling units

Means of Egress

9.9.9.3.(1) Except for dwelling units in a house with a secondary suite, a dwelling unit shall be provided with a second and separate means of egress where an egress door from the dwelling unit opens onto

- (a) An exit stairway serving more than one suite,
- (b) A public corridor
 - (i) Serving more than one suite, and
 - (ii) Served by a single exit,
- (c) An exterior passageway
 - (i) Serving more than one suite,
 - (ii) Served by a single exit stairway or ramp, and
 - (iii) More than 1.5 m above adjacent ground level, or
- (d) A balcony
 - (i) Serving more than one suite
 - (ii) Served by a single exit stairway or ramp, and
 - (iii) More than 1.5m above the adjacent ground level

Q: Do I always require 2 exits from each unit?

A: Not necessarily, if each unit has their own private entrance, then a second and separate entrance is not required for each unit. When the units share an entrance then a second entrance will be required.

Matt Ruetz

MBO Technical Specialist

**‘Early Warning System’
per Table 11.4.3.4.A.**

Additional Upgrading – Part 11

Defining ‘Early Warning System’ per Table 11.4.3.4.A.

Part 11, Table 11.4.3.4.A. - Additional Upgrading, has a Part 11 Alternative Compliance option to “provide early warning system”, however does not define early warning system or clearly set any minimum requirements to evaluate.

Table 11.4.3.4.A.
Additional Upgrading
Forming Part of Sentences 11.2.1.1.(2) and 11.4.3.4.(1)

New Major Occupancy (H.I.) Number ⁽³⁾	Increase of C.I. to Equal H.I. to Support New Major Occupancy	Additional Required Upgrading	⁽¹⁾ or, Part 11 Alternative Compliance (A.C.)	Comments ⁽¹⁾⁽²⁾
H.I. 2	C.I. 1 to 2	Comply with Table 11.2.1.1.A. ratings for C.I. of 2	(a) Provide early warning system, or (b) Comply with any A.C.'s in Col. 4.	
H.I. 3	C.I. (1 or 2) to 3	Comply with Table 11.2.1.1.A. ratings for C.I. of 3	(a) Provide early warning system, or (b) Comply with any A.C.'s in Col. 4.	Combustible to Combustible only.

Additional Upgrading – Part 11

Defining ‘Early Warning System’ per Table 11.4.3.4.A.

Part 11 provides an additional Table, Table 11.4.3.3. - For Evaluation and Upgrading of Early Warning / Evacuation, however Table 11.4.3.4.A. does not prescribe that the early warning system mentioned in Table 11.4.3.4.A. are to be evaluated in accordance with Table 11.4.3.3.

Table 11.4.3.3.
For Evaluation and Upgrading of Early Warning/Evacuation
Forming Part of Sentences 11.4.3.3.(1) and 11.4.3.4.(3)

Notes	Early Warning and Evacuation, Evaluation and Upgrading	Part 11 <i>Compliance Alternative⁽¹⁾</i>
(2)	Early warning and evacuation to be checked against (a) <i>access to exit</i> widths based on <i>occupant load</i> in Subsection 3.3.1. or 9.9.3.; (b) <i>exit</i> widths based on <i>occupant load</i> in Subsection 3.4.3. or 9.9.3.; (c) <i>exit</i> signs in Subsection 3.4.5. or 9.9.11.; (d) lighting of <i>exits</i> , lighting of <i>access to exits</i> and emergency lighting in Subsection 3.2.7. or 9.9.12.; (e) fire alarm system in Subsection 3.2.4. or 9.10.18.; (f) smoke alarms in Subsection 9.10.19.; (g) travel distance and number of <i>exits</i> in other Parts; and (h) door release hardware requirements in Articles 3.3.1.12. and 3.4.6.16., and deficiencies shall be upgraded.	EARLY WARNING (a) <i>Compliance alternatives</i> as listed may be used. EVACUATION (b) <i>Compliance alternatives</i> as listed to <i>access to exit</i> and <i>exit</i> widths, number of <i>exits</i> , door release hardware, and travel distance may be used.

Additional Upgrading – Part 11

Defining 'Early Warning System' per Table 11.4.3.4.A.

Where Table 11.4.3.4.A. refers to “provide early warning system” we interpret that to mean evaluating and upgrading the early warning system in accordance with Table 11.4.3.3.

The early warning systems shall be checked against both the fire alarm systems in Subsection 3.2.4. or 9.10.18. **and** smoke alarms in Subsection 9.10.19. as described under items (e) and (f) of Table 11.4.3.3. and deficiencies upgraded.

Additional Upgrading – Part 11

Defining 'Early Warning System' per Table 11.4.3.4.A.

Fire Alarm System:

If the building does not have an existing fire alarm system, review the requirements of Subsection 3.2.4. or 9.10.18. for the building.

If a fire alarm is **required** based on the proposed alterations to the building, then a fire alarm shall be installed to satisfy the 'early warning system' described in Table 11.4.3.4.A.

Additional Upgrading – Part 11

Defining 'Early Warning System' per Table 11.4.3.4.A.

Fire Alarm System:

If a fire alarm is **not required** by Subsections 3.2.4. or 9.10.18., then a fire alarm need not be installed in the building to satisfy the 'early warning system' described in Table 11.4.3.4.A.

However, smoke alarms may be required.

Note that the installation of a fire alarm would not exempt the requirement to install smoke alarms in accordance with Subsection 9.10.19. in the new or renovated dwelling units.

Additional Upgrading – Part 11

Defining ‘Early Warning System’ per Table 11.4.3.4.A.

Smoke Alarms:

Review the requirements of Subsection 9.10.19. for the building.

Smoke alarms shall be installed in proposed/renovated portions of the building in accordance with Subsection 9.10.19. to satisfy the ‘early warning system’ described in Table 11.4.3.4.A.

AND....

Additional Upgrading – Part 11

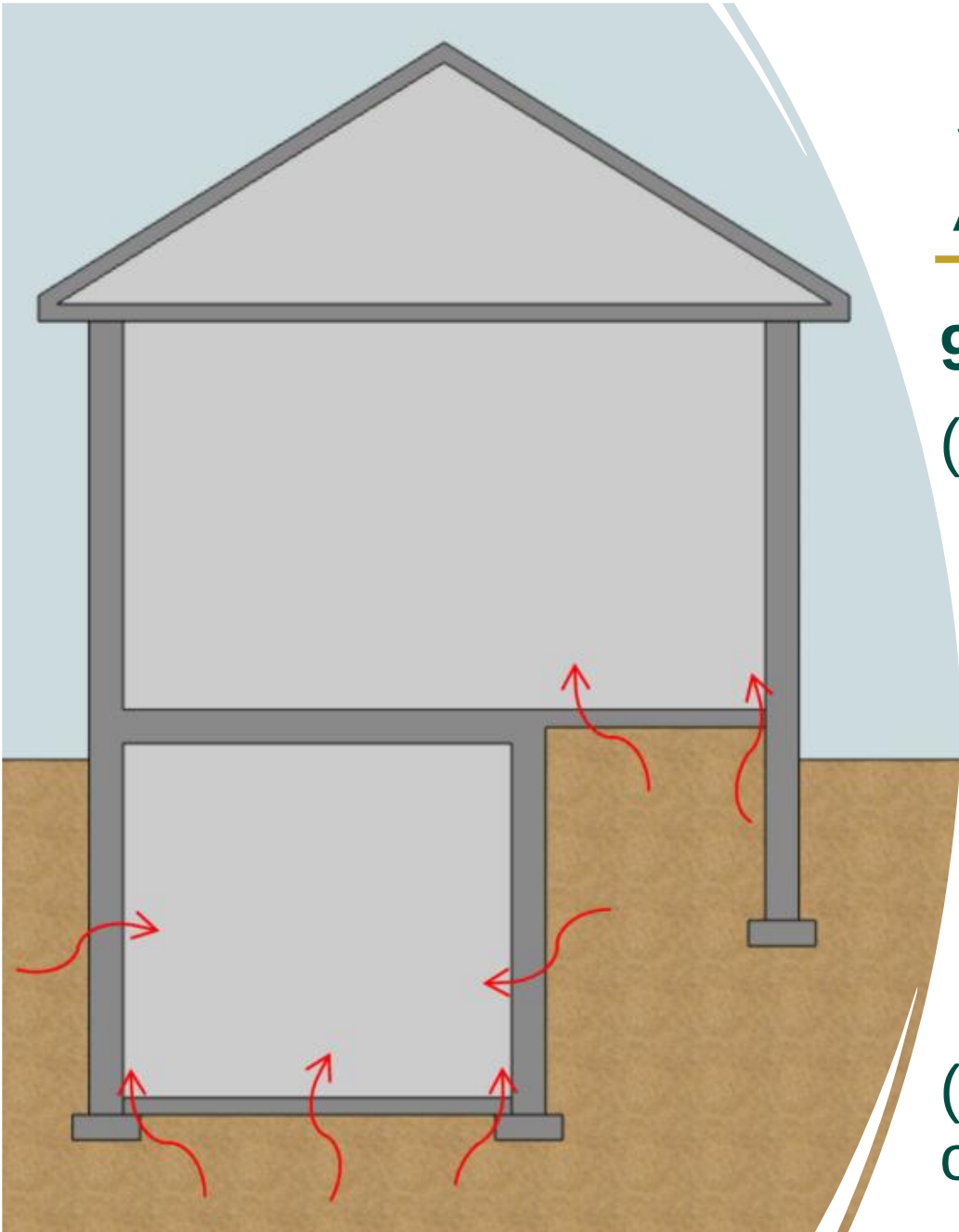
Defining 'Early Warning System' per Table 11.4.3.4.A.

Smoke Alarms:

Where the building is not equipped with a fire alarm system, the existing non-renovated portions of the building shall be evaluated in accordance with the current requirements of Subsection 9.10.19. and upgraded where deficient. (i.e. installed in locations where missing such as all bedrooms, shall have strobes, etc.)

Note that the interconnection of smoke alarms would only be required within each dwelling unit, not between dwelling units.

Soil Gas / Radon Control



Soil Gas Control

Application – 9.13.4.1.

9.13.4.1. Application and Scope

- (1) This Subsection applies to
 - (a) wall, roof and floor assemblies separating conditioned space from the ground, and
 - (b) the rough-in to allow the future protection of conditioned space that is separated from the ground by a wall, roof or floor assembly.
- (2) This Subsection addresses the leakage of soil gas from the ground into the building.

Soil Gas Control

Protection from Soil Gas Ingress – 9.13.4.2.

(2) Unless the space between the air barrier system and the ground is designed to be accessible for the future installation of a subfloor depressurization system, dwelling units and buildings containing residential occupancies **shall be provided with the rough-in for a radon extraction system** conforming to Article 9.13.4.3.

Soil Gas Control

Rough-in Subfloor Depressurization System – 9.13.4.3.

- (1) Floors-on-ground shall be provided with a rough-in for subfloor depressurization consisting of
 - (a) a gas-permeable layer, an inlet and an outlet as described in Sentence (2), or
 - (b) clean granular material and a pipe as described in Sentence (3).

Soil Gas Control

Rough-in Subfloor Depressurization System – 9.13.4.3.

- (2) The rough-in referred to in Clause (1)(a) shall include
 - (a) a gas-permeable layer installed in the space between the air barrier and the ground to allow the depressurization of that space,
 - (b) an inlet that allows for the effective depressurization of the gas-permeable layer, and (See Note A-9.13.4.3.(2)(b) and (3)(b)(i))
 - (c) an outlet in the conditioned space that
 - (i) permits connection to depressurization equipment,
 - (ii) is sealed to maintain the integrity of the air barrier system, and
 - (iii) is clearly labeled to indicate that it is intended only for the removal of radon from below the floor-on-ground.

Soil Gas Control

Rough-in Subfloor Depressurization System – 9.13.4.3.



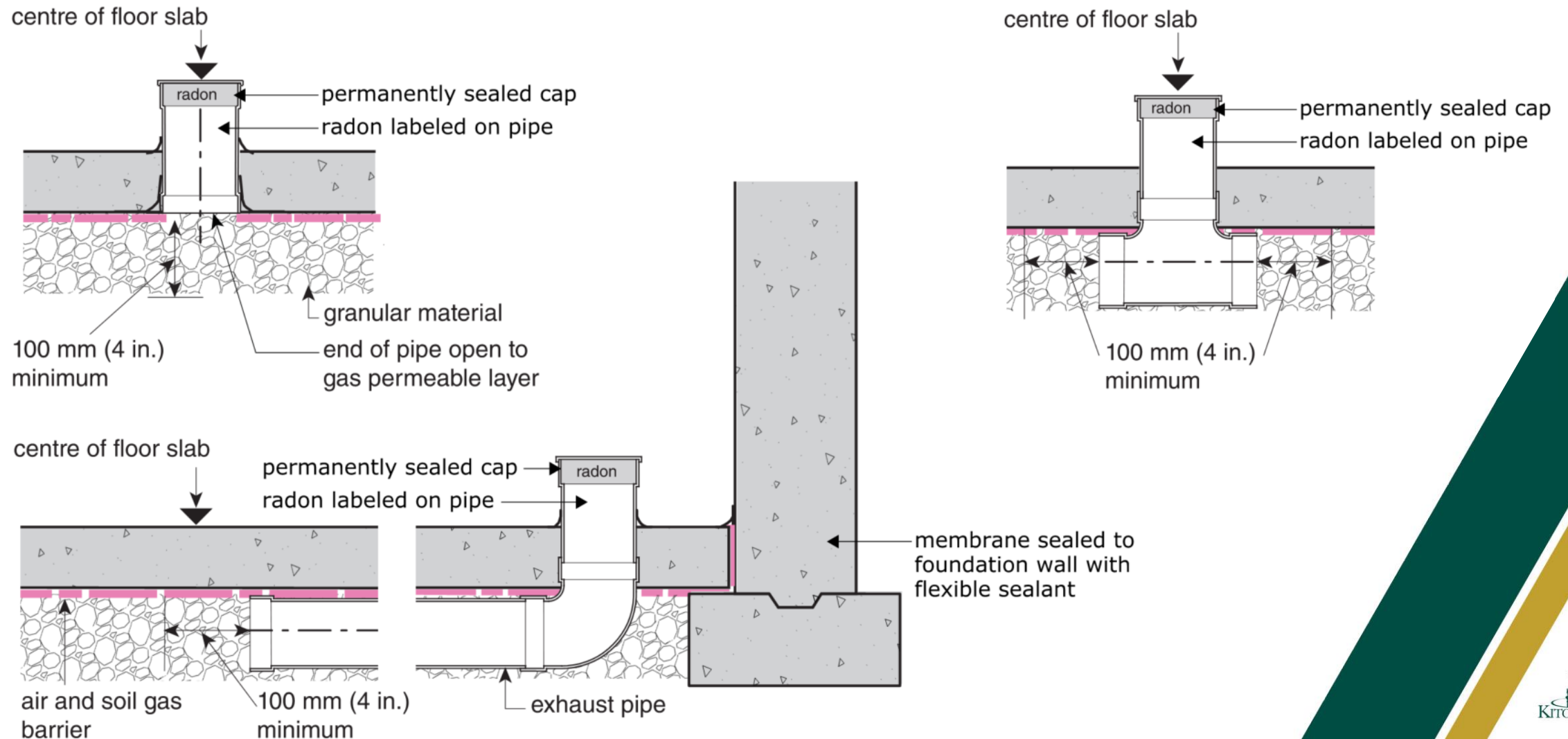
Soil Gas Control

Rough-in Subfloor Depressurization System – 9.13.4.3.

- (3) The rough-in referred to in Clause (1)(b) shall include
 - (a) clean granular material installed below the floor-on-ground in accordance with Sentence 9.16.2.1.(1), and
 - (b) pipe not less than 100 mm in diameter installed through the floor, such that
 - (i) its bottom end opens into the granular layer required in Clause (a) **at or near the centre of the floor** and not less than 100 mm of granular material projects beyond the terminus of the pipe measured along its axis,
 - (ii) its top end permits connection to depressurization equipment and is provided with an airtight cap, and
 - (iii) the pipe is clearly labeled near the cap and, if applicable, every 1.8 m and at every change in direction to indicate that it is intended only for the removal of radon from below the floor-on-ground.

Soil Gas Control

Rough-in Subfloor Depressurization System – 9.13.4.3.



Fire Protection Requirements

Leslie Collins

Municipal Building Official II

Fire Protection

Non-Application to Houses – 9.10.8.10.

2012 OBC

9.10.8.10.(1) Table 9.10.8.1. does not apply to houses.

2024 OBC

9.10.8.10.(1) Table 9.10.8.1 does not apply to

(a) a dwelling unit that has no other dwelling unit above or below it,

(b) houses with a secondary suite, where the floor framing is protected on the underside by a continuous smoke-tight barrier of not less than 15.9 mm (5/8") thick gypsum board, or

(c) a dwelling unit that is not above or below another major occupancy

Fire Protection

Spatial Separation Between Buildings – 9.10.14.1.

2012

(1) Except as permitted in Subsection 9.10.15., this Subsection applies to all buildings

2024

(1) This Subsection applies to buildings other than those to which Subsection 9.10.15 applies.

(2) This Subsection does not apply to a house with a secondary suite

Fire Protection

Spatial Separation Between Buildings – 9.10.14.4.

Table 9.10.14.4. – Maximum Aggregate Area of Unprotected Openings in Exterior Walls

Occupancy Classification of Building	Maximum Total Area of Exposing Building Face, m²	Maximum Aggregate Area of <i>Unprotected Openings</i> , % of <i>Exposing Building Face Area</i>														
		<i>Limiting Distance</i> , m														
		Less than 1.2	1.2	1.5	2	2.5	3	4	6	8	10	12	16	20	25	
<i>Residential, business and personal services, and low-hazard industrial</i>	10	0	8	12	21	33	55	96	100	100	100	100	100	100	100	
	15	0	8	10	17	25	37	67	100	100	100	100	100	100	100	
	20	0	8	10	15	21	30	53	100	100	100	100	100	100	100	
	25	0	8	9	13	19	26	45	100	100	100	100	100	100	100	
	30	0	7	9	12	17	23	39	88	100	100	100	100	100	100	
	40	0	7	8	11	15	20	32	69	100	100	100	100	100	100	
	50	0	7	8	10	14	18	28	57	100	100	100	100	100	100	
	100	0	7	8	9	11	13	18	34	56	84	100	100	100	100	
	Over 100	0	7	7	8	9	10	12	19	28	40	55	92	100	100	
<i>Mercantile and medium-hazard industrial</i>	10	0	4	6	10	17	25	48	100	100	100	100	100	100	100	
	15	0	4	5	8	13	18	34	82	100	100	100	100	100	100	
	20	0	4	5	7	11	15	27	63	100	100	100	100	100	100	
	25	0	4	5	7	9	13	22	51	94	100	100	100	100	100	
	30	0	4	4	6	9	12	20	44	80	100	100	100	100	100	
	40	0	4	4	6	8	10	16	34	61	97	100	100	100	100	
	50	0	4	4	5	7	9	14	29	50	79	100	100	100	100	
	100	0	4	4	4	5	6	9	17	28	42	60	100	100	100	
	Over 100	0	4	4	4	4	5	6	10	14	20	27	46	70	100	

Fire Protection

Spatial Separation Between Buildings – 9.10.14.

9.10.14.4.(11) The limits on the area of glazed openings need not apply to the exposed building face of a detached garage or accessory facing a dwelling unit, where

- (a) The detached garage or accessory building serves only **one dwelling unit**,
- (b) The detached garage or accessory building is located on the same property as that **dwelling unit**, and
- (c) The **dwelling unit** served by the detached garage or accessory building is the only major occupancy on the property.

9.10.14.5.(4) Except as provided in Sentence (5), where a garage or accessory building serves **one dwelling unit** only and is detached from any building, the exposed building face

- (a) Need not conform to the minimum required fire-resistance rating stated in Table 9.10.14.5., where the limiting distance is 0.6m or more,
- (b) Shall have a fire-resistance rating of not less than 0.6m, and
- (c) Need not conform to the type of cladding and type of construction required by Table 9.10.14.5., regardless of the limiting distance.

9.10.14.5.(5) the requirements regarding fire-resistance rating, type of construction and type of cladding need not apply to the exposed building face of a detached garage or accessory building facing a dwelling unit, where

- (a) The detached garage or accessory building serves only **one dwelling unit**,
- (b) The detached garage or accessory building is located on the same property as that **dwelling unit**, and
- (c) The **dwelling unit** served by the detached garage or accessory building is the only major occupancy on the property.

Fire Protection

Spatial Separation Between Buildings – 9.10.14.5.

2012 - 9.10.14.5.(5) Except for houses, combustible projections on the exterior of a wall that are more than 1 000 mm above ground level, such as balconies, platforms, canopies, eave projections and stairs, and that could expose an adjacent building to fire spread, shall not be permitted within,

- (a) 1.2 m of a property line or the centre line of a public way, or
- (b) 2.4 m of a combustible projection on another building on the same property

2024 – 9.10.14.5.(12) Where roof soffits project to less than 1.2m from the property line, the centre line of the public way, or 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 A 82.31-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

Fire Protection

Spatial Separation Between Buildings – 9.10.15.1

2012 - 9.10.15.1.(1) This Subsection applies to houses that are not designed in accordance with Subsection 9.10.14. (See Appendix A.)

2024 – 9.10.15.1.(1) This Subsection applies to

- (a) Buildings that contain only dwelling units and have no dwelling unit above another dwelling unit, and
- (b) Houses with a secondary suite including their common spaces. (See Note A-9.10.15.1.(1))

Fire Protection

Spatial Separation Between Buildings – 9.10.15.2.

- (1) The area of an exposing building face shall be,
 - (a) taken as the exterior wall area facing in one direction on any side of a house, and
 - (b) calculated as,
 - (i) the total area measured from the finished ground level to the uppermost ceiling,
 - (ii) the area for each fire compartment where a house is divided into fire compartments by fire separations with fire-resistance ratings not less than 45 min, or
 - (iii) (iii) where Table 9.10.15.4. is used to determine maximum area of glazed openings, the area of any number of

Fire Protection

Spatial Separation Between Buildings – 9.10.15.4.

2012 - (2) Where the limits on the area of glazed openings are determined for individual portions of the exterior wall, as described in Subclause 9.10.15.2.(1)(b)(iii), the maximum aggregate area of glazed openings for any portion shall not exceed the values in the row of Table 9.10.15.4. for the total area of the entire exposing building face based on the limiting distance of the individual portion. (See Appendix A.)

2024 –(2) Where the limits on the area of glazed openings are determined for portions of the exposing building face, as described in Sentence 9.10.15.2.(1)(b)(iii), the maximum aggregate area of glazed opening for any portion shall be determined using the values in Table 9.10.15.4. corresponding to

- (a) The maximum total area of exposed building face, which is equal to the sum of all the portions of the exposing building face, and
- (b) The limiting distance of each portion.

(See Note A-9.10.15.4.(2))

Fire Protection

Spatial Separation Between Buildings – 9.10.15.4.

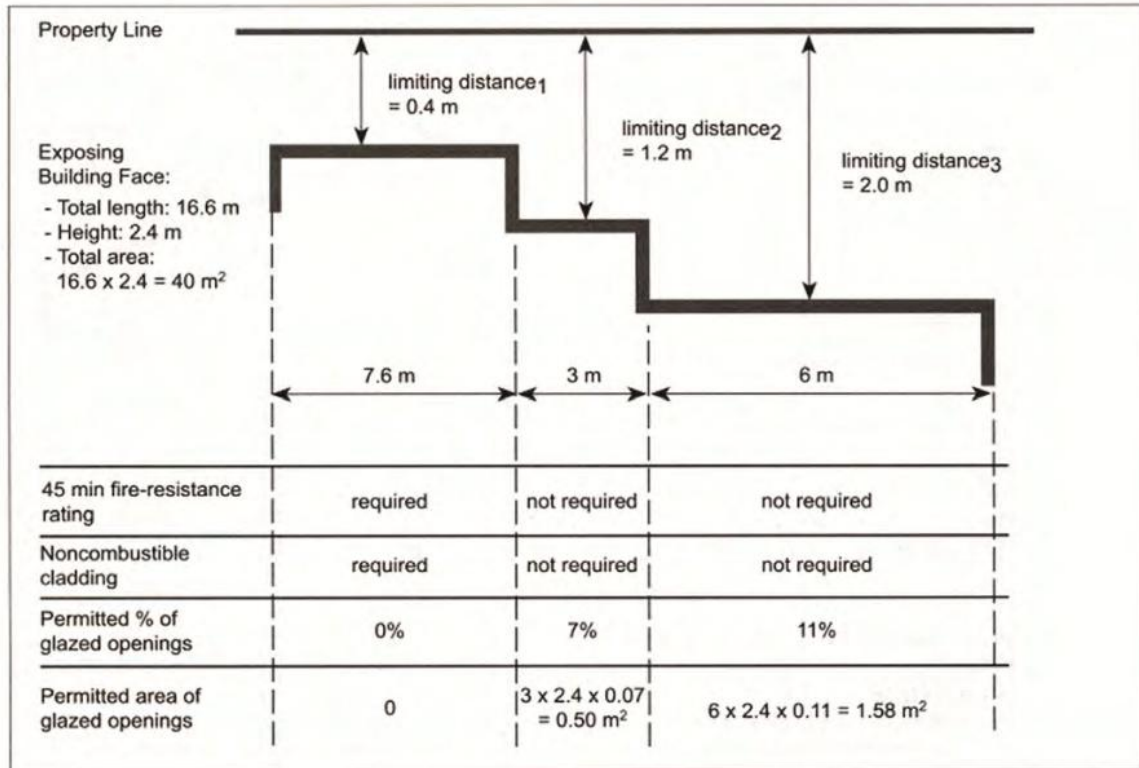


Figure A-9.10.15.4.(2)-A

Example of Determination of Criteria for the Exposing Building Face of a Staggered Wall of a House

Table 9.10.15.4.
Maximum Area of Glazed Openings in Exterior Walls of Houses
 Forming Part of Subclause 9.10.15.2.(1)(b)(iii) and Sentences 9.10.15.4.(1) and (2)

Maximum Total Area of Exposing Building Face, m ²	Maximum Aggregate Area of Glazed Openings, % of Exposing Building Face Area													
	Limiting Distance, m													
	Less than 1.2	1.2	1.5	2	2.5	3	4	6	8	10	12	16	20	25
10	0	8	12	21	33	55	96	100	100	100	100	100	100	100
15	0	8	10	17	25	37	67	100	100	100	100	100	100	100
20	0	8	10	15	21	30	53	100	100	100	100	100	100	100
25	0	8	9	13	19	26	45	100	100	100	100	100	100	100
30	0	7	9	12	17	23	39	88	100	100	100	100	100	100
40	0	7	8	11	15	20	32	69	100	100	100	100	100	100
50	0	7	8	10	14	18	28	57	100	100	100	100	100	100
100	0	7	8	9	11	13	18	34	56	84	100	100	100	100
Over 100	0	7	7	8	9	10	12	19	28	40	55	92	100	100

Fire Protection

Spatial Separation Between Buildings – 9.10.15.

9.10.15.4.(6) The limits on the area of glazed openings shall not apply to the exposed building face of a dwelling unit facing a detached garage or accessory facing a dwelling unit, where

- (a) The detached garage or accessory building serves only **one dwelling unit**,
- (b) The detached garage or accessory building is located on the same property as that **dwelling unit**, and
- (c) The **dwelling unit** served by the detached garage or accessory building is the only major occupancy on the property.

9.10.15.5.(4) The requirements for fire-resistance rating **and type of cladding-sheathing assembly** shall not apply to the exposing building face or **projections** from an exposing building face of a dwelling unit facing a detached garage or accessory building, or a garage or accessory building facing a dwelling unit, where

- (a) The detached garage or accessory building serves only **one dwelling unit**,
- (b) The detached garage or accessory building is located on the same property as that **dwelling unit**, and
- (c) The **dwelling unit** served by the detached garage or accessory building is the only major occupancy on the property.

Fire Protection

Spatial Separation Between Buildings – 9.10.15.5.

2012 – (5) Except for houses, combustible projections on the exterior of a wall that are more than 1 000 mm above ground level, such as balconies, platforms, canopies, eave projections and stairs, and that could expose an adjacent building to fire spread, shall not be permitted within,

- (a) 1.2 m of a property line or the centre line of a public way, or
- (b) 2.4 m of a combustible projection on another building on the same property.

2024 - (5) Except for buildings containing 1 or 2 only, combustible projections on the exterior of a wall that are more than 1m above ground level and that could expose an adjacent building to fire spread shall not be permitted within

- (a) 1.2 m of a property line or the centre line of a public way, or
- (b) 2.4 m of a combustible projection on another building on the same property..

9.10.20.1. Windows or Access Panels Required (Firefighting)

- (1) Except as provided in Sentence (3), a window or access panel providing an opening not less than 1 100 mm high and 550 mm wide and having a sill height of not more than 900 mm above the floor shall be provided on the second and third storey of every building in at least one wall facing a street if such storeys are not sprinklered.
- (2) Access panels required in Sentence (1) shall be readily openable from both inside and outside or be glazed with plain glass.
- (3) Access panels required in Sentence (1) need not be provided in
 - (a) Buildings containing only dwelling units where there is no dwelling unit above another dwelling unit, or
 - (b) Houses with a secondary suite

Fire Protection (continued...)

Ryan Looby

Municipal Building Official II

Fire Protection

Continuous Barrier – 9.10.9.2.

Sentence (1) has been expanded to include the term retard the passage of smoke.

Sentence (2) has been added to be specific for smoke tight barriers

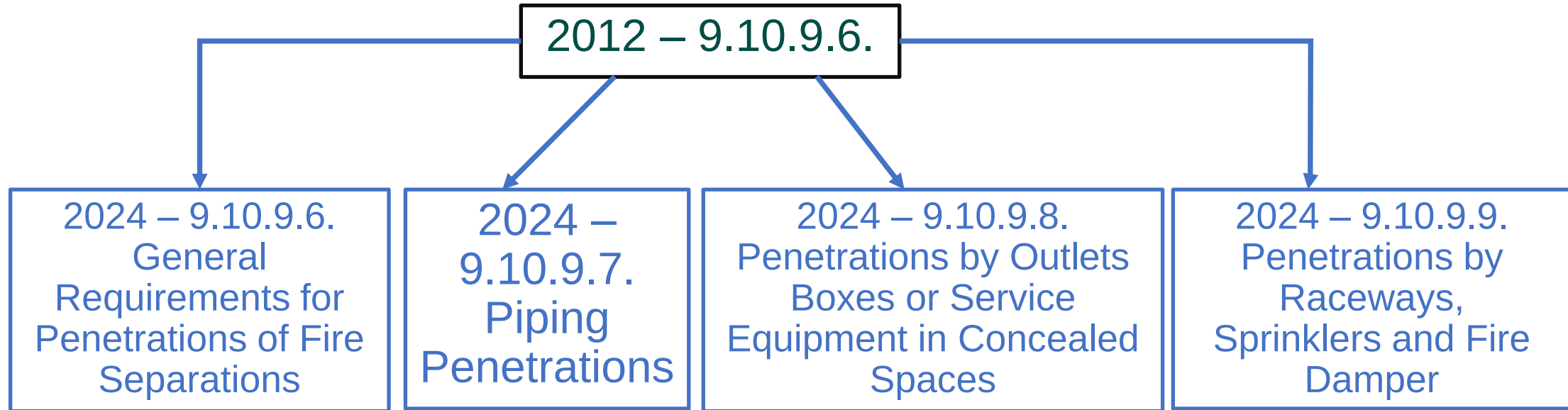
Sentence (3) is new and provide clarity that when a fire separation abuts another fire separation, fire stopping is required to maintain the continuity

Sentence (4) is new and states that the horizontal plane between a floor and an exterior wall shall be sealed by a firestop

Sentence (5) and (6) are new and discuss the joints in gypsum boards

Fire Protection

Penetrations of Fire Separations – 9.10.9.6.



Fire Protection

General Requirements for Penetrations of Fire Separations – 9.10.9.6.

(1) Except as required by Sentence (2) and Article 9.120.9.7. and 9.10.9.8. and as permitted by Article 9.10.9.9., penetrations of required fire separation or a membrane forming part of an assembly required to be a fire separation shall be

- (a) Sealed by a firestop that, when subjected to the fire test method in CAN/ULC-S115, “Standard method of Fire Tests of Firestop Systems,” has an F rating of not less than the required fire resistance rating for the fire separation,
 - (b) Tightly fitted or cast in place, provided the penetration item is made of steel, ferrous, copper, concrete or masonry, or
 - (c) Sealed to maintain the integrity of the fire separations.
- (See Note A 9.10.9.6.(1))

Fire Protection

Penetrations by **Outlet Boxes** or Service Equipment in Concealed Spaces – 9.10.9.8.

(1) Except as provided in Sentences (2) to (5), **outlet boxes** are permitted to penetrate the membrane of an assembly required to have a fire-resistance rating, provided they are **sealed at the penetration by a firestop** that, when subjected to the fire test method in CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems,” has an FT rating not less than the fire-resistance rating of the fire separation. (See Note A-9.10.9.8.(1))

Appendix note clarifies that they do not need to be fire stopped if they maintain the fire separation around the back of the receptacle and fire stop any wire penetrations

Fire Protection

Penetrations by **Outlet Boxes** or Service Equipment in Concealed Spaces – 9.10.9.8.

(2) Except as provided in Sentence 9.10.9.6.(2), **noncombustible** outlet boxes that penetrate a fire separation or a membrane forming part of an assembly required to have a fire-resistance rating need not conform to Sentence (1), provided

(a) they do not exceed

(i) 0.016 m^2 (24.8 in²) in area, and

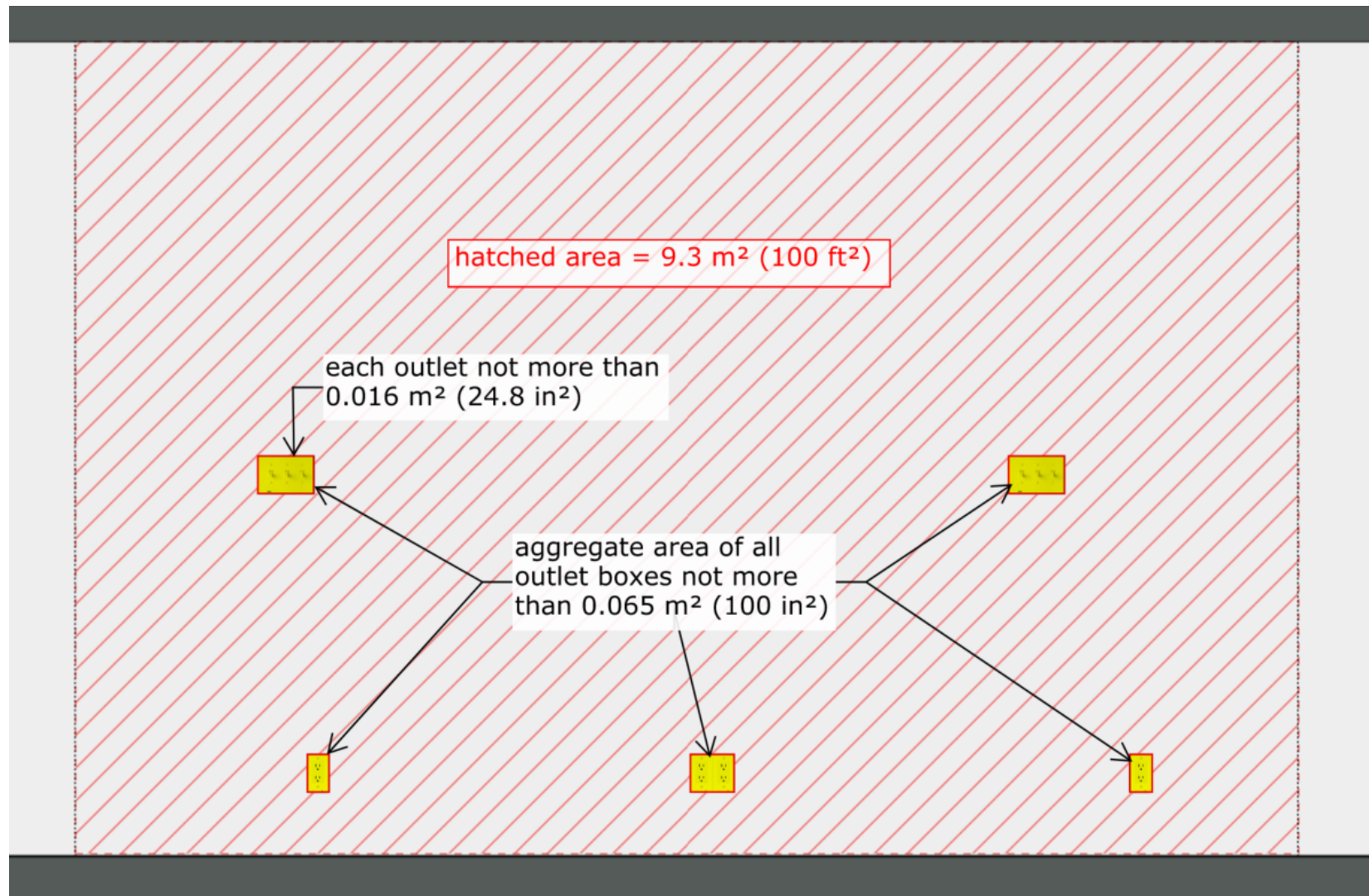
(ii) an aggregate area of 0.065 m^2 (100 in²) in any 9.3 m^2 (100 ft²) of surface area, and

(b) the annular space between the membrane and the noncombustible outlet boxes does not exceed 3 mm.



Fire Protection

Penetrations by **Outlet Boxes** or Service Equipment in Concealed Spaces – 9.10.9.8.



Fire Protection

Penetrations by Outlet Boxes or Service Equipment in Concealed Spaces – 9.10.9.8.

(4) **Noncombustible** outlet boxes conforming to Sentence (2) are permitted to be located on opposite sides of a vertical fire separation having a fire-resistance rating and need not conform to Sentence (1), provided they are

(a) separated from each other by a horizontal distance of not less than 600 mm,

(b) separated from each other and the remainder of the wall space by an enclosure conforming to Subclause (3)(a)(i),

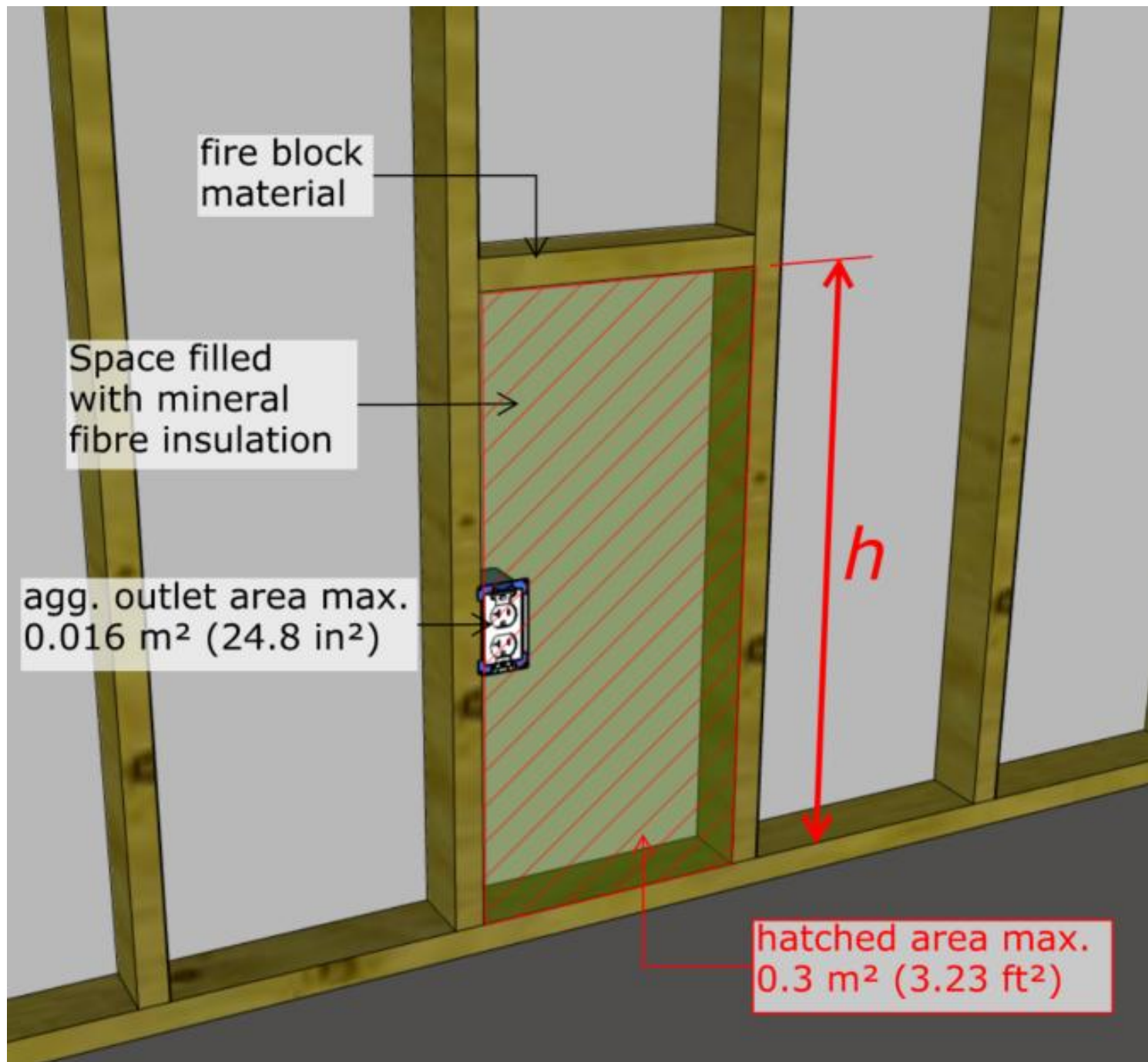
or

(c) located in an insulated wall space in accordance with Subclause (3)(a)(ii).

Fire Protection

Penetrations by Outlet Boxes or Service Equipment in Concealed Spaces – 9.10.9.8.

- (3) Except as provided in Sentence 9.10.9.6.(2), **combustible** outlet boxes that penetrate a fire separation or a membrane forming part of an assembly required to have a fire-resistance rating need not conform to Sentence (1), provided
- (a) the outlet boxes are
 - (i) separated from the remainder of the space within the assembly by an enclosure of not more than 0.3 m² (3.23 ft²) in area made of fire block material conforming to Article 9.10.16.3., or (See Note A-9.10.9.8.(3)(a)(i))
 - (ii) located in a space within the assembly that is filled with preformed fibre insulation processed from rock or slag conforming to CAN/ULC-S702.1, “Standard for Mineral Fibre Thermal Insulation for Buildings, Part 1: Material Specification,” and having a mass per unit area of not less than 1.22 kg/m² of wall surface such that the exposed sides and back of the outlet box are encapsulated by the noncombustible insulation, **and**
 - (b) the outlet boxes do not exceed an aggregate area of 0.016 m² (24.8 in²) in any individual enclosure as described in Subclause (a)(i) or any individual insulated space as described in Subclause (a)(ii).



0.3 m² (3.23 ft²) based on stud spacing

Stud Spacing (o.c)	h
300 mm (12")	1145 mm (45")
400 mm (16")	828 mm (32.5")
600 mm (24")	533 mm (21")

Fire Protection

Penetrations by Outlet Boxes or Service Equipment
in Concealed Spaces – 9.10.9.8.

(5) **Combustible** outlet boxes conforming to Sentence (3) are permitted to be located on opposite sides of a vertical fire separation having a fire-resistance rating and need not conform to Sentence (1).

Fire Protection

Penetrations by Outlet Boxes or Service Equipment in Concealed Spaces – 9.10.9.8.

(6) Service equipment is permitted to penetrate a horizontal fire separation conforming to Sentence 9.10.9.12.(2), provided the penetration is sealed by

- (a) a firestop that, when subjected to the fire test method in CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems,” has an FT rating not less than the required fire-resistance rating for the fire separation,
- (b) a firestop conforming to Clause 9.10.9.6.(1)(a), where the service equipment is located entirely within the cavity of a wall assembly above and below the horizontal fire separation having a required fire-resistance rating, or
- (c) a firestop conforming to Clause 9.10.9.6.(1)(a), where the penetration is
 - (i) contained within the concealed space of a floor or ceiling assembly having a fire-resistance rating,
 - (ii) located above a ceiling membrane providing a horizontal fire separation, or
 - (iii) contained within a horizontal service space conforming to Sentence 9.10.9.12.(2) that is directly above or below a floor or ceiling.

9.10.19. Smoke Alarms

9.10.19.4. (3) when substituting smoke detectors in lieu of smoke alarms, 2024 OBC has now prescribed that the smoke detectors are;

“Capable of independently sounding audible signals with a sound pressure level between 75dBA and 110dBA within the individual suites”

- Still needs to be installed as per CAN/ULC-S524
- Still must form a part of the fire alarm system

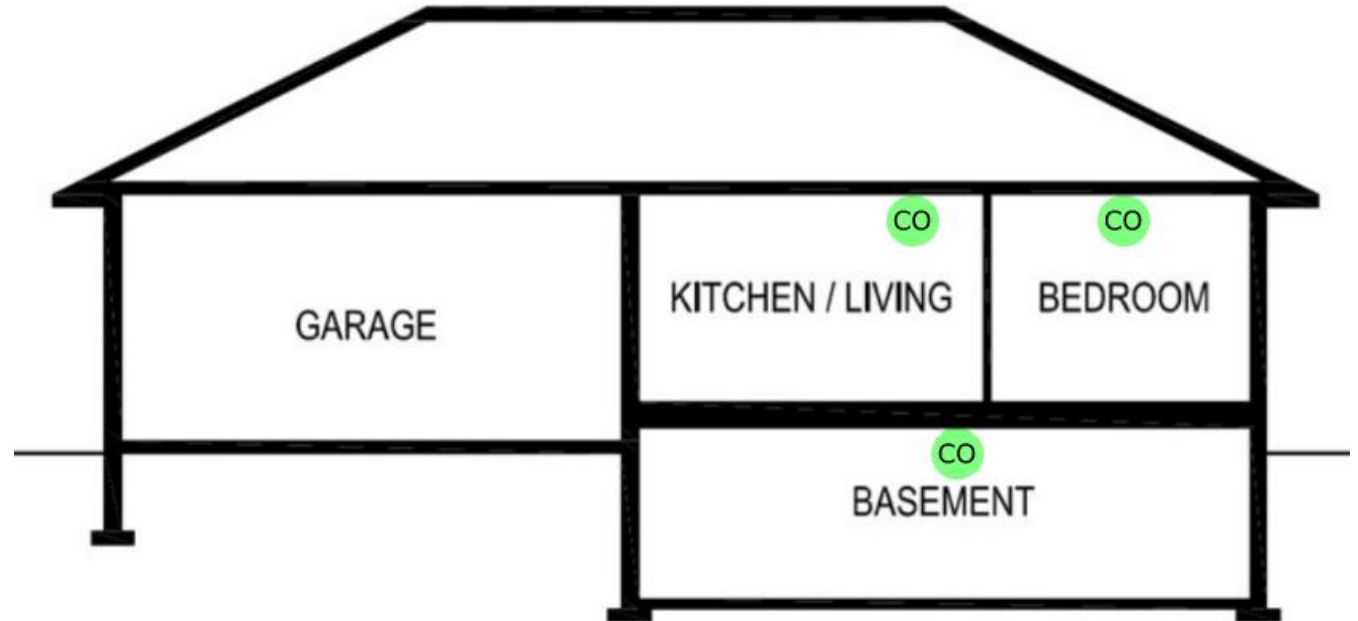
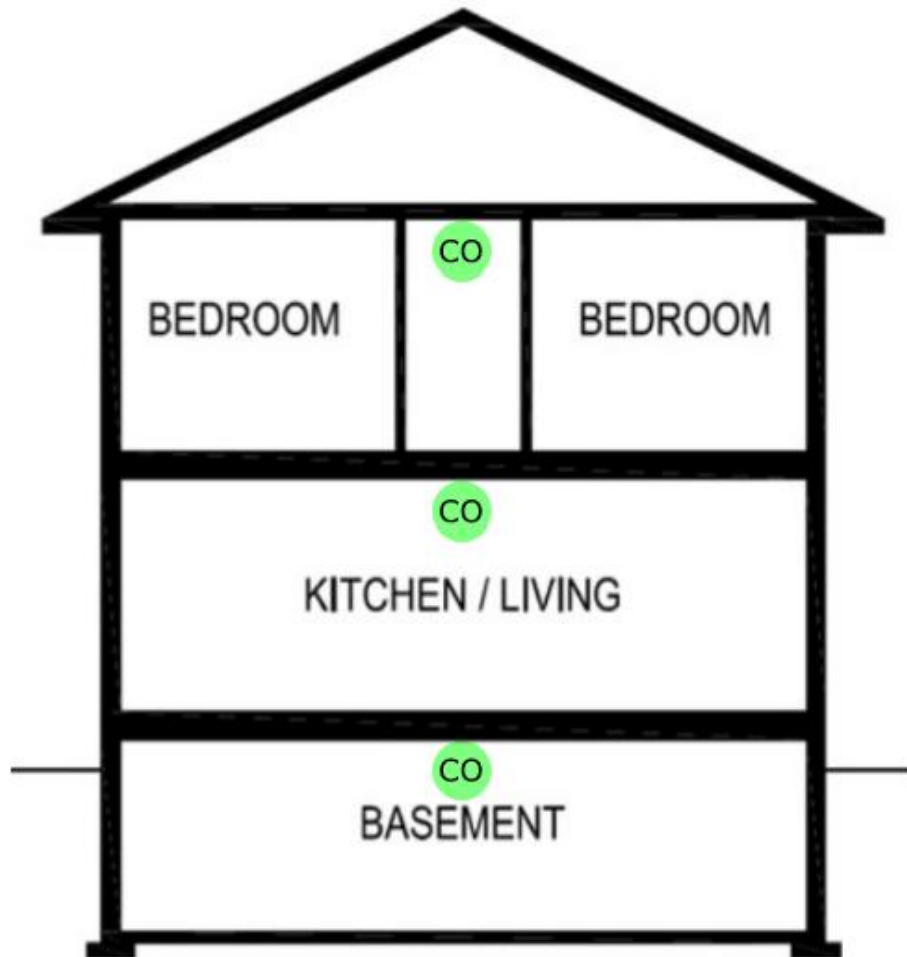
Carbon Monoxide Alarms

Location of Alarms in Residential Buildings – 9.32.3.9A.

- 9.32.3.9A.(1)(b) requires a CO alarm on each storey without a sleeping room in the suite.
- 9.32.3.9A.(4) requires a CO alarm installed in each sleeping room that;
 - (a) contains a fuel-burning appliance or a flue, or
 - (b) shares a common wall or floor or ceiling assembly
 - (i) with a room, suite or area that is located outside the suite and contains a fuel-burning appliance or a flue,
 - (ii) with a storage garage, or
 - (iii) that is adjacent to an attic or crawl space to which the storage garage is also adjacent.

Carbon Monoxide Alarms

Location of Alarms in Residential Buildings – 9.32.3.9A.



Carbon Monoxide Alarms

Location of Alarms in Residential Buildings – 9.32.3.9A.

- 9.32.3.9A.(5) Carbon monoxide alarms shall be installed in public corridors serving suites of residential occupancy where the corridor is directly heated by a forced-air fuel-burning appliance.
- 9.32.3.9A.(6) where CO alarms are required in sentence (5) they shall be installed such that;
 - (a) there is at least one carbon monoxide alarm in each portion of a divided corridor, and
 - (b) each carbon monoxide alarm in an undivided portion of a corridor is spaced not more than 25 m apart.

Carbon Monoxide Alarms

Location of Alarms in All Buildings – 9.32.3.9B.

- (1) A carbon monoxide alarm shall be installed in service rooms or other areas of a building where the service room or other area
 - (a) contains a fuel-burning appliance used for building services or laundry drying equipment, and
 - (b) is not located within a suite of residential occupancy.

Carbon Monoxide Alarms

Installation and Conformance Standards – 9.32.3.9C.



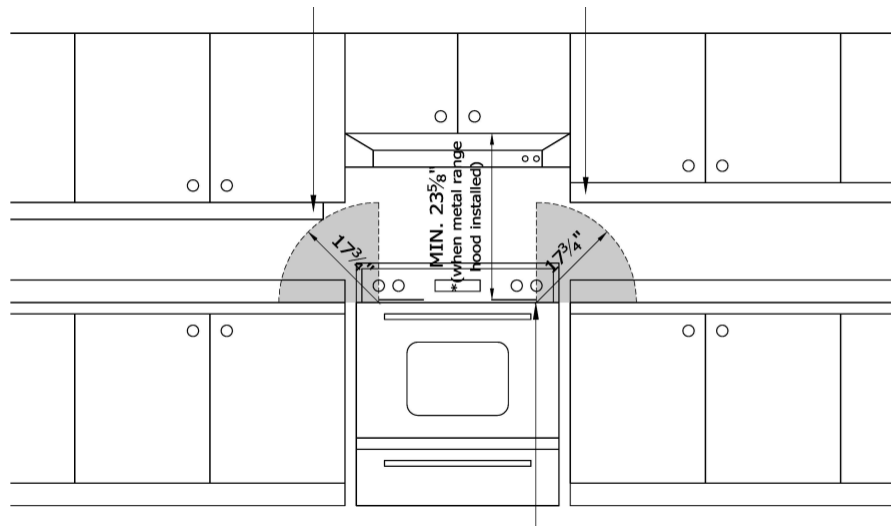
- Battery backup required
- Interconnection
 - Residential Occupancy = Activate all CO alarms within the suite
 - House with Secondary Suite = Activate all alarms in both suites and common areas
 - Residential Occupancy Public Corridors = Activate all alarms in the corridor
- Buildings without electrical power
 - Can be battery operated (which was always the case) but also waive the visual signaling component
- Visual Signaling Component now required
 - Likely not a huge deal as we commonly see combo SA/CO installed
- Installed at Manufacture recommended height, or in absence of specific instructions on or near the ceiling

9.10.22.3. Protection Around Cooktops

2024 OBC has added clause 9.10.22.3.(2)(b) to allow any material providing a fire resistance rating of not less than 10 minutes and a flame spread rating of not more than 25.

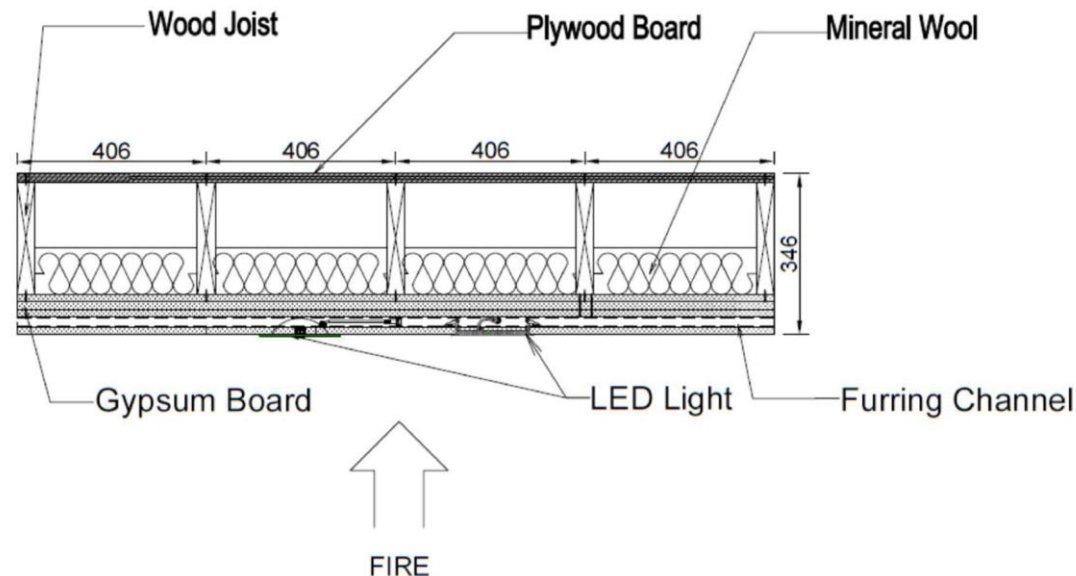
Fire resistance rating is determined by CAN/ULC S101

Flame spread rating is determined by CAN/ULC S102



Fire rated pot lights

- Pot lights installed in a fire rated ceiling assembly must be tested to CAN/ULC-S101
- We've found that many of the fire rated slim pot lights that advertise compliance with CAN/ULC-S101 have been tested to a **modified version** of the testing standard. A test to a modified version of a required performance standard is not permitted.
- A cut sheet advertising compliance with CAN/ULC-S101 may not provide all the information you required to properly install the product. You will need to ask for a copy of their testing report to ensure that you will be able to properly install the product the way it was tested.
- If you intend to install a rated pot light in a rated ceiling, please be prepared to install it the way the manufacturer tested it in their CAN/ULC-S101 testing report.



Fire rated pot lights continued

Design No. [REDACTED]
Floor/Ceiling Assembly

ASTM E119, UL263, CAN/ULC-S101
Fire Resistance Rating: 30 to 45 Minutes (See Item 1)

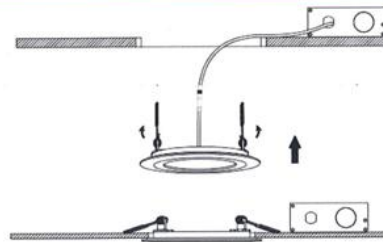


Figure 1. [REDACTED] Installation Example

1. **HORIZONTAL ASSEMBLY:** Use a min. 30-minute, and up to a max. 45-minute, fire-rated floor/ceiling assembly constructed in accordance with the associated design and following criteria:

- Either min. 2x8 solid-sawn wood joists, min. 2x4 solid-sawn wood trusses, or steel structural members with max. 16 in. spacing on center (oc).
- Min. one layer of 5/8 in., Proprietary Type X (commonly referred to as Type C) gypsum as approved in the corresponding (listed) fire rated assemblies.

Rating of the system shall be determined by the rating of the floor/ceiling assembly containing the fixture(s) (Item 2), up to a max. 45 minutes.

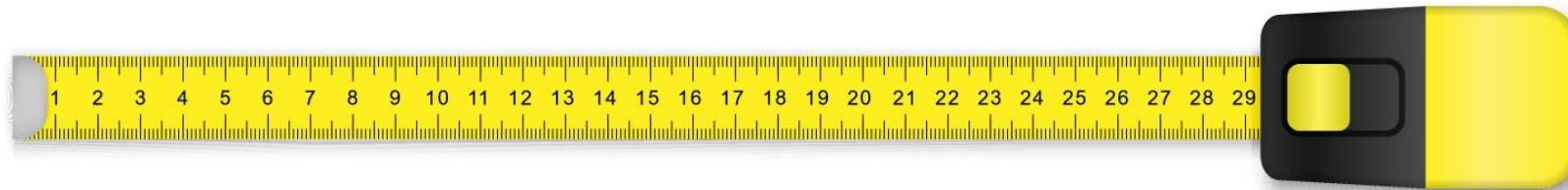
2. **CERTIFIED MANUFACTURER:** [REDACTED]

CERTIFIED PRODUCT: [REDACTED]

Follow the manufacturer's installation instructions. Cut a circular opening in the gypsum ceiling such that the annular space between the ceiling membrane and the fixture does not exceed 1/8 in. Ensure penetrations do not exceed 100 square inches in any 100 square feet of ceiling area. Install with a min. separation of 4 ft. between units. Maintain a min. 1 in. space between the edge of the fixture and closest structural member.

Ceiling heights misrepresented on permit application

- Noted increase in permit applications that are not accurately indicating ceiling heights for renovation permits.
- Creates the potential for a permit to be issued in error, potentially resulting in revocation of the building permit.
- Some instances where the ceiling height issue can only be resolved by underpinning or raising the foundation, both of which are substantial projects that come with substantial unexpected costs and delays to the home owner.
- Often once the permit has been issued, a substantial amount of work occurs before the first inspection is requested and an inspector is able to flag a low ceiling height issue on site, costing owner both time and money on a project that may not be permitted to proceed if adequate ceiling heights cannot be achieved.
- Design professional is to verify all existing and proposed ceiling heights and ensure they are being accurately represented on the permit application.



Fire Protection Requirements

Leslie Collins

Municipal Building Official II

Stair Requirements

Stairs

Tread Nosing – 9.8.4.8.

The top of the nosing of stair treads are required to have a rounded or beveled edge that extends between 6mm to 14mm.

If a resilient material is used on the nosing the extension of the rounded or beveled edge is reduced to 3mm

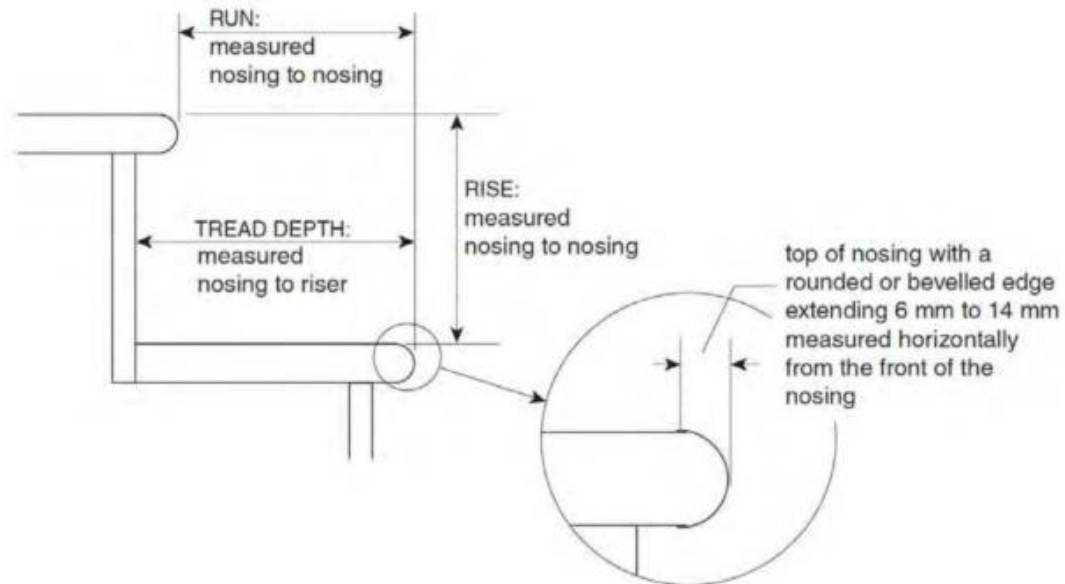


Figure A-9.8.4.-B
Elements of Steps and their Measurement

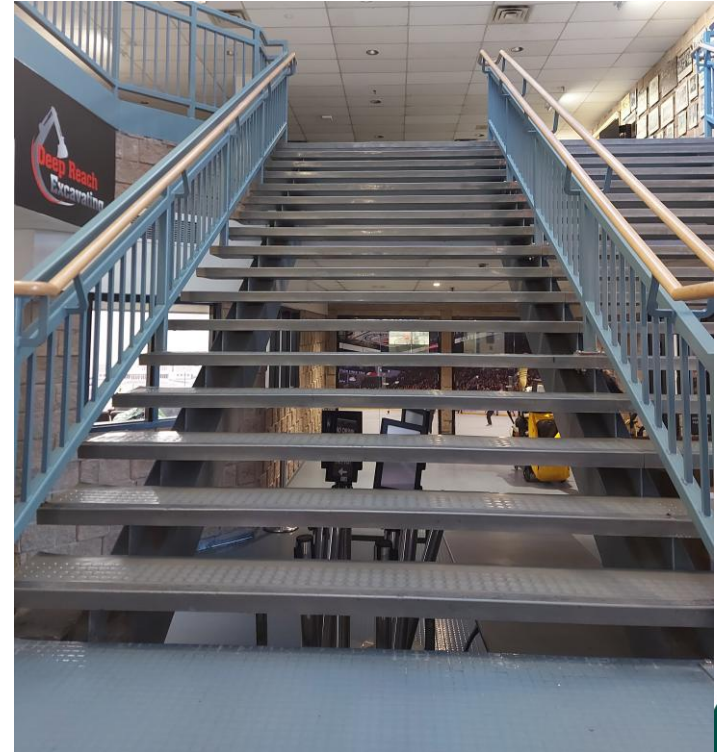
Stairs

Open Risers – 9.8.4.9.

Open risers are not permitted.

Below are the exceptions to the rule:

- Interior and exterior stairs that serve a single dwelling unit or a house with a secondary suite
- Fire escape stairs
- Stairs that are mainly used for maintenance
- Stairs that serve service rooms
- Stairs that serve industrial occupancies other than storage garages

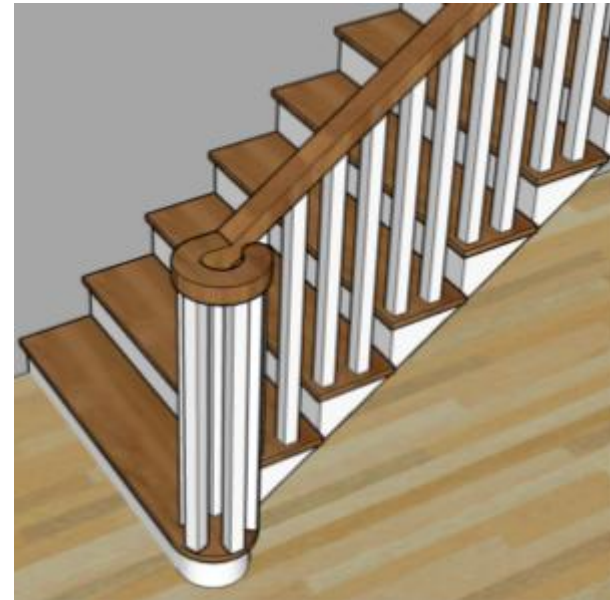
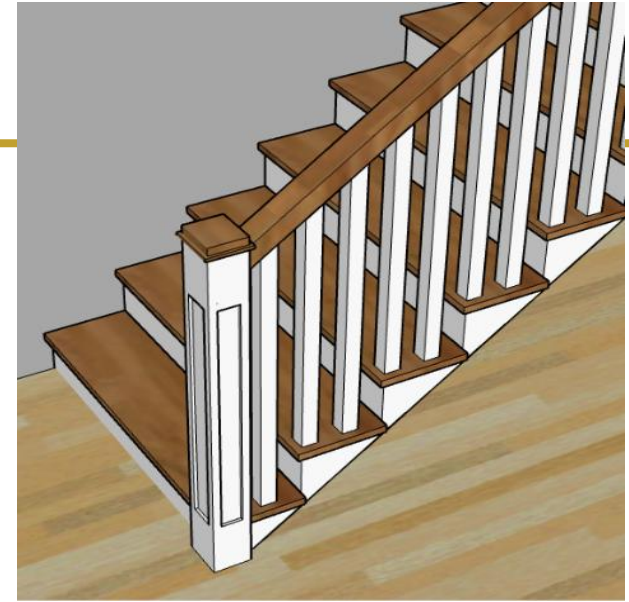


Stairs

Continuity of handrail – 9.8.7.2.

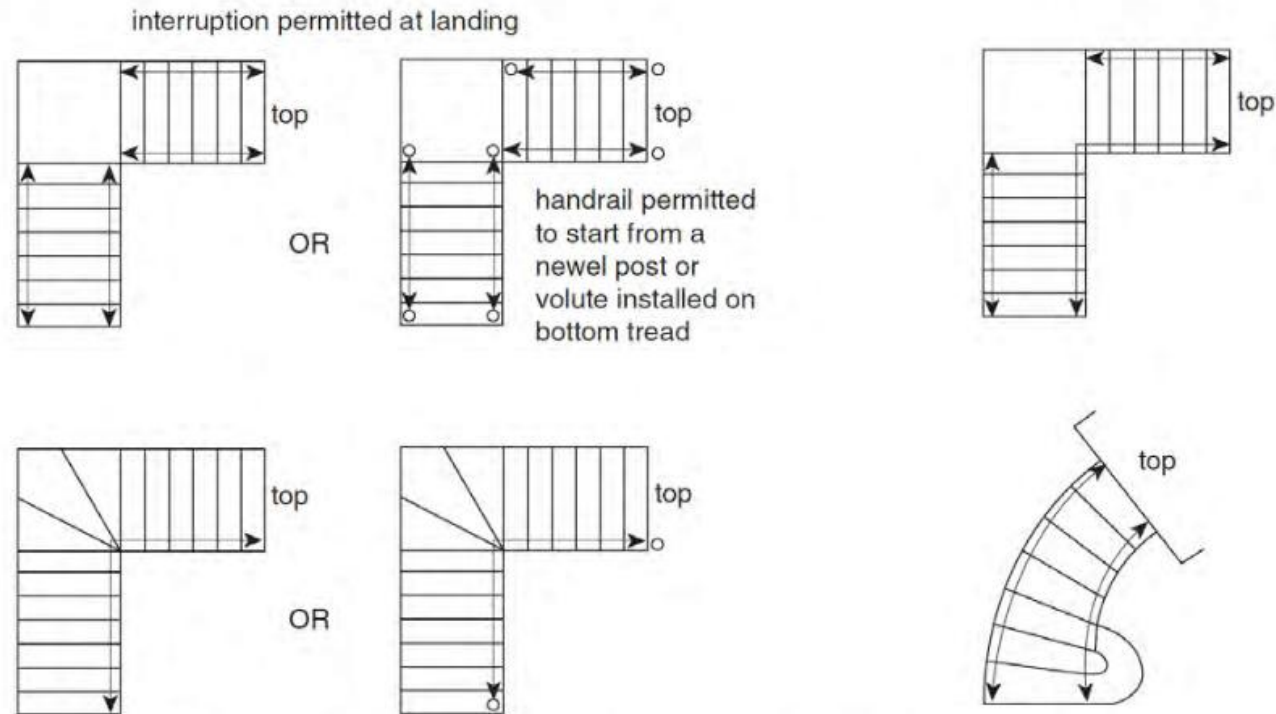
When 2 or more handrails are required, only one of the handrails needs to be continuous through the length. All required handrails are to be continuously graspable throughout the length of the ramp or stair flight from **bottom riser to top riser**.

A stair or ramp serving a single dwelling unit or house with secondary suite is permitted to start from a newel post or volute on the bottom tread.



Stairs

Continuity of handrail – 9.8.7.2.



Stairs serving a single dwelling unit or a house with a secondary suite (including their common spaces):

required handrails continuous throughout length of flight from bottom riser to top riser

↔ minimum extent of handrail where handrail is required⁽¹⁾

○ newel post

Stairs not serving a single dwelling unit or a house with a secondary suite (including their common spaces):

at least one required handrail continuous throughout length of stair, including at landings except where interrupted by doorways

Stairs

Guards – 9.8.8.1.

There have been changes to openable windows in residential buildings

9.8.8.1.(4) Except as provided in Sentence (5), openable windows in buildings of residential occupancy shall be protected by

- (a) a guard, or
- (b) a mechanism that can only be released with the use of tools or special knowledge to control the free swinging or sliding operation of the openable part of the window so as to limit any clear unobstructed opening to not more than 100mm measured either vertically or horizontally

(See Note A-9.8.8.1.(4))

9.8.8.1.(5) Windows need not be protected in accordance with Sentence (4), where the bottom edge of the openable portion of the window is located

- (a) more than 900mm above the finished floor, or
- (b) less than 1 800mm above the floor or ground on the other side of the window.

(See Note A-9.8.8.1.(4))

Stairs

Guards – 9.8.8.1.

To protect against inadvertent opening of the window sash beyond the controlled opening position by a young child, the window opening control device(s) shall consist of either two independent single action mechanisms or one dual action mechanism.

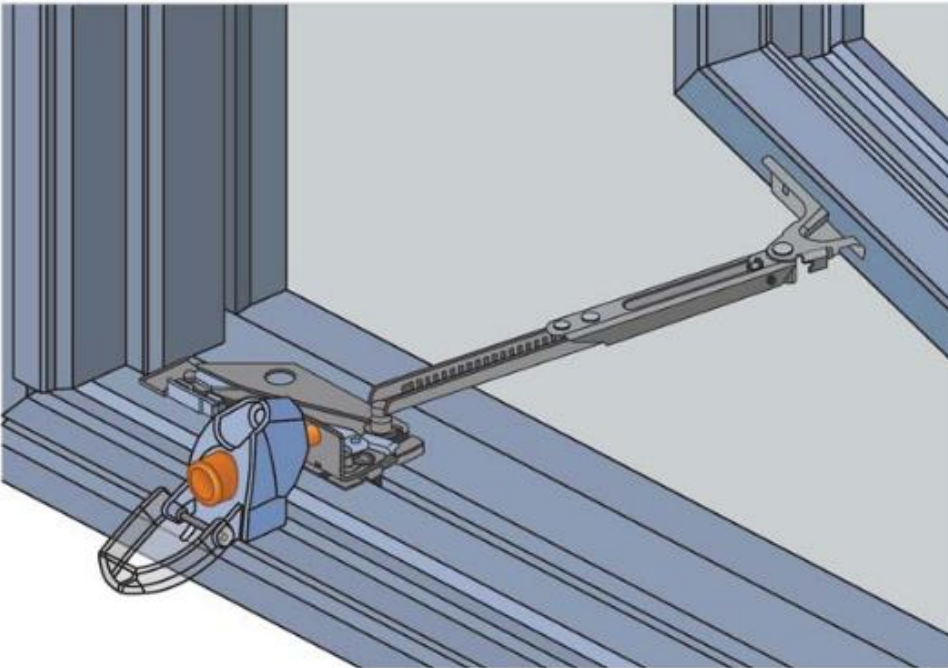


FIG. X5.2 Sample Casement Style Window Opening Control Device (WOCD)

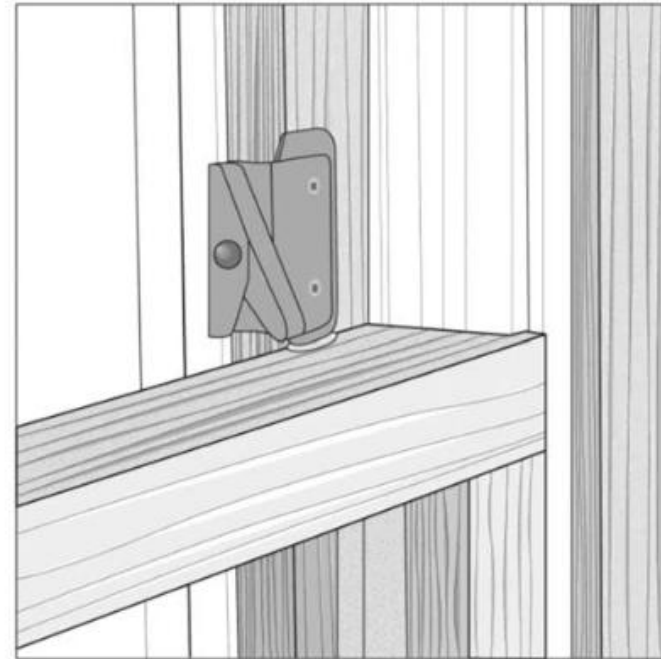
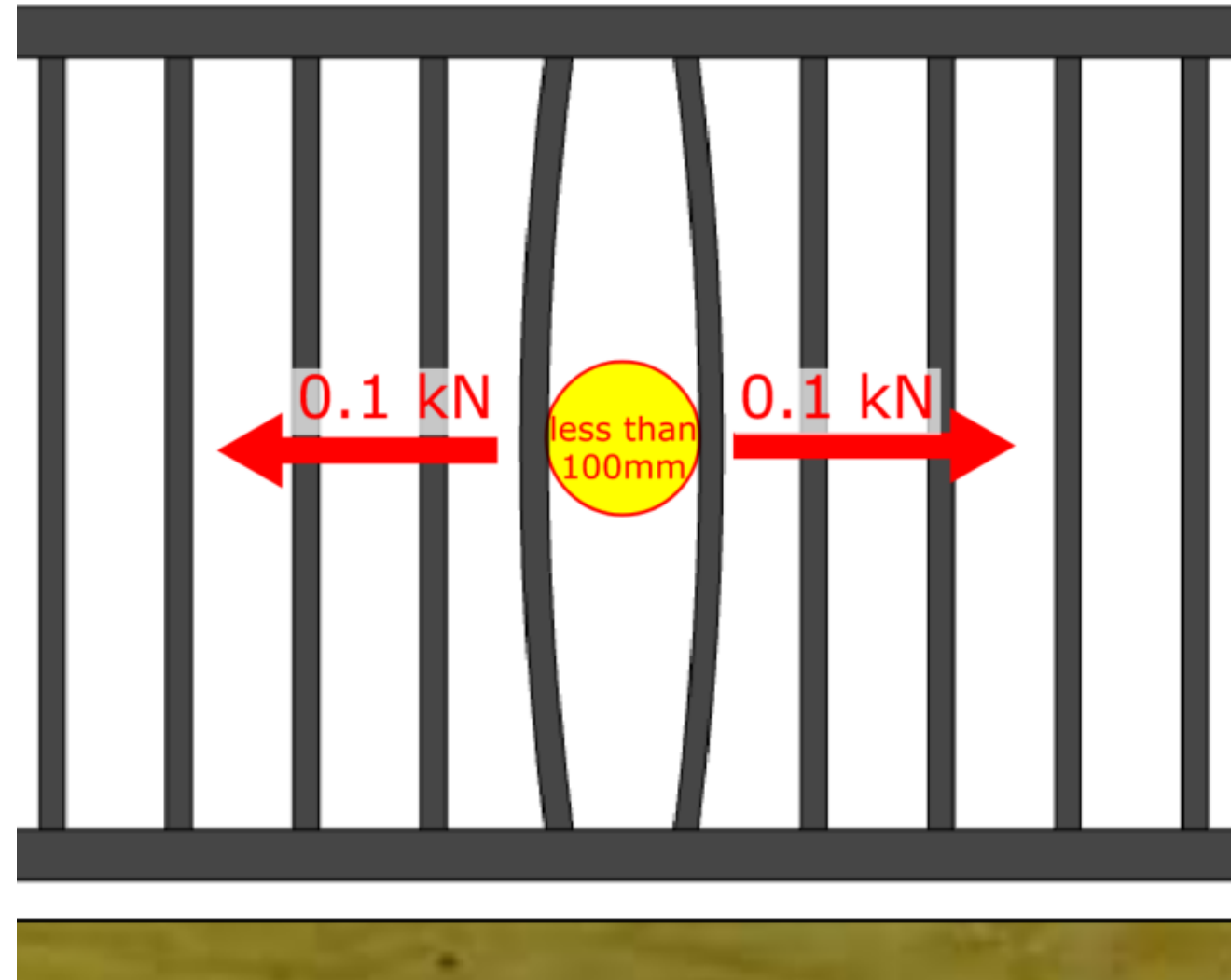


FIG. X5.4 Sample Hung (Single or Double) Style Window Opening Control Device (WOCD)

Stairs

Loads on Guards – 9.8.8.2.

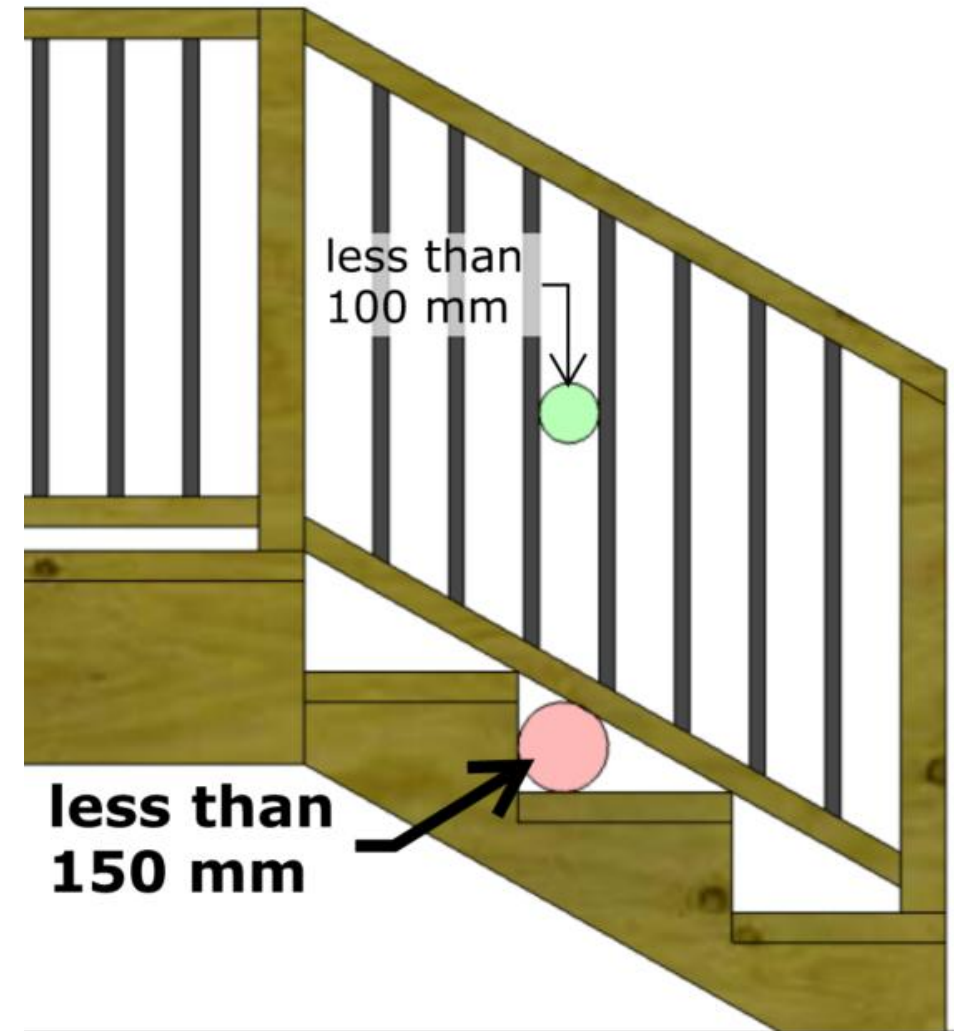
9.8.8.2.(2) The size of the opening between any two adjacent vertical elements within a guard shall not exceed the limits required by Sentence 9.8.8.5.(1) when each of these elements is subject to a specified live load of 0.1 kN (22.48 lbf) applied in opposite directions in the in-plane direction of the guard so as to produce the most critical effect



Stairs

Openings in Guards – 9.8.8.5.

9.8.8.5.(2) Except for guards that serve industrial occupancies, the triangular openings formed by stairs risers, stair treads and the bottom element of a required guard shall be of a size that prevents the passage of a 150 mm diameter sphere.



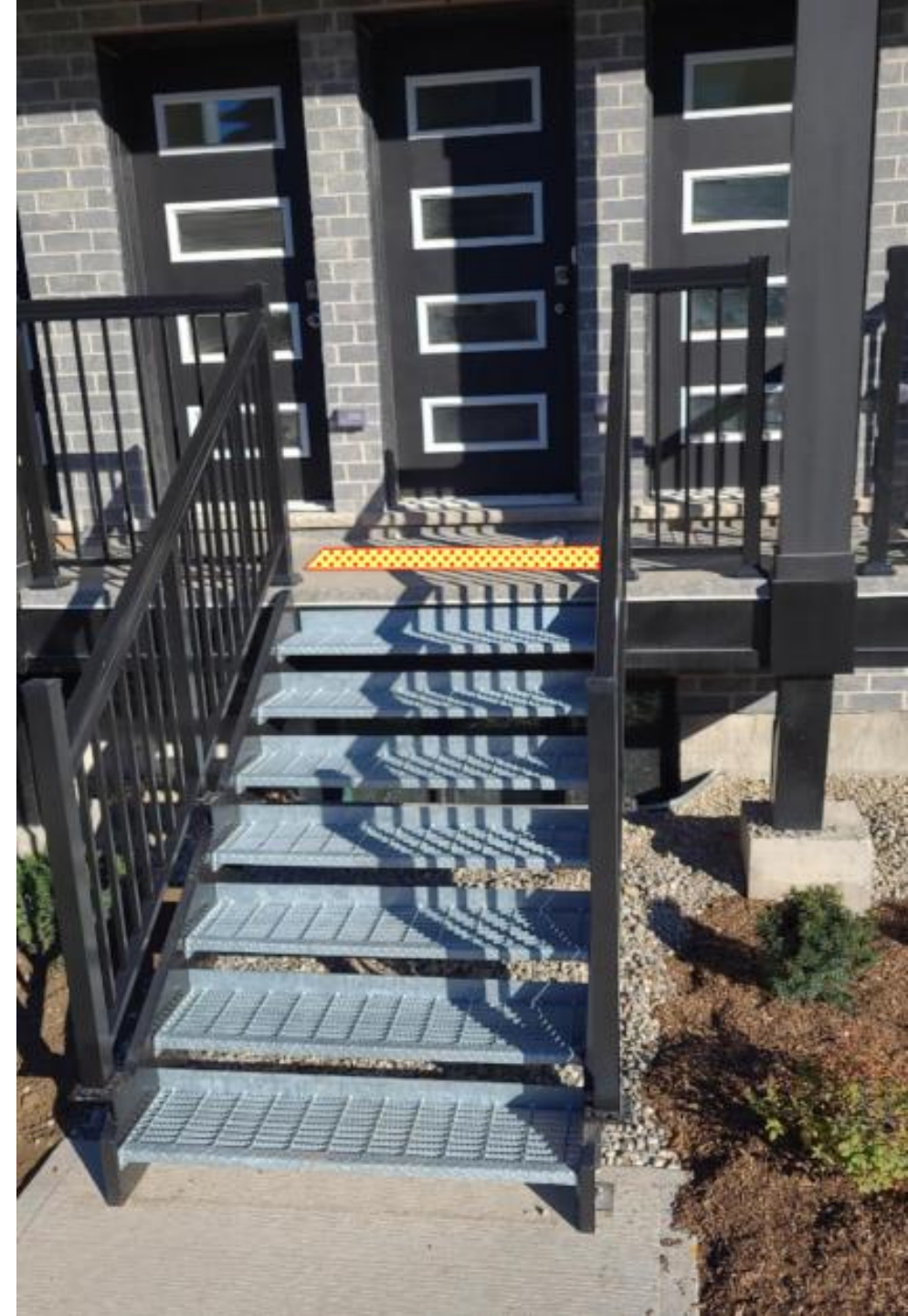
Tactile Attention Indicators

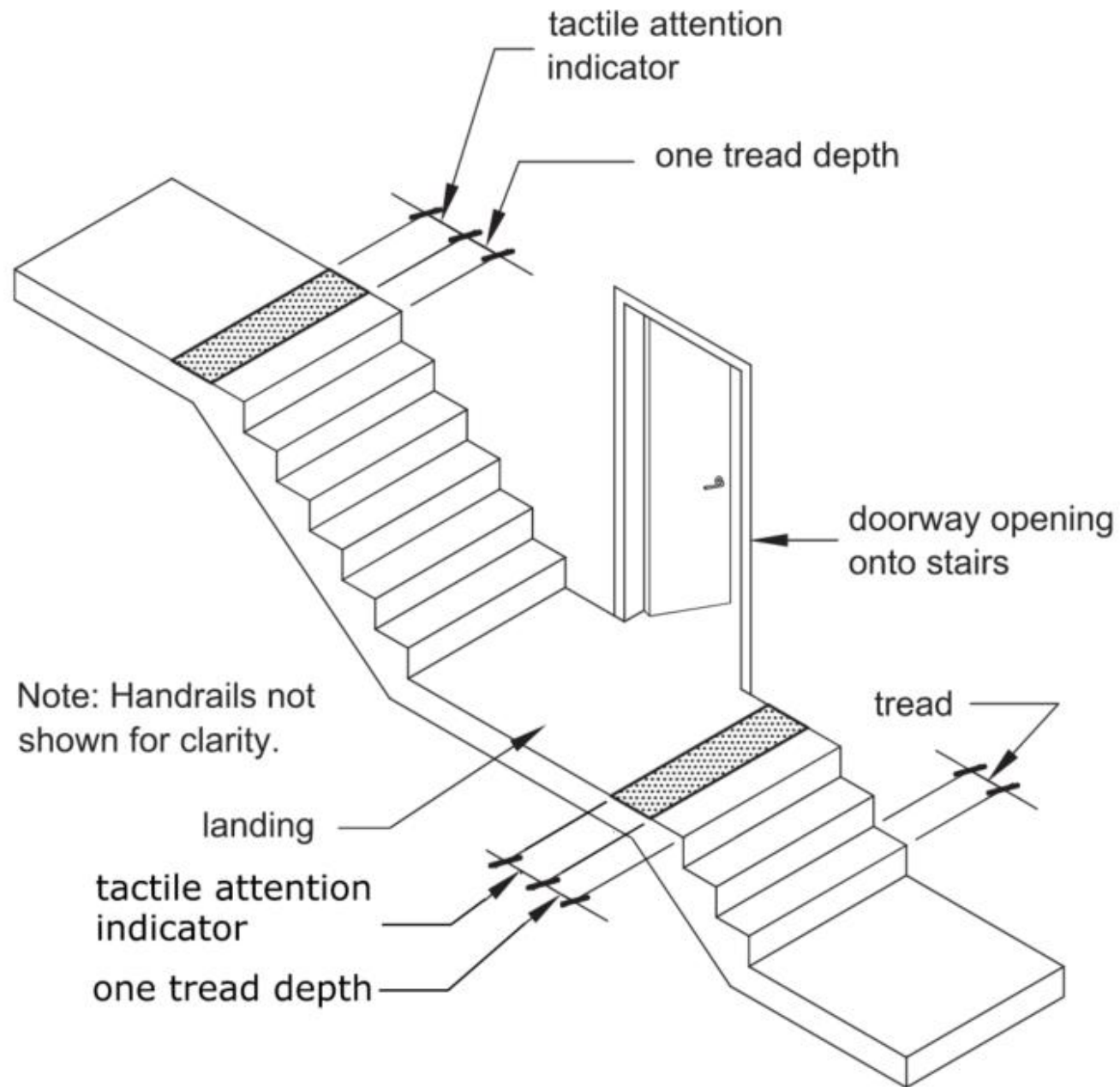
Stacked Townhouse Applicability

9.8.9.6. Finish for Treads, Landings and Ramps

(4) Except for stairs serving a house with a secondary suite, an individual dwelling unit, service rooms or service spaces, a tactile attention indicator conforming to Article 3.8.3.18. shall be installed

- (a) at the top of the stairs, starting one tread depth back from the edge of the top stair, and
- (b) at the leading edge of landings where a doorway opens onto stairs, starting one tread depth back from the edge of the landing.





Isometric

Part 9 Structural & Miscellaneous

Jordan MacLaughlin

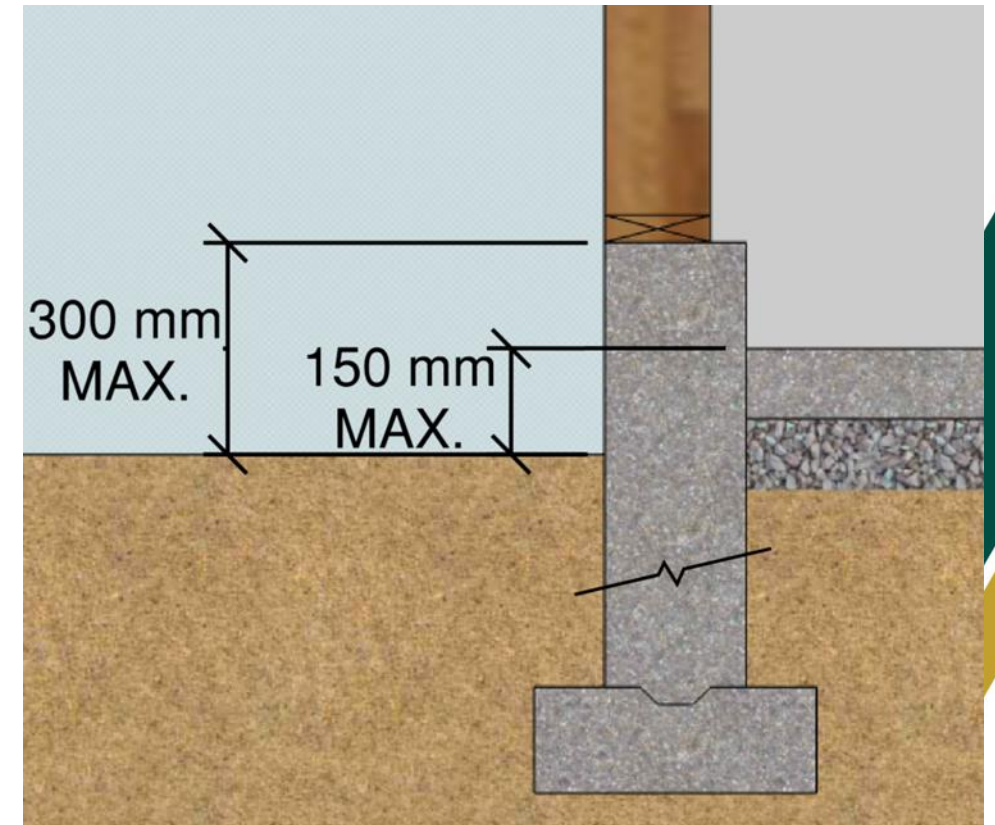
Manager, Permits

9.15.4.3. – Foundation Walls Considered to be Laterally Supported at the Top

A new clause is added in 9.15.4.3.(2)(d)

(2) Foundation walls shall be considered to be laterally supported at the top if

(d) they extend from the footing to no more than 300 mm above the finished ground level and are backfilled on both sides such that the difference in elevation between the finished ground levels on either side of the wall is no more than 150 mm.



9.20.9.5. – Ties for Masonry Veneer

Slight changes to the masonry veneer tie fasteners required in 9.20.9.5.(1).

9.20.9.5.(1)(f)(i) corrosion-resistant wood screws conforming to Sentence 9.23.3.1.(3) that have a minimum diameter of 4.16mm (No. 8) and a wood penetration of not less than 38 mm, or

9.20.9.5.(1)(f)(ii) corrosion-resistant common spiral nails conforming to Sentence 9.23.3.1.(1) that are not less than 76 mm long
and have a wood penetration of not less than 63 mm, and

9.23.2.4. – Connections to Preservative-Treated Wood

The 2024 OBC has added Article 9.23.2.4.

- (1) Except as provided in Sentence (3), connectors in contact with preservative-treated wood shall be made of
 - (a) hot-dipped, zinc-coated galvanized steel with a coating weight not less than Z550 conforming to ASTM A653 / A653M, “Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process,”
 - (b) a material that provides an equivalent level of corrosion protection to that provided by the material described in Clause (a), or
 - (c) stainless steel.

9.23.2.4. – Connections to Preservative-Treated Wood (continued)

(2) Fasteners used to attach the connectors referred to in Sentence (1) shall be made of

- (a) galvanized steel coated with zinc in accordance with ASTM A153 / A153M, “Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware,” or
- (b) a material that provides an equivalent level of performance and is compatible with the connector.

(3) Connectors and fasteners that are in contact with wood that has been treated with a disodium octaborate tetrahydrate (SBX (DOT)) or zinc borate preservative and is installed in a dry interior environment are permitted to be made of uncoated carbon steel. (See Note A-9.23.2.4.(3))

9.23.10.6. – Studs at Sides of Openings

Sentence (1) has been added to Article 9.23.10.6. The remaining sentences remain, with some wording changes throughout.

- (1) Where the lintel spanning the opening is more than 3 m long, studs shall be tripled on each side of the opening so that
 - (a) the two inner studs on each side extend from the bottom of the supported lintel to the top of the bottom wall plate, and
 - (b) the outer stud on each side extends from the bottom of the top wall plate to the bottom wall plate.

9.23.13. Bracing to Resist Lateral Loads Due to Wind and Earthquake

This Subsection has been newly introduced to the 2024 OBC. Currently, the entire subsection is not applicable in Kitchener as the requirements listed in Articles 9.23.13.1, 9.23.13.2, and 9.23.13.3. are not met.

Table 2 (Cont'd)
Climatic Design Data

Location	Elevation, m	Design Temperature				Degree Days Below 18°C	15 Min Rain, mm	One Day Rain, 1/50, mm	Annual Rain, mm	Moisture Index	Annual Total Precipitation, mm	Driving Rain Wind Pressures, Pa, 1/5	Snow Load, kPa, 1/50		Hourly Wind Pressures, kPa	
		January		July 2.5%											1/10	1/50
		2.5%, °C	1%, °C	Dry, °C	Wet, °C											
													S _s	S _i		
Kingston	80	-22	-24	28	23	4000	23	108	780	1.0	950	180	2.1	0.4	0.37	0.47
Kinmount	295	-26	-28	29	23	4600	25	108	750	0.9	950	120	2.7	0.4	0.27	0.35
Kirkland Lake	325	-33	-36	29	22	6000	23	92	600	0.8	875	100	2.9	0.3	0.30	0.39
Kitchener	335	-19	-21	29	23	4200	28	119	780	0.9	925	140	2.0	0.4	0.29	0.37

Table 3
Seismic Design Data for Selected Locations in Ontario for Part 9 Design

Kinmount	0.123
Kirkland Lake	0.159
Kitchener	0.122
Lakefield	0.130
Lansdowne House	0.056

9.23.13.1.(1) This Article applies in locations where the seismic spectral acceleration, $S_a(0.2)$, is not more than 0.70 and the 1 in-50 hourly wind pressure is less than 0.80 kPa.

9.23.14.8. – Ridge Support

There have been several sentences added to this article in the 2024 OBC.

9.23.14.8.(6) Except as permitted in Sentence (7), ceiling joists referred to in Sentence (5) shall be tied to the base of every rafter.

9.23.14.8.(7) Where ceiling joists referred to in Sentence (5) are raised above the base of the rafters, the connections between the rafters and the ceiling joists shall be designed in accordance with Clause 9.4.1.1.(1)(b) or (c).

9.23.14.8.(8) Ceiling joists referred to in Sentence (5) that are spliced to make a continuous joist shall be fastened together at each splice with at least one more nail than required for the rafter-to-joist connection shown in Table 9.23.14.8.

9.23.14.11 Roof Trusses

Article completely changed in the 2024 OBC.

- (1) Roof Wood roof trusses shall be designed in accordance with good engineering practice such as that described in TPIC 2019, “Truss Design Procedures and Specifications for Light Metal Plate Connected Wood Trusses.
- (2) The joint connections used in trusses described in Sentence (1) shall be designed in conformance with the requirements in Subsection 4.3.1. (See Note A-9.23.14.11.(2))
- (3) All member bracing shall be installed as per the truss design drawings, and continuous lateral bracing shall be adequately anchored to the roof and ceiling diaphragms at intervals no greater than 6.10 m o.c.

9.25.2.3. – Installation of Thermal Insulation

9.25.2.3.(4) Insulation shall be installed over the full height of foundation walls enclosing a basement or heated crawl space.

There has been a change to sentence (4) in the 2024 OBC. Previously, insulation was permitted to be installed so that there is not less than a 50mm clearance above the crawl space floor. Now full height insulation is required.

However, in accordance with SB-12, Article 3.1.1.7., insulation may be raised above the finished floor level not more than 200 mm. In such cases we will still consider as 'full height' for the purposes of 9.25.2.3.(4).

9.27.5. – Attachment of Cladding

Several sentences have been added to this Subsection in the 2024 OBC.

9.27.5.6.(2) Fasteners for vinyl siding, insulated vinyl siding and polypropylene siding shall be installed in the centre of the slots of the nail hem.

9.27.5.7.(2) Fasteners for vinyl cladding, insulated vinyl cladding and polypropylene cladding shall penetrate through the nail-holding base or not less than 32 mm into the framing.

Plumbing

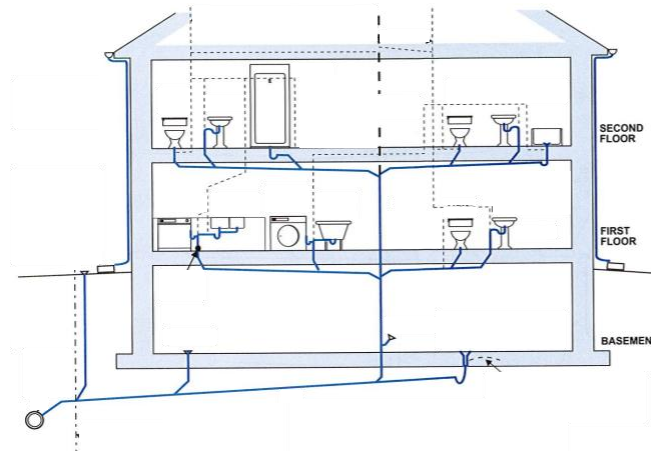
Ryan Looby

Municipal Building Official II

9.31.2.1. General Requirements For Plumbing Facilities

2012 OBC indicated that “The construction of plumbing system shall conform to Part 7.”

2024 OBC has expanded that to clarify that “The construction, **extension, alteration, renewal or repair** of the plumbing and **sewage disposal** systems shall conform to Part 7.



9.31.6.1. Hot Water Supply

2024 OBC added a new article

9.31.6.1. Hot water supply

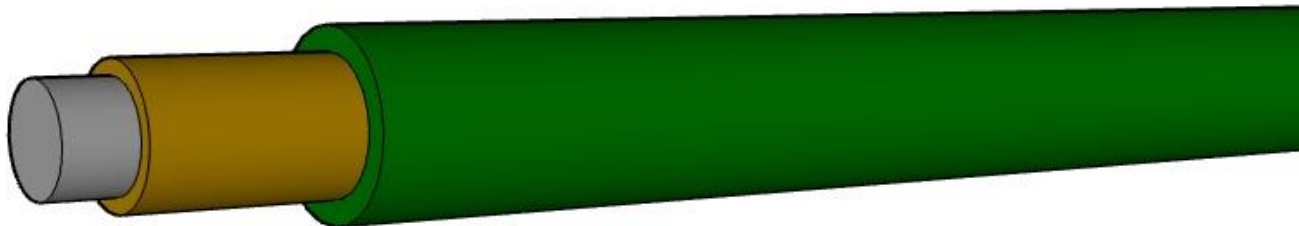
- (1) Where hot water is required to be supplied in accordance with Article 9.31.4.2., equipment shall
 - (a) provide an adequate supply of hot water, and
 - (b) be installed in conformance with Part 7.

Plumbing

Tracer Wire – 7.2.2.2.

(1) Except as provided in Sentence (2), a 14 gauge TW **solid copper** light coloured plastic coated tracer wire shall be attached to every non-metallic *water service pipe* or *fire service main*.

(2) A 12 gauge **copper clad steel** light coloured plastic coated wire.



Plumbing

Traps – 7.2.3.1.(5)

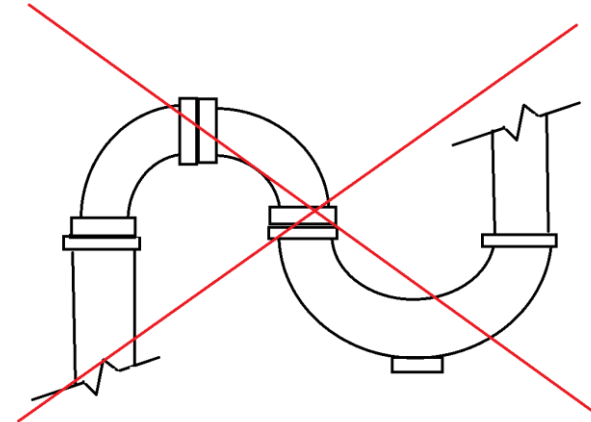
2012 OBC

A bell *trap* or an ~~S-trap~~ shall not be installed in a *drainage system*.

2024 OBC

A bell trap shall not be installed in a drainage system.

Although the word S-trap was removed an S-trap can still NOT be used in a drainage system as they do not meet any of the venting requirements.



Plumbing

Location of vents – 7.5.6.3.

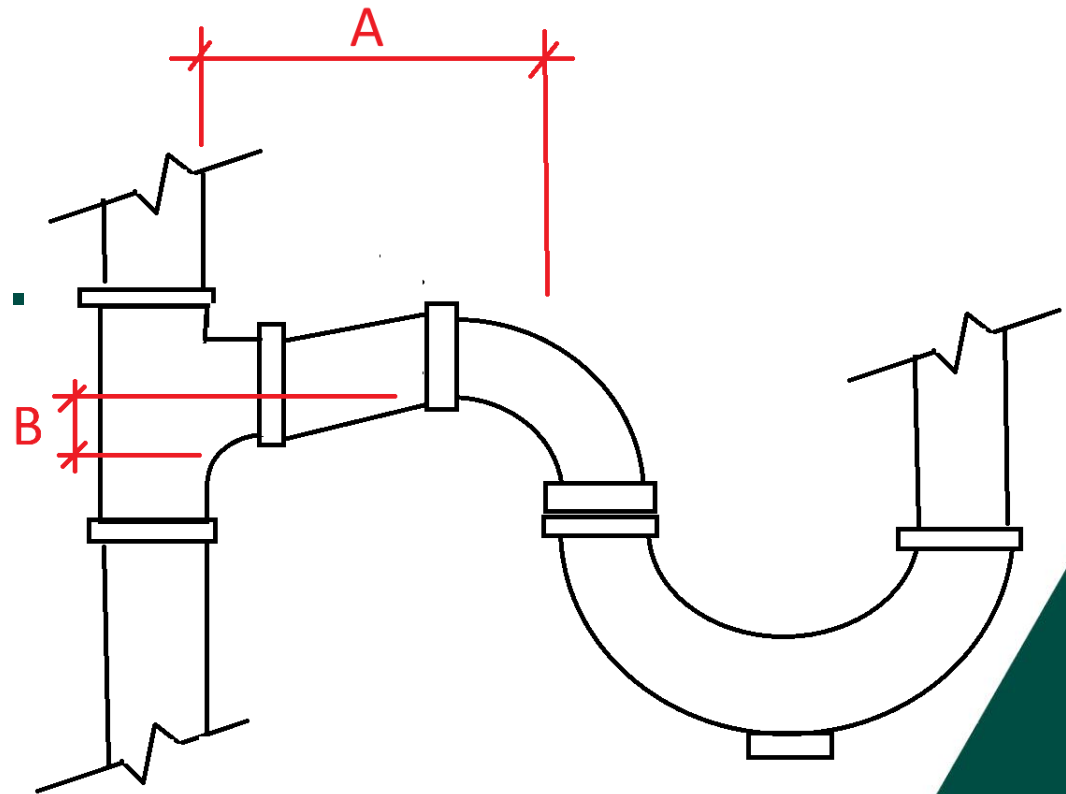
A = trap arm length

Min. 7.5.6.3.(1)(a) 2x the pipe diameter

Max. T.7.5.6.3. (about 48x pipe diameter)

B = Trap arm fall

Max. 7.5.6.3.(1)(b) 1x the pipe diameter



Plumbing

Location of Vent Pipes – 7.5.6.3.(5)

2012 OBC

7.5.6.3 (5) The *vent pipe* from a water closet or any other *fixture* that has an integral siphonic flushing action may be connected to the *vertical leg* of its drainage pipe.

2024 OBC

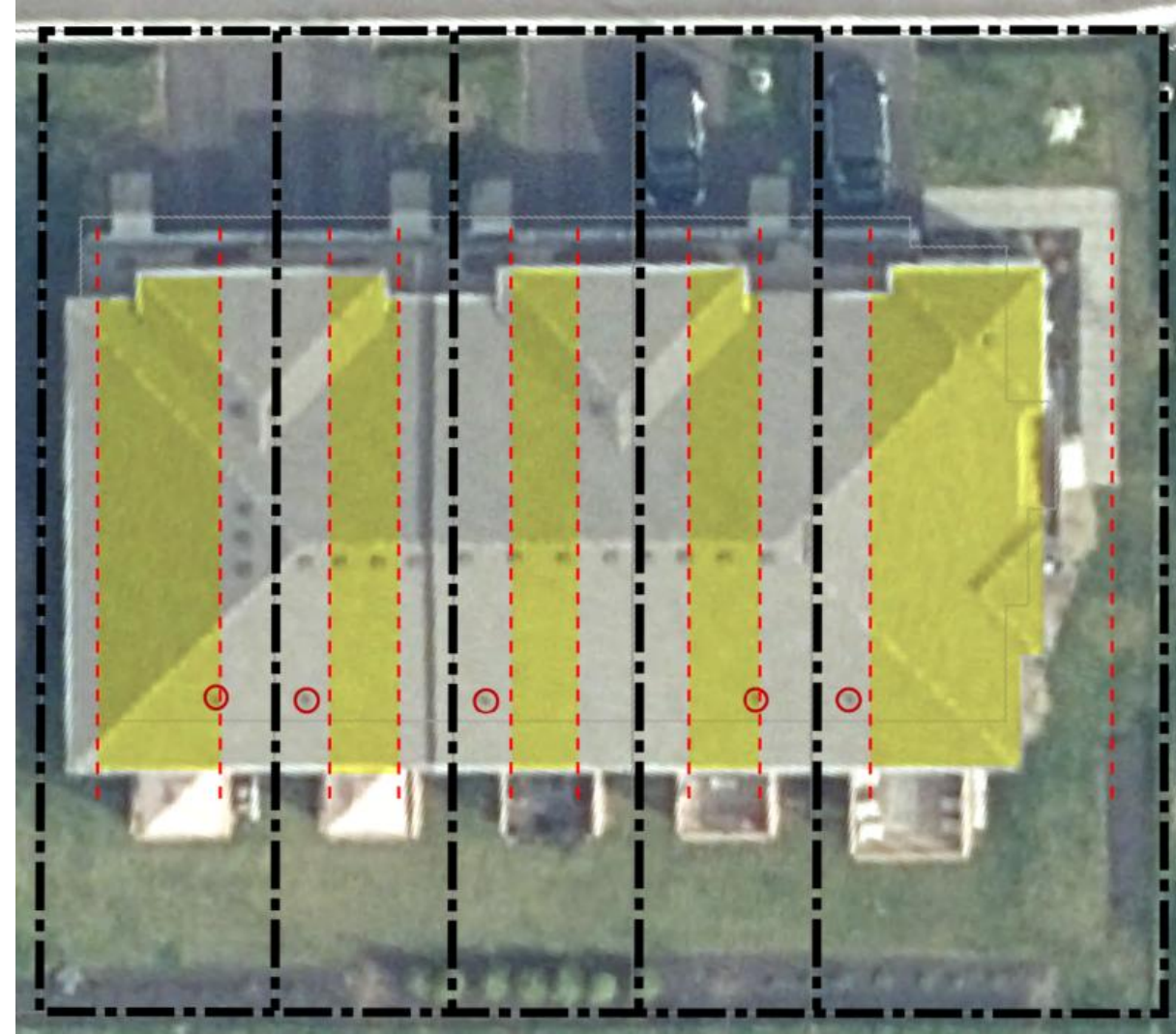
Sentence (5) was removed meaning you can no longer vent off the vertical leg of a drainage pipe for fixtures like toilets that depend on integral symphonic flushing action

Plumbing

Location of Vent Pipes – 7.5.6.5.(4)

A *vent pipe* terminal shall be located,

(d) not less than 1.8 meters from **every** property line

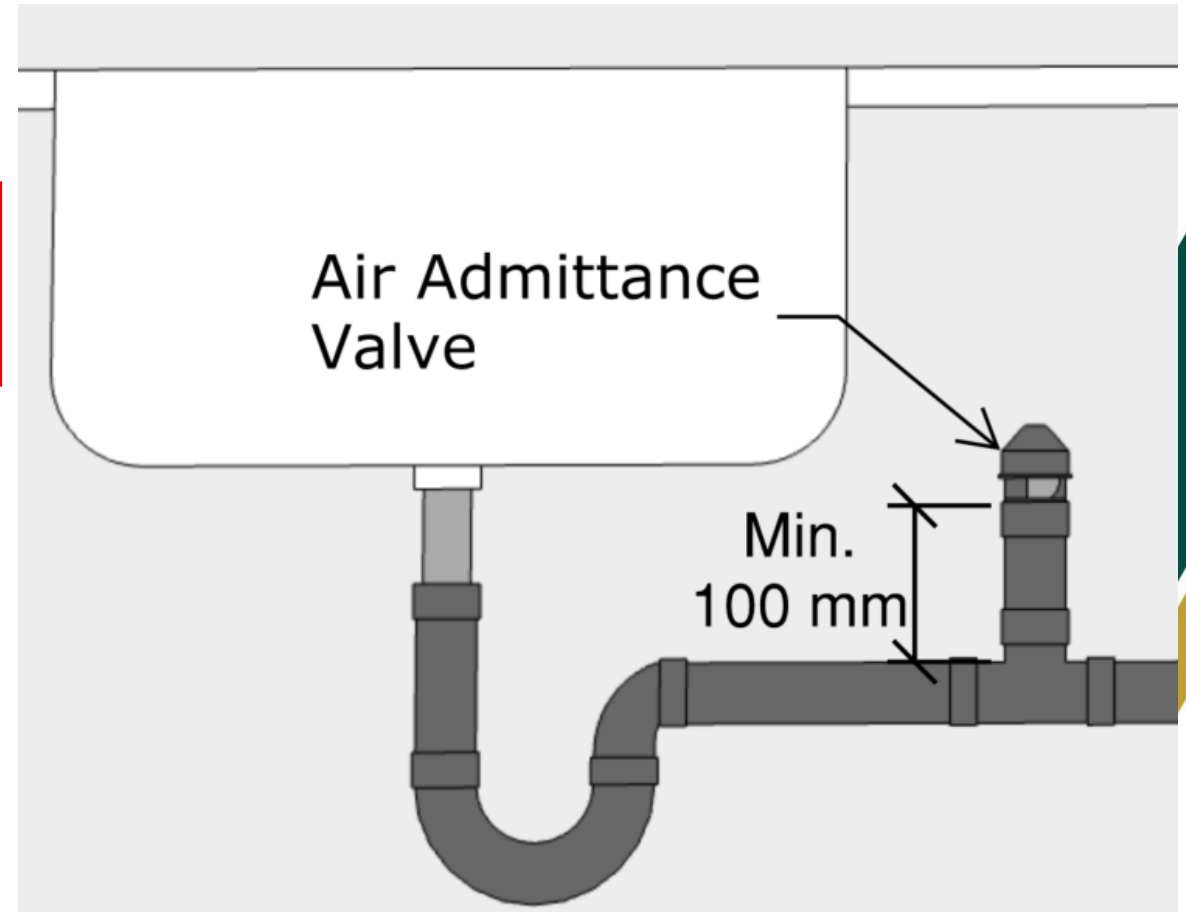


Plumbing

Air Admittance Valves – 7.5.9.2.(2)

Air admittance valves shall be located

- (a) not less than 100 mm above the fixture drain being vented,
- (b) Within the maximum *developed length* permitted for the *vent*, and
- (c) not less than 150 mm above insulation materials.



Plumbing

Non-Potable Rain Harvesting System – 7.7.2.

- 2012 Reference
- 7.7.2 Markings required for non potable system

****REMOVED AND CHANGED****

Plumbing

Non-Potable Rain Harvesting System – 7.7.2.

2024 Reference Highlights

7.7.2.1. (2) Does not include rain barrels as part of the system

7.7.2.3. (1) Roof surfaces that supply rainwater to a non potable rainwater harvesting system shall be inaccessible to vehicular and **pedestrian** traffic

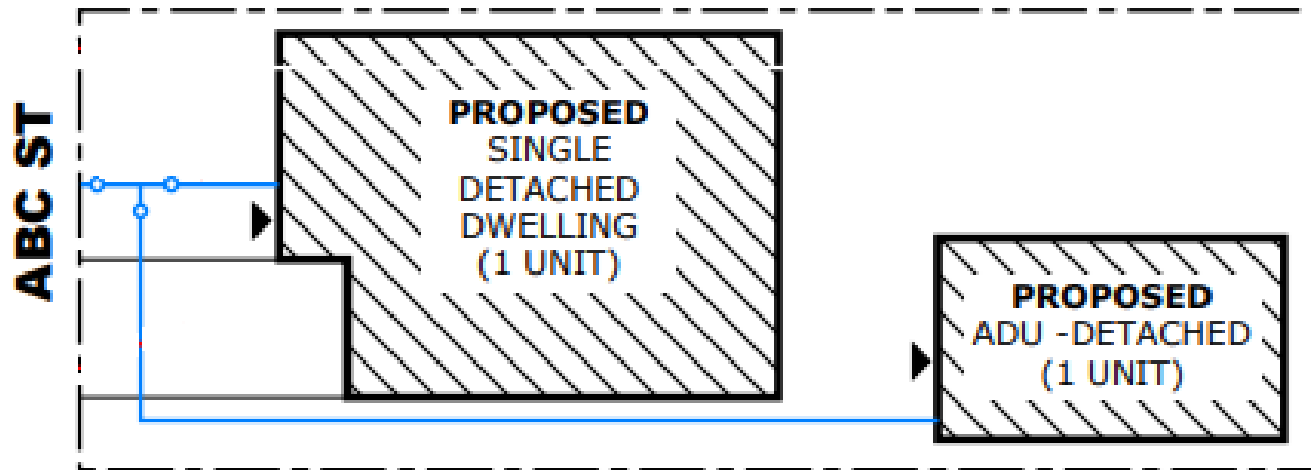
7.7.2.4.(2) Non-potable rain harvesting system shall not include water discharged from an evaporative heat rejection system

7.7.2.4. Make up water connections to a non-potable rainwater harvesting system shall be equipped with reduced pressure backflow preventer or airgap

Plumbing

Separate Services – 7.1.5.4.(4)

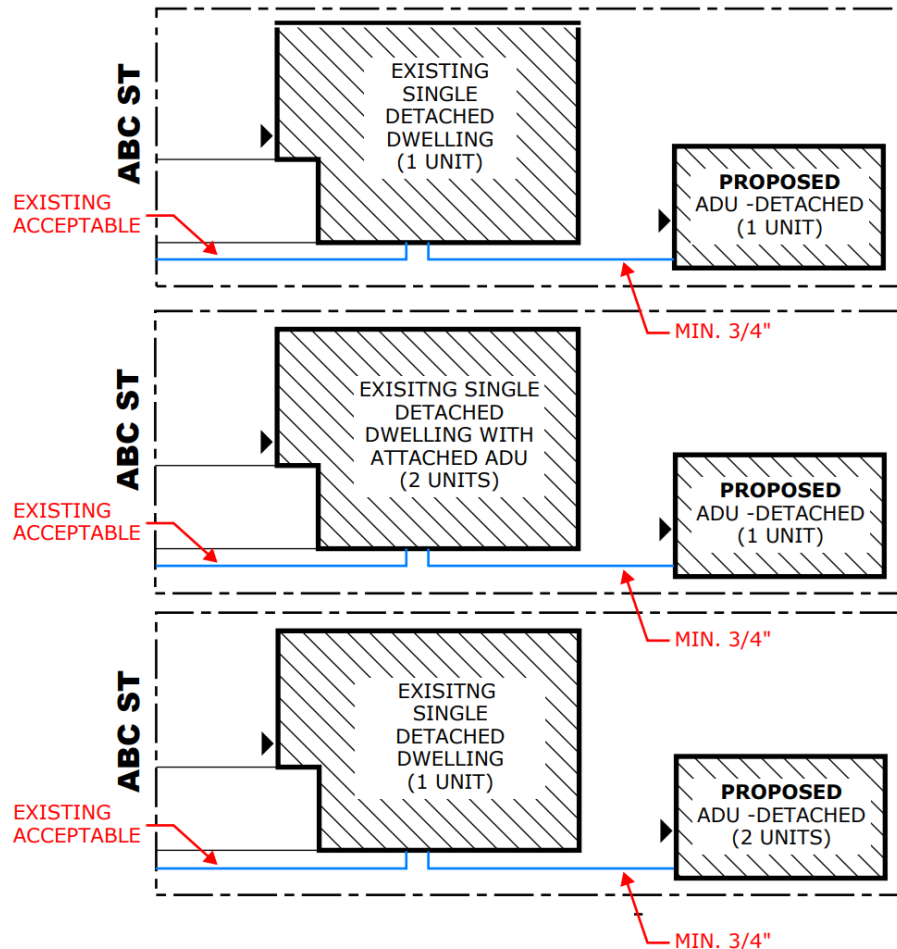
No *plumbing* serving a *dwelling unit* shall be installed in or under another unit of the *building* unless the piping is located in a tunnel, pipe corridor, common *basement* or *parking garage*, so that the piping is *accessible* for servicing and maintenance throughout its length without encroachment on any private living space, but this Sentence does not prevent *plumbing* serving a unit located above another unit from being installed in or under the lower unit.



Plumbing

Size and Capacity of Pipes (for existing buildings) – 7.6.3.

Minimum Water Service and Water Meter Sizing for Existing Residences with New ADU's
(1 to 4 Residential Dwelling Units)



Single with 1 ADU:

Existing water service - Street to Single
3/4" water service - Single to ADU
Existing water meter to Single
5/8" water meter to ADU (optional)

Duplex with 1 ADU:

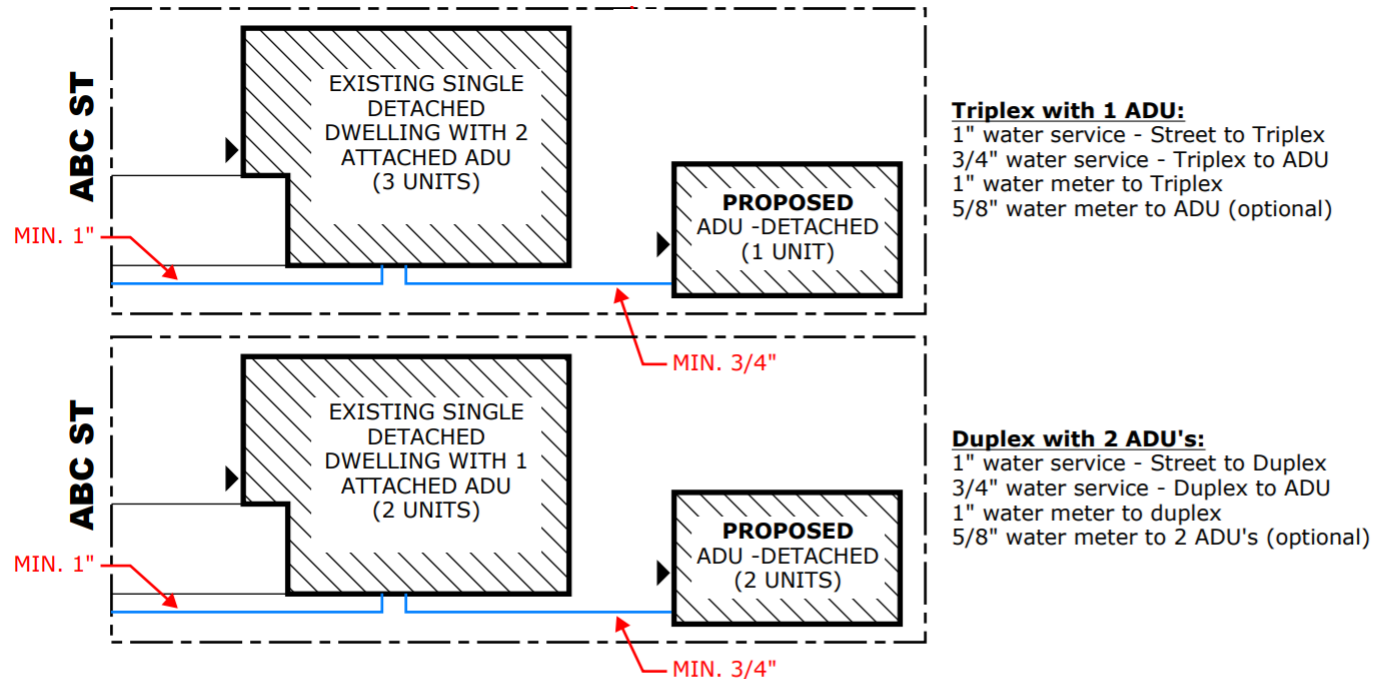
Existing water service - Street to Duplex
3/4" water service - Duplex to ADU
Existing water meter to Duplex
5/8" water meter to ADU (optional)

Single with 2 ADU's:

Existing water service - Street to Single
3/4" water service - Single to 2 ADU's
Existing water meter to Single
5/8" water meter to 2 ADU's (optional)

Plumbing

Size and Capacity of Pipes (for existing buildings) – 7.6.3.



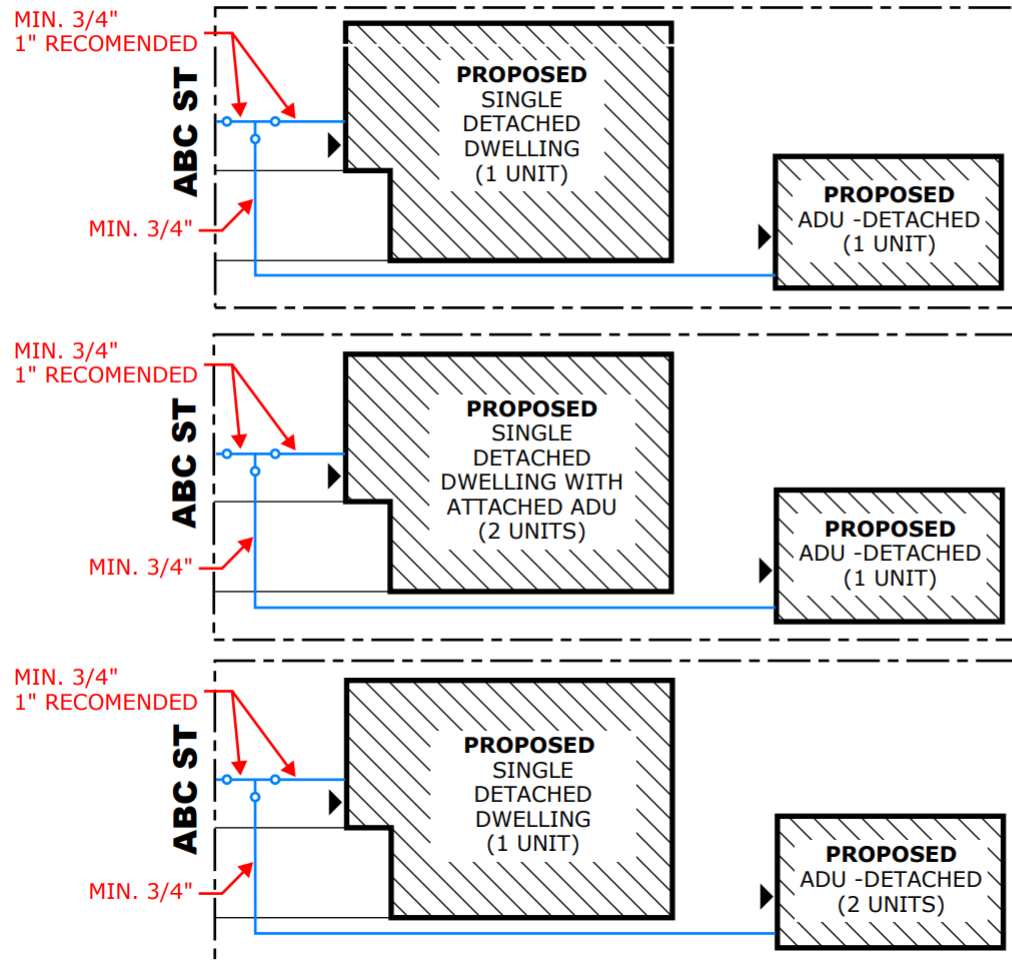
NOTES:

- 1) TABLE IS BASED ON EACH DWELLING UNIT HAVING THE FOLLOWING FIXTURES: 1 - 3 PIECE WASHROOM, 1 KITCHEN SINK, 1 RESIDENTIAL HIGH EFFICIENCY CLOTHES WASHER, AND 1 DISHWASHER
- 2) A 25% REDUCTION IN FIXTURE COUNT HAS BEEN INCORPORATED, UNDERSTANDING THAT NOT ALL FIXTURES ARE USED AT THE SAME TIME
- 3) WATER SOFTENER AND HOSE BIB HAS BEEN EXCLUDED FROM THE FIXTURE COUNT, AS THESE ARE ITEMS THAT SHOULD NOT EFFECT THE DAY TO DAY WATER USAGE (HOSE BIB USED PERIODICALLY AND WATER SOFTENER REGENERATES OVER NORMAL SLEEPING HOURS).
- 4) CALCULATIONS WERE PERFORMED BASED ON FIXTURE UNIT COUNTS (AS PER TABLE A-7.6.3.1. - 2012 OBC)
- 5) ANY DEVIATIONS FROM CHART MUST BE REVIEWED AND APPROVED BY KITCHENER BUILDING DIVISION STAFF PRIOR TO INSTALLATION

Plumbing

Size and Capacity of Pipes (for new buildings) – 7.6.3.

Minimum Water Service and Water Meter Sizing for New Residences with New ADUs (1 to 4 Residential Dwelling Units)



Single with 1 ADU:

3/4" water service - Street to Single
3/4" water service - Street to ADU
5/8" water meter to Single
5/8" water meter to ADU (optional)

Duplex with 1 ADU:

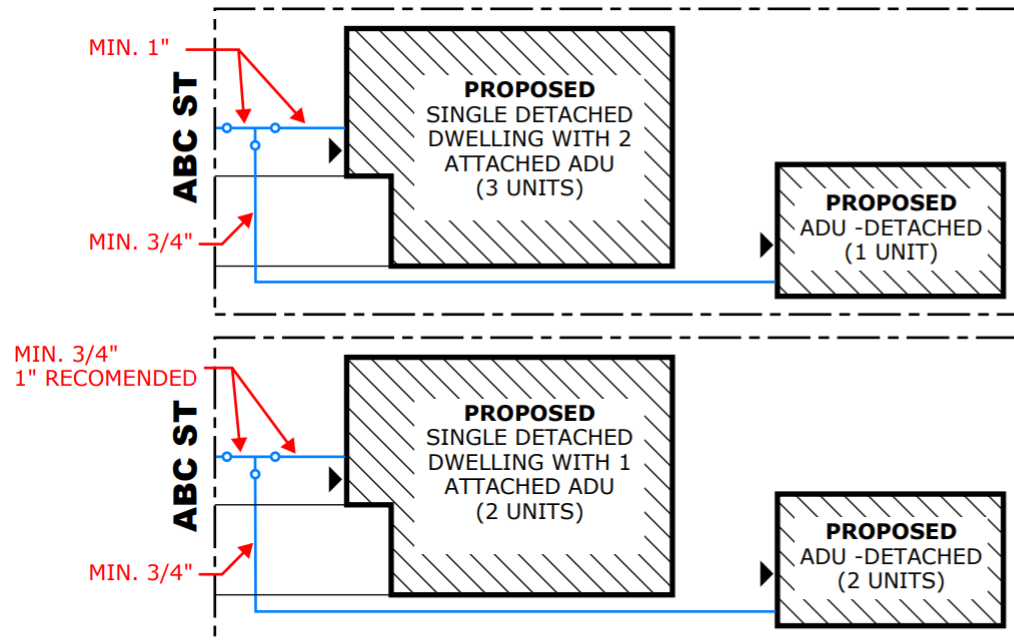
3/4" water service - Street to Duplex
3/4" water service - Street to ADU
5/8" water meter to Duplex
5/8" water meter to ADU (optional)

Single with 2 ADU's:

3/4" water service - Street to Single
3/4" water service - Street to 2 ADU's
5/8" water meter to Single
5/8" water meter to 2 ADU's (optional)

Plumbing

Size and Capacity of Pipes (for new buildings) – 7.6.3.



Triplex with 1 ADU:

1" water service - Street to Triplex
3/4" water service - Street to ADU
1" water meter to Triplex
5/8" water meter to ADU (optional)

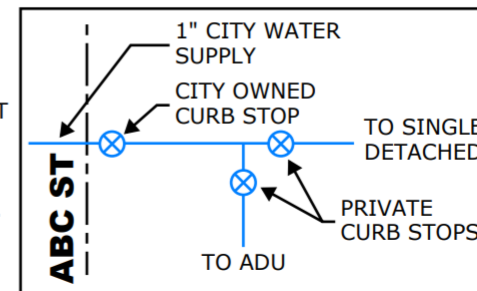
Duplex with 2 ADU's:

3/4" water service - Street to Duplex
3/4" water service - Street to 2 ADU's
5/8" water meter to duplex
5/8" water meter to 2 ADU's (optional)

NOTES:

- 1) TABLE IS BASED ON EACH DWELLING UNIT HAVING THE FOLLOWING FIXTURES: 1 - 3 PIECE WASHROOM, 1 KITCHEN SINK, 1 RESIDENTIAL HIGH EFFICIENCY CLOTHES WASHER, AND 1 DISHWASHER
- 2) A 25% REDUCTION IN FIXTURE COUNT HAS BEEN INCORPORATED, UNDERSTANDING THAT NOT ALL FIXTURES ARE USED AT THE SAME TIME
- 3) WATER SOFTENER AND HOSE BIB HAS BEEN EXCLUDED FROM THE FIXTURE COUNT, AS THESE ARE ITEMS THAT SHOULD NOT AFFECT THE DAY TO DAY WATER USAGE (HOSE BIB USED PERIODICALLY AND WATER SOFTENER REGENERATES OVER NORMAL SLEEPING HOURS).
- 4) CALCULATIONS WERE PERFORMED BASED ON FIXTURE UNIT COUNTS (AS PER TABLE A-7.6.3.1. - 2012 OBC)
- 5) ANY DEVIATIONS FROM CHART MUST BE REVIEWED AND APPROVED BY KITCHENER BUILDING DIVISION STAFF PRIOR TO INSTALLATION

TYPICAL CURB STOP DETAIL



9.14.5.2. Sump Pits

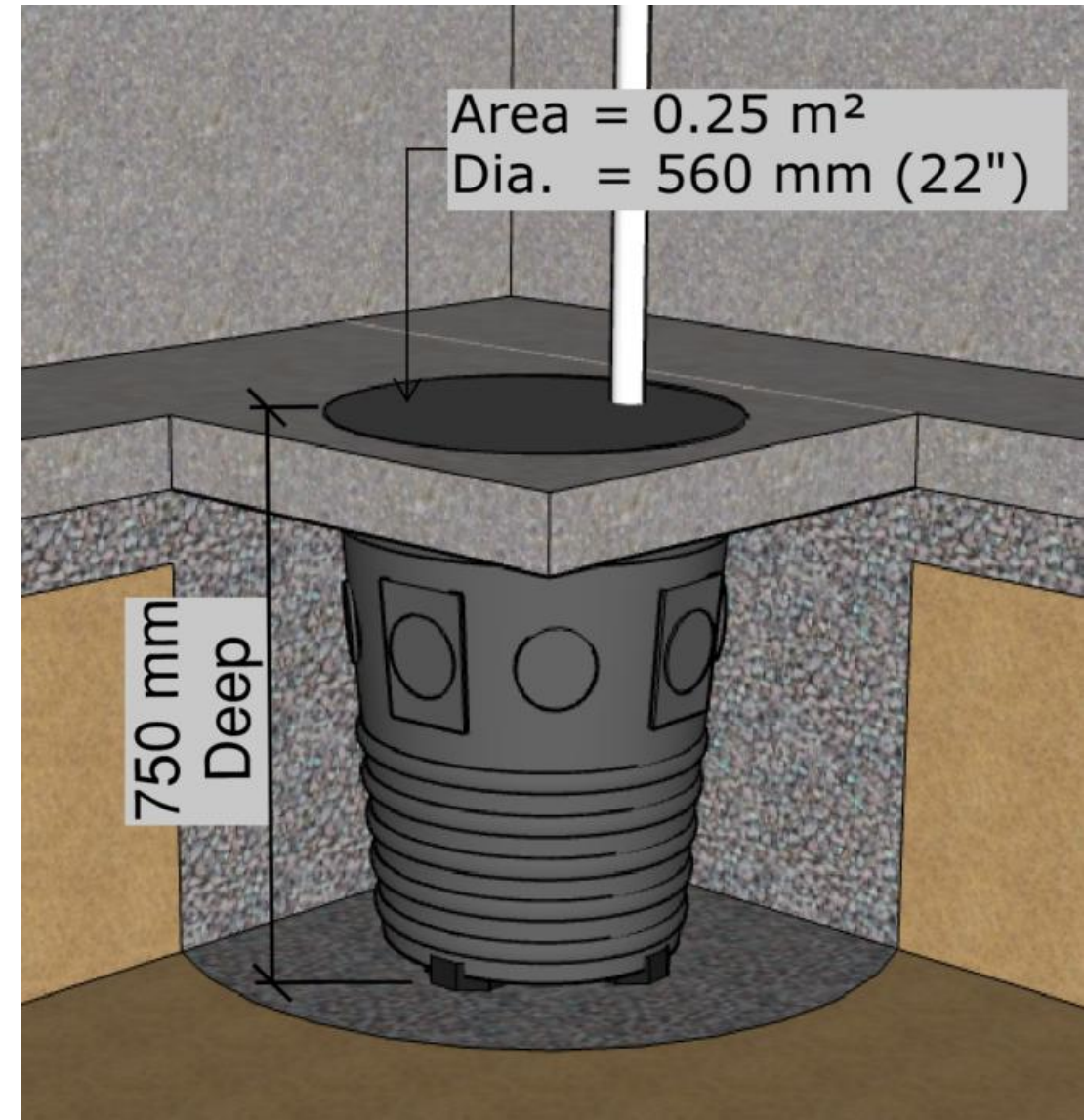
Sump pumps now have a minimum size requirement.

The sump pump shall be:

Not less than 750 mm (30") deep

Not less than 0.25 m² (22" diameter)

Sump pits now need to be airtight and shall be weather stripped around their perimeters to prevent air leakage



Ventilation and Heating Systems

Matt Ruetz

MBO Technical Specialist

Ventilation Systems

Ventilation

Application – 9.32.1.1.

(1) This Section applies to the ventilation of rooms and spaces in *residential occupancies*.

(2) Ventilation of all other *occupancies* shall comply with Part 6.

(3) A *storage garage* for up to 4 motor vehicles that serves a *residential occupancy* may be considered to be part of that *occupancy*.

Ventilation

Required Ventilation – 9.32.1.2.

- (1) Every *residential occupancy* shall incorporate
 - (a) provisions for non-heating-season ventilation in accordance with Subsection 9.32.2.
- (2) A self-contained heating-season ventilation system serving a single *dwelling unit* shall comply with Subsection 9.32.3.

Non-Heating Season Ventilation

Required Ventilation – 9.32.2.1.

- (1) The non-heating-season ventilation required by Clause 9.32.1.2.(1)(a) shall be supplied by
 - (a) natural ventilation in accordance with Article 9.32.2.2., or
 - (b) a mechanical ventilation system in accordance with Article 9.32.2.3.

Non-Heating Season Ventilation

Mechanical Ventilation – 9.32.2.3.

(1) Where a habitable room or space is not provided with natural ventilation as described in Article 9.32.2.2. and is mechanically cooled, its non-heating-season mechanical ventilation system shall

- (a) have the capacity to exhaust air from inside the room or space, or to introduce outdoor air into that room or space, at a rate conforming with Table 9.32.2.3., or
- (b) comply with Subsection 9.32.3.



Heating-Season
Mechanical Ventilation

Heating-Season Mechanical Ventilation

Required Ventilation – 9.32.3.1.(1) & 2)

(1) The heating-season ventilation required by Clause 9.32.1.2.(1)(b) shall be provided by a mechanical ventilation system complying with

(a) good practice such as that described in CAN/CSA-F326-M,
“Residential Mechanical Ventilation Systems,”

(b) for *dwelling units* with 5 or fewer bedrooms, the balance of this Subsection, and shall incorporate;

- a principal ventilation system → 9.32.3.3.,
- supplemental exhaust fans → 9.32.3.7., and
- protection against depressurization → 9.32.3.8.

or

(c) Part 6.

Heating-Season Mechanical Ventilation

Design and Installation – 9.32.3.2.

System is required to be designed, constructed and installed in accordance with good practice such as;

- ASHRAE, HRAI Digest, Hydronics Institute Manuals, SMACNA, etc.

Equipment shall be installed in accordance with manufacturer instructions and recommendations

- Except where in conflict with the Code the Code governs

Fans and HRVs require resilient mounting to minimize noise and vibration

- HRV/ERV to be hung from vibration isolating straps or mounted on rubber or spring vibration isolators

Heating-Season Mechanical Ventilation

Principal Ventilation System – 9.32.3.3.

The Principal Ventilation System shall incorporate the following components;

- A principal ventilation fan → 9.32.3.3.

and

- Provisions for the introduction of outdoor air into the dwelling unit
 - Ventilation system used in conjunction with forced air system → 9.32.3.4.
 - Ventilation system NOT used with forced air system → 9.32.3.5.
 - Exhaust ONLY system → 9.32.3.6.

Heating-Season Mechanical Ventilation

Principal Ventilation System – 9.32.3.3.

The Principal Exhaust Fan Capacity Table has been amended to provided a minimum and maximum operating capacity

Table 9.32.3.3.

Normal Operating Exhaust Capacity of Principal Ventilation Fan

2024 OBC

2012 OBC

Number of Bedrooms in <i>Dwelling Unit</i>	Normal Operating Exhaust Capacity of Principal Ventilation Fan, L/s		Capacity, L/s
	Minimum	Maximum	
1	16	24	15
2	18	28	22.5
3	22	32	30
4	26	38	37.5
5	30	45	45
More than 5	System must comply with Clause 9.32.3.1.(1)(a)		System must comply with Sentence 6.2.1.1.(1)

Heating-Season Mechanical Ventilation

Supplemental Exhaust – 9.32.3.7.

Kitchen = minimum 50 L/s (100 CFM) exhaust fan required

Bathroom or water-closet room = minimum 25 L/s (50 CFM) exhaust fan required (other than principal ventilation fan)

Residential Mechanical Ventilation Design Summary Forms

The current Residential Mechanical Ventilation and Heating/Cooling Design Summary (HVAC) form that Kitchener has been using will not work designs under the 2024 OBC.

HRAI is currently working on updating their forms to the 2024 OBC.

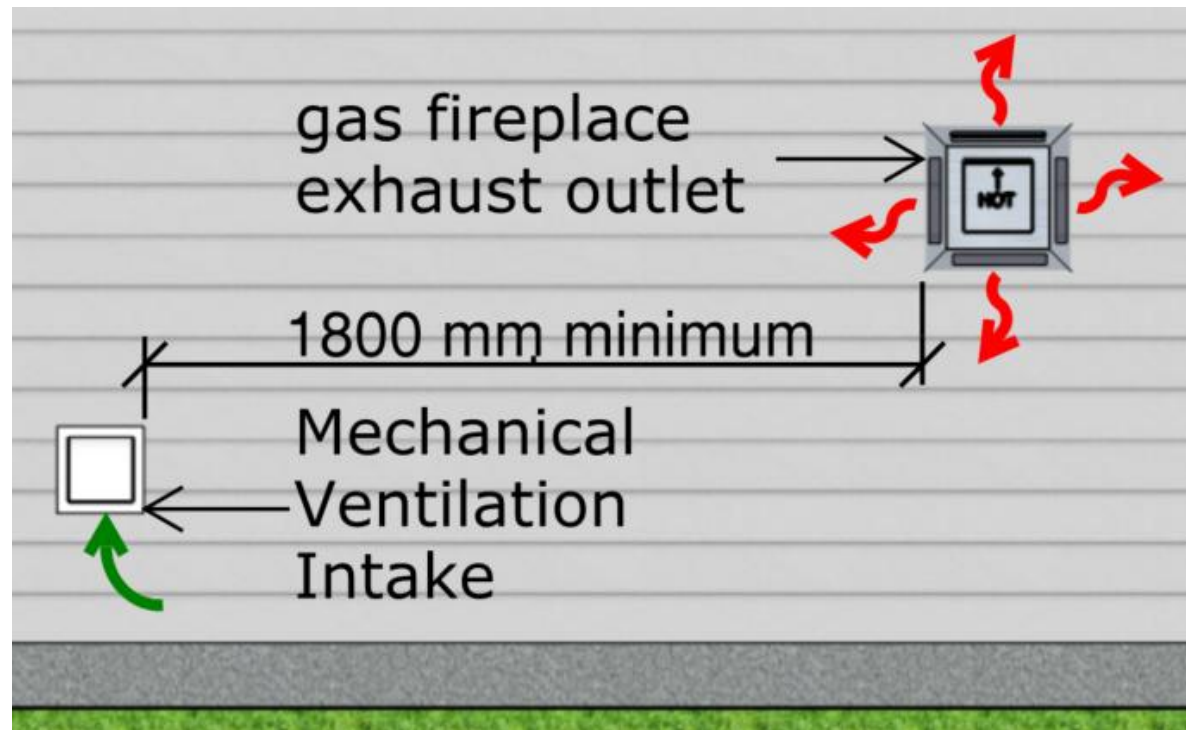
For applications designed to the 2024 OBC;

- **Use the HRAI forms**
- **After piloting those forms for a few months Kitchener may create our own modified version.**

Outdoor Intake and Exhaust Openings

Intake Clearance to Sources of Contaminants - 9.32.3.13.(3)

The distance separating air intakes for mechanical ventilation from exhaust outlets that are potential sources of contaminants, such as *gas vents* or oil fill pipes, shall be not less than 1 800 mm.

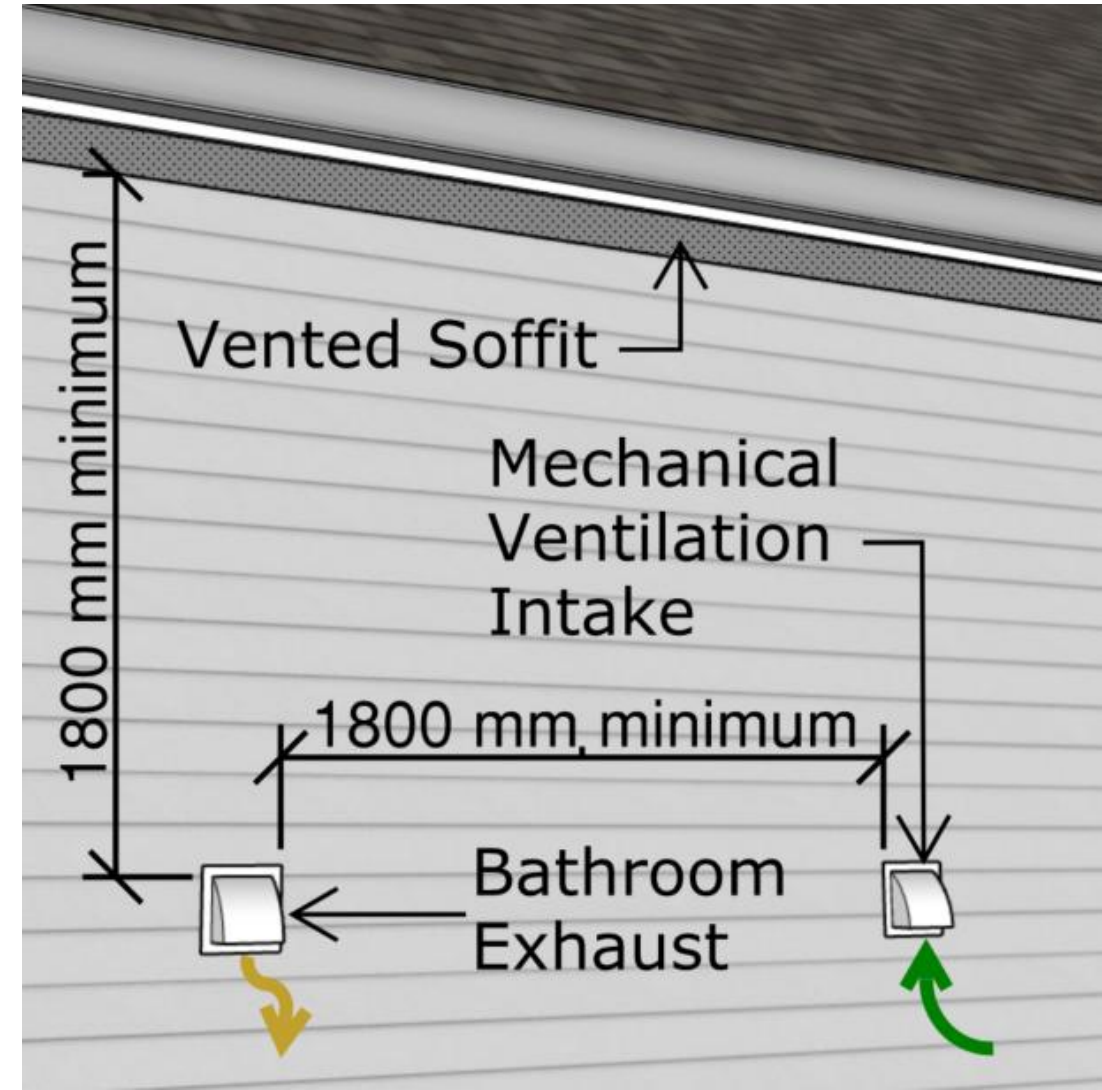


Outdoor Intake and Exhaust Openings

Clearances for Bathroom and Clothes Dryer Exhaust - 9.32.3.13.(4)

Exhaust outlets that discharge air containing moisture, such as bathroom ventilation and clothes dryer exhaust outlets, shall be located at least 1 800 mm from air intakes and vented soffits.

Two exceptions noted in Sentences (5) and (6).

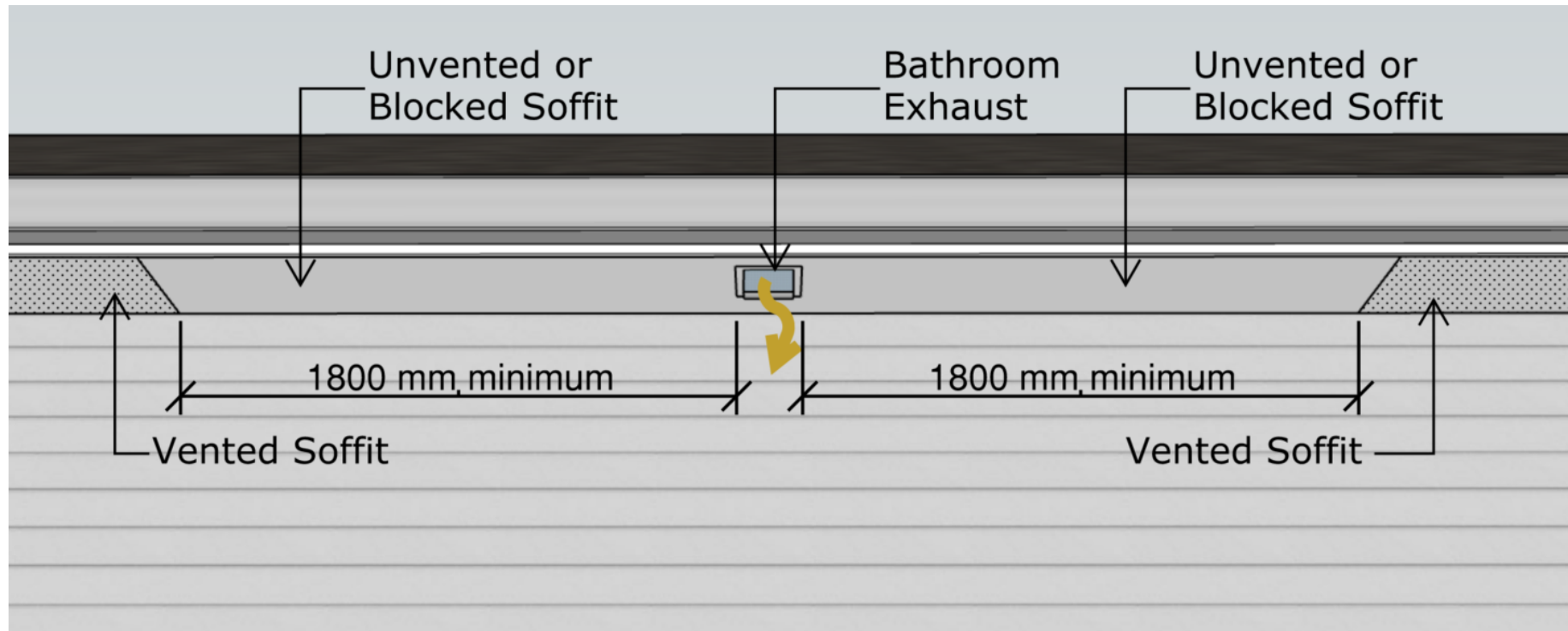


Outdoor Intake and Exhaust Openings

Clearances for Bathroom and Clothes Dryer Exhaust - 9.32.3.13.(5)

First Exception;

Where an exhaust outlet referred to in Sentence (4) is located within a soffit, the soffit shall either be unvented, or if vented, the full depth of the soffit shall be blocked for a distance of 1 800 mm on each side of the exhaust outlet.



Outdoor Intake and Exhaust Openings

Clearances for Bathroom and Clothes Dryer Exhaust - 9.32.3.13.(6)

Second Exception;

Where an exhaust outlet referred to in Sentence (4) is located in a side wall less than 1 800 mm from a soffit, a section of the soffit above the exhaust outlet shall be unvented, or if vented, the full depth of the soffit shall be blocked in accordance with the widths stipulated in Table 9.32.3.13.-A, centred over the location of the outlet.

Outdoor Intake and Exhaust Openings

Clearances for Bathroom and Clothes Dryer Exhaust - 9.32.3.13.(6)

Table 9.32.3.13.-A

Widths of Unvented or Blocked Soffits Where Exhaust Outlets Are Less Than 1 800 mm from a Soffit
Forming Part of Sentence 9.32.3.13.(6)

Distance Between Exhaust Outlet and Soffit, mm	Total Width of Unvented or Blocked Soffit Centred Over Location of Exhaust Outlet, mm
1 to 300	3 600
301 to 600	3 400
601 to 900	3 100
901 to 1 200	2 700
1 201 to 1 500	2 000
1 501 to 1 799	1 000

Outdoor Intake and Exhaust Openings

Clearances for Bathroom and Clothes Dryer Exhaust - 9.32.3.13.(6)

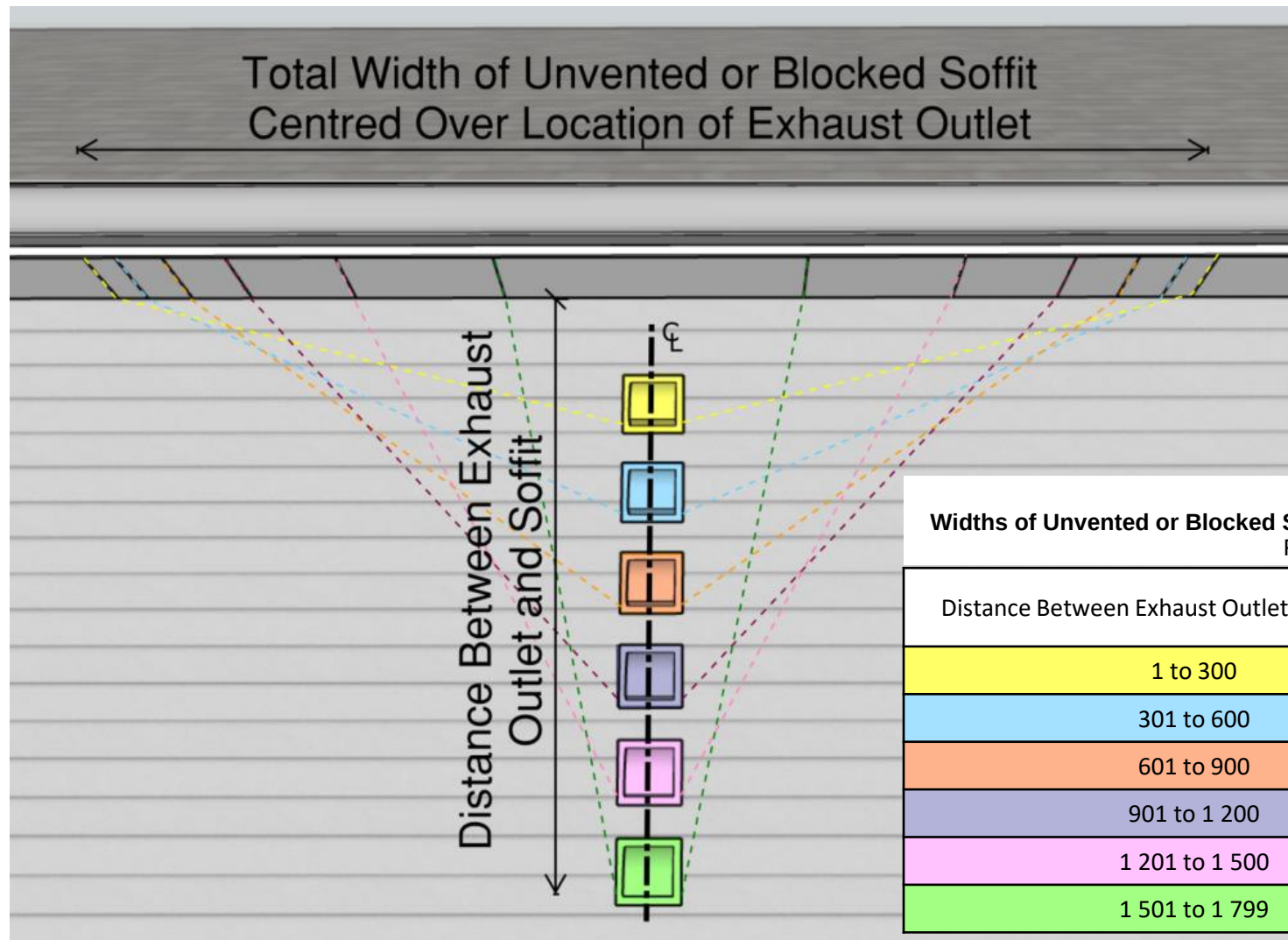


Table 9.32.3.13.-A
Widths of Unvented or Blocked Soffits Where Exhaust Outlets Are Less Than 1 800 mm from a Soffit
Forming Part of Sentence 9.32.3.13.(6)

Distance Between Exhaust Outlet and Soffit, mm	Total Width of Unvented or Blocked Soffit Centred Over Location of Exhaust Outlet, mm
1 to 300	3 600
301 to 600	3 400
601 to 900	3 100
901 to 1 200	2 700
1 201 to 1 500	2 000
1 501 to 1 799	1 000

Outdoor Intake and Exhaust Openings

Clearances for Bathroom and Clothes Dryer Exhaust - 9.32.3.13.(6)

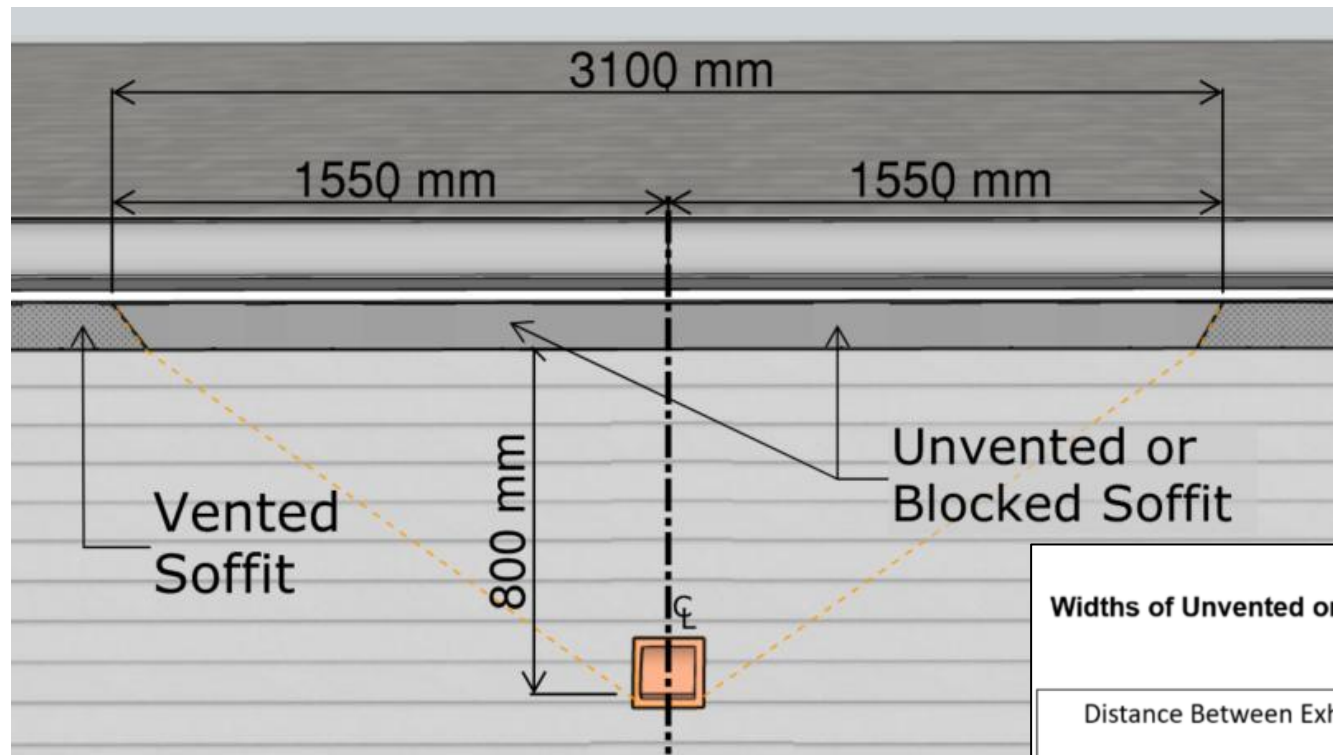


Table 9.32.3.13.-A
Widths of Unvented or Blocked Soffits Where Exhaust Outlets Are Less Than 1 800 mm from a Soffit
Forming Part of Sentence 9.32.3.13.(6)

Distance Between Exhaust Outlet and Soffit, mm	Total Width of Unvented or Blocked Soffit Centred Over Location of Exhaust Outlet, mm
1 to 300	3 600
301 to 600	3 400
601 to 900	3 100
901 to 1 200	2 700
1 201 to 1 500	2 000
1 501 to 1 799	1 000

Heating and Air Conditioning Systems

Heating & Air Conditioning Systems

Application – 9.33.1.1.

- (1) This Section applies to the design and installation of
 - (a) heating systems, including requirements for combustion air, and air-conditioning systems serving only one dwelling unit, and
 - (b) radiant heating systems in houses with a secondary suite including their common spaces.
- (2) The design and installation of heating systems, including requirements for combustion air, and air-conditioning systems other than those described in Sentence (1) shall conform to Part 6.
- (3) Air duct distribution systems serving one of the dwelling units in a house with a secondary suite shall not be directly interconnected with other parts of the house.

Heating & Air Conditioning Systems

Indoor Design Temperatures – 9.33.3.1.

- (1) At the outside design temperature, required heating facilities shall be capable of maintaining an indoor air temperature of not less than
- (a) 22°C in all living spaces,
 - (b) **18°C** in unfinished basements,
 - (c) **18°C in common service rooms, ancillary spaces and exits in houses with a secondary suite,** and
 - (d) 15°C in heated crawl spaces.

Heating & Air Conditioning Systems

Relocations from Part 6

The requirements from the former Subsection 6.2.4. “low capacity systems” have been relocated and reorganized into Section 9.33.



Wrap-up

Mike Seiling

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THANK YOU

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